CREATING GREAT NEIGHBORHOODS:

DENSITY IN YOUR COMMUNITY

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Creating Great Neighborhoods: Density in Your Community

September 2003

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Introduction: It's All about Your Community

Increased traffic congestion, loss of open space, infrastructure costs, and a desire for more housing options have all made smart growth an increasingly powerful strategy for building and revitalizing communities, catalyzing economic development and protecting the environment.

Evidence of this trend is everywhere. Of the 189 ballot initiatives in 2002 related to state and local conservation, 141 were approved. Elected in 2002, Massachusetts Republican Governor Mitt Romney, Michigan Democratic Governor Jennifer Granholm and Pennsylvania Democratic Governor Ed Rendell are poised to make smart growth actions a high priority.

Smart growth projects nationwide were built in record numbers, continuing a five-year upward trend, reported "The New Urban News," an industry publication that tracks new development. Cities and towns across the country are re-examining and changing comprehensive plans, zoning and other building regulations to make smart growth possible.

Many states and localities are creating neighborhoods that offer a variety of transportation options, access to parks and recreation, a wide range of housing types, economic opportunity, lively streets, and quiet residential neighborhoods. Ironically, many communities pursuing these goals often inadvertently impede their achievement. How? By opposing a feature key to smart growth and to the success of so many great places: density.

Often blamed for more traffic, crime, parking shortages, and ugly architecture, density faces broad opposition. Objections to density are not without basis.

Poorly designed density feeds public frustration. Office parks with no access to transit or sidewalks to homes have forced more driving, high-rise projects with no retail activity on the street have created unsafe neighborhoods, dense development without parks has limited recreation opportunities, and poorly designed housing has infringed on privacy. A common community response has been to oppose any and all density.

To encourage more dense development, several towns in the Puget Sound region adopted the Cottage Housing Development Zoning Ordinance. Third Street Cottages is one of the first developments to be built under this code (see case study).

(photo: Ross Chapin, AIA)

What Is Density?

Density is generally defined as the amount of residential development permitted on a given parcel of land. It is typically measured in dwelling units per acre – the larger the number of units permitted per acre, the higher the density; the fewer units permitted, the lower the density.

Gross density =
Total residential units / total development land area

Net density =
Total residential units / total residential land area
(excludes roads and other uses)

Belmont Dairy and Wellington exemplify recent smart growth development (see case studies).

(photo: David O'Neil)

This exacerbates quality of life problems. Jurisdictions that prohibit density create an environment where low-density development is the only option, open spaces are consumed at alarming rates, traffic congestion increases as people drive longer distances between work and home, and subdivisions grow up without any town center, any corner store or any sense of community.

As communities confront the consequences of low-density development, a more balanced perspective emerges. People are beginning to realize that nodes of more intense development can help achieve local economic development goals, provide housing options, create walkable neighborhoods, and protect their air, water and open space. This balance helps create a sense of place – a place to walk, a place to talk to neighbors, a place to know the children are safe to walk to school. To create these great places, communities are zoning some areas for higher density and a mix of houses, with parks, schools and shops.

This more balanced perspective changes the discussion from "Should we have density?" to "What should the density look like and how should we create it?" The discussion invites citizens to think about designing great places, rather than just thinking about density. It reflects a lesson being learned across the country: to create great communities, neighborhoods must combine density with great design.

Arlington County, Virginia, provides an early example of successful integration of higher density development into the community fabric. Since the 1970's, the county has concentrated development activity along its two rail transit corridors. The process created a community with expanded transportation and housing choices, a strong economy, low property taxes and a diversity of livable neighborhoods.

Density has given residents the opportunity to live in neighborhoods that meet their lifestyle preferences and economic means. Residents can choose to live in any number of amenity-rich neighborhoods where they are a short walk or bike ride from shopping, parks, schools and restaurants and a subway ride or drive to work and regional destinations.

Although less than seven percent of the county's land area is high-density development, it generates 33 percent of the county's real estate taxes, allowing the jurisdiction to have one of the lowest tax rates in the region. Integrating density in a concentrated area lets the county offer urban living to some and protect suburban living for others while increasing property values and maintaining community character throughout.

How Density Creates Great Places to Live

Arlington's experience illustrates the growing public realization that adding density in appropriate locations can create great places to live. More and more people understand that to achieve their community goals and create a vibrant place to live, the community needs different types of development – different types of density. It cannot thrive over the long-term with only one development choice.

To achieve this balance, many communities are concentrating development in key locations, offering residents the opportunity to live in different types of neighborhoods, walk, drive or ride transit as they choose and enjoy great places to live. By balancing density in the community, these goals can be met.

Transit-oriented development has enabled Arlington County, Virginia, to provide a diversity of urban and suburban housing types.

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Proximity of housing to retail neighborhood allows residents of Sacramento's Metro Square to walk to meet many of their daily needs (see "Design Principles").

Density helps create walkable neighborhoods

Part of the challenge of making a neighborhood genuinely walkable is providing attractive destinations nearby, such as shops or restaurants. However, ensuring that those places are both walkable and economically viable requires density. Research suggests that densities of seven units per acre or higher are needed to support a small corner store; a small supermarket requires 18 units per acre.[1]

Retail destinations located within a short walk of residences typically include markets, cafes, dry cleaners and convenience stores, all of which partially depend upon pedestrian traffic for their customer base.

Higher density development contributes to the viability of a wider range of businesses, ultimately resulting in more destinations for residents to walk to.

Shops, houses, restaurants and schools may be located close to each other, allowing people to go out to eat, walk to school or purchase a quart of milk within a reasonable (5-10 minute) walk.

Density supports housing choice and affordability

Communities that allow only low-density development limit housing choices and may drive up housing costs. By balancing lower, medium and higher-density projects, communities can offer a wider range of housing types.

In contrast to conventional development in which housing tends to be similar in style and size, higher density projects can provide townhouses, apartments, accessory units and even live-work spaces to accommodate a broader range of lifestyles.

This greater range of housing types expands housing choices within a neighborhood. This allows residents to choose housing that meets their changing

Walkability Indicators in Higher vs. Lower Density

■ Sacramento Neighborhoods

In 2000, NRDC compared two Sacramento, California, area neighborhoods, one notably higher in density than the other. The comparisons are dramatic.

	Metro Square (20 du/acre)	North Natomas (6 du/acre)
Distance to:		
Convenience store	815 ft.	15,388 ft.
Supermarket	1,941 ft.	14,458 ft.
School	1,962 ft.	17,181 ft.
Bus Stop	666 ft.	11,055 ft.
Parks	347 ft.	702 ft.
Jobs in 1 mile	29,266	0

du = dwelling units   [2,640 feet = 1/2 mile]

source: Natural Resources Defense Council, *Environmental Characteristics of Smart Growth Neighborhoods: An Exploratory Case Study*

needs and preferences over their lifetime.

Also more housing choices at different price points can increase affordability. Higher densities mean less land per unit, reduced site preparation, and lower per unit infrastructure costs – all factors that reduce the hard costs of construction and expand reasonably priced housing.

Density helps expand transportation choices

Transportation choices give people the freedom to walk and take a bus, train or bicycle for part or all of their daily travel, as they commute to work or school, run errands or pursue extracurricular activities. Density creates choice by providing the ridership needed to make bus and rail transit a viable and competitive transportation option.

By creating choice, density also contributes to improvements in the transportation system for two primary reasons. First, with destinations close by, car trips are shorter, resulting in fewer vehicle miles driven. Second, people can choose to walk, bicycle or take transit at least some of the time. For those who cannot drive – children, elderly, the disabled and some who cannot afford a car – such a choice equals the opportunity to travel independently,[2] which also means that caregivers don't have to drive them for all their needs.[3]

Density supports community fiscal health

Dense development can improve community fiscal health by reducing infrastructure duplication and making efficient use of present capacity, before investing in costly infrastructure expansion.

As more housing units are built along a given section of road or sewer line, the capital cost of infrastructure per house decreases. For instance, the construction cost for 300 feet of road may be divided among three housing units or among ten. It could also be divided among 30 units.

In Virginia, the Charlottesville Metropolitan Planning Organization determined that more compact, dense development would save the area $500 million in transportation system investments over 50 years in comparison to lower-density development.[4]

Alternatively, there may be little additional infrastructure cost when new developments use existing systems – as with infill projects that benefit from existing roads and sewers. The Commercial Club of Chicago estimates that by growing compactly (net density of 11

The Aggie Village development, in Davis, CA, is typical of many higher density projects that provide a variety of housing types, including single-family, duplexes and accessory units (see case study).

