

## HOUSING

Twenty years ago, many individuals in and around Lexington believed there was no vacant land within the City's boundaries for construction of new residences. In the subsequent decade, 75 new residences were built. Ten years ago, most individuals believed that there was, unquestionably, no land available on which to build. In the subsequent ten years, 95 residences were constructed. Today, most would agree, with certainty, that there is no vacant land within the City's boundaries for construction of new residences. Yet, even as the reader scans these lines, building permits for housing with the City limits are being pursued.

The continuing addition to our housing stock is to be celebrated. New housing adds to the tax base and contributes, beyond sheltering families and individuals, to the overall quality of life, the vibrancy of our community, and the overall economic well-being of Lexington. While the housing stock has increased and there is much to commend in the diverse range of housing, challenges remain. For example, the quality of life residents enjoy attracts new residents, which results in an increase in housing prices, making home ownership in the City unattainable for many of those who serve our community.

This chapter focuses, first, on how Lexington's traditional housing and its history benefit the City and why the traditional housing patterns of our community should be protected. The chapter then moves to areas where proactive attention is warranted.

The evolution of housing in Lexington has included subdivision of land, mixed housing styles, varied footprints, and widely varying prices—all in the same neighborhood. While fewer vacant parcels are available, it is predicted that entrepreneurial efforts coupled with a continuing desire to live within the City's boundaries will result in additional residences coming onto the tax roster over the next decade. With those yet-to-be added homes will come even greater housing diversity and, in some areas, increasing housing density. This chapter will not lament the lack of buildable land. It will show that the City's density represents an advantage, not a problem.

Prior consideration of Lexington's housing viewed the lack of large tracts of land on which housing could be built as the defining problem. Thinking has shifted to seeing that former "problem" as conferring enviable advantages that less dense communities do not have. Study has shown that

1. Cities can comfortably provide housing for all, when properties of different values, architectural styles and sizes mix together within neighborhoods. Newly built neighborhoods of affordable, similar houses, on the other hand, struggle to find financing and acceptance.

2. Commercial districts retain and expand their economic viability when citizens can walk from their homes to work and shopping.
3. New commercial development succeeds best when it is close to, or includes, housing.
4. Denser housing conditions reduce over-reliance on automobile traffic.
5. Re-purposed existing structures fit easily and ecologically into existing streetscapes, avoiding stark uniformity.
6. Well-planned dense housing can strengthen a city's tax base and help support economic development.

Rather than being a liability, the City's densely-packed existing housing should be viewed as an advantage and used to help drive its economic growth.

## **INTENTIONS**

The housing plan, presented in this chapter, recommends actions that:

1. Take advantage of Lexington's existing dwellings, their age, density, variety, and proximity to commercial activity.
2. Preserve and extend our tradition of diverse housing patterns.
3. Maintain Lexington's special character, which includes housing a diverse population of all economic levels, ages, and physical abilities.
4. Recognize the need for government partnerships to address affordable and workforce housing needs, while ensuring that government does not compete with the private sector when it is capable of meeting market demands.
5. Explore available mechanisms to enable City employees and those in critical professions, and working in Lexington (such as teachers, nurses, and law enforcement), to live within the City limits if they desire.
6. Encourage the continued development of a variety of housing types to increase housing diversity and choice, provide for increased housing density in appropriate areas and maximize the use of vacant land.
7. Recognize that housing is a regional issue and encourage cooperation among local jurisdictions to address housing problems and needs.
8. Encourage environmentally responsible Green Construction.

## **DETERMINING HOUSING NEEDS**

Housing information is collected by the Census Bureau every decade on the long version of the census form which is distributed to one in six households. The 2000 Census housing data is presented in **Appendix 1** following this chapter. It includes data on total and occupied housing units, persons per housing unit, value of owner-occupied units and contract rent for rental housing. Some of this data is reported for Rockbridge County and Buena Vista as well as the Commonwealth as a whole. The remainder is reported only for Lexington. This Chapter will be

updated to include the 2010 Census housing data when it is released.

**GOAL: Maintain accurate and current information about housing needs.**

**Recommendation: Replace outdated census information contained in this plan with newly released census data as it becomes available.**

A housing unit is defined by the Census Bureau as “a house, apartment, mobile home, group of rooms or single room that is occupied as separate living quarters. Separate living quarters are those in which the occupants live separately from any other individuals in the building and which have direct access from outside the building or through a common hall.” As of April 1, 2000, the date of the last census, Lexington contained 2,376 housing units.

An additional 95 housing units have been constructed in Lexington since that date. By April 2009, Lexington had 2,471 housing units. The number of owner-occupied houses has increased over the past 40 years, from 989 houses in 1960 to 1,232 houses in 2000, an increase of 243 homes. The proportion of rental property has remained fairly stable as a percentage (42%) of total units throughout the years. There were 1,000 renter occupied housing units in 2000.

Student housing remains a significant component of the City’s housing market. Student demand has led to increased investor interest and higher sales prices for many houses intended for student rental, since the economic return for houses rented to students is greater than the return for family rentals. Working families and the elderly have traditionally competed with investors of student housing for the same housing stock.

Over the last several decades, housing in Lexington has become increasingly expensive. Owner-occupied housing has appreciated noticeably in the past twenty years. The median value of owner-occupied housing within the City of Lexington was \$74,500 in 1999 and \$131,900 in 2000 an increase of 77% (not adjusted for inflation). The median value of homes sold in Lexington in 2008 was \$244,900 according to the Virginia Board of Realtors. This was an additional increase of 85% since 2000.

**GOAL: Formulate housing policies which respond to the changing demographics of the community**

Housing demand changes with shifting demographics (changes in cohort size, aging, natality and mortality patterns, family formation and dissolution, economic vitality, and in/out migration patterns) and from the changing housing wants of existing households.

For example, the mini-boom, over the past ten years, in construction of larger homes and in the substantial revitalization of historic, larger single family homes was driven by demand from middle-aged Baby Boomers with older children who wanted to trade up to larger homes. The boom was further fueled by retirees relocating from the North East to Lexington. That demand is predicted to diminish over the next decade, as a much smaller cohort (Gen-Xers) replaces the

Baby Boom generation and as both those Boomers, now aging into retirement, and early retirees seek low/no maintenance residences. The “trade-up” home buyers who dominated the market during the housing mini-boom of the first decade of this century will decline as a force driving demand. The largest net increase in housing demand will come from younger, less affluent households, generating a need for affordable rental housing and starter homes.

The number of households headed by people age 75 and older will continue to increase rapidly; however, like early retirees and empty nesters, the members of this group move far less often than younger households do. As a result, new households will create more net demand for housing than will aging households. These demands will reshape residential development patterns.

**Recommendation: Assure that City housing policies encourage suitable housing for new households**

### **Housing Affordability**

The housing market is cyclical, varying between a seller’s market when there are more buyers than homes for sale--resulting in increased prices--and a buyer’s market where there is a surplus of housing inventory and homeowners reduce asking prices to ensure sale of their houses.

The most recent housing cycle began in about 1995 and is culminating now with a decline in demand and prices. In a traditional cycle, it would be anticipated that demand and prices would again begin to grow. An immediate return to a seller’s market, though, is unlikely. The demographic shift to household growth among younger households coupled with an increase in housing demand among both younger and older households creates new and different housing demands. Both groups, young and older, have, on the whole, incomes below Lexington’s median income. Their lower income suggests that the next demand may be for housing that differs from the bulk of Lexington’s available housing stock. To ensure a stable population, local government may have to focus on the development of affordable housing opportunities to meet these needs.

Housing is considered affordable when direct housing cost (monthly mortgage or rent) does not exceed 30% of a household’s income. When combined with utility costs, taxes and insurance, total housing costs should not exceed 35% of household income. When monthly expenses for a dwelling exceed 35% of household income, that housing is considered to be unaffordable for that household.

In a perfectly balanced housing market a household making the area’s median income can afford the median priced house for that area. Those making less than the median income cannot. Thus, if half of the population can afford the median income home for an area, that area is considered to have a balanced housing market. Table 5-1 reflects the relationship between median household income and median housing price in Lexington for 2000 and 2007, the last year for which these statistics are presently available.

**TABLE 5-1  
 MEDIAN HOUSEHOLD INCOME VS ABILITY TO PAY  
 CITY OF LEXINGTON  
 2000 & 2007**

<b>Year</b>	<b>Median Household Income</b>	<b>Ability to Pay</b>	<b>Median Sales Price</b>
2000	\$31,046	\$122,000	\$131,900
2007	\$38,217	\$170,000	\$244,913

**Source:** Central Shenandoah Planning District Commission and Section 8 Housing Affordability Calculations

As Table 5-1 reports, the median household income for Lexington increased by 23.1% between 2000 and 2007; but the median sales price for a house in Lexington increased by 85.7% during the same period. While the local housing market was close to being in balance in 2000 - a household making 107% of the median income could purchase the median priced house - the affordability gap has subsequently increased. In 2007, a household had to make over 150% of median income to purchase the median priced house.

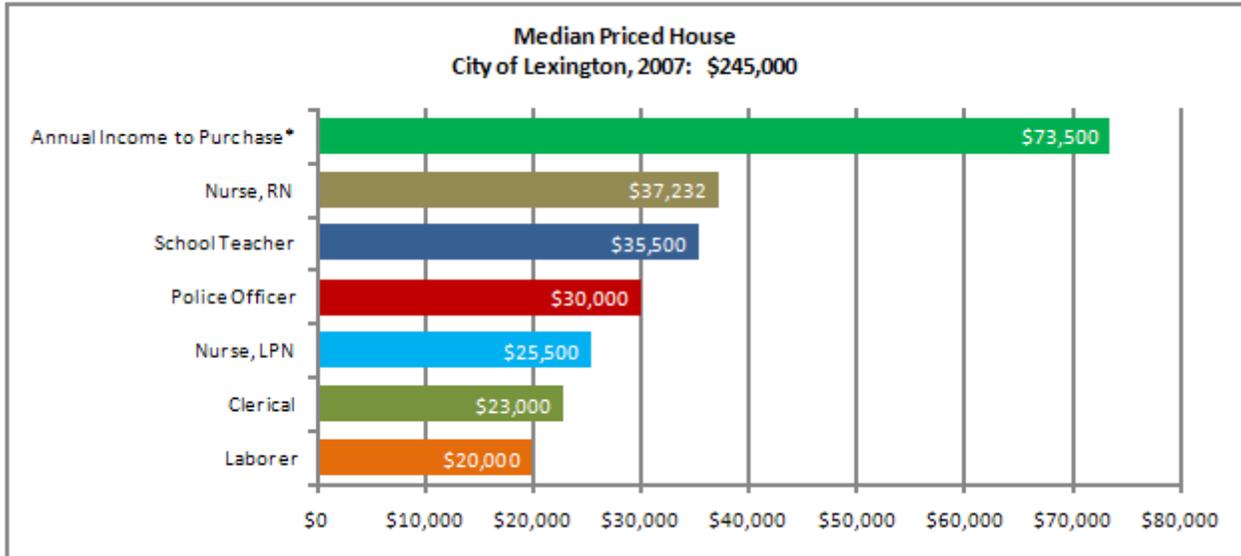
As home prices and rental rates in Lexington have increased faster than income, finding a place to live has become a City-wide problem. Families at or below the median can no longer purchase a median priced home in the City at a price at or below 30% of their income. As a result, an increasing number of gainfully employed workers who contribute to the economic and social well being of our community have a difficult time finding affordable housing in Lexington. The nature of the problem is reflected in Figure 5-1.

Figure 5-1 demonstrates the difficulty of finding affordable housing for many of the critical jobs in the local economy. Application of the established ability to pay criteria (30% of household income) for those in the professions highlighted above suggest that few in these professions could afford a house at less than half the value (\$122,500.00) of the median priced house. The maximum house an entry level teacher could afford in 2007 was \$150,000. And comparing entry-level income with that of an established professional shows that a teacher entering employment at \$35,500 and receiving an annual increase of 3% would, at the end of ten years, be earning \$47,709. Using Lexington's past twenty-year housing increases as a loose guide, during that same period, housing costs would have increased by more than 3% annually.

If families find it difficult to purchase a home that meets their needs located near their work they may seek a place to live farther away. Distance requires longer commutes and increases congestion on local roads. As fuel costs increase, low-wage workers will find commuting ever greater distances more difficult. Lacking public transportation, they may seek employment closer to their new residences.

