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AFFORDABLE HOUSING COST STUDY

An Analysis of Housing Development Costs In Portland, Oregon

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EXECUTIVE SUMMARY

The present study was undertaken in response to continuing questions about the cost of new construction in the Portland area. Its purpose is to respond to a critical need for objective cost information about the different types of housing which are being developed in our region.

Over the last year and a half, the authors have gathered and analyzed housing cost information on nearly 70 housing projects built in the last four years. The projects range in size from single-family homes to multi-family projects of some 200 units. Staff interviewed developers and public officials, and conducted site visits to recently completed projects. The understanding we have gained and the results of our analysis are presented in this paper, and some of the principal findings are summarized below. The following figures represent total development costs, not just construction costs.

- The cost of developing housing, when measured per person housed or per square foot built, is lowest for single family residences. The cost is slightly higher for townhouses or small plexes, and increases significantly for multi-family and mixed-use developments.

- If housing development costs are calculated on a per-unit basis, on the other hand, multi-family projects are the most cost effective. Unit costs are lower because the majority of multi-family units are small studio or one-bedroom units.

	Single Family	Plexes	Multi Family	Mixed Use
Per Person	\$17,961	\$20,407	\$28,377	\$31,488
Per Sq. Foot	\$74	\$77	\$91	\$96
Per Unit	\$93,398	\$86,090	\$69,049	\$89,092

- Housing development costs rise dramatically as building height and housing density increase.

FRAMING	HEIGHT		DENSITY	
	# of Stories	Per SF	Units per Acre	Per SF
Wood	2 Story	\$67	0-20	\$62
	3 Story	\$85	21-50	\$81
	4-5 Story	\$99	51-100	\$95
Concrete	5-7 Story	\$139	101-200	\$104
			200+	\$125

- Costs vary according to the type of developer. CDC's produced less expensive single family homes than private developers. CDC's and private developers produced affordable multi-family housing at nearly the same cost per square foot or per person housed. For-profit developers had a lower multi-family cost per unit, but their units were smaller and housed fewer people.

Developer	Per Unit	Per Person	Per Square Foot
CDC	\$85,706	\$16,171	\$69
For-Profit	\$124,167	\$27,593	\$95

Developer	Per Unit	Per Person	Per Square Foot
CDC	\$88,274	\$35,403	\$98
For-Profit	\$68,662	\$37,956	\$95

Soft costs vary widely, ranging from 10% to 44% of total development costs. The funding source has the largest impact on soft costs. Projects funded by federal tax credits, bonds, or a combination of the two result in soft costs one-third higher than projects funded primarily by PDC or private lenders.

Recommendations

Our research leads to the following recommendations:

Funders and policy makers should reduce the emphasis on cost-per-unit, because cost per square foot and cost per person housed are more effective standards for comparing cost.¹ Development costs should be analyzed by comparing a proposed project to those in similar development categories, as presented in this study. The appropriate subsidy amount should then be based on defensible development costs, on the income level of the people to be housed, and on the length of affordability promised by the developer.

There is a need for funding sources with lower soft costs, so that more of the available funds can go towards buying land and building housing. The City's Housing Investment Fund is one step toward accomplishing this goal.

There is a conflict between the desire for lower development costs and numerous other City objectives. These conflicts should be addressed by the new Citywide Housing Policy Project, in an effort to balance these goals. Examples of policy goals which are worthy, but also increase housing costs, include the following:

- Developing housing at higher densities to make better use of land and infrastructure.
- Building affordable housing in locations where land is more expensive, either to achieve Fair Share goals or to create special needs housing close to service providers.
- Building service-enriched housing (housing which includes childcare, children's play areas, community rooms, space for service providers, etc.) for low-income residents.
- Developing mixed-use projects in low-income neighborhoods in order to accomplish economic revitalization.
- Requiring large amounts of on-site parking, especially along major public transit routes where parking standards could be reduced.

Further Research

Additional research would be useful in the following areas:

Appropriate Public Subsidies. A method to measure the value of different types of public subsidies is needed. This study's approach to development costs could be combined with project information on tenant incomes and the length of promised affordability to develop more consistent guidelines for public subsidy.

Long-term Affordability. New construction of affordable housing is costly in terms of money and time. These costs will rise in the future, and acceptable sites will be more difficult to find. For all these reasons, it is crucial to develop policies and mechanisms which guarantee the long-term affordability of the units produced.

New Construction vs. Rehab Costs. New construction is generally more expensive than the acquisition and rehab of existing buildings, but it helps to accomplish the goal of capturing more of the regional growth within the City by creating new units. It would be valuable to do a careful cost/benefit analysis of the two options.

Soft Costs. When many of our largest projects must spend more than 30% of their funds on soft costs, it is important to determine which soft costs might be reduced or whether funding guidelines might be modified to direct more funds toward the actual cost of construction.

INTRODUCTION

This study analyzes development costs for housing built in Portland, Oregon between 1994 and 1997. Nearly seventy projects, ranging from single-family homes to multi-family buildings of over 200 units, are included. Populations served by the projects include market rate and low-income renters, single family homeowners, and special needs groups.

The purpose of this study is to arrive at a better understanding of the current costs of developing housing in Portland, and to establish a database of project costs against which proposed development projects may be evaluated. Development costs are examined based on such factors as project size, building type, population served, developer type, and density of development. These costs are also analyzed in terms of their three primary components: construction costs, land costs, and soft costs.

The projects studied include 15 single-family homes, 12 small plexes (two to five units per building), 17 special needs projects, and 25 multi-family projects. Seven of the multi-family projects are mixed-use developments, which combine commercial space in the same building with residential housing. In total, 2,631 units of housing, developed at a cost of \$188 million, comprise this study.

The study includes projects developed by the private sector, as well as those developed by nonprofit organizations and housing authorities. Market rate housing developed by for-profit firms is included in order to compare private sector housing with that produced by publicly funded developers.

Nonprofit community development corporations (CDC's) developed 25 of the projects (405 units) in the study, other nonprofit organizations developed 8 projects (182 units), housing authorities developed 14 projects (259 units), and private firms developed the remaining 22 projects (1,690 units). The locations of these projects can be found on the following pages. Specific addresses are keyed to the project numbers and listed in the appendix.

The authors of this study hope that our findings will better inform policy makers, funders, developers, and the general community. Our project data was obtained from funders and from project developers. This data has been reviewed to minimize unintentional errors, but we welcome notification of any inaccuracies. We feel confident, however, that this information is accurate enough to allow us to draw general conclusions, and that it will serve as a reservoir of information for policy makers and project underwriters in the future.

TYPE OF PROJECT	TYPE OF DEVELOPER				Totals
	Private	CDC	Non-Profit	Public	
Single Family	3	12	0	0	15
Plexes	2	6	0	4	12
Multi Family	14	2	2	0	18
Mixed Use	2	4	0	1	7
Special Needs	1	1	6	9	17
Totals	22	25	8	14	69

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The study is comprised of two primary sections and an appendix:

Section I. Background: Explanation of construction, soft, and acquisition costs of developing housing, and a description of different types of developers.

Section II. Analysis: Conclusions from our analysis of project costs.

Appendix. Tables of raw project cost data upon which this study is based.

Acknowledgements

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SECTION I

COST FACTORS IN DEVELOPING AFFORDABLE HOUSING

When public funds are invested in the development of affordable housing, it is important to know that these funds are being used efficiently. Comparing the “cost-per-unit” of different projects is the most common method of analyzing costs. Unfortunately, this is not an effective way to ascertain cost effectiveness for a specific project. Project costs vary greatly based on location, building type, site characteristics, population housed, and a host of other factors. Some of these factors are outlined below to provide the background necessary for analyzing the housing costs presented in this study. These factors are separated into three sections: construction costs, “soft” costs, and acquisition costs.

In this study, construction or “hard” cost is the amount of money paid to a contractor to construct the building and improve the site. Acquisition costs are those associated with the purchase of the building site. All other indirect costs are classified as “soft” costs.

