



## Corning Planning Department

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**To: Planning Commissioners & Public**

**From: John L. Brewer, AICP; Planning Director**

**Date: March 5, 2007**

**Re: Supplemental Information-Salado Orchard Apartment Project**

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At the February 20, 2007 meeting, the Planning Commission opted to postpone action on the Salado Orchard Apartment project pending receipt of additional info regarding:

1. Affordable Housing effects on area Property Values;
2. Other Projects developed by the applicant Pacific West Communities;
3. Information regarding any possible correlation between increased crime and affordable housing projects;

Attached for your review and consideration are the following documents:

1. *"Myths and Facts about Affordable & High Density Housing"*, a report prepared by the California Department of Housing and Community Development in 2002. This report deals with the property value issue as well as crime data and other issues that often surface in relation to affordable housing applications.
2. A Study titled *"Low Income Housing Tax Credit Housing Developments and Property Values"* prepared by the Center for Urban Land Economics Research at the University of Wisconsin in 2002. This study is particularly on point because it deals specifically with "Tax Credit" financed projects, like the proposal.
3. One Page sheet listing Property Management Companies that Pacific West Communities utilizes.
4. A One-Page list of existing Pacific West Communities Housing projects throughout the west.
5. A Two-Page document titled *"Who Needs Affordable Housing"*. This document was prepared to address affordable housing issues in the Bay Area, so the numbers are proportionately inflated, but the examples of people who need housing is true whether in San Jose or here in Corning.
6. A Report titled *"Addressing Community Opposition to Affordable Housing Development-A Fair Housing Toolkit"* prepared by the Housing Alliance of Pennsylvania. This is a valuable resource, but some info is not applicable to California.
7. A One-Page sheet titled *"Anti-Nimby (Not in My Backyard) Tools"*, prepared by the California Housing Law Project.
8. Police Chief Cardenas is unavailable until next week. We expect him to provide a written summary of Corning crime statistics, comparing the "per-residence" Police responses to multi-family housing projects to responses to typical single-family residences. The Chief's verbal summary concluded that multi-family housing does not generate police responses in excess of that from standard single-family housing.



MYTHS

FACTS

*About Affordable & High Density*

HOUSING

*A Report by*  
California Planning Roundtable  
California Department of Housing & Community Development

S-1

**I**N THE PAST 30 YEARS, CALIFORNIA'S HOUSING PRICES HAVE STEADILY OUTPACED ITS RESIDENTS' INCOMES. Housing production hasn't kept up with job and household growth within the State.<sup>1</sup> The location and type of new housing does not meet the needs of many new California households. As a result, only one in five households can afford a typical home, overcrowding doubled in the 1990's, and more than three million California households pay more than they can afford for their housing.<sup>2</sup>

Meanwhile, the federal government has dramatically cut back programs that used to help local governments accommodate new growth. Voter-imposed property tax and spending freezes have further constrained local governments from responding effectively to new growth. And affordable housing development, while still funded in part by the federal government, requires a larger local commitment than ever before.

Against this backdrop, it should surprise no one that many communities no longer accept population growth with open arms. When anyone proposes the development of affordable or multifamily housing, ambivalence about growth often shifts to hostility. Hostility feeds and strengthens certain myths, and deep emotional perceptions of how the world works. *Myths—important sources of meaning in all societies—provide shared rationales for community members to behave in common ways, having a strong moral component, with clear lines between right and wrong.* Although myths are sometimes positive, they can also serve as shields for deeper and uglier motivations: racism, fear of outsiders, and/or greed. When people argue against new high-density and affordable housing, often myths are used to convince decision-makers that the new development and its residents don't belong there. Traffic will be too heavy; schools will become

overcrowded; buildings will clash with existing neighborhoods; people won't fit in; and maybe even a criminal element.

Opponents often believe these myths. But it's essential to counter these myths with facts. California desperately needs new affordable housing to reverse recent increases in overcrowding and overpayment. We also need new high-density housing to support economic stability and prosperity. We need housing to accommodate new workers and their families and to economize on infrastructure costs, while preserving open space and reducing the distance between homes and jobs.

Fortunately, the facts of California's recent experiences with high-density and affordable housing often contradict the myths. We can now begin to rely on this recent experience to reassure concerned residents that the myths don't have to come true.

## Myth #1

**High-density housing is affordable housing; affordable housing is high-density housing.**

## Fact #1

**Not all high density housing is affordable to low-income families.**

**T**his myth expresses an essential truth: more units per acre mean lower land costs per unit, especially if local governments allow builders meaningful density bonuses; smaller units cost less to build than larger ones. To encourage housing affordability, California cities do need to promote higher densities.

But we also know from experience and observation that not all high-density housing is affordable to low-income families. San Francisco's Nob and Telegraph Hills, Los Angeles' Wilshire Corridor, and high-rises in

downtown San Diego are all examples of upper-income areas where housing densities are quite high. Similarly, most Californians know that low-density neighborhoods often accommodate people of modest means. The residents of these neighborhoods often moved in shortly after the homes were built (several decades ago) —and before the huge escalation in California's home values that began in the early 1970's. With assistance, many families with limited incomes will continue to buy homes in these neighborhoods. Many other low-income

households will continue to rent single-family homes because they offer more space in low-density neighborhoods.

For the most part, of course, low-density neighborhoods offer more expensive housing than high-density areas. Detached homes cost much more than most apartments and condominiums. Among new units, the difference is even more striking; new high-density units are much more likely to be affordable than new single-family units.

Density is not always enough, however. To ensure affordability, local governments must intervene with programs and additional concessions if the new high-density units are also to be affordable. For a list of resources on affordable housing techniques, see *Resources: Making Housing More Affordable*, at the end of this report.

## Myth #2

High-density and affordable housing will cause too much traffic.

## Fact #2

People who live in affordable housing own fewer cars and drive less.

*In many high-density neighborhoods, and in most neighborhoods with a mix of housing types, traffic isn't a big problem.*

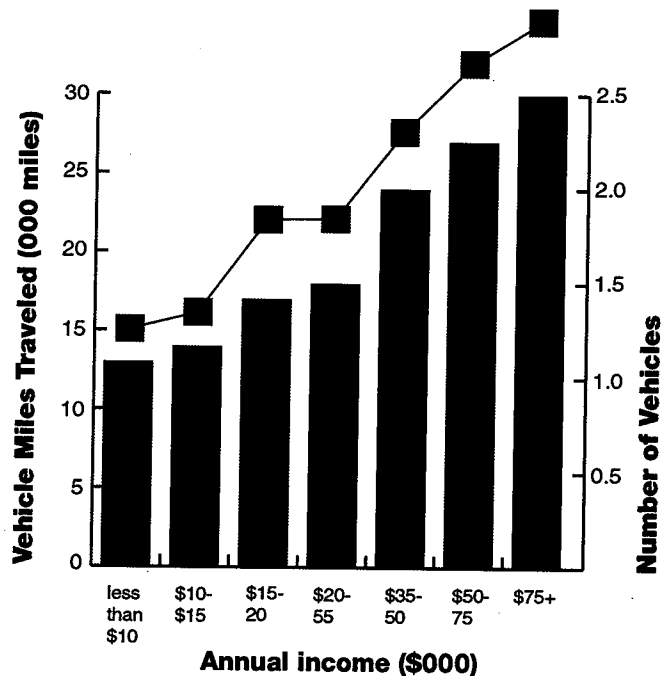
In California's six largest metropolitan areas, two-thirds of renters and over three-fourths of the households living below the poverty line own no vehicles or only one car, compared to 54 percent of all households and 44 percent of homeowner households.<sup>3</sup> With lower car ownership rates come fewer trips, and fewer single occupant auto commutes. According to the National Personal Transportation Survey in 1995, low-income households make 40 percent fewer trips per household than other households. Recent traffic growth owes much to existing development.

