# Loudoun County
# General Plan

| Loudoun County Revised General Plan Amendments | | | |
|---|---|---|---|
| **Case Number** | **Case Name** | **Adoption Date** | **Chapters/Sections Affected** |
| CPAM 2001-0001 | Round Hill JLMA/Sewer Plant Expansion | March 4, 2002 | Chapter 9 |
| CPAM 2002-0005 | Utility Text Revisions-Transition Policy Area | January 14, 2003 | Chapters 2, 8, 11 |
| CPAM 2004-0002 | Active and Passive Recreation in RSCOD | June 1, 2004 | Chapter 5 |
| CPAM 2004-0001 | Extension of Central Utilities into the Transition Policy Area | April 20, 2004 | Chapters 2, 5, 8<br>Glossary |
| CPAM 2004-0009 | Revision of Boundaries of the Joint Land Management Area for the Town of Round Hill and Designation of Land Use | June 1, 2004 | Chapter 9<br>CPRV-W-087 |
| CPAM 2004-0034 | Location of RC (Rural Commercial) Zoning Districts | January 4, 2005 | Chapters 4, 6, 7 |
| CPAM 2004-0017 | Countywide Healthcare Facilities Plan | March 8, 2005 | Chapter 2<br>Glossary |
| CPAM 2004-0008 | East Gate Assemblage | June 7, 2005 | Chapter 6<br>PLU Map |
| CPAM 2004-0007 | Pearson Reserve | July 5, 2005 | Chapter 6<br>PLU Map |
| CPAM 2004-0026 | Victoria Station | July 5, 2005 | Chapter 6<br>PLU Map |
| CPAM 2005-0001 | Density Review in the Northern Portion of the Lower Bull Run Subarea | July 5, 2005 | Chapter 8 |
| CPAM 2004-0006 | Potomac View Age Restricted<br>Ashburn Village Age Restricted<br>Brambleton Age Restricted<br>Erickson | October 28, 2005 | Chapter 2<br>Glossary |
| CPAM 2004-0011<br>CPAM 2004-0012<br>CPAM 2004-0023 | | | |
| CPAM 2004-0025 | Stonegate | February 7, 2006 | PLU Map |
| CPAM 2006-0001 | Proffered Land Sites Valuation Credit Methodology | June 14, 2006 | Chapters 3 & 11 |
| CPAM 2005-0005 | Amendments to the Rural Policies of the Loudoun County Comprehensive Plan | September 6, 2006 | Chapters 2, 7, 11 |
| CPAM 2005-0007 | Arcola Area/Route 50 | October 17, 2006 | Chapters 4 & 6<br>PLU Map |
| CPAM 2006-0002 | Crosstrail | December 5, 2006 | Chapter 9<br>PLU Map |
| N/A | Planned Land Use Map (PLU Map) | Amended through March 15, 2011 | Countywide |

| | | | |
|---|---|---|---|
| CPAM 2007-0001 | Countywide Housing Policies | September 18, 2007 | Chapter 2<br>Glossary |
| CPAM 2005-0004 | Eminent Domain & Protection of Existing Communities | October 16, 2007 | Chapters 2, 4, 6, 11<br>Glossary |
| CPAM 2009-0001 | Route 28 Keynote Employment Policies | March 15, 2011 | Chapters 4, 5 ,6, 11 |
| CPAM 2012-0003 | Special Activity at One Loudoun | April 3, 2013 | Chapter 6<br>PLU Map |
| CPAM 2012-0002 | Amendments to the Policies of the RGP to Revise and Supersede Policies in regard to the PUGAMP | March 6, 2013 | Chapters 1, 2, 9, 11<br>PLU Map |
| CPAM-2013-0001 | North Lower Sycolin | December 11, 2013 | Chapter 8 |

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# Preface

"At the start of this new millennium, we, the Loudoun County Board of Supervisors (BOS), envision Loudoun County as a prominent, sustainable community; as the global crossroads of the information technology industry and with a vibrant rural economy; preserving our historic and environmental heritage and the character of our towns and neighborhoods; fostering a strong sense of community, with robust economic, educational and recreational activity, recognized as a superb place for families and individuals to live, learn, work, worship, invest and visit." (BOS Vision Statement Adopted March 20, 2000).

On January 5, 2000, the Board of Supervisors directed the Loudoun County Planning Commission to undertake a comprehensive review of the 1991 *General Plan* and *Countywide Transportation Plan* (CTP) and other supporting documents and ordinances that together comprise the Loudoun County Comprehensive Plan. The purpose was to address issues posed by unprecedented growth and change in the County, particularly over the last decade. The Supervisors expressed confidence in the general direction of policies in the existing planning documents. However, since the adoption of the 1991 Plan, the timing, character and location of new development, as well as questions about the County's continuing ability to serve this growing community, have become pressing concerns.

The Board directed the Planning Commission to strengthen the *General Plan* policies and methods of implementation in order to ensure the long-term fiscal balance of the County; to protect its environment and rural resources; to create high-quality communities; and to provide an adequate level of public services and facilities. As a framework for the Comprehensive Plan Update and Review process, the Commissioners formulated the following set of nine Smart Growth and Revitalization principles that are endorsed by the Board of Supervisors:

1. Ensure Loudoun is environmentally sound – protecting, sustaining, and enhancing the County's air quality, water resources, soils, landscape, wildlife, and other natural and man-made resources, including the historic and archaeological heritage, to benefit both present and future generations.

2. Promote and sustain an efficient, strong, diverse, and resilient economy: an economy based on Loudoun's comparative advantage for a variety of economic activities because of its location and its natural and human resources, an economy capable of generating productive jobs for Loudoun's work force, and of contributing its share of the public revenue stream needed for the efficient management of Loudoun's growth.

3. Create distinct, well-designed and serviced residential and mixed-use communities (including the revitalization of older communities), rural areas, towns, and corridors with the essential supporting hierarchy of roads and transit networks to comprise the overall planned structure of Loudoun's territory, consistent with Loudoun's overall objectives.

4. Seek the development of neighborhoods within Loudoun's communities designed or revitalized in conformance with the natural environment, which provide a mix of housing types, are pedestrian friendly, safe, with access to transportation choices, quality utility services, public and/or private amenities and services, and are conveniently located to schools, daily shopping outlets, and job opportunities.

5. Ensure rural residential development that maintains rural character, preserves the environment, water quality, and natural features, and develops at overall densities that do not exceed the capacity of rural roads and public facilities, or compromise the growth of the rural economy.

6. Provide Loudoun's households the opportunity for a diverse, stimulating social, cultural, recreational, and spiritual environment; and access to quality public facilities and services, including quality education.

7. Recognize the private property rights of the individual within a balanced framework that considers the public interest and shared values of the community.

8. Link the County's development and revitalization with financial policies that assess fiscal impact, provide an equitable distribution of the costs of development between direct beneficiaries and the citizens at large, maintain acceptable levels of taxes and fees, reflect sound debt management, and provide for potential economic uncertainties and risk.

9. Represent Loudoun's interests within regional forums and with other governments and organizations to resolve issues of mutual concern that extend beyond Loudoun's borders.

# Chapter 1
# Introduction

The 1991 *General Plan* was written for a county that was largely undeveloped. The document's planning strategy was sound, but it quickly became apparent that the policies to implement it were no match for market dynamics. The speed with which the County is building out and the services required to serve it have been considerably greater than originally anticipated. Plan amendments to the Dulles South and the Toll Road area plans in 1997 and 1998 respectively were attempts at strengthening the County's growth policies. Despite these efforts, the dramatic changes in circumstance persist and the need for a comprehensive approach was warranted. These changes are documented throughout the Revised Plan; however, they can be summarized as follows:

- Demographics: population (e.g., 97 percent increase from 1990 to 2000), school-aged population, house-hold and employment growth and geographic dispersal of this growth
- Demand for and cost of County services: growth in the County budget, Capital Improvements Program (CIP) and debt burden, increased tax rates, increased service levels and expectations
- Capacity of County infrastructure (changes to prescribed standards and limits):
  - Water quantity and groundwater and surface water and quality issues
  - Wastewater systems: legislation affecting approval of individual, on-site system
  - Transportation: uncertainty of timing and funding of needed improvement
- Air Quality: Federal rulings that strengthen timing and enforcement of Clean Air Act standards, (the Region's difficulty in meeting air quality requirements) which jeopardize federal funding for highway projects
- State and local government relationships: lack of state support for growth management tools, restrictive legislative initiatives (e.g., vesting)
- National economy: impacts of a boom economy followed by signals of a weakening economy on land values and personal property

The citizens of Loudoun County have strongly expressed their support for smart growth and a new direction in development planning with greater emphasis on slowing growth rates and enhancing the quality of life. The *Revised General Plan* has been a community effort. This public process has clarified the direction that the County should take over the next twenty years, and the Revised Plan will be the County's framework for consistent decision-making during the period. If respected and followed, the Plan will help balance the many needs and desires of the community, while protecting the resources that make Loudoun an enjoyable place to live, to work and to visit. This document charts a path that is well reasoned and feasible. It also gives the citizens of Loudoun County an active role in planning and provides strong reason to believe that change can lead to a desirable future.

## Purpose and Definition

The *Revised General Plan* is the foundation of the County's Comprehensive Plan and an official public document adopted by the Loudoun County Board of Supervisors. The basic purpose of a Comprehensive Plan is established in the Code of Virginia, Volume 3A, paragraph 15.2-2223, which states: "The Comprehensive Plan shall be made with the purpose of guiding and accomplishing a coordinated, adjusted, and harmonious development of the territory which will, in accordance with present and probable future needs and resources, best promote the health, safety, morals, order, convenience, prosperity, and general welfare of the inhabitants."

Policies in this document provide guidance for development decisions. These policies can be amended without straying from the basic goals of the plan, as new information becomes available or to address further changes in circumstances. The *Revised General Plan* is not intended to be a static document. In fact, the Commonwealth of Virginia requires that comprehensive plans be reviewed at least every five years.

The *Revised General Plan* provides the basis for evaluating land-development proposals. The Plan is the foundation for amendments to the Zoning and Subdivision ordinances to ensure that the County's goals are implemented through the regulatory process. Following the adoption of the Revised Plan, these ordinances and the *Facilities Standards Manual* will be updated so that they comply with the revised Plan policies.

## Legal Basis for the Plan

The County Planning Commission is responsible for preparing and recommending to the Board of Supervisors elements of the County's Comprehensive Plan. The Code of Virginia, Section 15.2.2223, states: "The local commission shall prepare and recommend a comprehensive plan for the physical development of the territory within its jurisdiction."

Within statutory limitations afforded by the Dillon Rule[1], the County can manage development in accordance with the land use policies of its Comprehensive Plan. Virginia Code Title 15.2 contains the primary enabling legislation for counties, cities, and towns, and this enabling legislation is broad. The Virginia Supreme Court generally gives credence to local land use decisions that are reasonably and uniformly applied.

State case law envisions strong links between a comprehensive plan, zoning and subdivision regulations and the capital improvements program that establishes the location, financing and timing of local public facilities (Section 15.2-2239 et. Seq. Va. Code Ann.). This integrated planning approach is expected to provide a growth-management strategy that will sustain local jurisdictions as they grow. Loudoun's local government has been, and continues to be, a leader in integrating land use planning and fiscal management.

The County, in fact, was an early participant in land use management. The Board of Supervisors adopted its first zoning ordinance in 1942 and its first comprehensive plan in 1959. Over time, as the County's population has grown, the Board has enacted increasingly specific regulations governing land use and density. Its most recent efforts to better manage growth were in 1997, when allowable densities were reduced in the area governed by the *Dulles South Area Management Plan*, and in 1998, when reduced density and development phasing were introduced in the Toll Road planning area. The Board also has doubled the level of capital contributions requested of developers applying for rezoning, though due to base density exclusions and percentage contribution levels in the County's proffer system, the public continues to pay the majority of capital costs to serve new projects.

[1] Under the Dillon Rule, the Board can only regulate land use as permitted by the General Assembly expressly or by necessary implication from statute. Board of Supervisors v. Horne, 216 Va. 113, 215 S.E.2d 453 (1975).

## Relationship to Other County Planning Documents

The County's Comprehensive Plan consists of several related documents, including the *Revised General Plan* and amendments thereto, specific area plans, strategic plans, and the *Revised Countywide Transportation Plan* (Revised CTP). The transportation plan, which superseded previous transportation policies embedded in earlier County documents, was adopted in 1995 and has undergone concurrent revision during the Comprehensive Plan Review and update.

The 1991 *General Plan* replaced the County's 1979 *Resource Management Plan* (RMP) and the 1984 *Rural Land Management Plan* (RLMP) as the "umbrella" document for the County's planning efforts. The 2000-2001 Comprehensive Plan revision process reinforced and refined countywide goals and policies not only for the *General Plan*, but also for subsequent area plans. Area plans supplement the *Revised General Plan* with customized planning policies for particular areas or communities. The existing area plans are: *Eastern Loudoun Area Management Plan* (ELAMP, 1980); *Leesburg Area Management Plan* (LAMP, 1982); *Dulles North Area Management Plan* (DNAMP, 1985); *Waterford Area Management Plan* (WAMP, 1988); *Cub Run Area Management Plan* (CRAMP, 1989); *Round Hill Area Management Plan* (RHAMP, 1990); *Dulles South Area Management Plan* (DSAMP, 1993); *Toll Road Plan* (TRP, 1995); *Purcellville Urban Growth Area Management Plan* (PUGAMP, 1995 amended 1999 and superseded in 2013) and the *Comprehensive Plan for the Town of Hamilton and Urban Growth Area*, 1995. The County's strategic plans contain policies affecting specific land use categories. The three strategic plans include the *Countywide Retail Policy Amendment* (1997), the *Strategic Land Use Plan for Telecommunication Facilities* (1996) and the *Greenways and Trails Policies* (1994).

Many of the policies included in these area and strategic plans coincide with the *Revised General Plan* policies. However, as with any update or revision of a major planning document, conflicts may arise between previously adopted policies and new policies. The policies and guidelines in the *Revised General Plan* will supersede any conflicting policies and/or guidelines contained in any of the plans mentioned above. At a future date, some of the area plans will be replaced by community plans or area plans for new subareas established within the major policy areas defined in this Plan. In 2013, the *Purcellville Urban Growth Area Management Plan* (PUGAMP) was superseded by revisions included with CPAM 2012-0002.

## Comprehensive Plan Review and Update Process

The Revised Comprehensive Plan process was conducted during 2000 and 2001 and is the product of citizens, the Planning Commission, the Board of Supervisors, County staff and consultants. The *General Plan* and the *County-wide Transportation Plan* were reviewed concurrently by the Planning Commission over two months. The Commission identified concerns in addition to those initially raised by the Board of Supervisors and also received public input in several forums. The County staff produced a Framework Report for the comprehensive plan review categorizing the issues that had been identified through the public process. At the end of March 2000, the Planning Commission endorsed the scope of the Plan revision and provided guidance for the preparation of "issue papers" on the eleven categories identified in the Framework Report.

The priority areas identified for policy revision were Smart Growth, Environmental Resources and Policy Implementation, Historic/Archaeological Preservation, Rural Residential, Rural Economy, Community Identification, Transition Areas, Town Urban Growth Areas, Fiscal Impact, Major Transportation Policies, and Economic Development. The papers framed the policy choices for addressing the issues, and the Planning Commission set the desired direction through the review process.

## A. Public Participation Process

The *Revised General Plan* was prepared with extensive citizen involvement. Every effort was made to ensure that those people interested in participating in the comprehensive plan review and update process had the opportunity to do so. Community support of the revised Plan is vital to its implementation, and the County values the active participation of local residents.

The public process involved many residents, including those not typically involved in land use issues. This was accomplished through an ambitious community-involvement strategy that provided ready access both to new information and to the process.

The Department of Planning, located in the County Government Center in Leesburg, maintained a public notebook that served as the official file for documents produced during the process. Materials also were available in the six public libraries, where they were kept in note-books for easy use. In addition, documents were posted on the Planning Department's website.

All sessions of the Planning Commission and Board of Supervisors were open to the public and recorded on audiotapes. The Planning Commission's three initial public-input sessions were well-attended "town meetings" that provided a broad spectrum of citizen opinions. The meetings in 2000 were held at the County Government Center on February 16; at the Sterling Community Center on March 9; and at Loudoun Valley High School on March 11. The Planning Commission held three planning forums in June and July that each had more than 150 participants who discussed the issues in a more interactive format. The forums were on June 27 at Harper Park Middle School in Leesburg, on June 29 at Sugarland Run Elementary; and on July 13 at Round Hill Elementary. Focus groups on environmental implementation and community design and identity also were held during the process. A public input forum, prior to the preparation of the Planning Commission's November 14, 2000 draft was held on August 2 in Leesburg.

The Planning Commission also received presentations from the Loudoun County Sanitation Authority (LCSA), the Office of Housing, the Economic Development Commission (EDC), the Fiscal Impact Technical Review Committee, the Health Department, the Rural Economic Development Task Force, and the County Assessor. Ten stakeholder sessions were held with representatives of more than twenty groups and citizen committees involved in land development, transportation, business, tourism, environmental or historical resource protection, and local government. Represented were the Northern Virginia Building Industry Association and the Dulles Board of Realtors, the Loudoun County Chamber of Commerce, the Loudoun Tourism Council, National Association of Industrial and Office Parks, the Metropolitan Washington Airports Authority, the Piedmont Environmental Council, the Sustainable Loudoun Network, the Country Life Center, the Purchase of Development Rights Committee, the Open Space Advisory Committee, the Library Board, the School Board, and the Parks and Recreation Advisory Board.

Input sessions and meetings were held with officials of each of the County's seven incorporated towns, primarily to address the continued usefulness of Joint Land Management Areas (JLMAs) as a land use management tool. Neighboring jurisdictions receiving notifications and updates were the Virginia counties of Clarke, Fairfax, Fauquier, and Prince William, the Town of Herndon; Frederick and Montgomery counties in Maryland; and Jefferson County, West Virginia.

## B. Public Review and Adoption

The Planning Commission conducted over 17 hours of public hearings on the November 14th draft of the *Revised General Plan* and *Revised Countywide Transportation Plan* on December 12th and 16th, 2000. With consideration of the public's input and additional review of background data and information, the Planning Commission met weekly from January through April 2001 to hone and refine the Plan policies. A final Planning Commission draft of the *Revised General Plan* and *Revised Countywide Transportation Plan*,

incorporating changes from these deliberations, was prepared and approved by the Planning Commission on May 1, 2001. A resolution certifying this Planning Commission approved draft was sent forward to the Board of Supervisors on May 1, 2001.

Upon receipt of the Planning Commission's recommendations, the Board of Supervisors spent several weeks reviewing the Plan in Committee of the Whole briefing sessions. The Board then conducted public hearing sessions on the Planning Commission's draft Plan on June 12th, 14th and 16th, 2001. Following the public hearing, additional work sessions were held by the Board, which concluded with adoption on July 23, 2001.

## Revised General Plan Format

The *Revised General Plan* is organized into eleven chapters. Following the Introduction, Chapter Two sets forth the Planning Approach, including Housing and Infrastructure Policies. Chapter Three contains policies related to the County's fiscal management and provision of public facilities. Chapter Four is devoted entirely to a discussion of and policies for Economic Development. Chapter Five establishes the environmental, natural and heritage resources context for the Green Infrastructure.

Chapters Six, Seven, Eight, Nine and Ten contain the policies for the Plan's distinct geographic policy areas, which include the Suburban Policy Area, the Rural Policy Area, the Transition Policy Area, the Towns and JLMAs, and Existing Villages.

The final chapter of the Plan contains recommendations about how it will be implemented including proffer guidelines and design guidelines. A summary of the next planning steps that are intended to frame the Board's future land use work program discussions is also included.

# Chapter 2
# Planning Approach

Loudoun County is an exceptional place. Balancing the variety of interests while charting a new course for the County is challenging. However, after a decade of record-breaking growth the community has decided it is time to set new priorities and policies to guide its future development.

The *Revised General Plan* carries forward the central concept that development should be systematic, in compact communities, and in the right location, in order to function well and enable the County to provide adequate, and cost-efficient, public services. The Plan will enable the Board of Supervisors to exercise its public responsibility to protect the best long-term interests of Loudoun County and its residents.

This Plan establishes the environmental, natural, and heritage features of the County's Green Infrastructure as a single, unifying element for the County as a whole. Strategies to implement this concept include conservation design development standards and strengthened open-space policies. The *Revised General Plan* also establishes a new Transition Policy Area that will serve as a separation between the Suburban and Rural Policy Areas and that has a transition of uses, incorporating elements of both suburban and rural design to create truly unique country-side developments.

## Demographic and Economic Trends and Characteristics

To develop a meaningful plan, it is important to understand the growth pressures that have occurred in the past ten years and that are expected to occur in the County over the Plan's planning horizon of the next twenty years. Trends, projections, and assumptions provide a numerical benchmark to help determine if the Plan is realistic and reasonable. The County, with public input, makes annual estimates of the basic demographic and economic factors affecting development and growth. These estimates are published in the "Annual Growth Summary" document and are used as input for the County's fiscal impact model. Important trends, projections, and planning assumptions are summarized below.

### A. Population

Loudoun County's population was relatively unchanged between 1790, the first year that the U.S. Census was taken, and 1960. Throughout the 170-year period, it remained in the range of 20,000 to 25,000 persons, reflecting the stability of a predominantly rural county at the far western reaches of the Washington region. Transportation facilities, including Leesburg Pike (Route 7), Little River Turnpike (U.S. 50) and the Washington & Old Dominion (W&OD) Railroad, provided early links to the region. Farmers and merchants used the routes to transport their products to the broader market, and District of Columbia residents used them to retreat to the countryside.

This picture began changing in 1960, with population growth in neighboring Fairfax County, construction of the Broad Run Interceptor that would provide sewer service for suburban development in the eastern part of Loudoun County, and the construction of Washington Dulles International Airport in Fairfax and Loudoun counties. When the airport was built in the mid-1960s on a 10,000-acre site mostly inside Loudoun, much of the land around it was rezoned for industrial uses to accommodate businesses related to the airport. This marked the beginning of a dramatic shift in how rural land outside of Loudoun's Towns

would be developed. At the time, the Towns were the centers of population and commerce in the County, and land beyond their corporate limits was planned for rural residential or agricultural uses. The airport set a new course for the County, one whose scope recently has come into focus as telecommunication giants such as America Online and WorldCom have invested in this community.

During the 1960s, and in each decade that followed, the County's population has risen by at least 50 percent. This population shift from 24,549 in 1960 and to 86,129 in 1990 amounted to 250 percent. By 2000, Loudoun's population had nearly doubled again to an estimated 169,599.

Most of the County's recent growth is due to migration into the County, particularly into the Suburban Policy Area, which experienced a 128 percent increase in population from 1990 to 2000. In 2000, eastern Loudoun's Suburban Policy Area had an estimated population of more than 106,550 persons and the Rural Policy Area had an estimated population of 22,160 persons. The seven incorporated Towns had a combined population of 34,540 persons and their Joint Land Management Areas (JLMAs) had more than 5,000 persons. Nearly 1,250 persons lived in the Transition Policy Area.

## B. Housing

Over the last fifty years, the number of housing units in Loudoun County has increased by almost 1,000 percent. In 1950, there were 5,988 units in the County. In 2000, there were over 60,000 units. The greatest increase has been since 1990, when nearly half of the County's housing stock was built. During the 1990s, one in four building permits issued in Northern Virginia was issued in Loudoun County. The number issued here (39,270 permits) was surpassed only in Fairfax County.

During this time, the County's housing stock also became more diverse. Today, single-family detached housing remains the dominant type, though its proportionate share of the housing stock is declining. Single-family detached houses represented 65 percent of the overall housing inventory in 1990 and declined to 56 percent in 2000. Single-family attached units in 2000 represent 25 percent of the housing stock and multi-family units reflect 19 percent. Townhouses and multi-family units have been built in areas zoned for them in the Suburban Policy Area and in the Towns and their JLMAs.

Three-fourths of the residential building permits issued by the County during the 1990s were for new homes in the Suburban Policy Area. The prevailing development pattern in the Rural Policy Area has been single-family detached homes in 3-acre lot subdivisions. However, some innovative approaches to rural residential development, including the rural hamlet and village concepts, were implemented in the Rural Policy Area following the adoption of the 1991 *General Plan*.

The number of persons per household in Loudoun declined from 3.94 in 1950 to 2.80 in 1990, but recent data suggest a shift toward larger households. In 2000, the overall household size was 2.82, with single-family detached homes averaging 3.1 persons per household, townhouses 2.8 persons, and multi-family units 2.0 persons.

## C. Employment

The number of jobs more than doubled in the past ten years, increasing from 40,000 in 1990 to more than 87,000 in 2000. This almost 120-percent rise in at-place employment was due to the addition of more than 2,000 new companies, including several major employers, which sparked commercial construction activity at a scale unprecedented in Loudoun County. Non-residential space tripled during the decade to nearly 30 million square feet. Economic development affected every land use category, with a significant move toward construction of office space and technology centers.

Much of the recent economic development activity in the County can be attributed to its strategic position within the Washington D.C. Metropolitan Region, one of the nation's most prosperous metropolitan areas, and its proximity to a primary driver of new investment in the region, Washington Dulles International Airport. As a result of Loudoun's unique combination of assets, at-place employment is expected to continue to grow over the next twenty years reaching almost 200,000 jobs by 2020. Many of the workers filling those jobs want homes near their jobs and need additional retail and other services, so the market demand for both residential and non-residential development is expected to continue.

As new company growth and expansion take place in Loudoun, it is likely that the types of industries will parallel those of Fairfax County's recent past as available sites become increasingly less available there. There will likely be continued attraction of high technology businesses to the County because of the skilled labor pool, complementary types of high technology businesses, symbiotic business interrelationships, Washington Dulles International Airport and the availability of necessary support services.

New households and new businesses have been attracted to Loudoun for very similar reasons. The following factors, in no particular order of priority, are considered as critical to determining the competitiveness of a residential location: access to employment concentrations, highway accessibility, proximity to local-serving and regional retail concentration, quality of schools, variety of housing options, proximity to recreation and cultural opportunities, relative proximity to an airport, natural amenities and availability of developable land. As has been the case in more developed jurisdictions like Fairfax and Montgomery counties, over time the percentage of those County residents who also work in the County is likely to increase to the 55 to 60 percent level.

## D. County Resident Survey

Every two years the County conducts a telephone survey of 1,000 residents to find out how they feel about living in Loudoun County. The survey also provides a demographic snapshot of who lives here and why. In the 1999 Survey of Loudoun County Residents, more than one in four participants had lived in the County for three years or less. Just over half had moved to Loudoun either from Fairfax County or from other parts of the Washington D.C. Metropolitan Region. Most of the new residents who moved into Loudoun cited proximity to work, housing affordability, and Loudoun's rural character as major factors in their location decisions.

The average age of 1999 survey participants was 30.9 years, reflecting the large number of young adults who have moved to the County to work in the growing technology sector. More than half of those surveyed had annual household incomes of at least $75,000; almost one in three (29 percent) had incomes that exceeded $100,000. Two-thirds said they were residing in single-family, detached homes, and most respondents (87 percent) owned their residences.

Forty-four percent said they had school-age children, with most of the students attending public schools (87 percent), 12 percent attending private schools, and 4 percent being schooled at home. These numbers reflect the rapid growth in the County's school-age population and the increasing number of students attending Loudoun County Public Schools. Public school enrollment increased from 14,632 in 1990 to more than 31,800 in 2000.

## E. Loudoun's Place in the Region

All but one of the 24 jurisdictions that comprise the Washington D.C.-MD-VA-WV Primary Metropolitan Statistical Area (PMSA) increased in population from 1990 to 2000. Within the PMSA, the District of Columbia lost 34,841 residents (16 percent), while Northern Virginia gained 435,380 residents (25 percent), Suburban Maryland gained 276,213 residents (15 percent), and the West Virginia Panhandle gained 22,916 residents (24 percent). Though Loudoun's growth rate was the highest, two jurisdictions

experienced a larger population increase: Fairfax County, Virginia gained 151,165 residents and Montgomery County, Maryland increased by 116,314 persons.

In Northern Virginia, Loudoun's share of the regional population increased from 5 percent in 1990 to 8 percent in 2000. Fairfax County's share of regional population declined during that period, from 47 percent to 45 percent. Significant increases were also experienced in Prince William, Stafford, and Spotsylvania Counties.

Other demographic changes that occurred between 1990 and 2000 include Loudoun's median age, which increased from 31.5 years to 33.6 years, and Loudoun's average household income, which grew from $72,433 to $97,987. In both cases, these increases were at lower rates than the Northern Virginia and Washington Metropolitan Areas.

From 1990 to 2000, Loudoun's share of employment in Northern Virginia increased from 4.6 percent to 8.5 percent - an increase of more than 85 percent. In 2000, Fairfax County accounted for more than 50 percent of all jobs in Northern Virginia, Arlington County accounted for more than 15 percent, and Alexandria accounted for nearly 9 percent.

In general, the westward growth of the Metropolitan area in terms of population and employment has significantly affected Loudoun County over the past several years. While some of the growth is attributable to the expansion of Washington Dulles International Airport, rapid growth in Fairfax County and transportation improvements, including the construction of the Dulles Greenway, and improvements to Route 7, Route 28, and Route 50, all have substantially increased the County's accessibility and competitiveness. The privately funded toll road opened in 1995 as a 14-mile extension of the Dulles Toll Road and has positioned western Loudoun within commuting distance of high-paying jobs in the Region's core. Also benefiting from the road improvements are residents of other counties who now commute to Loudoun's major employers.

The growth and near build-out of the Reston area and the Toll Road corridor in Fairfax County have facilitated rapid growth in the Route 28 corridor, which extends from Route 7, south to Centreville in Fairfax County. The radial expansion of the Washington D.C. Metropolitan Region now clearly includes eastern Loudoun's Suburban Policy Area. As a result, the County has become an active participant in regional policy deliberations and decision-making. This role will be increasingly important, particularly with respect to housing and transportation initiatives.

## Planning Assumptions and Forecasts

The County has been concerned about the rate of population increase over the last five years because of its fiscal impact and the ability of the County to provide schools and essential public services in a timely fashion. The issue of housing provision is considered from a regional perspective as it relates to the segment of the housing market that Loudoun County is accommodating. Housing demand is driven primarily by three factors: regional employment growth, the number of households generated by each new job and the percentage of household growth generated by each employment concentration that Loudoun County would most likely capture (i.e., the percentage of those working in a particular area who would most likely choose to live in Loudoun). The majority of demand for housing in Loudoun will emanate from the employment growth within Northern Virginia. Over the ten-year (1990-2000) period, Northern Virginia captured 74 percent of all net, new jobs in the Washington D.C. Metropolitan Region and Loudoun captured 15 percent of the total. Loudoun and Fairfax Counties accounted for more than one-half of all net new jobs in the region over this ten-year period.

Using an employment driven model, long term household demand in Loudoun has been determined under four scenarios: conservative, moderate, aggressive, and highly aggressive. The highly aggressive scenario reflects a situation in which a significant share of regional growth is occurring in western Fairfax County and Loudoun County, while the conservative scenario anticipates a wider distribution of regional growth. The moderate, aggressive and highly aggressive scenarios all project significantly more employment growth in Loudoun County than Metropolitan Washington Council of Governments (COG) forecasts. All of the scenarios project significantly greater growth in western Fairfax County than COG has forecasted.

Given the expectations about the likelihood of continued employment growth in Loudoun and western Fairfax over the next twenty years, and the continued desirability of Loudoun County as a residential location for those working in these areas, relative to other locations with available supply, the aggressive scenario seems most likely. In this scenario 95,800 new households (4,720 annually) will demand housing in Loudoun. Factors such as the availability of desirable sites, shifts in the industry mix of employment growth, major transportation initiatives and changing trends in regional growth might affect the accuracy of this prediction.

As of March 2001, there was a backlog of 37,030 approved but unbuilt dwelling units in the "pipeline." The County cannot control the pace at which these units will be absorbed, but does have the ability to control the supply of land for housing and the density of residential development. Therefore, the *Revised General Plan* makes substantial changes from the 1991 *General Plan* regarding the potential total build out projections as shown in the following table:

| Policy Area | 1991 General Plan | Revised General Plan |
|---|---|---|
| Pipeline | 37,030 | 37,030 |
| Suburban | 33,906 | 30,850 |
| Transition | 23,401 | 11,559 |
| Rural | 58,444 | 12,542 |
| Towns/JLMAs | 33,970 | 11,613 |
| Total | 186,751 | 103,593 |

Under the *Revised General Plan*, there would be a 45 percent reduction in the maximum number of housing units that could be built.

## General Plan Strategy

The *Revised General Plan* is the policy foundation for creating a county that in the future does not lose touch with its past. The planning strategy presented in this document is a product of the long-term vision of the Board of Supervisors embodied in the Smart Growth and Revitalization Principles, the guidance of the Planning Commission, and invaluable input from the community. The key elements of that strategy can be summarized as follows.

1. Green Infrastructure

   An overarching change in this Plan is the integration of Loudoun's natural, environmental, cultural and heritage resources into a unified Green Infrastructure strategy. The Green Infrastructure will shape land uses throughout the County in all policy areas. It will be a structuring element of development, with its features becoming a part of every new project through the use of conservation design as the preferred project planning technique. The County is committed to the preservation and enhancement of its Green Infrastructure assets for their economic value and contribution to the quality of life of present and

future residents.

2. Fiscal Planning and Management

   The strategy provides for the close integration of land use planning, fiscal management, County service plans and capital facilities development required by a rapidly expanding population, and at an affordable cost to the County's taxpayers. This integrated strategic management approach not only addresses the short-term and long-term needs of Loudoun's citizens, but also operates within a regional context to maximize opportunities and to resolve multi-jurisdictional issues.