A. CONSTRUCTION COSTS OR “HARD” COSTS

Building Height

The cost per square foot of construction will vary according to the building type, and height is probably the single most important variable influencing square-foot costs. A two story slab-on-grade building will be the least expensive to construct, because the foundation and floor system is inexpensive, the cost of foundation and roof is spread over two stories, and because wood frame construction can be used without elevators or fire sprinklers. At three stories, the builder must meet one-hour fire code requirements or install a fire sprinkler system covering all living areas, corridors, and stairways. Egress requirements are also upgraded. Four story buildings require both one-hour construction standards and a sprinkler system, and must meet increased energy code requirements. The electrical wiring must be run in metal sheathing. As buildings become taller, contractors must also absorb the cost of more stringent OSHA requirements and insurance premiums.

Recently, Portland changed its requirements to allow five story buildings to employ the less costly wood-frame construction. However, these structures require more extensive planning, a more expensive fire sprinkler system, design limitations to allow easier access in case of fire, enhanced stairway design, and increased building and fire inspections.

Buildings of six stories or more are “Type II” structures, which requires that all structural elements must be of steel, iron, concrete or masonry. Less expensive wood frame construction is prohibited. Plumbing must be of cast iron. Seismic codes are much more demanding. Cranes are required to load building materials. All these factors and more make taller buildings too expensive for affordable housing given currently available subsidies.

Location

Location can have a significant impact upon project cost. If a building is located downtown, design review guidelines require the use of exterior materials such as brick and stucco, which can cost two to four times as much as the vinyl siding often employed elsewhere. Site costs for downtown developments run 50% to 100% more than projects in outlying locations, due to very limited site area. Costs increase due to street and sidewalk use fees, overhead power relocation, shoring, underground storm water retention basins, off-site storage and staging rentals, and tower cranes and material hoists.

The Central East Side, Albina Plan neighborhoods, historic preservation districts, and other specific sites require an extensive design review process. The particular requirements vary, but costs and timelines are increased in all cases.

In many older neighborhoods, expensive in-fill sites are the only locations available for development. They may require environmental cleanup, negotiations with neighborhood associations, and challenges for staging materials delivered to the site. These in-fill sites are often undeveloped due to physical challenges: steep slopes, poor soils, environmental

problems, and odd lot configurations. All of these factors increase cost. Finally, the small size of these sites eliminates the economies of scale, which usually lower development costs for larger suburban developments.

Parking

Parking considerations often drive both design and budget decisions. In an attempt to maximize density and avoid large paved parking lots, structured parking (typically located under a building) is often required. Construction costs for structured parking range from \$8,000 to \$14,000 per parking slot, compared to \$1,000 per slot for surface parking. At a rate of one parking space per unit, structured parking alone would add \$7,000 to \$13,000 per unit to development costs. At 1.5 spaces per unit, the added cost per unit would be between \$10,000 and \$20,000.

Elevators

Elevators are not required by code for residential buildings, regardless of the number of stories. Lender's requirements and marketing realities, however, make elevators almost unavoidable for buildings of four stories or more. The cost for an elevator can range from \$75,000 to over \$100,000 for a five-story structure. Buildings of more than six stories require traction elevators, which are even more expensive than the hydraulic elevators used in lower structures.

Mixed Use

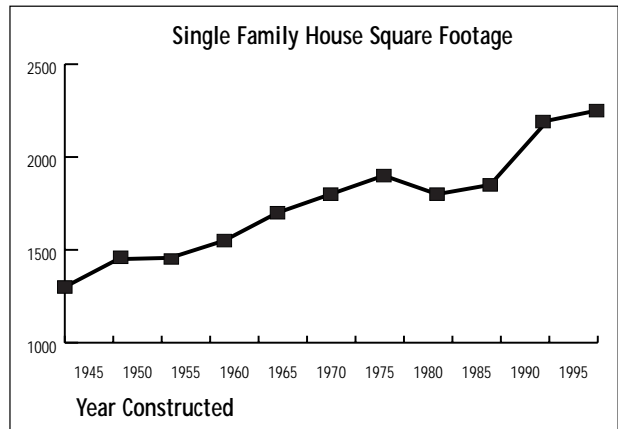
Mixed-use buildings, which combine commercial space with housing, are more expensive to build than standard housing projects. They trigger more costly fire codes: required occupancy separations, fire-rated doors with automatic closing devices and fire gaskets, and special fire-stopping measures where mechanical lines penetrate fire walls. Dual utilities are often required for residential and commercial sections, with heavier metering systems and higher resulting SDC charges. Mixed-use buildings are also likely to require increased amounts of parking to serve the commercial tenants. Cautious funders impose additional requirements, such as increased amounts of parking, large lease-up reserves, and higher vacancy rates, which further increase development costs.

The City is wise to encourage mixed-use development in order to make better use of land and infrastructure. In mar-

ginal commercial zones, however, mixed-use projects will require additional levels of public subsidy.

Unit Size

The single most effective way to reduce the cost of a unit is to reduce its size. Construction cost increases in close correlation with the square footage of the building. Fifty years ago, when mass production of suburban housing was pioneered at Levittown, homes for first-time homebuyers were as small as 750 square feet. In Portland, the average for all new home construction in 1945 was 1,378 square feet. By 1970, the average house size had increased to 1,891 square feet. As of 1995, the average single family residence in the Portland area reached 2,263 square feet. This increase in Americans' expectations regarding the size of their home has played a major role in the increase in housing costs.



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Similarly, the average unit size in multi-family projects has a primary impact on the per-unit cost of housing. A three-bedroom apartment of 1,250 square feet will cost \$20,000 to \$25,000 more per unit than a three-bedroom apartment of 950 square feet. Policy makers and housing developers must determine what size units are satisfactory homes, and whether we should build the same size units for households at different income levels.

Unit Mix

Unit mix also affects construction cost. Apartment buildings comprised of studio and one-bedroom units are less expensive to build per-unit, but the need to build relatively more kitchens and bathrooms increases the cost per square foot.

Accessibility

The federal American with Disabilities Act (ADA) established standards for making public structures more accessible to people with disabilities. ADA requirements apply to commercial and public buildings, but not residential structures. Housing projects of four units or more, however, must meet the State's Chapter 11 structural code standards. If the building has an elevator, all units must be ADA adaptable. In buildings without an elevator, all ground-floor units must be adaptable. In mixed-use buildings, the lowest floor of residential units must be adaptable. Compliance with ADA standards increases construction costs by about \$1.50 per square foot.

Davis-Bacon Requirements

Federally funded projects are subject to the Davis-Bacon Act, which increases reporting requirements and sets minimum labor rates for construction workers. There are two levels of Davis-Bacon wage rates. Housing developments of eight or more units may be subject to residential Davis-Bacon rates, which are below market wage rates, but cause a significant increase in contractor administrative costs. Buildings of more than four stories must pay commercial Davis-Bacon rates, which not only imposes reporting requirements, but can increase labor costs by 20% or more.

Site work and Off-site Improvements

In addition to the cost of building a structure, the site itself requires significant expenditures for parking, sidewalks, playgrounds, drainage systems, and landscaping. On difficult sites, or sites which must be developed to meet ADA standards, these expenses can exceed 20% of total construction costs. As local governments look to developers to pick up additional costs, projects must often bear additional off-site expenses for curbs and sidewalks, water and sewer lines, and street improvements. These off-site costs can add an additional 20% to standard construction costs.

High-Density Development

The effort to maintain Portland's Urban Growth Boundary, make use of existing infrastructure, and diminish sprawl has resulted in a push for higher density development. Zoning regulations typically define minimum and maximum levels of density, and current City policies encourage higher levels of density. Residential neighborhoods, typically developed

with two-story buildings and surface parking, have an average density of about 8 housing units per acre. Recent developments in neighborhoods near the Light Rail have density levels as high as 40 or 50 units per acre, using compact two- or three-story structures and surface parking. Downtown buildings of five or six stories, often with structured parking, can reach density levels of 400 to 500 units per acre.

Density has its cost. Taller buildings cost much more per square foot to build, and the accompanying structured parking is ten times more expensive than surface parking. In market rate housing, the income stream from an increased number of units offsets these costs. Low income projects, whose rental income covers little more than operating costs and financing costs, must be heavily subsidized to achieve the highest densities.