Density and design create places where walking is a viable and preferred option.

persons per acre) development in the Chicago metropolitan region over the next 20 years would save $3.7 billion in infrastructure costs (water, sewer, roads).[5]

In regions dependent on agricultural production, compact development helps to protect valuable farmland. For example, an American Farmland Trust study of California's Central Valley estimated that the region would lose $72 billion in agricultural sales over the 1995-2040 period if development continued at a low density pattern of 3 units per acre compared to a modest increase to 6 units per acre.[6]

Density helps improve security

A common perception is that density increases criminal activity. This belief disregards the fact that criminals tend to favor desolate rather than busy places. Density has the potential to increase area social interaction and consequently deter crime.

The key to ensuring that density improves security is design that encourages greater neighborhood surveillance and interaction. The concept, sometimes referred to as "eyes on the street," reflects common experience that people in homes, shops and on the street deter street crime simply through their presence.

Density boosts street life by raising the sheer number of people living and working nearby. Well-designed dense neighborhoods create a welcoming pedestrian environment that encourages neighbors to meet and "take ownership" of their common spaces.

In addition, neighborhoods with a variety of housing types are less likely to "empty out" and invite criminal activity during the day, when most people go to work.

Driving Decreases as Density Increases

Higher-density development expands transportation choices by making it easier to use non-automobile transportation – walking, bicycling, bus and rail transit – by locating activities closer together. Studies indicate that the average resident in a compact neighborhood will drive 20- to 30-percent less than residents of a neighborhood half as dense.

At densities of eight units per acre and higher, neighborhoods begin to support bus and rail transit by increasing the number of transit users within walking and bicycling distance of a bus or rail station. Some areas refer to eight housing units per acre to support minimal bus service (30-minute headways), 20 units per acre to support a transit station, or 30 units per acre to support high-frequency transit service (10-minute headways).

source: John Holtzclaw. www.sierraclub.org/sprawl/articles/designing.asp

Density helps protect the environment

Higher densities reduce the impact of the built area on the environment. By concentrating development and people within a smaller geographic area, density reduces land consumption and allows communities to protect valuable open space, habitat, farmland and ecologically sensitive areas.

Accommodating the same number of housing units on less land enables communities to shift construction away from sensitive areas to locations more suitable for development[7] – all crucial for minimizing water pollution – while still making room for additional growth.

Density Cuts Infrastructure Costs

A report by the U.S. Office of Technology Assessment (OTA) found that it cost a western city $10,000 more to provide infrastructure to a lower density suburban development than to a more compact urban neighborhood. Similarly, the Urban Land Institute (ULI) found that infrastructure costs per housing unit drop dramatically as density increases. The combined cost of utilities, schools, and streets falls from $90,000 for one dwelling sited on four acres to just over $10,000 per unit for developments of 30 units per acre. (OTA-ETI-643, 1995; ULI, Wieman, 1996)

Compact, higher density development lessens the impact on air quality as well. Building at higher densities expands transportation options and reduces distances between destinations – both factors help minimize air pollution.

At a net density of 30 units per acre, The Crossings in MountainView, California, illustrates how density can reduce infrastructure costs, provide community amenities and create a distinctive and attractive neighborhood in which to live and work.

Learning from others: Density with design

Convenient amenities, walkable neighborhoods, reasonable taxes and environmental quality only get you so far – to these we must add good living space, privacy, parks and pleasing surroundings. Design is the tool that brings all these together.

Without good design density can backfire. Poorly designed density will not provide the benefits described above, but may exacerbate traffic, crime and inefficient public spending, thus reducing the public's willingness to consider and accept other dense projects.

This is the lesson learned by Arlington County and also the nine communities highlighted in the case studies. They all show how to balance higher and lower density development and employ superior design to achieve community goals.

Several principles of good design emerge from their experience. As the section on design principles explains in detail, good design is based on five primary principles:

❶ Increase densities in appropriate locations,

❷ Connect people and places through a complete street network that invites walking and bicycling and provides convenient access to bus or rail,

❸ Mix uses to create a quality of life where people may chose to live near their work, walk to the local store, or bike to the library with their kids,

❹ Place parking in alternative locations to support density and create inviting places to walk, and

❺ Create great places for people.

The combination of these five principles, along with resident involvement, helps ensure that density contributes to the community's economic, social and environmental health.

Well-Designed Density in Your Community

Building great dense places with good design is not just an abstract theory – it is a practical approach to growth that is being used in many diverse places across the country. These nine case studies from Oregon, Washington, California, Colorado, Texas, Minnesota and Virginia all show not only that density can be done well, but that when it is done well, multiple community goals can be met.

In all these cases, community leaders have worked with developers and residents to create great neighborhoods with density. Some have created attractive destinations in the existing community (mixed-use developments such as Belmont Dairy and Addison Circle) and some added higher density to provide reasonably priced housing for community employees (such as the Wellington neighborhood). All of these projects reflect strong public involvement, detailed attention to the pedestrian environment and uncompromising dedication to superior design.

Case studies from around the country:

Belmont Dairy:
Urban reuse and infill

Wellington Neighborhood:
Moderately priced housing

The Crossings:
Transit-oriented development

Aggie Village:
University mixed use infill

Addison Circle:
Suburban town center

NewHolly Urban Village:
Redesigned affordable housing

Third Street Cottages:
Rural infill

RiverStation and
Heritage Landing:
Mixed use urban infill

Courthouse Hill:
Suburban residential infill

Belmont Dairy Redevelopment

Portland, Oregon

Belmont rowhouse entry
(photo: ICF Consulting)

Urban reuse emphasizes historic character

In Portland, Oregon, the Belmont Dairy redevelopment is a mixed-use, urban infill project in the neighborhood of Sunnyside. Located approximately 1.5 miles southeast of downtown, the Belmont Dairy complex has expanded housing and retail choices for local residents, spurred reinvestment, and created a strong anchor for a changing neighborhood.

After 70 years in the business, the Belmont Dairy site sat abandoned in 1990, burdened by environmental contamination. Where most people saw a wasteland, the developers, community residents, and public officials saw the potential for a vibrant community center that would include a mix of housing and retail. Despite the neglect of the site, there were several reasons for optimism: its location within an established business district, proximity to downtown, and easy access to public transportation. These advantages made development viable from both the market and policy perspective.

Phase 1 of the Belmont Dairy project was completed in 1997. This initial phase involved conversion of the 70-year-old dairy facility into 19 market-rate lofts and 26,000 square feet of ground-level retail, including a 24-hour specialty grocer, restaurants, and several shops. The developer also attached a new apartment building to the former dairy, adding 66 units of affordable housing. A community courtyard that adjoins the apartments and loft structures forms the lid of an underground parking structure. The net density of Phase 1 is 70 units per acre (85 units on 1.22 acres).

Phase 2 of the project, completed in 1999, consists of 30 rowhouses behind the dairy building. The rowhouses, all two-bedroom/two-bath units ranging from 1,326 to 1,715 square feet, sold in 1998 for prices between $198,000 and $269,000. The quick sale of the rowhouses reflects strong demand for this type of housing. The average Southeast Portland home price today is considerably lower – $139,700. This represents all units for sale, including freestanding houses.

The net density of Phase 2 is 33 units per acre (30 units on 0.91 acres), about double the typical rowhouse density in Portland. A central, private courtyard bisects the project and allows four rows of homes to be sited in a 200-foot block dimension. The garages are accessed from the rear, behind the units, so that pedestrians see front porches, balconies, and bay windows – not a wall of garage doors.

The overall design emphasizes the site's historic presence in the neighborhood and creates a pedestrian-friendly streetscape. The brick walls of the dairy remain, the scale of the anchor building has been maintained, and the name and logo of the project remind the community

of the project's roots. The rowhouses employ an architectural style consistent with the wood frame, cedar-shingled homes dominant in the adjacent blocks and create a transition between the commercial corridor and the surrounding neighborhood of single and multi-family houses.

Buildings are oriented to the street, with balconies and small patios facing the sidewalks. The rowhouses feature a landscaped courtyard providing each unit with a small private garden area with planting beds and stone paving enclosed by an ornamental iron fence. This creates a pedestrian-oriented streetscape and improves security because so many windows and entrance doors face the interior courtyard, providing "eyes on the street" a deterrent to potential criminals.

The Belmont Dairy redevelopment is the cornerstone of revitalization for Portland's Sunny-

side neighborhood: the apartments have a low vacancy rate, the rowhouses have been sold, and the retail space, anchored by Zupan's Market, has created new destinations accessible on foot. The mix of land uses has expanded housing and retail options within the neighborhood.

The housing provides new residents with quick access to transit, and to the citywide job market. Not only is the project close to bus lines, but sidewalks and crosswalks allow good pedestrian mobility, and the complex provides covered and open bicycle parking spaces.

New businesses have entered the area, demonstrating the growing appeal of the neighborhood. According to the REACH Community Development Corporation of Southeast Portland, in the two-year period following Phase 1 construction, the area around the Belmont Dairy enjoyed a 52-percent increase in the number of businesses.