**FIGURE 5-1**  
**ABILITY TO PAY AT ENTRY LEVEL INCOME FOR SELECTED PROFESSIONS**  
**MEDIAN PRICED HOUSE**  
**CITY OF LEXINGTON**  
**2007**

**Source:** Entry Level Salaries as reported by employers in Lexington and the Lexington area.



Nurse, RN and Nurse, LPN updated 7/7/10

\*Annual Income needed to purchase median priced house.

High housing costs affect not only individuals and families but also communities. Lack of affordable housing undermines a community’s overall health. For a community to thrive, the businesses within that community must be competitive, and the people employed by those businesses must earn at least enough to afford basic necessities including adequate, affordable housing. A workforce housing gap makes it more difficult to attract quality workers.

**CURRENT HOUSING INITIATIVES**

The City has a history of working to assure affordable, quality housing and has employed a number of strategies to address local housing needs and problems. The most successful have upgraded the condition of existing residences.

## **THRESHOLD, THE CITY'S HOUSING COMMISSION**

Threshold, Lexington's Housing Commission was created in 1988. Threshold is charged with addressing the housing needs of City residents, especially those of low- and moderate-income families, the elderly, and the handicapped by coordinating and administering local housing programs, and recruiting public and private developers to construct and rehabilitate houses to meet these needs.

Threshold has used Virginia Department of Housing and Community Development's (DHCD) Community Development Block Grant (CDBG) funds, local funds, and a variety of mortgage programs including Virginia Housing Development Authority (VHDA), United States Department of Agriculture Rural Development funds, as well as funds provided by local banks. With the help of these resources, Threshold has completed a number of housing-related initiatives.

Through Threshold, the City received five Community Development Block grants totaling over \$2,800,000. These funds were augmented by over \$1,700,000 contributed by the City, local banks, and Habitat for Humanity. Utilizing these funds, Threshold rehabilitated 95 privately owned houses occupied by eligible low and moderate income families. Twenty vacant, dilapidated houses were purchased, comprehensively rehabilitated, and resold to eligible families. Fifteen new houses were built and sold. Threshold staff worked with purchasers to obtain below market interest rate mortgages utilizing Federal and State programs as well as local banks.

**Threshold continues to manage the local housing rehabilitation opportunities fund described below. Most recently, Threshold has rehabilitated two older homes and is offering them for sale to eligible families. Money from the sale of these houses will be returned to the fund for future projects selected to meet the housing needs of this community.**

**Threshold continues to monitor available funding assistance from Federal, State, and nonprofit agencies for possible use in Lexington. Threshold is also providing the leadership for the creation of a public/private partnership to develop a mixed income housing project on Thompson's Knoll. Community Development Block Grant funds are being sought for this project. More information concerning this project is provided later in this chapter.**

## **LEXINGTON'S HOUSING OPPORTUNITIES FUND**

The City maintains a Housing Opportunities Fund, initially established with a transfer of money from the City's General Fund. Additional money came from revenues generated from the sale of properties purchased and rehabilitated by Threshold through the Community Development Block

Grant Program as well as from the sale of new housing units constructed by Threshold. The amount of money in this fund continues to ebb and flow depending on Threshold's current activities. Because the focus of Threshold's work is on assisting low and moderate income families, rehabilitated houses are often sold for less than the total cost of their acquisition and rehabilitation leading to a reduction in the total amount of money returning to this fund. Currently there is about \$100,000 circulating through the fund.

**Recommendation: Continue to manage the Housing Opportunities Fund in a way which maximizes the benefits provided by this money.**

**Recommendation: Work with local banks and other possible funding sources to create a revolving loan fund to finance local rehabilitation.**

**Recommendation: Formalize a development plan to solicit funds from the private sector to increase the Opportunities Fund.**

Habitat's interest free mortgage system is a possible model for such a loan fund.

## **RENTAL HOUSING INSPECTION PROGRAM**

In 2006, the City of Lexington adopted a rental housing inspection program which requires the inspection of all of the residential rental units in six designated districts as well as the multi-family complexes located in Lexington. The districts were selected because of the presence of a large number of older houses and a high percentage of rental housing units. The program also provides for the inspection of properties located outside an inspection district based on observations of City staff or complaints from landlords, tenants or the general public. **A similar program has recently been adopted by the City of Buena Vista.**

The focus of the program is protecting the public health, safety and welfare of the community by ensuring the maintenance of decent, safe and sanitary living conditions for rental properties within the City. The Virginia Uniform Statewide Property Maintenance Code is utilized for inspection purposes. Focus is on health and safety issues. The cosmetic condition of the property is a secondary consideration. Figure 5.2 shows the current rental inspection districts.

**GOAL: Continue to emphasize housing maintenance and, when necessary, rehabilitation as the primary way to ensure the preservation of older houses within the City.**

**Recommendation: Further decline of existing housing should be arrested through Code Enforcement efforts that require continued maintenance of older, deteriorating structures.**

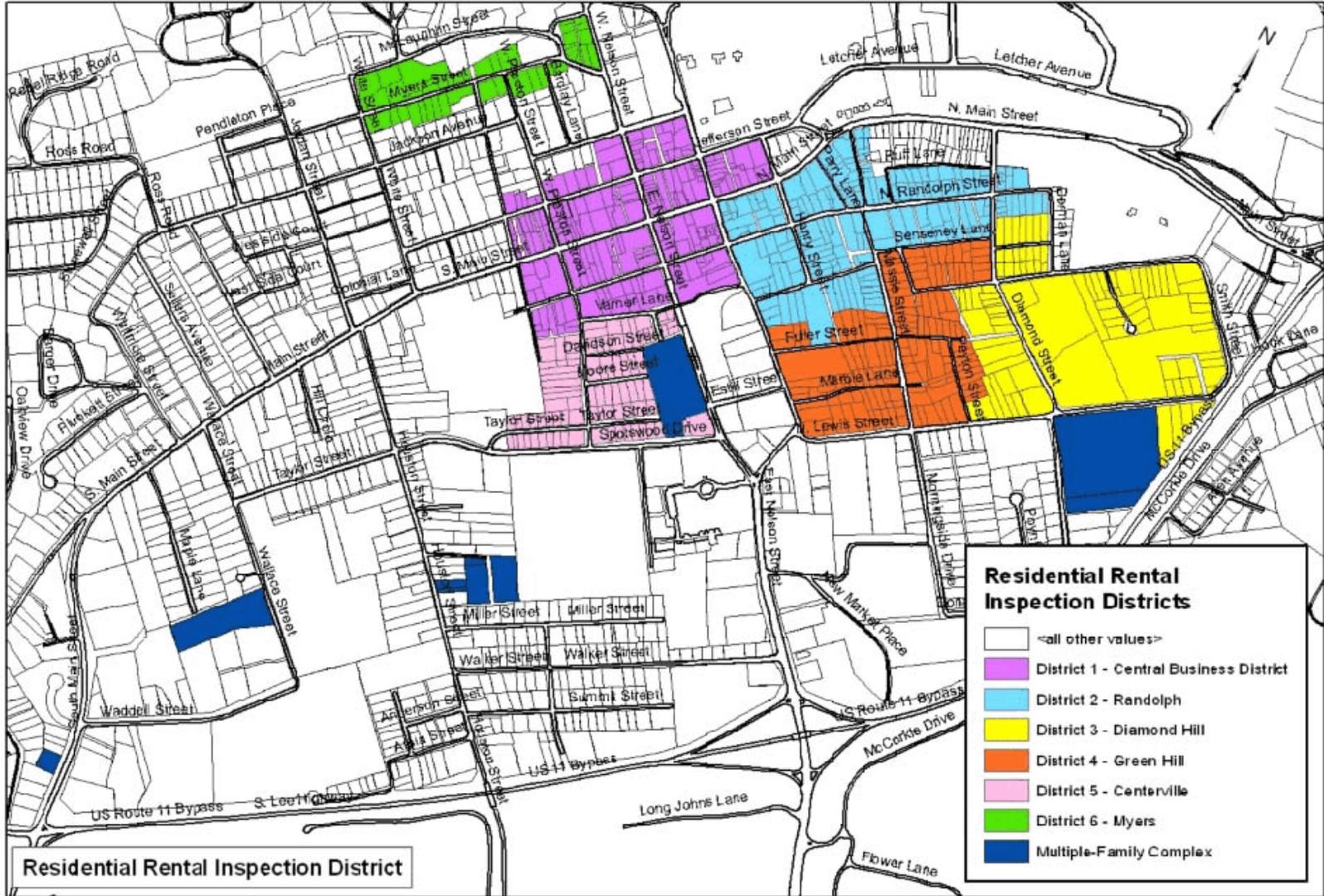
Although vacant structures are not addressed through the rental inspection program, they are also

subject to the requirements of the Property Maintenance Code. Vacant, deteriorating structures are a blight on the neighborhoods in which they are located. They also represent an unused housing resource.

**Recommendation: Utilize the Property Maintenance Code to address deteriorating, vacant houses.**

**Recommendation: The City should require and assist property owners, when necessary, to upgrade the physical condition of deteriorated structures.**

**FIGURE 5-2  
RESIDENTIAL RENTAL INSPECTION DISTRICTS**



## **TOTAL ACTION AGAINST POVERTY (TAP)**

TAP, headquartered in Roanoke, provides a variety of services, including housing related activities, to the citizens of Alleghany, Bath, Botetourt, Roanoke, Rockbridge, and Craig Counties and the Cities of Roanoke, Salem, Buena Vista, Clifton Forge, Covington and Lexington. They have recently opened an office in Lexington and have been expanding their activities in the local area. Their housing-related activities include weatherization and emergency home repairs.

TAP has operated a weatherization program for houses owned and occupied or rented by lower-income families in the City and surrounding area. Weatherization services are designed to reduce the cost of heating and air conditioning and improve the quality of life for recipients. Houses are insulated, weatherstripping is installed, doors and windows are repaired or replaced to reduce air infiltration, heating units and flues are inspected and repairs are initiated where needed.

TAP's emergency home repair program is intended to improve living conditions for low -income families, the disabled, and the elderly by removing barriers to habitability and accessibility in their homes. Repairs are limited to those that affect the health and safety of residents. Eligible home repairs include underpinning of houses and mobile homes, securing porches and handrails, roof, floor and structural repairs and installation of handicap accessibility features.

TAP has also established a rental eviction prevention fund to help prevent families in need from being evicted from their homes.

Other housing-related TAP activities include emergency utilities assistance and homeownership education.

## **HABITAT FOR HUMANITY**

Since its founding in 1989, Rockbridge Area Habitat for Humanity has built 11 of its 40 homes in Lexington. Five of the Lexington homes were built on lots donated by the City of Lexington to Habitat. The other six lots were purchased directly from the land owners.

Rockbridge Habitat builds safe, decent and affordable houses with partner families and the community. All Habitat partner families have a housing need, a demonstrated ability to pay the mortgage, and a willingness to help build their own home. The income levels for prospective Habitat homeowners are between 25% and 60% of area median income; using a family of four persons as an example, the total household income for a Habitat partner family in 2009 will range between \$14,375 and \$34,500.

Habitat homeowners purchase their homes with a 20-year, zero-interest, no-profit mortgage. The remaining equity in the home is secured by a forgivable second mortgage. Mortgage revenues are used by Rockbridge Habitat to cover costs of new Habitat homes in the area.

The City of Lexington has provided financial and technical support to Rockbridge Habitat. Building on their shared successes, Rockbridge Habitat and the City of Lexington continue to explore ways to partner or work together to address affordable housing needs in the City.

## **AFFORDABLE HOUSING PROGRAMS AND PROJECTS**

**Section 8 Voucher and Certificate Program** - The Section 8 Voucher and Certificate Program is managed locally by Rockbridge County through its Rental Assistance Office which provides rental assistance throughout the Rockbridge County area, including Lexington, Buena Vista, Glasgow, Natural Bridge and Goshen. The Section 8 program is overseen by the US Department of Housing and Urban Development (HUD) and administered on a state level by the Virginia Housing Development Authority (VHDA).

The vouchers or certificates are assigned to program participants. Use of vouchers are not restricted to a specific locality. Participants locate their own housing. The unit must be inspected to assure that the dwelling meets minimum housing quality standards established by HUD. Participants pay rents based on income and family size. The program pays the balance of the rent to the landlord.