3. Economic Development and Housing

   The *Revised General Plan* integrates economic development planning with land use planning in order to sustain Loudoun's competitive advantage in a global market place and in recognition that an efficient, strong, diverse and resilient economy is essential to the achievement of Loudoun's overall development objectives. The creation of sustainable housing to assure that all existing and future County residents are served by a range of housing opportunities is inextricably linked to these economic development goals.

4. Infrastructure

   The community's infrastructure systems including water and wastewater, solid waste management, roads, energy and telecommunications must complement the land use strategy. Because the County does not completely control the provision of these vital infrastructure components, careful coordination is necessary. The *Revised Countywide Transportation Plan*, the Loudoun County Sewer and Water Master Plan and the Loudoun County Solid Waste Management Plan are documents which serve to reinforce and implement this strategy.

5. Geographic Planning Policy Areas (Refer to Policy Areas Map)

   The County's ultimate development pattern will be based on the long-term commitment to maintaining distinct Suburban, Transition, Rural, and Town Policy Areas. (Refer to Existing Land Use Map) Each policy area has a preferred development pattern that is distinct and that will determine the location of public infrastructure and facilities over the next twenty years. In all policy areas the Plan seeks compact residential development through clustering with ample open space, and the protection of Green Infrastructure assets. Further, it is intended that the County Zoning Map reflect the land uses called for in the Plan. (Refer to Planned Land Use Map)

   The strategy for residential densities is to start with higher densities around transit nodes and urban centers in the Suburban Policy Area, moving to lower clustered suburban densities in the Transition Policy Area and then to still lower rural by right densities in the Rural Policy Area. This approach provides an internally consistent density pattern that provides an appropriate location for all of the County's desired housing types, lot sizes, neighborhoods, and communities.

   The Plan reaffirms an Urban Growth Boundary (UGB) beyond which central sewer and water is not allowed. Beginning in the north, the UGB follows the Suburban Policy Area boundary to the point where it meets the Transition Policy Area. The UGB then follows the western edge of the Transition Policy Area to meet the Prince William County line in the south. There is also a UGB that applies to the Towns. Where there are Town Joint Land Management Areas (JLMAs) the boundaries of the JLMA serve as the UGB.

a. Suburban Policy Area

Eastern Loudoun is the Suburban Policy Area. The Plan identifies four large communities: Ashburn, Dulles, Potomac, and Sterling. Each will be the subject of individual Community Plans to ensure that they are well designed and serviced and that they provide diverse and stimulating social, cultural, recreational and spiritual environments for their residents.

Over the next twenty years, it is anticipated that the Suburban Policy Area will continue to build out in a suburban pattern as a low-density fringe to the Washington D.C. Metropolitan Region. The area will be characterized by a pattern of residential neighborhoods, town centers, and mixed-use business centers linked by a substantial network of roads, linear parks, and open spaces. As existing neighborhoods mature, revitalization plans will be developed to protect and ensure the continuing vitality of these established communities.

As express bus (expected in 2004) and eventually bus rapid transit (expected in 2010) and rail become available, higher-density land uses along major thoroughfares will become appropriate. Transit nodes and urban centers including a mix of uses and transportation modes will develop. Very compact in form, they will be designed for full pedestrian access and served by mass transit. The first nodes will appear along the Dulles Greenway corridor, where right-of-way exists for a rail transit corridor, and in in-fill areas within existing developments.

b. Rural Policy Area

The rural heritage and economy that has given Loudoun its truly unique character for more than two centuries must be preserved and enhanced. Although some development may occur in clusters, overall residential use in the policy area will be limited in order to retain the economic, ecological, and scenic value of the countryside. Conservation and cluster design of residential areas, along with the permanent protection of undeveloped land, will protect the area's rural character and significantly enhance the rural economy. Public investment is directed to the provision of incentives to landowners and businesses that manage their land according to the Plan.

The Rural Policy Area is divided into two tiers, the northern tier and southern tier, which recommend different base residential densities in response to the dominant rural land use and development patterns of these distinct geographic areas. The northern tier (defined generally as north of Goose Creek and North Fork of Goose Creek to the County boarder with Montgomery, Frederick and Washington Counties, Maryland; Jefferson County, West Virginia; and Clarke County Virginia) is characterized by a mix of smaller lots interspersed with larger parcels still in agricultural use. The southern tier (defined generally as south of Goose Creek and North Fork of Goose Creek to the County boarder with Clarke, Fauquier and Prince William Counties, Virginia) is characterized by an existing large lot pattern and is the center of Loudoun's equine industry. Appropriate zoning districts reflecting these historic lot patterns will be developed and mapped for the respective tiers. The Rural Policy Area is planned for rural economy uses and limited residential development. Among residential uses, clustered developments are the preferred development pattern in the Rural Policy Area. Clustered developments allow landowners to group residential lots in a traditional community pattern so that a substantial amount of the remaining land is available for rural economy uses, traditional agriculture and/or open space.

As a matter of policy, the Plan calls for the preservation of unpaved rural roads in their present condition. These roads are an integral part of rural character and maintaining this character is of paramount importance. The major expenditures necessary to upgrade rural roads and the limited

funds available further justify the significant reduction in rural densities.

c. Transition Policy Area

The *Revised General Plan* clarifies the distinction between the Suburban Policy Area and the Rural Policy Area. One of the most significant new tools for achieving that distinction is the creation of the Transition Policy Area that lies, for the most part, directly between the two. By providing a transition in terms of development pattern, the Transition Policy Area offers the opportunity to incorporate visual and spatial characteristics of both rural and suburban development into new projects.

The Transition Policy Area will have a combination of villages and clustered residential neighborhoods as well as larger lot development that provides for surrounding eased open space and the full implementation of Green Infrastructure policies. Residential development at one dwelling unit per 3 acres, that is sensitive to the environment and the Bull Run, will be provided in the Lower Bull Run subarea. In this regard, density transfer will also be encouraged from the Lower Bull Run subarea to the Lower Foley subarea. The option to rezone to Rural Villages at one dwelling unit per 3 acres will also be provided. In the Middle Goose and Lower Sycolin subareas, residential neighborhoods will be clustered at one dwelling unit per 10 acres. The option to rezone to Rural Villages at one dwelling unit per 3 acres will be provided. Clustered residential neighborhoods at densities up to one dwelling unit per 3 acres or one acre in the Lower Foley, Upper Broad Run and Upper Foley subareas will be provided. Opportunities to rezone for Countryside Villages up to two dwelling units per acre in the Lower Foley subarea will be possible. And as a potential receiving area for density transfer from the Lower Bull Run subarea, the Countryside Villages in Lower Foley could be considered for up to three dwelling units per acre.

Central water and sewer service is planned for all the subareas of the Transition Policy Area.

Either central or communal water and wastewater services are the preferred utility service methods in the Transition Policy Area. Central water service is required for properties within the Landfill Water Service Area District in the Lower Sycolin subarea. In all other areas of the Transition Policy Area, LCSA will, at the time of application for new development, evaluate the proposed system and various alternatives to verify that the proposed utility system best addresses the constraints and environmental characteristics of the site, and will consult with the County on such issues as soil type, underlying bedrock lithologies, groundwater availability, surface water drainage patterns, proximity to existing groundwater supply wells and other water sources. For small-scale and low-density developments, where the extension of central utilities or construction of communal systems is not economically feasible, the County will consider permitting development on individual well and septic systems.

A hard utility edge (marking the limits of central water and sewer) is maintained by the western boundary of the Transition Policy Area to establish an urban growth boundary. In addition, the area included as part of the Woodland Rural Village (ZMAP 1997-0001) may be served by central utilities from the adjacent Transition Policy Area based on the following:

i. This development is zoned for a Rural Village under the PD-RV district, and the PD-RV zoning was continued due to vested rights considerations as part of the Countywide remapping.

ii. Under the PD-RV zoning classification, the Village core is to be served by public utilities. In this case, communal systems to be owned and operated by LCSA have been

engineered to serve the Rural Village.

iii. This Rural Village is adjacent to both the Middle Goose and Upper Broad Run subareas.

iv. A small portion of this Rural Village rezoning is within the Transition Policy Area.

v. Most of the area encompassed within this Rural Village zoning, including the Village Core, is underlain by a diabase aquifer.

d. The Towns - Joint Land Management Areas (JLMAs)

Healthy and vibrant towns and villages in Loudoun are key to the success of the Plan's strategy. The County has seven incorporated Towns that govern land planning and zoning within their boundaries. The Plan establishes a policy area specifically for land in JLMAs adjacent to Leesburg, Purcellville, Round Hill, and Hamilton. The densities in the JLMAs include one dwelling unit per 3 acres one dwelling unit per acre and two dwelling units per acre. Denser development with a mix of uses is anticipated in the designated growth areas around the Towns, where town utilities will be available to serve development that is compatible in design with the existing Towns. The County recognizes the critical importance of the Towns to the overall development of the County, and policies in this revised Plan encourage the County's close cooperation with and support to the Towns in order to achieve mutually beneficial goals.

# Housing

The County's primary housing objective is to assure that existing and future County residents and the workforce are served by a range of housing opportunities. An adequate supply of varied types of housing, both rental and for-sale, in locations throughout the County is a fundamental ingredient of an enduring community. The creation of sustainable housing-its design, density, location, and performance-requires that the pattern of residential development benefit the user now and over time. To accomplish this objective, a diversity of housing types in a broad range of prices should be provided. Housing opportunities should be available in all areas of the County. Housing for special needs populations incorporating a programmatic approach also should be furnished.

The supply of single-family detached, attached and multi-family housing and their pricing is largely a function of market dynamics. The market determines the type of housing to be constructed, based upon demands for specific housing types and the potential return on investment for the developer. Loudoun's experience is that the market alone cannot meet all areas of housing need given current and projected job growth for the regional economy. Unmet housing needs occur across a broad segment of the County's income spectrum. The County defines unmet housing needs as the lack of housing options for households that are unable to rent or purchase due to insufficient incomes to meet current market prices. Housing diversity in type and price to address unmet needs will enhance Loudoun's economic vitality and the health of the community now and over time.

As total demand for housing in Loudoun has increased over the past fifteen years, single-family attached and multi-family units have gained a greater share of the for-sale market, while single-family detached homes and lots have accounted for a decreasing share. In 1990, single-family detached units represented 65% of the County's housing stock, whereas single-family attached units constituted 19% and multi-family units constituted 14%. By 2005, single-family detached units represented 54% of all homes; single-family attached units 27%, and multi-family units, 19%. By 2005, single-family detached units and lots accounted for only 49% of sales, compared to 58% of sales in 1990. Although the types of housing offered in the market are diversifying, housing costs are high and the shortage of affordable housing for residents and the workforce is growing.

The County can influence housing options and affordability by encouraging or requiring a clustered pattern of development and mixed-use communities with a diversity of housing types. To achieve this, the County should allow higher residential densities that are close to employment opportunities, schools, community centers, transit routes and other amenities where adequate water, sewer, roads, schools, open space, and recreation are, or will be in place. In and of themselves, increased densities are not the only answer to influencing the market. Flexibility in lot sizes and setback requirements, and relaxation of use restrictions are also necessary to achieve the desired product mix. The County can permit accessory and second-story apartments in existing villages and rural clusters and provide for a variety of unit types to be developed in designated Joint Land Management Areas (JLMAs) around the towns that have them. The County can form public-private partnerships to implement programs, providing incentives to influence the market.

## A. Housing Affordability

Housing affordability has long been an issue in the Washington, D.C. metropolitan region. Affordability becomes a problem when the cost of housing exceeds an acceptable percentage of a household's disposable income. Households that are determined to reside in the metropolitan area can either pay a disproportionate amount of their income to secure housing, or pay less for lower quality or less adequate housing. In developing Loudoun County's vision for its residents, the Board of Supervisors has recognized affordable housing as an economic, transportation, and quality-of-life issue. While the County is providing a significant share of the region's housing, prices and rents are at a level that is too costly for many of Loudoun's workforce. Workers filling jobs in Loudoun often live in other jurisdictions and generate traffic on local roads as they commute to work increasing air pollution and gas consumption. Some housing units contain multiple families or additional occupants, resulting in overcrowded conditions which adversely affect neighborhoods and quality of life. The lack of affordably priced housing also has an impact on the continued ability to attract and retain a diversified employment base.

## B. Unmet Housing Needs

The County's affordable housing policies focus on the unmet housing needs of all Loudoun's citizens and workers. The market is not meeting all areas of need given the County's vibrant economy and location in the region. The County's housing strategy gives guidance to the development of a variety of programs that address Loudoun-specific needs as identified through systematic audit, evaluation, and study. The County has identified that, within the broad spectrum of housing need, different levels of effort and varying approaches must be applied in order to effectively address the problem of housing affordability.

Providing housing for special needs populations to include low-income residents (less than 30% AMI), elderly residents requiring congregate care, disabled residents, and the homeless often requires heavy subsidies, which have historically been provided by the federal and state governments. Given the reduction of federal and state assistance, the County is committed to identifying resources to replace that assistance as well as encouraging the formation of public and private partnerships to support the development of housing for people who are elderly, disabled, or living on very low incomes.

To address the unmet housing needs of Loudoun's workforce earning 30% to 100% AMI, a full range of tools to include loans, regulations, and other incentives should be considered. One important program is the Affordable Dwelling Unit (ADU) program. This program, adopted in 1993 as part of the Zoning Ordinance is based on state enabling legislation, and aimed at fulfilling the housing needs of County residents with incomes from 30% to 70% AMI.

The ADU rental units are designed to serve residents earning 30% to 50% AMI and priced at 30% of income (exclusive of utilities). ADU for-sale units are designed to serve residents with incomes of 50% to 70% AMI. For-sale units should be available at 3 times that income. As important as this program is to providing affordable housing to County residents, it has not been able to keep pace with the growing

demand. In addition, there are deficiencies in the implementation of the ordinance that lessens its effectiveness to secure affordable housing for households in the lower range of the ADU program. This program alone cannot meet the need.

The County may establish a dedicated stream of revenue to fund the housing trust fund which would leverage federal, state, and other funding sources for the production of new units, to provide down payments for first-time homebuyers and to purchase land for affordable housing development. The affordability issue also includes developing strategies to preserve the existing supply of owner-occupied housing and affordable rental units. As such, the Plan recommends other programmatic initiatives aimed at revitalization, renovation, and restoration of the existing housing stock, provisions to allow manufactured housing as an option, and the commitment of County government to play a greater role in addressing unmet housing needs.

## Guiding Principles Policies

1. The County seeks to promote housing options for all people who live and/or work in Loudoun.

2. County policies and programs will focus on the unmet housing needs of households earning up to 100% of the Washington Metropolitan Area Median Income (AMI) that being the area of greatest need.

3. The County will regularly examine and estimate unmet housing needs, and housing programs will be evaluated for their effectiveness in addressing those needs.

4. Housing that is developed to fulfill unmet housing needs should generally be located near existing or planned employment opportunities, schools, communities, transit routes, and other amenities.

5. The County is committed to bring all existing affordable housing in need of indoor plumbing, operational septic and water systems, and major system repair (new roofs, heating and cooling systems) up to safe and livable conditions.

6. The County encourages a variety of housing types, sizes and innovative designs to be developed to assist in fulfilling unmet housing needs throughout the County.

7. The County will require a mix of housing options appropriately located in communities to support a balanced development program.

8. The County will encourage the development of housing for special needs populations (as defined in the Glossary) integrated within existing and planned residential communities, particularly in areas within walking distance of convenience shopping and employment opportunities, transit, and other amenities.

9. The County will promote the provision of an affordable range of housing types throughout the County.

10. The County will promote the formation of public and private partnerships and facilitate the utilization of state and federal housing programs to assist in fulfilling unmet housing needs.

11. The County supports the development of housing and of communities that apply universal design principles.

12. The County encourages development that utilizes energy efficient design and construction principles, promotes high performance and sustainable buildings, and minimizes construction waste and other negative environmental impacts.

13. The use of planned and/or zoned non-residential land to address unmet housing needs is not supported

unless the proposed use provides a mix of residential, commercial and offices uses and addresses the full range of unmet housing needs.

14. In addition to the requirements of the ADU Ordinance, the County encourages each development proposal that includes a residential component to address unmet housing needs recognizing that the largest segment of unmet need is housing for incomes below 30% AMI.

## Housing Supply Policies

1. The County will identify options for addressing unmet housing needs not covered by the ADU zoning ordinance and work toward an implementation plan.

2. The County will encourage preservation by adaptive re-use of existing unused, or underutilized structures throughout the County, for the development of affordable dwelling units, as defined in the Zoning Ordinance and in accordance with the policies in the Revised General Plan.

## Cooperation Policies

1. The County will initiate a regional cooperative effort with neighboring jurisdictions to establish a dialogue and programs to address the provision of a healthy balance of jobs and housing in each jurisdiction.

2. The County will provide technical planning expertise and financial support to the Towns to assist them in establishing programs that provide affordable housing. Such programs might include a revitalization tax credit program, housing rehabilitation, the development of regulations that allow for a broad range of housing types and sizes and upper story residential uses over stores, etc.

3. The County will work in partnership with nonprofit, public and private entities committed to the provision of a wide range of housing opportunities by offering technical and financial assistance.

## Funding Policies

1. Developers of residential and mixed-use projects are encouraged to include funding commitments and proffers to fulfill unmet housing needs in their development proposals.

2. The County may maintain a dedicated revenue stream to fund the housing trust fund to address unmet housing needs. The fund will be evaluated annually to determine its effectiveness and efficiency.

## Programs and Incentives Policies

1. County will encourage the creation of programs, tools and incentives both publicly and privately developed that will fulfill unmet housing needs.

2. The County may provide incentives to stimulate the development of new housing projects when the applicant demonstrates the capacity to affect economic efficiencies in producing and sustaining affordable rents or sale prices over time.

3. The County may adopt or develop and implement an employer-assisted housing program to help meet workers' housing needs.

4. The County may develop and implement revitalization tax credit programs and/or loan programs for housing rehabilitation to conserve existing affordable housing.

5. The County may establish additional incentives, such as density bonuses; expedited application review; reductions or waiver of permit, development, and infrastructure fees or capital facilities contributions; tax credit programs; and zoning modifications to meet housing goals and objectives.

6. The County may maintain an inventory of County-owned real property. The Board of Supervisors may consider the use of inventoried property by nonprofit, public and private sector entities as an incentive for residential development to fulfill unmet housing needs when it is consistent with other Plan policies. In using County-owned real property, the development goal is to provide 1) special needs housing and/or 2) a mix of housing types and sizes suitable for a range of households having less than 70% of Area Median Income (AMI).

7. The County promotes the recognition of good design and innovation in affordable housing by the Design Cabinet, County programs, and other channels.

## Legislation Policies

1. The County requires that for land development applications proposing development of 50 or more dwelling units with a density greater than one dwelling unit per acre, located in an approved sewer service area, a percentage of the total number of dwellings will be developed as affordable units and given an appropriate density increase.

2. The County will seek state enabling legislation to eliminate the exemption from the ADU Ordinance of buildings with elevators that are four stories or higher.

3. The County will strengthen ADU Program regulations to do as much as the state code allows to require the development of affordable housing that is interspersed within neighborhoods, communities and throughout the County as a part of new development.

4. Until such time as a Housing Authority is established to develop new affordable housing, rehabilitate housing, and revitalize community infrastructure, the County encourages the Industrial Development Authority to exercise its authority to assist with tax exempt bond financing, leverage gap financing and stimulate cooperative partnerships toward the preservation and production of housing to address unmet needs.

5. The County will amend the Zoning Ordinance to expand the number of districts where manufactured housing, accessory units, and other alternative housing types are allowed.

## C. Adult/Retirement Housing

The County recognizes the increasing need for housing for seniors as the population continues to age. Diverse interests, needs and abilities characterize this segment of the population, broadly defined as those persons who are 55 years of age or older. To cater to such diverse interests and offer seniors a variety of housing choices, the County promotes a wide variety of housing options including active adult age restricted retirement communities, continuing care retirement communities, assisted living facilities and skilled nursing facilities. The County encourages the development of communities that offer a continuum of care and/or otherwise allow seniors the option of aging-in-place. At the same time, the County will consider development proposals that cater to the interests of segments of the senior housing market who desire to live in active-adult age-restricted communities. The County encourages the development of retirement communities as components of other residential or mixed-use projects to offer seniors the advantages derived from proximity and access to the services and amenities offered within larger master planned communities. Retirement housing projects should incorporate on-site services and amenities or ensure that residents have convenient access to needed services and amenities through a variety of transportation options.

The County recognizes that housing choices made by seniors vary and that retirement housing developments exhibit different characteristics in order to serve a wide range of needs. It is the intent of these policies to encourage and provide guidance and direction for all types of retirement housing opportunities. It is anticipated that these policies be applied to accommodate a wide diversity in housing stock and a range of incomes in the County's senior population.

## General Retirement Housing Policies

1. The County encourages a balance among the different retirement housing types such as active adult, independent living units, congregate living, assisted living facilities and skilled nursing facilities in an effort to meet the continuing needs of retirement age populations and offer seniors a variety of housing choices. Commitment to age restrictions shall be accomplished through the legislative process.

2. To ensure that seniors have access to a range of housing choices, the County encourages the development of a mix of housing types such as single family detached units, single family attached units, multi family units, garden apartments, clustered housing and courtyard units with variations in unit design and lot dimensions within the larger retirement community.

3. The County seeks to integrate retirement housing projects that develop as components of larger master planned mixed-use communities into the larger community. The projects should minimize incompatibilities with surrounding development patterns through integrated design schemes, streetscape design, layout of open spaces and common civic areas, and shared access to amenities and services such as retail centers and recreational facilities within the master planned community.

4. The County promotes the development of affordable housing opportunities within all forms of retirement communities in accordance with the Affordable Dwelling Unit (ADU) provisions of the Loudoun County Zoning Ordinance and the ADU program regulations. The County will amend the ADU program regulations, as necessary, to clarify the exemption of senior citizens from the first-time homebuyer clause outlined in these regulations.

5. In evaluating the appropriateness of proposed retirement communities as infill developments, the County will consider the following criteria:

    a. The availability and accessibility of established services and amenities in the surrounding area,

    b. The compatibility of the proposed retirement housing project with surrounding development patterns. Compatibility is measured in terms of proposed density/use intensity, scale and development pattern, and

    c. The adequacy of the transportation infrastructure, both road networks and pedestrian facilities, to support the proposed development. The County will further consider, as appropriate, the availability of bicycle facilities and transit services such as mini-bus or shuttle services.

6. The County encourages the development of partnerships with educational institutions to promote and facilitate the development of 'Lifelong Learning Centers' targeted to the interests of seniors.

7. The County will amend the Loudoun County Zoning Ordinance to create a new zoning district, Planned Development-Continuing Care Retirement Communities (PD-CCRC), to facilitate the development of continuing care retirement communities, assisted living facilities and skilled nursing facilities.

8. The County will review and amend as necessary the Loudoun County Zoning Ordinance to allow senior centers and adult day care centers as special exception uses in residential zoning districts and as

permitted or special exception uses in the PD-AAAR (Planned Development– Active Adult Age Restricted) zoning district and appropriate non-residential zoning districts that support retirement communities, to ensure that seniors have convenient access to support services proximate to their communities.

9. The County will review and amend as necessary its capital facilities policies and adopted procedures for determining the capital facilities impacts associated with retirement housing projects to reflect the service demands of senior populations.

10. The County will develop incentives to encourage the provision of a certain percentage of residential units designed to meet the changing needs of seniors within all new residential developments. This may be achieved through mechanisms such as the incorporation of the 'Universal Design Concept' in design schemes. The County encourages the provision of a variety of housing choices in both existing neighborhoods and proposed developments offering seniors the option of aging in place within their community.

11. A fiscal impact analysis shall accompany all applications for retirement communities to demonstrate the impact of the proposed land use on the long-term economic viability of the County.

## Location Policies

### Active Adult Retirement Communities

1. Areas planned for Residential land use are the preferred location for the active adult retirement communities in the Suburban Policy Area and the Joint Land Management Areas surrounding the incorporated towns in the County.

2. The County will evaluate proposed applications for active adult retirement communities in areas designated for Business communities and in areas designated for High Density Residential within the Suburban Policy Area based on how well the proposed use meets all of the following evaluation criteria:

    a. The proposed site immediately adjoins an area planned for Residential uses and the proposed design provides a physical transition or incorporates a natural transition between the residential land use and business use,

    b. The scale, density and development pattern proposed is compatible with surrounding development patterns, both existing and planned,

    c. An adequate transportation infrastructure including a road network, pedestrian and bicycle facilities and public and/or private transit opportunities is available to serve senior residents, and

    d. The site offers the advantages of integration with a larger master-planned residential or mixed-use development such as access and proximity to commercial retail, services and recreational facilities within the larger community.

3. The County will evaluate proposed applications for active adult retirement communities in areas designated for industrial uses within the Suburban Policy Area based on whether the proposed use meets the following evaluation criteria:

    a. The proposed site is not located within the 65+ Ldn Noise Zone, and

    b. The proposed site does not border Route 606, and

    c. Where the proposed site immediately adjoins and area planned for Residential uses, and

    d. The proposed development is adjacent to and provides access to a larger master-planned (but not age-restricted) residential community larger than 1,700 acres, and

    e. The scale, density and development pattern proposed is compatible with surrounding development patterns, and

    f. An adequate transportation infrastructure including a road network, pedestrian and bicycle facilities and public and/or private transit opportunities is available to serve senior residents, and

    g. The site offers the advantages of integration with a larger master-planned residential or mixed-use development such as access and proximity to commercial retail, services, and recreational facilities within the larger community, and

    h. The proposed development is separated from adjacent industrially-planned properties by a natural boundary or feature, such as an area of floodplain, and

    i. The proposed development is not adjacent to land that is designated for Extractive Industry on the Land Use Map.

## Continuing Care Retirement Communities Policies

1. The County encourages the development of continuing care retirement communities (CCRCs) which are intended to provide seniors a continuum of care and the option of aging in place through the provision of independent living units, assisted living facilities and skilled nursing facilities as well as an array of services and amenities.

2. Areas planned for Business and Residential uses are considered appropriate locations for continuing care retirement communities in the Suburban Policy Area and Joint Land Management Areas surrounding the incorporated towns in the County subject to the following evaluation criteria:

    a. Where the proposed site immediately adjoins an area planned for Residential uses, the proposed design shall provide a transition between the CCRC and residential or business land use,

    b. The scale, density and development pattern proposed is compatible with surrounding development patterns,

    c. An adequate transportation infrastructure including a road network, pedestrian and/or bicycle facilities and public and/or private transit opportunities are available to serve senior residents, and

    d. The site offers the advantages of integration with a larger master-planned residential or mixed-use development such as access and proximity to commercial retail, services and recreational facilities within the larger community.

3. In the Transition Policy Area, the County supports the development of retirement housing in the form of active adult and continuing care retirement communities. These developments should generally

follow the design guidelines outlined for villages with densities not to exceed the maximum permissible rezoning densities in the respective Transition Policy Area subarea.

4. The County encourages the location of active adult and continuing care retirement communities near commercial and retail centers within towns, along main streets, near or at town and urban centers and transit stations, and near the commercial cores within larger master planned communities, to ensure senior residents the benefits of safe and convenient access to the amenities and services typically available in such pedestrian oriented, mixed-use environments.

## Scale and Density Policy

1. Densities for retirement housing projects in areas planned for Residential land uses, in the Suburban Policy Area, may range up to 8 dwelling units per acre, in areas planned for High Density Residential, Business, and Industrial land uses in the Suburban Policy Area, densities may range up to 30 dwelling units per acre, with densities measured on the gross area of a parcel.

## Land Use and Unit Mix Policies

1. Assisted living facilities, skilled nursing facilities and similar senior care facilities that offer a higher degree of care than typically associated with active adult retirement communities shall be viewed as residential uses for the purposes of application of the land use mix ratio.

2. When developed as part of a continuing care retirement community (CCRC), the number of units/beds proposed in assisted living facilities, skilled nursing facilities and similar senior care facilities shall be counted as residential units for the purposes of estimating the CCRC unit mix.

3. The land use mix in retirement housing projects will generally comply with the following ratios:

| **Land Use Category*** | **Minimum Required** | **Maximum Permitted** |
|---|---|---|
| Residential | 30% | 60% |
| Commercial Retail & Service [1] | 0% | 20% |
| Civic Space [2] | 5% | No Maximum |
| Parks & Open Space [3] | 35% | No Maximum |

[1] Retail Policy guidance provided in *Countywide Retail Plan*

[2] The definition of Civic Space may include communal facilities such as clubhouses and community centers.

[3] Where retirement housing projects develop at densities between 0 and 16 dwelling units per acre, a minimum of 35% of the gross site area shall be developed as Parks and Open Space. Where retirement housing projects develop at densities between 17 and 30 dwelling units per acre, a minimum of 45% of the gross site area shall be developed as Parks and Open Space. The extent to which these Parks and Open Spaces may be public will be determined on a case-by-case basis during the legislative review of an application based on the need of the Suburban Community within which the proposed project is located and creates a public need for such facilities, the extent of the site, the type of retirement community proposed, site design and the public access to the site. Retirement housing projects outside of the Suburban Policy Area will apply the open space policies of the relevant Policy Area.

4. Densities for assisted living facilities, skilled nursing facilities and similar senior care facilities that offer a higher degree of care shall be calculated as a percentage of the total dwelling units of the continuing care retirement community (CCRC). These unit types shall constitute a minimum of 15% of the total dwelling units of the CCRC.

## Phasing Policies

1. In Continuing Care Retirement Communities where assisted living and skilled nursing facilities are provided, these facilities shall be phased with the development of the independent living units, such

that residents of the independent living units have access to assisted living and skilled nursing care as the project builds out or must provide an alternate means of providing care.

2. The County supports the development/management entity partnering with local providers of assisted living and skilled nursing facilities to meet the changing needs of residents of independent living retirement housing projects, as the project builds out.

## Design Policies

1. The County seeks to foster a sense of community through the layout and design of buildings, open space and community amenities and services within all forms of retirement communities. Variations in unit type, lot size, site layout and architectural design should promote design diversity while ensuring an integrated character for the project as a whole. Smaller lot sizes are generally encouraged to minimize exterior maintenance.

2. A hierarchy in outdoor spaces should be used to serve as focal points within communities and neighborhoods, create outdoor gathering spaces and define the transition between the public and private realms.

3. Retirement communities should be integrated to the extent feasible into the physical fabric of surrounding communities, existing and planned, through site layout, building orientation, architectural design, scale, massing, exterior detail, landscaping and shared open spaces.

4. To avoid the appearance of an institutional use, retirement housing in the form of multi-level structures and similar buildings associated with assisted living facilities and skilled nursing facilities should be designed in a manner that breaks down the mass of building(s). Where this is not possible, facade treatment and exterior detailing should relieve extensive blank surfaces. Landscaping, buffering and layout of common and green spaces may further minimize incompatibilities with surrounding low-density residential and non-residential developments.

## Amenities and Services Policies

1. The various forms of retirement communities shall meet the following criteria:

    a. The development ensures the provision on-site or within a safe and convenient distance the following amenities and services:

        i. Private clubhouse with meeting rooms and recreational facilities;
        ii. Retail uses in direct support of the development (i.e. grocery/convenience store, pharmacy, medical services, barber shop, beauty shop, personal care facilities, eating and drinking establishments, bank, business services, laundry, cleaners, and other similar retail uses);
        iii. Health or fitness center; and
        iv. Active recreation space

    b. The development shall ensure that recreational, cultural, and educational facilities (i.e. golf course, religious facilities, medical care facility, and passive recreation space) for the use of residents, employees, and their guests are available on-site or within 10 miles of the site.

    c. The development shall ensure access to amenities and services through alternate modes of transportation such as pedestrian access, bicycle facilities and public and/or private mass transit facilities such as mini-bus or shuttle services.

    d. The development is adequately served by public water and wastewater utilities.

2. The County encourages that commercial retail and service uses proposed as part of retirement

communities, but not located internal to the community, be available for public use and designed in a manner that integrates the retirement community with surrounding neighborhoods.

### Transportation Policies

1. All new proposals for retirement communities shall demonstrate that safe and convenient pedestrian (sidewalks or trails) and/or bicycle facilities exist or will be in place when senior residents move into the development to connect the proposed development with amenities and services available within reasonable distances in the surrounding area. Where developments are constructed in phases, the County seeks the concurrent development of pedestrian and bicycle facilities within these phases.

2. All new proposals for retirement communities shall integrate transit facilities such as shuttle or mini-bus service and/or work with local and regional transit authorities/providers not limited to Loudoun Transit and the Northern Virginia Regional Transit Authority, to ensure seniors access to local and regional amenities and services.

3. Working in collaboration with the Virginia Department of Transportation, the Metropolitan Council of Governments and agencies such as the American Association of Retired Persons, the County will review and amend as necessary the *Revised Countywide Transportation Plan* to ensure accommodation of the transportation and mobility needs of senior populations.

4. Retirement communities or other uses, public and private, that cater to seniors shall include in their designs covered bus shelters with seating or covered space for seniors to congregate near building entrances or other such locations while they wait to board buses, shuttles and other such mass transit facilities.

### In-Home Care and Assistance Policies

1. The County will support private sector efforts aimed at assisting seniors who wish to live in their own homes through the provision of technical assistance, etc. This is intended to facilitate the adequate and timely provision of services such as in-home care and assistance, home rehabilitation and remodeling to address the changing needs of Loudoun's senior population and enable them to age in their own homes.

2. The County will review and revise its regulatory documents as appropriate to offer seniors opportunities that may enable them to age in their own homes such as allowing second kitchens within single-family homes for caregivers.