View of Belmont Dairy Apartments and Rowhouses

"This project is about the preservation of a building, a community and a vital urban neighborhood. Creating a mix of new retail and residential space contributes to the value and livability of the entire community."

— Thomas Badrick, Sunnyside Neighborhood Association president, Aug. 29, 1996

Project Profile

➢ Urban infill
➢ 2.5 acres
➢ Mixed-use project with 66 subsidized apartments, 19 market-rate lofts, 30 owner-occupied rowhouses, interior courtyard, and 26,000 sq. ft. of ground-level retail
➢ Residential density: 54 units/acre net
➢ Parking spaces per unit: 1.1
➢ Built 1996-99
➢ Developer: Belmont Limited Partnership
➢ Designer: GBD Architects, Inc.

Wellington Neighborhood Development

Breckenridge, Colorado

Single-family homes in the Wellington neighboorhood
(photo: David O'Neil)

Rockies resort adds affordable housing

The Wellington Neighborhood is a residential development in the Colorado resort community of Breckenridge. Located 1.3 miles east of downtown, the Wellington Neighborhood has expanded home ownership opportunities in Breckenridge and enabled the community to preserve resources and natural amenities critical to its economic success. Creating a socially cohesive, vibrant neighborhood, this new development has made housing available to people who are essential employees in any town – police officers, nurses, teachers, small business owners, resort workers and civil servants – giving them a stake in the community.

In 1997, the 85-acre site that was to become Wellington stood unused. Seventy years of mining activity had left huge piles of basketball-sized dredge rock. Previous zoning that allowed only four units on the property severely reduced the opportunity for development that would make market sense.

Meanwhile, Breckenridge faced a severe shortage of housing, forcing many of the town's permanent employees to seek housing 50 miles away from town and endure 45-minute or longer commutes.

Over the next four years (1997-2001), the residents, the developer and town officials held regular discussions to plan and design the Wellington Neighborhood. Cooperation ensured significant community support and led town officials to endorse the project through indirect subsidies worth $1 million, including waivers of planning and inspection fees and a one-percent transfer tax.

The Wellington Neighborhood is a 122-unit, multi-phase residential development on 23 acres of the 85-acre site. The first phase consists of single-family homes; successive phases will include attached housing, live/work buildings and shops. Ninety-eight of the units in the Wellington Neighborhood are targeted to meet the housing needs of permanent town residents or "locals" and range in price from $220,000 for a two-bedroom duplex to $305,000 for a four-bedroom single family home (approximately $80,000 below market price).

Homes are kept affordable for future buyers by capping the appreciation of housing at 3 percent a year, or up to the percentage increase in the area median income, whichever is greater. The remaining 24 units are sold at market-rate prices and targeted toward second-home owners.

Forty acres of the site are slated for additional development, and the remainder will became open space. Residents have a number of transportation choices. The offices, shops, and nightlife of downtown Breckenridge are within a 15- to 20-minute walk

or a short shuttle and bus ride. When the whole complex is completed, residents will be able to pick up mail or have a cup of coffee in the neighborhood center.

Wellington exemplifies the characteristics of a traditional neighborhood development. It not only evokes the look and feel of a small town, it fosters the social interaction and community cohesiveness that many expect of their neighborhoods.

Homes are located on narrow lots, close to the street edge, and because of offset foundations and a variety of designs, do not line up in rows.

Ranging in size from 1,200 to 1,800 square feet, the homes blend into the character of the community. They have front porches, gables and fretwork, and their one-and-a half story structures echo the scale and character of historic Breckenridge.

Garages are located to the rear of lots, and adjacent to alleys,

which provide access for emergency services and trash removal.

Public greens, shared open spaces – are located within the clusters of housing to provide a safe and appealing place for play and pedestrian activity. These greens connect to a greenway that abuts the residential development and ultimately provides residents with access to Arapahoe National Forest, recreation trails, and cultural and historic resources.

The Wellington Neighborhood has begun to address the housing affordability crisis in Breckenridge. By making 98 of its 122 housing units permanently affordable, the Wellington Neighborhood has given town residents the opportunity to live where they work and play where they live.

Because of its mix of housing types and design, Wellington has given the community an active, vibrant, and stable neighborhood, where people can get to know their neighbors, and commutes to the jobs are short.

Through the Wellington development, the town has been able to restore land damaged by historic mining activities, protect valued open space, and increase community access to cultural and natural resources.

View of community green

Project Profile

➤ Residential project: includes 122 units, 98 affordable units, 24 market-rate units
➤ 1,200-1,800 sq. ft. homes
➤ Residential density: 5 units/acre
➤ Parking: 2 spaces per unit
➤ Built: First phase completed in fall 2002
➤ Developer: David O'Neil, Wellington Neighborhood, LLC
➤ Designer: Wolff/Lyon Architects

"*You've got to find a way to keep the police officers, the teachers, the managers in the community. This neighborhood is helping to ensure that people who work here can afford to live here. These people are both the economic engine and the soul of the town.*"

—*Sam Mamula, Mayor of Breckenridge*

Old mall, new transit-oriented development

The Crossings

Mountain View, California

The Crossings in the city of Mountain View, 30 miles south of San Francisco in the middle of Silicon Valley, transformed a failing 1980s auto-oriented mall, the Old Mill Mall, into a vibrant neighborhood that offers a variety of housing and transportation choices. The 18-acre infill project by TPG Development replaced the demolished shopping mall with housing units, retail shops, and a daycare center, all oriented toward the new San Antonio Avenue CalTrain commuter rail station.

Single-family homes in The Crossings

Home to the decaying mall until 1995, the 18-acre site is bounded by commercial space on two sides (including a supermarket), a rail line and expressway on a third side, and condominiums on the fourth side, with a local school nearby. When CalTrain announced its plans for a new commuter station, the city of Mountain View began to work with adjacent communities and local residents to rezone the mall parcel for residential development, working out a joint Precise Plan to help direct the project.

TPG Development's original proposal envisioned an auto-oriented mixed-use development. The city rejected the proposal, and the design firm of Calthorpe Associates was hired. TPG and Calthorpe Associates engaged the community in designing the new mixed-use development.

The project leveraged the existing retail business, particularly the supermarket, as an asset for the new housing units, while providing diverse housing choices to the Silicon Valley community.

The first phase included 47 single-family detached houses. Thirty units sold before construction was finished, at $249,000 per unit. Resale value reached $600,000 per unit in 2002.

Completed in 2000, the development contains 359 units – 102 small-parcel detached houses, 129 rowhouses and 128 condominiums – for a total of about 1,000 residents.

The development includes a community center and pool, small retail businesses facing the CalTrain station, and 200 parking spaces for rail commuters. The gross density is 21 units per acre, with a net density of 30 units per acre – compared to an average overall density of 7 to 10 units per net acre in the rest of the city.

The housing types range from a density of 11 units per acre to 70 units per acre. The 5,000 square feet of retail is within a five-minute walk of the rail station. Although priced at market rates, the compact design made the units relatively affordable in

the high-cost Silicon Valley real estate market. At first sale, about 80 percent of the units sold below the median home price in Mountain View.

Architectural integrity and access to transportation options were key elements of the Crossings' design plan. De-signed in the "Palo Alto Cottage" vernacular, buildings feature 5-foot setbacks, which brings homes closer to the street and helps integrate the neigh-borhood into the surrounding community. Houses with front porches stand close together on narrow lots.

Retail and office use are concen-trated near the transit station; the lowest density is farthest from the station, but still within a 5-minute walk to all services.

Residential parking is located behind units, deeply set back from the housing fronts, or underground.

Apartments are organized around common courtyards; two small parks are positioned close to all the homes, and a bandstand and tot lots are part of the intimate environment.

Amenities such as a day care center and a pool help create an enriching community.

Short blocks on a small grid system help facili-tate various modes of transportation. Streets are lined with trees to provide shade and pro-tection to the neighbor-hood pedestrians. On-site redwood trees were preserved.

Residential development

The Crossings is a walkable neighborhood that connects surrounding commercial and residential uses to a new transit station. It offers pedestrian-friendly streets, diverse housing choices at moderate prices, and three times the average city density. The new rail station is integrated into the community, surrounding infrastructure is optimized, the city's tax base is increased, and new develop-ment is accommodated close to retail and community destina-tions.

Project Profile

➢ Suburban reuse site: old mall
➢ Total area: 18 acres in Silicon Valley
➢ Mixed-use project includes 102 single-family detached houses, 129 rowhouses and 128 condominiums
➢ Residential density: 30 units/acre net
➢ Parking: 200 spaces for CalTrain commuters
➢ Built 1995-2000
➢ Developer: The Plymouth Group
➢ Designer: Calthorpe and Associates

DENSITY IN YOUR COMMUNITY

University mixed use benefits community

Aggie Village and Davis Commons

Davis, California

Café in Davis Commons

Completed in 1997, the vibrant mixed-use, infill Aggie Village in Davis occupies a 10-acre tract that sat vacant for nearly 30 years, until the mid-1990s. Located within the city's downtown core, east of the University of California's Davis campus, Aggie Village provides needed housing for university employees. Together with Davis Commons, an adjacent 3.5-acre commercial development opened in 1998, Aggie Village has significantly expanded Davis' downtown tax base.