Rockbridge County has an allocation for 139 families. Twenty of these vouchers are being utilized within the City of Lexington. The waiting list for participation in this program typically exceeds 200 persons.

**Affordable Housing Projects** - Lexington has a limited number of affordable housing projects developed to meet the housing needs of low and moderate income persons. These are:

**Lexington House Apartments** - Located adjacent to a residential neighborhood and near medical facilities, Lexington House is a HUD Section 8 residential facility sponsored by the Virginia Housing Development Authority. Residents must meet Section 8 Income Guidelines and be elderly or handicapped. Lexington House Apartments contain a total of 78 one bedroom units. The waiting list averages 17 persons.

**Mountainview Terrace Apartments** - Mountain View Terrace is a 39 unit apartment complex located off Lewis Street, within the Diamond Hill neighborhood. The project is subsidized by the US Department of Housing and Urban Development. Residents must meet HUD Section 8 Income Guidelines.

**Windemere Apartments** - Windemere is located on Wallace Street in a residential neighborhood, near Maury River Middle School and across the street from the City's recreation

facility, Brewbaker Field. Constructed with financing from the USDA Department of Rural Development, Windemere consists of 38 one bedroom apartments. Tenants must be elderly, handicapped or disabled. Rents are based on income, utilizing federally prescribed income limits. Currently, there are no vacancies and the wait for an apartment is approximately six months.

**GOAL: Provide opportunities for adequate housing for the area's low and moderate income residents.**

### **Temporary Housing**

**Lisa's House** - Lisa's House is a shelter for abused women and their children. Built with a grant from the Virginia Department of Housing and Community Development, combined with other funds, the shelter started accepting clients in 2000. Operated by Project Horizon, Lisa's House can accommodate up to 14 women and children.

There is presently no shelter for homeless persons in Lexington or Rockbridge County. This is considered an unmet need.

## **IMPROVING HOUSING THROUGH REGIONAL COOPERATION**

Political boundaries are rarely a significant factor for families and individuals choosing a place to live. While some may be influenced by the characteristics of a political jurisdiction, such as the quality of the schools in Lexington or the rural character of Rockbridge County, many others will be influenced by the distinctive characteristics of available housing. Whether the structure is located in the City or in Rockbridge County may be a secondary consideration.

Much of the greater Lexington area's new housing is being constructed outside the City. Rockbridge County has approved the creation of over 330 new building lots within a one mile radius of Lexington since 2000. Building permits have been issued for the construction of over 200 homes on these new lots. See Figure 7-8 in the Land Use chapter for a map showing the location of these projects. One of the principal reasons for this is the limited number of large tracts of vacant land within Lexington.

Because of these interrelationships, the City needs to forge partnerships with Buena Vista and Rockbridge County to address important housing issues such as the need for affordable housing, including workforce housing in the region.

**Recommendation: Efforts should be made to maximize the public's access to existing housing.**

A regional housing assistance office created and operated by the 3 local jurisdictions, with

funding shared by all 3, could provide a wide range of services to assist local residents and employees in finding suitable, affordable housing. This office could be operated by a single staff person. A regional housing assistance office would:

- Work with local realtors to establish and maintain a list of accessible rentals and properties for sale.
- Offer assistance to low- and moderate-income potential purchasers by helping them obtain favorable mortgage rates.
- Provide down-payment and closing-cost assistance for first-time homebuyers, with money available from various state and federal sources.
- Conduct educational activities to inform the public about federal tax incentives for first-time-buyers, energy credits, and rehabilitation tax credits.
- Offer counseling to help potential buyers and renters with limited, weak, or bad credit strengthen their credit applications and references.
- Sponsor educational activities to teach renters how to locate appropriate housing and how to be responsible long-term tenants.
- Encourage local realtors to identify accessible housing in their advertising.

**Recommendation: Work with Buena Vista and Rockbridge County to create a Regional Housing Assistance Office.**

### **POSSIBILITIES AFFORDED BY EXISTING STRUCTURES**

When people think of housing in Lexington, most think primarily of single family homes. In fact only 68% of the total units in Lexington are single family dwellings. Another 9% are in duplex structures with two units per building. These include upper- income duplex units in 60 West and Weatherburn, as well as small apartments added to single family dwellings in single family neighborhoods throughout Lexington.

The remainder are in multiple-family buildings ranging from 3 units to over 50 units. These buildings take many forms. Large houses throughout the community have been converted into multiple apartments. Downtown apartments and condominiums include the Lyric, the R. E. Lee and the Dutch Inn. Other apartments occupy the second and third floors of buildings throughout the downtown. More traditional multiple family apartment buildings are located throughout Lexington on streets such as South Main Street, Lewis Street, Myers Street, McLaughlin Street, Nelson Street, Houston Street, Wallace Street, and on Providence Hill.

**GOAL: Conserve the City's existing housing stock.**

Both the local rental inspection program and Threshold's rehabilitation program have shown that many housing deficiencies result in squandered energy, consuming valuable financial resources and further reducing an owner's ability to correct the deficiencies.

Weatherization significantly reduces residential energy use. With reduction of energy usage, residents can save significant amounts of money on their utility bills, and national efforts to reduce the use of nonrenewable energy are addressed. This is critical for low and moderate income families who may be dealing with high housing costs already. A comprehensive weatherization project can reduce the energy use of a house by 20 to 35%. Because older single family homes comprise the majority of the City's housing stock, their energy inefficiencies must be addressed if operating costs are to be reduced and national energy improvement goals are to be met.

New comprehensive weatherization techniques view a house as a whole system in which energy impacting systems are examined and improved simultaneously. Diagnostic techniques have improved as well. As a result, homes weatherized only five years ago can benefit from new knowledge and technology and save, again, on further reduced energy use. By way of example, the Threshold housing rehabilitation program which emphasized weatherization was completed over a decade ago. Those same houses would likely benefit, again, from an energy evaluation using new knowledge.

As part of the federal stimulus package adopted in 2009, money has been allocated for weatherization of homes occupied by low and moderate income families. Up to \$16,000 per house is available in the Valley. Total Action Against Poverty (TAP) is the administrator of this program for Lexington. Threshold has begun to identify ways to make local homeowners aware of these funds and to encourage them to utilize this important service.

Finally, the City has a small set-aside for its Safe and Sound program which provides necessary repairs to prevent structural deterioration for low income families. Patches to roofs has been one use of the funds.

**Recommendation: Partner with Historic Lexington Foundation and other local organizations to educate the public about heating systems, window-repair systems, storm windows, insulation, roof ventilation, and other energy-saving features suitable for existing buildings.**

**Recommendation: As resources become available, renew the Safe and Sound program to address the need for basic home repairs and to assist with home modification.**

## **POSSIBLE COMMUNITY RESPONSES TO INCREASING HOUSING COSTS**

A number of strategies have been developed by communities nationwide to address proactively emerging housing problems. Those which seem appropriate for active consideration by the City are described below.

**Recommendation:** Consider new approaches for increasing the supply of affordable housing

### **MIXED INCOME HOUSING**

Over the past decade, some communities have turned to mixed income housing as an alternative to traditional affordable housing initiatives. Mixed income housing is comprised of housing units with differing levels of affordability, typically a mix of market rate units with housing units that are available to low and/or moderate families at below market rates. There is no single formula for mixed income housing; the mix of affordable and market rate units differs among communities depending on the local housing market.

While proposals for fully subsidized housing projects often draw strong, heated public opposition, opposition to mixed income development is less frequent when mixed income developments contain a limited percentage of subsidized housing. In addition to creating housing units for occupancy by lower income households it also contributes to the diversity and stability of the neighborhood in which it is located.

Increasingly, all levels of government recognize the need for affordable housing opportunities and have identified mixed income housing as a positive option for creating such opportunities. Federal, state and local governments offer a variety of tools and incentives to encourage or require mixed income housing development. Financially, it is more feasible to develop mixed income housing because these projects can afford higher land and development costs. In addition, mixed housing neighborhoods tend to be more stable than neighborhoods containing only low income housing.

The public strategies developed to encourage and facilitate mixed income housing include:

- Smaller, affordable units within a complex of larger market rate units. This permits buyers who may eventually graduate to larger units in the same development.
- Density bonuses to permit an increased number of units within a project (typically 10 to 20 percent). This can reduce the cost per unit for land and provision of infrastructure.
- Some number of low and moderate income families with forgivable second mortgages in an otherwise market rate development (in effect, a subsidy).

- A mandate set-aside of a certain number (typically 10 to 20 percent) in a market rate development through inclusionary zoning requirements.

## **MIXED-USE DEVELOPMENT**

Mixed-use refers to developments and zoning districts that contain a variety of uses. Mixed-use development integrates a variety of land uses into communities as a critical component of achieving better places to live. When commercial and public activities and housing are in close proximity to one another, alternatives to driving, such as walking or biking, become viable. The mix also provides a more diverse population and commercial base. It can enhance the vitality and perceived security of an area by increasing the number of people on the street. Mixing uses helps streets, public spaces, and pedestrian-oriented retail become places where people meet. Attracting pedestrians back onto the street helps stimulate community life.

Mixed land uses can convey substantial fiscal and economic benefits. Commercial uses in close proximity to residential areas often reflect higher property values and, therefore, help raise local tax receipts. Businesses recognize the benefits associated with areas able to attract more people and enjoy increased economic activity when there are more people in an area to shop. In a service economy, communities find that mixing land uses makes neighborhoods attractive to workers who increasingly balance quality of life criteria to determine where they will settle. Mixed use projects are still not authorized in most traditional zoning ordinances. These principles, while illegal in many localities, are traditional in Lexington.

**GOAL: Encourage neighborhoods that are walkable, affordable, accessible, distinctive, and true to the significant historic context of the community in which they are located.**

**Recommendation: New development should blend into and enhance the unique spaces that it inhabits. This is especially important in Lexington, with its distinctive qualities and strong sense of place.**

**Recommendation: Evaluate the impact of parking associated with new development to minimize its effects on adjacent neighborhoods.**

New projects should provide the following:

- In-scale development that fits the local context.
- Buildings in the neighborhood center placed close to the street.
- Parking lots that rarely front the street. Parking is relegated to the rear of buildings or the interior of blocks.

- Proximity to shops and offices of sufficiently varied types to supply the weekly needs of a household.
- Commercial establishments, parks, schools, and civic buildings that are located among or within walking distance of homes.
- A variety of dwelling types, usually houses, townhouses, and apartments, so that younger and older people, singles, and families, and people with a range of income levels may find places to live in close proximity.
- Most dwellings within a five-minute walk of the center, an average of roughly 1/4 mile.
- Streets that disperse traffic by providing a variety of pedestrian and vehicular routes to any destination.
- Narrower streets with crosswalks, streetscaping, and other traffic-calming measures to create an environment suitable for pedestrians and bicycles.
- Residences with narrow front setbacks, front porches, and detached rear garages or alley-loaded parking.

These principles can be used to upgrade and revitalize existing commercial areas and surrounding neighborhoods as well as for new construction. Combining residential and commercial successfully does not require a wholly undeveloped site, and such projects do not have to be completed by a single entity. The key to effective infill and redevelopment is designing new elements that connect fully with the old. Both South Main and East Nelson provide opportunities to further implement mixed use development.

### **The East Nelson Street commercial area and environs**

This area is one of the City's three principal commercial centers. It contains a full range of retail activities including groceries, a pharmacy, a hardware store, auto parts store, other general retail, as well as several fast food restaurants. Surrounding activities include Central Elementary School, the hospital, and a hotel. It is a convenient walk from this area to the downtown. The surrounding residential area contains mostly single family homes. The East Nelson Street apartments are adjacent. There remains a limited amount of vacant land available for development in this area.

This area is identified as an area for potential development and redevelopment in the Land Use chapter of this plan (see pages 7-42 and 7-43). The development of an overall urban design concept plan and design standards for new construction as well as redevelopment is recommended in that chapter to enable integrated design throughout this area.

## **The South Main Street commercial core and surroundings**

This area is one of three principal commercial centers in Lexington. Commercial uses include restaurants, a motel, a grocery store and the Farmer's Co-op. The uses surrounding the commercial core include Brewbaker Field and the City's two swimming pools, Maury River Middle School, the City fire station, and residential neighborhoods containing primarily single family homes but also some multiple family apartment buildings. There is also a limited supply of vacant land available for development.