In many high-density neighborhoods, and in most neighborhoods with a mix of housing types, traffic isn't a big problem. Fewer auto trips occur in higher-density areas. In a neighborhood of 15 homes to the acre, one-third fewer auto trips occur, compared to a standard suburban tract.<sup>4</sup> A 1990 survey by the Sierra Club's Transportation Committee found that for every doubling of neighborhood density, vehicle miles traveled are reduced by 20 to 30 percent.

Car ownership rates are less in higher density areas. According to recent American Housing Survey data, multifamily developments have lower car ownership rates than single-family home tracts.

*To encourage housing affordability, California cities need to promote higher densities.*

## Low-income households own fewer cars, drive less



Source: U.S. Energy Information Administration, Residential Transportation Energy Consumption Survey, Household Vehicles Energy Consumption, 1994

High-density housing can encourage nearby retail development, along with ease of walking and transit use. Mixing housing with commercial development is ever more crucial for traffic control, since non-work trips constitute the largest number of trips.

Over three-fourths of trips in Southern California are non-work trips. With high-density

housing, stores serving neighborhood residents move in, allowing residents to walk to buy groceries or to the dry cleaner instead of driving.

Transit connections also become more common when neighborhood density increases, as transit is only cost-effective at densities above eight or 10 units per acre.<sup>5</sup>

### **Myth #3**

**High-density development strains public services and infrastructure.**

### **Fact #3**

**Compact development offers greater efficiency in use of public services and infrastructure.**

*Librarians, sheriffs' deputies, nurses, fire fighters, and many other vital members of our communities all need affordable housing.*

**H**igher-density residential development requires less extensive infrastructure networks than does sprawl. California developers must usually pay for sufficient infrastructure capacity to serve their own projects. When communities cannot take advantage economies of scale in providing infrastructure, extension costs rise. High-density housing helps provide economies of scale both in trunk lines and in treatment plants. The cost savings can be passed on to new residents, and the smaller debt load can help ensure fiscal stability throughout the community.

Infill development can sometimes take advantage of unused capacity in public services and infrastructure. Communities can save taxpayers and new residents money when housing construction is allowed in areas where infrastructure and service capacity has already been paid for and is underutilized. Infill development can also make use of a transit and provide better access to services, while improving economic viability.

Higher-density infill residential development can translate to higher retail sales. By approving new high-density development in infill locations, communities can revitalize stagnant

commercial districts and increase taxable sales—the primary source of revenue in most California jurisdictions.

According to the American Housing Survey, the development of single-family homes is much more likely to cause strain on local schools than high-density development. In most cases, a single-family home can have two to three times the numbers of school aged children per household.<sup>6</sup>

### **Myth #4**

**People who live in high-density and affordable housing won't fit into my neighborhood.**

### **Fact #4**

**People who need affordable housing already live and work in your community.**

spouse and a child, the family would be a very low-income household. A starting air-traffic controller in San Diego County, with income barely higher than \$31,000 a year, would also qualify for affordable housing. Librarians, sheriffs' deputies, nurses, fire fighters, and many other vital members of our communities all need affordable housing.

People motivated by these concerns may just need to "meet" the residents of high-density and affordable housing. Residents often have been long time members of the community, and will continue to make contributions to their neighborhoods. For a list of resources that can introduce people to those who live in high-density and affordable housing, see Resources: *Meeting the Residents of Affordable Housing*, at the end of this report.

**A**ccording to government definitions of affordable housing, families should devote no more than 30% of their income to rent or mortgage payments and utilities. Affordable housing often means housing whose residents don't pay too large a share of their incomes on rent or a mortgage.

Households earning lower incomes can have a variety of occupational and educational backgrounds. Families earning less

than four-fifths (80%) of the area's median income are officially lower-income households; families earning less than half of the median are known as very low-income households. For example, a starting elementary or high-school teacher in Mountain View (Santa Clara County), with a gross monthly income of around \$3,200, can afford to pay \$960 a month in rent, which qualifies as low-income if the teacher lives alone; if the salary must support a

## Myth #5

**Affordable housing reduces property values.**

## Fact #5

**No study in California has ever shown that affordable housing developments reduce property values.<sup>7</sup>**

*Architectural standards and adequate maintenance also strongly influence property values*

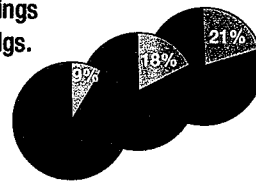
**M**any studies have been done. The truth is the single most significant factor affecting property values is the pre-existing value of the land in a given community or area. This in turn is based on supply and demand, proximity to major urban centers, nearby attractions (beachfront property, panoramic views), any negative factors such as environmental contaminants, and availability of adequate infrastructure and services.

Architectural standards and adequate maintenance also strongly influence property values, particularly as they apply to affordable rental properties. Properly maintained affordable housing developments, designed and built with sensitivity to the architectural and aesthetic standards desired by the community, may even increase property values.<sup>8</sup>

## Tenure much more important than density in recent moves

≥10 unit buildings  
2-to 9-unit bldgs.

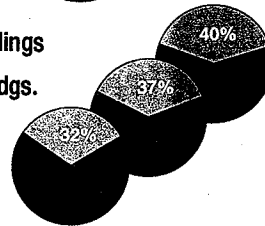
single-family homes



**Owners**

≥10 unit buildings  
2-to 9-unit bldgs.

single-family homes



**Renters**

■ moved  
■ Did not move  
in past year

The majority of both renters and homeowners in California metropolitan areas move less than once a year. Homeowners move less often than renters, but even renters move seldom enough to form long-term ties to neighbors.

\* Source: U.S. Dept. of HUD, American Housing Surveys for San Francisco-Oakland, San Jose, Los Angeles-Long Beach, San Diego, Riverside-San Bernardino, and Anaheim-Santa Ana.

## Myth #6

**Residents of affordable housing move too often to be stable community members.**

## Fact #6

**When rents are guaranteed to remain stable, tenants move less often.**

*Affordable housing tenants invest in a neighborhood and community just as much as any other resident*

**A**ccording to San Francisco's BRIDGE Housing, annual turnover in their affordable housing projects is less than 10 percent annually. This turnover rate is approximately the same as most single-family homeowners, around 10

percent, and much less than market-rate renters.

Affordable housing tenants invest in a neighborhood and community just as much as any other resident. Affordable housing tenants include families with school

age children, where the mother and father attend PTA meetings, and spend their spare time enjoying parks and other community facilities. These families and other affordable housing tenants are concerned for the public's health and safety just like other residents of the community.

## Myth #7

**High-density and affordable housing undermine community character.**

## Fact #7

**New affordable and high-density housing can always be designed to fit into existing communities.**

**D**ensity, as measured in units per acre, can be a deceiving measurement, but new housing at between 20 and 50 units per acre can be designed to fit in most California communities. The best way to convince people of this is to show them how well new housing can fit into their neighborhoods. see Resources: *Increasing housing densities*, at the end of this part, for a list of slide shows and videos.

Communities can also achieve higher densities by filling in the existing urban fabric with second units, duplexes, and conversion of outmoded or abandoned commercial

buildings. Local governments most often encourage infill by reducing regulations and restrictions.

New affordable housing differs little or not at all from any other development. When BRIDGE Housing opened its affordable *Pickleweed* housing development in upscale Mill Valley, potential buyers for neighboring condominiums mistook *Pickleweed* for the market-rate project. And when Habitat for Humanity built its self-help project in Rancho Santa Margarita, local developers and subcontractors contributed materials identical to those used in nearby market-rate

*High-density doesn't mean high-rise. When most people hear high-density housing, they imagine high-rise housing. But in most California cities, the market won't even support high-rise housing. More often than not, high-density development now means two- and three-story wood frame garden apartments that frequently are similar in scale to large home luxury housing.*

homes. Thanks to sensitive work by experienced architects, the new townhomes fit in perfectly (see case study). These developments are proof that affordable housing doesn't mean high-rise slums.