Beginning in the mid-1990s, both the city and UC Davis planners grew interested in the vacant tract as a site for possible development. Town leaders and university officials saw the site as a means to expand and diversify Davis' commercial tax base without impairing the character or the retail, social, and cultural primacy of downtown.

University officials also saw the site as an opportunity to meet expected housing demand. Faculty was expected to increase by 500 people over the next 10 to 15 years, and the university wanted to ensure that new faculty would have the option to both live and work in Davis. Housing costs were on the rise, and without additional affordable housing within town limits, new faculty would likely be priced out of the market.

The planning of Aggie Village involved 14 public workshops, resulting in a special Planning Citizens Committee of 22 people appointed by the city and the university. The final outcome is 54 Craftsman, Victorian and Mission-style homes – 21 single-family homes, 16 duplex town-homes and 17 accessory dwelling units or cottages – at a residential density of 17 units per acre.

The single-family homes have recessed garages, with accessory dwelling units to the rear of lots. The accessory units face each other and overlook a series of bicycle and pedestrian paths or alleys.

Townhomes, concentrated on the north of the site, are consistent with the scale of fraternity and sorority houses directly across the street.

Original sale prices for detached single-family ranged from $175,000 to $250,000, with duplexes selling for $150,000 to $160,000. The cottages are rented out, currently for between $650 and $800 per unit – compared to the city's market rate of $975 for a two-bedroom rental.

Several bus stops, a multi-use path along First Street, and the Putah Creek Greenway, which abuts the housing development to the south, allow quick bus and bicycle access to the campus and downtown.

By design, Aggie Village is a socially vibrant neighborhood, where residents can sit on front porches and talk with pedestrians, where the streets, sidewalks and alleys serve as gathering places as well as transportation routes.

Facilitating interaction between residents meant turning the streets, alleys, and paths into public spaces that welcomed and encouraged neighborly interaction. Consequently, all single-family and accessory units have narrow setbacks and front porches, and overlook a street, alley or path.

Garages are recessed so as not to intrude on the sidewalk. Street trees and on-street parking buffer automobile traffic. Alleys are reserved for pedestrians and bicyclists.

The density of Aggie Village changes depending on proximity to the university or downtown.

Areas near downtown have higher density, with the multi-story duplex, townhomes and retail center. Areas near the campus and its facilities (arboretum and greenway) are less dense, with cottages and single-family homes.

Single-family homes adjacent to bike path, with retail behind

The neighborhood extends the downtown street grid and integrates its bike and pedestrian network into the existing paths that run along the Putah Creek Green-way and First Street. This establishes strong transportation connections between the campus and the downtown.

The addition of Aggie Village and Davis Commons has been good for the university, local business, and the tax base, attracting new retail and strengthening existing stores. Yet, the developments have also enhanced the small town feel of the community, both easily accessible on foot or a bike.

Aggie Village has galvanized community support for additional higher density residential development within the downtown core. It has motivated the community to shift from its former "slow growth" attitude toward support for smart growth, with most residents recognizing this as a way to strengthen downtown and add to, rather than detract from, local quality of life.

Project Profile

➢ Mixed-use infill development (vacant lot)
➢ Total area: 10.8 acres (4.5 residential, 3.5 retail, 15,000 square feet of open space)
➢ 54 residential units (21 single-family homes, 17 cottages, 16 duplex units)
➢ Residential density: 17 units/acre net
➢ Parking spaces per unit: 1.9
➢ Housing completed in 1997, retail opened 1998
➢ Developer: University of California, Davis
➢ Designer: Calthorpe and Associates

"Everything has 'eyes on it' and everything has activity. That's the most interesting part of the site plan to me."

—University planner Bob Seager, in the "Places" column in California Planning and Development Report, March 1997

Addison Circle
Addison, Texas

Texas suburb gets a new town center

Addison Circle is a mixed-use town center in the Dallas suburb of Addison, Texas. Built on an 80-acre parcel, the mixed-use complex is adjacent to "old town" Addison, within walking distance of employment, retail, entertainment, a conference and arts center, and a proposed light rail station. Addison Circle has expanded local housing choices, stabilized the suburb's tax base, and given it a physical focal point. Fulfilling the local vision, it is a "live, work, play and stay" community.

Public plaza and apartments

The idea for Addison Circle emerged in 1991, during an update of the community's comprehensive plan. Facing increased retail competition from surrounding jurisdictions, community leaders sought to support the town's retail by increasing their permanent residential population, and creating a distinctive dining, shopping, and work destination for visitors and employees.

Tired of "garden-style" apartments, residents favored residential development that would create a sense of community and place. There was clear market demand: empty-nesters, double-income couples and young professionals wanted a 24-hour neighborhood, but had few options to exercise their preference outside Dallas.

Construction of Addison Circle began in 1995, following joint efforts by the developer, the city and residents to reach consensus concerning basic design principles and development standards.

There are two distinct sub-areas within the project. An interior, mixed-use area includes a residential neighborhood of mid-rise housing, neighborhood retail, parks and community services. Surrounding the interior area is a predominantly commercial district fronted by the North Dallas Tollway and consisting of high-density office, retail and residential development.

At buildout, Addison Circle will have a gross residential density of 54.6 dwelling units per acre (net density of about 100 units per acre), triple that of other residential development in Addison. It will feature 2,800 residential units ranging in size from 570 square-foot efficiencies to 3,200 square-foot lofts.

It will also include one million square feet of office space and 250,000 square feet of retail, along with civic centers and more than 10 acres of public parks, while creating approximately 10,000 jobs.

Addison Circle is intended to be both a community gathering place and a metropolitan center for office and entertainment development. This is a delicate balance, achieved through project design that emphasizes pedestrian-friendly, human-scale

development, safety, and inter- action. The design ensures that the public spaces – streets, ped- estrian mews, courtyards and plazas – are inviting and secure for pedestrian activity and com- munity interaction.

Buildings are set close to public spaces and their entrances and windows open into or overlook these spaces, enhancing public sight and awareness, or "natural surveillance" of nearby activity. The placement of retail at the street level, with windows also looking toward the public space, augments that natural security effect, while making the walk more interesting for pedestrians.

Generous sidewalks – 12 feet wide on residential streets, 14 feet on boulevards – include street furniture, bike racks, benches and litter containers, with trees at 25-foot intervals.

To balance the intensity of development and provide venues for interaction, planners integrated a number of green spaces into the neighborhood. A traditional town green east of the traffic roundabout is lined with shops, residences and offices. A series of smaller pocket parks are distributed through- out the neighborhood, as are jogging and bicycling trails.

The Addison Circle neighborhood is thriving, with downtown resi- dents, office workers and retail customers taking advantage of its many amenities. All the planning and consen- sus building that went into its development have amply paid off. With an influx of residents and retail customers, Addison Circle has stabilized the tax base of the community, and given Addison the center and identity that it desired.

Mixed-use development, overlooking public green

Project Profile

➢ Suburban Town Center
➢ Total area: 80 acres
➢ Mixed-use project: 2,800 dwelling units, 1 million sq. ft. of retail and 10 acres of open space at buildout
➢ Residential density: 54.6 units/acre gross
➢ Parking: 1 space per bedroom
➢ Phases 1-2 built 1995-2000; Phase 3 under construction
➢ Developer: Post Properties, Inc.
➢ Designer: RTKL Associates, Inc.

Urban village revitalizes public housing site

NewHolly Urban Village

Seattle, Washington

Current homeowners in NewHolly development

Located in Seattle's South Beacon Hill neighborhood, New Holly is a major three-phase redevelopment of what was once Holly Park public housing. Built in 1942 as temporary housing for World War II workers, then deeded to the Seattle Housing Authority in 1945, Holly Park consisted of one- and two-story apartments and townhouses on a haphazard street plan. This barracks-style design was never well integrated with the neighborhood, and in the ensuing decades it was plagued with failing infrastructure and crime problems.

In the 1990s, with growing demand for housing within the city, the Seattle Housing Authority set out to redevelop Holly Park with funding and support from the U.S. Department of Housing and Urban Development's HOPE VI program. Seattle's growth management program favored the creation of urban villages, and in general there was strong community support for redeveloping NewHolly into a pedestrian-friendly, mixed-income neighborhood. The Housing Authority reached out to involve Holly Park residents in the planning and design of the development; it also provided counseling and financial assistance to ensure that all Holly Park residents would have new housing either within

NewHolly or in other neighborhoods.