This area is also discussed in the Land Use chapter (pages 7-44 and 7-45). Recognizing that there will likely be additional development, as well as further redevelopment and expansion of underutilized parcels a design plan and design manual is also recommended for this area.

**Recommendation: The City should plan to integrate housing into the South Main and East Nelson commercial areas both to strengthen their economic vitality and to improve residents' access to local goods and services.**

This can be accomplished by emphasizing the following principles:

- Reorient activity on sites to face the street.
- Establish street and pedestrian patterns that connect with the surrounding community.
- Use site planning and architectural elements to make redeveloped or upgraded commercial sites fully part of the community.
- Integrate multiple uses including employment and housing within the area.
- Provide a range of housing types to provide homes for people of all ages and incomes.

**GOAL: Use historic neighborhood design principles to facilitate the redevelopment and expansion of the downtown and the East Nelson Street and South Main Street commercial areas into vibrant mixed-use neighborhoods with higher densities, a mix of housing types and a range of complementary uses.**

The advantages of utilizing these guidelines for infill and redevelopment include:

- improving the potential for development in Lexington's existing commercial centers and adjoining sites
- increasing development densities within a concentrated area to promote the ability to work, shop, and live in one neighborhood

- providing economical opportunities for mixed use redevelopment of existing properties
- encouraging reuse and rehabilitation of existing infrastructure
- compact development or redevelopment which conserves land, integrates uses, and fosters a sense of place

These and other similar principles should be utilized in the development of the design plans for these areas. Utilizing these studies, new zoning regulations to implement these plans should then be developed.

The zoning regulations required to implement quality mixed use neighborhoods typically include three different types of regulatory standards to accomplish the design principles: Performance Standards, Design Guidelines, and Form-based Standards. Form-based zoning creates the physical context, Design Guidelines allow for more specific control of the built elements, and Performance Standards ensure the best management of the land and built environment.

By adopting the three types of regulatory standards as part of a mixed use overlay zone instead of the conventional zoning standards, the City would be able to more closely regulate the design and character of new development and redevelopment. The result would be better utilization of land area, improved tax benefits, and lower capital costs.

**Recommendation:** Create overlay zones for these areas with guidelines that require projects to combine uses, keep buildings close together, improve walkability, mix dwellings of different types and costs while matching their design to Lexington’s look and scale, using the City’s existing infrastructure.

Examples of redevelopment studies using these guidelines appear in this document as **Appendix 2**.

## **The Downtown**

Lexington’s downtown is one of the historical models upon which these historic development concepts are based. Significant numbers of housing units are contained in the upper stories of buildings throughout the downtown. The rate of rehabilitation and upgrading of these units has increased during the last decade. There are presently over 140 dwelling units in the downtown located in over 40 buildings. The Lyric Residences, the Dutch Inn, the Sheridan Building and the First American Bank Building have been rehabilitated.

### **GOAL: Increase residential occupancy downtown**

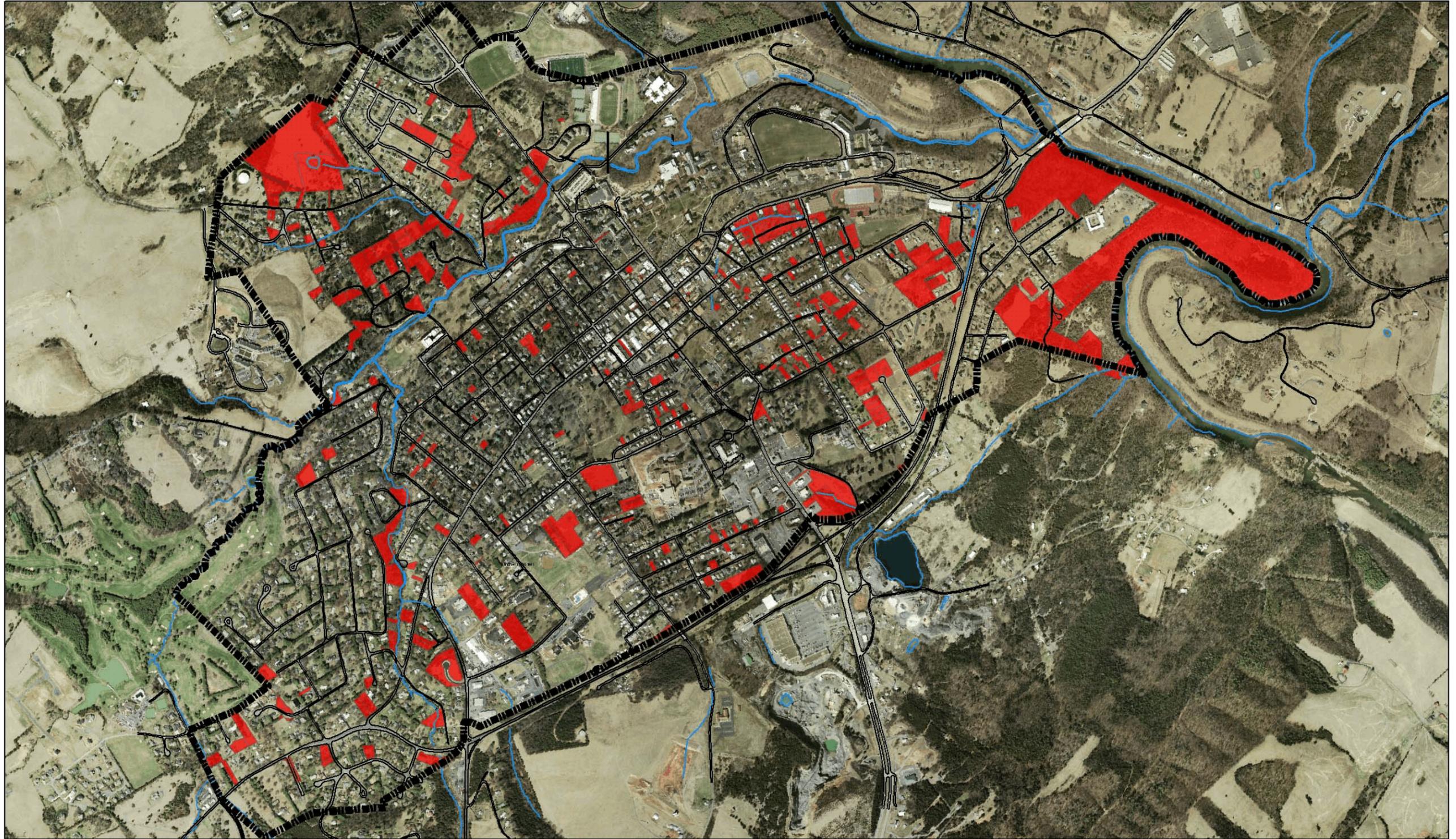
**Recommendation: Identify all buildings with developable upper-story spaces; inform all owners of rehabilitation tax credit and other cost-saving programs.**

**Recommendation: Advise owners of historic buildings of performance-based ways to meet fire code requirements.**

### **MAKING EFFECTIVE USE OF REMAINING VACANT LAND**

Remaining vacant land is shown on Figure 7-3, Vacant Land, contained in the Land Use chapter of this plan. The majority of vacant land is in small parcels or individual lots scattered throughout the City. Only 6 tracts of vacant land exceeding five acres in size remain in the City. Development of these tracts is challenging for a variety of reasons including limited access, natural features such as steep slopes and sink holes, excess rock, and limited utility availability.

**FIGURE 5-3  
VACANT LAND**





Infill development is the process of developing vacant land or underutilized parcels within existing urban areas that are already largely developed. Ideally, infill development involves more than the piecemeal development of individual lots. Instead, a successful infill development strategy should focus on the task of creating complete, well-functioning neighborhoods. Successful infill development is characterized by overall residential densities high enough to support improved transportation choices as well as a wider variety of services and amenities. It can increase cultural, social, recreational and entertainment opportunities, gathering places, and return vitality to older commercial centers and neighborhoods. Attention to the design of infill development is essential to ensure that new development fits the existing context and gains neighborhood acceptance.

The alternative to infill development is sprawl - the continued use of more land than is necessary to accomplish a given development goal. Sprawl is the use of resources and land in excess of what is needed to create a comfortable, livable and functional city. Sprawl costs cities more money because it requires additional paving and road maintenance costs, extensive sewer and storm drain construction and costs for the many other services local governments provide.

**GOAL: Add housing without creating the perception of incongruous housing types or greater density.**

Several ways of accomplishing this goal particularly suit Lexington.

**Single Family Homes with Secondary Units** - The inclusion of a smaller, secondary unit on the same site as a single family detached home adds housing units without creating the perception of a different home type, or greater density. Secondary units provide income to the primary homeowner, and thus can allow homeownership to buyers who would otherwise not be able to afford a home. Secondary units may be considered more desirable to certain groups of tenants than larger apartment buildings, and the cost to construct, manage, and maintain them is less than for multifamily apartments.

The two most common ways to accommodate a secondary unit are within the main house, usually at grade, or in a separate structure about the size and scale of a double car garage. As a variation, small apartments have been developed above garages and on an upper floor with a separate access stairway.

**Accessory dwelling units** - These dwelling units typically exist on the same lot with a larger single family dwelling. Most conventional zoning allows these units only in neighborhoods that were developed in the 19<sup>th</sup> and early 20<sup>th</sup> century, when many houses were constructed with a detached garage or carriage house which was easily converted.

The benefits of this type of dwelling include providing rental income to property owners, and providing for additional reasonably priced housing for certain income and family groups. Accessory dwellings are not to be viewed as a replacement for larger single family dwellings; rather, they offer opportunities to address the need for units of this type through the conversion of ancillary structures in existing neighborhoods or through new construction on lots in conjunction with a larger house.

Examples of these two housing types as well as other higher density, more compact development types are contained in **Appendix 3**.

**Recommendation: Permit garage and upper story apartments in selected residential districts.**

**Recommendation: Permit housing structures ancillary to larger houses in selected residential districts.**

**The Cottage Community** - Cottage neighborhoods are clusters of houses that are significantly smaller than the national average. The cottages may be as small as 700 - 800 square feet—an appealing option for those who don't want to live in larger single family houses. The cottages require smaller lots so more units may be built on a site. Residents benefit from shared amenities such as parking, landscaping, and shared community space. Cottage communities avoid otherwise undifferentiated development, and provide opportunities for young and elderly singles and couples and young families to be added to the housing mix. This addresses a shifting demographic: 60% of all households in the U. S. are composed of 1 or 2 persons. This approach allows pocket communities to fit into established close in neighborhoods in a way which supports the efficient use of urban residential land. Representative site plans and photographs of two existing cottage communities are contained in **Appendix 4**.

While the specific aspects of cottage communities vary from community to community, they share common strategies:

- They are authorized either as a conditional use in existing single family residential districts or are created as an overlay zoning district which may be applied to a specific site after review by the Planning Commission and authorized by the city governing body.
- They authorize up to 2 cottage units for each single family home permitted in the district.
- Most ordinances specify both a minimum and a maximum number of units in the project (for instance a minimum of 4 and a maximum of 12).
- A maximum unit size is specified (typically from 800 to 1,000 square feet).
- Both public and private open space is required.
- The common open space is required to provide a centrally located focal point for the cottage housing development as well as provide a sense of openness.
- The cottages are located around this open space and their main entrances open onto it.
- The number of required parking spaces varies from 1.25 to 1.5 for each unit.

- Parking is located in small clusters around the periphery of the development. The number of spaces in each small lot is limited and landscaping or architectural screening of the lot is required.

**GOAL: In-fill construction on already vacant land should be used to increase housing units available for rental and home ownership.**

**Recommendation: Explore modifying the zoning ordinance to allow higher densities in ways which do not adversely effect the neighborhoods in which they could be built.**

## **ZONING STRATEGIES TO ENCOURAGE NEW AFFORDABLE AND WORKFORCE HOUSING**

Nationally, two principal innovative zoning strategies have been developed to address the need for workforce and affordable housing - density bonuses and inclusionary zoning.