Low-Maintenance Design

Additional money may be spent in the construction of a building in order to reduce long-term operating and maintenance costs. For example, electric resistance heaters are cheap to install, but expensive to operate and maintain. Additional money spent on increased insulation and higher quality windows translates into lower utility bills for the occupants. Hardware that is more durable, better plumbing fixtures, and higher-quality cabinets reduce long-term maintenance costs in rental units.

Time

In Portland's "hot" housing market, development costs increase significantly each year. According to experienced contractors and professional estimators, construction costs have risen at about 4% per year since 1994, and may rise 5% to 6% in 1997. Lot prices have doubled or tripled in many areas of Portland. This means that a project built at the end of 1997 may cost 25% more than an identical project developed in 1994. Current development cost data is presented at the end of this study.

Special Needs

This study considers special needs projects as a distinct housing category because their requirements and the resulting costs may make them very different from other types of housing. In this sense, special needs housing is one type of "service-enriched" housing which provides for a wide range

of tenants' needs. In this study, the term "special needs" covers residents who developmentally disabled, chronically mentally ill, physically disabled, youths with severe behavior problems, elderly people with Alzhiemers, individuals recovering from substance abuse, those with HIV/AIDS, and many others. Each population requires housing with specially designed features. For some special needs groups, the added costs are minimal, for others, costs increase dramatically.

As an example of a project with a significant cost impact, a group home recently constructed for troubled youths has plywood behind the sheet rock walls, to make it harder to punch a hole in the wall. The home also features a security system, Plexiglas windows, and a self-contained lockable kitchen, among other features. A home for people with HIV/AIDS included the cost of an elevator, although it is a two-story building comprising only twelve units of housing.

A partial list of the extra design and construction requirements for a specialized developmentally disabled housing project includes the following:

- ADA Accessibility, including a level site with no steps, specially designed cabinets, countertops, and appliances, extra-width doors, grab bars, roll-in showers, angled mirrors, adaptable closet packages, etc.
- Access/egress monitoring that alerts staff if windows or doors are opened
- Heavy duty locked cabinets with concealed fastenings, screws or bolts at connections, and reinforcement plates
- Special bathroom features, including: a mobility lift system, double-acting doors, floor sloped 1/8" per foot to room floor drains, an elevated bathtub for assisted access, power flush toilets and/or a pump system to sewer, as necessary
- Hallway railings, wainscoting or molding at wheelchair height along walls, vinyl corner guards, door kickplates, etc.

The construction cost for such a building can run more than \$110 per square foot, which is nearly double the usual cost of residential construction.

Special needs housing typically includes a large proportion of common spaces to provide services required by the population being served. These areas may include offices, meeting areas, skills training areas, a nursery, and common kitchen and dining areas, even though individual units are complete and self-sufficient. These spaces exist so that the service-providing staff has places to do interviews and skills training, so tenants can be lured from their units to interact with one another, so mothers need not be separated from their infants, and so the residents are more likely to get at least one nutritious meal per day. These areas, which are not typically found in multi-family housing, greatly increase the cost per unit of these facilities. Since such improvements are not revenue producing, they also make it harder for project income to cover financing and operating costs.

Economies of scale are seldom realized on special needs projects, because they are usually much smaller than market-rate housing developments. Smaller projects provide for better treatment for residents, increased livability, and reduced neighborhood resistance. They also avoid Medicaid's expensive "institutional" classification for projects of more than 16 units. Smaller projects, however, mean that acquisition, construction, and soft costs are spread over fewer units.

Finally, special needs developments are program driven, rather than market driven. Service provider and staffing requirements have a strong impact on building design and cost. Projects are often uniquely designed for a specific population, limiting opportunities for design refinement and cost-saving replication.

Project Example: Construction Cost Impacts

The chart on the following page is offered as an example of a specific project. It details some of the increased project costs due to such factors as building height, density, mixed use, population served, funder requirements, and City design standards. These costs are based on a preliminary cost estimate for a five-story mixed-use project serving senior citizens, and it includes structured parking. The costs are rough estimates, and are intended for illustrative purposes only. The bottom line is this: the special conditions imposed upon a project of this nature increased construction costs by nearly 40%, or almost \$20 per square foot.

Project Example

ITEM	COST	COST/SF	COMMENTS
Contractor's Bid	\$5,158,561	\$72.55	Per Estimate
Special Cost Factors			
Commercial Space	\$330,000		Affects cost/unit, parking & fire separation requirements.
Structured Parking Add	\$327,000	\$4.60	Cost of density & commercial Underwriting
Surface Commercial Parking	\$10,000	\$.14	Required by commercial market study
Elevator System	\$155,000	\$2.18	Required for 5-story building
Fire Sprinkler System	\$156,000	\$2.19	Required for 5-story building
Sheathed Electric Cable	\$35,000	\$.49	Required for 5-story building
Fire Separation Requirements	\$81,000	\$1.14	Required for 5-story building
Stucco & Textured Block Ext	\$105,000	\$1.48	Urban revitalization, community design standards
Metal Roof Add.	\$20,000	\$.28	Urban revitalization
Nurse Call System	\$66,000	\$.93	For frail elderly population
Senior & ADA Req'm'ts	\$100,000	\$1.41	For frail elderly population, or required by gov't funding
AC Provisions (common areas)	\$9,000	\$.13	For frail elderly population
Davis-Bacon Reporting	\$10,000	\$.14	Government requirement
Union Labor Rates	\$140,000	\$1.97	Sponsor request
Replace Sidewalks	\$30,000	\$.42	City transportation design requirement
Bid 6 months prior to construction	\$150,000	\$2.11	Government funding timeline
Total Special Costs	\$1,724,000	\$19.61	SF costs based on 71,101 SF finished space
Contractor's Base Cost	\$3,434,561	\$52.95	Construction costs without added special costs

B. INDIRECT COSTS OR "SOFT" COSTS

This study has defined soft costs as any cost not directly associated with acquiring sites or the hard costs of constructing the project. This includes a variety of costs such as loan interest and fees, architectural and engineering costs, permits, system development charges, accounting and legal fees, appraisals, and developer's fees. Factors that increase soft costs in affordable housing development include the following:

Financing Complexity

Affordable housing projects provide housing for those who are not being served by the private market because their income is too low. Subsidies of various types are needed to fill the gap between the cost of servicing the debt and the amount of income produced by affordable rents.

Household income is measured against the median family income (MFI) for our metropolitan area. In 1997, median family income for a family of four in Portland is \$46,300. A household should pay no more than 30% of its income for housing, according to national standards set by HUD.

The private market provides new housing primarily for homeowners earning more than the area median family income (100% MFI), and for renters earning more than about 60% MFI. As projects aim to serve households further below these income levels, public subsidies are needed. As projects move from serving low-income households (<50% MFI) to serving very low-income households (<30% MFI), subsidy needs increase sharply.

Because affordable housing is so difficult to finance, these projects typically use two or three times as many funding sources as market-rate housing. This causes significant increases in soft costs. These cost factors include the time to seek financing sources, the cost to write applications, capacity to comply with public procurement standards, and compliance with a variety of regulations. Additional funding sources may also require a variety of other costs to be incurred, such as full narrative appraisals, additional design and quality standards, operating reserve set-asides and annual audit requirements. On average affordable housing developers use 3-4 sources of financing (with some using up to 7 sources), while market-rate developers may use only one or two sources

The complexity of financing and developing affordable housing has another unintended impact on cost. Contractors and architects have learned that the sheer number of organizations and individuals who have a voice in shaping these developments results in a multitude of meetings and frequent revisions to project plans to meet the needs of all involved parties. These designers and builders often charge more for their services, knowing that this dynamic will increase their administrative cost.

Construction on Marginal Sites

Urban infill development often requires that housing be constructed on difficult sites which have previously been passed over. These sites increase soft costs as well as construction costs. For example, sloped sites or development locations in a flood plain require a higher level of scrutiny and engineering which increases soft costs by 15 to 25 percent. Environmental contamination, caused by asbestos, lead paint, radon, underground storage tanks, or chemical spills, among other issues can add \$50,000 to \$200,000 to project costs even before new construction begins.