NewHolly's first phase, which opened in January 2000, includes 458 units – 305 rentals, 153 owner-occupied. Phases 2 and 3 will add 900 more units, bringing the total to 1,358.

NewHolly offers diverse housing choices – single-family homes, townhouses, assisted living and senior apartments – to people of different income levels. Nine hundred eighty-eight units are targeted to households earning less than the median income and to first-time homeowners. The remaining 370 are for rent or sale at market rates.

Community services – a library, childcare facility, and a resource center – are located in the center of the neighborhood. Open space and community gardens are interspersed throughout the neighborhood. Linear open space serves as a greenbelt within the neighborhood that will eventually include a connection to the regional bicycle network.

A retail center around a proposed light rail site is planned for Phase 3, in addition to a mixed residential, institutional and retail facility that will house apartments, a health care clinic, the NewHolly management office and retail services.

Planning and design smoothly integrated public housing into the surrounding neighborhood and community. The haphazard, curvilinear street layout of Holly Park was replaced by a

conventional grid pattern for several reasons. The new grid enhances safety by facilitating natural surveillance, simply because there are more "eyes on the street;" it also improves connections and increases pedestrian access to retail and commercial services in the adjacent neighborhood.

Houses are oriented toward the street, with front yards facing a public sidewalk. Porches and semi-private front steps allow relaxed public interaction, as sidewalks enhance the pedestrian accessibility of the neighborhood.

Parking is adjacent to each residence, for convenience and safety. Building dimensions, materials, scale and detail are standardized. A result of budget and scheduling concerns, standard-

ization has had the benefit of erasing potential distinctions between owner and renter-occupied and market-rate and subsidized housing. Residents are active in shaping the direction of community services and monitoring compliance with neighborhood home maintenance and design requirements.

NewHolly has become the centerpiece for a new urban village in Seattle's South Beacon Hill neighborhood. It has added value to the community – replacing a derelict, under-performing residential sub-division with a pedestrian-friendly, mixed-use neighborhood. It has expanded home ownership opportunities across the income spectrum, creating a neighborhood that offers residents suitable housing options over their lifetimes.

Through integration with the adjacent neighborhoods, New Holly has also increased the customer base of retail and commercial establishments in South Beacon Hill, and it has expanded access to community services, such as the library, parks and health care.

Prospective homeowners tour NewHolly development, which includes a playground

Project Profile

➢ Redesigned public housing

➢ Total area: 110 acres

➢ Phase 1: 48 acres (Phase 1) and 62 acres (Phases 2-3)

➢ 1,358 mixed-income housing units, including 370 market-rate and 988 subsidized units

➢ Residential density of Phase 1: 9.5 units/acre gross

➢ Parking: 1:1.5 per unit (Phase 1); 1 per unit (Phases 2-3)

➢ Phase 1 opened in 2000; Phase 2 units began selling in August 2002; Phase 3 has been prepared for construction

➢ Developer: Popkin Development

➢ Designer: Weinstein Copeland Architects

Density finds a home in rural Puget Sound

Third Street Cottages

Langley, Washington

Third Street Cottages
with adjacent development
in the background
(photo: Ross Chapin, AIA)

The Third Street Cottages were built in 1998 in Langley, a small town on Whidbey Island in the Puget Sound. Located within an hour of downtown Seattle and Everett by road and ferry, Langley is home to about 1,000 people and retains a village character despite being under moderate development pressure.

Three years earlier, in 1995, the town adopted the "Cottage Housing Development (CHD) Zoning Ordinance" to expand housing options, foster strong neighborhoods, and retain and enhance Langley's rural character.

Previous attempts to protect the rural character through rural zoning (1 dwelling unit per 5 acres) had the effect of fragmenting the landscape and increasing public service and infrastructure cost. In town, the zoning previously allowed for 4 to 6 dwelling units per acre.

The CHD ordinance allows detached homes at twice the previous allowable density in all single-family zones – up to 12 homes per acre. The ordinance essentially allows developers the option to build single-family homes at densities that were previously reserved for duplex development. The change in code, which won broad community support, requires that homes built under the ordinance be no more than 975 square feet in size (650 square feet on the first floor) and lower in height than homes on full-sized lots. They must be adjacent to a common area, with parking spaces hidden from the street. These attributes help maintain a sense of proportion and scale both to the new homes and others nearby.

The development responds to changing demographics – almost 60 percent of U.S. households have only one or two members. Typical owners are singles, couples or families with one child.

The eight units at the Third Street Cottages are the first in Langley to be built under the CHD ordinance, and it appears the development is the first of its kind in the nation.

Neighbors initially voiced a few concerns about added traffic and loss of parking. However, neither turned out to be a problem, with the addition of 12 residents and 10 vehicles, especially with on-site parking provided.

Given the proximity to downtown, residents can walk three blocks to shopping and dining in Langley. They also enjoy easy access to bike paths and routes around the island.

The Third Street Cottage homes sold for $140,000 to $150,000, with five of eight taken before construction was completed in 1998. Several cottages have since resold for $200,000.

To minimize inconsistency with the town's village character, the Langley Design Review Board established minimum parameters on the development's design, fencing and landscaping.

The geographic and social centerpiece of the community is a landscaped common area. Containing a garden, toolshed, mailboxes, and workshop, the common area is designed to facilitate community interaction and cohesiveness. Cottages overlook the common area and include private yards, bordered by a low fence and flowerbed. Parking is located to the side of the cottages.

Though the cottages are no more than 975 square feet, the designs use natural light and architectural details to make the spaces seem open and airy.

The living room ceilings are at least nine feet tall, and large windows and skylights let in natural light. Walk-in closets, attics and built-in shelves create storage space. Seating alcoves, bay windows and covered front porches add more functional space while keeping the development footprint small.

Langley has been able to increase housing supply, with minimal land consumption.

The success of the Third Street Cottages has motivated other localities around the Puget Sound region to adopt similar zoning requirements and legalize the construction of Cottage-style homes and neighborhoods.

Building these homes under Langley's previous zoning would have consumed up to three times as much land. Although the developer added a hydrant and extended the sewer collection system to accommodate development, the smaller footprint and location near downtown Langley let him save on construction costs, avoid road building and use existing water services.

> *"I grew up in wartime Maui, in a small cottage like this one," said owner Faith Smith to The Seattle Times. "This place reminds me of that very tight community where everyone kept an eye on each other."*
>
> *—Solving Sprawl, Natural Resources Defense Council*
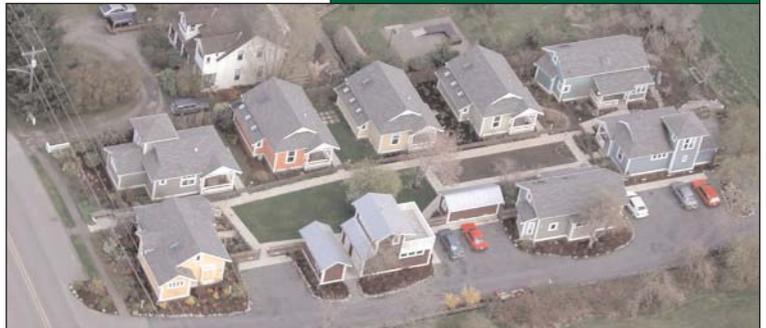
Third Street Cottages
(photo: Ross Chapin, AIA)

Project Profile

- ➤ Rural infill development
- ➤ 0.67 acres
- ➤ Residential density:
  12 units/acre gross
- ➤ Parking spaces per unit: 1.25
- ➤ Completed in 1998
- ➤ Developer: The Cottage Company
- ➤ Designer: Ross Chapin Architects

RiverStation and Heritage Landing

Minneapolis, Minnesota

RiverStation
(photo: ICF Consulting)

Brownfield mixed use rejuvenates downtown

Located in the warehouse district of Minneapolis, Minnesota, the Heritage Landing and RiverStation developments are adjacent mixed-use urban infill projects. Consistent with the city's objective of creating a 24-hour downtown, these developments are bringing residential units into the warehouse district for the first time.

The two developments occupy 9.75 acres, one-half mile from downtown. The former rail yard site laid abandoned and vacant for several decades, until the Minneapolis Community Development Agency acquired and sold the parcel, in two pieces, for residential development.

The proposed developments went through public review, primarily with the Downtown Residents Association. The Riverfront Warehouse District participated in design charrettes to publicly brainstorm design characteristics.

Although there have been some negative reactions to increased density elsewhere in the city, the neighborhood associations and business district did not voice strong opposition to the project. At the time, there were few residential properties nearby.

Heritage Landing, completed in 2000, includes 229 rental apartments, ranging in size from 750 to 3,200 square feet. The development retains several of the site's historic features, including a battered 19th-century stone wall that connects the building to the neighborhood. Heritage Landing has been noted for its distinctive architectural details – warehouse-type canopies, steel lintels, mansard metal roofs and arched windows that soften the appearance and mass of the building.