## Infrastructure

The community's infrastructure, including water and sanitation, solid waste management, roads, energy and telecommunications must complement its land use strategy. Loudoun County does not, however, completely control the provision of these vital systems. Water and wastewater are the responsibilities of the Loudoun County Sanitation Authority (LCSA), the Towns or individual property owners. Delivery of solid waste management services is in large part provided by the private sector and regulated by the state. Primary and secondary roads are primarily the Commonwealth's responsibility to build and maintain through the Virginia Department of Transportation (VDOT). Private developers provide for and maintain, through homeowner associations, private roads in their developments and typically proffer additional funding toward improvements of the regional road network. Electric, gas and telecommunication services are provided by the private sector. Nevertheless, the Plan policies provide necessary guidance to these entities to ensure their expansion.

## A. Wastewater and Water Treatment

LCSA, created in 1959, is responsible for providing wastewater treatment services to unincorporated, developing areas of the County. The LCSA provides wastewater collection services through a network of interceptor and collection sewers in the eastern part of the County. Sewage from the eastern portion of the County is treated at the Blue Plains advanced Wastewater Treatment Plant in the District of Columbia. In 1999, the LCSA provided service to approximately 33,000 residential and business customers discharging approximately 8 million gallons of sewage per day. The County currently relies on Fairfax City's Goose Creek impoundment facility and the Fairfax County Potomac River intake as the major central water supply.

The LCSA is constructing an additional advanced wastewater treatment (AWT) facility on Broad Run to serve the eastern portion of the County and neighboring jurisdictions. The Dulles Area and Occoquan Watershed policies, which apply to the Goose Creek, Occoquan, and Broad Run watersheds, require advanced wastewater treatment to facilitate high removal rates for phosphorous, nitrogen, and biological oxygen demand. Although the Broad Run AWT will have an ultimate treatment capacity of 40 to 60 million gallons per day (mgd), the initial phase will accommodate approximately 10 mgd. A new trunk line, the Broad Run Interceptor, serves both the Occoquan and Upper Broad Run watersheds of Loudoun County. Sewage flow from the Occoquan Watershed is conveyed to the Broad Run plant through a system of pump stations to protect that drinking water watershed. The Blue Plains Treatment Facility and the Broad Run Treatment Facility will be able to accommodate the Suburban Policy Area's sewage treatment needs within the time frame of this Plan.

Water and wastewater treatment service levels and needs are not the same throughout the County, since proposed land uses, development densities and community character differ from area to area. The County will plan for the development of central sewer and water facilities and allow for the orderly extension of these facilities in the Suburban and Transition Policy Areas. The County will encourage LCSA to serve this area in the most efficient and effective manner possible. In particular, the County will work with LCSA to encourage the extension of central utilities to existing communities within the Suburban Policy Area and promote the use of the best utility system in the Transition Policy Area. (Refer to LCSA Water and Sewer Lines Map) Town central systems will continue to be the major service providers for the Towns' JLMAs, with an exception for the Town of Purcellville as set forth in Chapter 9 Public Utilities Policies.

In the Transition Policy Area and in the Rural Policy Area (including the Landfill Water Service Area District), the County will continue to focus its efforts on protecting public health by maintaining groundwater quality and quantity. Groundwater will continue to be the major source of water for most rural residents and therefore should be protected from the contamination threat of a proliferation of septic tanks and drainfields. As such, on-site, high-level pre-treatment, individual alternative systems and small advanced wastewater treatment systems for clustered development will be the primary methods of sewer service in the Rural Policy Area. The County will seek to establish guidelines and oversight authority to ensure that these facilities function in an environmentally sound manner. Central and communal utility systems are encouraged over individual wells and septic systems in the Transition Policy Area. Surface land application using communal or individual systems will be discouraged in the Transition Policy Area subareas proximate to the Goose Creek and Beaverdam reservoirs. The table below (Wastewater Approach) more simply portrays the wastewater strategy by policy area.

**Wastewater Approach**

| Policy Area | Central Systems | Clustered Communal Systems | Individual Systems |
|---|---|---|---|
| Suburban | X | | |
| Transition | | | |
| • Middle Goose | X | X | X |
| • Lower Sycolin | X | X | X |
| • Lower Foley | X | X | X |
| • Upper Foley | X | X | X |
| • Upper Broad Run | X | X | X |
| • Lower Bull Run | X | X | X |
| Rural | | X | X |
| Towns & JLMAs | X | | |
| Existing Villages | | X | X |

## General Water and Wastewater Policies

1. The County will work with the Loudoun County Sanitation Authority (LCSA) and officials of Towns to ensure timely provision of central sewer and water in accord with the land use policies of this Plan.

2. The County will evaluate further development proposals based upon the County's ability to treat, transmit, and distribute a safe and adequate potable water supply in accordance with the land use policies of this Plan.

3. Water and wastewater treatment and conveyance facilities will be planned, designed, and maintained to be compatible with County development and environmental goals while functioning at a high level of efficiency.

4. In planning for future central wastewater and water treatment facilities, the County will use water and sewer design capacity standards established by the LCSA. Where a standard has not been established by the LCSA, the County will use those established by the Virginia Department of Health and the Virginia Department of Environmental Quality and comply with the Clean Water Act and other federal standards. However, within the powers delegated to it by the state, where state standards are considered too lenient or otherwise inappropriate in relation to the County's goals and policies, the County may apply more stringent standards.

5. The County will continue to identify, survey and quantify areas in need of improvements to sewage disposal and water supply systems and will work with communities to identify and implement appropriate solutions such as installing systems, upgrade or replace failing systems, and, where appropriate, design, build and install communal systems.

6. The County, in cooperation with LCSA, will develop long-range plans for wastewater treatment and water supply that establish criteria for siting future wastewater treatment facilities and impoundment sites. The County will pursue this effort according to the sewer and water policies of this plan.

7. LCSA will continue to be responsible for the provision and extensions of public water and sewer service in the Suburban Policy Area and Transition Policy Area. The LCSA may enter into short- or long-term wastewater service agreements with neighboring jurisdictions if mutually agreed to by the County and LCSA.

8. The County will encourage existing residences and communities served by on-site facilities to hook

into public water or sewer facilities when such facilities become available within 300 feet of a residence.

9. The County will require existing communities or residences to hook to a nearby public water or sewer system if on-site water supply or waste treatment capability has deteriorated to a point where there is a public heath risk. The County, in conjunction with the LCSA, will seek ways to assist in extending sewer lines into existing communities or residences once development in surrounding areas has brought trunk sewers to the edges of these communities. The County will provide no-interest loans and other incentives to those existing communities or residences required to hook to a nearby public water or sewer system as a result of on-site water supply or waste treatment capability that has deteriorated to a point where there is a public health risk.

10. Communal water and wastewater systems must be financed by the developer or by those who will be directly served by the system. A financing plan will be required. The financing plan must be designed, organized, and operated to be financially self-sustaining to pay all costs incurred by the LCSA for operation and maintenance and to provide appropriate reserves. The County may provide financial assistance (such as loans or grants) to assist in the construction of such a facility for existing rural communities if the system is needed to solve a significant public health threat.

11. Communal water and wastewater treatment system lines that cross land outside a water or sewer service area must be protected by the establishment of permanent easements along the line prohibiting any connection outside the service area.

12. New central wastewater and water lines and facilities should be constructed in a manner that causes the least environmental risk and visual disruption. Disturbed areas (excluding permanent access easements to reach a facility) should be stabilized with native vegetation. New treatment facilities should be screened with trees, berms, and/or shrubs.

## General Water Policies

1. The County will support long-term water conservation.

2. The County will continue to rely on Fairfax City's Goose Creek Impoundment and the Fairfax County Potomac River intake as the major central water supply sources. For the Suburban Policy Area and Transition Policy Area, other water-supply options including the existing Potomac River water plants operated by the Town of Leesburg and the Fairfax County Water Authority and the construction of its own water facility on the Potomac may be considered. Potential new sites in the Rural Policy Area would be considered for future storage purposes with water being released through existing streams to replenish impoundment sites downstream and to maintain environmental flows during low water months. Water quality in these areas will be maintained by the use of best management practices and by controlling non-point source pollution.

3. A Commission Permit and other appropriate approvals are required prior to the construction of any communal water system with more than 15 connections and for all rural economy uses and residential clusters using communal systems. The County, prior to approval of the Commission Permit and other required applications, will establish a service area for the communal water system.

4. The County will improve the likelihood of sustainability of groundwater by limiting the installation of additional wells and limiting the number of additional households dependent on wells through water conservation efforts and through the use of communal and/or central water systems where feasible and as approved by LCSA.

5. All communal water systems with more than 15 connections will be owned and operated by the LCSA and will be designed and installed in accordance with applicable State Health Department, LCSA, Virginia Department of Environmental Quality and County standards and regulations.

6. The County will discourage the continued use of individual wells as a source of drinking water in the Suburban Policy Area and Transition Policy Area and will encourage existing landowners to hook into central water facilities as water lines are extended into nearby areas.

7. The Landfill Water Service Area District is established for the area in proximity to the Loudoun County Solid Waste Management Facility and for properties through which the water transmission line passes. (Refer to LCSA Water and Sewer Lines Map) The extension of the central (municipal) water service in this district is permitted to avoid potential potable water problems for properties near the Loudoun County Solid Waste Management Facility. All new development within the Landfill Water Service Area District will be required to obtain service from the central water system. The water lines for the Landfill Water Service Area/District will be sized such that they will only accommodate the maximum density permitted by the Plan (densities up to one dwelling unit per 3 acres).

8. The use of LCSA-approved communal water systems to serve the Rural Policy Area is promoted:

   a. To serve rural economy uses or rural and residential clusters as defined in this Plan.

   b. To solve the potable water problems and public health problems of existing residences.

   c. To serve new or existing institutional uses, including schools, permitted by right or by special exception in the County's rural zoning districts.

9. The extension of central (municipal) water service into the Rural Policy Area is not permitted except to serve County and Town owned and operated public facilities immediately adjacent to a Town or its JLMA. Existing Rural Villages, subject to approval of the majority of village citizens and the LCSA may extend water service to public facilities.

## General Wastewater Policies

1. The County will continue to rely on and encourage efficient, economical and effective use of the Potomac Interceptor Sewer, the Broad Run Interceptor, the Russell Branch Interceptor, the Beaverdam Interceptor and the Blue Plains Wastewater Treatment Plant and Broad Run Advanced Wastewater Treatment Plant Facilities to serve the Suburban Policy Area and the Transition Policy Area.

2. A Commission Permit and other necessary approvals will be required prior to the construction of any communal wastewater treatment system. Prior to approval of the Commission Permit and other required applications, the County will establish a service area for the communal wastewater treatment system.

3. The County and LCSA will review and evaluate technological alternatives for individual and communal wastewater systems and identify throughout the County areas in which these alternatives are acceptable.

4. The use of alternative wastewater systems, not specifically addressed in the Commonwealth of Virginia Sewage Handling and Disposal Regulations, may be permitted in the Rural Policy Area and the Transition Policy Area. Such systems will be intended to serve existing residences and communities with failing septic systems and agriculturally compatible institutional and industrial uses. The proposed alternative must be reviewed and approved by the Health Department on a case-by-case basis and must provide a high degree of reliability to ensure a high level of environmental protection. The County should require liens or bonds or other methods for protecting the public from incurring any

costs of correcting a failed private system.

5. The use of LCSA approved communal wastewater collection and treatment systems followed by surface or subsurface soil dispersion is promoted:

    a. To serve the Existing Rural Villages defined in this plan.

    b. To serve existing or new rural economy uses or rural and residential clusters as defined in this plan.

    c. To solve wastewater or public health problems of existing residences; and

    d. To serve new or existing institutional uses, including schools, permitted by right or by special exception in the County's Rural Policy Area.

6. Communal wastewater treatment facilities serving institutional uses will be sized to serve only the institutional use.

7. The County, in cooperation with the LCSA and the Health Department, will identify viable alternative wastewater treatment methods to septic and drainfield-based systems, including small communal treatment plants and on-site treatment to support clustered residential development. The County will develop and implement standards including those that protect receiving stream quality for the use of such alternatives.

8. Communal wastewater treatment systems using land application (surface or sub-surface) will be preferred to communal wastewater treatment systems which discharge into streams. Wastewater land application systems will be based on soils, geology, topography, environmental impact and proven technology in the field of wastewater treatment and the location and design of these systems will be tailored to the tracts on which they are proposed.

9. The County anticipates that communal wastewater treatment plants may be designed for direct stream discharge and/or land application using the following criteria:

    a. Communal wastewater discharge systems must be designed to maintain or exceed existing stream water quality and shall be located at least five miles upstream from a public water intake or designated public water supply area. The discharge should be designed to comply with the "Clean Water Act" standards if discharged above a public water intake.

    b. Communal wastewater treatment plants may not discharge into natural trout streams.

10. The County will encourage LCSA to seek biological nutrient reduction systems for all treatment facilities.

11. The County will allow permanent pump-and-haul operations only to serve existing non-residential uses in the Suburban Policy Area if there is a demonstrated health risk associated with the existing on-site treatment facility and the use is a permitted use as identified by the Zoning Ordinance. Permanent pump-and-haul operations will not be permitted to serve new development or serve as a means of expanding an existing use. The Health Department and the LCSA must approve pump-and-haul operations.

12. Pump-and-haul operations are not permitted in the Rural Policy Area or Existing Rural Villages except as a last resort and temporary wastewater disposal method to address a proven, public health emergency. The County will determine the length of the period during which pump-and-haul disposal will be allowed.

13. The use of combined systems and other alternative sewage disposal systems, under the supervision of a qualified operator, are permitted in the Rural Policy Area and the Transition Policy Area when they are used as a component of a communal wastewater treatment facility that promotes clustered development less than the threshold of typical communal systems. The County will assist in establishing an entity to provide oversight and maintenance services for the operation of new technology, alternative individual and communal wastewater treatment systems.

14. The County (through a partnership among such agencies as LCSA, the Health Department and Housing Services) will pursue funding sources to rehabilitate homes that currently lack adequate indoor plumbing.

15. The extension of central sewer (wastewater) service into the Rural Policy Area is not permitted except to serve County and Town owned and operated public facilities immediately adjacent to a Town or its JLMA. Existing Villages subject to approval of the majority of village residents and the LCSA may extend communal wastewater service to public facilities.

## B. Transportation

An efficient transportation system is vital to the livability of a community and to the quality of residents' daily lives. Efficiency is achieved through linking land use and transportation planning, so there is enough road and transit capacity to accommodate growth and so the development occurs in locations that will ensure maximum efficiency of the transportation investment. The County's strategy for addressing transportation needs is described in the *Revised Countywide Transportation Plan* (Revised CTP).

The County maintains close contact with VDOT and seeks its support and cooperation in implementing the Revised CTP. The County sets performance standards for private roads and controls their implementation through the rezoning and site planning process.

The policies in the Revised CTP and *Revised General Plan* clarify the County's land use and transportation strategies for the Suburban Policy Area, the Transition Policy Area, the Towns Policy Area and the Rural Policy Area. Overall, the policies affirm that the County will direct most of its transportation resources in the next twenty years to the Suburban Policy Area and the Towns. Only basic safety improvements to roads in the Rural Policy Area are anticipated and planned road improvements in the Transition Policy Area will be modified to reflect the reduction of development densities. For a complete description of the County's transportation policies, refer to the Revised CTP.

## C. Solid Waste Management

The Code of Virginia and the Virginia Solid Waste Management Regulations provide statutory and regulatory authority and responsibility to units of local government for planning solid waste services. Localities are to form solid waste planning districts and adopt and implement solid waste management plans (SWMP) which are to be reviewed and revised as needed and at least every five years. The Loudoun County Solid Waste Management Planning District (LCSWMPD) is comprised of the County and all incorporated Towns except Leesburg, which is its own planning district. Solid-waste management is an essential service for residents and businesses in the County. These services are delivered through a public/private partnership as outlined in the Loudoun County Solid Waste Management Plan (LCSWMP). The LCSWMP was developed in collaboration with the Solid Waste Citizens' Planning Committee in 1994-1995 and adopted by the Board of Supervisors in 1995. It is the plan of record for the most recent submittal to the Virginia Department of Environmental Quality.

The LCSWMP provides a needs assessment of solid waste management service requirements in the district and addresses how the district members intend to meet those needs. It includes substantial text and tables

that describe both the waste generation and waste handling capacity of the public solid waste facilities and of private sector entities that provide solid waste management services in the County. The LCSWMP also includes a capital facilities component. As such, while not entirely in the format of a County service plan, the LCSWMP functions as one.

The Loudoun County Solid Waste Management Facility is the County's solid-waste disposal facility. The County is currently constructing a $2.3 million expansion to meet capacity demands through 2012. The County owns and operates recycling centers at the landfill and in the communities of Arcola, Hillsboro, Lovettsville, Lucketts, Middleburg, Philomont, and Sterling Park. The Town of Leesburg owns and operates three sites within the town limits. An additional recycling center for western Loudoun is programmed in the current capital improvements planning period.

## Solid Waste Management Policies

1. The County Solid Waste Management Plan will identify the type and level of service to be provided in the community.

2. The County will continue to implement an integrated solid waste management strategy that places priority on reduction, reuse, and recycling of solid waste above resource recovery, incineration, and disposal into landfills.

3. The County landfill will continue to exist to ensure that the County always has an acceptable alternative for local disposal of waste should other waste disposal alternatives fail or become ineffective.

4. The County will continue to seek private sector support for the provision of current and future Solid Waste Management Services. To this end, the County will define facilities and location and siting criteria for private facilities consistently in Section 1080 of the Codified Ordinance and the Zoning Ordinance.

5. The County encourages the co-location of government facilities, including recycling centers, where feasible and where they can function effectively.

6. The County will develop a hazardous waste education program and increase residential access to the safe disposal of hazardous waste to protect groundwater resources.

## D. Energy and Communication Facilities

Gas, electrical and communication service, all provided by the private sector, are viewed as essential components of daily life. The County supports the timely delivery of these services to businesses and households as development occurs, but seeks to minimize the negative visual impacts through regulations and the Commission Permit process.

The growth of the telecommunications industry led to the County's adoption of the 1996 *Strategic Land Use Plan for Telecommunication Facilities*. These policies provide guidance in terms of priority, location, and performance standards.

The County also continues to experience an increase in new-technology commercial space demands. These new technology companies, such as computer data centers and satellite ground stations, often arrive with disproportionately large physical capital inventories and lower workforce levels per square foot of space. As a result, they have a positive net fiscal impact to the County but have specialized needs in terms of infrastructure, such as additional electrical power and high-speed telecommunication pathways, which may require proactive changes to existing land use requirements. The County should address this emerging issue

and develop policies for capital-intensive technology industries that are flexible enough to meet the needs of the industry but are effective in preventing harmful environmental impacts on the community.

## Energy and Communication Policies

1. The County will require the grouping and burying of utility lines and facilities to the extent permitted by law.

2. Areas disturbed by public utility expansions should be replanted and/or reforested and screened from adjacent uses.

3. High-tension power lines, communications towers, and similar facilities should be sufficiently separated from adjacent residential uses to minimize any scientifically recognized potential health and safety risk.

4. Electric generation facilities that use clean burning and environmentally sound and proven fuel sources for power generation can be located only where their impact on the surrounding land uses and the environment is compatible.

5. The County should proactively study and develop policies and implementation schemes that accommodate the changing technological requirements of capital-intensive technology industries, while balancing any potential harmful environmental effects on the community.

6. The County will develop and implement a comprehensive utilities plan to address the impacts and location requirements of energy and communications facilities.

## Countywide Health Care Facilities Policies

1. The County's Countywide Health Care Facilities policies are intended to provide a general set of policies that guide the location and type of health care facilities and healthcare-related businesses throughout the County and that provide flexibility to adapt the rapid advances in medical technologies and medical care facilities.

2. The goals of the Countywide Health Care Facilities policies are to promote:

   - Development and provision of high quality health care services within Loudoun County;
   - Appropriate access to health care services for residents of all parts of Loudoun County;
   - Development of a broad range and improved distribution of services in Loudoun County;
   - Efficiency and cost containment for services provided in Loudoun County;
   - Development of sophisticated, high level health care services for health care consumers (including a Tertiary Medical Center within Loudoun County that will permit residents to choose to stay in the County for care);
   - Choice for health care consumers;
   - Development of systems to provide care to all persons, including the uninsured, and to support community health programs;
   - Enhancement of the Loudoun County tax base, employment, growth, and economic development;
   - Availability in the present and foreseeable future of sufficient land in appropriate locations for

health care facilities and services; and,

- Development of a new hospital in the Dulles South area of the County which is experiencing rapid population growth and which presently has poor access to any hospital.

3. Health care facilities to be developed within the County shall take into consideration State regulations concerning the location of health care facilities and the following criteria:

    - The area, population, topography, highway facilities and availability of the services to be provided by the project in the particular part of the health service area in which the project is proposed, the distinct and unique geographic, socioeconomic, cultural, and transportation characteristics of the area to be served, and barriers to access to care;

    - Compatibility of any proposed large-scale hospital facility with other uses in the vicinity, particularly the impact on existing, stable residential neighborhoods; and,

    - Availability of sufficient acreage to permit the development and future expansion of the proposed health care facility and healthcare-related businesses on the site as well as the potential adverse impact such expansion would have upon existing or planned neighborhoods adjacent to the areas of potential expansion.

4. The County will encourage the location of a variety of health care facilities in those areas where needs have been identified that may be underserved, for example in the northwest and southern parts of the County and in the Joint Land Management Areas surrounding the Towns. Applications for the location of health care facilities should substantially meet State requirements for approval of the proposed facilities and/or services. The County will establish incentives to facilitate the private development of primary medical care services in locations across the County, with a goal of having such services be available to all County residents within 20 minutes driving time during periods of peak travel demand. In addition, the County will take into consideration the availability of related and/or support services and compatibility of the proposed use with surrounding development patterns.

5. The County will encourage the co-location of health care facilities and healthcare-related businesses that provide a synergistic environment, improve access and choice of services for County residents, and promote the development of various types of health care facilities.

6. The County will support a variety of programs and incentives that help create the attributes necessary to support tertiary medical services (See Health Care Facilities Incentive Policies below.). The Tertiary hospital to serve the County should be located where the infrastructure is already in place and surrounding uses are not only compatible but also complementary.

7. The County may recognize areas around medical centers – present and future – which are appropriate for zoning districts that would allow healthcare-related businesses in those areas and create such zoning districts. The County recognizes that the residents of the Route 50 corridor do not have adequate access to emergency care or hospital related services. The Route 50 corridor should be given special consideration for the next full-service hospital and EMS ambulance receiving facility to be built in the County. The Cornwall Emergency facility, located in Leesburg presently serves as a much-needed receiving facility for EMS ambulances and residents in Western Loudoun. The County encourages the reestablishment of a full service facility at the Cornwall Campus. The County will encourage continued use and development of the Cornwall campus.

8. The County encourages the location of healthcare-related businesses in proximity to established and proposed medical centers. The County will encourage locations of health care services adjacent to the Towns in groupings or clusters that are compatible in scale with the surrounding land uses and that serve the needs of nearby residents.

9. The County encourages the development of primary care services and, where appropriate, freestanding emergency care centers, in County areas where population densities are inadequate to support development of medical centers.

10. The County will support incentives to encourage the private sector to provide services including but not limited to, psychiatric medical care, geriatric medical care and indigent medical care to satisfy the unmet health care needs of these populations. (See Health Care Facilities Incentive Policies below.).

11. The County will continue to provide appropriate medical services and health-related community-based services through the appropriate County Departments.

12. The County recognizes the changing needs of the aging population and supports additional policies that address the development of various types of retirement housing, including but not limited to: independent living, assisted living, skilled nursing facilities and continuing care retirement communities.

13. The existing system by which the Loudoun County Department of Fire and Rescue Services develops its service plan provides efficient and comprehensive planning for the future emergency services needs of the County. The County will continue to rely on this system for determining need and location of future Fire and Rescue Service facilities.

14. The County will encourage development of multiple health care facilities and sites that support regional disaster planning efforts and that can provide medical support in the event of an epidemic or catastrophe. The County will encourage wide dispersal of facilities and avoid concentration of disaster support facilities in proximity to one another.

15. Health care facilities planning should be considered in the County's transportation and land use planning. The Health Care Facilities policies will apply during the time horizon of twenty years as provided in the Revised General Plan.

16. As part of the periodic review of the Comprehensive Plan, the County will review the Countywide Health Care Facilities policies to ensure health care facilities needs are being met.

## Countywide Health Care Facilities Incentive Policies

1. In addition to the incentives provided in Chapter 4, Economic Development policies, the County will consider the following to encourage the location of health care facilities in areas that have been identified as underserved such as, but not limited to, health care zones:

   - FAR density bonuses;
   - Creation of special zoning districts that encourage health care zones; and,
   - Expedited review processes.

2. The County encourages development of quality health care facilities, including the provision of tertiary medical services and will:

- Promote partnerships with institutions of higher learning that support higher level health care;
- Encourage the growth and expansion of specialty care services;
- Encourage the development of tertiary level services in those areas where population, densities and characteristics make the availability of such services viable;
- Work with the health care industry to ensure workforce issues are being addressed; and,
- Actively market to health care providers and related businesses those areas that have been identified as underserved or in areas that have been identified as health care zones.

## Reference Maps

Policy Areas

Existing Land Use

Planned Land Use

LCSA Water and Sewer Lines

# Chapter 3
# Fiscal Planning and Public Facilities

Approximately 83,000 new residents arrived during the past decade doubling the demand for local services. Almost overnight, the County has had to plan, fund and build virtually a new community. As illustration of the enormity of the public investment, the capital improvements program between fiscal years 2001 and 2006 is expected to be approximately $1.08 billion, not including the costs of long-term financing.

As this fiscal challenge began to unfold in the 1990s, a management strategy evolved to enable the County to anticipate and to accommodate the dramatic increase in service and facility demand. This strategy is innovative for local government, involving the full integration of land use planning, fiscal management and facilities planning. The County began moving toward this approach in the mid-1990s, after members of the Board of Supervisors became concerned about the potential fiscal impact of anticipated growth. At the Board's direction, key planning tools were developed over a period of years to help ensure that Loudoun County remains a well-serviced community with a high quality of life and an economic balance to allow an affordable tax rate.

## Funding and Fiscal Management

Until the 1980s, the federal, state, and local levels of governments shared the cost of providing public facilities for education, transportation, and public water and sewer. However, over the past twenty years, the federal government has withdrawn as a major funding partner to states and localities, placing the financial burden for the provision of local public facilities and services almost exclusively on state and local governments. That downward trend is reflected in county budgets.

In 1979, the federal government provided 4.3 percent of the revenue for the local budget. In fiscal year 2001, the federal share is expected to recede to only 1.2 percent. At the same time, state revenue, when adjusted for inflation, has not kept pace with the fiscal demands of the growth that Loudoun has experienced over the past decade. The state's funding share of the County budget also has declined. In 1979, the Commonwealth provided about 21 percent of the County's annual operating revenue. In fiscal year 2001, this is expected to decline to 12 percent.

Meanwhile, the County's expenditures have climbed substantially in an effort to keep up with population growth; to catch up to the increased service expectations of the community; and to recover from the expenditure and service reductions from the recession of the early 1990s. Actual expenditures increased 107 percent between fiscal year 1990 and fiscal year 1999, when they exceeded $407 million. The largest increase during the period was County expenditures for schools. The County spent $103.3 million more for school operations in FY99 than it did in FY90. The second most significant increase was spending for capital facilities. Combined expenditures for capital facilities and for the annual payment on long-term capital debt increased by 169 percent, from $39.3 million in FY90 to $105.5 million in FY99.

Robust economic development has been a vitally important source of new revenue to bridge the funding gap. In fiscal year 1990, the commercial sector comprised less than 20 percent of the tax base. By fiscal year 2000, it was funding 22 percent of the real property tax base and 30 percent of the personal property

tax base. However, even with that increased revenue, County expenditures per capita dropped significantly during the period, reflecting the strain that rapid growth is having on the County's ability to maintain acceptable service levels.

The primary source of County revenue is home-owners, who fund the largest share of public costs of growth with real property taxes, personal property taxes, service fees, utility taxes and sales taxes. The majority of capital facility expenditures have been funded through general obligation bonds; however, the County has/does receive assistance from the development sector through proffers.

## A. Fiscal Planning and Budgeting

Recognizing the critical relationship of development and service demands, the County has sought to offset the negative fiscal impacts of residential development by encouraging a fiscally favorable balance between residential and non-residential development. Phasing growth based on the availability of adequate public facilities and distributing the costs of growth more equitably have also been at the forefront of the County's strategy. Over the years and to this end the County has implemented an integrated approach to fiscal and land use planning. The strategy begins with the comprehensive plan, which includes the *Revised General Plan*, *Revised Countywide Transportation Plan* and associated documents. The Plan establishes the development potential of the County by planning the residential and non-residential uses of the land.

The Board of Supervisors' Fiscal Policy provides accounting, budgeting, and financial management directives that, among other things, place limits on how much long-term debt the County will incur to build public facilities. Within the parameters of those documents, the delivery of services and public facilities is planned.

The County's Fiscal Impact Analysis Technical Review Committee, comprised of citizen representatives supported by County and School staff, provides annual forecasts of development activity and service costs over twenty years. The Committee's Annual Update of the Demographic, Revenue, and Expenditure Modules and 20-Year Growth Scenarios is based on a fiscal impact model developed for the County in the early 1990s.

Service Plans and Levels for each department and agency that are adopted by the Board of Supervisors establish the number of facilities that the County will build. The Service Plans and Levels establish service delivery levels and capital facility standards based upon specific demographic factors (per capita, per square foot, etc.). The Board of Supervisors selects the service level. The table, History of Service Plans and Levels on pg. 3-3, depicts the history of service plans.

## History of Service Plans and Levels

| | Department or Agency | 1986-1987 | 1989-1990 | 1994-1995 | 1996-1997 | Est. 2001-2002 |
|---|---|---|---|---|---|---|
| 1. | Parks, Recreation & Community Services | X | X | X | X | X |
| 2. | Area Agency on Aging** | | X | X | X | X |
| 3. | Social Services | | X | X | X | X |
| 4. | Sheriff's Office | | | * | X | X |
| 5. | Housing Services | | | X | X | X |
| 6. | Library Services | | | X | X | X |
| 7. | Mental Health/Mental Retardation | | X | X | X | X |
| 8. | Fire and Rescue Services | | X | * | * | X |
| 9. | Cooperative Extension Office | | X | * | * | * |
| 10. | Health Services | | X | X | X | X |
| 11. | Animal Care and Control | | | * | X | X |
| 12. | Comprehensive Services Act | | | X | X | X |
| 13. | Juvenile Court Service Unit | | | | | X |
| 14. | Solid Waste Management | | | | | X |
| 15. | Schools | | | * | * | |
| 16. | Other governmental functions*** | | | * | * | |

X Completed Service Plan
* Adopted Service Levels
** Agency merged with Department of Parks and Recreation in 1996.
*** Consolidated or co-located functions of general government and judicial administration agencies and departments.

Based on the County's projected population growth and the adopted service levels, a ten-year Capital Needs Assessment is prepared to project the type and number of capital facilities that will be needed to serve the public. With that longer view in mind, the Board then adopts a six-year Capital Improvement Program that schedules the financing and construction of public facilities. Actual and projected capital expenditures are approved annually, when the Board also passes the operating budget. The adopted Fiscal Plan reflects the estimated and projected costs of providing County services for two fiscal years, with appropriations made for only the first year of the biennium.

As indicated in the table, Strategic Management of Loudoun's Growth: The Planning Tools on pg. 3-3, these planning tools must be updated regularly to remain current in an atmosphere of rapid change.

## Strategic Management of Loudoun's Growth: The Planning Tools

| Document | Planning Horizon | Update Frequency |
|---|---|---|
| General Plan | 20 years | Every 5 years |
| Area Plans | Indefinite | As needed |
| Service Plans and Levels | 20 years | Every 4 years |
| Capital Needs Assessment | 10 years | Every 2 years |
| Capital Improvements Program | 6 years | Every year |
| Operating and Capital Budgets | 2 years | Every year |

This management strategy has enabled the County to anticipate and to plan for the fiscal impacts of growth, providing built-in protection for the taxpayers. The County intends to continue using cash to pay at least 20 percent of the cost of new facilities, thereby reducing the cost of long-term financing. That policy will take on even more significance in the second half of the current decade, when the County's annual payment on

long-term debt is expected to exceed $97.5 million—an amount equal to half of the County's total expenditures in fiscal year 1990. Between fiscal years 2001 and 2010, the cumulative debt-service payments are projected to exceed $957 million.

## Fiscal Planning and Budgeting Policies

1. The County is best served by seeking to meet the goals of an effective fiscal policy as stipulated in the Board of Supervisors' Fiscal Policy originally adopted December 17, 1984, and as subsequently amended.

2. The County seeks to maintain an affordable real-property tax rate by balancing, on a timely basis, residential and non-residential development in conformance with the overall policies of the *Revised General Plan*.

3. The County will seek further revenue diversification, which will increase fiscal stability and thereby, mitigate tax burdens on Loudoun County taxpayers.

4. The County will seek the provision of necessary public facilities, utilities, and infrastructure concurrent with development through a variety of mechanisms such as proffers, user fees, impact fees, and special taxing districts.

5. Local funding sources, either as "pay-as-you-go" funding or bonded indebtedness, will continue to be a major funding source for County public facilities and services.

6. The County will direct the majority of public investments into currently developed communities, towns and areas of the County where development is planned according to the Comprehensive Plan and in observance of standards and levels as approved in the Board of Supervisors' Adopted Service Plans and Levels and as subsequently amended.