Market-rate developers, on the other hand, often look to suburban or rural land for sites. This allows them to build on larger tracts that allow significant economies of scale. While undeveloped land must carry the cost of new infrastructure, this is usually more than offset by the lower cost of large, repeated patterns of development.

High Density/Transit-Oriented Development

Portland's encouragement of high-density/transit-oriented development to meet metropolitan livability goals incurs a variety of increased construction costs (covered in the previous section) and soft costs. These soft costs include higher system development charges (SDC's), more complex architectural and engineering plans, and increased zoning and design review work.

Development Fees

Affordable housing developers and private, market-rate developers receive their compensation in very different ways. Most of the affordable housing developers include a fee in their soft costs to cover their cost of doing business. The average fee is between 5 and 10 percent, depending on project size and complexity. Nonprofit developers may also receive operating support from local jurisdictions and intermediaries, but these typically cover less than half the cost of development operations. In addition, nonprofits that serve low-income populations often must reinvest their developer fees back into the projects as equity to lower rents.

Market-rate developers receive their compensation in different ways. They are compensated by the sale of their properties, through tax benefits, or by cash flow from rents. These sources of income are not included as front-end development costs. This has the result of making nonprofit soft costs and total costs appear more expensive compared to private-sector costs.

Legal and Accounting Costs

Because affordable housing utilizes multiple sources of public funds, attorneys and CPA's must play a significant role in preparing, reviewing, and coordinating documents, as well as reporting on the outcome of completed projects. Projects that are innovative, such as mixed-use developments, must pay to create original legal, accounting, surveying, and appraisal documentation.

Specific types of financing can also have a significant impact upon a project's soft costs. The most common example is the federal Low Income Housing Tax Credit (LIHTC) program, which requires utilizing expensive consultants or developing sophisticated internal capacity. This results in extensive legal, accounting and syndication fees.

Design Fees

Affordable developments are often large infill projects, and these require careful design and engineering work. When these projects are mixed-use, are located in special design review areas, or are built for special-needs populations, design requirements are even more critical.

Developers of market-rate apartments in outlying locations can use the same basic design repeatedly, merely adapting it to a specific site and to the latest changes in market conditions. Because these buildings are often only two or three stories high, are not located in special design zones, and are not intended for special tenants, design and engineering costs can be kept to a minimum.

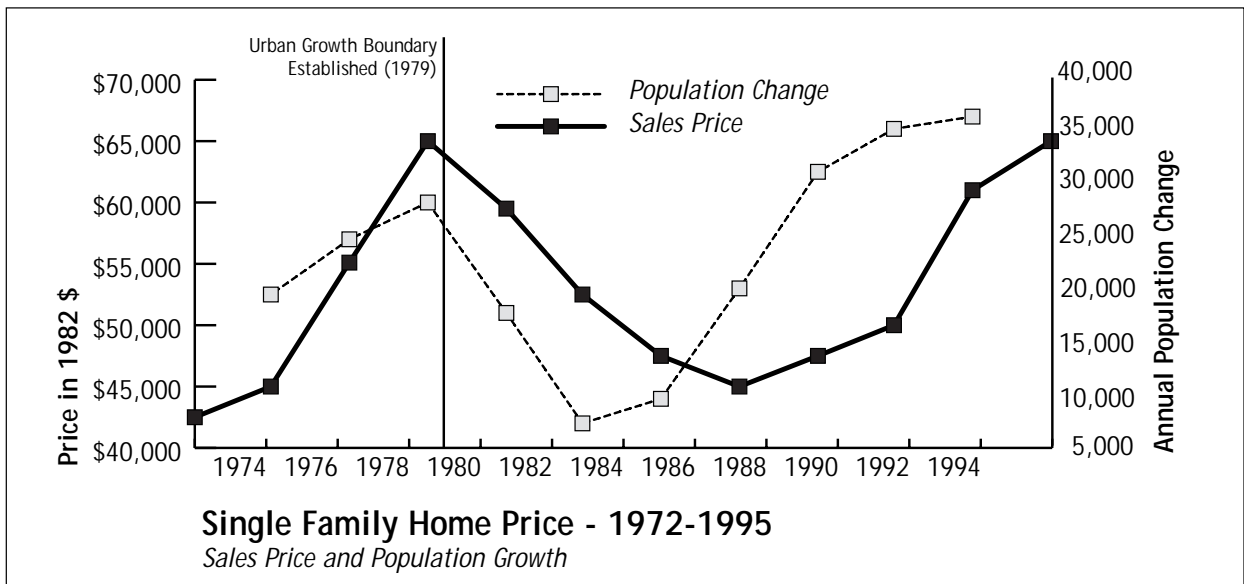
C. ACQUISITION COSTS

One of the main impediments to the construction of affordable housing in Portland has been the limited access to cheap, available land for new construction, or suitable housing for rehabilitation. The amazing expansion of Portland's real estate economy is changing the character of community development in the region. Between 1992 and 1996, prices for vacant single-family lots in Portland increased at an annual rate of 14.5%, while multi-family site costs rose by 5.1% per year. For the tri-county area, the annual rate of increase in single-family lots was similar to Portland's figure (15.6%), but multi-family land increased at nearly 27% per year.²

The Urban Growth Boundary (UGB) and Metro's 2040 Plan have also affected the real estate market. The effects of the UGB upon land and real estate prices are currently disputed, but both of these factors have altered development patterns. The following graph from Metro's 1997 Housing Needs Analysis demonstrates that population growth, rather than the Urban Growth Boundary, is the factor which correlates most closely with increased housing costs.

Regardless of the factors inflating local housing costs, obtaining a good building site is a crucial first step in the development process. For-profit developers typically have the financial resources to purchase key sites for large developments, but CDC's and other nonprofit developers spend months obtaining predevelopment loans to acquire a site. The subsequent time required to obtain development financing from multiple sources increases carrying costs and may jeopardize option agreements.

In the past, these disadvantages were balanced by the ability of nonprofits to access Multnomah County's Affordable Housing Development Program, which grants tax-foreclosed land for affordable housing development. This represents a significant contribution to lowering the cost of the nonprofits' projects. However, as the region's housing prices continue to rise, the number of tax foreclosed lots has steadily dwindled.



D. TYPES OF DEVELOPERS

This study includes projects built by four different types of developers. Each type brings different assets to the development process. Some of these issues are discussed below:

Community Development Corporations (CDC's)

Community development corporations (CDC's) are geographically based nonprofits which have low-income representatives on their boards of directors. Like other nonprofit developers, CDC's must consider factors other than profit margin or market demand when building a community asset. Many factors add to the costs of projects developed by CDC's. This study groups these factors into four different categories: mission, neighborhood participation, financial, and internal systems.

Mission Factors: All nonprofit developers follow a mission statement to guide them in developing housing for low-income residents. This mission often requires them to work in economically marginalized communities and to serve households with low and very low incomes. This adds time, cost, and deeper subsidy requirements to the development of housing.

Nonprofit or low-income housing developers often pursue projects that do not fit within the "cookie-cutter" mold of market-rate housing. Because CDC's are geographically based, they undertake a wide variety of projects needed in their community, rather than specializing in a single development product. This allows CDC's to respond to a wide range of community needs, but the repeated need to develop new skills reduces production efficiency.

Neighborhood Participation: Nonprofit organizations spend a significant amount of time determining the needs of their residents and gaining acceptance of project concepts by their communities. Many also seek input from low-income residents in the specific design and siting of a project. This study's interviews revealed that costs to developers for neighborhood participation ranged from \$3,000 to \$50,000, with a median of about \$5,000. This included the direct costs of paying staff to canvas neighborhoods, presenting project plans and designs at community meetings, mailing informational brochures to residents, and organizing opening ceremonies for completed projects.

Financial Factors: The financing of low-income housing projects is complicated by a myriad of rules and regulations and by the need for multiple funding sources. Because CDC rental projects tend to serve households below 50% of median income, and because these projects are not large enough to qualify for tax credits and bonds, CDC's must seek grants to provide equity and fill project funding gaps.

