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Shared-Resource Housing: A Contemporary Approach to Community Living

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Shared-Resource Housing: A Contemporary Approach to Community Living

Feasibility Study
Planning Workshop, 2001

A Document Produced by Portland State University Students in the Master
of Urban & Regional Planning Program for Sustainable Communities Northwest

2001 Planning Workshop

The Portland State University (PSU) Planning Workshop is the culmination of the Master in Urban and Regional Planning (MURP) Program. The goal of the workshop is for students to synthesize the knowledge and experience gained from the program into a useful planning project that addresses a relevant regional issue. This project is performed in conjunction with a client, in this case, Sustainable Communities Northwest (SCNW).

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Wood carving print courtesy of Sustainable Communities Northwest.

I. Introduction

In February of 2001, Sustainable Communities Northwest (SCNW), a local nonprofit housing developer specializing in sustainable development, contacted Portland State University's Planning Workshop with a request for assistance. Sustainable Communities Northwest was interested in the possibility of converting an apartment building into condominiums to create affordable homeownership opportunities for low- and moderate-income families. Inspired by recent market rate cohousing projects in Portland and elsewhere, SCNW was also seeking to incorporate aspects of community-oriented housing into this development. Sustainable Communities Northwest was interested in evaluating if a sustainable, affordable, community-oriented condominium conversion concept would be feasible in the Portland area housing market.

Sustainable Communities Northwest's proposed housing concept brings together several distinct elements to establish a new form of housing, coined by the workshop team as "Shared-Resource Housing" (SRH). This study is intended to assist SCNW in their decision-making process concerning the feasibility of a SRH development. This study responds to SCNW's request for assistance by:

- *Defining the overall SRH concept.* The three basic elements of the SRH concept are community-oriented housing based on cohousing, affordable homeownership through condominium conversion, and sustainable development through green building practices. Each element is defined, related to broader social issues, and examined in terms of the SRH concept.

- *Identifying site selection and design criteria.* These criteria are based on SCNW's specific development requirements and provide guidance for finding and developing a SRH site.
- *Assessing market trends and concept feasibility.* This section describes the condominium market, the market for shared resources, and financial feasibility of the SRH concept for low- to moderate- income families.
- *Providing suggestions and options for further exploration of the concept.* This section defines large-scale issues related to the SRH concept and offers suggestions for addressing these issues.

While specifically designed for SCNW, information provided in this study may also aid other nonprofit organizations in developing SHR or similar housing alternatives. This study was completed and presented to SCNW in June of 2001.

Sustainable Communities Northwest

A fairly recent addition to the community of nonprofit development organizations in Portland, Sustainable Communities Northwest has a broad agenda. Their approach is to promote holistic solutions by looking at all of the factors that shape the built and social environment together, generating solutions based not only on single issues but on how these issues interact. Specifically, SCNW:

"envisions an alternative to the city that develops itself into extinction. Their vision of a sustainable community is a community that persists over generations, that is farseeing enough, flexible enough, and wise enough not to undermine its physical or social systems of support. It preserves its natural resources-air, water, wildlife, and agriculture-and enables all community members to meet their basic social and economic needs." (SCNW, 2001).

Since SCNW's inception, their goal has been to promote sustainable urban communities by providing strategic housing opportunities. To meet this goal, SCNW believes housing must be provided that promotes environmental health, supports economic stability for people of low income, and fosters a sense of community.

II. Shared-Resource Housing Concept



Residents sharing a meal at Trillium Cohousing, Portland, Oregon.

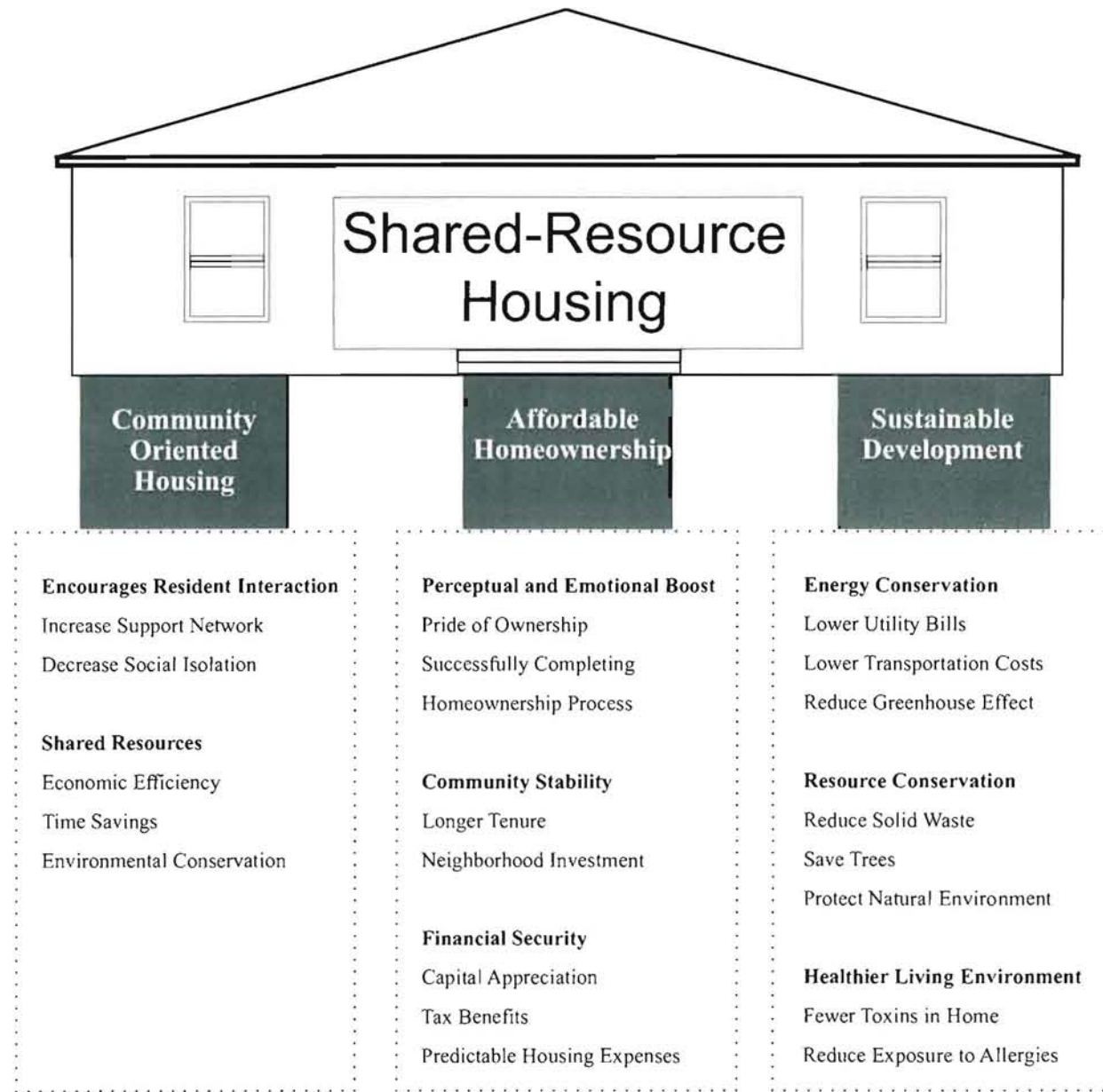
Shared-Resource Housing has three primary objectives. First, create communities where people feel like they belong. Second, promote financial and social stability by encouraging affordable homeownership opportunities. Third, develop housing that does not damage, and if possible enhances, the natural environment. These objectives address singular pieces of a fragmented pattern of housing development.

The objectives represented by SRH are not new. The SRH concept in this study borrows freely from a variety of sources. The cohousing movement has been instrumental in shaping the idea of promoting community interaction for the SRH concept. Condominium conversion is a strategy to provide affordable homeownership. Finally, environmental organizations and government agencies have provided a methodology for sustainable development and green building practices.

Figure 1 is a graphical representation of the SRH concept. The SRH concept brings the individual objectives together - allowing each to inform and benefit the others. Each objective is described further in terms of outcomes (**bold**) and benefits (*beneath*). The result is a type of housing that could form the basis for healthy and sustainable living in the future.

What follows is a general overview of the three SRH objectives, including: a brief description of each objective; the relation of each objective to planning in general; and how each objective is incorporated into the SRH concept.

Figure 1: Shared-Resource Housing Concept



Community-Oriented Housing

The term cohousing describes a collaborative housing model that combines the autonomy of private dwellings with the advantages of community living. Cohousing began in Denmark in the late 1960s as a reaction to the mismatch between the needs of households and the availability of appropriate housing options (Hanson, 1996). In Denmark, "living communities" were created that offered individual homes with extensive shared common facilities meant to reestablish the social and physical advantages of the traditional village within the context of modern life. The success of the Danish cohousing model in meeting household needs for childcare, social support, and economic efficiency has translated into nearly 200 completed projects in Denmark since 1972. Currently in Denmark, 10% of all new housing is developed using the cohousing model (Pinakarri Community, Inc., 2001). In the U.S., 46 cohousing communities have been completed and 19 are under construction. An estimated 150 other cohousing groups are in various stages of the development process (The Cohousing Network, 2001).

Cohousing developments create environments where people are consciously committed to participating as members of a community. The developments are designed to encourage and facilitate increased frequency of social interaction, with the goal of forging strong personal bonds between residents.

In contrast to conventional notions of self-sufficiency, cohousing enables residents to rely on the community to meet particular needs (McCamant & Durrett, 1988). Households living in cohousing are not expected to prepare all of their own meals, do all of their own



Aerial view of Southside Park Cohousing, Sacramento, California.

shopping, own their own vacuum cleaner, washing machine, clothes dryer and other household appliances. Instead, cohousing communities provide opportunities to reduce daily living expenses by sharing some items and services with other residents of the community (McCamant & Durrett, 1988).

Relevance to Planning

Economic and social forces over the last half-century have fundamentally changed the way Americans live and interact. Increases in job mobility have led to decreases in average housing tenure. Shorter tenure allows less time for community social bonds to form.

"In 1999 two-thirds of Americans said that America's civic life had weakened in recent years, that social and moral values were higher when they were growing up, and that our society was focused more on the individual than the community. More than 80 percent said there should be more emphasis on community, even if that put more demands on individuals" (Putnam, 2001, p. 4).

The increased use of the automobile has changed the housing development pattern, leading to the proliferation of auto-oriented, single-use residential areas far away from services and recreational opportunities. Homes have become oriented toward their private back yards, decreasing the amount of interaction neighbors typically experience. Robert Putnam, author of *Bowling Alone: America's Declining Social Capital*, notes that Americans spend 35% less time visiting with friends than they did 30 years ago (Putnam, 2000).

According to the report *Bettertogether*, Americans are more disconnected from one another and from the institutions of civic life than any time in the past. To illustrate this, the report documents that the number of times per year that Americans entertain friends at home or go to others' homes to socialize has dropped by 45% since the 1970s (JFK School of Government, 2000). The report contends that the existing struggle to find more time to spend with family and neighbors is a result of deliberate choices society has historically made. "For example, largely to make homeownership more affordable, we have chosen to pave highways and build spread-out housing developments far beyond the core cities, and in the process we have

created a car-based culture that deprives us of quality time with our families and precludes the sort of casual interaction that characterizes tight-knit urban neighborhoods" (JFK School of Government, 2000, p. 17). Longer working days, longer commutes, and increased work-related stress may contribute to the lack of free time and sense of isolation many Americans feel.

More evidence contained in a report titled *Cooperatives: A Tool for Community Economic Development*, notes that "the single-family home, which comprises two-thirds of the housing in the U.S., is designed for the model nuclear family (bread winning father, a stay-at-home mother, and 2-4 children) that hardly exists any longer" (University of Wisconsin, 1998). Furthermore, recent demographic data indicate the need for additional housing options to meet the changing needs of American households:

- Single-parent families are the fastest growing household type.
- Portland ranks 92nd out of the nation's largest 100 cities in the share of households that have children living at home.
- By 2040, nearly 25% of the U.S. population will be over 65 years of age.
- In Portland, the recent census indicates that 15% of residents live alone.

The economic and demographic data described above contribute to the difficulties families face in terms of providing child care, combating social isolation, and dealing with a lack of social and economic support traditionally provided by extended families (Global Ecovillage Network, 2001). The current model of housing does not

respond to the changing characteristics of modern households, nor does it support modern lifestyles. Authors of *Cohousing: A Contemporary Approach to Housing Ourselves* assert that "while the ideals of individualism and the detached single-family house remain deeply embedded in American culture, changing circumstances are leading many people to question the continuing emphasis on these elements of the American dream" (McCamant & Durrett, 1988, p.199).

Cohousing is a promising alternative to conventional housing. Cohousing communities offer opportunities for frequent social interaction, decreased household responsibilities, and increased social and economic support – all in the context of modern American life.

Aspects Incorporated into the SRH Concept

The SRH concept shares similarities and differences with traditional cohousing communities. These similarities and differences are described in the context of four traditional cohousing principles. These principles include: a participatory process, intentional neighborhood design, extensive common facilities, and complete resident management.