7. The County will consider proposals of the timely dedication of land, cash, and in-kind assistance from the development community in the provision of needed and/or mandated (by federal or state government) public facilities identified in the adopted Comprehensive Plan, Agency Service Plans, area management plans, the Capital Improvement Program or the Capital Needs Assessment Document.

8. Consistent with the Va. Code Sec. 15.2-2283 and 15.2-2284, the County will consider the adequacy of public facilities and services when reviewing any zoning application for more intensive use or density. To fairly implement and apply this policy, the County will consider the following:

    a. existing facilities;

    b. facilities included in the capital improvements program;

    c. the ability of the County to finance facilities under debt standards established by its fiscal policies;

    d. service level standards established by approved service plans and the effect of existing and approved development, and the proposed development, on those standards;

    e. service levels on the existing transportation system; the effect of existing and approved development and the proposed development of those service levels and the effect of proposed roads which are funded for construction;

    f. commitments to phase the proposed development to the availability of adequate services and facilities; and

g. other mechanisms or analyses as the County may employ that measure the adequacy of such services and facilities for various areas or that measure the County's ability to establish adequate services and facilities.

9. The County expects that proposals of public facility and utility assistance by residential developers would be in conjunction with any rezoning request seeking approval of densities above existing zoning.

10. The County will seek to ensure that an equitable and a proportionate share of public capital facility and infrastructure development costs that are directly attributable to a particular development project will be financed by the users or beneficiaries.

11. The County will fund the balance of capital facilities expenditures and operational service expenditures which are not financed through other mechanisms, according to existing Countywide Fiscal Policies adopted by the Board of Supervisors on December 17, 1984, or as subsequently amended.

## B. Proffers

Proffers are voluntary commitments that a developer makes to the County to offset the impacts of a proposed development and which assist, among other things, in improving the public infrastructure needed to serve new residents or users of his/her development. The proffer system is one of the tools used by the County to secure the public infrastructure needed to support new development.

Proffers include monetary contributions toward capital facilities such as schools, parks, libraries, roads and other public facilities. Proffers also may include dedication of property for the future siting of schools, parks, trails, roads, and other facilities, and/or agreements to construct public facilities and to have them in place to serve future development. The developer submits the proffers in writing when applying for the rezoning. Once the County approves the rezoning request, the proffer agreement becomes an enforceable zoning regulation and runs with the land until a subsequent rezoning. The County holds the signed agreement and reviews it for implementation during and after the site plan and subdivision processes preceding actual development.

The proffer system has advantages and disadvantages. The key advantages are that it is voluntary and flexible, which allows contributions to be tailored to specific capital needs at the time. Using the proffer system as a means of partially financing and planning for public improvements has serious drawbacks. The proffer system is a reactive system based on the market and on development decisions made by individual landowners. There is uncertainty about which or when land development proposals, particularly non-residential projects, actually will be built. Since some major capital improvements proffers are tied to a threshold level of development, there is a risk that capital facility improvements will not be made in a timely fashion. In addition, because of the zoning map amendment process, proffers are negotiated on an application-by-application basis, and the resulting proffers may be limited in their flexibility and applicability due to the specific context of the individual zoning map amendment. Major capital improvements proffers in addition to roads often are tied to a threshold level of development, and proffered public facilities such as school sites may be needed by the County before they are built.

The voluntary nature of the system makes it unreliable as a guaranteed source of significant levels of capital funding. Historically, Loudoun County proffers have offset only a minimal percentage of projected capital expenditures. In addition, multiple goals and the unique conditions of each project make it difficult for the County to negotiate proffers consistently from case to case and to strategically fund the Capital Improvements Program. The County will continue to use the proffer system, but must seek alternative methods of funding needed public improvements.

## Proffer Policies

(Also see Chapter Eleven, Proffer Guidelines, pg. 11-1)

1. Until such time as the General Assembly grants authority for other options, the County will continue to use the proffer system to assist in funding capital facilities costs associated with new development. The County will structure residential proffer guidelines on a per-unit basis, based upon the respective levels of public cost of capital facilities generated by the various types of dwelling units (i.e., single-family detached, single-family attached, or multi-family land development pattern). Non-residential costs will be structured on a per-square-foot basis based upon the public cost of capital facilities appropriately attributable to such use (as defined in the Zoning Ordinance).

2. The County will use the Capital Intensity Factor (CIF) to determine capital costs in evaluating proffers. The County's CIF will be reviewed and updated on a biennial basis.

3. To assist the County in an equitable and uniform evaluation of proffers, the County anticipates that developers will assist in providing capital facilities and transportation improvements according to the capital facilities contribution guidelines established in the implementation section of this Plan, and the transportation proffer policies contained in the *Revised Countywide Transportation Plan* (Revised CTP). To achieve the maximum permitted densities in residential communities; the Board of Supervisors anticipates evidence of participation in an open-space preservation program. (Specific capital facilities and open-space proffer guidelines are contained in Chapter Eleven of this Plan.)

4. Specific proffer guidelines may be amended through the area plan process.

5. In addition to capital facilities improvements, the County anticipates that transportation proffers will be sufficient to mitigate the impact of traffic generated by the development throughout the road system.

6. Proffers involving cash contributions will provide for annual adjustments based on the Consumer Price Index (CPI).

7. Proffers may be phased.

8. For the purposes of evaluating proffers for public use sites, the per-acre value for land that does not require any improvements to be completed by the developer will be determined by appraisal of the market values of the site based upon comparison of properties with similar densities suggested by the Planned Land Use Designation in the *Revised General Plan*. The appraisal shall be paid for by the developer and provided to the County. For improved sites, the following shall be taken into consideration during proffer evaluation as applicable:

    a. Site-preparation improvements such as clearing and grubbing, grading, stormwater management, erosion control, and related engineering and permitting costs.

    b. A proportional share of improvements directly related to providing access to the site (pedestrian underpasses, construction of adjacent streets, trails, and sidewalks).

    c. A proportional share of project infrastructure such as stormwater management ponds, sanitary sewer lines and major off-site and on-site roadways serving the site.

9. Proffers may include additional specifically proffered improvements, as consistent with adopted service plans and levels, the Capital Needs Assessment and the Capital Improvements Plan.

10. Proffers related to adult/retirement communities will be evaluated based on *Revised General Plan* proffer guidelines. The Board of Supervisors may consider differences between such uses and

conventional residential development (e.g., reduced numbers of school children, increased human services demand) in estimating the capital facilities needs associated with the development.

11. The County will develop a comprehensive approach to the review, approval and management of proffers that will implement the policies of this Plan. Such approach will recognize and seek to minimize adverse impacts and to maximize positive benefits to ultimate end-users and to the County as a service-provider.

# Public Facilities

The County's early public infrastructure, consisting primarily of schools, was built in Leesburg and in the towns of western Loudoun that were the population centers for the first 200 years of the County's history. Significant residential development began appearing in the eastern part of the County during the 1960s and 1970s as the planned communities of Sterling Park and Sugarland Run developed. It was only then that the County began shifting some of its public infrastructure investment eastward. Eastern Loudoun now is home to nearly two thirds of the County's population and has received most of the public investment in new schools and facilities in recent years. Residential growth in western Loudoun has also led to the need for and construction of additional public facilities. (See Public Facilities Map)

As discussed earlier, the County's land use strategy is inextricably tied to the timing, costs and means of pro-viding public facilities. Also, the location and design of public buildings, and schools in particular, are of primary importance. Such facilities play a special role in neighbor-hoods and communities. They are focal points and social and civic anchors. It is important that their location and design set the highest possible standards. The following general policies are intended to frame the County's approach.

## General Public Facilities Policies

1. The Board of Supervisors' Adopted Service Plans and Levels identify the type and level of service to be provided to the community. All public facilities will be developed in observance of these Plans and Levels.

2. The County will determine the need for new public facilities and will identify suitable sites based on the *Revised General Plan*, appropriate area plans, land use and growth policies. The standards and levels of service for these public facilities are as prescribed in the Board of Supervisors' Adopted Service Plans and Levels.

3. The County recognizes the importance of civic buildings as gathering places and for establishing community identity. Because of their importance to the community, the County will set a positive example in terms of design and development of these facilities.

4. All public facilities will observe the location and design criteria as outlined in the comprehensive plan.

5. The County will consider the provision of suitable new public facilities, timely site dedications, upgrading existing facilities and operational assistance in order to mitigate the service impacts of a development proposal in making its decision to approve or deny the proposal.

6. The County will continue to seek private sector support for improvements or provision of current and future public facilities and sites.

7. The County will consider development community proposals of cash and in-kind assistance for public facilities in addition to the timely provision of dedicated sites.

8. The County encourages the co-location of County facilities where they are feasible and can function effectively as multi-purpose community facilities (e.g., community meeting space, shared parking, athletic fields, and integrated design).

## A. Schools

The County's largest investment in public facilities is schools. Local school enrollment in some years has grown at a faster rate than the County's overall population. Ten years ago, 14,632 students attended Loudoun County Public Schools. During the 2000-01 school year, enrollment reached over 31,800, a 117-percent increase.

Since 1997, the enrollment increases have been dramatic, averaging almost 2,300 additional students per year. This trend reflects not only the County's rapid growth, but also its disproportionate share of young adults in their prime childbearing years who have been drawn to the region by the job market and more affordable housing than elsewhere in Northern Virginia. Almost a third of the County's residents in 1999 were ages 19 or younger, according to U.S. Census Bureau estimates. Of Loudoun's more than 46,000 children, the largest single age group in 2000 was for those under the age of five, at more than 14,700.

The heavy demand for services is placing significant pressure on the school system, which each year must hire hundreds of additional classroom teachers and staff, expand support systems, and open multiple new schools. Families endure the trauma of shifting school boundaries as new students are assimilated into the school system. The County, meanwhile, must generate resources to fund the building and operation of the schools and plan to meet future needs without placing an undue burden on the taxpayers. A new challenge is securing building sites for new schools that are cost effective but that also reflect their important social and civic functions in terms of location and design. In the past, the County has relied on the donation and timely delivery of proffered school sites from the development sector. However, the supply of sites has not kept up with demand or with the school system's construction timetable.

The school system's current inventory of facilities is grouped into six high school cluster service areas. Each cluster also includes a middle school and multiple elementary schools. With the planned opening of four additional high schools, the number of school clusters is expected to rise to 10 by 2005. (See Schools Map)

Currently, the school system's central offices are housed in multiple locations: a 75-year-old converted school building on North Street in Leesburg's historic district, the Douglass Support Center near Sycolin Road in Leesburg, the Staff Training Center (old Ashburn elementary school) and administrative offices at the old Round Hill elementary school. It is anticipated that nearly all administrative offices for the school system will be combined and located within newly constructed office space totaling nearly 112,000 square feet on approximately 8.5 acres.

The County also has two schools based in Leesburg that serve the special needs and interests of students through-out the system. Douglass School provides early-childhood special education, English as a second language, and an alternative secondary school. The Monroe Technology Center in Leesburg provides centralized vocational and technical programs for high school students typically in grades 11 and 12.

## School Policies

1. The School Board will determine the need for new public school sites and facilities in Loudoun County. The County will coordinate with the School Board to identify suitable sites based on the *Revised General Plan* and its land use and growth policies in concert with the School Board's standards and levels of service as adopted by the Board of Supervisors.

2. The County will acquire school sites in advance of the School Board's recognized short and long-term future needs when these sites are not obtained by dedication from developers to minimize school transportation costs and to structure future planned growth.

3. The continued use of existing public school facilities will be supported through ongoing capital asset replacement and modernization of public school facilities to meet changing educational programs.

4. Public school sites should be located at the focus of the attendance area and will provide safe and convenient access for students. All public schools will be linked to adjacent neighborhoods by sidewalks or trails on both sides of roadways and crosswalks, and where possible, linked to greenways or trails.

5. School-related open space and athletic fields will be planned, designed and coordinated with the County's parks and recreation programs and facilities through a referral process.

6. When existing public schools must be replaced, the new facilities will be encouraged to locate in a manner that maintains or enhances the role of the school in the context and character of the adjacent community.

7. Proffered public school sites should be made available in the first phase or upon request of the County of every development proposal in order to assure the timely delivery of educational services to the community.

8. Whenever possible, new public schools in the Rural Policy Area will be located in or immediately adjacent to the Existing Villages, towns, and Joint Land Management Areas (JLMAs).

## B. Library Services

An important measure of the overall health of a community is library usage, and Loudoun residents' usage is double the national average, according to the 1999 community survey. The County's library system includes six facilities: Rust Library in Leesburg, Eastern Loudoun Regional Library in the Cascades area, Sterling Park Library, Middleburg Library, Purcellville Library and Lovettsville Library. Only Rust, Purcellville, and Eastern Regional libraries are modern facilities. A seventh facility will open in Ashburn in 2003, and the Lovettsville Library is being expanded.

Additional projected needs include an addition and renovation of Rust Library for an expanded children's area, administrative offices and technical processing, and a new library in the Dulles community within the Suburban Policy Area. For residents with less access to branch locations due to distance or special needs, the Department of Library Services will provide mobile library services.

## Library Services Policies

1. Library Services sites should be highly visible with direct access to a collector road, and connected to the pedestrian transportation network. Where appropriate, libraries should be located with or near other "high traffic" areas such as town centers and commercial areas.

2. The County will give priority to enhancement/ redevelopment to allow the continued use of existing libraries in western Loudoun through maintenance programs and modernization of facilities.

3. New libraries in western Loudoun will be located in the Existing Villages, towns, and JLMAs.

## C. Fire and Rescue Services

Loudoun County Fire and Rescue Services is comprised of both a volunteer company system of 17 companies and the County's Department of Fire and Rescue Services. The volunteer companies are independent and have their own administrative and operational structures. Sixty percent of the 1,175 volunteers in the system are regularly active in providing fire, rescue, and emergency medical services. The companies operate 19 stations, all of which meet or exceed national and state equipment standards, and the volunteers are responsible for raising donations to acquire and maintain their equipment.

Future strategic siting of new facilities, career staffing, equipment and specialized services, including, but not limited to, hazardous materials response, mid-rise and high-rise construction, technical and tactical rescue operations, is critical to the County's efforts to successfully provide services in a dynamically changing, growth environment. As such, a comprehensive study of the fire-rescue system has been contracted by the Board of Super-visors and is ongoing. This study looks at fire and rescue services systemically and addresses facility, staffing, and equipment needs over the long term. The resulting strategic plan will provide long anticipated service level standards for fire and rescue facilities.

Site identification and acquisition is anticipated in accordance with the Plan's clearly delineated service areas and standards. In addition to planning for new or upgraded fire-rescue stations in, the various Policy Areas, (see Public Facilities Map), current initiatives include: expansion of the Fire and Rescue Services Training Center/Emergency Communications Center near Sycolin Road and replacement of the County's 911 emergency communications system.

## Fire and Rescue Services Policies

1. Fire and rescue facilities will be sited in accordance with the standards and facility needs identified in the Board of Supervisors adopted Fire and Rescue Services Plan and station location/service area maps contained in the *Revised General Plan* and area plans.

2. As part of a rezoning, the County will require sprinklers to be installed in all new residential construction that is located in excess of the travel distance requirements in the Fire and Rescue Services Plan.

3. The County will require dry hydrants or tanks to be included in all new rural subdivisions of more than five dwelling units when no alternative water source is available on site.

## D. Law Enforcement

The Loudoun County Sheriff's Office conducts all police activities, as well as the court-related services of a traditional sheriff's department. Because of this approach, the Sheriff's Office is an integral part of each enforcement step in the criminal justice system. In 1989, it became the first sheriff's office in Virginia to be accredited by the Commission on Accreditation for Law Enforcement Agencies (CALEA).

The annual number of calls for service from the Sheriff's Office has increased with the County's growth. In 2000, the number of calls is expected to exceed 96,000. Not reflected in that number is the changing complexity of the task. Loudoun's growing population is dispersed across a 517-square-mile coverage area. The population also is becoming more culturally diverse, with an increasing number of residents who do not speak English. Commercial growth presents additional challenges with the recent opening of two large destination retail centers that are attracting large numbers of visitors to the County. In addition, the sophistication of new corporations is requiring Sheriff's personnel to develop more expertise in information technology.

To sustain rapid response times, the County has opened three substations/offices in the Suburban Policy Area - Sterling Park, the Dulles Town Center Mall and University Center - and one in western Loudoun in the Town of Round Hill. Future combined facilities with Fire and Rescue Services are projected in or for the Suburban, Transition, Town/JLMAs and Rural Policy Areas. The Sheriff's Office headquarters also is being relocated from leased space in downtown Leesburg to the Government Service Support Center site near Leesburg Executive Airport.

## E. Human Services

Every segment of the County's population is growing, including people with needs for the County's human services. Recent trends of particular importance to local agencies are the rising number of youths, senior citizens, and two income households, as well as Loudoun's increasing cultural diversity. These demographic patterns are requiring additional County services related to provision of affordable housing, affordable health care, affordable childcare, and community alternatives for youth, transportation and other public services. Waiting lists are extensive for many of these services.

Loudoun County's human service delivery system responds to this increasingly complex array of social needs with a variety of services and facilities. For the purposes of this Plan, human services are those provided by the Department of Social Services; the Department of Mental Health, Mental Retardation and Substance Abuse Services; the Juvenile Court Services Unit; Health Services; the Office of Housing Services; and the Victim Witness program of the Commonwealth's Attorney's Office. The central offices for these functions are typically co-located within the Loudoun County Government Center, the Shenandoah Building, or the Loudoun County Courts Center in Leesburg.

The Department of Mental Health, Mental Retardation and Substance Abuse Services operates a number of group supported-living residences. They include two homes in each of the following communities: Purcellville, Ashburn Farm, Cascades and Sugarland Run. Sterling and Leesburg each have one facility. To begin to meet current and future demand for housing, eleven additional homes are to be built in the 2001-2006 planning period - two in eastern Loudoun, one in central Loudoun, one in southern Loudoun, one in western Loudoun and six sites in locations yet to be determined. State funding is providing the capital to build a new supported-living residence in Leesburg for persons with serious mental illness.

### Human Services Policies

1. New human service facilities will be located in the Suburban and Transition Policy Areas, Towns, JLMAs, and the Existing Villages with good access to commercial services to achieve adequate accessibility and integration of all clients.

2. Human service agencies will coordinate facility needs and location criteria for group care facilities to ensure adequate dispersal throughout the County.

3. The County will support and encourage public, private, and public/private partnerships to develop sustainable housing facilities to support the needs of special population groups, including the elderly, the mentally and physically handicapped, low income persons, and the homeless.

## F. Parks, Recreation and Community Services

The Department of Parks, Recreation, and Community Services promotes safe and healthy lifestyles for local residents by providing recreational, cultural, and educational activities and services. The Department is responsible for developing and maintaining the County's park system, for developing and maintaining community centers and outdoor recreational fields and facilities, and for providing a comprehensive program of services to reach all segments of the population.

The Department provides services by geographic area to ensure that the maximum number of residents through-out the County is served. The Department's current inventory of facilities includes ten full-service community centers in Arcola, Bluemont, Purcellville, Leesburg, Lovettsville, Lucketts, Middleburg, Philomont, Sterling, and Sterling Park. There are also two regional parks - Claude Moore Park in Sterling and Franklin Park outside of Purcellville, which feature active and passive recreation, cultural facilities and programs. Banshee Reeks Park in central Loudoun offers passive recreation in a quiet, natural setting. There are two swimming facilities, one in Lovettsville and one at Franklin Park. There is a senior center in eastern Loudoun and senior cafés in Arcola, Leesburg and Purcellville. Athletic fields are located in various areas of the County and at most elementary and middle schools. There is also a system of small parks.

During the 2001-2006 capital improvements planning period, a central Loudoun regional park has been programmed (on the Shellhorn property). A recreation center and community park are planned for Broadlands, and small parks and recreation facilities either will be built or improved in South Riding, Ashburn, Purcellville, Round Hill and at the Northern Virginia Community College Loudoun Campus. Additional improvements are planned at Claude Moore, Franklin, and Banshee Reeks regional parks. Proposed improvements for additional community service facilities include a second Alzheimer's Respite Center for eastern Loudoun, a new multi-purpose facility with an emphasis on senior services programming at the former elementary school in Purcellville and a Teen Center at a site to be determined. Similarly, a series of trails and trail extensions is envisioned as being constructed as part of selected trail master planning efforts.

## Parks, Recreation, and Community Services Policies

1. Current and future desired parks, athletic fields, and athletic fields and facilities associated with school sites shall be mapped as publicly owned components of the Green Infrastructure.

2. The County will continue to seek private sector support and state and federal funding for the provision of current and future Parks, Recreation, and Community Services facilities.

3. The County encourages the contiguous development of regional linear parks, trails, and natural open space corridors to provide pedestrian links and preserve environmental and aesthetic resources.

4. The County will support the Northern Virginia Regional Park Authority (NVRPA) and others in the acquisition of land and the development of facilities such as the Potomac Heritage Trail, extension of the W&OD Trail to Bluemont, and the Appalachian Trail, and the preservation of the Ball's Bluff Battlefield.

5. The County will continue to work with the U.S. Department of the Interior, the Conservation Management Institute, the Virginia Department of Historic Resources, the Northern Virginia Regional Park Authority, and the incorporated Towns to define and recommend areas for open-space preservation and development of a trail system that links the County's natural, historic, and recreational resources.

6. School related open space and facilities will be planned, designed, and coordinated with parks, recreation and community services facilities to function effectively as multi-purpose community facilities.

7. The County will continue to coordinate recreation planning efforts with the Towns to prevent duplication of services.

8. The County will provide for the extension of public utilities to public park sites in conformance with the sewer and water policies of this Plan.

9. Wherever possible, new active recreational facilities in the Rural Policy Area should be located near the Towns to reinforce the County's land use and fiscal policies.

## G. Animal Care and Control

Animal control services are public safety services mandated by the state. The Loudoun County Department of Animal Care and Control operates the County's Animal Shelter and provides enforcement of its Animal Control ordinance.

Administrative offices and the shelter are located in a facility built in 1964 near the Village of Waterford in western Loudoun County. The facility has undergone expansion and modernization, and the larger kennel space with improved heating and cooling capacity will meet minimum state housing standards for the first time since 1980.

Because of the remote location of the Waterford facility, response times to calls from eastern Loudoun residents are typically 30 to 40 minutes. Response times to complaints from residents from the southern part of the Dulles Community are 45 minutes. The lengthy drive time reduces staff efficiency. Consideration of facility locations closer to the County's population center in future Capital Improvement Program periods is anticipated.

## Animal Care and Control Policies

1. The County will determine the need for new Animal Care and Control sites and facilities in the Suburban Policy Area or Transition Policy Area in concert with the standards and levels of services prescribed in the Board of Supervisors' Adopted Service Plans and Levels.

## H. General Government Combined Use and Judicial Administration

The County occupies general office space totaling 368,350 square feet. Sixty-nine percent of the space is owned by the County, and 31 percent is leased, some of it under lease-purchase arrangements. Owned facilities include the County Courts Campus, buildings that house the Department of Information Technology and the Fire and Rescue Services/Emergency Communications Center, and the Central Warehouse. Being purchased through lease-purchase agreements are the County Government Center and the Shenandoah Building, both in Leesburg.

Between 1990 and 2000, as the County's population nearly doubled, the increased demand for services required an expansion of the County staff that has maximized the use of available office and parking space. As a result, the existing inventory of County office and parking space for general government uses is nearly exhausted. Additional office and parking improvements are planned during the 2001-2006 capital improvements planning period. Capacity problems in the County's judicial administration also are being addressed. The Courts Renovation and Expansion project in downtown Leesburg is scheduled for completion in 2001. The scope of the Courts project includes replacing the existing jail, which no longer meets state standards and will be demolished. The County will also be constructing a County-owned facility for use by the Smithsonian Institution's Naturalist Center. The County will be working actively with the school system to determine the appropriate location of this facility.

## General Government Combined Use and Judicial Administration Policies

1. New Government Combined Use and Judicial Administration offices and facilities in western Loudoun

will be located in the Towns and JLMAs.

## Reference Maps

Public Facilities

Existing Schools, Proffered Sites and Facility Sites, Academic Year 2001-2002

# Chapter 4
# Economic Development

By its Vision Statement, the Board of Supervisors recognizes that an efficient, strong, diverse, and resilient economy is the cornerstone of Loudoun's planned development. It generates jobs and income for a substantial number of Loudoun's households, as well as a stream of tax revenues that contribute to the public facilities and services that all Loudoun's citizens enjoy. In addition, as Loudoun's economy matures, it is providing the opportunity for an ever increasing percentage of house-holds to live and work in the County.

Economic development is the collaboration of public, private and nonprofit sectors to deliver a community with a high quality of life and an attractive business environment. An effective economic development process yields two products: high quality jobs that produce incomes for a high standard of living, and the public and private financial resources necessary to keep the community's asset base healthy. These assets are the real wealth of the community and include the intellectual, educational, entrepreneurial, technological, environmental, social, heritage and natural resources. How Loudoun uses, increases, develops, and protects these assets will deter-mine much of the economic potential and, ultimately, the future of the County.

The key to sustainable, long-term economic development lies in nurturing and supporting existing businesses. The County seeks to foster an environment conducive to the growth, competitiveness, and expansion of established businesses, start-ups, and spin-offs. The County's ability to address transportation needs is crucial to accommodate existing businesses and attract new ones. In order to help ensure an increasing quality of life, the County will endeavor to maintain certain economic development corridors where synergies of location, transportation and communication infrastructure will promote business concentration. This action also will help maintain the value of the commercial investments in those corridors and will help ensure the highest and best use of those areas.

The discussion of Loudoun's economy has been divided into three parts for convenience. The "New Economy" discussed in this chapter is located largely in the Suburban Policy Area (Chapter Six) where specific economic sector policies are presented. The equally important "Rural Economy" is discussed in the Rural Policy Area (Chapter Seven) with supporting policies and proposed incentives, and "Tourism" that has a countywide economic impact is discussed both here and in Chapter Seven.

## The New Economy

The decade of the 1990s saw the unparalleled expansion of Loudoun County's economy. The number of local businesses almost doubled with an average of 218 new Loudoun businesses per year during the 1990s. Jobs grew by almost 47,000, an increase of more than 115 percent, significantly faster than any other jurisdiction in Northern Virginia. By 2000, more than 8.5 percent of the region's jobs were located in Loudoun, and Loudoun had emerged as a leading employment center.

Correspondingly, since 1990, the amount of nonresidential building space has tripled to nearly 30 million square feet. In this ten-year period, the County issued building permits for 4.9 million square feet of office space, 4.7 million square feet of flex and industrial space, 4.0 million square feet of retail space, and 6.4 million square feet of other nonresidential space, such as hotels, schools and libraries.

Loudoun's retail inventory includes approximately 6.0 million square feet of space within more than 45 retail centers, located throughout the Suburban Policy Area and within the Towns of Leesburg and Purcellville. More than twenty additional retail centers with approximately 7.0 million square feet of planned capacity have been zoned. The County's largest retail hub is near the Route 28/7 interchange, where the new Dulles Town Center is under development. [Retail policies are contained in the *Countywide Retail Policy Plan Amendment*.]

Although the amount of nonresidential space has increased significantly, vacancy rates have declined for eight consecutive years. The overall vacancy rate for non-retail space in 2000 was 5.2 percent, with the vacancy rate for office space at 6.4 percent, flex space at 7.8 percent, and industrial space at 1.3 percent. Most of the existing commercial space is located throughout the Suburban Policy Area, the site of Washington Dulles International Airport and other major transportation infrastructure.

## Loudoun's Economic Development Strategy

Loudoun recognizes that it is in competition for economic growth and development with other jurisdictions in the Washington D.C. Metropolitan Region. The Region, in turn, competes against other U.S. technology regions and against global technology centers in Europe and Asia. Therefore, it is essential that Loudoun capitalizes on its significant competitive advantages in the global market place and seek new business development. In this regard, the Board of Supervisors has appointed the Loudoun County Economic Development Commission (EDC) to recommend an economic development strategy and update it at regular intervals.

To protect the important economic gains of the past decade and to assist the County in reaching its economic development potential, in November 2000, the Board of Supervisors, on the recommendation of the EDC, adopted "*The Community's Plan for a Thriving and Sustainable Economy*". This economic development strategy addresses four key economic development principles:

- Maintaining Loudoun's high quality of life, which includes providing excellent schools, affordable housing, recreational opportunities, adequate infra-structure, efficient public services and, aesthetically pleasing open space;
- Diversifying the local economy so that it is not overly dependent on a particular industry sector;
- Managing growth so that the County can provide adequate public services and continue to be fiscally sound; and
- Coordinating with Loudoun's incorporated Towns and rural economic sectors to achieve balanced policy making, planning and monitoring, for the successful implementation of the economic development strategy.

This economic development strategy is a community strategy rather than solely a local government plan. Intended as a guiding strategy for economic development for the next five to ten years, its overall purpose is to: "Create an economically vibrant, globally competitive community recognized for its attractive business environment and high quality of life." The strategy makes five commitments to the community in the form of the following goals:

- Foster a prosperous business environment conducive to the growth, competitiveness, and expansion of business.
- Create a globally recognized technology to further diversify Loudoun's economy.
- Maintain the sound fiscal health of Loudoun County.
- Develop an innovative Rural Economy that is compatible with Loudoun's rural character.
- Become a premier visitors' destination that serves as a regional hub for domestic and international visitors and provides world-class service.

# Loudoun's Competitive Advantage

The dramatic economic transformation in the 1990s was accomplished because of the timely convergence of six factors that provide a competitive advantage to the County:

## A. Washington Dulles International Airport

The economic development gains of the past decade are due in large part to the presence of Washington Dulles International Airport, a vitally important economic development asset. Aircraft operations at Dulles Airport have increased significantly during the 1990s. Total passengers have grown to more than 20 million annually and cargo tonnage has increased to more than 838,000 metric tons annually. In 2000, Dulles Airport was designated the fastest growing of the world's 50 largest airports.

In response to this increased activity, the Metropolitan Washington Airports Authority has begun a $3.4 billion infrastructure improvement project. The first phase includes a new runway, an underground passenger railway connecting concourses to the main terminal, two parking garages, moving sidewalks between concourses and terminals, and other road and structure improvements, all of which are to be completed by 2006.

Nearby flex/industrial facilities and other benefits, including a foreign trade zone, allow the business community to take advantage of airport operations. The *Revised General Plan* policies anticipate the continued growth and expansion of Washington Dulles International Airport for both passengers and cargo and seek to maximize the economic opportunities created by the airport.

## B. Washington D.C. Metropolitan Region Location

Loudoun County benefits from its location on the edge of the Washington D.C. Metropolitan Region and immediately adjacent to Fairfax County, making the County a logical extension for the Washington area's burgeoning economy. (See Locational Map)

Over the past ten years, metropolitan Washington D.C. has become one of the nation's leading destinations for technology companies. The Region has more than 2,300 science and technology firms that employ 330,000 people in information technology, systems integration, software development, biotechnology/life sciences, telecommunications, aerospace, and other high-tech fields. The majority of the Region's new job growth in the decade has occurred in Northern Virginia, which captured three-fourths of the Region's net new jobs. Forty percent of these new jobs occurred in Fairfax County, and more than 14 percent occurred in Loudoun County.

Sixty percent of all Internet traffic now flows through Northern Virginia, much of it due to the Loudoun-based technology companies such as America Online. Loudoun's growth in technology sales revenue during 1999 and 2000 was over $1.2 billion, exceeding that of the rest of Northern Virginia, where sales growth totaled $1.1 billion. Loudoun County's attractiveness is not limited to information technology companies — in the year 2000 the Howard Hughes Medical Institute announced plans to build a $500 million biomedical center in the County that will employ 300 scientists in the first phase.

Loudoun County will continue to seek technology-related economic investment and will encourage the continued rapid expansion of the fiber optic telecommunications systems and other essential supporting infrastructure. A comprehensive utilities plan will be developed to help address the impacts and location requirements of energy and communications facilities.

## C. Qualified Workforce

The Washington D.C. Metropolitan Region has one of the most educated workforces in the U.S. There are more scientists and engineers here than nearly any other metropolitan area in the world. In addition, during the 1990s, the old economic model of people migrating to find jobs was replaced with a new one of businesses migrating to, or growing in, those regions with a labor force of highly skilled people—the so-called knowledge workers.

The high quality of Loudoun County's public schools is a key component in the economic development strategy. Strides have been made in the County through public/private partnerships to equip its current and future workforce. For example, America Online Inc. has developed a close working relationship with Loudoun County Public Schools, tapping local school personnel to help develop an Internet portal for research activities in public schools around the United States.

Institutions of higher learning also are establishing a presence in Loudoun County, in part, to serve the County's technology workforce. The George Washington University, Marymount University, Shenandoah University, Strayer University, and Old Dominion University have located satellite campuses in the County and offer an array of degree and/or certificate programs in technology fields. The Loudoun campus of Northern Virginia Community College offers a fast-track educational program to prepare students for careers in computer science, information technology, web design and other business technology fields. Loudoun County will seek to strengthen these partnerships among government, business, universities, and public schools, to improve the quality of Loudoun's and Northern Virginia's workforce.

## D. Quality of Life

Loudoun County's quality of life is a key competitive advantage that is vital to the economic base. The County offers a distinctive sense of place, a beautiful rural environment of mountains, valleys, farms, estates and open space, charming small towns and existing villages, and well-planned suburban communities in proximity to employment corridors. Maintaining these distinctive places and their accompanying sense of community are important advantages for Loudoun County in a competitive marketplace.