## Myth #8

**High-density and affordable housing increase crime.**

## Fact #8

**The design and use of public spaces has a far more significant affect on crime than density or income levels.**

**D**ensity does not cause crime. For many years social scientists have asked whether high-density housing causes crime. Not one study has shown any relationship between population or housing density and violent crime rates; once residents' incomes are taken into account, the effect of density on non-violent crime decreases to non-significance.

After studying housing and neighborhoods throughout the country, Oscar Newman concluded that the design and use of public spaces, and

particularly the sense of ownership and control that residents have over these areas, has far more significant affect on crime than density or income levels.

In neighborhoods suffering from disinvestment, particularly those areas lacking jobs and community services, crime can be higher.

Local governments can help address legitimate concerns about crime by working with existing residents and law enforcement to develop community-based strategies to reduce crime.

*Management & Design are Key.*

Local governments can also help protect the entire community, including new affordable housing residents themselves, by attending to details at the project level. Most important is effective professional onsite management, with strong tenant-screening and good security systems. Design, too, can play an important role in protecting residents and neighbors of high-density or affordable housing, especially by ensuring visibility. New developments should also contain a mix of unit types to accommodate different kinds of households. When residents have different occupations and family types, someone will probably be home in the development almost all the time.

## In Conclusion

In this decade, California's persistent affordable housing shortage has become so commonplace that it seems natural. Planners and elected officials must stop believing another pervasive myth: *that they can do nothing to create affordable housing*. This report shows that many California communities now believe they have the creativity, resources, and will to house all those who need shelter. As a result, they have established that, in fact, California communities can become more open, more accepting, and better places for old-timers, new immigrants, or their children.

## Case Studies

### Renaissance High-Density and Affordable Housing Help Balance Silicon Valley



High-technology firms create thousands of jobs in Silicon Valley, but housing construction does not keep pace. New workers have to commute long distances to reach their jobs. As a result, Silicon Valley suffers from some of the worst traffic in California and from the State's highest housing prices. In the late 1980s, San Jose set out to clear traffic and ease the housing shortfall by changing its land-use policies. The Renaissance project, on a 56-acre site in north San Jose, was originally designated for research and development. It had enough infrastructure -- including a wide road and convenient access to

planned light rail to handle a large number of new jobs.

In 1991, Renaissance Associates, a partnership between General Atlantic Development and Forest City Development, proposed with the landowners that San Jose rezone the site for over 1,500 moderate -- and high-density rental apartments and for-sale town homes, neighborhood retail, and a day-care center. San Jose readily agreed.

The project developers started work early with neighbors living in an existing single-family development on the site's northern boundary to provide appropriate transitions into Renaissance, while making best use of the large existing road. In response to neighbors' concerns, the developers located the lowest-density town home component adjacent to the existing residences, and provided ample setbacks between the new attached homes & the 1950s-vintage single-family homes.

The developers responded to concerns about traffic by canceling initial plans for a through street that would connect the existing neighborhood with Renaissance Village.

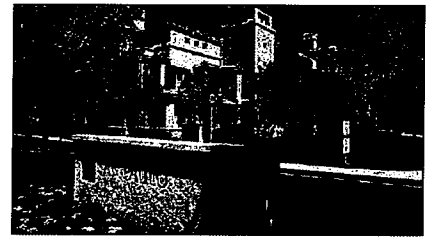
This high-density development shows that often repeated myths about the effects of high-density housing on public services and transportation aren't always true. San Jose's ambitious plans for employment development in the area led the City to require the construction of more infrastructure than was eventually necessary both on the site itself and in neighboring areas of the City. Later, the City determined that it could alleviate traffic throughout its road network by shifting the location of new residences and workplaces.

The composition of the project itself, with over 250 affordable apartments, market-rate apartments, and attached ownership units, further assures balance between the

housing and Silicon Valley's new jobs. The site design, which features pedestrian-friendly walkways and easy connections to the Tasman Light Rail, will allow Renaissance Village residents to leave their cars—in their garages altogether.

The development also shows that, with advance planning and sensitivity to neighbors' concerns, NIMBY sentiments can be prevented. The neighbors and the developers displayed an attitude of openness that ensured both a smooth approval process and a better project.

### San Paulo Good Design Beats NIMBYism in Irvine



The City of Irvine, one of California's largest planned communities, added tens of thousands of new jobs as the information economy boomed. But the City's housing supply—especially housing for families with modest incomes—could not keep up with its job creation. In late 1990s, the City and The Irvine Company, which owns all the undeveloped land in the City, identified a 15-acre multifamily site as appropriate for new affordable housing.

To ensure that such a large and prominent new development would fit into West Park Village, the Irvine neighborhood that surrounds it, The Irvine Company contacted the Costa Mesa-based architecture firm of McLarand Vasquez & Partners (MV&P). MV&P, which had also designed the dense and highly popular Corte Bella town homes across the street from the project site,

designed San Paulo's 382 units in 27 separate buildings, with flats and town homes of various sizes. San Paulo's overall density reaches about 25 units per acre, with room left over for two swimming pools, generous landscaping, a tot lot, and numerous features to smooth the transition from San Paulo's surroundings into its highest-density areas.

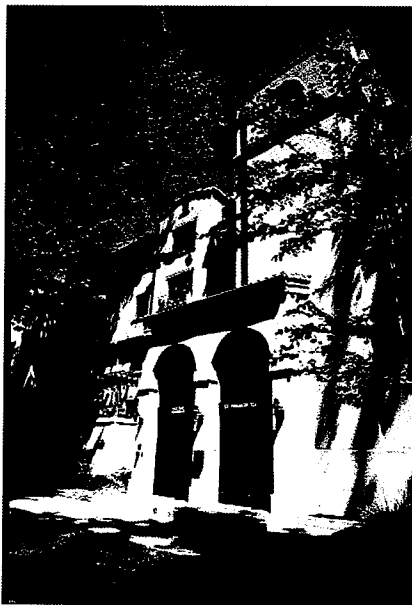
To show the City's residents that affordable housing and its residents belong in Irvine, The Irvine Company also met early with West Park Village residents. The neighbors were won over by the open process and the high-quality design. The Irvine Company and the City emphasized that San Paulo's residents would be members of the Irvine community. Teachers, firefighters, and other essential contributors to the City's life previously forced out of the City by its high housing prices would find an affordable place to live if San Paulo were approved.

Also key to the project's success was the participation of its non-profit partner, San Francisco's BRIDGE Housing. BRIDGE provided vital advice on affordable housing to the other members of the development team, assisted in the City's approval process, and coordinated the project's financing, which came from City & county sources and State-authorized bonds and tax credits, with credit enhancement by Sumitomo Bank, Ltd. Forty percent of the units are affordable to families earning less than half of Orange County's median income of \$56,500; another 50 units are also designated as affordable to low- and moderate-income families.

In Irvine, the developer, architect, non-profit partner, and City staff needed to overcome one key obstacle: unfamiliarity. Residents' preconceptions fit the myths—and not the reality—of today's mixed-income, non-profit sponsored affordable housing. By being sensitive to both the design of

surrounding developments and neighboring residents' desires to feel included in decisions, the development team has created a successful model for emulation throughout southern California.