**Density Bonuses** – A density bonus is an incentive-based tool that permits developers to increase the maximum allowable development on a property in exchange for helping the community achieve public policy goals. Density bonuses are often used to increase the supply of affordable housing for working families or senior households. Density bonuses may vary from project to project, but may not exceed a designated limit (generally 10% to 20% over the base density). The additional cash flow from these bonus units offsets the reduced revenue from the affordable units. These bonuses are provided at no cost to the local government.

**Recommendation: New residential development should suit the scale and appearance of existing neighborhoods, provide compact and pedestrian friendly design, and preserve the City's traditional mix of housing types and costs.**

**Planned Unit Development** - In 1990, The City added a Planned Unit Development (PUD) section to its Zoning Code. These PUD provisions are designed to encourage flexibility and innovation in the development of both large and small tracts of land. The PUD concept involves parcels of land planned as an overall unit rather than as an aggregate of individual lots with design flexibility from traditional siting requirements such as side yards, setbacks and height restrictions.

**GOAL: Encourage new construction which includes houses at a variety of price points.**

**Recommendation: Use the Planned Unit Development (PUD) process to enable creative and efficient use of the remaining tracts of vacant land within its borders.**

**Recommendation: Carefully implement the PUD process to ensure that approved projects reflect suitable site planning and design and are appropriate for the neighborhood context.**

**Recommendation: Encourage PUD proposals that mix housing types.**

**Recommendation: Proposals should be encouraged to develop different types of compatible land uses including housing close together in appropriate locations, to shorten trips and facilitate alternative modes of transportation, such as walking, bicycling and public transportation.**

**Recommendation: Extend and develop path and sidewalk networks, to connect residential properties with commercial ones.**

**Recommendation: Work with shopping centers to develop pedestrian access.**

**Recommendation: PUD review should ensure that the scale and design of land uses including housing of diverse types are compatible with each other.**

## **GREEN HOUSING**

According to the U.S. Green Building Council a green house is “a high performing home that is energy and water efficient, has good indoor air quality, uses environmentally sustainable materials and uses the building site in a sustainable manner.” Although green housing presently accounts for a small percentage of the total housing market, the National Homebuilders Association believes that it is the wave of the future

One of the largest national players in the workforce housing industry is Enterprise Green Communities. One of their primary goals is to make environmentally sustainable development the mainstream in this portion of the housing market. They have developed the Green Communities Criteria, a national framework for healthy, efficient, environmentally smart affordable homes.

These criteria were created to implement the following concepts:

- **An integrated design process** in which green building strategies are considered from the earliest stages of project planning.
- **Locations** that conserve resources, take advantage of existing infrastructure and civic amenities, are close to transportation, and contribute to the fabric of healthy, livable communities.
- **Site improvements** that minimize harm to the environment, enhance health, conserve natural resource, improve operational efficiencies, and promote walking, cycling, and public transportation.
- **Energy efficiency** in every phase and aspect of development, including efficient construction methods, design and insulation of units for efficient heating and cooling, installation of Energy Star appliances, and use of efficient lighting inside and out.

- **Water conservation** including water efficient appliances and fixtures, low-water landscaping, and making use of rainwater and graywater where appropriate.
- **Materials that are beneficial to the environment**, including reuse and recycling on the construction site, and use of building products and techniques that contribute to more durable, healthy and resource efficient buildings.
- **Creation of a healthy living environment** that is easy to maintain and keep clean, relying on safe, biodegradable materials that make for a healthy dwelling, especially for sensitive groups such as children, seniors and those with respiratory problems.
- **Sustainable operations and maintenance**, including plans and policies that maximize efficiencies, and training for employees and residents in how to maintain and preserve the property's value.

Green housing offers many benefits:

- **Greater energy efficiency** - Energy costs for low and moderate income families have outpaced their incomes in recent years. Homes which are more energy efficient cut utility costs by significant amounts each year. Homes with water conserving energy appliances and fixtures and low-cost maintenance techniques lead to additional cost savings. Homes with added insulation and quality windows reduce monthly heating and cooling costs. Using solar energy to provide heat and hot water provides free energy from a renewable source.
- **Environmental benefits** - Residential heating and cooling make up 20% of the U.S. yearly energy use. Most of that energy comes from greenhouse gas producers like oil and coal. Green homes reduce our dependence on conventional energy sources as they use less energy and generate some or all of their energy needs through alternative energy sources such as the sun, geothermal energy or wind. Homes sited within walking distance to schools, jobs and services reduce family transportation costs. Infill housing which directs development to areas with existing infrastructure reduces development costs.
- **Affordable Living**- Green building and affordable housing are natural partners. Although green construction may cost slightly more than conventional construction (generally 3 to 5%), over time low income homeowners will benefit from lower utility bills, reduced maintenance costs, and healthier environments. Threshold has emphasized reducing operating costs as a core component of its local housing efforts both for rehabilitation of existing housing units and for the new houses it has built.

The City and Threshold received a planning grant in 2009 from Enterprise Green Communities to develop a plan for a green, mixed income, community at Thompson's Knoll in the Diamond Hill community. The site plan developed through this process and the Enterprise Green Communities Criteria Check List on which it is based are reported in **Appendix 5**.

**GOAL: Encourage the use of green building techniques for all new houses built in the City especially for housing intended for low and moderate income families**

**Recommendation:** Threshold should continue to utilize green principles to the extent possible in its affordable housing programs

**Recommendation:** The City and Threshold should continue to explore possibilities for the creation of a green, mixed income housing project in Lexington

## **STUDENT HOUSING**

Student housing offers particular challenges. Washington and Lee University's housing policy requires all freshman to live in their dormitories and all sophomores to live in university housing including dormitories, fraternities and sororities or theme houses. Juniors and seniors either live in the surrounding community or in fraternities and sororities. All students (cadets) at Virginia Military Institute are housed on post in Barracks.

In 1990, approximately 360 undergraduate students from Washington and Lee University lived off campus in the City. Today, this number is approximately 600. At the same time, there were approximately 210 students enrolled in the Law School living in Lexington. Today 394 Law School students live off campus in the City. There are 95 students living in the sororities on the W&L campus. The fraternity houses, located in two main areas within the City, house 266 students (Spring, 2009).

All fraternities and sororities are required to employ an adult, non-student resident manager. The University's Security Staff now includes the fraternities and sororities in its regular round of security checks and targets Greek residences during celebratory weekends. The Buildings and Grounds Department conducts regular inspections of fraternity and sorority properties to assure cleanliness and maintenance.

There may be fundamental lifestyle differences between students occupying houses in residential neighborhoods and their surrounding neighbors, many of whom work and are homeowners whose major financial investment is their home. Periodic parties, late night comings and goings, and noise are often aspects of college student life which may conflict with neighbors who must keep more regular schedules.

On street parking may also become a problem. In areas where residents must park on the street, a greater burden is placed on the available parking space if a house is occupied by a number of students, each with a car. Parking problems become exacerbated when students or other residents along a street have guests.

The City has made a number of changes to its Zoning Ordinance to maintain the quality of life in its residential neighborhoods with a concentration of college residents. Among those have been

reductions in the number of unrelated individuals who may occupy a dwelling. That number is presently 3 persons in most of the City's residential districts and 4 in the downtown.

**GOAL: Maintain and improve the quality of life in residential neighborhoods with large numbers of student renters. It should ensure that all citizens reside in neighborhoods that are calm, clean, and safe places to live.**

**Recommendation: Work with Washington & Lee to develop educational and other cooperative programs that foster quiet, clean neighborhoods where students are residents.**

**Recommendation: Retain the current limit on the number of unrelated individuals who may occupy a single dwelling and continue to limit or even reduce the number of authorized large capacity houses.**

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## APPENDIX 5.1

### 2000 CENSUS OF HOUSING DATA

Housing information is collected by the Census Bureau every decade on the long version of the census form which is distributed to one in six households.

Dormitories, fraternities and sororities at Washington and Lee University and the Barracks at Virginia Military Institute are not included in the housing statistics reported throughout this chapter. The Census Bureau classifies this type housing as *group quarters*. However, the houses on the Washington and Lee University campus and the Virginia Military Institute Post are included, as are the Woods Creek Apartments at W&L. These units are included as the occupants have the ability to live and eat separately and have separate entrances for each unit.

### TOTAL HOUSING UNITS

A housing unit is defined by the Census Bureau as a house, apartment, mobile home, group of rooms or single room that is occupied as separate living quarters. Separate living quarters are those in which the occupants live separately from any other individuals in the building and which have direct access from outside the building or through a common hall.

Table 5.1 reflects the total number of housing units for Lexington, Buena Vista, Rockbridge County and the Commonwealth of Virginia. These numbers are also distributed between occupied and vacant housing units.

**TABLE 5.1**  
**TOTAL HOUSING UNITS IN SELECT LOCALITIES**  
**1990 and 2000**

LOCALITY	TOTAL HOUSING UNITS		OCCUPIED HOUSING UNITS		VACANT HOUSING UNITS	
	1990	2000	1990	2000	1990	2000
Lexington	2,311	2,376	2,172	2,232	139	144
Buena Vista	2,494	2,716	2,404	2,547	90	169
Rockbridge County	7,975	9,550	7,202	8,486	773	1,064
Virginia	2,496,334	2,904,192	2,291,830	2,699,173	204,504	205,019

SOURCE: US Census provided by the Central Shenandoah Planning District Commission

Sixty five housing units were created in the City between 1990 and 2000. The majority of these were new single family homes built in the Fairwinds and Penrith subdivisions, both of which were developed during this period.

An additional 95 housing units have been constructed in Lexington since April 1, 2000 when the 2000 census was conducted. These included 6 units in duplex structures (2 units per building) and 6 attached townhouse units. The balance, 79 units, were single family homes. The majority of the single family dwellings were in the Fairwinds and Penrith subdivisions although homes were built throughout the City on the remaining vacant lots. Four of the duplexes were constructed in Weatherburn located on Thornhill Road which has been approved for 44 units in 22 buildings.

There were 2,471 housing units in Lexington as of April, 2009.

## OWNER AND RENTER OCCUPANCY

**TABLE 5.2  
OCCUPANCY BY OWNERSHIP  
CITY OF LEXINGTON  
1960 - 2000**

	YEAR									
	1960		1970		1980		1990		2000	
	#	%	#	%	#	%	#	%	#	%
<b>Owner Occupied</b>	989	50.1	1,172	51.9	1,228	51.4	1,192	51.6	1,232	51.8
<b>Renter Occupied</b>	876	44.7	963	42.6	953	39.9	980	42.4	1,000	42.1
<b>Vacant</b>	94	4.8	125	5.5	203	8.7	139	6.0	144	6.1
<b>TOTAL</b>	<b>1,959</b>		<b>2,260</b>		<b>2,389</b>		<b>2,311</b>		<b>2,376</b>	

**SOURCE: US Census of Population and Housing, Weldon Cooper Center for Public Information, University of Virginia**

The number of owner occupied houses has increased significantly over the past 40 years, from 989 houses in 1960 to 1,232 houses in 2000, an increase of 243 homes.

The number of rental housing units has increased by 124 units in the last 40 years. The proportion of rental property has remained fairly stable as a percentage of total units.

There were 144 vacant housing units, or 6.1% of the total number of units in 2000. This figure is deceptive since it includes unoccupied housing units not being marketed, units for seasonal or recreational use and “other” vacant units.

## VACANCY RATES

At the time of the 2000 census the vacancy rate for units for being marketed for sale within the City was 2.1%. The rental vacancy rate was 3.6%. These statistics are from the 2000 census. The current vacancy rates may be higher because of the current economically depressed housing market.

Both of these vacancy rates are considered by housing professionals as less than is optimum for a housing market. A vacancy rate of from 5% to 7% is considered to be desirable to afford those seeking housing an adequate choice. When the rate drops below 5% it becomes harder for those looking for a place to live to find a place that meets their needs and preferences. Also a tight market generally leads to higher sales prices and rents as the limited supply leads to increased competition for the better units.

## MEDIAN VALUE OF HOUSING

**TABLE 5.3**  
**MEDIAN DOLLAR VALUE / OWNER-OCCUPIED HOUSING**  
**CITY OF LEXINGTON**  
**1960 - 2000**

	1960	1970	1980	1990	2000
<b>Value</b>	\$44,500.00	\$56,350.00	\$67,000.00	\$74,500.00	\$131,900.00
<b>Increase from prior Census</b>		\$11,850.00	\$10,650.00	\$7,500.00	\$57,400.00
<b>Percentage Increase</b>		26.62%	19.89%	11.19%	77.05%

**SOURCE: US Census of Population and Housing, Weldon Cooper Center for Public Service, University of Virginia**

The median value of owner-occupied housing within the City of Lexington increased by \$57,400 or 77% from 1990 until 2000. Although, not adjusted for inflation this still represents a dramatic increase.