## E. Transportation

In the late 1980s, a forward-thinking private sector established a special tax district to finance the widening of Route 28 and invested millions to privately construct the Dulles Greenway, a toll road from Leesburg to Route 28. In anticipation that future business development will desire locations near existing and planned transportation and utility infrastructure. New interchanges and other improvements are planned for Route 28. Private corporations and development groups also are considering innovative approaches to fund those improvements. The County must seek to fully utilize the Public-Private Transportation Act (P-PTA) of

1995 to facilitate transportation investment. According to information available in June 2001, the new interchange improvements in the Route 28 corridor, along with the improvements to the Loudoun County Parkway, are to be completed by a public-private partnership near the end of calendar year 2005. The interchange at the new National Air and Space Museum Dulles Center will be completed prior to December 2003 and support an estimated 4 to 5 million visitors per year.

The Community Development Authority (CDA) is another mechanism available to fund transportation and other infrastructure. One CDA has been established to fund infrastructure around Dulles Town Center.

There are also plans to extend rail to Dulles Airport and to points within Loudoun County along the Dulles Greenway. Implementation of the Bus Rapid Transit (BRT) phase of this project is expected in the 2003/2004 timeframe, with a conversion to rail service by 2010. (See the *Revised Countywide Transportation Plan* and Chapter Six of this Plan.)

### F. County Planning and Zoning

The County's *General Plan* and Zoning Ordinance were adopted in the 1990s to guide economic growth and development. Ample land was available, already zoned for business expansion at very competitive prices. Three-fourths of the approximately 20,000 acres zoned for commercial or industrial uses is vacant or underdeveloped. Building to zoning capacity within planned communities and business parks provided in excess of 135 million square feet of additional space for nonresidential uses. The 1991 *General Plan* directed most nonresidential development to the County's key transportation corridors: Route 28, Route 7, the Dulles Greenway, Route 50, and Route 606.

## Business Land Use and Corridor Development

Office and industrial land use expanded rapidly along the highway-oriented business corridors in the 1990s and the land use pattern for future economic development is now well established. Route 28 is the major north-south business corridor that intersects with the five east-west business corridors (Route 7, Route 625 [Waxpool Road], Route 606 [Old Ox Road], the Dulles Greenway, and Route 50). Route 607 [Loudoun County Parkway] is an emerging north-south corridor, generally paralleling Route 28 that will play an important role as a business corridor. The following is a brief description of the development activity in those corridors and the challenges ahead:

### A. Route 28

The Route 28 Corridor is planned to be a major economic and employment center within the County that will be developed with suburban, lower-density office and flex settings; medium-density, compact, pedestrian-oriented office clusters; and higher-density, transit-oriented mixed-use office centers. Other parts of the corridor more immediate to the Washington Dulles International Airport and Route 606, west of Route 28, are planned for Industrial uses. Older existing land uses and several aging small retail areas that need rehabilitation present challenges to the ultimate definition of development in the corridor.

Route 28 is considered one of the County's primary transit corridors. Like many of the major roads in Loudoun County, Route 28 does not stop at the Loudoun County line, but continues into Fairfax County. Just a few miles south of the Loudoun-Fairfax border is the Smithsonian Institution's Dulles Air & Space Center at Dulles Airport. Opened in 2003, the Center houses about 15 times the number of air and spacecraft as the National Air and Space Museum on the Mall in Washington, D.C. Continued support for and study of road and transit improvements in the corridor, such as light rail, are intended to accommodate such growth.

The County supports and is committed to the continuing growth of and need for an economically vibrant Route 28 Transportation Improvement District, both for the District's contribution to the transportation improvements to Route 28 and to the economy of the County. The Route 28 Corridor Plan in Chapter 6 of the *Revised General Plan*, which provides policy guidance regarding economic, land use, housing, transportation, design, and sustainable development within the tax district, will help the corridor achieve these goals.

## B. Route 7

About 3.0 million square feet of office uses have been developed in the Route 7 corridor, planned for prestigious, Keynote Employment offices. That is less than one tenth of the 38 million square feet potential in the 2,191-acre corridor. Currently, about 330 additional acres are being developed for the speculative market, but more than 50 percent of the corridor's available land (almost 1,300 acres) has been taken off the market by landowners who will entertain only build-to-suit projects. The eastern portion of Route 7 (from the Fairfax County line to Route 28) has developed in extensive retail uses.

## C. Route 625 (Waxpool Road)

The most significant office development in the County is in the Route 625 corridor. Keynote offices began developing along the corridor in the late 1990s with America Online's location of its national headquarters there. The campus, now with 1.4 million square feet, became a magnet for additional development, including a 2.0 million square-foot corporate campus for WorldCom. America Online is the world's leading consumer Internet provider, and WorldCom has installed much of the fiber optic backbone for the new communications medium. These two corporate neighbors solidified Loudoun County's claim as the "Internet capital of the world." In late 2000, about 4.6 million square feet of space had already been built or was under construction. A major complementary use to these industries has been data centers that house banks of computers that control the flow of information over the Internet. Those centers occupied 750,000 square feet of space in the corridor in 2000, with another 1.0 million square feet of such uses planned.

## D. Route 607 (Loudoun County Parkway)

Route 607 provides an alternative north-south road to Route 28. Currently not completely developed, Route 607 runs from Route 7 and will eventually run to Route 606 and on to the Prince William County Parkway. Recently, many upgrades have occurred along Route 607 including the WorldCom rezoning to office use and the development of Beaumeade Industrial Park as office instead of industrial. As Route 607 continues south from the Dulles Greenway, the current zoning is PD-GI, which encourages heavier industrial uses. As development continues towards Route 606, industrial uses that support airport activity should be encouraged.

## E. Route 606 (Old Ox Road)

Loudoun's future industrial center is planned to be located in the Route 606 corridor, a road that connects with Route 28, the Dulles Greenway, and Route 50 around the western edge of Dulles Airport. Route 606 provides cargo and employee access to Dulles Airport through its North Gate. The corridor has been slow to develop because water and sewer service is lacking, but it is expected to be available in the next few years. There are more than 2,400 acres of undeveloped land in the corridor with a combined development potential of 40 million square feet. Only 1.12 million square feet actually has been built, most of it in one-story warehouse/flex facilities. The Brambleton development is expected to develop another 2.0 million square feet of industrial space on about 130 acres and another 1.0 million square feet of warehouse/flex space is anticipated on about 220 acres near Route 28.

## F. The Dulles Greenway

The Dulles Greenway, planned for up to 12 million square feet of higher-density office development, is another emerging business corridor. About 240 acres were either under contract or in development by late 2000. Developers for speculative or build-to-suit opportunities are purchasing most of this land area. Sixty-five acres, also in the speculative market, are being developed for data centers. Another 230 acres along the Greenway were being marketed in late 2000 for build-to-suit projects. The planned rail connection to Dulles Airport will terminate with two transit stops in Loudoun County along the Dulles Greenway between the Route 606 and Route 772 interchanges. When transit is available it likely will spark development activity for higher density development and improve access to all the business development corridors in the County.

## G. Route 50

Route 50 is the southern gateway to western Loudoun. There are 693 acres of zoned commercial land accounting for 9.0 million potential square feet of space, but significant investment will not occur until water and sewer services become available over the next several years and as the residential population develops. In the meantime, the Commercial-Light Industrial zoning along the road's frontage up to Route 659 negatively affects the corridor's long-term image. The County seeks to achieve consolidation of these parcels to obtain higher value business locations as the overall area develops.

# Economic Projections

On an annual basis, the County develops projections for economic development space and jobs for a twenty-year period. These projections are demand based and are used as inputs into the County's Fiscal Impact Model. Making long-term economic projections is subject to significant uncertainty as external economic conditions, interest rates, shifts in the competitive advantages of different locations in the emerging global economy, the emergence of new technologies, and changes in market demand are beyond the control of Loudoun County.

Local factors also affect the County's continued ability to attract new economic investment and the rate of expansion of existing business. The County should monitor the following factors that may affect future commercial space projections:

- Rapidly increasing commercial land values that, if continued, could reduce the County's competitive advantage relative to other lower cost areas.
- Growing competition from surrounding jurisdictions.
- Landowners with buy and hold strategies that impact available land.
- Proffers that may not be triggered, which will then affect the transportation network and the full development of a site.
- Increases in the tax rates caused by residential growth and the demand for improved facilities and services that could reduce the present favorable relationship with the tax rates in neighboring jurisdictions.
- Increasing traffic congestion that increases business costs and frustrates employees' commute from home to work.

- Any deterioration of the quality of life factors that make the County a unique place to live including the design of residential communities, the provision of open space and Green Infrastructure, and the retention of a viable Rural Policy Area—all of which are valued by the business sector and their employees.

It is the aim of this *Revised General Plan* that policies presented in other chapters and in the *Revised Countywide Transportation Plan* have a direct and favorable impact on enhancing the business climate and maintaining Loudoun County's competitive advantage.

## Economic Development Policies

1. Loudoun seeks and promotes a diverse economic base in a multitude of industries so that it is not entirely dependent upon any single employer or employment sector.

2. The County encourages the development of high-quality public education, higher education, and training opportunities, and promotes enhanced relationships between the business community, universities, and the public school system to address workforce needs.

3. Loudoun County will promote a favorable business environment by providing a consistent and user-friendly regulatory environment that responds to the needs of established businesses in all policy areas and supports the development of small and large businesses, spin-offs, start-ups, home-based businesses, and other entrepreneurial activities.

4. The County recognizes that economic policy and land use policy must be coordinated. The County seeks to implement the economic goals as adopted and subsequently amended by the Board of Supervisors in Loudoun County's Economic Development Plan and Growth Strategy within the framework provided by the Comprehensive Plan.

5. The County will provide for an adequate amount of land to accommodate the growth of a variety of industry sectors.

6. The County supports appropriate and desirable nonresidential development in business corridors and related to the development of the larger communities.

7. The County will develop both regulatory and incentive-based aesthetic enhancement and environmental protection of business corridors, communities and gateways. For this purpose it may use incentives such as density credits, property tax credits, adjustments in zoning or other requirements, and priority processing of applications.

8. The County will facilitate broad bandwidth infra-structure availability for all residential and business segments of the Loudoun economy. The County will identify alternatives to using the VDOT right of way for broad bandwidth infrastructure for the purpose of reducing costs.

9. The County supports the continued growth and expansion of Washington Dulles International Airport and will ensure that provision is made for land uses and County infrastructure consistent with that expansion.

10. The County will prohibit residential encroachment into the existing Ldn 65 noise contours to ensure that residential development will not create pressure for reductions in the intensity of service or prohibit the expansion of service at the airport.

11. The County supports transportation plans that provide improved access to the Washington Dulles International Airport consistent with the *Revised Countywide Transportation Plan*.

12. Outside of Existing Villages (See Chapter 10), the County intends to limit the establishment of the Rural Commercial (RC) zoning district to the following:

    a. those properties with RC uses established on or before January 7, 2003;

    b. properties in the Ryans Corner area of the County designated RC prior to January 7, 2003; and

    c. the core of the village of Arcola, west of Dulles Airport, pending conversion of those properties to other uses conforming to the long-range plan for that area.

    In limiting the location of RC districts, the County places particular emphasis on the following considerations:

    a. traffic safety concerns, including sight distances and safe ingress and egress;

    b. compatibility with surrounding land uses and zoning;

    c. the most appropriate location for such districts; and,

    d. limiting strip commercial development, particularly along major highways.

13. Loudoun County will exercise the power of eminent domain only for the development of public facilities, as defined in the State Code.

## Tourism and Travel Industry

The tourism and travel industry comprises the activities of persons traveling to and staying in places outside their usual environment. This sector includes the attraction and services of all visitors whether coming for business, leisure, conferences and conventions, or visiting friends and family. The tourism industry reinforces the County's commitment to aesthetics, developing infrastructure, preserving attractions, and implementing land use plans to further differentiate Loudoun County from neighboring jurisdictions.

The tourism and travel industry is a growth sector in Loudoun County, generating more than $730 million dollars to the economy in 1999. There are more than 13,600 jobs in Loudoun County that provide services to the tourism industry.

Loudoun County is favorably positioned to attract visitors. The convenient access from the Washington Dulles International Airport brings millions of travelers each year. The proximity of the tourist attractions of Washington, D.C., and Northern Virginia make Loudoun an easy get-away, and the connection between the Virginia and Maryland Civil War Trails programs can make Loudoun a regional hub. Loudoun's location in the mid-Atlantic region will continue to benefit from a population concentration that is the mainstay of Loudoun County's leisure travel.

This diverse industry spans the entire landscape of Loudoun County. In the Suburban Policy Area there is a concentration of hotels, conference facilities, golf courses, and destination retail shopping along with visitor destinations such as the Washington Redskin Training Facilities, the Claude Moore Park Farm Museum, Algonkian Regional Park, and a variety of commercial recreation opportunities. The addition of the Smithsonian Air and Space Museum's Steven F. Udvar-Hazy Center near Washington Dulles

International Airport will attract more than 3.0 million visitors to the area each year. These new facilities also will attract meetings, conventions, and other attractions to the region.

Loudoun County must plan for the growth of the tourism industry in the Suburban Policy Area in order to capture new lucrative business. The potential for a convention center, large privately owned meeting facilities, and high-tech and recreation facilities are encouraged.

In the other areas of the County, there are bed and breakfast establishments, country inns, and rural retreats with conference facilities that supplement the concentration of facilities in the Suburban Policy Area and provide an alternative experience. West of the Suburban Policy Area, Loudoun County offers cultural and heritage tourism, Civil War battlefields, recreation, wineries, and numerous heritage sites, nurseries, farm tours, Christmas tree farms, the equine industry, and scenic trails, byways, and tours. Fairs, festivals, and events are held at a wide variety of facilities including bed and breakfasts, Morven Park, Oatlands, community centers, and large private farms. A major concentration of visitor attractions are located in the Rural Policy Area and Towns; the preservation and nurturing of which is fundamental to the future of the tourism industry and its contribution to the rural economy. (A summary of these assets is discussed in Chapter Seven and Chapter Nine.)

Loudoun County uses the destination management services of the Loudoun Convention & Visitors Association (LCVA) to maximize tourism opportunities for Loudoun County and the incorporated Towns. The LCVA is responsible for developing and implementing a marketing plan to promote and manage Loudoun's tourism products through market promotions, public relations, sales, services, product development, and cooperative advertising programs.

The historic towns and villages each have a distinct historic personality and are delightful places to spend a day. Middleburg, the capital of Virginia's Horse Country, is a world-class visitor destination with a traditional downtown and infrastructure designed to attract visitor spending. Leesburg has many heritage sites, antique shops, art galleries, and restaurants. The Town of Purcellville has a cluster of antique shops, Fireman's Field, and is surrounded by specialty farms that attract visitors. In order to assist the seven Towns as they define and develop their tourism efforts, the County has launched the Town Outreach Project to provide economic development tools to the Towns as they pursue business development and tourism opportunities.

Loudoun County's diverse visitor experience includes well-known attractions such as Oatlands, Morven Park, the Waterford Fair, point-to-point races, Ball's Bluff Battlefield, wineries, and community fairs in Lucketts, Bluemont, and Aldie. Growing in reputation are the County's recreational opportunities and driving tours such as the Mosby Heritage Area. The use of packages and itineraries enable visitors to extend their stay and combine multiple experiences into one trip. The County's quality sports complexes attract visitors through regional and national tournaments.

The use of historic and rural locations has increased the opportunities to attract small and medium sized meetings to the County and the Towns. The meetings market will be growing with the additional meeting facilities planned along the Route 28 corridor and the expansion and remodeling plans at Xerox Document University.

## Tourism Policies

1. The County, in cooperation with the Loudoun Convention & Visitors Association (LCVA), supports the promotion of Loudoun County as a tourist destination and recognizes the importance of existing and new communities being well planned, well designed, and aesthetically attractive.

2. The County will protect, expand, and enhance Loudoun's historic, cultural and natural resource-based tourism industry.

3. The County supports the development and enhancement of appropriately located tourist attractions and hospitality infrastructure, including hotels, bed and breakfasts and rural event facilities, which are important to the visitor experience.

4. The County will take advantage of economic benefits derived from significant regional tourism attractions and events.

5. The County will develop a unified tourism directional signage network in cooperation with Loudoun Convention and Visitors Association (LCVA) and the Virginia Department of Transportation (VDOT) consistent with the County's signage regulations.

6. The County will promote Parks and Recreation and Town sponsored tourist events.

7. The County will promote vocational training and hospitality services to support the tourism industry.

8. The County will improve the gateways into Loudoun County, in coordination with the Towns, specifically focusing on the aesthetics of entrances into Loudoun County on Routes 15, 7, 50, 28, 9, 267, 606, and from Washington Dulles International and Leesburg Executive Airports as they have an immediate impact on a visitor's impressions of Loudoun County.

## Reference Map

Locational Map

# Chapter 5
# The Green Infrastructure: Environmental, Natural, and Heritage Resources

Abundant natural resources and a rich cultural heritage have defined Loudoun County's unique sense of place for more than 240 years. The mountainsides, forests, streams, vast stretches of agricultural land, and numerous historical sites are tangible assets that make the County an appealing place to live and work, while contributing directly and indirectly to Loudoun's economy.

The Green Infrastructure organizes the County's environmental, natural and heritage resources into a related system consisting of the Potomac River edge, stream corridors and scenic rivers, forested areas and tree stands, mountainsides, wetlands, limestone conglomerate areas, important plant and wildlife habitats, greenways and trails, scenic areas and corridors, historic and archaeological sites, and other open spaces (natural, eased and man-made) of special importance. (Refer to Green Infrastructure Map)

In all future land use planning, the framework of the Green Infrastructure will guide where and how development and redevelopment occurs. Conservation design requires the conservation of Green Infrastructure elements on a site while providing for development at full density on the area that remains. It will be incorporated into regulations with performance standards that will support the Green Infrastructure, highlight its environmental and economic value, and provide flexibility.

The County will apply a Green Infrastructure strategy to guide the implementation of environmental policies. This strategy is based on three goals:

- Conservation – Creating a stronger relationship between natural and built environments.
- Preservation – Retaining and protecting existing environmental, natural and heritage resources.
- Restoration – Adding to the Green Infrastructure wherever possible.

The Green Infrastructure components are organized into four groups as follows:

- Group One: Natural Resource Assets (River and Stream Corridors; Scenic Rivers and the Potomac River; Surface and Groundwater Resources; Geologic and Soil Resources; Forests, Trees and Vegetation; and Plant and Wildlife Habitats)
- Group Two: Heritage Resource Assets (Historic and Archaeological Resources, and Scenic Areas and Corridors)
- Group Three: Open Space Assets (Greenways and Trails, Parks and Recreation, Public School Sites, and Open Space Easements)

- Group Four: Complementary Elements (Air Quality, Lighting and the Night Sky, and Aural Environment)

The Green Infrastructure resources are interdependent and many of the implementation strategies will protect integrated systems, rather than individual resources. Implementation includes the following:

- Identification and mapping of the Green Infrastructure.
- Regulatory protection of the Green Infrastructure. Incentives for adding to the Green Infrastructure.
- Provisions for public and private stewardship.
- Education program about the Green Infrastructure.

## Green Infrastructure Policies

1. The County recognizes its Green Infrastructure as a collection of natural, cultural, heritage, environmental, protected, passive, and active resources that will be integrated in a related system. It will provide the framework for strategic land use planning policies, provide the context for all development and ensure quality of life throughout the County. It includes major rivers, stream corridors, floodplains and wetlands; lakes; reservoirs and impoundments; limestone conglomerate, mineral resources and prime agricultural soils; steep slopes; ridges and mountain-sides; protected forests and vegetative landscapes; wildlife and endangered species habitats; heritage resources; scenic corridors, parks, greenways, trails, and recreational facilities.

2. The County will use integrated management strategies in using the Green Infrastructure to ensure that all land use planning and development respect and preserve the holistic nature of the elements of the Green Infrastructure.

3. The County recognizes that much of its Green Infrastructure is made up of natural resources that are fragile and irreplaceable and, therefore, will protect and preserve these resources in perpetuity. All natural resources will be protected and preserved to the extent that such protection and preservation is consistent with other policies of this Plan. The County's watersheds are the key natural resource element in the Green Infrastructure and will be used as its primary organizing unit.

4. The County will prepare and maintain a map of the Green Infrastructure and its elements, and identify the location of future Green Infrastructure elements as part of an integrated system and contiguous network of natural and passive open spaces, and active recreational sites.

5. A conservation design method will be applied during the land development and redevelopment processes. Elements of the Green Infrastructure will be identified with the initial submission of each proposal, as a guide to the placement of structures, drainage, utilities, and roads. Regulations will be developed with performance standards that will direct their placement.

6. The County will develop a form of conservation easement to protect open space areas in subdivisions and to ensure long-term maintenance and protection of the area. Such easements will be recorded as part of the subdivision process.

7. The *Facilities Standards Manual*, the *Land Subdivision and Development Ordinance*, and other pertinent administrative documents will be revised to implement management strategies and to model development principles based on the Green Infrastructure.

8. The County will develop reasonable criteria for open-space dedications and will expect all landowners to dedicate land, or provide fees in lieu, for general open space and/or parks. These criteria will be designed to mitigate the impacts of their development and provide open space resources for the future users and occupants of the development.

9. The County will proactively promote private, state and federal conservation programs and their allocated resources to advance conservation programs within the County through public and private means such as grants, voluntary easements, dedications, etc.

10. In addition to Countywide Green Infrastructure policies contained herein, all development within the Route 28 Corridor will comply with the Green Infrastructure policies in the *Route 28 Corridor Plan* in Chapter 6 of the *Revised General Plan*.

# The Built Environment

The County will prepare and implement guidelines, incentives and regulatory measures to achieve a built environment that:

- Protects, enhances and helps to sustain the natural environment.
- Protects the health and safety of the community, provides for the quiet enjoyment of private property, and promotes the well-being of the County's inhabitants by being aesthetically attractive and varied and stimulating in its forms, scale and materials.
- Is pedestrian friendly, has a clear overall structure in its communities and neighborhoods which makes it easy for the individual to orient himself or herself in those communities and neighborhoods, and helps to establish a unique identity and sense of place in each community.
- Is cost effective for both the private and public sectors in its spatial layout and in the construction, operation and maintenance of its public facilities.

## Built Environment Policies

1. The County will achieve and sustain a Built Environment of high quality, recognizing the importance of this for the heath, safety, convenience and general welfare of the County's residents and visitors and its importance for the vitality of the County's economy in attracting and sustaining private investment.

2. In implementing its program for achieving and sustaining a Built Environment of high quality, the County will emphasize its role as leader and facilitator, and as a source of information on environmental design options and procedures, rather than as a regulator. It also will emphasize the use of incentives for innovation and good design and collaborative public/private/community partnerships for program implementation. These incentives will include provision for two annual awards of certificates of excellence in environmental design. One for the private enterprise meeting standards of excellence established for this award and one for the community group achieving analogous standards of excellence in community-based environmental design and maintenance.

3. The County supports and encourages opportunities and incentives for sustainable development in the Route 28 Corridor. The *Route 28 Corridor Plan* in Chapter 6 of the *Revised General Plan* contains specific goals and strategies for the area for green building design techniques which include sustainable site design and integrated energy management planning.

# Group One: Natural Resource Assets

Natural Resource Assets are the elements of the Green Infrastructure that represent the most natural settings in the County, including River and Stream Corridors; Scenic Rivers and the Potomac River; Surface and Groundwater Resources; Geologic and Soil Resources; Forests, Trees and Vegetation; and Plant and Wildlife Habitats. These elements are or will be in a combination of private and public ownership. The goal for this group of elements is both preservation and, wherever practical, restoration of their natural state.

## A. River and Stream Corridor Resources

The County's river and stream corridors are the largest system in the Green Infrastructure, comprising the largest natural ecosystem, supporting air quality, water quality and biological diversity. In addition to the rivers and streams that drain 100 acres or more, the corridors include associated 100-year floodplains, and adjacent steep slope areas. The river and stream corridors also contain wetlands and riparian forests and many of the County's important historic and archaeological sites.

Because of the enormous diversity and importance of the natural systems of river and stream corridors, the County desires to protect these corridors by preserving, conserving, and restoring their water quality, flood protection, aquatic and wildlife habitat, and scenic value.

To accomplish these objectives, the County will adopt a River and Stream Corridor Overlay District (RSCOD) that will protect these critical resources. (Refer to River and Stream Corridor Resources Map)

The RSCOD contains rivers and streams draining 100 acres or more; associated 100-year floodplains; adjacent steep slope areas; a management buffer around floodplains and adjacent steep slopes; a minimum no-build stream buffer; and wetlands, riparian forests, and historic and archaeological sites to the extent that they fall within the RSCOD. The 50-foot Management Buffer is flexible.

The river and stream corridor system can filter runoff and land-based pollution, filter airborne pollutants and produce oxygen (where riparian forests are encouraged), keep water temperatures cool, store flood waters and reduce floodway velocities, serve as groundwater recharge areas, provide food and habitat for fish and wildlife, and improve overall water quality. Loudoun's river and stream corridors also provide many scenic, passive recreation, and educational opportunities.

The County will strive to establish a working public and private partnership with property owners, acknowledging that the RSCOD will remain largely in private ownership. The County will also pursue acquisition of appropriate river and stream corridor assets through open space dedication or easement, purchase of development rights, and other such programs to ensure the protection of these resources for the public good.

The County will strive to preserve, protect, and manage the RSCOD through policy and regulation, and the development and implementation of strict performance standards, best management practice requirements, and permissible uses.

### River and Stream Corridor Resources Policies

1. The County recognizes the importance of river and stream corridors to the health, safety and welfare of its citizens, and establishes the objectives of the RSCOD to:

    a. Protect a dynamic and healthy river and stream corridor ecosystem.

b. Ensure that water is clean and safe.

c. Protect against the damages of soil erosion and flooding.

d. Fulfill fish and wildlife needs.

e. Perpetuate biological diversity and natural resource management for their educational, enjoyment and aesthetic value.

2. The County will protect rivers and streams and their corridors through the creation of a River and Stream Corridor Overlay District (RSCOD), which will include:

   a. Rivers and streams draining 100 acres or more.

   b. 100-year floodplains (including major and minor).

   c. Adjacent steep slopes (slope 25 percent or greater, starting within 50 feet of streams and floodplains, extending no farther than 100 feet beyond the originating stream or floodplain).

   d. 50-foot Management Buffer surrounding the floodplains and adjacent steep slopes.

   e. Wetlands, forests, historic and cultural resources, and archaeological sites that fall within the area of one or more of the above elements.

3. A 100-foot minimum stream buffer will protect rivers and streams when the 100-year floodplain and adjacent steep slope areas do not extend beyond either bank by 100 feet, and will be considered part of the RSCOD. The minimum stream buffer is measured from the scar line landward on both sides of the stream. The minimum stream buffer provides a minimum filtration area that will ensure the maintenance of water quality and the integrity of the stream corridor. The 50-foot Management Buffer will not be added to the 100-foot minimum stream buffer.

4. The 50-foot Management Buffer will protect the other RSCOD elements from upland disturbances and adjacent development. Only uses consistent with the objectives and functions of the overall RSCOD will be permitted in the Management Buffer.

5. The 50-foot Management Buffer can be reduced if it can be shown that a reduction does not adversely impact the other RSCOD elements, and that performance standards and criteria, developed as part of the implementation of the river and stream corridor policies, are met and maintained. Reducing the Management Buffer may also ensure that an undeveloped residential parcel that would otherwise suffer from the placement of the Management Buffer may develop to its potential.

6. Wetlands, riparian forests, and historic and archaeological sites located within the RSCOD will be protected in accordance with RSCOD performance standards and best management practice requirements.

7. The County will consider adoption of the environmental regulations of the Chesapeake Bay Preservation Act (Bay Act). The County will seek to achieve those objectives of the Bay Act that are in the best interest of the County, and will actively participate in water quality initiatives to protect and improve regional water quality.

8. The County recognizes the river and stream corridors as an essential natural element of the regional eco-system. River and stream corridors will remain largely in private ownership, but the County will pursue acquisition of key resources as part of other open space and purchase of development rights programs. The County will actively pursue a joint public and private partnership for the preservation, conservation, restoration, and management of the resources in the RSCOD.

9. The County will develop and use incentives to encourage property-owners to adhere to the performance criteria of the RSCOD.

10. The County will develop and use additional incentives to supplement federal and state incentives such as the Conservation Reserve Enhancement Program to encourage property-owners to establish and maintain a 100-foot minimum riparian stream buffer and adhere to performance criteria of the RSCOD in agricultural areas.

11. River and stream segments draining less than 100 acres are not included in the RSCOD. The County encourages the protection and preservation of these smaller stream segments through the application of conservation design techniques that will minimize disturbance and modification of such streams through the land development process.

12. Steep slopes (slopes greater than 25 percent) and moderately steep slopes (slopes of 15 to 25 percent) that are outside of the RSCOD are not governed by river and stream corridor policies. These steep slopes will be governed by separate Steep Slopes and Moderately Steep Slopes policies.

13. The County will develop a partnership with the U.S. Army Corps of Engineers (COE) regional office, responsible for implementing federal wetlands regulations, to regulate wetlands outside of the RSCOD.

14. Forests and trees that are outside of the RSCOD are not governed by river and stream corridor policies. Separate Forests, Trees and Vegetation and, where appropriate, Air Quality policies will govern these forest areas and trees.

15. Historic and archaeological sites outside of the RSCOD are not governed by river and stream corridor policies. These sites will be governed by separate Historic and Archaeological Resources policies.

16. The Zoning Ordinance will be amended, including but not limited to Floodplain Overlay District (FOD) and Scenic Creek Valley Buffer sections, to address and satisfy the ecosystem, water quality, flood protection, habitat, and use objectives of the RSCOD. Amending County ordinances and regulations will also establish strict performance standards and best management practice requirements. Performance standards and criteria will ensure the health and biological integrity of the river and stream corridors and minimize adverse impacts. Requiring best management practices for the activities permitted in the RSCOD will help to protect and conserve its natural resources and their processes, and ensure both economic and ecological success.

17. The Zoning Ordinance will be amended to address non-conformities for existing residences and for undeveloped residential parcels that fall within the buffers of the RSCOD, public water supply sources and reservoirs, scenic rivers, and the Potomac River.

18. The County will only allow development and uses in the RSCOD that will support or enhance the biological integrity and health of the river and stream corridor. Permitted uses are intended to have minimal adverse effects on wildlife, aquatic life, and their habitats; riparian forests, wetlands, and historic and archaeological sites; and will be required to complement the hydrologic processes of the river and stream corridors—including flood protection and water quality. Uses will be limited to:

    a. Road crossings, rail crossings, bridges and drive-way crossings (only when the environmental objectives of the RSCOD can be maintained or enhanced).

    b. Utilities and utility rights-of-way (only when the environmental objectives of the RSCOD can be maintained or enhanced).

    c. Local and regional stormwater management facilities (subject to best management practice

requirements).

d. Public lakes and ponds (subject to best management practice requirements).

e. Public water supply reservoirs.

f. Historic and archaeological sites.

g. Paths and trails – including footpaths, biking or hiking paths, and horse trails (of a permeable material only).

h. Passive recreation – limited to hiking, biking, horseback riding, picnicking, camping, climbing, hunting, fishing, and wildlife viewing.

i. Active recreation including physical education, athletic fields, and supporting athletic elements (such as but not limited to: goals, goal posts, back stops, dug outs, fences, etc.), in minor floodplains based on standards developed. Swimming and non-powered boating on the rivers and streams only (where specific public points of entry have been identified).

j. Agricultural activities, but not structures – including crop planting and harvesting, and grazing (subject to appropriate best management practice requirements).

k. Silviculture – as required to care for forests and not commercial forestry (limited to forest preservation and tree planting; limited tree clearing and clearing of invasive species; tree trimming and pruning; and removal of individual trees; subject to appropriate best management practice requirements).

l. Planting native vegetation (subject to appropriate best management practice requirements).

m. Conservation – including stream restoration projects, facilities and activities; Adopt-A-Stream programs; scientific, nature and archaeological studies; and education programs.

19. Full density credit will be provided for the gross area of the RSCOD on a given parcel when that parcel is being developed.

20. The County will maintain a working relationship with the Federal Insurance Administration of the Federal Emergency Management Agency (FEMA) for continued participation in the National Flood Insurance Program (NFIP). The County will also commit resources to maintain the County's flood maps as a Cooperating Technical Community (CTC) in FEMA's Flood Map Modernization program.

21. The County will promote and encourage participation in the "Adopt-A-Stream" programs in order to keep river and stream corridors free of litter and debris and as a means of promoting public awareness of the County's river and stream corridors.

22. The County will develop a reliable wetlands inventory and map of wetland areas both inside and outside of the RSCOD Countywide. This inventory and map will include identification of specific vegetative cover and hydrology information such as soil drainage and hydric soils.

23. The County will support the federal goal of no net loss to wetlands in the County and will identify optimum receiving sites with priority to each geographic Policy Area within the RSCOD for the construction of new wetlands in association with adjacent stormwater management best management practices or required as part of federal wetland mitigation programs.

24. The County will study the design and implementation of the RSCOD with rivers and streams draining 70 acres or more and adjacent steep slopes of 15 percent or greater.

## B. Scenic Rivers and the Potomac River

The Catoctin Creek from Waterford to the Potomac River, and Goose Creek from the Fauquier and Loudoun County lines to the Potomac River, are "Scenic Rivers" as designated by the Commonwealth of Virginia. The Scenic Rivers Program provides these rivers special status through legislative designation and aids in establishing appropriate protection and management standards to maintain their scenic value. The Goose Creek and Catoctin Creek Scenic River Advisory Boards, appointed by the Governor of Virginia, actively seek to preserve the integrity of these rivers and their surroundings.

As an important part of the County's river and stream corridor system, protection of these Scenic Rivers will also be coordinated with the County's River and Stream Corridor Overlay District (RSCOD) policies and regulations. The County will also work to preserve the scenic character of its Potomac River shoreline by creating Loudoun's portion of the Potomac Heritage Trail. Open space easements have already been placed on much of the Potomac River shoreline east of Route 28 as part of this effort.