Most private financing for market-rate projects, on the other hand, has developed a highly automated process, which allows for expeditious decision-making. One private market developer informed us that it took him 60 days to apply and secure a million-dollar loan for a 30-unit project. Low-income housing projects rarely fit the same set of parameters, and our interviews indicated that up to six additional months are required to obtain project financing.

Internal Factors: Community development corporations and other nonprofit developers have a number of unique project and operational costs associated with their administration that can add to project costs. These include the challenge of serving low-income communities while operating as an on-going business, managing staff who must perform a wide variety of community-related tasks, and coping with high staff turnover. Yet these groups have found ways of operating efficiently under these constraints. They employ volunteers, build strong political support, and effectively access third-party technical assistance. Nonprofits also reduce project costs by using pro bono consultants or experienced staff who may have traded higher salaries in the private sector for a sense of public service associated with the nonprofit mission.

CDC's receive public support in the form of fee waivers, property tax abatements, equity gap investments, tax-foreclosed property donations, and operating support grants. In exchange, CDC's and other nonprofits select projects based on community need rather than potential profit. Like other nonprofits, CDC's typically serve people who are not being adequately housed by the marketplace. Most of these organizations have the goal of keeping their housing affordable to low-income households in perpetuity.

Non-Profit Developers

For the purposes of this study, non-profit organizations are those that undertake the development of affordable housing to pursue a population-based mission rather than a geographically based mission. Most often, these are social service agencies whose primary mission is to provide services to certain populations, and they engage in housing development when they encounter a need to create an additional facility. This class of non-profit organization provides an excellent understanding of the population to be served, but may lack experienced in-house development staff to carry out housing projects. Other non-profit housing developers, such as Innovative Housing, Inc. and Northwest Housing Alternatives, are focused on development for special populations, but are not social service agencies. Still other non-profit organizations are associated with a social service provider, but have a dedicated development subsidiary, such as Network Behavioral Healthcare.

Non-profit housing developers face many of the same factors that CDC's deal with. While their missions allow them more flexibility in geography, they must find sites that meet the special needs of their clients, such as easy access to mass transit and other design and siting criteria.

Focusing on a limited clientele population allows some non-profits to acquire expertise in the design and construction of a particular type of special needs housing. Nonprofits which undertake housing development only as an enhancement to their social service programs, or as an intermittent activity to meet specific needs, may hire a consultant to direct the technical aspects of design, construction, and project financing. This increases soft costs, and may decrease production efficiency if the non-profit does not effectively communicate with consultant and funders.

All affordable housing developers, including those who provide special needs housing, face difficult neighborhood siting issues. Very often non-profits must first comply with the City of Portland's Location Policy, which limits the concentration of low-income housing in census tract, "impact areas" that "have a concentration of poverty." One method of complying with the Location Policy is to negotiate a "Good Neighbor Plan" with local residents. The negotiation of these plans often encounters strong resistance and controversy that requires

lengthy and expensive facilitation, and can delay a project for several weeks if not months. Nonprofits frequently negotiate Good Neighbor Plans with local residents in non-impact areas as a convenient method of addressing local community concerns.

Non-profit housing developers must also deal with many of the same financial and internal factors discussed in the preceding section on CDC's.

Housing Authorities

Traditionally, the mission of housing authorities has been to house the poorest segment of the population, especially those below 30% of median income. State statute, however, permits Oregon housing authorities to develop and own housing for households up to 80% MFI. While continuing to serve very low income households, the Housing Authority of Portland (HAP) has recently developed several projects for households at 60 to 80%MFI in order to offset cuts in federal operating support and to generate revenues to serve lower income people.

By state statute, the Housing Authority of Portland is able to issue tax-exempt multifamily public purpose and 501(c)(3) bonds. For projects 100% owned by HAP or a 501(c)(3) non-profit, HAP can issue these bonds outside of the state's private activity bond cap. To issue bonds on behalf of a partnership (i.e. a tax credit project with HAP as general partner) or on behalf of a private developer on a conduit basis, HAP has to compete for an allocation of private activity bond cap.

HAP's strong fiscal standing allows it to compete favorably with CDC's for scarce funding resources. In addition, HAP is exempt from personal and property taxes for all developments that serve households at or below 80% MFI. In certain cases, HAP makes payments to the local jurisdiction in lieu of property taxes.

Like other nonprofits, however, the housing authority is subject to many regulatory constraints. State contracting laws and federal procurement requirements must be followed, error and omissions insurance is required, performance bonds must be posted, and workers must be paid prevailing wages.

In the past, the Housing Authority of Portland has acted as developer for most of its projects. In recent years, however, it has contracted with fee-based private developers to construct its largest projects, under the supervision of HAP staff. Smaller projects are still managed by in-house staff.

For-Profit Developers

Historically, for-profit developers have built the majority of all housing in this country. Almost all single-family homes and market-rate apartments are built by these private sector firms. With the advent of federal tax credits and bonds as financing tools in recent years, for-profit firms have also developed many of the affordable multi-family projects in the Portland area.

Projects in this study developed by private sector firms are of two types: a) privately-financed projects consisting of houses for homebuyers and apartment buildings for market-rate renters, and b) publicly-financed apartments developed for renters.

Private Financing: For-profit developers bring the efficiency of the private sector and the power of private capital to the development process. Those who develop with private capital create further efficiencies by specializing in one market niche, which they know extremely well. Typically, these developers have very small staffs. They do not spend time with outreach and meetings to ascertain what the community needs, because they build what the market demands. Compensation for these developers comes in the form of profit upon sale of assets, tax benefits, and operating income from rental properties

Market-rate developers are often vertically integrated, acting as developer, general contractor, owner, and property manager. This strategy creates further efficiencies, and allows for additional profit centers. Tax considerations may induce such entrepreneurs to shift their profit away from the construction stage, where they would be taxed immediately. Reporting lower construction costs decreases financing costs and increases net operating income. Profit can therefore be realized from increased cash flow immediately and from real estate appreciation in the long run. In addition, privately financed projects are not audited, making it even more difficult to ascertain the true development cost of these projects.

The recent California Affordable Housing Cost Study noted the same discrepancy in the way private developers receive compensation for their investment. The study concluded that “this difference in how financial return is received and reported tends to overstate total reported costs for affordable projects” relative to market-rate projects.³

Public Financing: Publicly financed projects developed by the private sector tend to be the largest affordable projects built in the city, are usually financed with tax credits and/or bonds, and are most often located downtown or in other urban renewal areas. Developers of such projects must respond to many of the same challenges faced by nonprofit developers: multiple funding sources, extensive reporting requirements, possible neighborhood opposition, and City policy goals, among others. Unlike nonprofits, however, these for-profit developers usually do not build for extremely low-income or special-needs populations.

For-profit affordable housing projects in this study are typically financed by tax credits and bonds, serve residents above 50% of median family income, have project costs ranging from \$3 million to \$13 million, and contain from fifty to 200 units of housing. Many for-profit developments receive property tax abatements due to their location downtown, in other urban renewal areas, or in transit-oriented zones. Some of these projects also received publicly owned land at no cost.

The private developer of publicly funded projects is usually not involved after the project is completed, as the tax credit partners or the housing authority take over as owner and operator of the finished complex. Under this model, the private developer’s primary compensation comes in the form of a development fee, which usually ranges from 4% to 8% of total project cost.

Affordable housing projects developed and owned by for-profit firms are likely to remain affordable only until project loans have been repaid, if the market will support higher rents. If State bonds fund a project, however, 30 years of affordable rents are required, and prepayment is not allowed. In 1997 private developers set a new precedent by responding to a City RFP for projects serving families below 30% of median income, even though sixty years of binding affordability was a requirement for all applicants.

SECTION II

PROJECT COST ANALYSIS

In order to examine the factors influencing the development costs of affordable housing this study collected information on sixty-nine projects representing over 2,600 units of housing. The data was collected from a variety of sources, including the Portland Development Commission, the Housing Authority of Portland, and interviews with developers and lenders. The data was submitted for review by developers to ensure greater accuracy in our analysis.

A summary of information on individual projects is included as an appendix to this study. More complete raw data is available for inspection from the Housing Development Center. The majority of the data is public information, however some of the market rate developers have requested that key project identification information be removed from this report.