The median value of homes sold in Lexington in 2008 was \$244,900 according to the Virginia Board of Realtors. This was an additional increase of 85% since 2000.

There are several reasons for this included the increasing cost of land, the continued increase in the cost of building materials and the continuing trend of building ever larger houses. In 1960

the average size of a 3 bedroom house was 1,200 to 1,400 square feet. The typical size for such a house today is over 2,000 square feet.

## VALUE OF OWNER-OCCUPIED HOUSING

**TABLE 5.4**  
**VALUE FOR OWNER-OCCUPIED HOUSING UNITS**  
**CITY OF LEXINGTON**  
**2000**

VALUE	NUMBER OF HOUSES*	PERCENTAGE
Less than \$40,000	0	0.0%
\$40,000 to \$49,999	18	1.5%
\$50,000 to \$59,999	27	2.3%
\$60,000 to \$69,999	124	10.5%
\$70,000 to \$79,999	116	9.8%
\$80,000 to \$89,999	86	7.3%
\$90,000 to \$99,999	45	3.8%
\$100,000 to \$124,999	133	11.3%
\$125,000 to \$149,999	145	12.3%
\$150,000 to \$174,999	100	8.5%
\$175,000 to \$199,999	76	6.6%
\$200,000 to \$249,999	128	10.9%
\$250,000 to \$299,999	90	7.6%
\$300,000 to \$399,999	50	4.2%
\$400,000 to \$499,999	23	2.0%
\$500,000 to \$749,999	17	1.4%
\$750,000 to \$1,000,000 or more	0	0.0%

**SOURCE: US Census of Population and Housing, Weldon Cooper Center for Public Service, University of Virginia**

**\*2000: Number of Housing Units responding to Survey: 1,178**

The 1990 Census Survey reported 195 housing units under the \$40,000 threshold. The 2000 Census Survey counted no houses priced under \$40,000. In 1990 there were only 3 houses valued at \$500,000 or more. The 2000 Census reports 17 such houses.

## RENTS

**Table 5.5**  
**MEDIAN CONTRACT RENT**  
**CITY OF LEXINGTON**  
**1960 - 2000**

	RENT	% INCREASE
1960	\$169	
1970	\$214	26.6%
1980	\$189	-11.7%
1990	\$284	50.3%
2000	\$356	25.4%

**SOURCE: US Census of Population and Housing, Weldon Cooper  
Center for Public Service, University of Virginia**

**TABLE 5.6  
RATES OF RENTAL HOUSING  
CITY OF LEXINGTON  
2000**

<b>RENTAL RATE</b>	<b># UNITS</b>	<b>PERCENTAGE</b>
<b>Less than \$100</b>	35	3.4%
<b>\$100 to \$149</b>	56	5.4%
<b>\$150 to \$199</b>	55	5.3%
<b>\$200 to \$249</b>	90	8.7%
<b>\$250 to \$299</b>	116	11.2%
<b>\$300 to \$349</b>	114	11.0%
<b>\$350 to \$399</b>	128	12.4%
<b>\$400 to \$449</b>	44	4.2%
<b>\$450 to \$499</b>	52	5.0%
<b>\$500 to \$549</b>	76	7.3%
<b>\$550 to \$599</b>	19	1.8%
<b>\$600 to \$649</b>	43	4.2%
<b>\$650 to \$699</b>	32	3.1%
<b>\$700 to \$749</b>	0	0.0%
<b>\$750 to \$799</b>	13	1.3%
<b>\$800 to \$899</b>	16	1.5%
<b>\$900 to \$999</b>	35	3.4%
<b>\$1,000 to \$1,249</b>	32	3.1%
<b>\$1,250 to \$1,499</b>	8	0.8%
<b>\$1,500 to \$1,999 or more</b>	0	0.0%
<b>No Cash Rent</b>	36	3.5%

**SOURCE: US Census of Population and Housing, Weldon Cooper Center for Public Service, University of Virginia**

Tables 5.5 and 5.6 indicate that rents have kept pace with the increasing costs of housing within the City of Lexington. Again these numbers have not been adjusted for inflation, so a direct comparison is not possible. There has been a significant decline in the numbers of housing units

available at the lower rental rates. In 1990, 261 houses were rented at rates less than \$200. By 2000, that number had decreased to 146 houses.

In 1990, the largest percentage of rental housing was rented at rates between \$250 and \$299. By 2000, the highest percentage of rental housing was rented at rates between \$350 and \$399. Only 4 housing units were rented at rates of \$1,000 or more in 1990. That number had increased to 40 by 2000.

## STRUCTURES

Table 5.10 lists the number of structures within the City and the number of housing units within those structures. Included in this table are the number of vacancies for each type of structure.

**TABLE 5.7  
UNITS IN STRUCTURE  
CITY OF LEXINGTON  
2000**

<b>UNITS PER STRUCTURE</b>	<b>OWNER-OCCUPIED</b>	<b>TENANT-OCCUPIED</b>	<b>VACANT</b>	<b>TOTAL</b>
<b>1- DETACHED</b>	1,169	343	91	1,603
<b>1-ATTACHED</b>	44	19	6	69
<b>2</b>	5	123	22	150
<b>3 or 4</b>	0	147	5	152
<b>5 to 9</b>	0	149	14	163
<b>10 to 19</b>	0	30	0	30
<b>20 to 49</b>	0	70	0	70
<b>50 or more</b>	0	110	6	116
<b>Mobile Home</b>	0	9	0	9
<b>Boat, RV or Other</b>	0	0	0	0
<b>TOTAL</b>	1,218	1,000	144	2,362

**SOURCE: US CENSUS, 2000 Census of Population & Housing, Weldon Cooper Center for Public Service, University of Virginia**

When you think of housing in Lexington, you think primarily of single family homes. In fact only 68% of the total units in Lexington are single family dwellings.

Another 9% are in duplex structures with two units per building. These include upper income duplex units in 60 West and Wendemere as well as small apartments added to single family dwellings in single family neighborhoods throughout Lexington including Providence Hill.

The remainder are in multiple family buildings ranging from only 3 units to over 50 units. These buildings take many forms. Large houses throughout the community have been converted into multiple apartments, including on South Main Street, Jackson Avenue, Myers Street and Randolph Street. There are downtown apartments and condominiums including the Lyric, the R. E. Lee and the recently renovated Dutch Inn. Other apartments are located on the second and third floors of buildings throughout the downtown. There are also more traditional multiple family apartment buildings located throughout the Lexington including on South Main Street, Lewis Street, Myers Street, McLaughlin Street, Nelson Street, Houston Street and Wallace Street and on Providence Hill.

## **APPENDIX 5.2**

### **DESIGN STUDIES ILLUSTRATING THE CONVERSION OF AGING STRIP COMMERCIAL CENTERS INTO CONTEMPORARY MULTIPLE USE NEIGHBORHOODS UTILIZING TRADITIONAL NEIGHBORHOOD DESIGN PRINCIPLES**

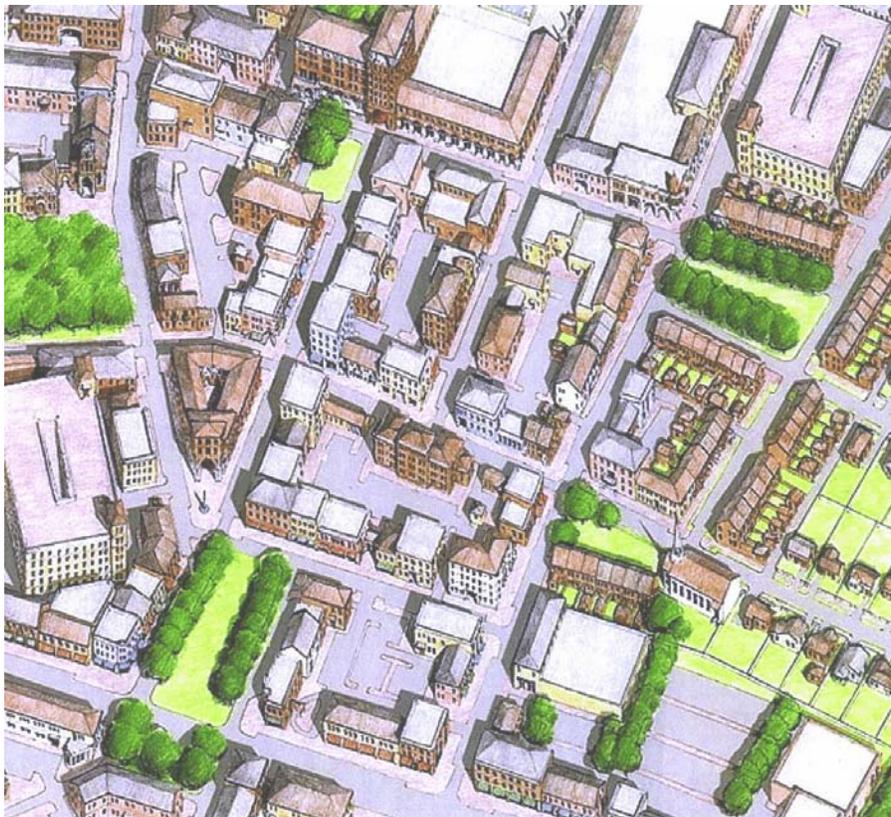
The following design studies illustrate how existing commercial strips such as East Nelsons Street and South Main Street can be converted, over time, into vibrant mixed use neighborhoods with higher densities, a mix of housing types and a range of complementary uses.

Following are examples of design studies which illustrate what the transformed streetscape might look like.

**APPENDIX 5.2, continued**



**Existing: Chattanooga, TN - Eastgate Center**



**Proposed: Chattanooga, TN - Eastgate Center**

**APPENDIX 5.2, continued**



**Existing: College Park, MD - Downtown**



**Proposed: College Park, MD - Downtown**

**APPENDIX 5.2, continued**



**Existing: College Park, MD - Hollywood Commercial District**



**Proposed: College Park, MD - Hollywood Commercial District**

**APPENDIX 5.2, continued**



**Proposed: Beaufort, SC - Boundary Street**



**Proposed: Fort Myers, FL - Dr. Martin Luther King, Jr. and Veronica S. Shoemaker Boulevards**

Source: Dover, Kohl & Partners

**APPENDIX 5.3  
VISUALIZING DENSITY**

Many communities, including Lexington have amended their zoning ordinances to preserve the character of their neighborhoods and their municipality. Lot sizes and lot widths have been increased to better conform to surrounding development. In many cases, these requirements prevent affordable housing from being built because the larger lots are cost prohibitive for modestly priced houses. Housing remains available to wealthier citizens but is more difficult for those with more modest incomes to afford. While there was no conscious intent to exclude lower income households, it has been an intended result.

Two groups who have actively promoted higher densities as ways to address these issues are the Enterprise Green Communities program and the Affordable Housing Design Advisor, a partnership which includes the U. S. Department of Housing and Urban Development and the American Institute of Architects. Both have established minimum densities for various housing types to be suitable for compact housing. These recommendations are presented in Table 5-12.

**TABLE 5-12  
MINIMUM DWELLING UNITS PER ACRE FOR VARIOUS COMPACT HOUSING  
TYPES**

COMPACT HOUSING TYPE	GREEN COMMUNITIES	AFFORDABLE HOUSING DESIGN ADVISOR
Single family detached	6	7-20
Single family with secondary unit		17-24
Multiple units, single family appearance	10	8-22
Row houses		10-20
Multiple family walk ups	15	10-20
Multiple family elevator buildings		20+

The Affordable Housing Design Advisor has developed design criteria and case studies for 6 different types of compact housing. All of the case studies are for affordable housing projects. Emphasis is on successful projects which have been built throughout the country. Each of these is briefly described below with examples of each type. For those who are interested, the City of Lexington Office of Planning and Development has the complete report.