Participatory Process

Cohousing developments vary in size, location, type of ownership, and priorities as a result of resident participation. Cohousing hinges on a group of future residents planning, developing and deciding on an "intentional neighborhood." Cohousing developments usually start from the ground up. Future residents form a group and work to shape a common vision as well as the physical design of the development (McCamant & Durrett, 1988).

Generally, resident participation in the planning and design of a cohousing development is paramount to the success of the project. The SRH concept developed for SCNW, is a "top down" planning effort, where development decisions are made without the consensus of future residents. In this sense, the SRH concept is "cohousing inspired", but is not truly a cohousing project. In the absence of the cohousing participatory process principle, the question becomes whether or not it is possible to still produce a healthy sense of community? According to Jennifer Gates, Project Coordinator for Cascadia Commons Cohousing in Portland, the answer is yes. The key points to consider are the trade-offs that are associated with the SRH concept, in which SCNW develops the project without resident input (Personal interview, May 3, 2001).

The traditional cohousing model establishes as a prerequisite that residents become developers, which is a major disadvantage according to Ms. Gates (Personal interview, May 3, 2001). She reports that the development process for Cascadia Commons has been described by cohousing experts as "one of the hardest development paths of cohousing development they had known of." In the case of Cascadia Commons, the resident group not only had difficulties purchasing the property, securing financing and permits, and working through the group design process -- it also endured many unforeseen obstacles including failed financing and a lawsuit from adjacent property owners. According to Ms. Gates, the fact that the SRH concept lacks a traditional participatory process can be viewed as a benefit to future residents by avoiding the common delays associated with residents becoming developers (Personal interview, May 3, 2001).

The lack of up-front resident participation in the SRH concept is not significantly different than traditional cohousing in that, as it matures, traditional cohousing must deal with turnover of residents. In traditional cohousing developments, second generation residents buy into the existing development but do not participate in the initial participatory process regarding design and management decisions. This is the same resident participation framework that the SRH concept will work under. It is Ms. Gates' opinion that purposeful efforts to strengthen bonds between residents of SRH need to be made to raise the probability of the community's success (Personal interview, May 3, 2001). The SRH concept should explore methods to generate and foster cooperation between potential residents once development is underway. One potential method could be a work fair-share buyer agreement, where residents have the opportunity to volunteer together. Habitat for Humanity and ROSE CDC institute similar policies requiring home purchasers to invest labor towards their own home or provide community service hours.

Intentional Neighborhood Design

The physical layout and orientation of buildings in a cohousing development is intended to encourage a sense of community. For example, private residences are clustered on the site leaving more shared open space, dwellings typically face each other across a pedestrian street or courtyard, and cars are parked on the periphery. The common house is often visible from the front door of every dwelling (McCamant & Durrett, 1988).

While the participatory development process, discussed above, is intended to initially create a sense of community among cohousing residents, the design of the physical environment is expected to



Common area of Southside Park, Sacramento, California.

support the sense of community over time. An obstacle the SRH concept faces, with respect to the existing physical limitations of a condominium conversion approach, is incorporating the necessary design factors that encourage neighbor interactions. According to Ms. Gates, every effort should be made to critically analyze the design elements of the SRH concept (Personal interview, May 3, 2001). "Design is crucial in providing those spontaneous social interactions between residents" (Personal interview, May 3, 2001). While the condominium conversion approach limits much of the interior space configurations, exterior elements such as shared entry ways, open spaces, and pedestrian paths should be emphasized.

Common Facilities

Cohousing common facilities (shared resources) are designed for daily use, are an integral part of the community, and are always supplemental to the private residences. A common house typically includes a common kitchen, dining area, sitting area, and a children's playroom. In addition, it may include a workshop, library, exercise room, laundry facility, craft room, or guest rooms. Except on very tight urban sites, cohousing communities often have playground equipment, lawns, and gardens. Since cohousing buildings are clustered, larger sites may retain several acres of undeveloped shared open space (McCamant & Durrett, 1988). According to Ms. Gates, providing common facilities "makes available the opportunity" to share resources, but does not guarantee their usefulness or success (Personal interview, May 3, 2001). The benefits from common facilities are only realized if the community is committed to their existence and purpose (J. Gates, personal interview, May 3, 2001).

The shared resources (cohousing common facilities) specific to the SRH concept developed for SCNW include a traditional cohousing common house, formal arrangements for shared childcare and car sharing, and community gardens. The goal of sharing resources is to increase resident interaction and decrease monetary and time outlays for residents.

Common House

While a stand-alone common house is the most integral part of a cohousing project, the SRH concept may have to consider alternative configurations. The incorporation of a stand alone common house will be based on the cost of new construction and the suitability

"Sharing is an inherently complex relationship, dependent upon the regulation of mutual expectations, on culture, on sanctions, on features of design; that it is not an easy relationship at the best of times or a natural one; it has to be thought about, created, and carefully articulated. There are institutional barriers as well as cultural barriers in the United States to creating these kinds of conditions. But there are compelling rewards to sharing, too-companionship, relief from isolation, access to amenities we could not afford for ourselves." (Hemmens, Hoch, & Carp, 1996, p.122)

ity of undeveloped site area. With the SRH condominium conversion approach, a likely alternative might be converting an existing unit into the common room. In both cases, the common room will add significant costs to the SRH concept.

Shared Childcare

Traditional cohousing offers many advantages for children and the provision of childcare. One intent of the Danish cohousing model was to create a community to serve as a large, extended family to look after and care for children (McCamant & Durrett, 1988). In many situations, cohousing parents hired nonresident providers to offer on-site full-time childcare to residents. Full-time community childcare is not only convenient for families with children, but it also makes use of the common facilities during the daytime hours when most adults are away working (McCamant & Durrett, 1988). The SRH concept will offer on-site childcare through the State of Oregon Family Child Care provider option. According to Marilyn States, Child Care Neighborhood Network Coordinator for ROSE

CDC, current parents using Family Child Care providers have given favorable responses regarding the level of care and service their children have received (Personal interview, May 11, 2001). She points out that the benefits of Family Child Care are the home atmosphere and environment, a smaller number of children, lower cost, and greater flexibility for parents (M. States, personal interview, 2001). This formal Family Child Care option shares many characteristics with traditional cohousing childcare arrangements and lends itself to the SRH concept.

Car Sharing

Car sharing is an alternative to owning a car for people who don't need to drive every day and is offered through CarSharing Portland, Inc. Vehicles in the CarSharing program are located in leased parking spaces in neighborhoods throughout Portland. The CarSharing program is operated on a membership basis. Members reserve vehicles and pay for the miles and hours they drive.

Community Gardens

Much like the elements of intentional design, community gardens are included as a shared resource within the SRH concept as an element to help sustain the idea of community living. According to *Cultivating Community: Principles and Practices for Community Gardening as a Community Building Tool* (Payne & Fryman, 2001), community gardening programs can advance community development, empower local leadership and nurture families, strengthen economic development, and improve overall quality of life. The role of plants in supporting healthy human communities is achieved in the SRH concept through SCNW's permaculture gardening methods and coordination with the Growing Gardens program in Portland.



Residents of cohousing enjoy many opportunities for interaction.

Resident Management

Traditional cohousing communities are managed by their residents. Residents also do most of the work required to maintain the property, participate in the preparation of common meals, and meet regularly to develop policies and perform problem solving for the community (McCamant & Durrett, 1988).

Resident management provides opportunities and challenges to the SRH concept. In an effort to keep the SRH concept affordable, the participation of residents to provide maintenance work internally may save money as compared to most condominium developments, which contract with property management companies for exterior maintenance. Traditional cohousing resident management usually



Residents of Cascadia Commons sharing a picnic.

places an emphasis on consensus decision-making that may make reaching decisions a longer process, but encourages resident participation and helps build a sense of community. The consensus decision-making process is natural to the idea of sharing, but not necessarily to human behavior. For this reason, a challenge to the SRH concept will be to foster buy-in from potential residents and provide them with the necessary tools to be successful. One opportunity to build consensus decision-making skills, as well as implement resident participation principles, is to delay the construction of the common house until unit sales are complete, to allow the residents to determine the exact elements of their common house. This opportunity will provide SRH residents with a sense of community ownership and valuable consensus building skills.

Cascadia Commons Cohousing

Cascadia Commons is an example of a traditional cohousing development in Portland, Oregon designed to create an intentional neighborhood that allows people to be gracefully interdependent. The community was designed by residents to achieve the goal of improving opportunities for meaningful social contact while preserving privacy, and to enrich our lives and the lives of our children (Cascadia Commons, 2000). According to one resident, Cascadia Commons offers the life we've dreamed of for our family. Our kids will have room to run around in a safe environment, and close contact with people of all ages.

The traditional principles of cohousing were incorporated along the development path of Cascadia Commons. These principles include resident participation, intentional design, shared common facilities and resources, and resident management. The outcome is an intentional community that provides market rate homeownership opportunities for 26 families. The characteristics of Cascadia Commons are presented below and illustrate similarities and differences between a traditional cohousing development and the SRH concept.

The most striking distinction between Cascadia Commons and the SRH concept is the price of the individual units. All of the units offered at Cascadia Commons, including the smallest 1 bedroom units are not affordable to households within the SRH income ranges. Based on the size of the site area and common house, the physical layout of Cascadia Commons would be difficult to fit into a smaller urban site. Cascadia Commons does offer 14 rehabilitated 2 bedroom condominiums, which are more in line with the SRH concept. Even at the market rate prices, all of the rehabilitated 2 bedroom units have been sold to date.



Cascadia Commons Site Plan.

Cascadia Commons Cohousing

Location: 4325 SW 94th Avenue, Portland, OR 97225

Number of units: 26 (14 remodeled, 12 new)

Site size: 2.8 acres of which .9 is wetland

Housing type: Condominiums

First cohousing meeting: 1995

Move-in date: 2000 (14 units), 2001 (12 units)

Project budget: 4.5 million

Unit sizes: 668 sq. ft. to 1400 sq. ft.

Common house size: 3,700 sq. ft.

Common house amenities: kitchen, dining area, guest rooms, library, recreation room, children's play area, laundry facility, hot tub, meditation room

Other Shared Resources: workshop, gardens, outdoor play areas

Management structure: Board of Directors (includes all homeowners); Executive Committee (resident group to deal with routine business); consensus model of decision making

Price of Units:

\$131,000 (1 bedroom)

\$140,000 - \$156,000 (remodeled 2 bedroom)

\$164,000 (new 2 bedroom)

\$220,000 (new 3 bedroom)

Common fees: \$150 per month (water, sewer, garbage, common house utilities, exterior maintenance)

Number of units sold: 21 (as of April 30, 2001)

Affordable Homeownership through Condominium Conversion

Affordable housing is described by the U.S. Department of Housing and Urban Development (HUD) as costing a household no more than 30% of its gross income. Condominium conversion is when a developer physically and legally turns existing multi-family housing into condominiums allowing for ownership of individual units (Strickland, 1999). Advantages of each of these concepts are described below.

The advantages of affordable housing are readily apparent. If a household cannot afford to pay for housing, that household is unable to fulfill a basic need. When a household exceeds the 30% gross income threshold for housing, it is often at the expense of other basic needs such as adequate food or clothing (Habitat for Humanity, 2001).

Recently, there has been renewed interest in assisting low- and moderate-income families in becoming homeowners. HUD has set a goal of 8 million new homeowners by the end of 2001. Owning a home offers a household several advantages. Habitat for Humanity, International has been providing homeownership opportunities to low- income families since 1976. They found benefits to homeownership include:

- Neighborhood and community stability
- Financial security
- Perceptual and emotional boosts



Courtyard at Avon Manor, a recent condominium conversion in Portland, Oregon.

The continuity and stability of homeownership can positively influence the home environment and increase children's school success rate (PDC, 1999). Homeownership can revitalize concern about the quality of the community and prompt involvement. Homeownership builds financial security through equity accumulation, benefits gained from income tax deductions of mortgage interest and property taxes paid, and predictable housing costs (PDC, 1999). Perceptual and emotional boosts from homeownership

include being part of a community, pride in ownership, and building confidence by successfully completing the home buying process (PDC, 1999).

The advantage of condominium conversion over other housing types is that condominium conversion is a means to achieving both affordable housing and homeownership. The idea of creating affordable homeownership through condominium conversion was explored in Tracy Strickland's Portland State University Field Area Paper - *Condominium Conversion: An Affordable Homeownership Opportunity?* Ms. Strickland (1999) argues that there are three primary reasons to explore condominium conversion as an affordable housing strategy in Portland, Oregon. First, existing multi-family homes have a lower per unit cost than single family housing; second, condominiums offer advantages to low-income residents in the form of community and shared resources; and, third, increased density in the Portland area has made attached housing an option for homebuyers of all income levels.

Relevance to Planning

In the Portland region, many low- to moderate-income households have little opportunity or means to buy into the homeownership market.

According to a National Home Builders study, the Portland metro area was the eighth least affordable housing market in the nation as of the first quarter of 1999. The median household income for a four-person household in the region has increased by 41% in the last 10 years. However, during the same period, the median sale price of homes increased by approximately 100% (Metro, 2000). As real estate property values appreciate in relation to household income, there becomes a greater need for alternative housing options.