## **Midtown Sacramento Residents Play a Role in Creating Affordable Family Housing in Neighborhood**



**M**idtown Sacramento boasts a diverse mix of housing and small businesses. Midtown streets are lined with early 1900 Victorian houses, some of which are occupied by high-income families, others have been converted into multiple rental units and more still are occupied by office-type businesses, primarily law firms.

Building family housing in an established downtown isn't easy, but Mercy Housing California demonstrates that when the lines of communication are opened, a dense multifamily project can gain public support.

Saint Francis of Assisi Elementary School and Church is located in a midtown neighborhood, a block from historic Sutter's Fort

and nearby a number of boutiques interspersed in a largely residential neighborhood. The School and Church occupied over half of a city block and the Church had rights to the entire block. The bishop was interested in developing housing on the underutilized area of the block. One of the famous Victorian houses succumbed to a fire by transients. The Church had the remains removed and was left with an eyesore and potentially hazardous attraction next to the School playground. Although there are high-rises housing elderly residents in the midtown neighborhood, community members and Saint Francis parishioners didn't perceive an affordable multifamily housing project fitting in to the existing residential neighborhood. There was significant opposition to building such a project.

Mercy Housing California enlisted the assistance of Michael Friedman, an experienced in fill development architect with Tong and Bottomly, to conduct a series of workshops to listen to community and parishioner concerns. To build the desired number of family units composed of one-, two-, and three-bedroom units, the architectural firm designed the building from the inside out. Conscientious of local resident concerns, the project saved the School playground while preserving the privacy of the new 46 affordable family housing units. Additionally, local input resulted in new public space for the community to enjoy. The project has been built and occupied for several years and has become an integral part of the midtown neighborhood. Residents and parishioners, who at first feared the project, now point with pride to the community asset they had a hand in creating.

## San Diego Small Scale, Mixed-Income Housing is good fit for Little Italy Neighborhood Development



The sloping landscape at the northern downtown edge of San Diego Bay was once home to the many Italian families who derived a living from the highly successful tuna fishing industry. Although large-scale commercial fishing is now a memory, the district's

southern European character remains. Always a neighborhood first and then a commercial and light industrial center, Little Italy's spirit is perhaps best typified by the rebuilt Washington Elementary School and development of the adjacent Amici Park, which serves both as a playground for the school and a park including a bocce ball court for the community. Its lovely vistas now offer an urban neighborhood with single-family homes, condominiums, lofts and apartments. The India Street commercial strip is alive with Italian restaurants, small cafes, art and graphic studios/galleries, specialty shops and low-rise offices.

Little Italy Neighborhood Development (LIND), one of the region's most innovative residential

ideas, was one of six new successful affordable housing projects that has received the State Housing Director's Award for Housing Development Excellence in 2000. The Little Italy development consists of 16 row homes, 12 affordable rental lofts and 37 low- and moderate-income apartments. This successful development demonstrates that smaller scale, mixed-income housing can be infilled in an urban setting.

Continuing infill for-sale and rental residential projects is further reinforcing little Italy's distinctive character. Property has been acquired recently by the Redevelopment Agency for future housing developments.

## What Does Density Look Like?

Providing a broad range of housing densities is key to ensuring housing opportunities for all residents. Density is calculated by determining the number of dwelling units per acre (du/ac). But, what do different housing densities look like?



Coggins Square Pleasant Hill, Walnut Creek, CA  
42 Units/Acre



Chesnut Place, Orange, CA  
100 Units/Acre



Woodpark Apartments, Aliso Viejo, CA  
24 Units/Acre



Casa San Juan, Oxnard, CA  
64 Units/Acre of Family Housing



San Marcos Apartments, Irvine, CA  
64 Units/Acre



Fullerton City Lights, Fullerton, CA  
83 Units/Acre



Russell Manor, Sacramento, CA  
66 Unites/Acre of Elderly Housing



Arroyo Vista Apartments, Mission Viejo, CA  
14 Units/Acre



San Paulo Apartments, Irvine, CA  
25 Units/Acre

# Resources

Some communities will need to see more specific examples of good high-density and affordable housing before being convinced that they can live with it. In other cases, residents may need to meet people who live in affordable housing. Almost universally, local governments and planners need advice and information about how best to ensure the design of quality affordable and high-density housing in their communities. Luckily, more and more resources--books, pamphlets, handbooks, slide shows, and videos--are becoming available. This list includes only a few resources; those interested are encouraged to contact the California Department of Housing and Community Development (916/445-4728) for ordering information on most of these publications and for additional suggestions.

## Making Housing More Affordable

*Blue Print 2001: Housing Element Ideas and Solutions for a Sustainable and Affordable Future*, Bay Area Housing, 2001. Blue Print 2001 includes a large directory of housing programs and strategies with a wealth of case studies, including adaptive reuse, air rights development, infill development, second units and density bonus developments.

*There Goes the Neighborhood? The Impact of Subsidized Multi-Family Housing on Urban Neighborhoods*, by Edward Goetz, Hin Kin Lam and Anne Heitlinger. Center for Urban and Regional Affairs and Neighborhood Planning for Community Revitalization, Minneapolis, Minnesota, 1996

*Affordable Housing Slide Show*. This 1989 slide show, also from LHEAP, focuses on the San Francisco Bay Area, on techniques for achieving housing affordability; available on loan from HCD for the cost of mailing plus a deposit. For more information, call HCD at 916/445-4728.

*Affordable Housing Handbook*. A 1991 publication of the California Coalition for Rural Housing. This handbook offers an exhaustive list of programs and policies that local governments can use to ensure the construction, rehabilitation, and preservation of affordable housing. \$5.00 To order, call CCRH at 916/443-4448.

*Creating a Local Advisory Commission on Regulatory Barriers to Affordable Housing*. This 1992 publication by the US Department of Housing and Urban Development guides local governments that want to establish committees to identify and reform ordinances and policies that reduce the supply of housing and increase its costs. \$4. To order, call HUD User at 800/245-2691.

*Affordable Housing: Proactive & Reactive Planning Strategies*. This recent publication discusses both "affirmative" measures such as, inclusionary zoning, linkage, affordable housing finance, affordable housing preservation, and infill-and reactive measures, including

zoning and subdivision reform, growth management, impact fees, environmental legislation, and administrative reform. \$29 includes shipping and handling. To order, call the Planners' Bookstore at 312/955-9100.

*Affordable Housing: Restoring the Dream*. 15-minute video (1989) by the Urban Land Institute promotes cost savings in single-family housing through flexible development standards and expedited processing. \$34.95 for non-ULI members. Order number A-17. To order, call 800/321-5011.

*The Effects of Subsidized and Affordable Housing on Property Values: A Survey of Research*. Out of 15 published papers on subsidized housing, group homes for the handicapped, and manufactured housing, 14 concluded that this housing had no significant negative effects on the values of neighboring properties. Some reported positive property value effects. Free. To order, call HCD at 916/445-4728.

*Second Units*. This paper, updated to reflect 1990 amendments to State law increasing the permissible size of second units, describes the advantages of and statutory requirements for the development of second units. Free. To order, call HCD at 916/445-4728.

## Meeting the Residents of Affordable Housing

*California Homeless and Housing Coalition: A 42-minute video*, Neighbors in Need, documents the experiences of three organizations in establishing facilities for the homeless. The 1991 video features interviews with residents and clients, as well as with one-skeptical neighbor who now advocate for other similar facilities, in Hayward, San Mateo County, and Los Angeles. \$15. To order, call 916/447-0390.

*Realize the Dream*. The City of Fremont Housing Department produced a five-minute video, now available through HCD introducing decision-makers and citizens to the residents of three of the City's bond-financed mixed-income apartment projects. Features interviews with residents of both subsidized and unsubsidized units. For information on how to obtain, call HCD at 916/445-4728.