**Compact Single Family Detached Homes** - “Compact” single family lots are defined as smaller than 1/8 acre, or around 5,000 to 5,5000 square feet or even less. Lots of this overall area are typically 50 by 100 feet, or 45 by 120 feet. Street frontage of 45 to 50 feet allows for a single garage plus living room to front the street, with side setbacks of 5 to 10 feet. Alternatively, they allow for an 8 - 10 foot wide driveway on one side of the lot to give access to a garage at the rear of the lot, and for a 25 to 30 foot wide house with an entry plus one or two rooms facing the street.

To achieve densities above 8 units per acre excluding streets (about 6 units per acre including streets) requires shrinking the width of the lot or depth of the lot or both. Using one strategy, “narrow but deep” lots 30 feet wide and 75 to 100 feet deep are used to reduce lot sizes and increase density. As lot widths narrow, there are more homes fronting a given length of street, which reduces street related infrastructure costs per unit, but increases the challenge of getting sufficient frontage for both cars and ground level rooms. Using another strategy, “wide but shallow” , lots are kept at 45 – 50 feet wide or more, but with depths reduced to 60 feet. This pattern keeps the homes spread further apart along the street, which resolves some of the visual and vehicular access issues of narrower lots, but is less efficient from a street infrastructure perspective, and may also compromise rear yard depth.

The case studies show a wide range of possible densities, from 7-21 units per acre. Two examples are shown below.



**Metro Square - 21 units per acre**



**Self Help Homes - 14 units per acre**

**Single Family Homes with Secondary Units** - The inclusion of a smaller, secondary unit on the same site as a single family detached home adds housing units without creating the perception of a different home type, or greater density. Secondary units provide income to the primary homeowner, and thus can allow buyers who would otherwise not be able to afford a home to obtain ownership. Secondary units may be considered more desirable to certain groups of tenants than larger apartment buildings, and the cost to construct them and to manage and maintain them is less than for multifamily apartments.

The benefits of secondary units are being rediscovered, but the housing type is an old one. The two most common ways to accommodate a secondary unit are within the main house, usually at grade, or in a separate structure about the size and scale of a double car garage. As a variation, historically, small apartments been developed above garages, or even on an upper floor with a separate access stair. Two examples of this strategy are shown below



**MLK Homes - 24 units per acre**



**Aggie Village - 17 units per acre**



**Aggie Village - Secondary cottages**

**Multiple unit buildings with single family appearance** - Buildings that contain several units, but are designed to appear like a single family home, can be seen as more in character with some neighborhoods than either row houses or walkup garden apartments. The strategy of achieving density through this model represents a revision of older patterns once found in many America cities and an application to new situations of an old “prezoning” pattern in many cities of having duplexes, Triplexes, and even larger “plexes” on corner sites, or within the shell of older buildings that have been subdivided to create separate apartments within.

These types of buildings are often found between traditional single family detached districts and commercial or apartment housing districts. They can also be found along the “grand boulevards” that trolleys traveled and once had large estate homes. As wealthier families continued to move further out of cities, their former homes were often subdivided into apartments. New apartments made to look like older homes were then used to fill in between these older homes.

The case studies show that a wide range of densities can be achieved using this building type, from 7 – 22 units per acre, mirroring the range of detached homes. The case studies show how this housing type allows for preservation of onsite open space or the meeting of context requirements in a manner that would not have been achieved using the detached house model.



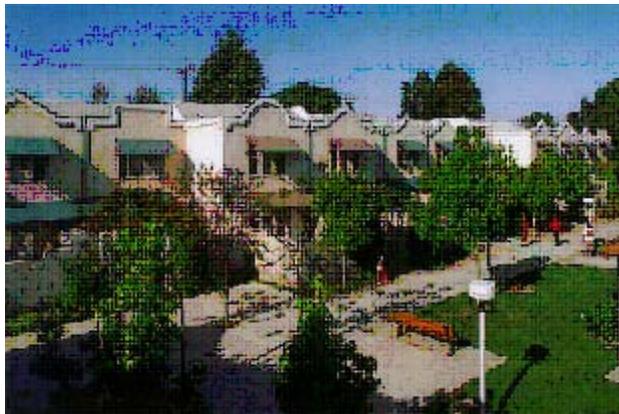
**Willows Homes - 21 Units per acre**



**Hyde Street Co-op - 22 units per acre**

**Row Houses** - The row house offers the advantage of both economical construction and potentially higher land use efficiency by attaching a series of units in a row with party walls on two sides. While attached and often narrower than a detached house, the row house still offers the visibility of an individual front door, an individual back yard, and no other family living above or below. The rowhouse does eliminate the option of side windows except at end units, and therefore its depth is more limited than for detached or semi-detached units. Densities for rowhouses vary from 10 to 30 units per acre. Although in this region most rowhouses, or townhouses, have pseudo-colonial architecture, as the case studies show they may reflect a wide range of architectural styles.

With some exception, the sales value of rowhouse and attached style ownership units is lower on a per bedroom or per square foot basis than for detached units, due primarily to market preferences for light and air on multiple sides, and misgivings about the potential for noise and pest transmission between units.



**Willowbrook Green -  
19 units per acre**

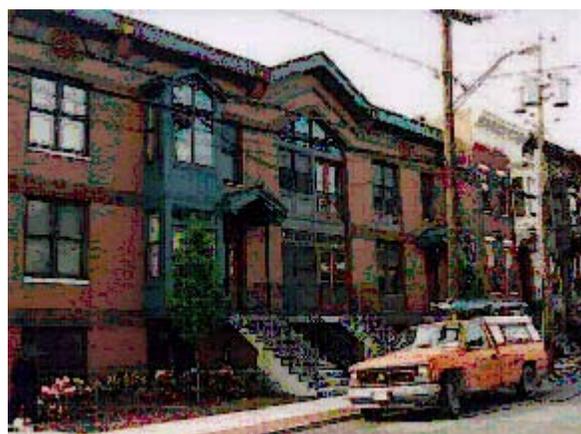


**Southside Park Co-housing -  
20 units per acre**

**Multifamily Walkup Flats and Apartments** - Generally up to 3 stories in height and often organized around some form of community open space, this housing type varies from 16 to over 30 units per acre. This is the type of multiple family housing predominantly found in Lexington. Again, a wide variety of architectural styles is possible and available open space organized efficiently and attractively for community use.



**Open Doors - 19 units per acre**



**Dove Street - 38 units per acre**

**Multifamily Elevator Apartments** - Generally four stories or higher, elevator apartments can be from 20 to over 80 units per acre. The only true example of this housing type in Lexington is the R. E. Lee Building on Main Street in downtown. This will be a difficult housing type to fit into the City because of the building height needed to make these buildings economical. The impact on the skyline of Lexington, which is valued and should be preserved makes it a challenging to find suitable sites for elevator buildings. Some of the selected examples are 4 stories high which might be more appropriate for Lexington than taller buildings of this type.



**Plaza del Sol - 76 units per acre**



**Langham Court - 80 units per acre**



## **APPENDIX 5.4**

### **SITE PLANS AND PHOTOGRAPHS OF TWO EXISTING COTTAGE COMMUNITIES**

Cottage communities are able to fit into established neighborhoods in a sensitive way which also supports the efficient use of remaining urban residential land.

APPENDIX 5.4, Continued

# Danielson Grove - Kirkland, WA

1. Site Size: 97,929 SF/2.25 acres

DU/Acre: 7

Number of Homes: 16

Square Footage Range: 651 - 1500 SF

Land Use Code Provision: [Innovative Housing Demonstration Code](#)



**APPENDIX 5.4, continued**



APPENDIX 5.4, continued

# Ericksen Cottages - Bainbridge Island, WA

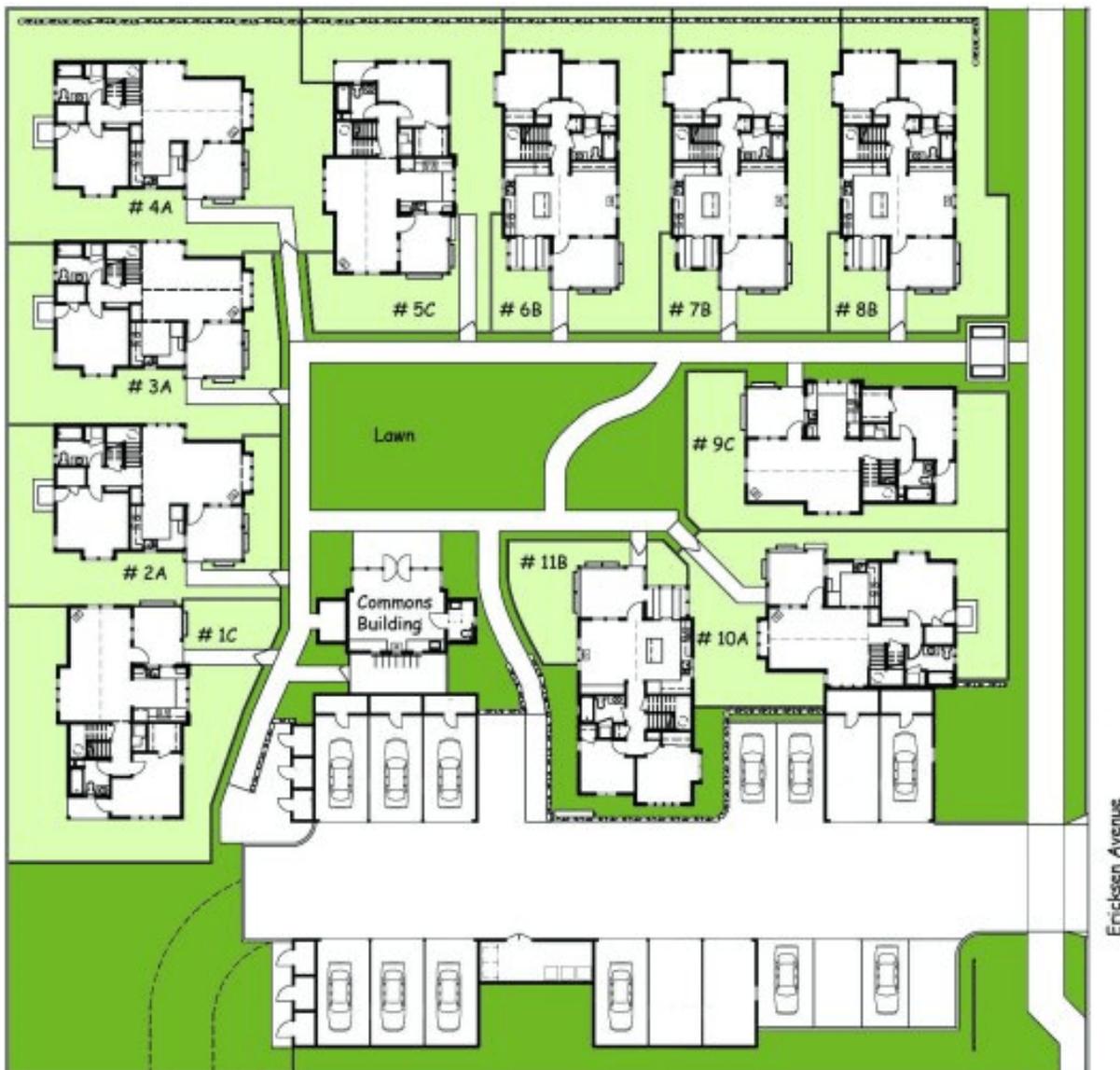
1. Site Size: 39,772 SF

DU/Acre: 12

Number of Homes: 11

Square Footage Range: 1049-1090 SF

Land Use Code Provision: [Mixed Use Town Center, Ericksen District Zone](#)



**APPENDIX 5.4, continued**



**APPENDIX 5.5**  
**ENTERPRISE GREEN COMMUNITIES CRITERIA CHECKLIST**  
**and**  
**SITE PLAN FOR MIXED INCOME HOUSING PROJECT ON THOMPSON'S KNOLL**  
**EMPHASIZING GREEN COMMUNITIES PRINCIPLES**