Cohousing Affordability

The application of the SRH concept not only achieves home ownership through condominium conversions, but also incorporates shared resources based on cohousing principles. It is important to note that generally, traditional cohousing projects have not produced affordable homeownership opportunities due to high costs of new construction and extensive common facilities. According to Rob Sandelin, founder of the Northwest Intentional Communities Association (NICA), only one project in the U.S. has been successful at achieving a balance of affordable units (Personal interview, April 29, 2001). Southside Park (2001) in Sacramento, California is an urban cohousing project that provides housing for a range of income groups (20-40% of the homes are affordable to households at less than 80% of median income). The project was able to successfully offer affordable units based on the City of Sacramento's subsidized second mortgages for qualifying families. The project includes 25 new duplex and triplex condominiums on 1.25-acres near the Capitol building (South Park Cohousing, 2001). It is important to note that, while Southside Park relied on subsidies to achieve affordability, the SRH concept begins with condominium conversion to keep units affordable, then seeks funding to achieve the remaining affordability goals (See Financial Feasibility subsection).

In 1997 Metro developed a *Housing Needs Analysis* for the region. The *Housing Needs Analysis* identified a need for affordable housing and provided a starting point for developing policies to address affordable housing at the regional level. Using the 30% HUD standard of defining affordable housing, the four-county region has a forecast need of 94,000 units of affordable housing (2017 Forecast). Metro estimates that owner occupied, single-family homes make up approximately 28% of the total affordable housing need in the region (Metro, 2000).

Aspects Incorporated into the SRH Concept

The SRH concept is a homeownership alternative to help meet the affordable housing needs of the Portland region through condominium conversion. While the need for affordable housing is great at all income levels, SCNW has set a target of 60-80% Median Family Income (MFI) for this project. Through research, case studies, and expert interviews, this study has defined a few elements of condominium conversion for SRH that merit special consideration. These elements are site selection, common facilities, building age, and location.

Site Selection

Ms. Strickland's (1999) work touched on many aspects of condominium conversion and site selection that provide lessons for the SRH concept. In terms of site selection, proximity to amenities (i.e. parks, transit, shopping, community gardens and schools) is paramount. The smaller size of condominium units compared to detached single-family homes makes the proximity to amenities a priority. A local Portland Realtor who specializes in condominium conversions confirmed, "buyers want to be near services, transportation, restaurants, jobs, etc." (Personal Interview, March 2001).

When considering the actual property, the ideal number of units would be between 10 and 20 units. The size, configuration and amenities within the unit are key to a potential buyer's decision. More than one bath in two and three bedroom units is a desirable amenity.

Common Facilities

Common facilities have pros and cons and there should be sensitivity to a buyer's preferences. With an emphasis on shared resources this

may or may not be a concern. It may be cost-prohibitive to provide washer/dryer hookups for each unit, though they may be preferred. A property in need of rehabilitation is probably the best to seek out since it will likely be less expensive and the developer can do the right kind of upgrades for conversion.

Building Age

Age of the property will affect rehabilitation needs and costs. Some developers feel units built between 1930s and 1950s would provide the best opportunities for conversion, when considering structural quality and architectural character. A Portland Realtor added that her clients tend to look for something affordable that still has charm intact (i.e. hardwood floors, fireplace, craftsman style/bungalow, moldings, claw-foot bathtubs combined with modern electrical, plumbing and heating). For long-term maintenance and rehabilitation, simpler roof lines are preferable, as are simple gutter and down spout systems and surfaces that do not require painting such as brick and good quality vinyl.

Location

Will Macht, a Portland-area developer, suggested that the most affordable apartment projects may be found on the east and southeast areas of Portland, specifically the Lents area or near Rockwood (Personal interview, May 14, 2001). Mr. Macht felt that the west side, in the Beaverton area, has experienced a market saturation of multi-family units, and some affordable units could be found there (Personal interview, 2001). The location and age of units that could be found in these areas may not lend themselves to conversion due to the distance from the downtown core and perceived lack of amenities and infrequent transit service.

Bungalow Court Condominiums



Central walk at Bungalow Court Condominiums, Portland, Oregon.

The Bungalow Court Condominiums are an example of a successful affordable housing project in Portland. Completed by ROSE Community Development Corporation, the Bungalow Court Condominiums provide affordable homeownership opportunities for up to 12 households below 80% of the Area Median Income (AMI). The Bungalow Court Condominiums is ROSE's first project to incorporate homeownership through attached units. The 12 newly constructed condominiums complement 9 detached single-family owner-occupied homes ROSE has provided since 1991, in addition to 171 affordable rental units.

The summary of the Bungalow Court Condominiums provided on the next page illustrates a snapshot of its development characteristics.

Sue Pupo, Executive Assistant at ROSE CDC, reports that the organization has been "flooded with inquiries" for the available units, but that not everyone is interested in condominiums in SE Portland. According to Ms. Pupo, the preferred housing type in outer SE Portland is detached single-family homes, which makes the Bungalow Court project hard to market. While condominiums may not be the best fit in terms of housing type for outer SE Portland, she does feel that condominiums can be effective in other areas of the city (S. Pupo, Personal Interview, May 11, 2001).

Bungalow Court Condominiums

Location: 8030 SE Cooper St

Number of units: 12 (all new construction)

Site size: 0.61 acre

Project budget: \$1.4 million

Subsidized Project Costs: \$178,800

Unit sizes: 760 sq. ft. to 930 sq. ft

Price of Units: \$79,500 (2 bedroom)

\$107,500 (3 bedroom)

Common fees: \$92 per month (water, sewer, garbage, exterior maintenance)

Number of units sold: 10 (as of April 30, 2001)

Median Income of homeowners: 6 below 60% AMI, 4 below 80% AMI



Axonometric drawing of Bungalow Court Condominiums.

Homeownership requirements: Buyer must contribute 25 hours each year for five years of community service to charity of the buyer's choice. In the event the home is sold within the first ten years of ownership, the differential value, which is established at the time of purchase, must be shared with ROSE CDC. Buyers must attend and receive certification of a successful completion of an eight-hour homebuyer class offered by the Portland Housing Center.

Based on the development characteristics and site plan, how do the Bungalow Court Condominiums inform the SRH concept? First, the project successfully demonstrates the completion of an affordable homeownership opportunity, with 100% of unit sales to households below 80% AMI. To achieve this level of affordability, the project took advantage of several grants to subsidize development costs, which may be higher than SRH costs due to differences between new construction and condominium conversion. More importantly, the Bungalow Court Condominiums illustrate the importance of location and services when marketing condominiums, as two of the units have remained on the market for almost 2 years. This situation has added carrying cost expenses beyond the original project budget that ROSE CDC must absorb.

Sustainable Development through Green Building

The concept of "sustainable development" is multifaceted. Sustainability can mean maintaining a community with strong physical and societal bonds, using resources efficiently, and/or building structures that can sustain and strengthen the physical environment. The section on cohousing addresses sustainability as it relates to community and societal bonds. The sustainable development practices specific to this section are focused on green building.

Green building encompasses many of the basic concepts of sustainable development, such as efficiency of land and energy use, and refines them. According to the U.S. Department of Energy, Center of Excellence for Sustainable Development (2001):

"Green building practices offer an opportunity to create environmentally-sound and resource-efficient buildings by using an integrated approach to design. Green buildings promote resource conservation, including energy efficiency, renewable energy, and water conservation features; consider environmental impacts and waste minimization; create a healthy and comfortable environment; reduce operation and maintenance costs; and address issues such as historical preservation, access to public transportation and other community infrastructure systems. The entire life-cycle of the building and its components is considered, as well as the economic and environmental impact and performance."



Johns Community Garden, City of Portland Parks and Recreation District.

Green building is comprised of three general categories:

- Environmentally responsible construction materials;
- Integration of the natural environment; and
- Large-scale resource efficiency.

Environmentally Responsible Construction Materials

A green building uses environmentally safe materials in construction, seeking to avoid toxic chemicals and unrecyclable plastics wherever possible. The building can incorporate recycled products, such as nails, beams, and interior decorations, into construction, which can conserve resources.

UPA LIBRARY

Integration of the Natural Environment

A green building tries to incorporate the natural environment in site planning and development. For example, a green building would seek to conserve natural waterways, reduce runoff, and preserve animal trails in natural areas. Even in urban areas, green building practices can protect trees, include greenspaces, and otherwise reduce negative effects of high density development.

Large-scale Resource Efficiency

Implicit in the idea of green building is knowledge of and respect for man's place in nature, on both a large and small scale. Green buildings will preferably increase human density near human amenities, thereby reducing the need for transportation infrastructure (roads, parking) and energy consumption (gas), reducing toxic exhaust emissions, and providing more opportunity to conserve natural areas.

Relevance to Planning

Building has an enormous impact on the natural environment. As the population has grown, these impacts have compounded and are now beginning to affect whole ecosystems. These effects have many facets. Over 35% of all materials produced in the United States, and 25% of the world's harvested wood is used in the construction of buildings (Office of Sustainable Development, 2000). The inefficient use of wood building materials promotes unnecessarily large harvests of trees and contributes to deforestation. At least 35% of carbon dioxide (CO2) emissions in the U.S. are caused by buildings (American Institute of Architects, Portland Chapter, 2001). The combination of deforestation and CO2 emissions contributes steadily to global warming. Over 210 million tons of solid waste is gener-

ated and disposed of annually, much of which is attributed to construction site and building use waste (American Institute of Architects, Portland Chapter, 2001). Building construction and operation also consumes 35% of the total US energy output (Office of Sustainable Development, 2000). Given current shortages, energy savings through the utilization of more efficient materials and improved construction techniques will decrease the pressure to find or create new energy sources. Sustainable development, and specifically green building, is a tool that attempts to improve the large-scale efficiency and energy problems society faces.

Aspects Incorporated into the SRH Concept

Shared-Resource Housing is sustainable based on its inclusion of shared resources and appropriate green building upgrades. The cohousing-based elements of SRH are efficient in terms of energy, land, and the personal finances of its residents. Efficient use of energy can take the form of common sources of heat, water, and light. Sharing open space, parking, and walls can lead to a more efficient use of land. Shared resources included in the SRH concept, such as community daycare and carsharing, can reduce typical childcare and transportation expenses.

The SRH concept includes "green" upgrades to converted condominiums. Green building upgrades promote energy savings and are complementary to affordable homeownership strategies. Green building practices (upgrading outdated appliances, replacing drafty windows, adding proper insulation, introducing low flow water faucets, using recycled building products, incorporating community gardens, etc.) can decrease monthly expenses and add to overall affordability. For example, Johnson Creek Commons, an apartment

complex recently upgraded to green building standards, is projected to save \$160,000 in energy costs over the next 60 years, as well as reduce toxic chemicals in the living environment and maintenance costs (See Johnson Creek Commons, p. 26).

Affordable Green Building Practices for Condominium Conversions

The condominium conversion aspect of the SRH concept provides challenges related to what green building practices can and should be implemented on individual sites and buildings. Some buildings or sites may already implement one or more of these practices, some green upgrades may be impracticable due to cost, and some sites may not allow for specific upgrades. In addition, SRH is intended to be affordable to 60-80% MFI, which limits the extent of upgrades possible. This section provides an overview of potential affordable green building practices that could be applied to condominium conversion buildings and sites.

The Portland Development Commission (PDC) and Portland Green Building Initiative (PGBI) (2001) have created design and construction guidelines for development of affordable green buildings. The six major elements are:

- Sustainable design and site planning;
- Energy conservation;
- Water Conservation;
- Reducing, reusing, and recycling
- Toxic Materials; and
- Operations and maintenance.

These six elements are described below, accompanied by practical strategies to achieve the desired results, based on Building Environmental Science and Technology's, *A Primer for Builders, Consumer and Realtors* – 5th Edition (2000).

Sustainable design and site planning integrates design and construction strategies to minimize environmental site impacts, reduce construction costs, maximize energy and resource conservation, improve operational efficiencies, and promote alternative transportation. Some practical methods to achieve these results are:

- Take advantage of shading and breezes from adjacent buildings and trees;
- Use lighter surface colors on surrounding outdoor surfaces to reduce summer temperatures;
- Plant trees and shrubs near the building to help conserve heat by cutting cold winds, and reduce summer heat by providing shade and dispersing ground reflected heat; and
- Provide good access to transit, pedestrian, and bike systems.

Energy conservation helps maximize tenant comfort and reduce utility bills. Conservation measures also slow the accumulative impacts of energy production and delivery; extraction of nonrenewable natural resources, degradation of regional air quality, global warming, and increased concentration of pollutants. Some practical methods to achieve these results are:

- Seal up air-leaks such as construction cracks and holes;
- Increase ceiling and foundation insulation;
- Install high-performance windows and better doors for the



Play equipment at Johnson Creek Commons is made from 80% recycled materials.

- building exterior;
- Use efficient electric lighting and plug-in appliances;
- Use high efficiency furnaces, heat-pumps, and boilers; and
- Develop a floor plan to admit winter solar heat, provide day lighting, and avoid summer sun.