### Scenic Rivers and Potomac River Policies

1. The County will protect Scenic Rivers and the Potomac River by defining a protection area as a 300-foot no-build buffer or the RSCOD, whichever is greater. Development potential may be transferred from the no-build buffer according to density transfer guidelines provided by this Plan. The RSCOD performance standards, best management practice requirements and list of permitted uses will apply to the no-build buffer.

2. The County will define and identify the viewsheds along these waterways and establish policies to guide development in these areas in order to protect their environmental and scenic quality.

3. The County will complete and execute a plan for acquiring and managing open space corridors along the County's officially designated Scenic Rivers.

4. The County will not permit diversion of Scenic Rivers under any circumstances.

5. The County will prepare and implement corridor management plans for the County's Scenic Rivers.

6. The Zoning Ordinance will be amended so that docks will be Special Exception uses, designed and built to maintain the existing natural and scenic character of the shoreline of Scenic Rivers.

7. The County will develop and implement a Potomac River shoreline management plan, and seek to coordinate this effort with adjacent jurisdictions (local, state, regional organizations, advisory boards, and citizen groups). This Plan should include:

    a. The boundaries of the study area;

    b. A comprehensive natural resources inventory;

    c. Policy recommendations for river corridor management and protection;

    d. A process for integrating the participating groups; and

    e. A plan for acquiring and managing open space corridors along the Potomac River with a preference given to mechanisms such as proffers, other donations, and purchase in efforts to acquire land and/or easements.

8. The County will establish a strategy to expand passive recreational use of Scenic Rivers and the Potomac River. This strategy will be consistent with the overall Green Infrastructure policies and will prohibit ground-disturbing activities such as paved road and structure construction.

9. The County will seek proffers from developers for public access trails along the Potomac River and designated sections of Goose and Catoctin Creeks.

10. The County will seek to complete its portion of the Potomac Heritage Trail through public and private efforts as proactively coordinated with County resources.

## C. Surface and Groundwater Resources

Major water resource issues for the County include ensuring an adequate supply of drinking water, protecting groundwater and surface water (i.e., streams and wetlands) from contamination and pollution, and preventing the degradation of water quality in watersheds. (Refer to Major and Sub Watersheds Map)

For most of the County's history the threats to surface and groundwater quality have been from rural land use. Soil erosion, nutrient enrichment, fecal coliform contamination, and various toxic chemicals have contributed to the degradation of surface and groundwater quality. Currently, nine stream segments in Loudoun have been placed on the state's impaired waters list by the Virginia Department of Environmental Quality (DEQ) for excessive levels of fecal coliform. As shown on the Virginia Impaired Water Segments 1998 list, they are:

- Catoctin Creek for 7.4 river miles.
- North Fork Catoctin Creek for 10.53 river miles.
- South Fork Catoctin Creek for 6.01 river miles.
- Little River for 6.25 river miles.
- Piney Run for 3.87 river miles.
- Cromwell's Run for 3.81 river miles.
- Sycolin Creek for 6.83 river miles.
- Beaverdam Creek (western) for 6.43 river miles.
- North Fork Goose Creek for 4.5 river miles.

Groundwater, supplied through wells and springs, is the primary source of drinking water for residents of the western Towns and rural areas. Additional factors such as poorly sited drainfields and drainfield saturation, high water tables, lack of septic tank maintenance, leaking sewer lines, improper disposal of household hazardous waste, and leaking or abandoned underground storage tanks can threaten the quality of wells, springs and groundwater. In addition, a preponderance of on-site, in-soil sewage disposal and wastewater treatment systems used in this part of the County has the potential to directly impact individual health as effluent passes directly into the groundwater that feeds the wells that provide drinking water.

The rapid development of eastern Loudoun since the mid-1990s has brought a new set of water resource challenges, including an increase in impervious land cover. Rainwater that once filtered through the soil to replenish groundwater is now kept above ground artificially and carried via culverts and stormwater pipes directly to local streams. This diminishes groundwater capacity, which is particularly noticeable in the summer months as streams dry up, and aquatic habitats are damaged. The County's hydrologic soil groups and hydric soils can be indicators of surface water saturation, runoff, and infiltration rates. (Refer to Hydric

Soils Map)

Streams are damaged as they take in stormwater from man-made systems, which transport water in much higher volumes and at much greater velocities than natural systems. The rushing water causes streambed scouring, as well as erosion of stream banks. Stormwater is also polluted by substances deposited on the impervious ground cover such as litter, road salt, oil, grease, and metals from automobiles.

The establishment of the River and Stream Corridor Overlay District (RSCOD) is key to protecting Loudoun County's water resources. Protecting rivers and streams, retaining natural riparian forests and vegetation, protecting wetlands; and preservation, buffering, and the implementation of performance standards and best management practice requirements in developing and redeveloping areas are all necessary components of a water protection strategy. At the same time, development should be guided by flexible regulations that encourage innovative site design and mitigation measures in order to protect the natural environment and protect and improve water quality.

A number of state and federal mandates now require the County to take on certain water protection responsibilities in addition to the federal Clean Water Act. Under these programs, maximum pollutant-loads will be set by the state for a number of County streams. The programs also require the County to control pollution from land uses served by storm sewer to the maximum extent practicable.

Two sets of policies—one for Surface Water and one for Groundwater—are provided below. These policies establish County water quality goals, define protective measures and management objectives, and establish development parameters for areas around water sources.

## Surface Water Policies

1. The County will fully protect, through easement, fee simple acquisition, regulatory measures or other sufficient measures, the lands that are critical to the quality of key water supplies. These areas will be re-naturalized, if necessary, to restore filtration and erosion control functions.

2. The County will promote water conservation through innovative, cost effective reuse systems, domestic water saving devices, and low impact development techniques, which integrate hydrologically functional designs with methods for preventing pollution and through informed household use.

3. The County will protect the headwaters of the Catoctin and Goose Creeks by establishing appropriate-ate regulations for the Catoctin, Shorthill Mountain and the Blue Ridge, to limit diversions of water from the headwaters and to prevent stream pollution.

4. The County will support community programs to keep shorelines and water bodies free from debris and litter.

5. The County will establish appropriate standards including adoption of the Virginia Stormwater Management Handbook to protect natural streams from the harmful effects of increased stormwater volume and velocity resulting from development.

6. The County recognizes that soil erosion and deposits of sediment in receiving streams and water bodies is the single largest contributor to degradation of stream water quality and loss of aquatic habitat. The County will establish appropriate standards by which to regulate erosion and sedimentation.

7. The County will establish appropriate standards and land uses to protect drinking water supplies from

depletion and pollution.

8. The County will protect the Bull Run as an important regional water source and supplier to the Occoquan Reservoir by defining a protection area as a 300-foot no-build buffer or the RSCOD, whichever is greater. An additional 200-foot transitional buffer will also be maintained beyond the no-build buffer. Development potential may be transferred from the no-build buffer according to density transfer guidelines provided by this Plan. The RSCOD performance standards, best management practice requirements and list of permitted uses will apply to the no-build buffer. Performance standards and a list of permitted uses for the transitional buffer will be defined as part of the implementation of this policy.

9. The County will develop and implement a watershed management plan and a watershed overlay district for all public water supply reservoir watersheds, establishing more stringent development guidelines and performance standards to protect water quality.

10. The County will protect public water supply reservoirs by defining a protection area for all reservoirs as a 300-foot no-build buffer or the RSCOD, which-ever is greater. Development potential may be transferred from this buffer area according to density transfer guidelines provided by this Plan. The RSCOD performance standards, best management practice requirements and list of permitted uses will be applied to the no-build buffer.

11. In cooperation with the LCSA, the County will set the limits of the 300-foot no-build buffer for reservoirs based on their projected expansion, so that when the proposed expansion occurs the 300-foot buffer will already be established and the area protected from development.

12. To further protect public water supply reservoirs and their contributing streams beyond established protection buffers, the County encourages the clustering of development away from designated public water sources and reservoirs and their buffers.

13. The County will work with the incorporated Towns, in conjunction with the Clean Water Act, to establish overall water quality goals and specific standards for individual streams and river and stream corridors, consistent with county river and stream corridor objectives and policies.

14. The County will prepare and implement a pollution prevention program to improve the County's surface water quality in a proactive fashion by working with other entities such as the Loudoun County Soil and Water Conservation District (LSWCD) to coordinate and technically reinforce various ongoing water quality activities and efforts.

15. The County will comply with Phase II National Pollutant Discharge Elimination System (NPDES) stormwater regulations under the federal Clean Water Act, which requires the County's municipal storm sewer system to be regulated as a discrete source of pollution. The County will meet NPDES requirements prior to the permit filing date in 2003. The Clean Water Act requires regulated jurisdictions, including Loudoun, to address six components of a surface water quality management program to obtain an NPDES permit. These include: (1) public outreach and education; (2) public involvement and participation; (3) illicit discharge detection and elimination; (4) construction site stormwater runoff control; (5) post-construction stormwater management; and (6) pollution prevention, or "good housekeeping", for municipal operations.

16. The County will prepare and implement design standards and principles to preserve open space and natural resources, minimize the creation of new impervious areas and to minimize increases in post-development runoff peak rate, frequency and volume. To the extent possible, these alternatives will recognize the unique characteristics of different properties and the densities and uses recommended by

this Plan.

17. The County will establish appropriate standards by which to regulate stormwater detention or retention to better protect the integrity of receiving streams.

18. The County will institute development standards for golf courses and restrict development of golf courses in proximity to water resources such as streams, rivers, reservoirs or floodplains to deter any degradation of these resources as a result of the golf course use. Golf courses may be allowed within the boundaries of floodplains only by Special Exception.

19. In suburban areas, water access should be provided for recreational uses. These areas will be designated in local area plans. Where paved surfaces are needed, they should be constructed of pervious paving materials when structurally feasible.

20. Loudoun County will endorse and actively support the interstate Chesapeake 2000 Agreement, a water-shed partnership signed by the governors of Virginia, Maryland, and Pennsylvania, as well as the District of Columbia and the U.S. Environmental Protection Agency (EPA). The Agreement commits Virginia to: (1) living resources protection and restoration; (2) vital habitat protection and restoration; (3) water quality restoration and protection; (4) sound land use; and (5) individual responsibility and community engagement.

21. The County will require secondary containment, treatment, and emergency response plans for activities that propose pollution sources such as the storing and dispensing of petroleum products, chemical storage and sale or transfer of potential contaminants.

## Groundwater Policies

1. The County will develop and implement a comprehensive groundwater protection strategy and use available data such as that generated by the U. S. Geological Survey (USGS) in the development of such a strategy.

2. The County will develop, implement, and maintain a wellhead protection program to protect groundwater from contamination and ensure an adequate level of drinking water quality for the residents of rural Loudoun and western Loudoun Towns that are dependent on groundwater as a water source. In addition, the County will refine and strengthen existing water protection policies and regulations.

3. The County will initiate and maintain a comprehensive pollution management program to protect groundwater resources.

4. The County will periodically assess the recharge rates for groundwater in each watershed by analyzing data from groundwater level monitoring and stream flow measurements. If negative impacts are detected, the information will be presented to the Board of Supervisors for appropriate action, which may include an adjustment to the land use policies within the impacted area.

5. The County will assess the effects of groundwater consumption on the volume of surface water in streams for each watershed and develop and implement regulations to minimize those effects.

6. The County will require developments in the Suburban Policy Area to connect to available central water and sewer systems according to water and wastewater treatment policies in this Plan.

# D. Geologic and Soil Resources

## 1. Limestone Conglomerate Areas

The County seeks to preserve and protect the unique geologic characteristics, natural beauty, tourism potential, and the quality of groundwater in its limestone conglomerate areas. Limestone conglomerate is vulnerable to sinkholes, cavity collapse and ground slippage and cannot environmentally or structurally support land development activities without performance standards and monitoring.

A belt of limestone conglomerate lies north of Leesburg and east of the Catoctin Ridge. (Refer to Limestone Conglomerate Bedrock Map) The bedrock in this area includes limestone suspended in a mixture of other geologic materials. Limestone is a carbonate rock and is subject to weathering and the formation of solution channels and sinkholes. In places, limestone bedrock also forms outcrops. Rock outcrops, sinkholes and solution channels function as conduits to the groundwater system that may be susceptible to contaminated surface run-off, leaky fuel tanks and septic tank effluent. Because the location of these channels is not well known, development risks should be considered to exist throughout the limestone conglomerate area.

Increased surface water run-off from development in this area can lead to increased cavity collapse and ground slippage which may affect sewage lagoons, ponds, pipelines and cause groundwater pollution. Ground slippage may also threaten the stability of foundations and structures built on these natural features and overlying soils.

To address the environmental and human health and safety issues in this critical area, the County will establish and maintain zoning regulations for a Limestone Conglomerate Overlay District. This zoning district will be used to support surface and groundwater monitoring, the setting of pollution prevention standards, and the establishment of performance standards governing land use and development.

### Limestone Conglomerate Policies

1. The County will define and delineate a Limestone Conglomerate Overlay District based on soil and geologic characteristics.

2. Performance standards will be developed and applied to govern development on areas underlain by limestone because of a high potential for environmental damage, and to ensure public health and safety, including minimum setback distances from sinkholes, rock outcrops, and other Karst features.

3. The County will limit development to large lot or clusters within the Limestone Conglomerate Overlay District to avoid development in areas of identified Karst features.

4. Environmental protection performance standards will be developed and applied for lands within the Limestone Conglomerate Overlay District that do not have rock outcrops.

5. Agriculture, forestry, and passive recreation will be by-right uses in the Limestone Conglomerate Overlay District, but will be subject to performance standards.

6. The County will identify pollution sources and establish appropriate standards for reducing pollution in the Limestone Conglomerate Overlay District.

7. The County will monitor groundwater and surface water in the Limestone Conglomerate Overlay District, and if monitoring recognizes negative impacts, the County will present the information to the Board of Supervisors for appropriate action, which may include an adjustment to the land use policies within the impacted area.

8. The County will require approval of communal water and wastewater systems for new development in the Limestone Conglomerate Overlay District, unless it is demonstrated to the County that other types of systems achieving the same or superior performance standards are suitable.

## 2. Prime Agricultural Soils

Prime agricultural soils (as defined by the U.S. Department of Agriculture) are soils that are best suited for agricultural use. These soils account for approximately 19 percent of Loudoun County's soils, and are usually found in areas that are nearly level, well drained and watered. Loudoun's best agricultural soils are generally located in the Rural Policy Area. (Refer to Prime Agricultural Soils Map)

Because the County has emphasized the rural economy as an important part of its overall economic health, prime farmland and agricultural soils are especially valuable. Once this land-based resource is lost, it cannot be reclaimed. However, like other natural resources in the County, prime agricultural soils are being threatened by residential development. This is because agricultural land is also well suited for development; being well drained, generally found on mildly sloping terrain, and with good drainfield potential.

Soil erosion from development and improper soil management is becoming a significant threat to this resource. Implementation of Prime Agricultural Soils policies will be coordinated with the County's Erosion and Sediment Control Ordinance and other state and federal programs to appropriately deal with these potential problems. They will also be coordinated with the State Use Value Assessment Program and County-designated Agricultural and Forestal Districts. (Refer to Agricultural Districts Map)

### Prime Agricultural Soil Policies

1. The County will utilize the Use Value Assessment Program, Agricultural and Forestal Districts and other incentive-based efforts at its disposal to encourage preservation of Prime Agricultural Soils for agricultural uses. The County will improve the Use Value Assessment Program and will develop and implement additional incentive-based regulations, if necessary, to better achieve these purposes.

2. Where development is allowed on prime agricultural soils, the County will require cluster development so that the development will take place on the least desirable soils on the site and the prime soils will be available for agricultural purposes. The quality of soils will be considered in the conservation design process established by the Zoning Ordinance.

3. Where applicable, the County will use the stormwater management and erosion control policies in this plan and in the Loudoun County Erosion and Sediment Control Ordinance to enhance conservation of Prime Agricultural Soils for agricultural uses. The County will improve the Loudoun County Erosion and Sediment Control Ordinance, if necessary, to better achieve these purposes.

4. The County will develop a public education program that will focus on communicating incentive advantages associated with private protection of Prime Agricultural Soils. The County will maintain and make available the Prime Agricultural Soils Map as part of this program. The program will also provide information on the donation of easements, tax and estate planning, and other advantages related to voluntary protection.

5. The County will seek the preservation of prime agricultural soil resources for agricultural, horticultural, and forestal use through regulatory and incentive programs such as the Purchase of Development Rights (PDR) program.

## 3. Mineral Resource Extraction Areas

Diabase is a hard, brittle rock used as a base component for construction of roads and for building foundations. There are defined belts of this rock, also know as trap rock, south of Leesburg and near Washington Dulles International Airport. These resource areas should be protected from incompatible land uses, particularly residential. Soils with high shrink-swell characteristics often lie on top of these diabase belts and can cause cracked foundations and severe structural damage to buildings.

The crushed-stone quarries that extract diabase are a substantial economic resource. Loudoun County diabase is some of the best rock for concrete and road base material found on the East Coast. Continuing construction activities in the greater Washington area will also ensure that diabase continues to be an important local economic resource.

Quarrying operations and related activities in diabase resource areas present a challenge to County land use planning, because, although they contribute greatly to the County's economy, they may also threaten groundwater and surface water quality. They are also a heavy industrial use and generate heavy truck traffic. The site-specific nature of extraction industries may help the County focus protection on key diabase resource areas. Encouraging buffers or compatible uses on adjacent tracts and adequate transportation routes is part of this effort. The County may also minimize the long-term result of diabase extraction by looking for ways to reclaim abandoned quarries for other uses. The County will establish and maintain zoning regulations for a protective quarry zoning district, and will emphasize the continued viability and compatibility of this important industry.

## Mineral Resource Extraction Policies

1. Quarrying is an industry based on the natural resources of the County and shall be encouraged and the resource protected.

2. The County will recognize and protect its viable extraction industry. The County will protect viable quarries and its diabase resource areas from incompatible neighboring uses. New development will take existing quarries into account.

3. The County will foster efficient use of its diabase resource. To help achieve this goal, the County will maintain a quarry zoning district that should provide a total of at least 800 acres in Loudoun County to be set aside for extraction and associated activities. The quarry zoning district will make quarrying a permissible use. No residential uses other than watchman's quarters will be permitted in this district. Non-residential uses will be limited to low coverage, heavy industrial uses that will not be adversely affected by quarry operations.

4. Quarry zoning districts should be located on areas where quarries presently exist and/or in industrial communities where the diabase is within the Ldn 65-noise contour of an airport. Areas within the 65 Ldn noise contour and adjoining existing quarries should be preserved for this purpose.

5. The County will facilitate the long-range planning of quarry sites, including setting aside sufficient land for extraction and creating an environment that will be attractive for future users once the quarrying use is no longer viable.

6. The County will develop and apply standards that seek to protect existing and planned neighboring uses from the negative impacts of resource extraction activities. Such negative impacts might include threats to property values, public health and safety, as well as short- and long-term environmental degradation. Such impacts will be mitigated by buffer requirements, noise mitigation requirements, and other mitigation techniques.

7. Diabase extraction activities must be located with direct access to roads that are constructed to industrial standards. These standards will be applied so that quarries have adequate roads linking them to the regional road network.

8. The County will encourage the innovative and sensitive reuse of quarries and resource extraction sites.

9. An application to permit the development of new quarries or the expansion of existing quarries will include a concept plan for use of the site after extraction is complete.

## 4. Steep Slopes and Moderately Steep Slopes

Steep slopes and moderately steep slopes occupy an area of approximately 53,000 acres in the County. (Refer to Steep Slopes Map) Moderately steep slopes are areas with a 15 to 25 percent grade (identified by Slope Class D on Loudoun County soil maps). Steep slopes refer to more environmentally critical slopes of greater than 25 percent (identified by Slope Class E on Loudoun County soil maps). If improperly used and disturbance occurs, these areas could experience erosion, building and/or road failure, downstream flooding, and other hazards. For this reason, the grade of a steep slope is often a factor of unstable soils. Development on steep slopes often requires high volumes of clearing and "cut and fill." Such earth moving is subject to erosion and sedimentation that causes adverse effects on surface water quality and aquatic habitat.

Steep slopes represent a resource as well as a constraint to development. Steep slopes protected as part of a river and stream corridor or mountainside often serve as forested and vegetative areas that filter stormwater run-off and support various plant and wildlife habitats.

The Steep Slope and Moderately Steep Slope policies apply to all steep and moderately steep slopes in the County that are not "adjacent" to a river and stream corridor (as defined in the RSCOD) or located on the mountainside. River and Stream Corridor Resource and/or Mountainside policies govern steep slopes located in those areas.

### Steep Slope and Moderately Steep Slope Policies

1. The County will prohibit land disturbance on slopes with a grade of more than 25 percent and/or with the soil Slope Class of E.

2. The County will prohibit construction of roads on slopes with grades over 25 percent with the exception of access easements to existing lots where no other access is possible. Performance standards will be applied to protect the soils, vegetation and other environmental features in areas in which these roads are allowed by special exception.

3. Special performance standards are to be used to protect slopes with grades from 15 to 25 percent and/or with the soil Slope Class of D. These standards will include best management practices, locational clearances for clearing and grading, and approval of natural drainageways.

4. There will be no building on unstable soils, including soil series Morven (soil mapping unit 13), Airmont (27 and 59), Lew (88), and Springwood (90 and 91) as described in the County's Interpretive Guide to the Use of Soils Maps in Loudoun County, Virginia.

5. The County will encourage development rights to be sold, donated or proffered from land with a 15-to-25 percent grade.

## 5. Mountainside Areas

The County's mountains and mountainside areas contribute to its beauty, quality of life, and geologic uniqueness and are valued by residents and visitors. Mountainsides are highly sensitive to land disturbance and development. In addition to the destruction of prime viewsheds, uncontrolled land disturbance within mountainside areas can cause major soil slippage if trees and vegetation are removed; the soil is disturbed through cutting, filling or blasting; or the moisture level is upset by excessive drawdown or increased water runoff. Mountainsides contain the headwaters to many of the County's streams and are important groundwater recharge areas. They are the location of unique flora, vegetation, and plant communities and provide a variety of wildlife habitats. These features create an environmental system that is unique to this region and that contributes to the scenic character of rural Loudoun County.

The County will control development on the mountain-sides through a Mountainside Development Overlay District (MDOD) that contains land use restrictions and performance standards to minimize the destruction of individual resources and the disturbance of the ecological balance of these resources. The boundaries of the MDOD are based on a range of both technical and aesthetic resource factors for the critical resource elements that include:

- Elevation: Above 700 feet mean sea level for the Short Hill and Blue Ridge Mountains and 550 feet for the Catoctin, Hogback, and Bull Run Mountains.
- Soils: Associated with mountainsides that affect groundwater recharge, slippage potential, and suitability for onsite sewage disposal systems.
- Slopes: Moderately steep slopes (15 to 25 percent) and steep slopes (greater than 25 percent).
- Forests: The quality and extent of tree cover, woodlands, and forests.

Mountainside areas are divided into the following areas depending on the elevation and the types of resources present as determined by weighted analytical criteria:

- **Somewhat Sensitive:** Areas at lower elevations with slight or limited environmental and public health, safety, and welfare impacts from development.
- **Sensitive:** Areas at lower elevations with potentially moderate environmental and public health, safety, and welfare impacts from development.
- **Highly Sensitive:** Areas with potentially severe environmental and public health, safety, and welfare impacts from development and all land at higher elevations.

### Mountainside Policies

1. The Mountainside Development Overlay District will be defined by elevation, soil types, and the presence of certain natural features such as forests, steep slopes, unstable soils, and groundwater recharge areas that are commonly associated with these areas.
2. All subdivisions of three lots or more will require a Special Exception in Sensitive and Highly Sensitive defined areas.
3. The County will manage development in mountainside areas using performance standards and regulations to minimize negative environmental impacts, minimize land disturbance, protect the ridgelines, maintain woodlands, plant, and wildlife habitats; and preserve natural features and rural character as requirements for approval of the location of proposed development.

4. The County encourages that mountainside areas be placed under permanent open space easement using voluntary donation and public investment through the Purchase of Development Rights program.

5. The County will seek the expansion of recreational opportunities in mountainside areas, including the development of public park sites and improving access to existing recreational facilities such as the Appalachian Trail.

6. Non-compliance with the policies and associated adopted performance and land use standards will be subject to fines and remediation requirements. The County will exercise strict enforcement practices to ensure the preservation of the Mountainside Development Overlay District.

## E. Forests, Trees and Vegetation

Loudoun County has some of the state's best hardwood stands for lumber and veneer production. The County's forests and trees also improve air and water quality, offer important habitat for birds, small mammals and other wildlife, and are excellent buffers between communities. Forests and trees conserve energy by providing shade and evaporative cooling through transpiration. They also reduce wind speed and redirect airflow; reduce stormwater runoff and soil erosion; and can increase real property values. Riparian forests along streams provide the greatest single protection of water quality by filtering pollutants from stormwater runoff, decreasing stream bank erosion, and maintaining the physical, chemical, and biological condition of the stream environment.

Because forests and trees are such a valuable resource in Loudoun, they will be protected for current and future use and enjoyment by establishing a Tree Preservation Ordinance that protects large forest areas, urban forests and individual trees, while preserving existing vegetation and protecting plant and wildlife habitats. Existing vegetation is a superior habitat resource for new tree plantings because they retain essential ecosystem components that support tree and forest re-growth.

The County will require tree conservation plans to be submitted and approved for each developing parcel at the time of the initial land development application. These plans should be reviewed for conformance with minimum viability standards and the likelihood of long-term forest, tree and vegetation survival.

### Forests, Trees and Vegetation Policies

1. The County will seek and encourage—through incentives—the preservation, protection, and management of forest resources for their economic and environmental benefits.

2. Forests and indigenous vegetation will be preserved on steep slopes (greater than 25 percent). On moderately steep slopes (15-to-25 percent grade), clearing will be limited to only essential clearing necessary for home construction, road construction and utility installation. Silviculture activities may be allowed on moderately steep slopes provided that an approved Forest Management Plan is implemented.

3. The submittal and approval of a Forest Management Plan will be required prior to any land development. This plan will demonstrate a management strategy that ensures the long-term sustainability of any designated tree save areas.

4. The County will require property owners pursuing silviculture operations to develop Forest Management Plans using resources available through the Virginia Department of Forestry.

5. The County will promote the preservation of forested areas through the use of Agricultural and Forestal Districts, easements and other voluntary means.

6. Forests are an integral part of the Mountainside Development Overlay District regulations. The County will continue to protect forest resources through the implementation of the Mountainside Development Overlay District.

7. Tree protection will be encouraged along roadways to allow trees to provide shading, reduce peak storm flows, and contribute to the enhancement of the Green Infrastructure.

8. The County will develop and adopt a Tree Preservation Ordinance for the three Policy Areas in the County as a priority.

9. The County will inventory and map, and create and maintain a database of trees and indigenous vegetative resources to be preserved or managed in accordance with County standards. The inventory will include, but not be limited to, old growth forests, significant tree stands, specimen trees, heritage trees, and State or National Champion trees.

10. The County will develop and apply incentive-based approaches to encourage the preservation of existing vegetation and wildlife habitat on developing properties as a priority**.**

11. The County will explore the protection of inventoried flora, vegetative cover, and plant communities through both regulation and incentive-based approaches.

## F. Plant and Wildlife Habitats

Plants and animals play an important role in nature's lifecycle and its ecosystems. For wildlife habitats, large contiguous parcels of natural open space are preferable to more numerous, but disconnected and smaller areas.

While many high-quality plant and animal habitats have already been lost or altered due to land development, the County still has a number of unique and natural habitat areas. The largest contiguous areas of forest and naturally vegetated land are on mountainsides and along stream channels. These areas play a key role in preserving the abundance and diversity of the County's remaining plant and wildlife. They are also a part of the Blue Ridge ecosystem, a 550-mile, contiguous natural area of parks, national forests, federal wilderness and the Appalachian Trail that extends from Georgia to Pennsylvania.

The integrated Green Infrastructure approach will help to prevent habitat fragmentation, while enhancing ecological connections with larger natural areas. The County will strive to protect, preserve, and create large-scale plant and wildlife habitats that overlap with other important resources and resource systems within the Green Infrastructure.

The County will also protect habitat for rare, and threatened and endangered plant and animal species in accordance with the Federal Endangered Species Act. The health and survivability of plants and animals can often foretell future environmental threats to human life and health. Therefore, the County will encourage the study of the biological processes within the natural resource elements of the Green Infrastructure.

### Plant and Wildlife Habitats Policies

1. The County will seek to protect areas of natural biodiversity and rare, threatened and endangered plant and animal species through regulations that foster the implementation of the Federal Endangered Species Act.

2. One strategy the County will pursue to protect rare, threatened, and endangered plant and animal

species is to preserve their habitat in open space, passive recreation, or nature preserves.

3. The County will promote and support the establishment of public and private nature preserves throughout the County, in addition to Banshee Reeks, as part of the protection of the Green Infrastructure.

4. The County will conserve and protect wildlife habitat through the preservation of a broad range of natural resources such as indigenous vegetation, forest cover, woodlands, floodplains, streams and stream corridors, wetlands, and undeveloped areas associated with steep slopes.

5. The County promotes the preservation and management of existing vegetative cover, and riparian, habitat and wildlife travel corridors (i.e., fencerows and stream valleys) for their native biological diversity and to protect wildlife access to streams and other water sources. Planting of indigenous vegetation will be encouraged and priority will be given to those corridors that connect one or more large, intact nature preserves.

6. The County will establish and implement guidelines and/or incentives to protect wildlife habitat in an effort to protect a broad range of natural resources that cover large areas such as river and stream corridors and mountainsides.

7. The County promotes the protection of the County's vegetative and wildlife resources and the creation of wildlife habitats by encouraging the incorporation of indigenous vegetation into the landscape design of new development and encouraging a compact, concentrated development pattern.

8. The County will use the Virginia Department of Conservation and Recreation, Division of Natural Heritage's Biological and Conservation Data system to identify Loudoun County's natural heritage resources. These resources include rare, threatened and endangered plant and animal species; exemplary natural communities, habitats, and ecosystems; and other natural features of the County. The County will apply this information in the evaluation of development proposals. For those development applications that have a likely presence of one or more natural heritage resource, the County will require the applicant to conduct a species assessment and develop a plan for impact avoidance in cases where the presence of the species is identified.

9. The County will encourage the study of natural heritage resources by qualified research organizations such as the Virginia Division of Natural Heritage of the Department of Conservation and Recreation.

## Group Two: Heritage Resource Assets

This group includes elements of the Green Infrastructure that have past or present cultural or heritage significance for the County. The identified historic, archaeological and scenic resources, through their preservation and inclusion in the Green Infrastructure, will enrich and perpetuate the County's heritage. These elements are or will mostly be in private ownership, while the public's interest will be addressed through various stewardship and management approaches. Regulation of protective buffers, donation of open-space easements, and performance standards will be used to manage these elements and their relationship to other Green Infrastructure elements with the County. A number of implementation instruments will also be employed, including state and federal programs, County historic districts and zoning regulation, mapping and surveying, and the application of conservation design.

## A. Historic and Archaeological Resources

The County has an unusually high number of historic and prehistoric sites that, along with scenic resources, farms and open spaces, are major components of its unique rural character and economy. Over 1,100 historic structures and sites and over 300 archaeological sites have been surveyed and mapped; and there is potential for identifying many more. These heritage structures and sites comprise a valuable resource that has enormous cultural, aesthetic, and economic value to the residents of the County. Along with the rural landscape in which they are set, historic sites represent the County's largest tourist attraction. The County will continue to be aggressive in its efforts to preserve both its heritage and cultural history for the benefit of present and future citizens.

Loudoun County was one of the first jurisdictions in the United States to adopt rural historic districts when the first Aldie, Waterford and Oatlands districts were adopted in 1972, followed by the 10,000-acre Goose Creek District in 1977. There are now six County-administered districts, including Aldie, Bluemont, Goose Creek, Oatlands, Taylorstown, and Waterford. (Refer to Historic Districts Map) The incorporated Towns of Leesburg and Middleburg also administer local historic districts through their zoning ordinances. The County has 49 sites that are on both the Virginia Historic Landmarks Register and the National Register of Historic Places. There are also five National Historic Landmarks in the County; including Balls Bluff Battlefield, Dodona Manor, Oatlands Plantation, Oak Hill, and Waterford.

The archaeological sites that are currently mapped are almost entirely prehistoric Native American sites, some of which date to 8,000 BC. Most of the identified prehistoric sites are east of Leesburg where there is considerable danger of impact from new development, particularly to those sites not in floodplains. These sites represent an important link to the County's past, and every effort will be made to discover and map them before they are lost to development.

Protection for some of the County's historic structures comes from design guidelines contained in the Zoning Ordinance, but the ordinance protects only the designated County-administered historic districts. State and national designations are primarily honorary. Loudoun County will continue its existing protection programs, but refine its policies and regulations to address the potential impacts of land use changes on heritage resources.

In many cases, historic structures are closely linked to their settings. Open space and scenic corridors help to define the context of historic and archaeological structures. The County seeks to define a comprehensive heritage resources policy that recognizes that protecting the environment and rural character of Loudoun County is fundamental to the preservation of valuable historic structures and archaeological sites.

### Historic and Archaeological Resources Policies

1. The County will conduct a comprehensive survey of its heritage resource base and will prepare and implement a plan for the preservation and promotion of these resources as an integral part of the economy.