*We Call It Home: A Tour of Affordable Housing*. 16-minutes. Recent video produced by Marin County's Ecumenical Association for Housing (EAH) introduces several of EAH's projects and the people who live there, in Marin and Contra Costa counties. \$15 to purchase, postage costs to borrow. Call Betty Pagett at 415/258-1800.

*NIMBY fears, community perceptions: Analysis of Affordable and Market Rate Housing Developments in Oakland, California*, by Cathy Cha. Dept. of City and Regional Planning, University of California at Berkeley, 1996

HCD offers a website with a section titled: NIMBY Resources at [www.hcd.ca.gov/hpd/nimby](http://www.hcd.ca.gov/hpd/nimby). The page includes resources and tools for addressing NIMBY concerns about housing

and especially affordable housing and/or high-density housing.

## Increasing Housing Densities In New and Existing Development

*Good Neighbors: Affordable Family Housing (Design for Living)* by Tom Jones, William Pettus (Contributor), Michael Pyatok, and R. Thomas Jones. 1996. McGraw-Hill Professional Publishing. Based on the acclaimed AIA Design for Housing initiative and supported by and NEA grant. This is an authoritative guide to modern affordable housing design. This landmark book provides architects, landscape architects, planners, developers, advocates, government officials, and policy makers with workable answers for the design of affordable, aesthetically pleasing housing.

*Density by Design: New Directions in Residential Development* by Steven D. Fader, Vincent Scully. 137 pages 2nd edition, March 15, 2000, Urban Land Institute (ULI). This document provides innovative solutions to the challenge of developing higher density housing that will be successful in the marketplace. Case studies of 14 projects show how others have implemented the best new ideas in residential development and design. Projects covered range in density from single-family subdivisions to downtown high-rise apartments and illustrate many up-to-the minute concepts: new urbanism, transit-oriented development, mixed-income and mixed-housing types, urban infill, and adaptive use. They also reveal trends and standards for developing projects that provide a sense of place, use land efficiently without compromising livability, and that can pass the twin tests of governmental approval and marketability.

*Compact Development Presentation*. This presentation with 39 slides from the Local Government Commission highlights some of the needs, myths and misconceptions about compact housing and its role in helping to create more livable communities. Slide shows may be purchased or rented. \$50.00 for complete set, \$2.50 for individual slides, or rent for \$15.00 plus \$50.00 deposit.

*Multifamily Residential Design Principles*. The City of Sacramento published this excellent guidebook November 19, 1999 to provide multifamily design guidelines for the City Planning Commission.

*Big Blue Book of Affordable Housing Case Studies*, Alexander and Edwards Publishing, 2000 Compact and Balanced Development: Designs for California Living. This 15-minute video by the American Institute of Architects California Council provides tangible examples of infill and higher-density developments that enjoy community support, and highlights the role of local governments in their approval and construction. AIA members: \$25; non-members: \$40. To order, call 916/448-9082. In late 1993, the AIACC will release a follow-up urban design video demonstrating how to respond to community concerns, increase density, encourage mixed-use transit-oriented development, and obtain innovative financing.

*Room Enough.* This publication, by San Francisco's Greenbelt Alliance, discusses five strategies using vacant land more effectively, building more housing along major streets, bringing homes and people downtown, adding second units on existing home sites, and recycling lands no longer needed for industry that communities can use to accommodate more housing while meeting concerns about community character and open space. \$9. To order, call Greenbelt Alliance at 415/543-4291.

### **Transit-Oriented, Mixed-Use and Infill Development**

*Building Livable Communities: A Policymaker's Guide to Infill Development.* The January 2001 publication from the Local Government Commission helps to answer two of a policymaker's most frequently asked questions: "Why build in town?" and "What can local government do to encourage infill development?" This guidebook suggests a number of ways to create infill development in your community. These include: planning proactively; assuring public participation; using public facilities and development to attract investment; assisting with project financing; zoning for mixed-use and higher-density development; encouraging rehabilitation; providing in-kind assistance; streamlining the permit process; providing public services; and addressing toxic contamination.

*Building Livable Communities: A Policymaker's Guide to Transit-Oriented Development.* This is a companion guidebook on transit-oriented development from the Local Government Commission. More and more, community leaders are recognizing that building residences, stores and work places near transit stops can play a major role in creating places where we enjoy living, working and playing. The guidebook addresses the questions of "why build near transit?" and "why should elected officials, land-use agencies and developers pay more attention to development near transit than to any other kind of development?" The guidebook has helpful advice, model examples, and resources to help create livable, transit-oriented communities in your region.

### **Notes**

<sup>1</sup>Statewide Housing Plan: Raising the Roof, California Housing Development Projections and Constraints 1997-2020, California Department of Housing and Community Development, May 2000

<sup>2</sup>Still Locked Out: New Data Confirm that California's Housing Affordability Crisis Continues, California Budget Project, March 2001

<sup>3</sup>American Housing Survey

<sup>4</sup>John Holtzclaw, 1997m Metropolitan Transportation Commission, 1990 Household Travel Survey

<sup>5</sup>Cambridge Systematics and Parsons Brinckerhoff Quade & Douglas. Making the Land Use Transportation Air Quality Connection: Analysis of Alternatives. Vol. 5 Friends of Oregon

<sup>6</sup>American Housing Survey, 1999; National Multi Housing Council, Research Notes, August 24, 2000

<sup>7</sup>Paul Cummings and John Landis, "Relationships between Affordable Housing Developments and Neighboring Property Values" (Berkeley: University of California Institute of Urban & Regional Development, 1998)

<sup>8</sup>California Department of Housing and Community Development. "The Effects of Subsidized and Affordable Housing on Property Values: A Survey of Research" (Sacramento: DHCD, 1988), 2

### **Published by the California Planning Roundtable**

The California Planning Roundtable is an organization of experienced planning professionals who are members of the American Planning Association. Membership is balanced between the public and private sectors, and between Northern and Southern California. The mission of the Roundtable is to promote creativity and excellence in planning by providing leadership in addressing important, unresolved planning issues in California.

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**Low Income Housing Tax Credit Housing Developments  
And Property Values**

By

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June 14, 2002

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Comments and criticisms are particularly welcome.

## EXECUTIVE SUMMARY

- Few causes will mobilize American citizens, at least the 68 percent who own their homes, faster or more effectively than a perceived threat to the value of their property. It is common for at least some neighbors to object to low income housing developments, whether traditional public housing, or privately (for-profit or nonprofit) developed housing under the Section 42 Low Income Housing Tax Credit (LIHTC) program. This phenomenon is not limited to LIHTC developments, of course; for example, waste disposal facilities, power lines, community care facilities, and even churches are among nonresidential uses that at least some homeowners have objected to in recent times, giving rise to the well-known rallying cry, "Not In My Backyard."
- The Low Income Housing Tax Credit was originated in conjunction with the Tax Reform Act of 1986 (TRA 86) to provide incentives for private sector production of low-to-moderate income housing. The credits provide a mechanism for funding a wide range of developments including new construction, substantial rehabilitation, moderate rehabilitation, acquisition, and repair by existing owners. Over the initial three years of the program, about \$6 billion worth of funding, aiding 300,000 units of low-to-moderate income housing, was made available. Program activity then increased, as the non-subsidized multifamily market declined. Lately tax credit units have comprised about 40-50 percent of total multifamily construction.
- Many papers have studied the localized effects of housing externalities, whether negative "bads" like environmental problems, traffic congestion, or nonconforming uses; or positive "goods" like high-performing schools or other amenities. The question before us is whether Section 42 developments actually create "bads" that translate into lower property values. A review of eight past studies on the issue of the effect of low-income housing on property values generally does not support the proposition that such housing diminished property values. Often it is the case that low-income housing developments cause surrounding property values to increase. Interestingly enough, past authors have generally found that such developments have a more positive impact in higher income areas. It seems to be the case that it is only when low-income housing developments are located in areas that already have concentrated poverty that they have a negative impact on property values.
- Our method for examining the influence of Section 42 developments on property values is to use repeat sales techniques. Specifically, we gather data on properties that have sold more than once in Madison and Milwaukee Metropolitan areas, and determine whether differences in appreciation can be explained by proximity to Section 42 developments.
- The repeat sales technique is a statistically correct manifestation of what appraisers call a "paired-sales" technique. Because each observation in a repeat sales data set follows the same house across time, it controls for many things, including things that are easy to measure, such as size and number of bathrooms, and things that are difficult to measure, including design and "curb appeal." In our view, this leads the repeat sales setup to be superior to the alternative "hedonic" design. One deficiency with repeat sales is that it can only explain price changes, rather than price levels. But this is not an issue in our context, because we are examining how Section 42 development influence changes in house prices.
- We specified a number of mechanisms by which Section 42 developments might influence surrounding property values. We performed regressions that included linear, quadratic (i.e., squared) and gravity measures of distance to determine the influence of the developments on property values. We also ran regressions that included neighborhood controls, such as poverty rates, education levels, marriage rates, income levels, and age distribution of the population.