Water conservation practices help reduce both water and the energy used to deliver the heat water for tenant use. In addition water conservation cuts down on the amount of water discharged from a building, lessening the amount of untreated discharges into rivers and the stress on the City's wastewater treatment facilities. Some practical methods to achieve these results are:

- Install low flush toilets;
- Insulate hot water piping;

Johnson Creek Commons

Johnson Creek Commons is a 15 unit courtyard apartment complex in outer southeast Portland. SCNW took ownership of the complex in 1998 and, partnered with ROSE Community Development Corporation, rehabilitated the property toward goals of durability, energy-efficiency, and long-term cost savings — all while keeping the units affordable to households at 50% or below median family income.

Building improvements included adding insulation, replacing aluminum windows and doors with efficient vinyl units, replacing T-111 siding with Hardi-Plank, adding effective ventilation systems, formaldehyde-free cabinetry, low-VOC interior paint, natural flooring, and nylon felt carpet pads.

Complex landscaping was designed to be functional as well as aesthetic, with plantings of fruit trees and native, edible plants. Residents also maintain a community garden. The children play area equipment is made from 80% recycled material.

The sustainable, green improvements have increased the energy efficiency of the complex housing units. Energy bills for each unit have declined an average of 75%, which adds up to \$400 per month in savings for the 15 units. According to a study by the Portland Energy Office, over the next 25 years, Johnson Creek Commons is projected to save \$90,000, and over the next 60 years, the savings are expected to rise to \$160,000. (SCNW, 1998).

- Use low-flow shower heads and faucets;
- Use water efficient dishwashers and clothes washers;
- Install a main solar heated tank, accompanied by point source water heaters;
- Plan plumbing for shortest possible distance from water heater to tap; and
- Landscape using native plants (xeriscape).

Reducing, reusing, and recycling building materials helps conserve local and regional natural resources. There are many green building products on the market and techniques like advanced framing that contribute to more durable and less toxic buildings. Some practical methods to achieve these results are:

- Use local materials to cut transportation costs and keep jobs and money in the community;
- Use recycled materials where possible; and
- Use materials that can be recycled, renewed, or reused.

Minimize exposure of construction and building occupants to toxic materials. Use safe, biodegradable materials and alternatives to hazardous materials. Require and monitor safe handling and disposal of any hazardous materials. Some practical methods to achieve these results are:

- Test for lead-based paints or plumbing solder;
- Check for radon and asbestos;
- Efficient ventilation and air circulation systems;
- Use low-VOC adhesives and finishes;
- Use low formaldehyde wood products; and

- Avoid construction materials and designs that are prone to rot, mold, and mildew.

Operations and maintenance (O & M) practices – building management – impact both the bottom line of the building owner’s costs and the tenants health, comfort, and safety. Green building O & M practices enhance both environmental quality and economic performance. Some practical methods to achieve these results are:

- Maintain proper building temperature and humidity;
- Promote the ventilation, dilution, and removal of airborne contaminants;
- Eliminate the use of toxic cleaners and pesticides; and
- Provide appropriate lighting and acoustics (PDC & Portland Green Building Initiative, 2001).

Project Specific Green Upgrades

As described above, the SRH concept provides a variety of opportunities for development using green building techniques. This study assumes specific affordable green building upgrades defined by SCNW for the purpose of analysis. These upgrades were used in Johnson Creek Commons and are analyzed in terms of cost in this study’s Financial Feasibility subsection. The specific green upgrades are described below.

For energy conservation, electric baseboard heat should be replaced with radiant heat. All insulation and weather-stripping should be increased. Single-pane windows should be replaced with high energy-efficiency windows. As necessary, appliances, particularly refrigerators, should be replaced with more energy-efficient models.

For water conservation, native species should be utilized in landscaping. Water conserving devices should be installed in toilet tanks. Low flow shower heads should be installed. Washing machines should be replaced with front-loading washing machines.

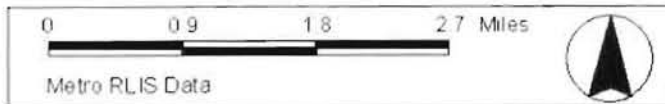
To reduce waste and resource consumption, the project should use sustainably harvested and salvaged wood. As necessary, vinyl flooring should be replaced with natural linoleum. As necessary, carpet should be replaced with carpet made from post-consumer recycled plastics. As necessary, sinks, doors, and other fixtures should be replaced with higher-quality salvaged materials. Exterior siding should be replaced with durable cementitious siding. The project should use Metro recycled paint.

To create a healthier living environment, cabinets should be replaced, as necessary, with formaldehyde-free cabinets. Ventilation systems should be installed to eliminate mold problems. Solvent-free interior paint should be used when painting.

If landscaping options are possible, bioswales should be developed to manage storm water runoff on site and the project should use permaculture techniques of food production, native vegetation, and multilayered groupings of trees, berry bushes, herbs, flowers, and other plants.

“Many developers fear that following a green agenda will delay project schedules and raise costs...The reality, however, is that well-executed green development projects...perform extremely well financially. In fact, even though many of the leading-edge developers ... have strong environmental backgrounds and ideals, the financial rewards of green development are now bringing mainstream developers into the fold at an increasing pace. It is possible—indeed it is the norm—to do well financially by doing the right thing environmentally. For example, project costs can be reduced, buyers or renters will spend less to operate green buildings, and developers can differentiate themselves from the crowd—getting a big marketing boost.”
(Rocky Mountain Institute, 1999).

III. Project Specific Site and Design Criteria



Map of Portland: 50-Block Radius of Downtown.

The site and design criteria discussed in this section provide guidance for finding and developing a site based on SCNW's specific development requirements. These specific requirements are: homeownership opportunities to households within the 60-80% MFI range, development of a condominium conversion in an urban location close to transit, introduction of specific shared resources (common room, childcare, community gardens, and car sharing), and rehabilitation of the site to SCNW's minimum green building standards. It is these development criteria that translate into site selection factors, which influence the preliminary location of an SRH project, and design criteria related to cohousing that should be applied to sites found in the selection process.

Site Selection Criteria

This section defines site selection criteria that ultimately should be part of the site selection analysis. These criteria are an urban location within 1/4 mile of public transit service, site within 50 block radius of downtown Portland, number of units, unit size composition, and the magnitude of common facilities to be provided. In two cases, proximity to transit and urban location, the site selection criteria are easily quantifiable. However, the other criteria must be defined by SCNW before the site selection process can move forward. This study identifies and discusses important site criteria issues to guide SCNW in the SRH project location search process.

Within 1/4 Mile of Public Transit Service

This is the standard measurement of how far people are willing to walk to use public transit. This distance has been widely accepted by transportation planning professionals and is a concrete number, which should be met. This site selection criteria supports the SRH concept in multiple ways. First, locating near transit service may reduce resident dependence on personal automobiles, thus supporting the cohousing ideal of relegating the car to the periphery of community life. Available transit service also supports car sharing as a shared resource element by reducing the full-time need for a personal automobile. Finally, some residents within 60-80% MFI may be public transit captive, meaning they don't own a personal automobile and must use transit 100% of the time.

Within a 50 Block Radius of Downtown Portland

This site selection criteria responds to the goal of providing an urban location that is supportive of car sharing through CarSharing Portland, Inc. Carsharing vehicles are usually located within an area closer to downtown Portland, generally within a 50 block radius. Within this range, Carsharing vehicle locations are supported by higher density residential developments, better proximity to services, and good transit connections. In addition, a target area within 50 blocks of downtown Portland contains more existing high-density residential buildings potentially available for conversion to condominiums. Depending upon the negotiated arrangement between the development and Carsharing Portland, Inc., this site criterion may be adjusted to allow a larger radius from downtown Portland.

Other Siting Criteria

The two previously mentioned site criteria factors are listed to aid SCNW during the site selection process. However, many other factors will ultimately affect the site location of the SRH condominium conversion. These factors include number of units, unit size composition, and magnitude of common facilities to be included in the development.

Traditional cohousing developments in North America range between 12 to 36 dwelling units per community (Hanson, 1996). Conversion considerations also hinge on the size and composition of units. The unit size will drive the search for an existing building with appropriate square footage to accommodate the total number and size of units to be sold. The number of bedrooms in each unit will define what target population will be able to take advantage of the SRH project. If the project consists entirely of one-bedroom units, resident household size will be smaller than if the units had two or three bedrooms.

The provision of common facilities will affect the project location site selection. While an urban model is much smaller than traditional cohousing developments, potential urban SRH sites will range in size. Larger sites with open space potentially would allow the development of a separate external common house, gardens, playsets, and other common amenities that require different amounts of exterior square footage. Smaller urban sites, while still able to produce the same number of units and unit sizes, will tend to be lot-line to lot-line developments with very little open space. These sites will require the common facilities to be converted and integrated into the existing building.

Specific criteria relating to unit number, size, and composition will ultimately need to be determined by SCNW before the SRH site selection process can begin. Once these criteria are determined, it will be possible to compile a list of properties on the market and proceed with individualized proformas for identified sites.



Units are clustered around common spaces at Muir Commons, Davis, California.

Design Criteria

The SRH concept of a community-oriented condominium conversion has a unique set of design challenges. This section defines traditional cohousing design principles for site and unit layout and describes how these principles can be applied to the condominium conversion of two types of apartment buildings.

Cohousing Site Layout Design Principles

Generally, units should be arranged in a self-referential manner, forming outdoor rooms and shared common space between them. This arrangement allows for more daily interaction, thus working to strengthen community. Parking should be minimized in the site design, settling at the edges or least desirable areas of the site. Parking should be as near as possible to the vehicular entrance of the site, minimizing the driveway length. Shared parking lots are generally preferable to individual garages. Creativity should be employed to turn parking lots into multiuse spaces that can provide other amenities during the day when cars are absent (a basketball court, for example).

The location of the common house is critical — for functional and symbolic reasons. Generally, the common house should be placed in the most prominent location on the site. Symbolically, the common house is important in creating identity for the community — both from an outsider's perspective and for those living in the project. It becomes the focal point for social interaction and is, in a very real sense, the heart of the community. From a functional perspective, service and visitor access is made easier this way. It should be placed on or near the most frequented transportation route in the

community, assuring many opportunities for casual and unplanned social interaction. This helps promote community information sharing and spontaneous activity among members. Elements commonly included in a common house include: community storage areas, community kitchen and dining room, laundry room, adult lounge, children's play area, mail pickup area, exercise/meditation room, guest rooms, workshop, a music room, and office space.

One or two main pedestrian routes through the development are preferable to many small pathways. This maximizes the opportunities for bumping into neighbors and creates a sense of activity. Units dispersed too far from one another and from the common house may feel isolated and will discourage community interaction and growth.

Cohousing Unit Design Principles

Generally, units should be standardized as much as possible. Three or four floor plans, designed to accommodate expansion, can usually suffice for any living arrangement. Standardization will minimize costs. Customization not only adds material and labor costs, but delays completion of the entire project which adds to the finance and administration charges of the entire project. Well thought-out units should easily accommodate most residents, and amenities lacking in the private residence can often be more than made-up for by the common house and other community facilities.

Front doors should, when possible, be oriented toward common spaces and be visible from other units. This allows visual connections and helps residents become familiar with one another. A gradual transition between public and private space within the units is very important, both to promote interaction and to safeguard privacy. Many cohousing



Entry areas invite use at Winslow Cohousing Community, Bainbridge Island, Washington.

projects develop a manual system for communicating residents' relative need for privacy, but careful design can also play an important role.

As the most active room in the house, the kitchen should be located near the unit's entry. This promotes safety by allowing supervision of adjacent common areas. In addition, it begins to break down the barrier between private and public space, and encourages neighbors to stop by to chat when they can see interior activity from the outside.

Entry areas are especially important and should be designed to encourage lingering. In cohousing communities, 80% of the time people spend outdoors near their residences is spent in the front yard of their own houses, compared to 20% in the backyard (McCamant & Durrett, 1988). This area becomes the connection between the private household and the general community, and thus plays a vital role.

Cohousing Site Design Examples

Two cohousing projects in Portland, Oregon demonstrate the site and unit design principles of cohousing. While both are located in wooded suburbs west of Portland, varying site conditions caused the groups to handle site and unit design very differently to accomplish cohousing ideals.

Cascadia Commons Cohousing

Cascadia Commons, Portland's newest cohousing project, is located in unincorporated Washington County. The site is a rural 2.8 acre parcel with a stream and 0.9 acre wetlands running through the center. When purchased, 14 duplex units were already located on the property. These were renovated and 12 additional attached units were added to the community. Unit sizes range from 668 square feet to 1,400 square feet.

The existing units faced onto a street that provided vehicle access to each unit. Through creative site planning, a common parking lot near the site entrance was established and the street was taken out. This made room for a large common area between the units. Residents took advantage of this space by planning community gardens and outdoor play areas for the children.

The common house was constructed at the end of the common area, and is easily seen from all the renovated units. It anchors the site plan, providing a focal point for social interaction in the community. Amenities provided in the common house include: kitchen, dining area, guest rooms, library, recreation room, children's play area, laundry facility, hot tub, and meditation room.

The second phase of the project is located across the



Pedestrian bridge over wetlands at Cascadia Commons, Portland, Oregon.

stream and wetlands from the existing units and common house. An unobtrusive walkway connects the two clusters of residences, with the common house acting as the joint between them. The new units are grouped around their own common area. Careful attention was paid to the wetlands in the siting of the new buildings. This preserved the habitat for the abundant songbirds in the area, as well as the many other aquatic species in the creek.