Twenty percent of its units are reserved as affordable housing for households earning 50 percent of the median income ($76,700 in 2002); these one-bedroom units rent for $705 per month. By comparison, the market-rate apartments in Heritage Landing rent for between $1,000 and $1,900. Street-level retail – grocer/delicatessen, florist and dry cleaner – and outdoor seating for the restaurants contribute to street ambiance and activity.

RiverStation – with completion expected in 2003 – has 347 for-sale market-rate condominiums. These units range in size from 860 to 1,500 square feet and sell for about $210 per square foot ($180,000-$315,000).

The development is being constructed on a former brownfield and incorporates environmentally friendly design elements. The site has underground parking, a unique on-site stormwater treatment facility and a common open space area between adjacent buildings.

The proximity of both developments to downtown Minneapolis,

with easy access to several major bus lines, makes transportation around the region possible without a car. Recreational trails on the Mississippi River are a few blocks away, providing links to miles of river trails and recreation opportunities such as canoeing, kayaking or rowing.

Both projects use mostly underground parking, which accounts for a more pleasant streetscape. For each of RiverStation's four sections (approximately 88 units each), there are 12 surface spaces and 117 underground spaces, of which 18 are tandems for two vehicles, one in back of the other. At Heritage Landing, there are 380 underground spaces – 280 spaces for residents, 100 spaces for visitors and shop-

pers. Heritage Landing also includes 30 surface spaces for visitors in an interior courtyard. The public access parking is policed to ensure it is not used by commuters.

When proposed, RiverStation was the Twin Cities' largest residential project with individually owned units, and Heritage Landing added rental units along with commercial space.

Both properties have been selling and renting quickly. The units at RiverStation have been selling at an average pace of two per week for four years. The occupancy rate at Heritage Landing is currently 98 percent.

Heritage Landing
(photo: ICF Consulting)

The result has been a new neighborhood that provides housing for downtown workers and students, and easily accessible shops and restaurants. The area around the RiverStation and Heritage Landing developments has grown rapidly over the past few years. Several restaurants, bars, and retail stores have located in the area, bringing new energy to the neighborhood and moving the city closer to its goal of creating a 24-hour downtown.

Project Profile

➢ Urban infill site
➢ 9.75 acres
➢ RiverStation (347 for-sale units)
➢ Heritage Landing (229 rentals)
➢ Residential density: 59 units/acre gross
➢ Parking spaces per unit: 1.5 (RiverStation); 1.2 Heritage Landing)
➢ Heritage Landing completed in 2000; RiverStation will be completed in 2003
➢ Developer: HuntGregory Group
➢ Designers: J. Buxell Architecture, Ltd. (RiverStation); Boarman Kross Pfister Vogel & Associates (Heritage

Courthouse Hill

Arlington, Virginia
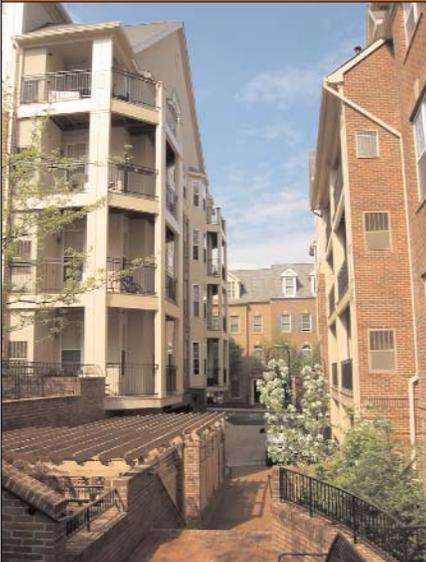
Condominiums and townhomes

Pocket park

Capital suburb adds transit-friendly homes

Courthouse Hill is an infill condominium and townhouse development located one block from the Court House Metrorail station in Arlington, Virginia. Its location is consistent with the county's plan for transit-oriented development around the court house subway station.

The Courthouse Hill development benefits neighboring residents because it has helped to turn a large vacant area into a neighborhood that blends with its surroundings and provides attractive open space and pathways. New residents of Courthouse Hill benefit from the convenience of living near subway stations, jobs and retail.

Land for Courthouse Hill had been assembled in the 1980s. A soft market for residential development and site constraints (35-foot slope) precluded development for 10 years. The site is bounded on one side by high rise offices and commercial space and on the other by single-family detached houses. The architect and developer proposed to use a mid-rise profile to reconnect the site to the surrounding neighborhood and provide a transition between the two different housing types.

Condominiums adjacent to commercial and office development step down from six to four stories, and the townhouses, which abut the single-family neighborhood, are three stories tall. Townhouses are set close to the street, with a 14.5-foot setback from the curb.

The public involvement process showed that most community members preferred the mixture of residential housing types and the scale of the project to the high-rise apartments and hotel development for which the site was originally zoned. Development was strongly supported by the county planning department and residents.

Courthouse Hill was completed in April 1997 and marketed to young professionals and empty-nesters. Nearly all of the 202 units were sold within 18 months at prices ranging from $115,000 to $280,000 for the condominiums, and $280,000 to $350,000 for the townhouses. These prices are close to or slightly higher than similar developments in the vicinity.

In the six years since project completion, market values of some units have more than doubled. Twenty-eight of the condominiums are designated as affordable housing available only to limited income occupants.

Although many Courthouse Hill residents use the convenient rail transit and walk to nearby retail and restaurants, the available parking spaces (1.7 per unit) give residents the option of auto ownership. Two-car townhouse garages are accessed from interior driveways, creating a pedestrian-oriented streetscape. Some garages are partially

below-grade due to the site's topography. The development incorporates landscaped pathways that connect residents with the Metrorail station, commercial areas and a recreation area. All pathways and sidewalks are paved in brick and lit with period streetlights. A pedestrian access easement ensures that pathways will remain public. The site also contains a half-acre public park adjacent to a recreation area.

The design of Courthouse Hill draws upon a strong architectural tradition in the region.

Historic architectural details such as pedimented doorways, arched window heads, and strong cornice lines on the townhouses create a feel reminiscent of the 19th- and 20th-century rowhouses of Washington, DC. Condominium details include painted wood, brick facades, recessed balconies, pitched roofs and dormers, and gables of varying sizes. The result is housing that blends with the existing neighborhood, complementing rather than diverging from it.

Project Profile

➢ Suburban infill site
➢ 4.7 acres
➢ 202 units (69 townhouses and 133 condominiums)
➢ Residential density: 43 units/acre gross
➢ Parking: 345 spaces (207 underground, 138 in private garages)
➢ Parking spaces per unit: 1.7
➢ Completed 1997
➢ Developer: Eakin/Youngentob
➢ Designer: Lessard Architectural Group

"A model of urban infill development that can be adapted for use in other cities, Courthouse Hill features extraordinary use of space in a high-density, low-rise development in the midst of a canyon of high-rise buildings. The innovative project fosters a sense of community and space in an otherwise highly urbanized area, and its layout provides for effective traffic management in a livable community – a combination not often achieved."

—*Urban Land Institute award citation, 1998*

Lessons Learned: Design for Density

Five Design Principles

1 **Identify appropriate locations**

2 **Connect people and places**

3 **Mix uses**

4 **Find parking alternatives**

5 **Create great places for people**

As the case studies show, communities that successfully add dense areas to their neighborhoods find that particular attention to design is necessary to create great places to live. In all these cases, community officials, business leaders, citizen representatives and others all worked together to employ design principles that helped create better places for present and future residents.

Developers and community members can learn from the mistakes of other dense developments in which some individual design principles may have been employed, but other critical elements for great, dense neighborhoods were neglected. A look at some projects shows that while density may provide access to transit or proximity to different land uses, it can neglect to create a welcoming place for people. Often poor building and street design create places where it is difficult or unsafe to walk and engage one's neighbors.

Density that does not work may be found along multi-lane, high-speed one-way streets and in neighborhoods that rely on pedestrian bridges, but fail to provide any sidewalk level shops or restaurants. These characteristics limit people's ability and motivation to walk or bike to shops, and lead to empty sidewalks.

Without an appropriate location, a good mix of different uses nearby, adequate open space and a vibrant, safe and interesting life along the sidewalks and streets, dense neighborhoods will flounder.

Crystal City – Going from Just Dense to a Great Place to Live

"We're looking for a place that is more user-friendly, and more attractive as a destination. We want an entity that will not shut down at 5 o'clock, but will have a nightlife, a weekend life and will be more of a complete neighborhood," said Robert Smith, developer of Crystal City in Arlington County, Virginia. An area that is essentially an "unusually dense version of the suburban office park," Crystal City, just outside Washington, DC, has a very high density (most buildings are 12 floors or more), access to transit and a mix of uses, including offices, apartments and hotels. But it is not a great place to live. With predominantly one-way streets, underground retail and pedestrian bridges over the streets, one could live in Crystal City "without setting foot outdoors."