- Our data set on property values for Madison was based on every sale in the Multiple Listing Service of South Central Wisconsin database over the period 1991-2000. This gave us 3193 repeat sales observations to work with. We have also obtained the MetroMLS's database of property sales for the Metropolitan Milwaukee area (Waukesha, Washington, Ozaukee and Milwaukee Counties) and used that data to look at the impact of the developments in those areas. We were able to generate 2258 observations for Milwaukee County, 367 for Waukesha County, and 425 for Ozaukee County.
- Our dataset on the size and location of Section 42 developments was provided by the Wisconsin Housing and Economic Development Authority, and contains the universe of such developments in Wisconsin.
- To measure proximity of Section 42 developments to each single-family house, we used a Euclidian distance measure, which we calculated based upon the latitudes and longitudes of the developments and the houses. We also develop a "gravity measure" that combines the effects of magnitudes and distances on values.
- To this point, our results for Wisconsin are generally consistent with results in other studies: we have not been able to find evidence that Section 42 developments cause property values to deteriorate. The exception is Milwaukee County, where properties that are distant from the developments seem to appreciate more rapidly, although the magnitude of the effect is small. We have found no evidence of an impact in Waukesha and Ozaukee, and find evidence that properties in Madison near Section 42 developments appreciate *more* rapidly.
- In our view, the key policy implication of our results is that Section 42 developments are best placed in relatively affluent communities, where there is no evidence that that developments cause property values to deteriorate. This phenomenon is consistent with findings from past literature.

## Low Income Housing Tax Credit Housing Developments And Property Values

### Introduction

Few causes will mobilize American citizens, at least the 68 percent who own their homes, faster or more effectively than a perceived threat to the value of their property. It is common for at least some neighbors to object to low income housing developments, whether traditional public housing, or privately (for-profit or nonprofit) developed housing under the Section 42 Low Income Housing Tax Credit (LIHTC) program.<sup>1</sup> This phenomenon is not limited to LIHTC developments, of course; for example, waste disposal facilities, power lines, community care facilities, and even churches are among nonresidential uses that at least some homeowners have objected to in recent times, giving rise to the well-known rallying cry, "Not In My Backyard."<sup>2</sup> Even during the recent California electricity crisis, neighborhood associations continued to enforce prohibitions against air-drying clothes outside, citing potential reductions in housing values.

But are these perceptions of lowered property values correct? An emerging literature (to be surveyed below) suggests that quite a few NIMBY concerns are unfounded. As Fischel (2000) has elegantly pointed out, even if it is unlikely that a given activity actually reduces values, merely a low probability is sufficient to engender opposition, given the stakes involved for an individual homeowner. On the one hand, this suggests that if LIHTC developments do not lower nearby property values, solid and convincing evidence will be required in order to assuage NIMBY fears. On the other hand, if it turns out that LIHTC developments do lower neighbors' property values significantly, knowledge of such potential losses could be used to revisit development design so as to remedy such problems and reduce opposition to developments.

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<sup>1</sup> Add some references, including newspaper articles.

<sup>2</sup> For example, Farber (1986), Michaels and Smith (1990), Hughes and Sirmans (1992), Thibodeau (1990).

## **The Low Income Housing Tax Credit Program**

The Low Income Housing Tax Credit was originated in conjunction with the Tax Reform Act of 1986 (TRA 86) to provide incentives for private sector production of low-to-moderate housing. The credits provide a mechanism for funding a wide range of developments including new construction, substantial rehabilitation, moderate rehabilitation, acquisition, and repair by existing owners. Over the initial three years of the program, about \$6 billion worth of funding, aiding 300,000 units of low-to-moderate income housing, was made available. Program activity then increased, as the non-subsidized multifamily market declined. Lately tax credit units have comprised about 40-50 percent of total multifamily construction.

The Low Income Housing Tax Credit provides up to 70 percent<sup>3</sup> of the cost of new construction or 30 percent of the cost of acquisition of existing low income housing in return for limits on rents charged. The credit is paid as an annuity over ten years. The credits are allocated over a ten-year period based on the "Applicable Federal Rate" (AFR). Nominally the value of the credit is 9 percent annually for the 70 percent credit and 4 percent annually for the 30 percent credit. For acquisition of existing rental housing, the applicable credit is also 4 percent.

The developer must decide between two options for the unit. Either 20 percent of available rental units must be rented to households with income less than 50 percent of the county median income (adjusted for family size), or 40 percent of the units must be set aside for households with income less than 60 percent of the county median income. (The rent can be adjusted in future years as median incomes change). The maximum gross rent, including utilities, paid by households in qualifying units may not exceed 30 percent of maximum qualifying income. The federal program mandates a fifteen-year period for maintaining the unit as a low-income unit. If the rent restrictions are not followed, there are provisions for recapturing the tax credits used. For more on the mechanics of this program, see Guggenheim (1989).

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<sup>3</sup> When the credits are "sold" in a secondary market, however, they generally sell for between 65 and 70 percent of face value.

In Wisconsin, the LIHTC program is administered by the Wisconsin Housing and Economic Development Authority (WHEDA). WHEDA sets local program rules, in line with Congressional and Treasury rules, collects and evaluates proposals for developments, and monitors development compliance and effectiveness.

### **Previous Research on Negative Housing Externalities**

Many papers have studied the localized effects of housing externalities, whether negative “bads” such as environmental problems, traffic congestion, or nonconforming uses; or positive “goods” such as high-performing schools or other amenities.<sup>4</sup> In this brief review, we focus on studies of one kind of low-income housing development or another.

All such studies revolve around some kind of comparison of housing prices near and far away from housing developments, controlling for other locational features. The major methodological differences among studies revolve around how these comparisons are undertaken. More specifically, (1) how are two sets of “comparable” housing units with and without the “treatment effect”<sup>5</sup> of developments defined; and (2) how are prices compared?

Generally, there are two main methods of measuring the “treatment” to be found in this literature. First, and simplest, the analyst can construct some kind of price index, either in levels (dollar amounts) or changes (percentage growth in prices) for a “treatment group” of neighborhoods or units with developments, and a “control group” of units or neighborhoods without. The great difficulty in doing such a study well is in finding otherwise nearly-identical units and neighborhoods to compare, that differ more-or-less only in whether developments exist nearby.<sup>6</sup> The second method is to combine all units or neighborhoods in the study together, but rather than separating them into two distinct groups, study the effect of some continuous measure of distance to developments, usually using regression analysis to obtain a *coefficient* that quantifies the effect of distance from a development on some price measure. The regression also allows us to measure a

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<sup>4</sup> See Follain and Malpezzi (1981) and Jud (1981) for “goods,” and Gamble and Downing (1982), Hughes and Sirmans (1992) and Thibodeau (1990) for “bads.” See Palmquist (1992) and Bartik (1986) more generally.