Trillium Cohousing

Like Cascadia Commons, Trillium Cohousing is located in a semi-rural setting with a creek running through the 3.6 acre site. However, unlike Cascadia, only one previous residence existed on the site at the time of purchase. This large hexagonal home became the community's common house. The existing house also had a building next door used as a gym. This building has been turned into a unit. All of the other 28 units in the community are newly built and are in one building.

The site at Trillium presented particular challenges. While originally designed much like Cascadia Commons as a series of clustered duplexes, unstable soil conditions made this configuration impossible. After several rounds of redesign, the community agreed upon a much higher density clustering of units.

The final design incorporates structured parking, and three levels of stacked units. Studio, one-bedroom, two-bedroom and three-bedroom units are scattered throughout the complex. At the second and third levels, units are arranged around an interior courtyard that opens to the views at the central entry stair and elevator. Spaces between the units are carefully designed to promote resident interaction and to allow for a range of activities and levels of privacy.

The common house, converted from the existing residence, has been upgraded and adapted to the group's needs. Next to the creek and surrounded by community gardens, it is a quick walk from the residences. Its unique shape and separated location make it the visual and symbolic focus for the entire community. Amenities included in the common house include: kitchen, dining room, small group meeting rooms, guest rooms, children's play room, library/study, recreation room, hot tub, and storage.

Reconfiguring Apartment Buildings for Cohousing

There are many variations in the types of apartments found in Portland. Buildings that meet the standard cohousing size of 12-36 units generally fall into two categories: single- or double-loaded corridor "bar" type apartments with large parking lots facing the street; and higher-density, smaller-lot courtyard type buildings with small side parking lots. Courtyard type buildings can be H-shaped, U-shaped, or O-shaped – their defining characteristic is that the units wrap around some kind of public courtyard.

Bar Apartments

Single- or double-loaded corridor "bar" type apartments were commonly built from the 1960s to the 1980s. Single-loaded corridors have units on one side while double-loaded corridor buildings provide access to units on both sides. Bar apartment buildings are typically on fairly large lots, with the lot coverage ratio at less than 50%. The balance of the site is typically taken up in surface parking. These parking lots are often located between the building and the street, forcing visitors to traverse the lot in order to enter any of the units.

Single-loaded corridor buildings have a slight advantage over double-loaded corridor buildings in promoting cohousing ideals because they often have outdoor walkways to access the units. This allows front doors to be seen from other units (if it's an L-shaped building) and from the parking lot. In these types of buildings, common houses should generally be detached and used to "complete" the outdoor room (the parking lot) using its walls in combination with the existing buildings to generate more of a courtyard configuration. Through the use of car sharing, walking, bicycling,

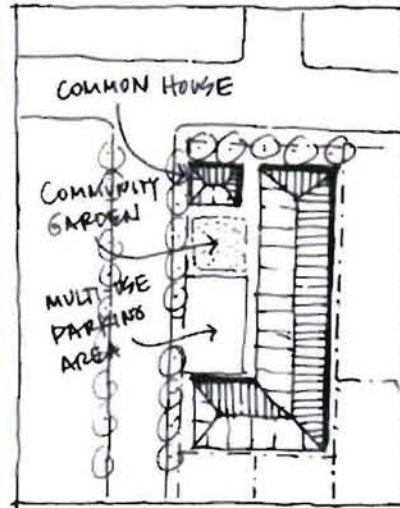


Illustration of the reconfiguration of a bar apartment building to accommodate cohousing design principles.

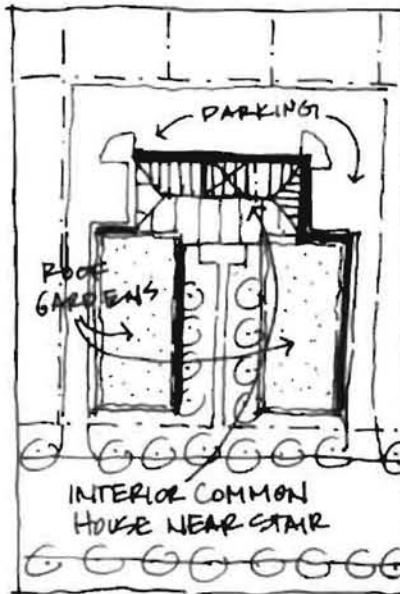


Illustration of the reconfiguration of a courtyard apartment building to accommodate cohousing design principles.

and transit, parking ratios may be reduced. This provides opportunities to use parts of the former parking lot for other purposes. Popular shared elements in cohousing developments include playgrounds, hot tubs, and community gardens. The remaining parking lot can be reconstructed with permeable pavers to allow storm water runoff to drain directly into the soil.

Courtyard Apartments

Urban courtyard buildings are more challenging to adapt to a cohousing configuration. Since there is often not enough unbuilt land area to construct a freestanding common house, combining and converting existing units is the only alternative. While the cost of conversion may be less than building a new structure, the loss of several units will have a strong negative effect on the project's long term financial viability. Choosing the correct location for the common house is critical. Generally, it should be directly adjacent to the main stairway, on either the first or second floor — easily visible to anyone heading for his or her unit. This will assure that it becomes the center of resident activity and that residents identify it as a communal meeting place.

Outdoor space for this building type is severely limited, alternatives should be considered. Roof gardens can help slow storm water-runoff and provide a pleasant respite for residents. Balconies and decks are other options that should be encouraged in both individual units and in the common house. They help to extend the perceived boundaries of the building, making small rooms feel more spacious. If the courtyard area is large enough and faces south, it may provide an ideal location for community gardens or playgrounds. However, if it is too small or north facing, it may be more appropriate as a parking area — freeing up other areas of the site for community uses.

IV. Market and Financial Feasibility

This section starts with a market analysis for the SRH concept followed by a feasibility analysis to determine if a SRH project using site and design criteria can be developed at a cost affordable to the target market (homebuyers at 60-80% of MFI). The market analysis begins with a history of the condominium market, describes national and local trends related to condominiums, introduces some advantages condominiums hold over other housing types, describes typical owners of condominiums, then addresses concerns specific to the target market related to condominiums.

The feasibility analysis begins with a description of affordability for the target market, describes costs for shared-resource amenities and green building upgrades, creates two "proformas" – one base case and one with specific site requirements included, analyzes the proforma results based on affordability, and ends with a determination of feasibility based on potential funding sources.

The Condominium Market Brief History of the Condominium

Each time the housing market heats up, housing prices in general rise. This makes condominiums relatively more attractive as buyers on the margin can no longer afford entry-level single-family homes. Due to the cyclical nature of the housing market, artificially high housing prices inevitably correct themselves, leading to a general slowdown in the market, price reductions, and the availability of increasingly affordable single-family homes. This makes condominiums comparatively unattractive, and they lose value and market share. Eventually, the market picks up and the cycle repeats itself. (Kane, 1999).

National Condominium Market

Because of low interest rates and a healthy economy, the housing market has been strong for several years. As prices for traditional housing options continue to climb, condominiums have become a viable choice for many homebuyers. Overall, condominiums make up 5.5% of the nations housing stock, with the majority located in the suburbs (Carliner, 2000). Nationally, they are more common in the Northeast and West regions (6.4% and 6.2% respectively), though their popularity is growing in all areas (Carliner, 2000).

From 1995-99, the stock of condominium units increased by 589,000 units, of which 25% were conversions from other building types (Carliner, 2000). Condominium and co-op units accounted for 16.3% of starts in structures of 5 or more units in 1999. While this is consistent with other years in the late 1990s, it is well below the rate in the early 1980s that reached as high as 42% (Carliner, 2000).

Generally, condominiums have been quickly absorbed into the market. Since 1996, 80% of new condominiums have been sold within 3 months of completion (Carliner, 2000). The 1999 rate was 81%, a record high. This compares with a 3 month absorption rate of 72% for apartments during the same time period. The median asking price for condominiums in 1999 was \$130,800, up from \$118,800 in 1998. This increase can be attributed to a shift in unit sizes, with 3 bedroom units rising from 23% to 27% of new starts (Carliner, 2000).

In the next decade, the number of households headed by people over

age 45 is expected to increase, while the share under 45 will decrease. The number of people living alone will continue to increase. Housing prices will continue to increase. Local, state, and federal government programs aimed at encouraging homeownership are likely to continue and possibly expand. Many of the households taking advantage of these programs will find apartments and town homes suitable to their needs and pocketbooks. These factors suggest a promising future for the condominium market, though its tumultuous history warns against overconfidence as an unexpected economic downturn could change the outlook considerably (Carliner, 2000).

Condominium Market in Portland

The many recent projects being developed in the Pearl District and the River District indicate a strong condominium market in Portland. The soon-to-open 14 unit Park Northwest condominium project already has 80 people on a waiting list. The Gregory Lofts, the area's largest new condominium building, had buyers for 40 of the 145 units before construction began (Gragg, 2000).

While there is some question about the depth of the condominium market in Portland, condo construction and conversion continue optimistically. From 1992-98, applications for condominium conversion in Portland rose from 35 units to 577 units, with steady growth each year (Strickland, 1999). According to Felicia Tripp at the Portland Housing Center, "Duplexes and condominiums are a more affordable homeownership option for someone who cannot afford a single-family dwelling home" (Personal interview, May 9, 2001). Rising housing prices throughout the metropolitan region are forcing homebuyers from all parts of the city to consider condominiums as an economic alternative to the single-family home.

In 1998, condominiums in Portland appreciated 7% compared to 4.4% for the housing stock in general (Laue, 1999). As condominiums become more and more competitive in providing equivalent investment opportunities and in meeting lifestyle needs, they will continue to gain market acceptance and will be built in even greater numbers throughout the region.

Portland Condominium Profiles

Below are brief overviews of two condominium developments in Portland, Oregon. Oldtown Lofts are in NW Portland and Cornerstone Condominiums are in SW Portland, both in the core of the city. Both projects were new construction and the selling prices of the units demonstrate there is a way to build condominiums in a variety of price ranges.

Oldtown Lofts

Located in historic NW Portland, Oldtown Lofts is a mixed-income housing development currently offering units for between \$145,000 and \$477,000. The project has a total of 60 units, and units sizes range from 605 sq. ft. to 1670 sq. ft. The high quality building provides 9'-6" ceilings, hard wood floors, large windows, and high-speed Internet connections. This innovative project was developed by LINK CDC, and is currently under construction.

Cornerstone Condos

Innovative Housing, Inc. recently completed Cornerstone Condominiums, an affordable condominium project on the corner of SW 12th and Jefferson Street. Unit sizes tend to be small (500 sq. ft. - 800 sq. ft.) and no parking is provided, which has helped to keep prices down. The price range is between \$97,000 and \$142,000. Large wood windows, hard wood floors, solid maple cabinets, and a generous appliance package enhance each unit.

Condominium Market Advantages

Ms. Strickland's (1999) economic and market feasibility study of condominium conversion found condominium conversion to be a viable affordable homeownership option. In the two subsequent years since the writing, market forces continue to lend credence to condominium conversion's economic and market feasibility. "According to the McGregor Millete Report (1997), condominium conversions, which are particularly sensitive to interest rate fluctuations, should only lose their appeal if rates increase" (Strickland, 1999, p.7). Interest rates (currently at 7%) have remained stable or declined since 1999.

If there is an economic downturn, condominium conversions have advantages over newly built condominiums. First, since converting takes less time than building new, project timelines are shorter, creating less overall financial exposure for the developer. Condominium conversions are less likely to be half-finished and abandoned if the economy weakens, as basic systems are already in place and the unimproved structure provides some cash-generating value even before the renovations begin. If the market for condominiums evaporates, units can simply be rented out as apartments. Finally, condominium conversions typically cost less and can therefore be offered at lower prices than new condominiums. This gives condominiums a competitive advantage, and in a soft market, it could have a large impact on absorption rates.

Characteristics of Condominium Owners

The strongest interest in condominiums comes from two groups: first-time homebuyers and empty-nesters. First-time homebuyers are increasingly priced out of traditional housing options and look

toward condominiums as a way to achieve homeownership. First-time homebuyers tend to use condominiums as a stepping-stone to other housing options. Empty-nesters typically downsize from a larger home and desire a maintenance-free, urban lifestyle. Empty-nesters are more likely to stay in a unit for a prolonged period of time (Strickland, 1999).

While families with more than two children rarely reside in condominiums, single parent families, especially single mothers, are more common. Many single people live in condominiums. More than 9% of females living alone reside in condominiums, compared to 7% of males. Almost 8% of seniors above age 75 live in condominiums, and have the highest rate of unit ownership of any age group (83.4%) (Carliner, 2000).

Condominium Ownership for Low- and Moderate-Income Families

According to Felicia Tripp of Portland Housing Center, the largest barrier to homeownership for lower-income families has traditionally been the down payment required (Personal interview, May 9, 2001). Recent state and federal assistance in the form of government-guaranteed mortgages and extremely low down payment programs have lowered this barrier. However, because of Portland's rapidly appreciating housing market, many families are still priced out of the market.