In this section, we have grouped projects into similar categories in order to draw general conclusions. These categories include building type, developer type, building height, and density. Single-family and multi-family developments are analyzed independently. Soft costs and land costs are also analyzed, followed by a section that converts all development costs to estimated current prices.

Building Type

Buildings covered in this study fall into four categories: single-family homes, plexes (two to five attached units), multi-family structures and mixed-use buildings (housing com-

bined with commercial space). The people housed can be divided into three groups: renters, homeowners and special needs populations.

In the following section, we compare the cost of building different types of structures and the cost of housing different groups of people. The results (Table 9) vary greatly, depending on whether costs are examined on a per unit basis, per square foot, or per person housed.

Cost per Square Foot. In our study sample, the average development cost per square foot increases as one moves from simpler to more complex building types. For rental housing, single family houses are the least expensive to develop, at \$63 per square foot, with the cost increasing as one moves to plexes (\$79/SF), multi-family structures (\$91/SF), and mixed-use buildings (\$96/SF).

In the ownership category, our sample contains only two building types: single family homes and plexes (attached townhouses). While the sample is small, the attached homes, at \$70/SF, cost \$10 per square foot less than single family residences.

In the special needs category, single family structures are cheaper to develop than multi-family structures by \$43 per square foot. (Operating costs per person served, of course, are likely to be higher for smaller developments.)

Cost per Unit. In the rental housing category, the average development cost per unit is lowest for the multi-family category: about \$69,000 per unit. Mixed-use projects average approximately \$82,000 per unit. The cost for single family homes is nearly \$78,000 per unit, while plexes cost almost \$84,000 per unit.

Cost by Building Type		#	Total Costs		
			Per Unit	Per SF	Per Person
Rental	Single Family	5	\$77,622	\$63	\$34,511
	Plexes	9	\$83,586	\$79	\$48,165
	MultiFamily	18	\$69,049	\$91	\$72,231
	MultiFamily: Mixed Use	7	\$82,092	\$96	\$72,336
Ownership	Single Family	10	\$101,286	\$80	\$45,032
	Plexes	3	\$93,600	\$70	\$46,800
Special Needs	Single Family	4	\$50,463	\$86	\$75,695
	Multi-Family	11	\$79,118	\$129	\$90,108

Multi-family buildings (apartments) are the least expensive per unit because most of the units constructed are studio and one-bedroom units. By contrast, virtually all single-family homes have three-bedrooms.

In units developed for ownership, townhouses (at \$96,000 per unit) were slightly less expensive than single family homes (at \$101,000 per unit).

Cost per Person. The development cost per person housed is calculated by assuming a ratio of 1.5 people per bedroom, except for studio apartments and SRO's, which are calculated at one person per unit. For this analysis, projects are divided into rental, home ownership, and special needs. It is surprising to find that in the rental housing category, housing costs per person are lowest for single-family homes (\$34,511 per person). Costs increase significantly as one moves to plexes (\$48,165), multi-family units (\$72,231), and mixed-use developments (\$72,336).

Home ownership is also least expensive in the single-family category, at a cost of \$45,032 per person. This compares to townhouses at a slightly higher cost of \$46,800 per person.

Special needs projects are the most expensive per person. Nevertheless, the pattern that smaller buildings are the most cost-effective per person continues: the cost is \$75,695 per person in single family homes, and increases to \$90,108 per person in multi-family structures.

The primary reasons for these trends are fairly basic: building codes are more demanding for taller buildings, increasing the cost per square foot as one moves from single-family homes to multi-family projects. In addition, high-density multi-family developments often carry the additional cost burden of structured parking. These factors are not offset by the fact that multi-family buildings generally allot fewer square feet per person relative to single family homes.

Developer type. The study compared four different types of developers. Four principal categories were used: private sector developers, community development corporations (CDCs), other nonprofits (service organizations which only occasionally develop housing), and housing authorities.

In single home construction, CDC's and private entities were the only developers represented. The majority of multi-family projects in our study were developed by CDCs and private developers. A chart comparing study data by developer type

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		For-Profit Developer			CDC		
TYPE		COST/UNIT	COST PER PERSON	COST/SF	COST/UNIT	COST PER PERSON	COST/SF
RENTAL	Single Family				\$77,622	\$15,220	\$63
	Plex	\$69,959	\$19,695	\$74	\$79,947	\$19,858	\$66
	Multi Family	\$63,313	\$28,476	\$82	\$85,448	\$36,535	\$90
	Mixed-Use	\$76,399	\$24,963	\$82	\$85,041	\$34,597	\$98
HOMEOWNER	Single Family	\$124,167	\$27,593	\$95	\$91,480	\$16,420	\$74
	Plex				\$90,470	\$19,193	\$70
SPECIAL NEEDS	Multi Family	\$92,753	\$51,547	\$115	\$44,413	\$29,609	\$111
		Non-Profit			Housing Authority		
TYPE		COST/UNIT	COST PER PERSON	COST/SF	COST/UNIT	COST PER PERSON	COST/SF
RENTAL	Plex				\$50,463	\$20,986	\$86
	Multi-Family	\$81,729	\$28,671	\$90	\$55,827	\$37,218	\$171
	Mixed Use				\$137,265	\$66,266	\$110
HOMEOWNER	Plex				\$93,130	\$46,367	\$89
SPECIAL NEEDS	Multi Family	\$67,875	\$44,076	\$118	\$93,499	\$29,195	\$107

follows, and more detailed analysis of this data is presented in the following section.

Single Family Home Projects

Of all building types studied, single family homes are the cheapest to produce on a per-square-foot basis, but the most expensive on a per-unit basis. Affordable single-family homes are inexpensive to build (per square foot) because they are typically two-story wood-frame structures with relatively inexpensive lap siding and shingle roofs. They do not require such costly components as elevators, fire sprinkler systems, or structured parking.

Single family residences are the most expensive on a per-unit basis because they are larger units: those in our study averaged 1,250 square feet per unit, compared to 787 square feet for multi-family units and 625 square feet for special needs units. In addition, land cost and soft costs are usually greater for single family homes because more land is required per unit, and soft costs are not spread over multiple units.

CDC's and private-sector developers produced all the single homes in our study. CDCs, on average, produced homes at a substantially lower cost than for-profit developers. CDC production costs were lower by \$38,000 per home, or \$26 per square foot.

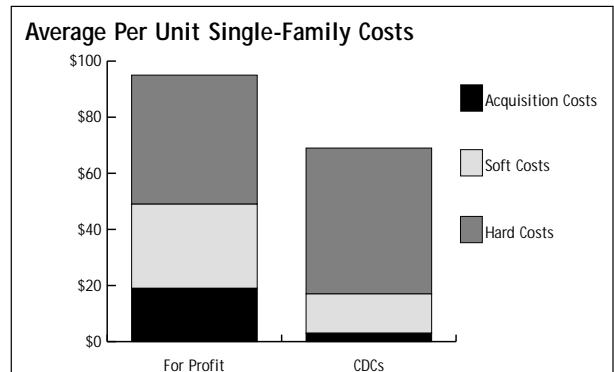
To determine whether our sample was representative, we compared our figures with two other sources: real estate MLS listings and the recent Hobson-Johnson report on North/Northeast home costs. As shown below, these studies are very much in line with our own conclusions.

Several differences exist between homes produced by CDC's and for-profit developers: All for-profit homes were built to be sold, while 60% of CDC homes in our study were developed for homeownership and 40% for rental. Nonprofit homes were slightly smaller (1238 SF vs. 1303 SF), but more of them had a fourth bedroom. Privately developed homes

were more likely to have such amenities as garages, fireplaces, and air conditioning. Two-thirds of the nonprofit homes in the study were built on tax-foreclosed lots with nominal acquisition costs. The other CDC lots were bought on the market.

In comparing the three principal components of housing cost, our data shows that CDC's realized average savings on site acquisition cost of about \$20,000 per-unit when compared to prices paid by for-profit developers. Soft costs were also kept lower by nonprofits, again to the tune of about \$20,000. In construction costs, nonprofits actually spent more than private developers, by about \$3,500 per unit. Overall, average development costs for CDC homes were \$38,461 lower than private sector costs. If CDC's had bought all their lots on the market, at the average price CDC's paid on the market, the CDC development cost would still be \$27,582 lower than private sector costs.