<sup>5</sup> In statistical jargon, the “treatment” refers to the phenomenon under study (here, being near public housing) and the “treatment group” is comprised of those nearby projects. The “control group” consists of otherwise similar units or neighborhoods farther away from the influence of projects.

<sup>6</sup> Part of that judgment is determining what exactly “nearby” means.

*standard error* around a coefficient. These standard errors allow us to determine the potential range of impacts within which we can have a certain degree of confidence. In another context, the standard errors in survey data underlie the “sampling error” referred to in media reports. When, for example, the media report that the president has a 65 percent approval rating with a sampling error of plus or minus three percent, the three percent arises from the standard error of the underlying survey. The standard error also allows us to determine whether the price effect measured by the coefficient is different from zero, or whether it is simply the product of randomness.

How are these house prices measured in these impact studies? Generally, there are three main methods of price construction found in this literature. The first is to work with some kind of average or median housing price for each group, treatment or control. These prices may be considered in levels or changes, but the problem comes in attributing any observed differences to true differences in price, as opposed to some unobserved difference in the quantity or quality of housing services obtained from typical units in one group, as opposed to the other.<sup>7</sup>

The second method is to regress sales “prices” or other measures of market value against characteristics of the units, such as the size of the unit, various quality variables, and neighborhood variables, including distance of the unit from the developments. These so-called “hedonic price indexes” are familiar to housing economists as well as real estate appraisers, although appraisers usually use another name. In effect, hedonic models are a statistical version of the comparable-sales approach to valuation.<sup>8</sup> Hedonic models work well when carefully implemented, and they can be constructed to work in either levels or changes; one problem with them, especially relevant to the present study, is that to do them well requires a lot of data on unit and neighborhood characteristics and location, which are often difficult to obtain.

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<sup>7</sup> More detailed explanations of the problems involved in measuring housing prices, and the methods briefly described here to attach these problems, can be found in Green and Malpezzi (forthcoming).

<sup>8</sup> See Green and Malpezzi (2001) and Malpezzi, Ozanne and Thibodeau (1980) for more detailed discussion of these models.

The third method is to measure price changes for identical units by examining the price changes of units that have sold twice, or more often, during the study period. Because these are in effect comparisons of the same units, detailed data on unit and neighborhood characteristics are not needed (other than, in the case of our model below, distance to developments). Of course these so-called “repeat sales indexes” rely on several other assumptions, notably that there have been no major changes or renovations to units during the study period; and that there has been no significant physical depreciation or major change in neighborhood conditions. These are obviously strong assumptions, and we will return to them in our detailed discussion of our own repeat sales models. It should also be noted that repeat sales indexes only tell us about price changes (appreciation rates). They cannot, on their own, tell us about the level (dollar amount) of prices. Repeat sales models have been used in several influential previous studies of the effects of housing developments on nearby units, and we will make use of them in our own study.

We will return to the repeat sales model and other details of our own study later. Next we will briefly review previous studies that focus on one kind of public or low-income housing or another.<sup>9</sup>

In the discussions below, we will be referring to statistical significance. What we mean by significance is whether it is unlikely that a relationship that we observe is random. When a relationship is statistically significant, it is highly unlikely that it is random.

But significance is distinct from importance. We may observe in data a consistent, but small, relationship between two variables. When we work with large data sets, we will often observe statistically significant and economically unimportant relationships.

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<sup>9</sup> We are of course aware that traditional public housing differs greatly from LIHTC projects. That is one of the motivations for the present study. Still, the general setup of the problem is the same. Also, since most observers would agree that the “negative externalities” of LIHTC units are less than those from public housing, a finding that public housing’s negative externalities were small or insignificant would tend to suggest that LIHTC units would have little effect on their neighborhood. One counterargument might be if public housing units were typically located in “bad” neighborhoods with already-low prices, while LIHTC units were located in “better” neighborhoods.

One of the first, and one of the most often cited, studies of the effects of public housing developments on nearby private units is Hugh Nourse's (1963) study of St. Louis. Interestingly, the point of departure for Nourse's article was an investigation of claims by Congressional sponsors that public housing *raised*, rather than lowered, nearby property values. Nourse applied the then-new method of repeat sales to construct price indexes for each of three neighborhoods containing eight public housing developments, and to then construct price indexes for three control neighborhoods that were nearby and similar in housing and demographic characteristics. His data were from 1937 to 1959. Nourse found that, in two of his paired comparisons, the trends in prices between treatment and control neighborhoods were roughly the same. In the third paired comparison, the trend in prices seemed higher in the treatment neighborhood, i.e. the neighborhood with public housing; but the difference in trend was not statistically significant. Nourse examined each of the annual differences between price changes in the treatment neighborhood and its control neighborhood, using a procedure called a t-test for the significance of the differences between the two. In only one case in 65 could Nourse find a statistical difference between neighborhoods with public housing and neighborhoods that did not have such housing. Given the way we measure statistical significance<sup>10</sup>, we would expect to see statistical differences in randomly generated data one time in 20, simply as a function of chance. Nourse thus concluded that his data provided no evidence that neighborhoods containing public housing appreciated at a higher or lower rate than neighborhoods without. We would expect Section 42 developments to be more beneficial to neighborhoods than public housing, because the market gives private developers better incentives to manage property than public-sector developers, who face no such market discipline.

Another early study that is often cited is Robert Schafer's (1972) study of Below Market Interest Rate (BMIR) housing in Los Angeles. Schafer compared two comparable neighborhoods, one with BMIR housing, one without, using data from 1958 to 1970. His methodology was essentially similar to Nourse's. One point of interest for our own study is that BMIR housing might be considered closer to LIHTC housing than traditional public housing. The earlier BMIR and the current LIHTC programs certainly differ in many respects, not least of which is their financing mechanism – BMIR

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<sup>10</sup> We generally accept that groups are statistically different when we can do so with 95 percent confidence.

housing's subsidy consisted mainly in the program's concessionary interest rates, whereas the LIHTC program relies on a more complicated system based on the "sale" of tax credits. But both programs essentially subsidize privately developed and owned rental real estate targeted to lower middle income households. In the event, the area with the BMIR housing actually exhibited slightly higher appreciation than the control group, although the differences were again not statistically significant. So once again the analysis failed to support the hypothesis that low-income housing developments reduced nearby property values.

A third early study by Joseph DeSalvo (1974) found essentially similar results, examining New York City's Mitchell-Lama program, which subsidizes (initially lower) middle income private apartments. Assessed values near the developments appreciated faster than assessed values of control areas. The fact that this study was forced to rely on assessed values, rather than market transactions, is one possible shortcoming.

A (1985) study by Donald Guy, John Hysom and Stephen Ruth had somewhat different findings. Guy *et al.* examine housing located near two BMIR developments in newly constructed middle-income housing in Fairfax County, Virginia, using sales data from 1972 through 1980. The authors differed from the previously cited studies by relying on the hedonic regression approach, regressing sales prices against characteristics of the units, including distance to the nearest BMIR development. Their list of independent variables is a short one, but since they are limiting themselves to a fairly homogenous group of town homes in several adjacent developments, their specification seems reasonable.<sup>11</sup> They found that sales prices rose about \$1.57 for every additional foot of distance away from the development.