It is important to understand that in real terms wages have not increased much over the years, yet real estate prices have substantially increased. Homeownership Opportunities one Street at a Time (HOST) founder Ted Gilbert noted that HOST's first newly con-

structed house sold for \$69,000 in 1989 while the same house today would cost \$125,000 to build (Personal interview, April 24, 2001). According to Mr. Gilbert, the big increase in cost is caused by increasing land prices, infrastructure costs, and system development charges (Personal interview, April 24, 2001). Mr. Gilbert also stated that it is becoming much harder to build affordable single-family homes in Portland due to the lack of available land (Personal interview, April 24, 2001).

Market for Shared Resources

Even if affordability is achieved, questions remain regarding the general acceptance of the cohousing concept for people of low- to moderate-income. There is evidence that socioeconomic status can be related to the acceptance of the cohousing alternative. One study reports that individuals with lower socioeconomic status feared sharing common spaces and facilities, worried about excessive demands on their time and could not imagine themselves as decision makers (Garber, 1993).

However, four families living in 2 sets of Habitat for Humanity row houses in Northeast Portland were interviewed for this study (See Appendix A). Of the four families, three reported some sharing of resources and sense of community with their immediate neighbors. Examples of shared resources included informal tool sharing, childcare, lawn mowing, and meal sharing. All three of the families who reported sharing resources were interested in more resource sharing. They provided examples of desired amenities including a common open space, dedicated childcare facilities, shared tools, shared meals, and a shared library.

All of the families sharing some resources stated preference for a traditional detached single family home – primarily so their children could play in a fenced yard. One family described a shared common space as an alternative to a yard. All of the families that reported sharing resources also stated they knew their neighbors and felt more safe and comfortable with acquaintances in adjacent housing.

The one family that reported not feeling a sense of community or sharing resources stated this result was due to a language barrier. The family spoke no English and their neighbors spoke no Spanish. The reported language obstacle provides an important lesson – resource sharing cannot be instituted through simply providing a friendly environment in cases of varied language backgrounds.

As described in the interviews above, sharing resources is a viable and desired option for some low- to moderate- income families. Local affordable housing experts concur that lower income families could benefit from living in close proximity with other families and being able to develop strong support networks (F. Tripp, Personal Interview, May 9, 2001).

Financial Feasibility

The following section assesses the financial viability of the SRH concept under the project specific development criteria. First, this section addresses the financial feasibility of the concept to assess how much families earning between 60-80% MFI can afford to pay for housing. Next, the amenities incorporated into the SRH concept are examined to determine their financial impacts on the project. Then, a proforma is created to evaluate a condominium conversion project with shared resources and green building upgrades. This initial proforma provides estimates about project costs and affordability. Following this, the proforma is adjusted to reflect land values within 50 blocks of downtown Portland. This second proforma is used to determine financial feasibility based on what families earning 60-80% MFI can afford. Finally, potential funding sources for SRH project development and individual home purchase are discussed.

What can Low- to Moderate Income Families Afford?

Median family income is measured regionally as prices and incomes vary around the nation. According to the US Department of Housing and Urban Development, the MFI for a family of four in the United States is \$52,500 (HUD, 2001). The MFI in the State of Oregon is \$47,800 (HUD, 2001). The Portland-Vancouver metropolitan area MFI is higher than both the national and state MFIs at \$55,900 (HUD, 2001). Table 1 shows the Fiscal Year 2001 estimated income limits for families at 60%, 70%, and 80% of MFI in the Portland-Vancouver metropolitan area. Using these income levels, the amount each family can afford to spend on housing can be calculated.

Table 1: Fiscal Year 2001 Income Limits for Portland-Vancouver Metro Area

INCOME LIMITS				
	1 person	2 person	3 person	4 person
60% of MFI	\$23,500	\$26,850	\$30,200	\$33,550
70% of MFI	\$27,400	\$31,300	\$35,200	\$39,100
80% of MFI	\$31,300	\$35,800	\$40,250	\$44,700

Source: HUD estimated median family incomes for FY 2001.

Housing is normally considered affordable if it costs 30% or less of a household's gross income (HUD, 2001). This percentage includes principal and interest on the mortgage, insurance, taxes, utilities, and repairs.

According to the Portland Housing Center, a simple way to estimate an affordable mortgage is to multiply a household's income by 2.5 (PHC, 2001). This general rule does not take into account a family's net worth or the size of the down payment (Kiplinger Washington Editors, 1996). Using the HUD MFI estimates for Portland (Table 1) and the mortgage affordability estimate described above, limits can be calculated for the amount each family within the 60-80% can afford to pay each month. These limits are summarized below in Table 2.

Table 2: Fiscal Year 2001 Monthly Mortgage Payments for Portland-Vancouver Metro Area

MONTHLY MORTGAGE PAYMENTS				
	1 person	2 person	3 person	4 person
60% of MFI	\$587.50	\$671.25	\$755.00	\$838.75
70% of MFI	\$685.00	\$782.50	\$880.00	\$977.50
80% of MFI	\$782.50	\$895.00	\$1,006.25	\$1,117.50

Source: HUD estimated median family incomes for FY 2001.

Reduced Household Expenses

Typically, housing affordability is examined only in terms of monthly housing payments. The SRH concept may offer other financial benefits. For example, sharing household equipment, daycare, vehicles, or growing some of the household's food in the community garden all can lower total household expenses. This, in turn, may allow households to afford to pay higher monthly housing costs. This study does not quantify cost savings based on shared resources due to the lack of available case studies.

Costs for Shared Resource Amenities

A financial analysis of SRH must also consider the shared resources that will be included. These costs are in addition to land and construction or renovation costs. Several shared elements are being considered for SCNW's housing project, including: a common room or building, car sharing, daycare, and a community garden.

Common Room/House

The common facility in the traditional cohousing model is a stand-alone house that includes a kitchen for shared meals and enough space to host all of the residents for meetings. The common house may also include additional rooms for a library or quiet area, a recreation room for both children and adults, and a guest bedroom. Because the SRH concept is focused on the conversion of apartments to condominiums in an urban setting, the cost of purchasing additional land and constructing a new house is unlikely. The cost of new construction in the Portland Metro Area is \$72 per sq. ft. (International Council of Building Officials, 2001). A new 1500 sq. ft. building would add an additional \$108,000 to the total project cost, not including fixtures and appliances. An alternative to new

construction is to convert one of the existing units into a common room. This entails removing at least one unit from the potential sales and dividing the total development costs by the remaining units. The common room would likely be smaller than a newly constructed unit but would provide enough room to meet the minimum requirements of a shared facility.

Car Sharing

CarSharing Portland, Inc. is an organization that allows members to pay for the miles and hours they drive incrementally. Car sharing costs \$2 per hour and .40¢ per mile driven, these cost include insurance, maintenance and fuel. Cars are scheduled using a 24-hour reservation phone number. Car sharing provides an economic alternative to car ownership, especially if one drives less than 10,000 miles per year. According to Dave Brook of CarSharing Portland, Inc. (2001) the ratio of members to car needed to justify locating a car is 20 to 1. Providing car sharing would require a dedicated parking space on site. The cost to join CarSharing Portland, Inc. includes a \$250 deposit and a \$10 monthly fee per participating member. If a dedicated space is available on site it may be possible to negotiate a reduced monthly fee in exchange for the use of that parking space.

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Childcare

Commercial daycare is expensive. Childcare centers in Portland charge between \$58 and \$157 per week, depending upon the age of the child and the location in the City (See Appendix B). While informal arrangements for childcare are common in cohousing projects, it is also possible to provide formal childcare through the State of Oregon Family Childcare option. Under this option, in-

home childcare may be provided for up to 10 children under 13 years of age. The SRH concept includes a multi purpose common room that can accommodate childcare activities for residents' children. There are no additional development costs for providing childcare.

Community Garden

The SRH concept encourages the use of native and edible plants as a landscaping practice. This reduces maintenance costs and provides free food to residents. In addition, community gardens are often incorporated. This allows residents to grow some of their own food, and is another opportunity for resident interaction.

Beyond native landscaping, the Growing Gardens program in Portland may be a good way to provide community gardens in a SRH development. Funded entirely by charitable donations, Growing Gardens offers services free of charge. Growing Gardens will create between five and twelve garden beds, depending on the level of resident interest (Growing Gardens, 2001). In the SRH concept, the homeowner association fee could perhaps help to provide money for tools and other supplies. Generally, however, community gardens are not anticipated to require substantial financial investment and will not significantly affect the proforma.

Costs for upgrading to Green Building Standards

The financial implications of upgrading housing to green building standards are mixed. The use of green building practices will require greater up front cost which will increase the purchase price of the units. However, in the long run, owners will enjoy energy and maintenance cost savings over the life of the building. For example,

Johnson Creek Commons was upgraded to SCNW's green building standards in 1998. While upgrades add to the initial cost of renovation, the project is estimated to save more than \$90,000 over the next 25 years in lower energy and maintenance costs. Spreading the cost of the initial investment in green building practices over time to reduce the purchase price to the initial buyer could help maintain the SRH project's affordability while allowing this important upgrade.

Cost Estimate for Johnson Creek Commons

A cost estimate for Johnson Creek Commons was prepared to compare "non-sustainable" practices versus sustainable practices. The estimated cost of sustainable practices was \$212,000 versus \$103,000 for non-sustainable (Housing Development Center, 1998). While there is a significant difference in cost estimates, there are four specific areas that are responsible for such a difference:

- *Parking lot pavers;*
- *Vinyl window replacement;*
- *Hardi-plank installment;*
- *Gas heat installation.*

Combined, these upgrades make up \$93,000 of the cost differential. The vinyl window replacements and gas heat installation would provide cost savings through energy conservation and efficiency. The Hardi-plank siding is estimated to last three times longer than wood siding and takes paint well, thereby reducing maintenance costs. Parking lot pavers are a permeable alternative to paved parking areas and help reduce storm water runoff.

Proforma for a Sustainable Condominium Conversion Project in Portland

Johnson Creek Commons is a 15 unit apartment complex built in 1973 and located on a .84 acre parcel in Outer Southeast Portland. The apartments are made up of 14 2 bedroom units of approximately 775 sq. ft. each. In 1998, SCNW and Rose Community Development created a limited liability corporation to purchase, rehabilitate, and manage the property. Johnson Creek commons meets both affordability and ecological sustainability goals.

The proforma described in Table 3 (next page) is an estimate of the cost to convert to condominiums and add a common house to the Johnson Creek apartment complex. The acquisition cost for the land and apartment complex was \$660,000. The total cost of rehabilitation, including administrative costs was \$230,000. The rehabilitation included replacing siding with durable Hardi-Plank siding; replacing kitchen flooring with a more durable, nontoxic marmoleum; replacing windows and patio doors with high-efficiency vinyl windows; significantly increasing insulation; implementing water saving measures; and replacing electric baseboard heaters with a more comfortable, energy-efficient heating system. The total project cost was \$890,000 or a per unit cost of \$59,333.

The cost of the condominium conversion includes surveying, conversion legal fees, sales and marketing and a 4% sales commission. The cost of conversion will add \$5,000 to the per unit cost. The addition of a 1500 sq. ft. common house will add \$7,200 to the per unit cost. To more accurately measure the affordability of the project, the 1998 cost of construction and the 2001 housing affordability loan limits were converted to constant dollars using the Consumer Price Index (CPI) Conversion factors (1982-1984 =100).

Table 3 demonstrates that the cost to convert units to condominiums would be approximately \$77,000. As shown in Table 4 (next page), this would be affordable to 8 out of 12 income categories in the 60-80% MFI range. To make these units affordable to the other 4 income categories, subsidies for the developer and the prospective homeowners would be needed.

Tables 3 and 4 do not take into account the higher cost of land close to downtown Portland. Johnson Creek Commons is located approximately 7.5 miles from the city center. According to the land rent gradient theory, land prices take transportation costs into account. Thus, land in downtown is more costly than land in the suburbs since suburban locations require longer and more costly commutes (O'Sullivan, 1996).

SCNW is interested in assessing the feasibility of SRH in an urban context. The study defines an urban location within 50 blocks of the City center. To estimate the cost of SRH housing under this constraint, features of the original proforma were used in combination with new land prices to create a revised cost estimate (Table 5 - next page). In a search using GIS, six parcels between 0.81 – 0.87 acres were found within a 50 block radius of downtown Portland (See Appendix C). Of these parcels, the average price of land was \$485,717. The land value of Johnson Creek Commons used in Table 3 was \$171,600. This change in land price significantly affects the per unit price of the project, making affordability much more challenging. The revised proforma using Johnson Creek Commons improvement costs and estimated average urban land cost follows. As shown in Table 6 (next page), changing the land prices to reflect estimated urban land values results in units affordable to 2 out of 12 income categories.