**Green Communities Criteria Checklist**

**Developer Name:**

**Project Name:**

**Address (Street/City/State):**

**Maximum Points**

Yes	No	?		
<b>Integrated Design Process</b>				
			<b>1.1 Green Development Plan</b>	Mandatory
			Submit document outlining options explored in the design phase with multi-disciplinary team including a qualified green design expert.	
<b>Location and Neighborhood Fabric</b>				
			<b>2.1a Smart Site Location: Proximity to Existing Development</b>	Mandatory <i>except infill site or rehabs</i>
			Locate on site with access to existing roads, water, sewers and other infrastructure within or at least 25 percent contiguous to existing development.	
			<b>2.1b Smart Site Location: Protecting Environmental Resources</b>	Mandatory <i>except infill site or rehabs</i>
			Do not locate new development within 100 feet of wetlands; 1,000 feet of a critical habitat; or on steep slopes, prime farmland or park land.	
			<b>2.1c Smart Site Location: Proximity to Services, New Construction</b>	Mandatory <i>except infill site or rehabs</i>
			Locate projects within a ¼ mile of at least two, or ½ mile of at least four community and retail facilities.	
			<b>2.2 Compact Development</b>	Mandatory <i>except infill site or rehabs</i>
			Achieve densities for new construction of at least six units per acre for detached/semi-detached houses; 10 for town homes; 15 for apartments.	
			<b>2.3 Walkable Neighborhoods: Sidewalks and Pathways</b>	Mandatory
			Include sidewalks or suitable pathways within a multifamily property or single-family subdivision linking residential development to public spaces, open spaces and adjacent development.	
			<b>2.4 Smart Site Location: Make Use of Passive Solar Heating/Cooling</b>	5
			Orient building to make the greatest use of passive solar heating and cooling.	
			<b>2.4b Smart Site Location: Grayfield, Brownfield or Adaptive Reuse Site</b>	10
			Locate the project on a grayfield, brownfield or adaptive reuse site.	
			<b>2.5 Compact Development</b>	5
			Increase average minimum densities to meet or exceed: seven units per acre for detached/semi-detached; 12 units for town homes; and 20 for apartments.	
			<b>2.6 Walkable Neighborhoods: Connections to Surrounding Neighborhoods</b>	5
			Provide three separate connections from the development to sidewalks or pathways in surrounding neighborhoods.	
			<b>2.7 Transportation Choices</b>	12
			Locate project within ¼ quarter mile radius of public transit service, or ½ mile radius from a fixed rail or ferry station.	
<b>Site Improvements</b>				
			<b>3.1 Environmental Remediation</b>	Mandatory
			Conduct a Phase I Environmental Site Assessment and provide a plan for abatement if necessary.	
			<b>3.2 Erosion and Sedimentation Control</b>	Mandatory
			Implement EPA's Best Management Practices for erosion and sedimentation control during construction.	
			<b>3.3 Landscaping</b>	Mandatory <i>if providing landscaping</i>
			Select native trees and plants that are appropriate to the site's soils and microclimate and locate to provide shading in the summer and allow for heat gain in the winter.	

**APPENDIX 5.5, continued**

			<b>3.4 Surface Water Management</b>	Capture the first $\frac{1}{2}$ inch of rainfall that falls in a 24-hour period.	5
			<b>3.5 Storm Drain Labels</b>	Label all storm drains or storm inlets to clearly indicate where the drain or inlet leads.	2
Yes	No	?	<b>Water Conservation</b>		
			<b>4.1a Water Conserving Fixtures: New Construction</b>	Install water-conserving fixtures with the following specifications: toilets - 1.6 gallons per flush; showerheads - 2.0 gallons per minute; kitchen faucets - 2.0 GPM; bathroom faucets - 2.0 GPM.	Mandatory
			<b>4.1b Water Conserving Fixtures: Moderate Rehab</b>	Install water-conserving fixtures with the following specifications for toilets and shower heads and follow requirements for other fixtures wherever and whenever they are replaced: toilets - 1.6 gallons per flush; showerheads - 2.0 gallons per minute; kitchen faucets - 2.0 GPM; bathroom faucets - 2.0 GPM.	Mandatory
			<b>4.2 Efficient Irrigation</b>	If irrigation is necessary, use recycled gray water, roof water, collected site run-off or an irrigation system that will deliver up to 95 percent of the water supplied.	Mandatory <i>if irrigation is necessary</i>
Yes	No	?	<b>Energy Efficiency</b>		
			<b>5.1a Efficient Energy Use: New Construction</b>	Meet Energy Star standards.	Mandatory
			<b>5.1b Efficient Energy Use: Moderate Rehab</b>	Perform an energy analysis of existing building condition, estimate costs of improvements, make those with a 10 year or shorter payback.	Mandatory
			<b>5.2 Energy Star Appliances</b>	If providing appliances, install Energy Star labeled appliances.	Mandatory <i>if providing appliances</i>
			<b>5.3a Efficient Light: Interior</b>	Install Energy Star-labeled lighting fixtures in all interior units and use Energy Star or high-efficiency commercial grade fixtures in all common areas.	Mandatory
			<b>5.3b Efficient Light: Exterior</b>	Install daylight sensors or timers on all outdoor lighting.	Mandatory
			<b>5.4 Electricity Meter</b>	Install individual or sub-metered electric meters.	Mandatory <i>except for zero bedroom units</i>
			<b>5.5a Additional Reductions in Energy Use: New Construction</b>	Exceed Energy Star standards.	10
			<b>5.5b Additional Reductions in Energy Use: Moderate Rehab</b>	Produce the same energy improvement report and recommendations required in item 5.1, but extend the maximum payback period to 14 years.	10
			<b>5.6a Photovoltaic (PV) Panels</b>	Install PV panels to provide at least 10 percent of the project's estimated electricity demand.	15
			<b>5.6b Photovoltaic (PV) Ready</b>	Site, design, engineer and wire the development to accommodate installation of PV in the future.	2
Yes	No	?	<b>Materials Beneficial to the Environment</b>		
			<b>6.1 Construction Waste Management</b>	Develop and implement a construction waste management plan to reduce the amount of material sent to the landfill.	5
			<b>6.2 Recycled Content Material</b>	Use materials with recycled content; provide calculation for recycled content percentage based on cost or value of recycled content in relation to total materials for project.	14

**APPENDIX 5.5, continued**

			<b>6.3 Certified, Salvaged and Engineered Wood</b> Use at least 50 percent (by cost or value) wood products and materials that are certified in accordance with the Forest Stewardship Council, salvaged wood, or engineered framing materials.	10
			<b>6.4a Water-Permeable Walkways</b> Use water-permeable materials in 50 percent or more of walkways.	5
			<b>6.4b Water-Permeable Parking Areas</b> Use water-permeable materials in 50 percent or more of paved parking areas.	10
			<b>6.5a Reduce Heat-Island Effect: Roofing</b> Use Energy Star-compliant and high-emissive roofing and/or, install a “green” (vegetated) roof for at least 50 percent of the roof area; or a combination of high-albedo and vegetated roof covering 75 percent of the roof area.	5
			<b>6.5b Reduce Heat-Island Effect: Paving</b> Use light-colored/high-albedo materials and/or an open-grid pavement with a minimum Solar Reflective Index of 0.6 over at least 30 percent of the site’s hardscaped area.	5
Yes	No	?	<b>Healthy Living Environment</b>	
			<b>7.1 Low / No Volatile Organic Compounds (VOC ) Paints and Primers</b> Specify that all interior paints and primers must contain low or no VOC.	Mandatory
			<b>7.2 Low / No VOC Adhesives and Sealants</b> Specify that all adhesives and sealants must contain low or no VOC.	Mandatory
			<b>7.3 Formaldehyde-free Composite Wood</b> Do not use any composite wood that has exposed particleboard (which contains added urea-formaldehyde), unless the exposed area has been sealed.	Mandatory
			<b>7.4 Green Label Certified Floor Covering</b> Do not install carpets in basements, entryways, laundry rooms, bathrooms or kitchens. If using carpet, use the Carpet and Rug Institute’s Green Label certified carpet and pad.	Mandatory <i>if providing floor coverings</i>
			<b>7.5a Exhaust Fans – Bathroom: New Construction</b> Install Energy Star-labeled bathroom fans that exhaust to the outdoors which has a humidistat sensor or timer, or operates continuously.	Mandatory <i>except for moderate rehabs</i>
			<b>7.5b Exhaust Fans – Kitchen: New Construction</b> Install Energy Star-labeled power vented fans or range hoods that exhaust to the exterior.	Mandatory <i>except for moderate rehabs</i>
			<b>7.6 Ventilation: New Construction</b> Install a ventilation system for the dwelling unit that provides 15 cubic feet per minute of fresh air, per occupant.	Mandatory <i>except for moderate rehabs</i>
			<b>7.7 HVAC Sizing</b> Size heating and cooling equipment in accordance with the Air Conditioning Contractors of America Manual, Parts J and S.	Mandatory
			<b>7.8a Water Heaters: Mold Prevention</b> Use tankless hot water heaters or install conventional hot water heaters in rooms with drains or catch pans piped to the exterior of the dwelling and with non-water sensitive floor coverings.	Mandatory
			<b>7.8b Water Heaters: Minimizing CO</b> Specify direct vented or combustion sealed water heaters if the heater is located in a conditioned space.	2
			<b>7.9 Cold Water Pipe Insulation</b> Insulate exposed cold water pipes in climates and building conditions susceptible to moisture condensation.	Mandatory
			<b>7.10a Ventilation: New Construction</b> In wet areas, use materials that have smooth, durable, cleanable surfaces. Do not use mold-propagating materials such as vinyl wallpaper and unsealed grout.	Mandatory

**APPENDIX 5.5, continued**

			<b>7.10b</b>	<b>Materials in Wet Areas: Tub and Shower Enclosure</b> Use one-piece fiberglass or similar enclosure or, if using any form of grouted material, use backing materials such as cement board, fiber cement board, fiberglass-reinforced board or cement plaster.	Mandatory
			<b>7.11a</b>	<b>Basements and Concrete Slabs: Vapor Barrier</b> Provide vapor barrier and 4 four inches of gravel for a capillary break under all slabs.	Mandatory <i>except for rehabs</i>
			<b>7.11b</b>	<b>Basements and Concrete Slabs – Radon: New Construction</b> In EPA Zone 1 areas, install passive radon-resistant features below the slab along with a vertical vent pipe with junction box available, if an active system should prove necessary.	Mandatory
			<b>7.12</b>	<b>Water Drainage</b> Provide drainage of water to the lowest level of concrete away from windows, walls and foundations. Foundation walls should be carefully waterproofed on the exterior to avoid moisture migration.	Mandatory
			<b>7.13</b>	<b>Garage Isolation</b> Provide a continuous air barrier between the conditioned (living) space and any unconditioned garage space. In single-family houses with attached garages, install a CO alarm inside the house on the wall that is attached to the garage or is outside the sleeping area.	Mandatory
			<b>7.14</b>	<b>Clothes-Dryer Exhaust</b> Clothes dryers must be exhausted directly to the outdoors.	Mandatory
			<b>7.15</b>	<b>Integrated Pest Management</b> Seal all wall, floor and joint penetrations to prevent pest entry. Provide rodent and corrosion proof screens (e.g., copper or stainless steel mesh) for large openings.	Mandatory
			<b>7.16</b>	<b>Lead-Safe Work Practices</b> For properties built before 1978, use lead-safe work practices during renovation, remodeling, painting and demolition.	Mandatory
			<b>7.17a</b>	<b>Healthy Flooring Materials: Alternative Sources</b> Use non-vinyl, non-carpet floor coverings in all rooms.	5
			<b>7.17b</b>	<b>Healthy Flooring Materials: Reducing Dust</b> Install a whole-house vacuum system with high-efficiency particulate air filtration.	2
Yes	No	?	<b>Operations and Maintenance</b>		
			<b>8.1</b>	<b>Building Maintenance Manual for Owner</b> Provide a manual that includes the following: a routine maintenance plan; instructions for all appliances, HVAC operation, water-system turnoffs, lighting equipment and other systems that are part of each occupancy unit; an occupancy turnover plan that describes in detail the process of educating the tenant about proper use and maintenance of all building systems; and information on how to maintain the green features of the site, including paving materials and landscaping.	Mandatory
			<b>8.2</b>	<b>Occupant's Manual</b> Provide a guide for homeowners and renters that explains the intent, benefits, use and maintenance of green building features, and encourages additional green activities such as recycling, gardening and use of healthy cleaning materials.	Mandatory
			<b>8.3</b>	<b>Homeowner and New Resident Orientation</b> Provide a walk-through and orientation to the homeowner or new resident that reviews the building's green features, operations and maintenance.	Mandatory

APPENDIX 5.5, continued