A more recent study was undertaken by Chang-Moo Lee, Dennis Culhane and Susan Wachter (1999). Unlike previous studies, Lee et al. examined several different federally assisted housing programs and designs, denoted (1) high rise public housing, (2) large scale public housing, (3) homeownership public housing, (4) public housing built after 1980. These categories were not all mutually exclusive. Dummy variables were included for whether a given unit was within either a 1/8- or 1/4-mile radius of a development. Sales prices from 1989 through 1991 were the dependent variable, and other variables controlled for area demographic, housing, and amenity variables. Results

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<sup>11</sup> See Butler (1982) and Ozanne and Malpezzi (1985) for discussion of the importance of a correct hedonic specification.

show that public housing developments exert a modest negative impact on property values. Scattered-site public housing and units rented with Section 8 certificates and vouchers have slight negative impacts. Federal Housing Administration-assisted units, public housing homeownership program units, and Section 8 New Construction and Rehabilitation units have modest positive impacts. Low-Income Housing Tax Credit sites have a slight negative effect in two of their four models, and no effect in their other two. Given that they had a sample size of over 18,000 observations, it is actually surprising that they could run models where the coefficients on LITC developments were not significant. When Lee et al. got significant coefficients, they were still trivially small. Results suggest that homeownership programs and new construction/rehabilitation programs have a more positive impact on property values.

Another study was carried out by George Galster, Peter Tatian, and Robin Smith (1999). Galster et al. examined the price effects on neighboring single family homes of Section 8 developments in Baltimore County, Maryland. Interestingly, they found that the effects of a development on neighboring properties were related to the type of neighborhood. In higher-valued, faster-appreciating, predominantly white tracts, developments actually were associated with higher prices in nearby locations. On the other hand, in lower valued tracts experiencing real declines in values, Section 8 developments were associated with adverse impacts on prices. These adverse impacts were highly localized, beginning to fall off significantly after 500 feet and virtually disappearing within 2,000 feet. Galster et al. also conducted focus groups with nearby home owners that suggested that the kind of effect the development had was determined at least partly by the management of the development.

Santiago, Galster and Tatian (2001) examined the effect on nearby properties of rehabilitation developments in Denver. Existing dilapidated properties were acquired by the Public Housing Authority, rehabilitated, and occupied by subsidized housing tenants. Using hedonic methods to control for characteristics of the neighborhood as well as the unit, Santiago et al. found that proximity to a subsidized housing site generally had an independent and positive effect on single-family home sales prices. There were exceptions; in neighborhoods that had high percentages of black residents, proximity to the sites were associated with lower growth in housing prices. Santiago *et al.* suggest there exists a threshold within “vulnerable” neighborhoods “whereby any potential gains

associated with rehabilitating existing units are offset by the increased concentration of poor residents.” Another study that suggests the impacts of developments on property values varies by the type of development was carried out by Goetz, Lam, and Heitlinger (1997). In their study of subsidized multifamily housing in Minneapolis, Goetz et al. found that units operated by non-profit community development corporations had slight positive impacts on property values, while large public housing developments and older Section 8 new construction developments had slightly negative effects on nearby property values. Briggs and Darden (1999) studied effects on property values on the introduction of scattered site public housing in Younkers, New York. A related issue, that the introduction of assisted housing leads to “tipping” and a high degree of racial turnover in local neighborhoods was studied by Freeman and Rohe (2000). Freeman and Rohe found that assisted housing had no such impact.

Problems shared by most or all of these studies include the following. First, many of the studies are based on limited numbers of observations, which reduces the power of the test, which means that it is difficult to distinguish between truly significant and insignificant results. The precision of our estimates and the “power” of our test generally rises as we add data, up to a point; many of the early studies, especially Nourse’s and Schafer’s, may suffer from having a modest number of sales to study.

Secondly, the nature of treatment-control is often problematic. In studies such as Nourse’s, where the analyst chooses a treatment area and control area, there is art as well as science in matching such areas up; and of course the discrete nature of the categorization can cause problems. Consider two neighborhoods, one treatment and one control. Suppose that there are some units as far as half a mile from the development in the treatment neighborhood; suppose that there are some units just over half a mile away in the control neighborhood. The former units are lumped in with units literally on the doorstep of the development; the latter are lumped in with units perhaps a mile away. How and where do we draw this line?

On the other hand, models that include linear distance to the development have their own problems. Most such studies simply enter a linear distance. The dollar effect<sup>12</sup> of moving out from 50 feet away to 51 feet is constrained to be the same as that from

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<sup>12</sup> “Dollar effect” assuming a linear hedonic, as in Guy et al. If a semilogarithmic specification is used, the effect will be approximately a percentage change effect. See Halvorsen and Pollakowski (1981), and Malpezzi, Ozanne and Thibodeau (1980).

moving 5000 feet away to 5001. Consider the fact that any such effects might in reality be nonlinear, e.g. the effect of moving out a short distance might be great when close in but small when farther away. Furthermore, consider that the analyst must also worry about other locational effects. For example, the “standard urban models” of Alonso, Muth and Mills, and more recent variants such as Cappaola and Helsley, all predict that percentage appreciation in housing prices will be greater as we move farther out from the center of the city.<sup>13</sup> If some of the control units are farther out from the center than corresponding treatment units, we may confuse this pure locational effect (slower rates of appreciation in the center of the city) with a negative externality. Similarly, if prices appreciate differently in high and low income areas, but developments are located in low income areas (perhaps because approvals are easier to obtain, or perhaps because LIHTC developers are particularly focused on lower land costs), then the location of the development is “endogenous,” i.e. is determined partly by the very thing we want to study (price differences). Thus it is important to control for neighborhood and location attributes as well as the housing unit.

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<sup>13</sup> In brief, this is because as long as transportation costs remain stable, as a city grows, rents and prices for a similar housing unit at different locations will grow by a similar dollar amount; but a given dollar increase translates into a larger percentage increase on the fringe of the city, where initial prices are lower due to lower land costs.

## A Simple Model for Measuring External Effects of LIHTC Developments

In this section we describe the model we will use. The first part of the section describes repeat sales methods in some detail.<sup>14</sup> The second part elaborates on how we incorporate location vis a vis developments, and some other details of our particular variant of the model.

*Repeat Sales* indexes are estimated by analyzing data where all units have sold at least *twice*. Such data allow us to annualize the percentage growth in sales prices over time.<sup>15</sup> These are time series indexes in their purest form. They do not provide information on the value of individual house characteristics or on price levels. They have the advantage of being based on actual transactions prices, and they reduce mis-measurement arising from having an insufficient number of characteristics for explaining house price. However, units that sell are not necessarily representative of all units. Sometimes it's difficult to tell whether a unit retains the same characteristics across time. For example, remodeling could cause a house's characteristics to change.

The best way to understand how repeat sales indexes work is by example. Figure 1 shows a graph of seventeen properties which sold twice in the Shorewood Hills neighborhood of Madison, Wisconsin in the late 80s and early 90s. Each property is numbered with 1 to 17, and each property appears twice. The vertical axis is the logarithm of the selling price of the unit.

We can think of the repeat sales estimator as an attempt to measure the average slope of the lines in Figure 1, year by year. In a classic paper, Bailey, Muth and Nourse (1963) illustrated how to compute this using regression methods and a larger sample. The method was later refined by Case and Shiller (1987), who took steps toward mitigating the problems arising from the fact that as distance between sales increases, so too does the variability of price appreciation across houses.

Consider a house "A" that sells in periods 2 and 4 (period 0 is the base year). The physical characteristics of the house have likely not changed much over this time period; any change in price represents a change in land value and the change in cost of the construction labor and materials that would be needed to replace the house. Because

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<sup>14</sup> This discussion draws heavily on Green and Malpezzi (forthcoming).

<sup>15</sup> Actually, as we will see later in this section, with large samples regression techniques are used, but it amounts to the same thing.