But that is all set to change. The developers have plans to convert the one-way streets to two-way, provide safe crosswalks and slow down the passing cars. They intend to integrate new street-level shops into the area and hope to create an interesting street life. Smith realizes that successful design must integrate "vibrant street life, busy sidewalks, and inviting stores and restaurants" with the density and transit connections to create a great place. (*Washington Post*, May 24, 2003)

Creating great neighborhoods is not just a mathematical equation of adding individual elements. The task requires the collaboration of neighborhood stakeholders and design professionals that understand how people use public spaces.

Communities can avoid mistakes and create great, dense neighborhoods by bringing together five major principles for dense development. To build viable dense neighborhoods, communities must plan density for the right locations, ensure strong connections between destinations, mix land uses, provide parking alternatives and create great places for people.

Additional resources on designing great higher density projects can be found online at www. designadvisor.org.

1 • Increase Densities in Appropriate Locations

Choosing the right locations for density is important. The right balance helps to ensure that the development enhances the community and supports existing or new services like transit, shops, or a neighborhood center. By putting density in the best locations, new housing helps create neighborhoods – places where all residents are within a 5- to 10-minute walk to a cup of coffee or a gallon of milk at the corner store. These locations may also allow density to take advantage of special site characteristics – such as wetlands, tree groves or hills – to create neighborhoods with unique character. All of these elements not only help a community accept new density, but also help residents understand how it can improve their neighborhood.

Communities can identify these locations for dense developments by focusing on various types of neighborhood hubs, such as existing or planned transit stations, town centers, the junction of two neighborhoods or major retail and employment destinations. Adding density to each of these locations can help build a stronger community (or a new community) with better access to a local store, park or school.

Density next to a transit station helps improve transit services for more people. As more people live closer to the station, the system will likely be used more and can economically support more frequent service.

New density near a town center places more people closer to neighborhood shops, the town square or civic buildings. This adds life to the downtown, and more people in the town center ensure its greater public safety, while supporting more shops and broadening the local retail base.

Density at the junction of two neighborhoods can help create a

View of retail and residential development from San Antonio Transit Station in Mountain View, California.

Courthouse Hill is an example of increased density in the most productive locations. Located one block from the local subway station, the project used vacant land to help knit the neighborhood together.

mixed use or higher density corridor. The area where two neighborhoods meet can become a larger community node and support more diverse retail.

Existing retail and employment destinations can also benefit from incorporating other types of dense uses. Greater density can help improve local safety by keeping the area busy after regular business hours. It can also help create a new town center by placing more homes closer to shops or offices.

One integral factor for density increases in appropriate locations is designing additional development to blend into the existing neighborhoods. Ideally, this will generate further community acceptance and support for density. Dense developments can be laid out to concentrate higher densities next to the shops and offices, or towards the center of the site, while stepping down building heights to lower densities next to existing residences.

Questions to Ask about Increasing Densities

➢ Where are the best places in our community for density?

➢ Is there available land near existing transit stations, town centers, employment centers or major community amenities? Is there an opportunity to redevelop the area between two neighborhoods?

➢ How can we change the zoning for these selected areas to encourage development at higher densities?

➢ How will this dense development be integrated with the neighborhood? What techniques will be used?

➢ Are there old vacant or underperforming shopping centers that could be converted into denser neighborhoods?

2 • Connect People and Places

Dense developments with a complete street and path network and convenient access to routes for walking, bicycling and bus or rail create the strong connections necessary for great places, because more compact development will add more people to an area. Without good street and transit connections throughout an area, people must use cars for every errand and every trip to school

or work, facing unavoidable congestion. With a good street network and other mobility options, density will add some drivers to the area, but will also pull many people out of their cars – onto the sidewalks and into transit. Dense development with good connections to homes, shops, schools and offices allows people to choose an alternative to driving and also provides more route options to those who still choose to drive.

A complete street network helps reduce congestion because it allows drivers, bicyclists and pedestrians to go around traffic or just take more direct routes to their destinations. At each intersection, a person may turn onto a different street and choose a different route, or continue along the way.

More intersections also increase the safety of pedestrians and drivers by slowing down traffic and making drivers more aware of street crossings and turning motorists. The opportunity to walk, bike or take a bus or subway provides residents and shopping visitors with alternatives that also help ease local congestion.

Added density also promises new transportation choices, since the placement of a critical number of people within walking distance of a rail station or bus stop opens up the possibility of more frequent or new transit service.

The best way to create a complete street network and support new transportation choices is to use a modified street grid network, ensure access to different modes of transportation (car, bus, train, and walking or biking routes) and build inviting sidewalks. The street network needs to accommodate both cars and people with many routes to their destinations. The streets and sidewalks should connect all neighboring areas with compatible uses, particularly adjacent residential areas. The network should have short blocks (some suggest 600 feet maximum[8]),

which will make it easier for both people and cars to navigate the area. The streets should primarily meet in three or four-way intersections to allow people and cars to go around congestion. Cul-de-sacs should be avoided because they limit people's options to travel around congested areas and impede the connections between neighborhoods.

The streets should also be relatively narrow. This means that lanes on residential streets can be 9-10 feet wide and that each intersection should maintain a short curve radius to encourage drivers to obey the recommended speed limit. If the street is too wide, drivers will go faster than allowed. This discourages people from walking along the sidewalk to reach their destinations. Narrowing the street helps slow traffic, improve both driver and pedestrian safety, and make people feel more welcome on the sidewalk.

The network should include a complete sidewalk along the local streets. It should be passable, without people having to go around hedges or highways to continue on the path. It should also have limited driveway cuts. Ideally, a planting strip should be placed along the street, creating a buffer for pedestrians and the opportunity to plant trees, whose canopy would provide shade.
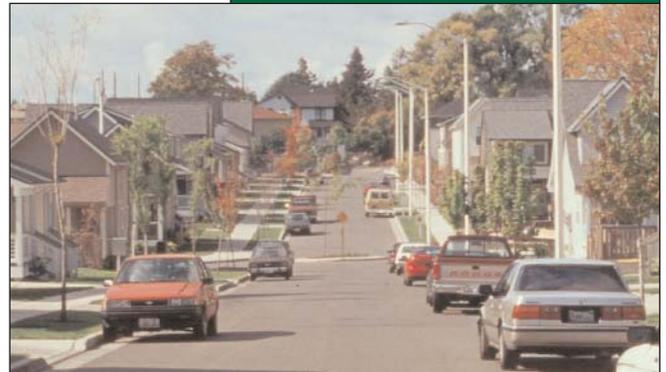
NewHolly Urban Village in Seattle, Washington, exemplifies a dense development that succeeds in reconnecting people to places. The development removed the previous system of curvilinear streets and replaced it with a grid pattern with narrow 28-foot wide streets. This change allows NewHolly residents to reach neighboring shops in a safe and welcoming pedestrian environment.

On-street parking also helps protect pedestrians and makes more efficient use of public streets.

Questions to Ask about People-Place Connections

➢ What type of street network is proposed for the development?

➢ Will the street and sidewalk network provide a safe, welcoming pedestrian environment?

➢ Are the buildings parallel to the street? Are they close to the sidewalk?

➢ Will the development provide access to bus or transit service?

➢ Is there an infill development that needs to implement traffic calming measures to slow vehicle speeds and create streets that are safe and comfortable for motorists, pedestrians and bicyclists?

3 • Mix Uses

Mixing uses turns density into a village center or helps create a community from a sea of houses. With different types of uses within a walkable area, density creates a healthy neighborhood where a child can walk to a nearby school, a resident can run out for a gallon of milk from the corner store, or neighbors can congregate at the bandstand for a community picnic. Without these walkable destinations, a new neighborhood becomes like any other place where people must get into their cars and drive to get that milk.

Mixing uses allows more choices and improves quality of life by letting people decide if they want to live near their work, walk to the local store, or bike to the local library with their kids. This technique employed in a residential neighborhood – for instance, to accommodate more people within a 5- to 10-minute walk of a town center – sup-

ports the economic viability of services like a coffee shop or a local hardware store. Without a critical mass of people nearby, those stores would not be able to survive economically. The same is true of transit. Placing more residential, commercial and office space near a transit station builds a stronger base for the day-long train or bus use.

Mixed use comes in many forms. It may be a corner store in each neighborhood. It may be a neighborhood work center for people who sometimes telecommute during the week.

Mixed use can help add jobs or homes to an area, improving a jobs/housing balance. This balance benefits the community when people relocate to the area to be within walking distance of jobs.

Mixed use can also mean redesigning a neighborhood to bring in civic buildings such as recreation centers, bandstands, or a library, or to ensure that an

elementary school is within a 15-minute walk of each household. It may also mean integrating parks throughout the area, so that every home is within a 2- to 3-minute walk of a small park.