Table 3: Example Pro Forma for Condo Conversion

Cost Summary based on Adaptations from Johnson Creek Commons Proforma			
	Project Total Cost	Per Unit Cost (15 units)	Notes
Project Costs			
Purchase Price	\$660,000	\$44,000	
Capital Improvement	\$168,868	\$11,258	
Administrative	\$61,132	\$4,075	
Total Project Costs	\$890,000	\$59,333	
Conversion Costs			
Surveying	\$10,000	\$667	
Legal Fees	\$8,500	\$567	
Sales and Marketing	\$20,000	\$1,333	
Sales Commissions @4%	\$37,200	\$2,480	
Total Conversion Costs	\$75,700	\$5,047	
Condominium Conversion Cost	\$965,700	\$64,380	
Cohousing Elements			
Common House @ 1500 sq. ft.	\$108,000	\$7,200	1500 x \$72 sq.ft.
Condo Conversion w/common house	\$1,073,700	\$71,580	
2001 Adjusted Cost	\$1,155,000	\$77,000	

Table 5: Revised Pro Forma for Condo Conversion

Cost Summary of Previous Improvements on Site within 50 Block Radius			
	Project Total Cost	Per Unit Cost (15 units)	Notes
Project Costs			
Purchase Price	\$974,117	\$64,941	
Capital Improvement	\$168,868	\$11,258	
Administrative	\$61,132	\$4,075	
Total Project Costs	\$1,204,117	\$80,274	
Conversion Costs			
Surveying	\$10,000	\$667	
Legal Fees	\$8,500	\$567	
Sales and Marketing	\$20,000	\$1,333	
Sales Commissions @4%	\$37,200	\$2,480	
Total Conversion Costs	\$75,700	\$5,047	
Condominium Conversion Cost	\$1,279,817	\$85,321	
Cohousing Elements			
Common House @ 1500 sq. ft.	\$108,000	\$7,200	1500 x \$72 sq.ft.
Condo Conversion w/common house	\$1,387,817	\$92,521	
2001 Adjusted Cost	\$1,489,987	\$99,333	

Table 4: Initial Estimates of SRH Affordability

HOUSING LOAN LIMITS				
	1 person	2 person	3 person	4 person
60% of MFI	\$58,750	\$67,125	\$75,500	\$83,875
70% of MFI	\$68,500	\$78,250	\$88,000	\$97,750
80% of MFI	\$78,250	\$89,500	\$100,625	\$111,750

Source: HUD estimated median family incomes for FY 2001.

Table 6: Revised Estimates of SRH Affordability Given Urban Land Prices

HOUSING LOAN LIMITS				
	1 person	2 person	3 person	4 person
60% of MFI	\$58,750	\$67,125	\$75,500	\$83,875
70% of MFI	\$68,500	\$78,250	\$88,000	\$97,750
80% of MFI	\$78,250	\$89,500	\$100,625	\$111,750

Source: HUD estimated median family incomes for FY 2001.

Available Funding Sources

In order to make the SRH housing project described in Table 5 affordable to the entire 60-80% MFI range, outside funding sources are necessary. To be affordable to a one-person household earning 60% MFI, approximately \$40,580 in subsidy per unit would be needed. To make the concept affordable to a four-person household earning 70% MFI, \$1,583 in subsidy would be required per unit.

Funding sources are available from a variety of sources to help cover initial construction costs and to assist buyers with the purchase of units. Some of these sources are grants, but much of the financing comes in the form of loans (construction loans and permanent loans). Homebuyers at 60-80% MFI usually need loans to finance the purchase price and often need assistance with the down payment.

Development Financing Options

The amount of financing determines what can be built or the amount of rehabilitation that can be undertaken. Without proper financing mechanisms, a project cannot move forward in the development process. Summarized in Appendix D are short descriptions of some of the development financing options available for affordable housing and sustainable development projects. Currently, the majority of government based housing subsidies is dedicated to providing rental units. If future government funding priorities shift toward encouraging homeownership, an SRH project as described in Table 5 would have a better chance of finding enough funding to reach target affordability levels.

Home-Buyer Financing Options

There are many financial programs available to households within 60-80% MFI to help them achieve homeownership. Saving money for a down payment is often the biggest challenge for 60-80% MFI households. Many of the financial programs discussed in Appendix E help to reduce the down payment or assist in folding it into the project financing package.

The Benefits of Homeownership

According to the Portland Housing Center, a few benefits of homeownership over renting include:

According to the Neighborhood Reinvestment Corporation, studies show that homeowners are 28% more likely to repair or improve their home than renters.

Survey data reveal that if an owner and renter both live in a single-family house with a yard, the owner is 12% more likely to maintain a garden outside their home than the renters.

Homeowners are a stabilizing force in communities. Census data indicates that homeowners typically live in a community four times longer than renters. As a result, since owners tend to stay in a community longer, it follows that owner-occupied homes should provide secure, safe, and stable places for family activities.

V. Key Issues

The SRH concept section identified several unresolved issues. The five main issues are: resident participation and management, conflict between condominium conversion and cohousing design principles, recouping initial costs of green building upgrades, resale market challenges, and financial obstacles. This section discusses each issue and provides suggestions for SCNW and options for addressing them.

Models of Resident Participation and Management

Typically, cohousing is initiated by a group of people interested in living as a close-knit community. Often, the core group meets weekly for several years before anyone moves into the project. These meetings cover a variety of topics, from site and unit design to community organization and defining community values. Through this process, the group becomes acquainted with each other and personally invested in the project. After move-in, these social bonds form the basis for further community organization, and establish a framework that sustains the community over time.

In the SRH concept, the lack of resident participation in the initial decision-making process has both positive and negative repercussions. Using an experienced nonprofit housing developer will speed up the development process. The additional knowledge of the developer will assure that fewer mistakes are made, and, as a single entity, the decision making can be more quickly completed. This may also reduce administration and financing costs. Nonprofit organizations also have access to government and private foundation

grants and low-interest loans that are unavailable to private groups, further reducing the potential per-unit cost of the project.

A negative aspect of this development scenario is that residents have less chance to form social bonds and become personally committed to others in the community before they move in. Starting out, this makes the community as a whole somewhat fragile. However, this fragility is only a concern in the beginning of a community. Once residents move in and get organized, a local culture may begin to form. As in cohousing, new residents in a SRH project may quickly learn from and adapt to the established social systems within the community.

Making SRH units available at prices below market rates raises an additional concern. Due to the scarcity of affordable housing in Portland, prospective residents may be interested in the project not because of its community-focused lifestyle but because it is an inexpensive place to live. This could result in low resident participation in group activities, and a general loss of community emphasis. Since community interaction and resource sharing are important aspects of the SRH concept, this lack of enthusiasm for community living would considerably damage the viability of SRH.

Creative strategies could help to mitigate this problem. These strategies involve creating barriers to entry that encourage self-screening. For example, requiring a certain number of volunteer hours (similar to Habitat for Humanity projects) before prospective residents can move in may help to distinguish between those truly

interested in an intentional community and those interested only in affordable housing. If the project is in its early stages, volunteer hours can be used to help with construction, landscaping, or community organizing. In established communities, new resident volunteer hours can be used for general building and grounds maintenance, or for assisting with community events. An additional benefit to this strategy is to allow potential residents to form social bonds and become invested in the community.

Potential SRH residents may lack the skills needed to organize and run a community. Once a core group of residents is established in a SRH project, a nonprofit developer may need to convene classes on facilities management, consensus decision-making, and group organization to help the community begin to organize itself. Along with a physical design that encourages neighbor interaction, this organizational foundation is critical to promoting the development of a healthy SRH community.

Conflict between Condominium Conversion & Cohousing Design Principles

Adapting an existing apartment complex to cohousing presents particular challenges. While some complexes are more suitable than others for accommodating cohousing design principles, none were designed for this purpose. It may be possible to retrofit and reconfigure a property to improve its suitability for cohousing but it will be difficult to achieve what built-from-scratch cohousing projects do.

Cohousing design principles are very particular, dictating the placement and orientation of units and public spaces. These ele-

ments are very important for maintaining social cohesion within the community. From a design perspective, converted apartment buildings will always be inferior to newly constructed cohousing projects because they lack the necessary flexibility.

While it may be challenging to retrofit an apartment building to align with cohousing design principles, condominium conversions have other benefits. Condominium conversions are less expensive than newly constructed condominiums. This allows more of the project budget to be used in accomplishing other goals of the SRH concept, such as upgrading to more energy efficient and sustainable building materials and providing shared common elements like a common house, a community garden, or a shared car.

Recouping Initial Costs of Green Building Upgrades

Buildings developed using conventional development practices have relatively low up-front costs but end up using more energy and deteriorating faster, causing higher usage and maintenance costs in the long-term. Conversely, buildings constructed or upgraded using green standards have higher initial material costs but recoup these costs through lower energy use and maintenance over time. The initial unrecouped expense of the green building upgrade costs may prevent SRH units from being affordable.

To combat this disincentive to build green, a developer could take out an assumable long-term mortgage to cover the costs of the sustainable upgrades. This mortgage could then be passed on to the project after the sale is complete, and serviced by resident's monthly homeowner's association fees. This would spread out the cost over

a long period of time, and allow each resident to pay a fair share. Presumably, the energy savings and reduced maintenance costs would more than make up for this additional monthly fee, and overall operational costs would be reduced.

Green building construction costs can add significantly to a project's budget. A non-profit developer should calculate the cost of doing a development using conventional materials and standards, then decide how much in addition they are able to spend on making the building more environmentally sound. Green upgrades should be ranked in order of priority, and those at the top of the list added until the allocated money is used. This is an effective way of getting the most from limited funds and helping to minimize cost overruns that can often be associated with sustainable development.

Addressing Resale Market Challenges

In the United States, the cohousing concept is still gaining market acceptance. The number of projects around the nation is growing, and over the last ten years has significantly increased. Nonetheless, cohousing is still a niche market and, as such, presents particular marketing challenges.

Residents trying to sell cohousing units may have more difficulty than those trying to sell conventional housing units. Few people are familiar with the cohousing concept, and not everyone is prepared to live in a community-oriented development. This makes cohousing units less liquid, potentially delaying a resident from moving out.

Further evidence shows that higher-density projects placed in areas of primarily lower-density housing have long absorption times. This

suggests that cohousing projects in suburban locations that attempt to build at higher densities than the existing neighborhood may face significant marketing challenges.

To address some of these market concerns, several strategies can be employed. Renting or leasing a unit while it is for sale can allow a resident more flexibility. In this scenario, rental payments help cover mortgage payments until the unit can be sold. Another possibility is a lease-option scenario, where a potential buyer can "test-out" a unit by leasing with an option to buy. This allows buyers to see if the cohousing lifestyle meets their needs before purchasing a unit.

While this issue is a concern today, it may become less important over time. Interest in cohousing is increasing steadily around the world. Eventually, cohousing units will gain enough market acceptance that absorption rates will no longer exceed those of other housing choices.

Financial Discussion

Cost of land will drive the SRH site selection process. According to accepted economic theory, land prices decrease as distance from downtown increases. In order to keep a project affordable, it is tempting to look further afield. However, condominiums, because of their relatively small size and the characteristics of the residents they attract, fare better closer to transit and services (which are more plentiful near downtown). Also, condominiums in locations far from transit and services tend not to sell as well as condominiums with urban amenities. The site selection process will have to balance these two forces to find a site that can maintain affordability while

still providing adequate access to urban amenities.

Another trade-off relates to the age and condition of an apartment building being considered for purchase. While less expensive, older buildings may be initially appealing, they may also require higher renovation costs to bring them up to adequate standards. More expensive buildings, while having a higher purchase price, may require little or no upgrading and end up less expensive overall. Initial costs and the costs for upgrading should be considered together. In a best case scenario, SCNW would be able to find an inexpensive building that needs few upgrades and is close to services and transit lines.

In terms of site size, larger is generally better than smaller. Larger sites can more easily incorporate SRH elements, and can often accommodate a detached common house. However, smaller, denser sites can also work. Small sites present particular challenges that require creative solutions. For example, roof gardens may be a solution to providing open space on a small site if the building's structural system can accommodate the additional dead loads and seismic loads that the gardens would create. Generally, if a site is close to an ideal cohousing configuration when purchased, project costs will be lower.

VI. Conclusion



Residents sharing a community meal at Sun & Wind Cohousing, Denmark.

As described throughout this study, the SRH concept has many positive features. Shared-Resource Housing furthers several planning goals by promoting community, providing affordable homeownership opportunities, and reducing resource and energy consumption. This study describes how apartment buildings could be redesigned to promote community-oriented living and accommodate shared resources. At first glance, affordable, sustainable condominium conversions are feasible — there is a market for the concept and the units can be developed at acceptable price ranges. However, this study specifies development of the SRH concept within a 50-block radius of downtown Portland and within 1/4 mile of transit. With these locational specifications, the average land prices rise dramatically, driving the per unit price out of the target affordability range.

There are several assumption modifications that could make an SRH development affordable. First, SCNW could find a great deal on a site, which would lower the projected land and building costs. Second, projected density could be increased, effectively lowering per unit land costs. Third, there may be sites available in town centers as defined by Metro's 2040 plan. A town center location may provide access to transit and services while potentially offering a lower purchase price than available near Portland's downtown. Finally, there may be an opportunity for collaboration with the Portland Community Land Trust to reduce land costs.

However, using this study's specific siting criteria and development assumptions, an SRH project in Portland, Oregon would require between \$1,583 and \$40,580 of outside funding per housing unit to be affordable to households within 60-80% of MFI. If this amount of funding is not available, the SRH project defined in this study is not feasible.