2. The County will base its historic, architectural and archaeological resource strategy on the following:

    a. Preservation of the County's cultural and scenic character by conservation of archaeological sites and historic structures and their settings and major publicly-accessible geological features such as rock outcrops which reveal the County's geological evolution and heritage.

    b. Establishment of land uses compatible with historic, open space, and scenic view areas.

3. The County will conduct a comprehensive architectural and archaeological survey of the County's historic and prehistoric cultural resources. Under federal guidelines, any structure fifty years old or older should be evaluated for historic significance based on criteria set forth in the U.S. Secretary of the Interior's Standards for Archaeology and Historic Preservation (National Historic Preservation Act [16 U.S.C. 470]). Simultaneously, the County's cultural resource inventory will be updated through the land development process.

4. The County will evaluate the historic or archaeological value of inventoried resources based on criteria set forth in the Secretary of the Interior's Standards that include historic content and site integrity. Resources will be evaluated for consideration for State and National Registers.

5. The County will maintain its database by using the County's inventory of cultural resources as a dynamic body of data to be reevaluated as needed and as dictated by land use changes.

6. Concurrent with the countywide cultural resource inventory and evaluation, the County will formalize its research materials and general policies by developing a Preservation Plan for review and adoption by the Board of Supervisors. The Preservation Plan will be incorporated into the County's Comprehensive Plan as the primary planning tool for the protection and preservation of the County's vast cultural resources. Strategies for public education will be addressed in the Plan.

7. Using the data from the comprehensive cultural resource survey, the County will create a County Historic Landmarks Inventory, which will reflect those historic structures and archaeological sites that have local historic value and represent the prehistoric and historic traditions of Loudoun County. Special consideration will be given for the protection of these sites during the development process.

8. The County will protect structures and other features of historic significance in the context of their natural settings and will work with landowners to convey the historic value of the resource to the community at large. Structures and other features of particular historical significance will be retained, restored, or utilized in adaptive reuse as part of a conservation design process.

9. The County will develop incentives for and give preference to adaptive re-use of historic structures as part of new development, and/or will buffer historic structures and landscapes from new development to maintain a measure of historic context.

10. The State Code enables local governments to give partial tax credits for historic residential and commercial renovations. The County will implement this option as an incentive to homebuyers and developers to encourage adaptive re-use and the preservation of historic structures.

11. The County will require an archaeological and historic resources survey as part of all development applications. This survey must include a plan for recordation and preservation of identified resources and measures for mitigation and adaptive reuse.

12. Prior to issuing a demolition permit for a structure fifty years old or older, the County would be required to assess the historic significance of that structure.

13. The County will work with residents to identify and establish additional Historic Districts.

14. The *Historic District Guidelines* will be updated to include new districts as they are established and to recognize and give appropriate importance to the current rural-suburban character of the Goose Creek Historic District.

15. The boundaries of the County's Historic Cultural Conservation Districts will be amended or extended to coincide with the boundaries of the state's corresponding Historic Districts. This applies to Bluemont, Goose Creek, and Waterford. The County will work with the state to extend the state-registered boundary of Aldie to meet the County Aldie Historic District boundary.

16. The County will develop and implement a program of easements and other programs as methods of ensuring preservation and conservation.

17. The County will pursue certified local government status to be eligible to receive grant money earmarked for heritage resource preservation efforts.

## B. Scenic Areas and Corridors

While ideas about what is scenic may vary, people generally agree on what areas and places are the most visually appealing. These areas and places often include many of the same resources (or combinations of resources) that are addressed as part of the County's Green Infrastructure. Often, significant scenic resources coexist with historic structures or are a part of a mountainside area, stream valley or other natural setting.

Scenic views are often associated with the roads, highways, rivers, and streams from which they are most often enjoyed; as well as with agricultural lands, mountainsides and other features that make up these vistas. Loudoun's rural roads, agricultural fields, hedgerows, crop fields, farmhouses, barns, crossroad churches, and villages all contribute to the scenic areas and corridors in the County.

The state has designated Routes 15, 665, 662, 673, 681, 690, 704, 719, 722, 728, 731, 734, and a portion of Route 7 (Colonial Highway, from Route 699 to Route 287, approved February 2001), as Virginia Byways. The County will pursue additional Virginia Byways designations for roads such as Charles Town Pike (Route 9), Harper's Ferry Road (Route 773), Route 50 through the Mosby Heritage Area, and Route 626 in its entirety (including Foxcroft, Bloomfield, and Foggy Bottom Roads). The County will also pursue the establishment of the Beaverdam Historic Roadways District for the 32 rural roads identified as historic, and the Evergreen Mill Road Historic Roadway District. Likewise, Catoctin Creek and Goose Creek have been designated as State Scenic Rivers; and the County has designated historic, mountainside, and river and stream corridor districts that protect elements of the scenic landscape and critical cultural and natural resources.

### Scenic Areas and Corridors Policies

1. The County will prepare special provisions such as additional setback depths, protections against clearing frontage vegetation, and for maintaining stonewalls and other features in designated scenic areas and corridors.

2. The County will prepare and implement corridor management plans for the County's Virginia Byways. The County will also work proactively with residents to identify potential roadways for Virginia Byway designation by the Commonwealth.

3. The County will pursue Virginia Byways designation by the Commonwealth for Charles Town Pike (Route 9), Harper's Ferry Road (Route 671), Edwards Ferry Road (Route 773), Route 50 (through the Mosby Heritage Area), and Route 626 in its entirety.

4. The County will work proactively with residents to define and designate Historic Roadway Districts. Through public education and outreach efforts, the County will stress the importance of heritage resource protection and preservation as a means to protect and preserve the character of the County's

rural roads.

5. The County will work proactively with residents to define and designate Historic Access Corridor Districts. Through public education and outreach efforts, the County will stress the importance of heritage resource protection and preservation as a means to enhance the visual experience along the County's corridors leading into and through historic towns and villages.

6. No street or road should be abandoned to a non-governmental owner if the road can be used as part of a planned trail network.

# Group Three: Open Space Assets

Group three includes elements of the Green Infrastructure that are best described as man-made open space, including greenways and trails, parks and recreation, public school sites, and open space easements. These elements can enhance the vibrancy of communities by providing public interaction with nature and opportunities for outdoor activity. Open space assets may be held in either private or public ownership or a combination thereof, although public ownership predominates in parks, sport complexes, athletic fields, and greenways and trails.

Regulation of protective buffers, donation of open-space easements, purchase-of-development rights, and performance standards will be used by the County and individual property-owners to manage these elements.

## A. Greenways and Trails

The County is committed to establishing an integrated greenways and trails system that will provide for walking, bicycling, and equestrian use. Wherever appropriate, the County system will connect to the system of homeowner association (HOA) trails. The greenways and trails system will provide the vital link between communities and the larger open space assets and natural elements of the Green Infrastructure.

### Greenways and Trails Policies

1. The County will prepare and implement a Greenways and Trails Plan identifying desired locations of future greenways and trails and desired connections to neighboring jurisdictions' greenways and trails. Trails may include hiking, biking and equestrian trails. Greenways include areas along rivers and streams that are often ideal for trails. This plan, updated periodically, will be made a part of the Comprehensive Plan.

2. The County's greenways and trails, as depicted in the Greenways and Trails Plan, will serve as a linking element in all policy areas to other components of the Green Infrastructure, and may be used for refuge, recreation, and education. The system should connect to existing trails like the Appalachian Trail in the Rural Policy Area and trails within towns and villages, and link people to the area's natural, recreational, cultural, and commercial resources. Signage on the greenways and trails system will be limited to providing information regarding public facilities, safety, and historic amenities open to the public.

3. The County designates priority trails to include:

    a. An extension of the W&OD Trail from its present terminus in Purcellville to its proposed terminus in Bluemont with a foot path extending from Bluemont to the Appalachian Trail;

b. A 2.4 mile shared-use trail from the western terminus of the W&OD Trail in Purcellville, west to Round Hill through Franklin Park;

c. A 1.1 mile, pedestrian walkway and bicycle path along Colonial Highway (Business Route 7) between the Town of Hamilton and the Harmony Intermediate School;

d. A connector between the W&OD Trail in Leesburg and Whites Ferry on the Potomac River (a 4.5 mile connection);

e. The Potomac Heritage Trail (hiking from Fairfax to Harpers Ferry, WV);

f. A linear park and shared-use trail along the former Manassas Gap Railroad right-of-way linked to the W&OD Trail, or incorporated into a trail network as depicted on the Green Infrastructure Map;

g. The development of a shared-use trail from the C&O Canal to the Town of Lovettsville along the Route 287 corridor;

h. The development of a three mile shared-use trail between Algonkian Regional Park and Claude Moore Park; serving the northernmost portion of Cascades south to Claude Moore Park and including a bicycle/pedestrian bridge crossing over Route 7;

i. Connections to the W&OD Trail, the Sterling, Dulles, Ashburn and Potomac Communities from Route 28 and Loudoun County Parkway corridors and appropriate developments;

j. Blue Ridge, Catoctin Mountain, Bull Run and Short Hill shared use trails;

k. Pedestrian and shared-use trails along other creeks;

l. A multi-use trail along the Berlin Turnpike through the Town of Lovettsville and connecting the W&OD and C&O trails;

m. Networks of sidewalks and multi-use trails in each of the Towns.

4. The County will seek through public purchase, proffer, density transfer, donation or open-space easement, the preservation of greenways and the development of trails. Priorities for acquisition and/or development are:

a. The extension of the W&OD Trail from its present terminus in Purcellville to its proposed terminus in Bluemont with a foot path extending from Bluemont to the Appalachian Trail;

b. A connector between the W&OD Trail and Whites Ferry;

c. A Short Hill Trail;

d. The development of the Potomac Heritage Trail (hiking from Fairfax to Harpers Ferry, WV);

e. The development of Blue Ridge, Catoctin Mountain and Bull Run Trails;

f. The development of pedestrian trails along other creeks;

g. The former Manassas Gap Railroad right of way and preserving or developing this corridor as a linear park and trail possibly linking it to the W&OD Trail, or incorporating into a trail network as depicted in the Green Infrastructure Map and Greenways and Trails Plan;

h. Cascades community to Claude Moore Park to the W&OD Trail; and

i. Connect Franklin Park to Round Hill and to Purcellville.

## B. Parks and Recreation

Regional and county parks are important man-made open space assets of the Green Infrastructure that not only serve their passive and active recreational purposes, but also provide a link between communities and other Green Infrastructure elements. Individual parks and recreational assets are discussed in the Suburban, Rural and Transition Policy Area chapters, while the administrative aspects of the County's parks are addressed in Chapter Three.

### Parks and Recreation Policy

1. The County will apply conservation design techniques in the design of new parks and athletic facilities and will locate them to provide links between public facilities and communities, to protect environmental integrity, and to provide buffers between different land uses.

## C. Public School Sites

Public schools provide extensive open space in Loudoun's communities. These facilities are used not only for their primary educational purpose, but are also community assets and the focal point for active recreation and after-school programs that benefit the public at-large. Therefore, like parks and recreational facilities, the County recognizes that public school sites should be linked with other elements of the Green Infrastructure and connected through trails and greenways.

General policies for public schools are presented in Chapter Three.

## D. Open Space Easements

A number of open space easements can be found throughout the County. (Refer to the Green Infrastructure Map) Many complement and protect natural features like rivers and streams, others protect historic locations or key agricultural areas, while others provide recreational and educational opportunities in the form of parks and nature preserves. The County will continue to encourage the use of open space easements as a way to complement and enhance the Green Infrastructure and its elements.

# Group Four: Complementary Elements

Group Four includes elements that are not directly a part of the land-based Green Infrastructure but instead, complement it. They include air quality, lighting and the night sky, and the aural environment. These elements are predominantly in private ownership, although some public ownership applies for the airspace that is managed by the Metropolitan Washington Airport Authority (MWAA).

## A. Air Quality

Loudoun County's air quality is threatened by air pollution from automobile and aircraft emissions, heating furnaces, and power plants. More efficient and better planned transportation and pedestrian networks, tree preservation and planting, reforestation and preservation of natural landscapes will help minimize the threat to the County's air quality.

In order to meet the federal goals of the Clean Air Act, the County offers an integrated land use approach that protects air quality by planning development in locations that are close to major transportation facilities and transit nodes, reducing the densities in the Rural Policy Area, and promoting and implementing alternative modes of transportation. The policies and guidelines of the *Revised Countywide Transportation Plan* also support this approach.

### Air Quality Policies

1. The County will develop land use and transportation policies and measures that tend to reduce single occupancy vehicular trips, vehicle miles traveled, and associated emissions in order to improve air quality. Such measures will support the creation of pedestrian and bicycle facilities, park-and-ride lots, and mass transit options.

2. The County will promote tree planting and preservation as a means to improve air quality.

3. The County will enforce the Virginia State Law (9VAC5-40-5630) prohibiting open burning during an alert, warning, or emergency stage of an air pollution episode as described in Virginia State Law (9 VAC5-70-10 et seq.).

4. The County will comply with the requirements of the Federal Clean Air Act Amendments of 1990 through support of the State Implementation Plan (SIP).

5. Loudoun County acknowledges its location in the Washington, D.C.-MD-VA Non-attainment Area. The County will continue to play an active role on the Metropolitan Washington Air Quality Committee (MWAQC) and the National Capital Region Transportation Planning Board (TPB) and will do its part in the implementation of the Phase II Attainment Plan for the Washington Metropolitan Nonattainment Area, as well as future emissions reduction programs.

## B. Lighting and the Night Sky

The beauty of the County's night sky is threatened by excessive and improper lighting. Artificial lighting is intended to be minimized and light pollution reduced while maintaining the primary purpose of lighting for public safety and visibility. The County will develop appropriate regulations and performance standards to promote quality and energy-efficient lighting that will also preserve the natural beauty of the night skies. Application of sound night-lighting standards will reduce light pollution such as glare, energy waste, light trespass, and the deterioration of the natural nighttime environment.

### Lighting and Night Sky Policies

1. The County will adopt a lighting ordinance to achieve the following:

    a. Promote the use of lighting for convenience and safety without the nuisance associated with light pollution.

    b. Promote a glare-free environment through proper lighting performance standards to improve visibility and enhance public safety.

    c. Promote appropriate lighting standards to conserve energy.

    d. Develop appropriate lighting standards to prohibit unnecessary and intrusive light trespass that detracts from the beauty and view of the night sky.

## C. Aural Environment

Loudoun County's efforts to protect existing and future residents from increased levels of environmental noise have focused primarily on airport noise surrounding Washington Dulles International Airport and Leesburg Executive Airport. In order to ensure a high-quality environment for both existing and future residents, as well as maintaining the economic viability of these important transportation and economic development resources, an Airport Noise Impact Overlay District was established to impose development restrictions within specified areas.

Public notification of airport impacts on a residential community is required for areas within one mile of the Ldn 60 noise contour. In addition to the notification provision, properties located within the Ldn 60 to 65 range are required to provide acoustical treatment of structures and to grant avigation easements. (Refer to Airport Ldn Contours Map)

Loudoun County also has many employment and activity centers that create various levels of noise and require consideration and, in some cases, abatement to meet public welfare and health objectives. The County will strengthen policies regulating noise produced by large-scale construction projects (e.g., use of explosives should be limited by operating hours and/or decibel levels).

The County recognizes that quarries are valuable employment and economic development resources for the County. As such, the Zoning Ordinance provides a Quarry Notification Overlay District that requires notification to residential property owners about the potential noise levels generated by neighboring quarry operations. The ordinance also sets performance standards to limit quarries' hours of operation.

It is also important to protect residential communities near or adjacent to major collector roadways. This is accomplished through the use of passive noise abatement measures such as adequate setbacks, earthen berms, wooden fences, and dense tree vegetation. The County discourages the use of structural noise abatement measures such as concrete walls unless supplemented with appropriate landscaping to enhance the aesthetics of such structures. Abatement barriers should reflect the character of the surrounding natural environment.

To protect residents adjacent to major highways, the County will also require appropriate noise mitigation measures to be incorporated into the overall project design for proposed noise-sensitive development when the absolute values in the Noise Abatement Criteria (NAC) Hourly A-Weighted Sound Levels table are approached or exceeded (see pg. 5-45).

**Noise Abatement Criteria (NAC) Hourly A-Weighted Sound Levels**

| Activity Category | dB(A) Leq (h) | Description of Activity Category |
|---|---|---|
| A | 57 (exterior) | Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. |
| B | 67 (exterior) | Picnic areas, recreation areas, playgrounds, active sports areas, parks, residential yards, motels, hotels, schools, churches, libraries, and hospitals. |
| C | 72 (exterior) | Commercial uses or developed lands, properties, or activities not included in Categories A or B above. |
| D | -- | Undeveloped lands |
| E | 52 (interior) | Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums. |

## Airport Noise Policies

1. The County will continue to support the economic viability of Washington Dulles International and Leesburg Executive Airports by continued and complete prohibition of new residential and other noise sensitive land uses from the areas defined by the projected Ldn 65 and greater noise contours for both airports and by requiring non-noise sensitive land uses within these noise impact areas.

2. The County will work with the Metropolitan Washington Airports Authority and the Town of Leesburg to analyze long-term airport noise potential using the Integrated Noise Model in order to project aircraft noise contours based upon assumptions about aircraft fleet mix, generalized flight tracks, and other operating procedures around Washington Dulles International and Leesburg Executive Airports for use in noise abatement policy formulation.

3. The County will continue to work with the Metropolitan Washington Airports Authority to refine airport operations and routes at Washington Dulles International Airport to minimize the effects of noise on multiple and single family lots, schools, and churches, public parks and recreational open space.

4. For the environs of Washington Dulles International Airport, the County will base its Aircraft Noise Compatibility planning efforts upon the map entitled, Noise Exposure Map: Potential with a Preferential Runway Use, Ldn 60 and 65, dated August, 1992, and prepared by KPMG Peat, Marwick for the Metropolitan Washington Airports Authority (MWAA). For the environs of Leesburg Executive Airport, the County will base its Aircraft Noise Compatibility planning efforts upon the Environmental Assessment Report, Leesburg's Godfrey Field, Leesburg, Virginia, dated October, 1985, and prepared by Campbell, McQueen and Paris, Engineers of the Town of Leesburg.

5. An Airport Noise and Overflight Impact Area (ANOIA) is established as part of this Plan and consists of three (3) policy areas: (i) areas outside of, but within one mile of the Ldn 60; (ii) areas between the Ldn 60-65 aircraft noise contour; and (iii) areas within the Ldn 65 or greater noise contour.

6. For areas outside of, but within one (1) mile of the Ldn 60 contour, the County will require:

   a. Full Disclosure Statement – For all new residential dwelling units to be constructed outside of, but within one (1) mile of the Ldn 60 contour. The applicant will disclose in writing to all prospective purchasers that they are located within an area that will be impacted by aircraft overflights and aircraft noise. Such notification will be accomplished by inclusion of this information in all sales contracts, brochures, and promotional documents, including the Illustrative Site Plan(s) on display within any sales related office (s), as well as in homeowners' association documents, and by inclusion on all subdivision and site plans, and within all Deeds of conveyance.

7. For areas between the Ldn 60-65 aircraft noise contours, the County will require:

   a. Full Disclosure Statement – For all new residential dwelling units to be constructed between the Ldn 60-65 aircraft noise contours. The applicant will disclose in writing to all prospective purchasers that they are located within an area that will be impacted by aircraft overflights and aircraft noise. Such notification will be accomplished by inclusion of this information in all sales contracts, brochures, and promotional documents, including the Illustrative Site Plan(s) on display within any sales related office (s), as well as in homeowners' association documents, and by inclusion on all subdivision and site plans, and within all Deeds of conveyance.

   b. Acoustical Treatment – For all new residential units located between the Ldn 60-65 aircraft noise contours. The applicant will incorporate acoustical treatment into all dwelling units to insure that interior noise levels within living spaces (not including garages, sunrooms, or porches) do not exceed a sound level of 45 db(A).

   c. Avigation Easements – For all new residential dwelling units to be constructed between the Ldn 60-65 aircraft noise contours. Prior to or in conjunction with the approval of a rezoning application, the applicant of a parcel or parcels contained within the Ldn 60-65 aircraft noise impact area associated with Washington Dulles International Airport, should proffer the dedication

of avigation easements to the Metropolitan Washington Airports Authority, indicating the right of flights to pass over the property, as a means to securing the long-term economic viability of Washington Dulles International Airport.

8. For areas exposed to aircraft noise of greater than Ldn 65, the County prohibits the construction of new residential or other types of noise sensitive uses within those areas of Ldn 65 or greater.

9. The County will continue to enforce and update, as appropriate, the Airport Noise Impact Overlay District included as part of the Loudoun County Zoning Ordinance. Such district regulates land uses and provides acoustical architectural performance standards for construction which occurs within this area.

## Highway Noise Policies

1. The County will require that all land development applications that propose land uses adjacent to any of the existing and/or proposed arterial and major collector roads will be designed to ensure that no residential or other type(s) of noise-sensitive use(s) will have traffic noise impacts which occur when the predicted traffic noise levels approach or exceed the noise abatement criteria on the Noise Abatement Criteria (NAC) Hourly A-weighted Sound Levels table, or when predicted traffic noise levels substantially exceed existing noise levels. To determine the predicted highway noise levels and to assess noise impacts at a particular location, a land development applicant will be required to use the latest version of the Federal Highway Administration's Highway Traffic Noise Prediction Model (FHWA-RD-77-108, as amended). The design year noise level will be understood to be the probable traffic volume for said facilities at a time of ten to twenty years from the start of construction.

   For the purposes of these procedures, the design-year noise levels will be applied to:

   a. Areas that are regularly used by people and in which a lowered noise level would be beneficial. Such areas would not normally include service stations, junkyards, industrial areas, parking lots, storage yards, or the unused open-space portions of other developments and facilities. Design-year noise levels will, however, be applied to the gardens and yards of residential areas and those parks and recreation areas (i.e., open air amphitheaters, golf courses, etc.) or portions thereof where serenity and quiet are considered essential, even though such areas may not be subject to frequent human use; and

   b. Those places at approximately ear-level height. The values do not apply to an entire tract upon which an activity is based, but only to that portion on which such activity normally occurs.

2. Those proposed land development applications that are determined to approach or exceed the noise abatement criteria on the Noise Abatement Criteria (NAC) Hourly A-weighted Sound Levels table will provide noise protection through the use of passive noise abatement measures such as adequate setbacks, earthen berms, wooden fences, and dense tree vegetation. The County discourages the use of structural noise abatement measures such as concrete walls unless the noise abatement criteria cannot be met. Noise walls should include design elements such as articulated walls and gradual descents that blend with natural features. Walls should be supplemented with appropriate landscaping and reflect the character of the surrounding natural environment.

3. The County will use noise policies in the *Revised Countywide Transportation Plan* to further outline noise avoidance and mitigation requirements for residential uses, parks, recreational facilities, as well as public and quasi-public or other noise-sensitive land uses along arterial and major collector roads.

## Construction Blasting Policy

1. The County will require developers using explosives within 500 feet of a structure to do a pre-and post-blast survey to determine if any damage was done to nearby homes. The survey should include the impact on wells and drainfields, if applicable.

## Reference Maps

Green Infrastructure

Mountainside Overlay District

River and Stream Corridor Resources

Major and Sub-Watersheds

Hydric Soils

Limestone Conglomerate Bedrock

Prime Agricultural Soils

Agricultural Districts

Steep Slopes

Selected Historic Sites and Districts

Airport LDN Contours

# Chapter 6
# Suburban Policy Area

## General Characteristics

The Suburban Policy Area in the easternmost portion of the County is where most of the residential and commercial growth has occurred over the past fifteen years. The area covers approximately 60,000 acres, including the Washington Dulles International Airport property, and comprises areas that have been developing under area plans for Eastern Loudoun, Dulles North, Dulles South, Cub Run, and the Toll Road. (See Suburban & Transition Policy Areas Map)

The Suburban Policy Area is defined on the north by the Potomac River and on the south by Braddock Road. Its eastern edge is the Fairfax County line, and its western edge begins at the Potomac and follows a southerly path along the Goose Creek just east of Leesburg, the Goose Creek and Beaverdam Reservoirs, and a combination of property lines, roads, the power line easement, and Washington Dulles International Airport's 65 Ldn (day-night average noise level) noise contours. (See Airport Ldn Contours Map)

The following data reflect the rapid transformation of the Suburban Policy Area during the 1990s:

- Building permits were issued for more than 25,000 dwelling units, about 75 percent of the total issued Countywide.
- The population grew from 46,800 to more than 106,500 – an increase of 128 percent.
- Nonresidential space in the Suburban Policy Area tripled to nearly 25 million square feet.

In the Suburban Policy Area, there is the potential for 44,726 additional housing units, including 27,145 units in the pipeline. It is anticipated that by the end of the twenty-year planning period, 40,112 housing units will have been absorbed, and a total of 80,298 housing units will exist. At that time, the Suburban Policy Area is projected to have a population of 209,053 persons, an increase of 96 percent over the 2000 population estimate. Future residential development will be primarily at suburban densities, with greater requirement for open space. Small pockets of higher-density housing are planned along major transportation corridors or in conjunction with town centers or major employment centers.

The Suburban Policy Area has significant development potential in land zoned for business uses. Existing zoning would allow an additional 120 million square feet of office and industrial construction, which should accommodate anticipated business growth well beyond the planning horizon. However, the County must continue to monitor the land area available for business land use expansion to ensure an adequate supply for continued economic development in and around the following major office and industrial areas:

- The Washington Dulles International Airport area along Route 606 and Route 50 and within the airport noise impact area;
- The Route 28 Highway Transportation Improvement District;

- The eastern end of the Dulles Greenway, east of the Route 659 interchange;
- The Route 7 corridor areas planned for Keynote Employment; and
- The eastern portion of the Leesburg Joint Land Management Area west of Goose Creek.

## Land Use Pattern and Design

As the primary location for suburban-scale residential and nonresidential development, the manner of growth and redevelopment in the Suburban Policy Area is of vital importance. The Plan anticipates that there will be four distinct communities within the Suburban Policy Area, separated from one another by associated Green Infrastructure components and major roads. The Plan introduces the concept of Community Plans that will guide the remaining build-out of Ashburn, Dulles, Potomac, and Sterling. The County's goal is that the principles of Smart Growth and revitalization will guide the build-out and revitalization of the Suburban Policy Area through the detailed planning of the four communities. All future development applications in the policy area will be reviewed in the context of the four large communities: Ashburn, Dulles, Potomac, and Sterling. The four communities' boundaries are as follows (see Suburban Community Boundaries Map):

- The **Ashburn Community** stretches from the Potomac River north of Lansdowne and south of the Broad Run watershed boundary near Red Hill Road, and to the west extends along the Goose Creek and Beaverdam Reservoir.
- The **Dulles Community** is bounded on the north by the Broad Run watershed boundary, on the south by Braddock Road, on the east by the Fairfax County line, and on the west by the relocated Route 659.
- The **Potomac Community** includes the area north of Route 7 to the Potomac River between the Fairfax County line and the Broad Run.
- The **Sterling Community** includes the area from the Washington Dulles International Airport north to Route 7 between the Fairfax County line and the Broad Run.

As each new development is absorbed into the Suburban Policy Area's built environment, it is important that it is viewed in the context of its larger community. New residential and non-residential projects should have a mix of complementary land uses and project designs that ensure the long-term sustainability, or environmental and economic health, of both the individual development and the broader community. In addition, the County seeks to answer the transit needs of the Suburban Policy Area along with its growing need for revitalization and redevelopment.

The County's vision for the Suburban Policy Area is that the four large communities increase in quality and become more distinct places. Policies below address ways to improve livability through (1) protecting and enhancing elements of the Green Infrastructure, including open space; (2) ensuring compatible and complementary infill development; and (3) revitalizing existing neighborhoods in a way that protects and enhances our existing communities.

All development and redevelopment, both residential and non-residential, will implement a conservation design approach. Conservation design places a priority on preserving both sensitive environmental and man-made elements of a site. Site development will take place around these elements, incorporating them into the design.

## Land Use Pattern and Design Policies

1. The County's vision for the Suburban Policy Area is self-sustaining communities that offer a mix of residential, commercial, and employment uses; a full complement of public services and facilities; amenities that support a high quality of life; and a design that conforms to the County's Green Infrastructure and incorporates Conservation Design.

2. Suburban Policy Area communities will be developed as efficient, compact, mixed-use and pedestrian-oriented communities with a range of residential lot sizes, in accordance with the community design policies of this Plan, will provide a measurable standard open space (active, passive, and natural) as specified in the land use matrix, and will fully integrate the County's Green Infrastructure.

3. The County, in collaboration with other govern-mental agencies and the private sector, will ensure through a variety of measures that all public spaces in residential and commercial areas are pedestrian friendly. These measures may include the construction, improvement, and maintenance of public squares, parks, and pedestrian malls, and the attention to street design details such as landscaping, lighting, and provision of attractive street furniture.

4. The County will develop four Community Plans that will provide for the development of the Suburban Policy Area. The four communities are Sterling, Potomac, Dulles, and Ashburn, as shown on the Suburban Community Boundaries Map.

5. All new development proposals in the Suburban Policy Area will be designed using the "conservation design" approach as detailed in the *Revised General Plan*.

6. The development phasing plan for a mixed-use project will establish a build-out relationship between the residential and non-residential components of the project that is consistent with the County's goals for the project area.

7. Alterations to approved land use projects will conform to the land use and design goals and policies of the *Revised General Plan*.

8. For properties up to 50 acres outside of Keynote Employment designations, the land use mix attributed to the various land uses may not be achievable due to the small size of the parcel. In such cases, an applicant for rezoning may vary from the land use mix specified in the Plan by showing that an alternative is more appropriate to the specific site. This can be accomplished by providing the County with a survey of land uses within a 1,500-foot radius of the site.

9. Development proposals proceeding through the legislative and site planning process will conform to the County's community design guidelines. The design guidelines will be implemented as a part of legislative applications (e.g., rezonings and special exceptions) and incorporated into regulatory documents such as the Zoning Ordinance, Facilities Standards Manual (FSM), and Land Subdivision and Development Ordinance (LSDO) where applicable.

10. To protect and enhance the historic character and cultural importance of the historically significant areas in the Suburban Area, the County shall work with the local communities towards the designation of County Historic and Cultural Conservation Districts. Other historically significant areas within the Suburban Area shall be identified and protected/enhanced. Pedestrian access to and from existing and future neighboring residential communities also shall be encouraged for any new development.

11. The County will discourage strip development of any type and accordingly will develop zoning performance standards to discourage this pattern of development.

12. The County will pursue state enabling legislation for the establishment of a Transfer of Development Rights (TDR) Program within suburban communities to assist in the development of open space.

13. There will be one (1) Transit-Oriented Development (TOD), one (1) Transit-Related Employment Center (TREC), one (1) Urban Center in the Suburban Policy Area, and up to three (3) Mixed-Use Office Center areas in the Route 28 Corridor. Town Centers may be considered for development west of Route 28 or south of Route 606 in the Suburban Policy Area.

14. Undeveloped or minimally developed parcels shown on the Land Use Map for non-residential uses but zoned residential will be remapped to a corresponding non-residential district. Likewise, undeveloped or minimally developed parcels shown on the Land Use Map for residential uses, will be remapped to a density of 1.0 dwelling units per acre, if not currently zoned at a higher density. (Also see Economic Development Policy 15, page 4-10.)

## A. Four Distinct Communities

The County recognizes that the Suburban Policy Area comprises four distinct communities that are separated from one-another by components of the Green Infrastructure and by major roads. As a priority, the County will work with residents and business leaders to develop individual, detailed Community Plans to address particular needs and that will guide the build-out of each of these communities during the next twenty years. Different detailed planning approaches will be required because of the differences in the development of the four communities. For example, revitalization and redevelopment may be emphasized in the Sterling and Potomac Communities, while the Ashburn and Dulles communities continue to develop through new projects.

The Community Plans will be official elements of the County's Comprehensive Plan and will provide policy guidance to achieve the following objectives:

- The communities will be distinct, separated by greenways or natural buffers, as well as major road corridors and will protect sensitive environmental areas.
- All communities should seek to provide a full range of housing types, and provide for a diverse, stimulating social, cultural, recreational, and spiritual environment. Communities west of Route 28 or south of Route 606 may have a recognized Town Center.
- The County will create a program for the revitalization of older neighborhoods that will provide incentives for new investment, upgrading of facilities, and adaptive reuse of non-residential structures.
- The communities will comply fully with the County's Green Infrastructure policies, meet the applicable standards for open space, and have a network of greenways and trails.
- The County's service levels and plans for all public facilities will be fully implemented with appropriate site locations.
- Necessary school facilities will be provided at conveniently located sites to meet the educational needs of the communities and to ensure that school clusters are consistent with community boundaries.
- The internal transportation systems will be efficient, safe, pedestrian-friendly, and provide for alternative modes of transportation.

Pending completion of the Community Plans, the *Revised General Plan*'s policies related to incorporating infill parcels into these communities will apply.

## Communities Policy

1. As part of the Community Plan process, the County will plan and implement a pedestrian and bikeway network to link the residential, employment, and transit station areas of the four Suburban Policy Area communities, and so far as possible, connect the system to those of adjoining jurisdictions.

## B. Green Infrastructure

The Suburban Policy Area has a rich cultural heritage and is the site of important components of the County's Green Infrastructure. The County's strategy is to protect its existing elements and to recapture elements where possible. Existing elements of the Suburban Policy Area's Green Infrastructure include the following:

- An easement along the policy area's segment of Goose Creek, a state scenic river;
- The Northern Virginia Regional Park Authority's 838-acre Algonkian Regional Park, which has 1.6 miles of frontage on the Potomac River and features a 2-mile walking trail, recreational facilities, and riverfront vacation cottages;
- The County's parks and recreation system featuring the 367-acre Claude Moore Park, community centers in Arcola and Sterling, and numerous small parks and recreational facilities that are owned, leased, or maintained by the County;
- Athletic fields adjacent to the County's schools;
- Thousands of acres of open space in planned communities that are used or maintained by home-owners' associations (HOAs);
- Several public or private golf courses that are built or planned; and
- Cultural amenities including Northern Virginia Community College's 200-seat auditorium and art gallery, as well as Dulles Town Center's tree-lined town green with recreational facilities.