In a town center or infill development downtown, mixed use can succeed within each building. It may mean offices or apartments over shops along the town square, or a hotel over shops downtown. Mixing uses in each building or in adjacent buildings works best when design guidelines ensure that the buildings will be consistent in height and size, regardless of use.

Questions to Ask about Mixing Uses

➢ What uses will be integrated into the development?

➢ Will local services be provided within the development?

➢ Are there neighboring commercial, office or civic uses that will be accessible from the development?

➢ How would mixing uses on or next to the development site help improve residents' access to local services?

Planners for the City of Davis, California, and the University of California worked with the community to create a mixed-use neighborhood with Aggie Village and Davis Commons. By placing the commercial center, Davis Commons, next to Aggie Village residences, the university and town succeeded in expanding the commercial center and improving the university's link to downtown. Mixing uses improved access from the university to downtown and brought them new amenities.

4 • Find Parking Alternatives

Density succeeds at creating great places when people feel comfortable walking down the street to get a cup of coffee, sitting on their front porch to talk to passing neighbors, and parking on the street in the town center for some quick shopping. Shops and houses close to the street, not separated from the sidewalk by a stretch of parking or a wide setback from the street, help make this possible.

Sensitive placement of parking in different locations can help sidewalks become more inviting. On-street parking, in particular, also helps improve the safety of the neighborhood by slowing traffic and serving as a barrier between the sidewalk and the roadway.

Still, the most important effect of density on parking is its potential to reduce required parking space, as compared to similar developments at conventional densities. As density increases, people find other means to reach the shops or offices. More people take transit or walk. Different neighboring uses may also share the same parking spaces at different times of the day. For instance, a movie theater and an office rarely need parking spaces at the same time and can share a parking lot or

Belmont Dairy, in Portland, Oregon, devised creative parking alternatives to ensure that shops would be accessible from the sidewalk, pedestrians would be protected from traffic and residents and visitors would be accommodated. Residential garages are accessed from the rear of the development, while shared parking is provided underground and on-street parking lines the streets.

garage. On-street parking also provides necessary spaces without separating the people on the sidewalk from the homes and stores. These spaces should be included in the calculation of the area's parking supply and not considered "extra."

Mixed use areas also help minimize the demand for parking by allowing people to park once and reach a number of shops or errands. People will not park in a new space every time they go to another store if they can walk down a short block to reach it. These areas do not need the same quantity of parking spaces as a suburban location where each errand is so distant from the next that the car must be moved.

Lastly, a well-designed dense area with well-placed parking is an interesting place to walk – more people will choose to walk to the shops or offices when the streets are welcoming and the stores close by.

Parking demand in a dense development is quite different from other locations. Communities should be allowed to reduce parking requirements and use better alternatives to create great places.

The appropriate number of well-placed parking spaces will support local shops and restaurants, encourage people to stroll through the area, and help create great dense neighborhoods.

Parking removed from the "front yard" of homes, stores, or other buildings allows neighborhoods to flourish because people are closer to each other and closer to their destinations.

Parking may be moved to lots or structures behind buildings or to alleyways if on-street parking is permitted.

For homes, setback garages or alley garages allow buildings to be closer to the street and reduce the street frontage each house requires.

For shops or offices, the combination of mid-block and on-street parking keeps parking spaces nearby while making building entrances more accessible from the sidewalk.

Questions to Ask about Parking

➢ Where will parking be located for residential, commercial and office uses?

➢ How can parking be used to improve pedestrian safety and accessibility?

➢ Will parking be located between the sidewalk and buildings?

➢ How can parking demand and supply be reduced? Can walking or transit accessibility help reduce the need for parking?

➢ Can parking supply be shared between neighboring residences or shops and offices?

➢ Are densities high enough to build a parking structure?

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5 • Create Great Places for People

If we enhance higher densities with great places for people, then we haven't built density alone, we've built a community. Alternatively, we've expanded a community and made it even better. The addition of density gives us the opportunity to build a town, a community and a new family of friends – or to connect to the ones that have always been around us. This begins to happen when people have the chance to talk to each other and congregate. Density offers that chance to be together.

Great places are created by combining all the different elements listed above, and then adding the detail. The 5-minute neighborhood is immortalized in great places. People can reach the corner store in five (to ten) minutes. Streets are welcoming – proportioned to feel like a room in your house, a cozy place where you would want to be. Trees in planting strips or in grated planters line the street, in appropriate sections. Diverse housing types – bungalows, live-work rowhouses, apartments and shops – are found on a neighborhood walk. The neighborhood has interesting places on the street, and the community feels inviting to the pedestrian, driver and bicyclist, and to young and old alike.

Certain characteristics help create this inviting place. A well-designed streetscape makes people feel comfortable and invites residents to walk or bike to destinations. Part of this comfort is from the relationship between building height and street width; certain relationships make people feel comfortable by creating "outdoor rooms."[9] In such places, there is a pleasant sense of enclosure – enough not to feel too exposed, but not so enclosed as to feel cramped. This enclosure is supported by orienting buildings to be parallel to the street, and placing them within a short distance of the sidewalk or along the sidewalk in the case of a town center.

The setback should be minimized both from the street and from the neighboring building. Placing buildings side-by-side (rowhouses or town center buildings, for instance), or close to each other (single-family bungalows) helps create a more interesting place to walk.

These buildings should also have some architectural detail on the facades, and no blank walls facing the street. Local architectural styles help incorporate the new development into an existing neighborhood.

Porches, balconies and other additions add to the outdoor room to create a sense of community and a welcoming place to be.

Open spaces, parks and plazas also enhance the community's experience. They provide gathering spaces and focal points for
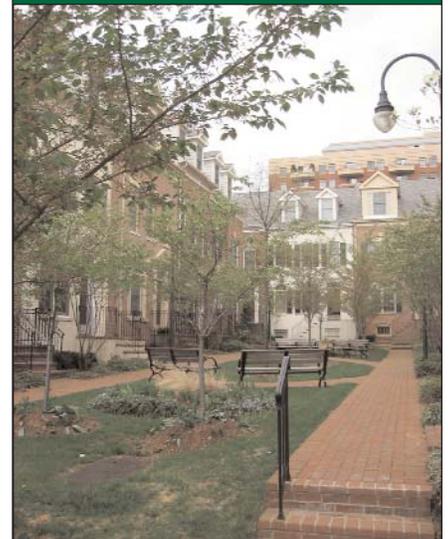
In Breckenridge, Colorado, Wellington's design ensures that all residents live in a community with easy access to parks and local amenities and a welcoming pedestrian environment.

the community. Such common spaces can come in all shapes and sizes – some large enough to serve those functions for an entire city, others small enough to give shape to individual neighborhoods. Even small "tot lots" can provide a community with space to gather and socialize. Framing these parks and plazas with residences and other community uses helps create a thriving community center.

Questions to Ask about Creating Great Places

➢ How will the buildings relate to the street?

Will they come up to the sidewalk or have narrow setbacks?

➢ What will building walls facing the street look like? (No blank walls)

➢ Where will parks and plazas be located?

➢ How will residential or other uses frame the open spaces?

➢ What other community focal points will be integrated into the development to create an interesting place to walk?

Endnotes

■ INTRODUCTION

1 Designing for Transit: A Manual for Integrating Public Transportation and Land Development in the San Diego Metropolitan Area. July 1993.

2 Katherine Shaver, "The Road Too Much Traveled: For Many Children, Drive Time Just Keeps Going," *Washington Post*, January 27, 2003; Page A01.

3 For example, the Surface Transportation Policy Project found that suburban mothers spend on average 66 minutes per day in their cars, and that approximately one-half of women's trips are for the purpose of chauffeuring other people. In *High Mileage Moms*, Surface Transportation Policy Project, May 1999.

4 www.tjpdc.org/pdf/rep_comm_epiBrochure.pdf

5 "The Metropolis Plan: Choices for the Chicago Region." Chicago Metropolis 2020. Chicago, Illinois, 2002, p. 24.

6 American Farmland Trust, *Alternatives for Future Urban Growth in California's Central Valley: The Bottom Line for Agriculture and Taxpayers*, October 1995.

7 U.S. Environmental Protection Agency, "Protecting Water Quality with Higher Density Developments." (U.S. EPA, Washington, DC, 2003), 2-8.

■ "LESSONS LEARNED: DESIGN FOR DENSITY"

8 Duany, A., Plater-Zyberk, E., Speck, J. *Suburban Nation*, North Point Press, NY. 2000.

9 Many designers recommend at least a 1:1 ratio; that is, the buildings are at least as tall as the street is wide. Some distinctive urban streets reach a 3:1 ratio, where the buildings are three times higher than the street width.

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■ **www.epa.gov**