CDC production of single family homes totaled just over 100 units in 1996. While this volume is only 8% of all homes built in the city that year, CDC ability to put homes on the market at prices averaging below \$100,000 is impressive. According to Metro, only 70 new homes in the entire three-county area sold for less than \$100,000 in FY 95/96, and 36% of these were built by nonprofits.⁴ A privately developed single-family home for less than \$100,000 is essentially no longer available in Portland as of 1997.



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DEVELOPER	Housing Cost Study			MLS Data			Hobson Study	
	COST/UNIT	UNIT SIZE	COST/SF	COST/UNIT	UNIT SIZE	COST/SF	COST/UNIT	COST/SF
CDC's	\$86000	1238	\$69				\$86344	\$72
PRIVATE	\$124000	1303	\$95	\$136229	1300	\$104	\$122500	\$102

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Multi-Family Projects

CDC's and private developers produced the bulk of the multi-family projects in our study. Private sector developers included both privately financed market-rate projects as well as publicly financed affordable-housing projects.

As explained in Section I, these two types of privately developed housing are not comparable in terms of funding sources, market served, or compliance requirements. In addition, most of the market-rate housing was developed in outlying or suburban areas, while the bulk of the affordable housing was built in the central city, where land is more expensive. Most market-rate housing was of only two or three stories and of low density, while affordable projects by for-profit developers were often four or five stories tall and developed at higher densities. The difference is evident in the comparative cost: for-profit developers of market-rate housing spent 34% less per square foot than those building affordable housing.

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Private Developers of Multi-family Housing – Average Total Costs

	#	Per Unit	Per Square Foot	Per Person
Market Rate Housing	4	\$57,508	\$63.37	\$18,958
Affordable Housing	10	\$68,662	\$94.90	\$37,956

Setting aside market-rate housing for the moment, this study compares similar products in the multi-family category: publicly financed, low-income developments of at least twenty units in size. To allow for a larger sample, we included mixed-use projects, after deducting the cost of the commercial component. We excluded special needs projects and buildings constructed of concrete and steel, since these have unusually high development costs. This sample left us with 14 projects, ten by private developers and four by CDC's. They range from 38 to 199 units in size, and are primarily wood-framed structures of three to five stories in height.

14

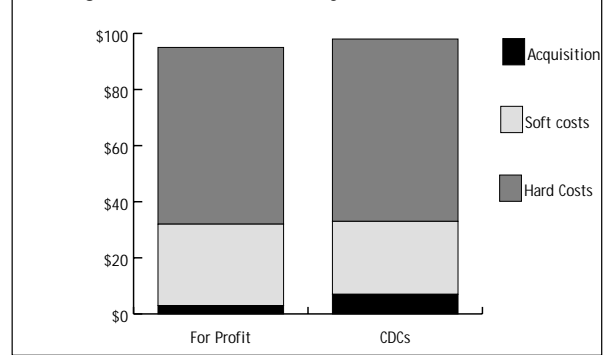
Affordable Multi-family Housing – Average Total Costs

	#	Per Unit	Per Square Foot	Per Person
CDC Developer	4	\$88,274	\$97.82	\$35,403
For Profit Developer	10	\$68,662	\$94.90	\$37,956

The two producers have very similar development costs: development costs were slightly higher for CDC's in terms of cost per square foot and slightly lower in terms of cost per

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Average Per Unit Multi-Family Costs



person housed. Only in the per-unit cost were for-profit developers significantly more economical, but this is because they produced smaller units: the average number of bedrooms per unit was 25% higher for CDC's when compared to for-profit developers.

Building Height

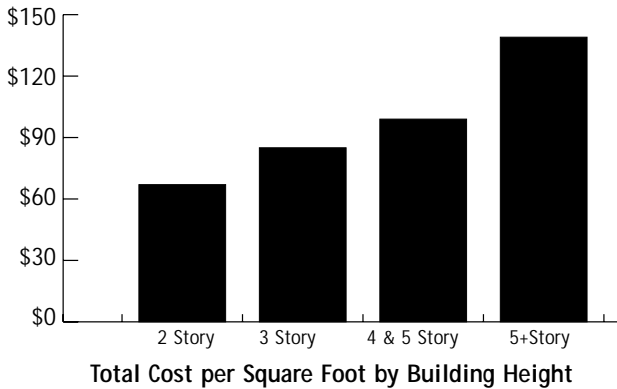
This study found that the development cost per square foot increases directly with building height, which is one measure of the cost of higher density development. When we compared development costs of all wood-framed multi-family projects, two-story buildings averaged \$67 per square foot, three-story buildings averaged \$85 per square foot, and buildings of four stories or more averaged \$99 per square foot. Taller concrete/steel buildings (five to seven stories) averaged \$139 per square foot.⁵

This pattern is even clearer if we examine construction costs alone, aside from acquisition and soft cost. Two story buildings come in at \$49 per square foot, three story buildings cost \$59 per square foot, four and five story wood-framed structures average \$62 per square foot, and the taller concrete/steel structures have construction costs of \$99 per square foot.

This cost increase is explained, in part, by increased code requirements for taller buildings. This factor is mitigated, however, by the fact that taller buildings can spread the cost of foundation, roof, and land over more building area. The other essential factor driving up the cost of taller buildings is that the tallest buildings are typically built downtown, or in other locations where design guidelines and market forces call for the use of more expensive exterior treatments.

Cost by Building Height

Framing	# of Stories	CONSTRUCTION COST			TOTAL COST		
		Cost/Unit	Cost /Person	Cost/SF	Cost/Unit	Cost Per Person	Cost/SF
Wood	Two Story	\$36,416	\$34,086	\$49	\$51,383	\$46,745	\$67
	Three Story	\$32,291	\$27,753	\$59	\$72,015	\$71,877	\$85
	4 & 5 Story	\$46,199	\$58,466	\$62	\$79,549	\$86,904	\$99
Concrete	5 to 7 Story	\$68,488	\$53,225	\$99	\$82,546	\$78,389	\$139



Density

Units/Acre	#	Average Costs per Square Feet	
		Const. Cost	Total Cost
0-20	4	\$41	\$62
21-50	5	\$57	\$81
51-100	5	\$65	\$95
101-200	4	\$69	\$104
200+	3	\$82	\$125

Density

Study results show that cost per square foot increased steadily as density increased. Projects with densities under 20 units per acre had an average development cost of approximately \$62 per square foot. As shown in the chart 18, cost increased at every increase in density, topping out at \$124 per square foot for projects with a density greater than 200 units per acre. Some of this cost impact is due to density alone, while location, parking requirements, and design factors account for another significant portion of the cost increase.

It should be noted that density might not decrease overall profit. While the cost per unit increases with density and cash flow per unit decreases, the larger number of units which can be built on a given site often means that total cash flow or profit for the acquired site increases with increased density.

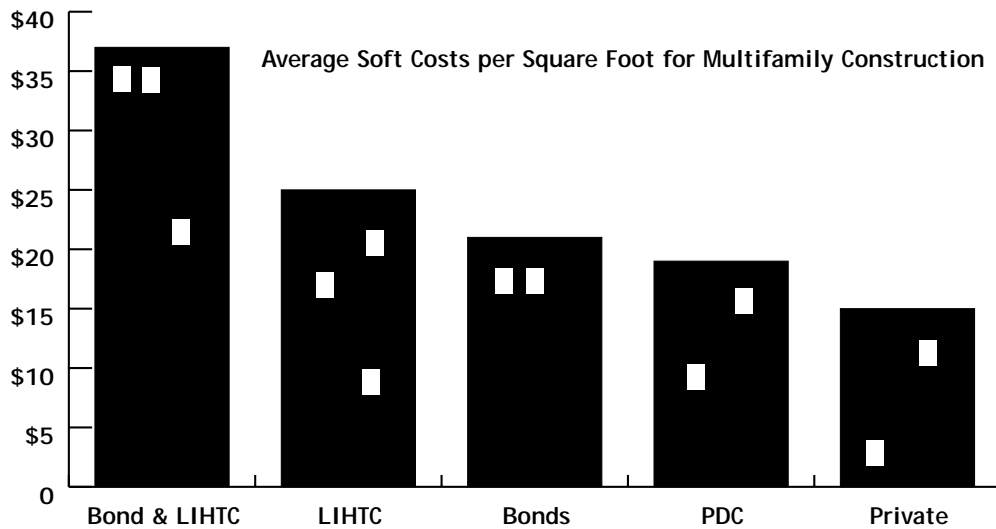
Soft Costs

Soft costs in our study sample ranged widely from one project to another. We found that the funding package is the factor which most strongly affects soft costs. Our study clas-

sified projects by their primary source of funding, defining these sources as federal tax credits (Low Income Housing Tax Credits), bonds, PDC funding, and private financing. Projects that combined tax credits with bonds formed an additional category. We then analyzed the average soft cost for each category as a percentage of total development cost, as a cost per square foot, and as a cost per unit of housing.