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Appendix A: Habitat for Humanity Family Interviews

Household description:

1. Single Mother of 3
2. Single Mother of 2
3. Two parent family with undetermined number of children. They do not speak English and nobody in their community speaks Spanish. They do not know anyone, nor do they share anything or feel like part of the community due to language barriers.
4. Single Mother of 1

Questions:

How long have you been living here?

1. 8 Months
2. 1 Year, 10 Months
4. About 2 years

What were your perceptions of living in a row house development?

1. Lived in an apartment before. Any home ownership opportunity is better.
2. Lived with mother before. Any home ownership is good.
4. Dream come true (homeownership).

Would you choose to live in a single-family home over this arrangement and why?

1. Yes. Would like a front yard and fence for children to play outside.
2. Same
4. Yes, but this arrangement is also fine.

Do you know your neighbors? (How well, etc.)

1. Yes. Activities such as borrowing tools, helping install home furnishings, mowing multiple lawns.
2. Yes. Built homes together, attended potlucks at beginning.
4. Yes. Built homes together. Next door is her sister. Don't see the other three neighbors much due to different work schedules.

What are the advantages and disadvantages of living close to your neighbors?

1. In case of emergency, neighbors are there to help out. Neighbors helped put up mini-blinds and curtains, as well as mowed lawn.
2. Knowing the immediate neighbors adds a sense of security.
4. Sense of comfort.

Do you share any resources with your neighbors, such as tools, childcare, barbecue, etc.? If so, what?

1. Neighbors have watched kids; she has watched neighbor kids. Some tools and lawnmower shared, as well as labor.
2. Her sister lives next door. She shares childcare responsibilities with her sister and her mother (who lives across the street). They also eat meals together.
4. Cares for her sister's younger child. The older children share CD's, a bike pump, etc. The adults sometimes share lawn-mowing duties, but is voluntary.

Would you be interested in an arrangement to share more resources with your neighbors and what would you be interested in sharing?

1. Yes. Would be interested in common open space, childcare facilities, book sharing (common library), and shared tools.
2. Yes. Shared tools would be helpful. If she worked the same hours as her neighbors, she'd be interested in sharing meals.
4. Yes. A common open space would be very nice due to the lack of yard.

Before you lived here, what type of housing did you live in (detached single family, condominium, apartment building, etc.)?

1. Apartment
2. Mother's house
4. Apartment

Did you own a home before you moved here? If no, what were the biggest obstacles to purchasing a home in the past?

1. No. Biggest obstacles were down payment and mortgage.
2. Same.
4. No. (Couldn't identify a biggest obstacle).

Did you talk to or take classes from Portland Housing Center to help with this home purchase? If no, did you have classes at Habitat?

1. No. Took classes with Habitat.
2. Same. Has her degree displayed next to couch.
4. No. Had to take classes at Habitat. They still have little meetings with Habitat.

What is the best aspect about owning your own home?

1. Owning something she is paying for. Equity building. Making own rules.
2. Same.
4. Being proud. "This is mine." Very comfortable living situation.

What is the worst aspect about owning your own home?

1. A lot more bills to keep track of than apartment. No landlord to take care of problems. Yard work. But these are also things she enjoys.
2. No negative thoughts. There is traffic and dust from Killingsworth.
4. Nothing but very minor issues—dust from traffic and minor maintenance. The noise does not bother her.

How long do you see yourself owning this home and living here?

1. Until retired.
2. As long as possible.
4. As long as possible. Not planning to move anytime in the near future even though she was offered a promotion that would involve moving to California. She turned down the job because she had just moved into her home.

If you could design the homes here differently, how would you change them and why?

1. The shed is in front of the parking area, which causes a safety issue with her car. Would prefer house to be set back a little farther from the street, so her front yard would be larger and could be fenced. Would like more than 1 parking space.
2. Would like a bedroom and a half bath downstairs. Would like separation between kitchen and dining/living area.
4. Would change the downstairs wash room situation. Doors fall off all the time. Would also like a garage.

How many people live in your immediate household?

1. Mother with 3 children.
2. Mother with 2 children.
4. Mother with 1 child.

Other comments...is there anything we missed or you would like to additionally tell us?

1. Worried about property values (taxes) rising as Mississippi is improved. Would like more police patrols, as bus stop is directly in front of home and some bad people are around at night. She likes having a half bath downstairs.
2. The community did potlucks during the building process and soon after moving in, but stopped since people had different work/eating hours.
4. None.

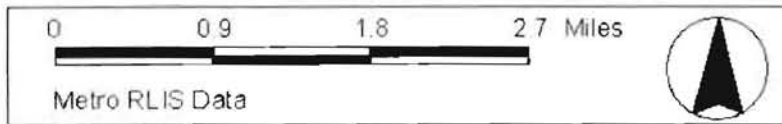
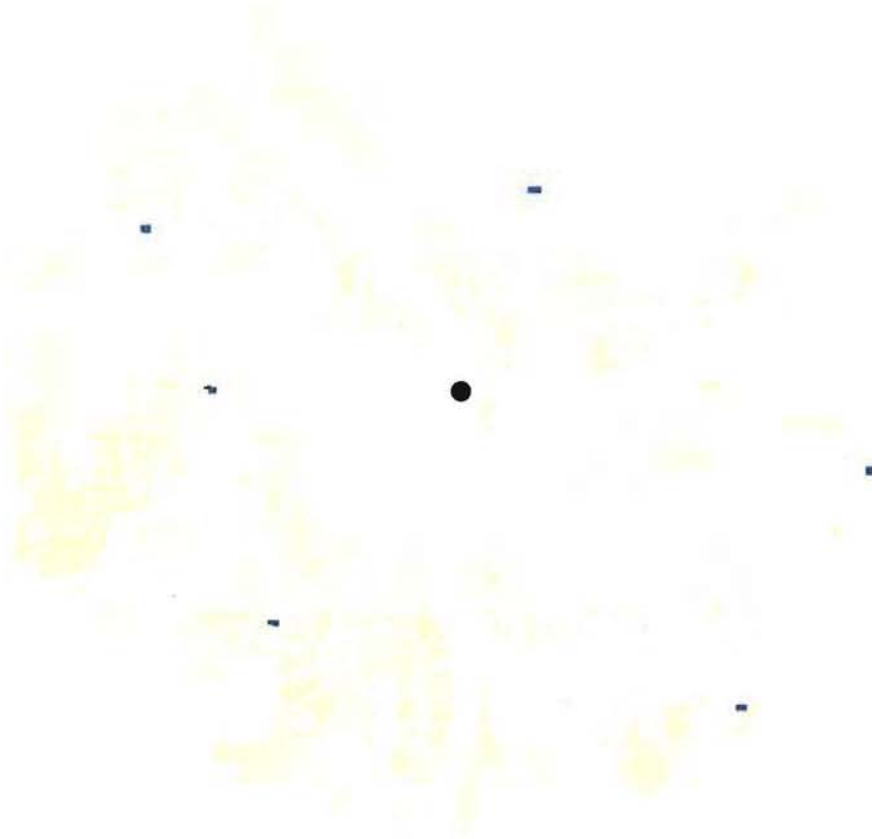
Appendix B: Childcare Costs in Portland

Weekly Costs for Services from Family Child Care Providers and Child Care Centers

Downtown & Southwest Portland			
37 Child Care Centers		53 Family Child Care Providers	
Infant	\$157.54 per week	Infant	\$112.29 per week
Toddler	\$145.14 per week	Toddler	\$108.44 per week
Preschool	\$107.09 per week	Preschool	\$104.35 per week
Schoolage	\$66.61 per week	Schoolage	\$2.50 per hour
North/Northeast Portland			
51 Child Care Centers		303 Family Child Care Providers	
Infant	\$142.87 per week	Infant	\$95.80 per week
Toddler	\$137.48 per week	Toddler	\$90.42 per week
Preschool	\$88.45 per week	Preschool	\$86.74 per week
Schoolage	\$64.36 per week	Schoolage	\$2.07 per hour
Southeast Portland			
65 Child Care Centers		314 Family Child Care Providers	
Infant	\$129.98 per week	Infant	\$95.99 per week
Toddler	\$124.69 per week	Toddler	\$91.81 per week
Preschool	\$90.14 per week	Preschool	\$88.05 per week
Schoolage	\$57.59 per week	Schoolage	\$2.09 per hour

Source: Metro Child Care Resource and Referral

Appendix C: Portland Site Search Results



Parcel #	Site Address	Land Value	Acres	Year Built
R612701760	2650 NW UPSHUR ST	\$462,500	0.81	1981
R009601210	517-519 NE SACRAMENTO ST	\$176,200	0.86	1973
R431601380	735 SW ST CLAIR AVE	\$1,206,400	0.84	1964
R159901530	4109-4119 SE MORRISON ST	\$229,700	0.81	1949
R755203400	911 SW BROADWAY DR	\$599,600	0.82	1972
R885302310	3020 SE WAVERLEIGH BLVD	\$239,900	0.84	1956

Appendix D: Development Funding Sources

EPA's Sustainable Development Challenge Grants Program

Provides funding for projects that encourage people, organizations, business and government to work together in their communities to improve their environment while maintaining a healthy economy and a sense of community well-being. Offers support of as much as \$250,000 for sustainability projects.

Portland Development Commission

The Portland Development Commission (PDC) is the City of Portland's lead agency for housing development services and financing. PDC administers an assortment of public and private financial resources to support the development of affordable housing for both rental and homeownership opportunities. Due to the high cost of conventional funding, PDC offers housing revenue bonds as a means to raise capital for developments with associated public benefits that are located in the city limits of Portland.

Oregon Business Energy Tax Credit Program

The Oregon Department of Energy offers a tax credit of 35 percent of "eligible project costs" – the costs that are beyond standard practice. Of interest to organizations without use for a tax credit, Avista, NW Natural, Pacific Power and other companies offer a cash option to their customers for some types of projects. The company takes the tax credit and gives the customer about 28 percent of eligible project costs in cash.

Oregon Climate Trust

Funds projects that avoid, sequester, or displace carbon dioxide emissions. Includes energy efficiency, renewable energy, and tree planting.

Community Initiatives Small Grant Program

Funding for small community-based projects that provide services to low or moderate income individuals or neighborhoods. Maximum grant is \$12,000.

Appendix E: Homebuyer Financial Options

“Pay it Forward” Program, provided by HOST, has funds up to \$5,000 in down payment assistance for buying one of their homes (available to 1st time home buyers at or below 100% MFI).

Project Down Payment, provided by PHC, is a 5 year second mortgage with a 5% interest rate available to 1st time home buyers at or below 80% MFI for targeted neighborhoods. The loan provides a maximum of \$4,000 for down payment and closing cost assistance. This program can be combined with Project Buy Down (see below). This program runs in conjunction with a first mortgage from an eligible first mortgage lender and the first mortgage must be a purchase mortgage, FHA, or ‘A’ paper conventional mortgage.

Project Buy Down, provided by PHC, is a loan to fill the gap between the sales price and the borrower’s first mortgage amount. This program is available to certain zip codes for home buyers at or below 80% of MFI. The maximum loan amount is \$15,000 with no interest.

Clackamas County (CHAP), provided by PHC, is a second mortgage for 1st time home buyers in Clackamas County that is payable upon sale or transfer of the property. This is also known as a silent second mortgage because you do not pay it until you sell the house. The maximum loan amount is \$10,000 and there is no interest rate.

Shared Appreciation Mortgages, provided by PDC, is a second mortgage for 1st time home buyers that is payable upon sale or transfer of the property (silent second). There is no interest rate and the loan is meant to assist with down payment and closing costs. The maximum amount of assistance is dependent on the assistance awarded by PDC to housing developers and site specific properties.

HomeStyle Loan Program, provided by Fannie Mae and administered by PDC’s Neighborhood Housing Program, is a purchase & rehabilitation loan product, whereas the loan amount available is based on the “after improved” value of the property. This program has no income limits, but there is a down payment requirement of 5% of own funds. The loan works for condos and is available citywide.

Just for Starters™ Income Cap Program, provided by Portland Teachers Credit Union (PTCU), is a 30 year fixed rate mortgage for those households with income less than \$56,700 annually. Private mortgage insurance is NOT required. The loan works for condos and is available citywide. Closing costs and prepaid items can be financed by means of a Silent Second Deed of Trust. PTCU will reduce the cost of attending PHC’s homebuyer’s education class if completed successfully by \$25.00 (half the cost).

Just for Starters™ Program, provided by PTCU, is a 30 loan with a fixed interest rate for the first 5 years then reverts to a 1 year ARM with an annual cap of 2% and lifetime cap of 6%. Private mortgage insurance is NOT required. The loan works for condos and is available citywide. PTCU will reduce the cost of attending PHC's homebuyer's education class if completed successfully by \$25.00 (half the cost).

Homeroom™ Program, provided by PTCU, is a 30 loan just like the Just for Starters Program, but specifically aims to keep, recruit, attract qualified full-time teachers in the Portland Public School District. Private mortgage insurance is NOT required. The loan works for condos and is available citywide (properties located within the Portland Public School District boundaries may be eligible for a reduction in interest rate).