We focused our analysis on multifamily developments, because these are the projects which most frequently use the entire range of funding sources. We found that soft costs varied wildly, from as low as 10% of the total development cost up to a high of 44% of total cost. In terms of cost per square foot, soft costs were as low as \$8 or as high as \$56 per square foot. Similarly, the cost per unit varied from a low of \$7,000 to a high of \$48,000 per unit.

Based on an analysis of 31 multi-family developments, projects using federal tax credits as the primary funding source had the highest soft costs, with soft costs averaging 27% of total development cost, or \$25 per square foot. (See Table 19). Bonds were the next most expensive funding source, with soft costs averaging 23% of total cost or \$21 per square



foot. Projects that combined both tax credits and bonds in a single project were even more expensive; soft costs consumed 31% of total cost and averaged \$37 per square foot.

Soft costs were lowest in projects for which PDC or private banks were the primary source of funds. PDC projects had soft costs which averaged 19% of total cost, or \$19 per square foot. Soft costs in privately funded projects accounted for 20% of total costs, or \$15 per square foot.

Soft costs are high in deals funded by tax credits or bonds because investors have very large amounts of money at risk. Since the private investors do not have knowledge of a specific housing project, accountants and attorneys are paid substantial fees to assure investors that all due diligence has been performed, that risks are minimized, and that the investor is protected to the maximum extent possible. The requirements of syndicators and underwriters also create a heavy workload for the project's development team.

The high rate of soft cost in bond and tax credit deals limits their use to very large projects, typically those of 40 units or more and with total development costs exceeding two million dollars. The federal tax credit deals in our study all had soft costs alone in excess of one million dollars. In return, however, tax credits and bonds provide an amount of equity for affordable housing development which is available from no other source. In 1996, for example, Portland affordable

housing projects received approximately \$10 million in equity from 4% tax credits and nearly \$6 million from 9% tax credits.

Current Development Costs

All data in the preceding sections of this study use actual costs for the year a project was developed. Because many readers of this study are involved in on-going housing development, however, the charts below translate these costs into estimated 1998 development costs. These estimated current costs may help policy makers, funders, and developers to evaluate proposed new projects which might be developed in the coming year.

We converted actual costs to estimated 1998 development costs based on input from numerous authorities. Our assumptions were as follows: land costs were assumed to have increased at an average rate of 15% per year, construction costs at 5% per year, and soft costs at 6.5% per year. While the precise numbers to be chosen can be debated, we offer the following as our best estimate of 1998 development costs.

20 Estimated Cost by Building Height - 1998

NUMBER OF STORIES	CONSTRUCTION COST			TOTAL COST			
	COST/UNIT	COST PER PERSON	COST/SF	COST/UNIT	COST PER PERSON	COST/SF	
WOOD	Two Story	\$36,416	\$34,086	\$49	\$51,383	\$46,745	\$67
	Three Story	\$32,291	\$27,753	\$59	\$72,015	\$71,877	\$85
	4 & 5 Story	\$46,199	\$58,466	\$62	\$79,549	\$86,904	\$99
CONCRETE	5 to 7 Story	\$68,488	\$53,225	\$99	\$82,546	\$78,389	\$139

21 Estimates Cost by Building Type - 1998

TYPE	CONSTRUCTION COST			TOTAL COST			
	COST /UNIT	COST /PERSON	COST /SF	COST /UNIT	COST /PERSON	COST /SF	
SINGLE FAMILY	Rental	\$54,684	\$12,152	\$44	\$84,478	\$18,773	\$69
	Homeowner	\$72,215	\$12,036	\$58	\$110,233	\$18,372	\$87
	Spec. Needs	\$40,195	\$26,797	\$68	\$54,920	\$36,614	\$94
PLEX	Rental	\$61,504	\$14,745	\$57	\$90,969	\$22,572	\$85
	Homeowner	\$77,408	\$15,238	\$60	\$98,461	\$20,888	\$76
MULTI-FAMILY	Rental	\$47,887	\$20,020	\$64	\$73,123	\$31,917	\$96
	Special Needs	\$56,737	\$31,059	\$85	\$81,616	\$46,171	\$124
MIXED USE	Rental	\$74,039	\$23,433	\$74	\$104,203	\$32,673	\$103

22 Estimated Cost by Building Height - 1998

DENSITY/ACRE	CONSTRUCTION COST		TOTAL COST	
	COST/UNIT	COST/SF	COST/UNIT	COST/SF
0-20	\$36,416	\$49	\$51,383	\$67
21-50	\$32,291	\$59	\$72,015	\$85
51-100	\$46,199	\$62	\$79,549	\$99
101-200	\$68,488	\$99	\$82,546	\$139
200+	\$46,199	\$62	\$79,549	\$99

Further Research

This paper raised many issues which were beyond the scope of this study, but which merit further investigation. Some of the most important of these issues are listed below:

Public Subsidy: This study analyzes the cost of developing housing, but it does not analyze the public subsidy required for various types of developments. It would be informative to establish ranges for the amount of public investment required by each type of development and by each population served.

Leveraging: Leveraging of public investment is another way to analyze the effectiveness of public subsidies. It would be valuable to measure total public subsidy in each project,

and calculate the amount of private funding leveraged by that investment.

Measuring Subsidy: Both of the above topics raise the difficult subject of what to count as a subsidy and how to measure it. Below-market-rate loans, tax credits, bonds, and property tax abatements are some of the funding methods used in our region for which there is no clear agreement on how to measure the amount of subsidy. The Housing Evaluation Group has begun to explore this issue.

Long-term Affordability: Any study of public investment in housing must compare this investment to the number of years of guaranteed affordability. It would be very informa-

tive to know how many person-years of affordable housing are produced per dollar of public subsidy.

Acquisition/Rehab: The present study examines new construction only. It would be valuable to compare the cost and benefits of new construction with acquisition and rehab of existing buildings.

Service-enriched Housing: As public policy increasingly promotes housing which responds to the full range of resident needs, it would be useful to analyze the resulting impact on development and operating costs.

Soft Costs: Further analysis of soft costs would reveal which expenses create very high soft costs. Are high soft costs more often due to accounting and legal costs, developer fees, impact fees, required reserves, or other line items?

Data Collection: It is our hope that the collection of development costs in a database like the one used in this study will be continued as new projects are developed. This would allow policy makers and funders to use this study as a base line, closely tracking new development costs, and analyzing them in many of the ways presented in this study. A specific organization should be given the responsibility of publishing updated cost information annually.

1 The 1996 study on affordable housing costs in Washington State reached the same conclusion. See "The Costs of Producing Affordable Housing: A Comparative Analysis of Profit and Nonprofit Multifamily Housing Production in Washington State," McIntire, James L., Institute for Public Policy and Management, University of Washington, 1996.

2 Baseline Urban Growth Data, Metro, 1997. (From County Assessor data)

3 California Affordable Housing Cost Study: Comparison of Market-Rate and Affordable Rental Projects, Bay Area Economics & ARCH Research, 1993, p. iii.

4 Metro, Study on New Single Family Housing, prepared for MTAC, September 3, 1997.

5 All square-foot costs are based on gross building area, which means that structured parking facilities are included in the area of the building.