The Green Infrastructure policies outlined in Chapter Five of this Plan apply to the Suburban Policy Area. The County places a high priority on implementing Green Infrastructure policies in the Suburban Policy Area, recognizing that the development process of the past twenty years has not met the open-space needs of the expanding suburban population. By implementing conservation design, it is the County's desire to capture, recapture, and protect those natural and man-made elements that provide scenic beauty and cultural and recreational amenities for a community. Among the open space priorities as the County implements this *Revised General Plan*'s Green Infrastructure policies are the following:

- Preservation of the 7,500 acres of floodplain along the Potomac River, the Broad Run, and a network of smaller tributaries in eastern Loudoun;
- Preservation of the remaining archeological sites of the Native American tribes;
- Support of the regional initiative to establish a "Potomac Heritage National Scenic Trail" along the banks of the Potomac River in Virginia, Pennsylvania, Maryland, and Washington, D.C.;
- Protection of the historical assets in the Village of Old Ashburn and the Village of Old Sterling through architecturally compatible rehabilitation and adaptive re-use of historic structures and the sensitive development of architecturally compatible infill projects;

- Protection of the 19th-century Ashburn Presbyterian Church, which is on the National Register of Historic Places;
- Recapture of the Green Infrastructure and wildlife habitat along the Sugarland Run and associated tributaries; and
- Reforestation and re-naturalization of significant woodland and wildlife habitat areas.

## Green Infrastructure Policy

1. A distance of 1,000 feet east from the Beaverdam and Goose Creek reservoirs is designated as a priority open space area for the voluntary creation of a green-belt. This voluntary greenbelt extends 1,000 feet beyond the 300-foot no-build buffer established to protect water supply reservoirs. This greenbelt will be created through various mechanisms such as land donations, conservation easements, purchase of development rights, and other land conservation mechanisms. Such additions also will be considered as fulfilling open space requirements. (See Green Infrastructure Map)

## C. Open Space

Open space is a critical component of a healthy, vibrant community. It can provide the connections between neighborhoods that enhance the sense of community. The Suburban Policy Area will incorporate a broad array of open-space features at both the community and neighborhood scale. Such areas may be in the form of woods, wet ponds, neighborhood and community parks, community gardens, athletic fields, tot lots, trails, streetscape areas, and other natural or man-made features that function as amenities for a planned development's residents and employees.

Open space not only lends scenic beauty, it also provides space for recreational activity. It is important that active recreation open space be readily accessible (i.e., pedestrian-oriented) and, when it is located in a residential area, commonly owned, either by a homeowner's association or by the public. Neighborhood parks should be numerous and easily accessed by the pedestrian and bicyclist. The County's overall goal is for open space to be within 1,500 feet of every residence in the Suburban Policy Area.

Greenbelts, areas of natural open space, are desired at the perimeter of the four communities and to separate the Suburban Policy Area from the Beaverdam and Goose Creek Reservoirs. Greenbelts provide a natural separation of communities. Greenways, corridors of natural open space usually along rivers or streams, are desired along the Goose Creek, Broad Run, Sugarland Run, and the Potomac River in the Suburban Policy Area.

Other open areas, such as perimeter buffers, stormwater management facilities, and leftover edges and corners of properties, do not meet the County's objective of pro-viding usable open space. They will not meet more than 25 percent of the open-space requirements of new developments, unless they are part of a qualified open-space amenity. In some cases, such as in the development of small infill lots, 50 percent of the open space may be preserved off-site. In these cases, a contribution to a regional park or larger athletic facility may be more desirable to the County and its residents than small fragments of open space that would be accommodated within the development.

## Open Space Policies

1. In Residential Areas, a mix of open space will be provided. This mix will include active and passive and/or natural open space areas as appropriate to the scale and location of the site. Types of active recreation open space include ballfields, tennis or basketball courts, swimming pools, tot lots, golf courses, dog parks, and other areas for recreational sports or games. Types of passive open space

include trails (hiking, biking, walking, or equestrian), picnic, camping, hunting, or fishing areas. Natural open space is land left in a mostly undeveloped state including forests, meadows, hedgerows, and wetlands.

2. Business and Industrial land use areas will provide open space of the following types: open space in its "natural" state, such as forests, wetlands, or meadows; trails and trail connections; water features or amenities. The placement of certain active recreational facilities such as lighted ballfields in Business and Industrial land use areas will be encouraged. Business and Industrial land use areas will provide public and civic space of the following types: plazas, public art, entrance features. The required open space and public & civic space will conform to the percentages required for each category of suburban area development as established in the relevant matrix.

3. Interior open space will account for at least 75 percent of the required open space in residential areas. Thus, neither the required buffer areas nor "leftover spaces" and parking and street landscaping can account for more than 25 percent of the open space requirement.

4. All dwelling units will have an open space area (active, passive, or natural) located within 1,500 feet.

5. All active recreation open space will be readily accessible to pedestrians and cyclists by sidewalk, path, trail, and/or bike lane.

6. Fifty percent (50%) of the open space requirement may be satisfied by the area of River and Stream Corridor Overlay District (RSCOD).

7. The entire area of the RSCOD on a given parcel will be protected in accordance with River and Stream Corridor Resource policies, regardless of the amount applied to the open space requirement of the land use mix.

8. Residential developments in the Suburban Policy Area must have 30 percent of the land designated as open space. Up to 50 percent of the required open space, excluding RSCOD, may be obtained offsite within the same suburban community. Offsite open space can include priority open space areas, green-belts, and components of the green infrastructure.

9. Areas included on the following list will fulfill the open-space ratio requirement of the land use mix defined for residential communities:

    a. Community parks that are at least three acres in size;

    b. Neighborhood parks that are at least 20,000 square feet in size;

    c. Pocket parks, landscaped gardens, and greens that are at least 2,500 square feet in size;

    d. Linear path systems that connect to off-site path systems. Multi-modal path systems will conform to American Association of State Highway and Transportation Officials (AASHTO) standards;

    e. Required perimeter buffers (not to comprise more than 25 percent of the open space);

    f. Community gardens at least 2,500 square feet in size;

    g. Tot lots that are a minimum of 5,000 square feet in size; and

    h. The RSCOD that does not comprise more than 50 percent of the required open space in a community;

    i. Equestrian trails;

    j. Water features such as ponds and lakes that are wet year-round. Storm water management

facilities will not be included unless they are developed as year-round amenities. (e.g., with gazebos, picnic areas, or walking paths added).

10. No buffer standard reductions will be permitted without substitution for other open space on an acre-to-acre basis.

11. Development will be clustered away from the Beaverdam and Goose Creek reservoirs to help establish the primary greenbelt area and to help create a contiguous network of open space as part of the Green Infrastructure.

12. The County will support and encourage private contractual exchanges of density within each of the four Suburban Communities to assist with the development of open space.

13. Density transfer, both by voluntary action and through the Open Space Preservation Program will be promoted within each of the four communities. All residential rezonings will be considered for voluntary participation in an open space preservation program.

## D. Water and Wastewater

The Loudoun County Sanitation Authority (LCSA) will continue to be responsible for the provision of public water and sewer service in the Suburban Policy Area. Specific policies regarding water and wastewater for the Suburban Policy Area are contained in Chapter Two.

## E. Transportation

The Suburban Policy Area (see Road Surfaces Suburban and Transition Policy Areas Map) is the heart of the County's population, employment, and commercial centers. Moving people among these land uses smoothly is the hallmark of an effective transportation system. The County places a high priority on the establishment of a safe, convenient, and environmentally sound transportation system for movement of people to and from the Suburban Policy Area as well as within it. The County's suburban transportation network is multi-modal: Routes 7, 28, 50, and 267 provide the backbone of the suburban road network; the W&OD Trail is the spine of the bicycle network; residential and commercial developments provide sidewalks and biking/walking trails to encourage biking and walking trips; and Bus Rapid Transit is expected to be implemented along the Dulles Greenway in the 2003/2004 timeframe with a conversion to rail service by 2010. These transportation networks link a variety of land uses. How the County plans communities will invariably affect transportation needs.

With the advent of transit, it is important that the County plan land uses accordingly. In addition, mixed-use communities should provide pedestrian-scale environments that promote walking and bicycling, which reduces automobile trips. The County will produce a bicycle and pedestrian network through a subsequent planning process for recreation and as a transportation alternative. This network should connect key centers of employment, commerce, service, and residential development. The County will continue to seek federal, state, and local funds to improve the existing transportation network - to become truly multi-modal.

## Suburban Transportation Policies

1. The *Revised Countywide Transportation Plan* (CTP) provides additional transportation policy direction for the transportation network in the Suburban Policy Area. The hierarchy of roads will be amended to reflect the scale and function of its associated land use.

2. The development of High-Density Residential Areas and Town Centers will be phased to achieve accept-able levels of transportation service through the available mix of transportation modes.

3. Residential, office, institutional, civic, and retail areas in the Suburban Policy Area (schools,

universities, shopping centers, employment centers, parks, libraries, community centers, and other heavily visited public buildings) should have convenient access by foot and bicycle.

## F. Infill, Revitalization, and Redevelopment

Due to its rapid development during the past two decades, the Suburban Policy Area should approach an initial build-out by 2020. The County anticipates that the majority of land use applications in this policy area will be for infill, revitalization, or redevelopment projects within established communities. Infill projects are key to completing larger community development patterns. Redevelopment and revitalization of aging or neglected areas of the Suburban Policy Area are essential to the general "health" of the area. An area's loss of vitality results in significant public costs due to abandonment of older public infrastructure and declining residential and non-residential property values.

Infill development is the establishment of a new land use on a site that may be undeveloped or underutilized but is located within an established, stable development where public facilities such as roads, water, sewer, and general services are available. A well-conceived strategy for the development of infill lots will help reduce the adverse impacts that result when two different land uses are adjacent to each other and allow uses complementary to those found on adjacent, developed sites. When infill development occurs between disparate uses, the site should be developed to blend in or transition between uses with ample setbacks and buffering. Factors to be considered in developing infill parcels include the size of the parcel relative to the sizes of adjacent parcels; site access as it relates to regional access; community open space and civic area needs; impacts on the site due to existing or planned regional transportation facilities; utility connections; and the relationship to surrounding land uses and the physical location of those uses on the adjacent sites.

The County will not allow the artificial creation of infill development parcels. A property owner will not be permitted to reserve part of a larger tract of land in order to take advantage of any land use intensity that may accrue to the small piece if it were considered at a later date for infill development. If that is attempted, the subordinate parcel will be developed as though it were part of the regional context, clearly relating in use and intensity to the land use pattern established by the development of the larger tract of which it was once a part.

As developments age and community needs shift, revitalization is necessary in communities. Those needs will be identified and planned for in the Community Plan process. Needs might include open space, pedestrian or bicycle connections, traffic calming, stormwater management improvements, or other issues. In keeping with the intent of the *Revised General Plan*, the recapture of Green Infrastructure will be a priority in all redevelopment strategies.

## Infill, Redevelopment, and Revitalization Development Policies

1. The County will evaluate proposed infill development applications during the legislative and/or regulatory process based on how the proposed use functions on the site relative to the established development pattern, rather than simply based on the use itself. Evaluation criteria established to determine the relationship of surrounding uses with the proposed infill use will include the following:

    a. Size of the infill parcel relative to surrounding parcels,

    b. Residential densities established on adjacent parcels,

    c. Ability of the infill parcel to provide a compatible site design with or without buffering from the existing development pattern,

    d. Amount of open space and impervious surface,

e. Use intensity,

f. Development pattern and scale,

g. Road and pedestrian network, and

h. Impact of noise and light generated on the site.

2. Redevelopment of existing uses will be based on the availability of adequate public facilities, transportation facilities, and infrastructure. The County desires the assemblage of small, adjacent under-utilized sites to achieve a consistent and compatible development pattern. Established residential communities will be protected and enhanced through revitalization plans.

3. Infill projects that propose substantially different uses from one or more of the adjoining properties will provide for an adequate transition through buffering, fencing, and setbacks to mitigate any negative impact.

4. The Zoning Ordinance will promote the development of interim uses on vacant infill properties (i.e., which are initially interim but may become permanent such as community gardens, playgrounds, park-and-ride lots, and farmer's markets), provided that these uses are compatible with the surrounding neighborhood.

5. The County will ensure that new development projects provide inter-parcel vehicular and pedestrian access opportunities to adjacent vacant parcels so that future infill projects may be efficiently connected and served.

6. The County will work actively with residential development applicants to facilitate the integration of proposed homeowner's associations (HOAs) into an adjoining HOA to maintain economies of scale and to augment the availability of amenities.

7. Higher density development as defined in the *Revised General Plan* will occur in the Suburban Policy Area in the Transit-Oriented Development, Urban Center, in the Town Centers, or "community cores", of the communities west of Route 28 or south of Route 606, and the Mixed-Use Office Center areas in the Route 28 Corridor. These areas will have the highest densities in the Suburban Policy Area. Town Centers should be identified through a community planning process.

8. The four Community Plans will identify the needs of each specific community such as where and what type of traffic calming is needed, and target specific areas for revitalization and redevelopment.

9. Redevelopment and revitalization plans will include the recapture of the Green Infrastructure through methods such as the PDR program; the strategic purchase of infill sites for parks, athletic fields, and open space; and assisting homeowners' associations to purchase open space.

10. To provide for the sensitive redevelopment of existing areas to new uses, the County desires that small lots and tracts be consolidated into larger parcels that can support a more comprehensive design and servicing approach.

11. The County will direct public investment and resources and give priority to the redevelopment and enhancement of existing infrastructure, capital facilities, and services. The County also will implement an incentive program for redevelopment of the above.

12. The County will provide incentives and resources for the revitalization of established neighborhoods to preserve the quality of life in these areas through the provision of community amenities, such as, but not limited to, pedestrian/bicycle facilities, traffic calming, street lighting, sidewalks, and improved retail and commercial establishments.

13. The County will direct public investment and resources toward completing and recapturing the Green Infrastructure in the developed areas of the four communities and providing alternative transportation modes within the four communities.

14. Loudoun County will exercise the power of eminent domain only for the development of public facilities, as defined in the State Code.

# Land Use Categories

The Suburban Policy Area has four primary land uses: Residential, Business, Industrial, and Retail (see Planned Land Use Map). Retail policies are established in the *Countywide Retail Policy Plan* amendment. Within these primary land uses are subcategories. The County's overall land-development strategy is to encourage compact, mixed-use developments that provide people with the opportunity to live, work, recreate, and shop in a pedestrian-friendly environment. The exceptions are for Keynote Employment areas and General Industrial areas in the County. Because much of the Suburban Policy Area is already developed, this Plan envisions that new projects will be modest in scope and therefore will be evaluated based on their compatibility with the larger community of which they will be a part. The land use categories and policies guiding their development are described below and summarized in the matrix on pg. 6-33.

## A. Residential

Residential land uses include Residential Neighborhoods and High-Density Residential uses. Town Centers, the key commercial component of the four Suburban Communities, also are detailed in this section. Housing is the principal function in Residential Neighborhoods, but business and light/flex industrial uses also are permitted to provide support services and local employment opportunities to residents. The mix of uses at the core of larger Residential Neighborhoods should include retail and personal services, public and civic uses, and elements of the Green Infrastructure. Smaller neighborhoods will focus on a public green or park, civic buildings such as a church or community center, or a small neighborhood commercial center.

Residential design features must include efficient and compact site and roadway layout with adequate open space (active, passive, and natural), streetscapes that include sidewalks, street trees, pedestrian-scale lighting, pedestrian and roadway linkages to other neighborhoods and communities, and the full protection and incorporation of the Green Infrastructure. Such neighborhoods will incorporate a mix of housing types and lot sizes to provide options for a range of lifestyles and incomes, as well as a mix of land uses to allow residents the opportunity to work and shop nearby.

In larger Residential Communities made up of several neighborhoods, the focus will be a compact Town Center comprising residential uses, a commercial component larger than one that would serve a single neighborhood, plus public and civic uses, parks and greens.

## General Residential Policies

1. The *Revised General Plan* indicates the preferred location for Residential Areas on the Land Use Map. These locations may be modified when Community Plans are developed.

2. The County may permit residential rezonings at densities up to 4.0 dwelling units per acre in Residential Neighborhoods and densities between 8.0 and 24.0 dwelling units per acre in High-Density Residential Areas, in accordance with the policies specific to each type of Residential land use.

3. Residential development will continue to be located outside the adopted and projected Ldn 65+

(day/night average noise level) noise zone for Washington Dulles International Airport and the Leesburg Executive Airport. Residential development within the Route 28 Highway Improvement Transportation District will be limited to three (3) specific locations. These areas include the Old Sterling planning area, the Oak Grove area, the Eden Tract and Loudoun Village properties, and areas designated as high density residential on the Planned Land Use Map. Areas designated high density residential within the Route 28 HITD will be compatible with the densities and unit types of surrounding neighborhoods. Specific densities for the high density residential areas are as follows:

a. Victoria Station-up to 10 dwelling units per acre

b. Pearson Reserve-up to 8 dwelling units per acre

Furthermore, the identification of specific properties precludes the use of other *Revised General Plan* policies, which would permit the consideration of residential development on a case-by-case basis.

## 1. Residential Neighborhoods

Residential Neighborhoods are the largest land use component of the Sterling, Potomac, Ashburn, and Dulles Communities. The long-term livability of neighborhoods requires a systematic approach to incorporating them into the overall design of the larger communities, while retaining their distinct neighborhood identities.

Residential Neighborhoods should have a variety of housing types and lot sizes, and they are to be developed in accordance with design guidelines and performance standards for efficient site layout, a pedestrian-friendly scale, adequate open space (active, passive, and natural), and the protection and incorporation of the Green Infrastructure. Design guidelines included in the implementation section of this Plan outline key design features and opportunities to be addressed in these developments (See Chapter Eleven).

## Residential Neighborhoods Policies

1. New Residential Neighborhoods will develop at densities up to 4.0 dwelling units per acre, depending on the availability of adequate roads, utilities, and the provision of a full complement of public services and facilities.

2. The land use mix (measured as a percentage of the land area) in a Residential Neighborhood generally will comply with the following ratios:

| Land Use Category* | Minimum Required | Maximum Permitted |
|---|---|---|
| a. Residential | 30% | 60% |
| b. Office & Light Industrial | 0% | 20% |
| c. Public & Civic | 10% | No Maximum |
| d. Public Parks & Open Space | 30% | No Maximum |

* Retail Policy guidance provided in *Countywide Retail Plan*

3. Residential Neighborhoods will incorporate fully open space at a minimum of 30 percent of the gross acreage of the property. In both residential areas, no more than 50 percent of the required open space may be located in the RSCOD.

4. Residential Neighborhoods will exhibit the following design characteristics desired by the County:

   a. Compact site layout to reduce trips within the neighborhood, facilitate alternative forms of transportation, preserve the Green Infrastructure, and result in reduced transportation and utilities infrastructure costs;

b. Pedestrian-scale streetscape including such features as street trees, sidewalks along all street frontage, and street lighting;

c. A predominantly interconnected street pattern with inter-parcel connections;

d. A combination of neighborhood parks, squares, and greens located throughout the neighbor-hood within 1500 feet of all residences, and a formal civic square or other public space located in conjunction with a civic facility, Neighbor-hood Center, or other use, to create a focal point for the community;

e. The location of public and civic uses such as churches and community centers in prominent sites to act as landmarks within the neighborhood;

f. Off-street parking lots located to the rear of civic and business uses to ensure the building is the prominent sight from the street;

g. On-street parking that may be credited toward meeting residential parking requirements; and

h. A variety of lot sizes.

## 2. High-Density Residential Uses

High-Density Residential uses accommodate a scale of human activity that is needed to develop viable, mixed-use communities and to implement key County objectives including the development of mass transit, provision of affordable housing, preservation of open space, and efficient use of public facilities and services. High-Density Residential uses will develop only in a limited number of locations that include designated areas along the Dulles Greenway, within the County's Urban Center, in Town Centers, and as a component of mixed-use Business land use areas. Densities will be highest in the Dulles Greenway corridor, where transit is anticipated. Development within Transit-Oriented Developments (TODs) along the Dulles Greenway is governed by the policies in the TOD section of this Plan. The Dulles Greenway corridor is defined as 1.5 miles on either side of the Dulles Greenway.

### High-Density Residential Use Policies

1. High-Density Residential uses will include residential densities between 8.0 and 24.0 dwelling units per acre in mixed-use areas of the Dulles Greenway corridor, in the Urban Center, and densities between 8.0 and 16.0 units per acre in other mixed-use Business developments based upon the availability of utilities, transportation facilities, public facilities, participation in open-space preservation efforts, and conformance to the community design and growth management policies of this Plan.

2. Properties proposed for a rezoning to High-Density Residential uses may be located only in the following areas:

   a. Areas designated as High-Density Residential uses on the Land Use Map.

   b. In conjunction with an Urban Center or Town Center in accordance with policies applicable to each center;

   c. As part of a Regional Office or Light Industrial use in accordance with policies applicable to each use; and

   d. In other areas specifically identified in the *Revised General Plan* or Community Plans.

3. The land use mix (measured as a percentage of the project land area) in a High-Density Residential area generally will comply with the following ratios:

| Land Use Category* | Minimum Required | Maximum Permitted |
|---|---|---|
| a. High Density Residential | 40% | 60% |
| b. Office, Light Industrial | 0% | 20% |
| c. Public & Civic | 10% | No Maximum |
| d. Public Parks & Open Space | 30% | No Maximum |

* Retail Policy guidance provided in *Countywide Retail Plan*

4. High-Density Residential policies will be updated by Community Plan policies.

## 3. Town Centers

The Plan anticipates that communities west of Route 28 or south of Route 606 may have one or more Town Centers that serve as the "downtown" or community core of the communities. Town Centers must be compact and designed to accommodate pedestrian and vehicular traffic with a full complement of services and amenities. Even though the potential exists to develop the Town Center and associated neighborhoods in phases, an overall concept plan should be developed so the interrelationship of its parts (residential, commercial, office, civic, public open space, and transportation network) can be evaluated. A key element of the Town Center's design is its emphasis on pedestrian movement versus automobile movement, through the use of a grid street pattern and pedestrian-scale shops. Town Center development also should include a provision for transit facilities or stops.

## Town Center Policies

1. A Town Center functions as the "downtown" of the local community with a mix of residential and business uses in a compact setting. The communities west of Route 28 or south of Route 606 may have Town Centers. The locations of Town Centers should be determined through a community planning process or established during the consideration of a land development proposal that includes a community outreach and input process.

2. The Town Center will provide for a mix of land uses including dwellings, commercial and office uses, personal and household service establishments, institutional uses, public facilities, parks, playgrounds and other similar uses meeting the needs of the adjoining neighborhoods.

3. The Town Center will range in size between 30 and 60 acres.

4. The land use mix (measured as a percentage of the land area) in a Town Center generally will comply with the following ratios:

| Land Use Category* | Minimum Required | Maximum Permitted |
|---|---|---|
| a. High Density Residential | 25% | 40% |
| b. Commercial Retail & Services* | 20% | 45% |
| c. Regional Office | 10% | 25% |
| d. Overall Business Uses (b & c combined) | 30% | 50% |
| e. Public & Civic | 10% | No Maximum |
| f. Public Parks & Open Space | 10% | No Maximum |

* Retail Policy guidance provided in *Countywide Retail Plan*

5. Housing densities from 8.0 to 16.0 dwelling units per acre will be permitted in a Town Center, contingent upon the availability of utilities, roads, and public facilities and in conformance with the community design and growth management policies of this Plan. The Residential component will be subject to the design guidelines outlined in the Residential policies.

6. Business floor-area ratios will be sufficient to permit maximum use of small lots and the development of structures that support ground-floor shops and upper-level residential and office uses.

7. An overall concept development plan will be required in sufficient detail to allow evaluation of the inter-relationship of the Town Center's parts (residential, commercial, office, civic, public open space, road network design, and other components).

8. Approval of a request to rezone property to permit a Town Center will be contingent on the provision of a full complement of public facilities and services, the adequacy of roads and utilities, limited impact on existing neighborhoods, and compliance of the proposal with the community-design policies and guidelines of this Plan.

## B. Business

Business land use policies address the location and character of large-scale office and light-industrial uses in the Suburban Policy Area. The County encourages a mix of uses in most of its office and light-industrial business developments. In addition to offices, Business land uses generally may feature housing and/or commercial/retail uses, and all of the uses have a component of public/civic uses and parks and open space. A mix of uses creates an environment where individuals not only can work, but where they can live and have convenient access to services, shops, and recreation. Policies guiding retail development are found in the *Countywide Retail Policy Plan Amendment*. Policies in Chapter Eleven of this Plan guide the design of these developments.

Business land uses include Urban Centers, Keynote Employment Centers, Regional Offices, Light Industrial uses, and Transit Nodes. Generally, such regional uses should be near the Washington Dulles International Airport, the Route 28 Highway Transportation Improvement District, the Dulles Greenway Corridor, and the Route 7 Corridor. This section also addresses parking policies relating to Business land uses.

## General Business Land Use Policies

1. Business land uses will be located in accordance with the Land Use Map and the goals and policies of this Plan.

2. Office and Light-Industrial uses requiring markets outside the immediate neighborhood should locate in compact nodes at intersections of major collector and arterial roads in locations designated on the Land Use Map.

3. In evaluating Business land use proposals, the following will be considered:

    a. The market area and population threshold (which should be large enough for the proposed business use to financially support itself and not depend upon that portion of the population that is already served by existing and proposed competing projects);

    b. Steps taken to mitigate the impact of parking, signs, and other associated activities on the surrounding community;

    c. The available capacity of utilities and roads;

d. The potential fiscal and environmental impacts of the proposal;

e. The relationship of the proposed use to the land use and community design policies of the Plan; and

f. Other matters that may determine how the proposal relates to County policy.

4. All Business land use developments will be located in planned-development zoning districts to ensure the design and compatibility of new development with adjacent land uses and allows flexibility in site design.

5. Business land uses will possess adequate on-site parking, storage, and loading areas as well as landscape screening of these functions from surrounding neighborhoods. Designers should seek to reduce the potential impact of building size, exterior cladding of the building, signs and other features of an employment use that may create negative visual impacts on the surrounding community. Pedestrian and vehicular circulation systems in and around the business uses will form a safe and convenient network. Outdoor lighting will be designed for effective nighttime use of the facility and to reduce off-site glare to a minimum.

6. Access to Business land use areas will provide safe and efficient movement of traffic into the centers, without impeding traffic movements also on the adjacent roadways. Generally, entrances to and exits from the centers will be made from the minor arterials serving the center to cause the least disruption to traffic on the major arterials.

7. The County's CLI commercial zoning district allows for a wide variety of commercial uses, which generate high traffic volumes and which do not promote the coordinated and efficient land use or traffic pattern envisioned by the County for the U.S. 50 Corridor. Therefore, the County will consider alternative methods for addressing the conformance issue, such as modification of the by-right and special exception uses provided in the district to those more appropriate to achieve the objectives of the Plan.

8. Business land use policies will be updated by Community Plan policies.

8a. The County may choose to apply the Business Land Use, Office and Light Industrial Land Use mix ratios on a sub-area wide basis for the sub-area depicted on the CPAM 2004-0008 map (dated August 31, 2004) when such applications further the business and land use goals of the *Revised General Plan*.

(1) Development proposals requesting a sub-area based application of the land use mix should include the following: (i) a sub-area concept plan that demonstrates how the Plan's land use mix goals for either a Regional Office or Light Industrial community are achieved, and (ii) an inventory of existing land uses to be considered as part of the land use mix calculations. An individual project that would consume all of a single land use from the land use matrix is discouraged.

(2) Development proposals requesting a sub-area based application of the land use mix should demonstrate compatibility with the Planned Land Use community type (Regional Office or Light Industrial) that exists or has already been proposed.

# Arcola Area/Route 50 Corridor Plan

## Introduction

The following policies and Arcola Area/Route 50 Land Use Map are intended to implement the recommendations of the Route 50 Task Force. The Route 50 Task Force, consisting of members from various organizations including the County's Economic Development Commission, the Loudoun Convention and Visitors Association, the Metropolitan Washington Airports Authority, property owners, area residents, developers and representatives of heritage and cultural resources groups, was formed to address land use and transportation issues along the Route 50 corridor and make recommendations that would help create an attractive gateway to Loudoun County. This gateway is intended to recognize and strengthen the area's heritage and cultural resources, promote economic development and tourism, and contain development, transportation, and infrastructure improvements that are tailored to the unique and pressing needs of the area. The Route 50 Task Force submitted their Final Report to the Board of Supervisors on July 19, 2005.

The Route 50 corridor is planned for a modified Business and modified Industrial Community. The policies guiding the Business and Industrial Communities in the Route 50 Corridor are intended to be supplemental to the policies governing Business and Industrial Communities countywide.

## General Policies

1. The County anticipates the development of Business and Industrial communities in the Route 50 corridor.

2. Destination retail uses are limited to a portion of the planned Business area on the north side of the Route 50 corridor except as permitted in hybrid retail centers (See Arcola Area/Route 50 Corridor Planned Land Use Map).

3. The County anticipates the revitalization of the Village of Arcola through a mix of uses that will function as an alternative shopping and working environment to the nearby planned Business uses. New residential uses within the Village of Arcola and the Village Perimeter Transition Area are permissible.

4. While the County will seek to maintain the viability of existing industries within the Village of Arcola and Village Perimeter Transition Area, new industrial uses requiring outside material, equipment storage, heavy equipment repair, and similar activities will be located outside the Village of Arcola and Village Perimeter Transition Area.

5. The County envisions a Village Perimeter Transition Area surrounding the Village of Arcola that provides a transition between the smaller scale uses and compact pedestrian-friendly design of the Village and the larger footprint retail and employment uses nearby.

6. The Arcola Area/Route 50 Corridor Planned Land Use Map provides additional direction for the transportation network within the corridor. Final alignments may be adjusted through the development review process provided the function and capacity of the system is not reduced.

7. New development will achieve and maintain acceptable levels of transportation service by completing the planned road network and supporting alternative transportation modes. It is anticipated that new road and transportation proffers will be provided in the initial phases of new developments.

8. The County supports the creation of a mixed-use business zoning district as a means to implement the policies of the Arcola Area/Route 50 Corridor Plan.

9. The County supports residential uses at a maximum of three stories in height.

10. All development proposals will conform to the Route 50 Entrance Gateway Guidelines.

11. Within the Route 50 Business Community, the development of new residential uses will be made contingent upon the prior or concurrent construction of light industrial or office uses to accomplish the following:

    a. To maintain the office and light industrial uses as the predominant uses on the property during each phase of the development; and

    b. To best balance the fiscal costs and benefits of the project.

## Architectural Design Policies

1. The County shall develop general design guidelines to support architectural consistency throughout the corridor area to promote a sense of place and provide attractive areas for business and tourism opportunities.

2. The County shall encourage the submission of architectural guidelines for all new developments.

3. The County recommends the establishment of a Route 50 Architectural Review Advisory Board or Committee as part of the Route 50 Task Force to assist in developing and refining architectural guidelines for the Route 50 corridor.

4. The County will consider incentives for property owners to upgrade their buildings by incorporating recommended architectural treatments and features through the development of a Route 50 corridor improvement fund.

## Landscaping Policies

1. To provide an aesthetically pleasing corridor, all properties along Route 50 will be developed with a unified treatment of setbacks and landscaping consistent with the landscaping guidelines established as a result of the Route 50 Task Force Report.

2. The County will consider providing incentives for property owners to upgrade their landscaping and/or provide landscaping easements on portions of their property for plantings by others. Incentives shall include but not be limited to:

    a. Crediting landscape easements as open space for the purposes of meeting the land use mix.

    b. Establishing a Route 50 corridor improvement fund, created by open space proffer contributions, to facilitate planting of areas that need assistance in upgrading or installing landscaping.

## Economic Development Policies

1. The County encourages an economic development focus within the Route 50 corridor to include office, light industrial, industrial, retail and other tourism-related opportunities (such as restaurants and hotel accommodations).

2. Regional Office and Light Industrial communities will be the predominant component of Business areas. Development proposals will develop with office and/or light industrial uses to ensure the County attains the employment land uses envisioned for Business Communities.

3. The County encourages a Fiber-to-the-Premise infrastructure for developments that provide County residents with a “bundled” offering of services: internet, cable, and telephone service.

4. The County encourages higher Floor Area Ratios (FARs) for proposed non-residential development to ensure that land situated along Route 50 will build out to its full potential. The County discourages development of one-story buildings, which could limit future build-out potential, resulting in a loss of employment base and tax revenue.

5. The County will promote through its Economic Development Commission properties within the corridor to businesses seeking to enter or expand within the County.

6. The County supports the development of a cultural destination site at the Slave Quarters site in the Arcola area. The County envisions an expanded civic area along Route 606 Extended and Hutchison Drive to include cultural uses and the Slave Quarters site. County staff will coordinate with the Loudoun County Visitors Association (LCVA) when considering new development in this area.

### Transportation Policies

1. Transportation improvements are to include a consolidation and reduction of access points along Route 50, upgraded interchanges, the development of north and south "collector" roads, and the realignment of future roadways.

2. To ensure a coordinated and efficient transportation system within the Route 50 corridor, the County recommends extensive cooperation among County transportation officials, Fairfax County, the Virginia Department of Transportation, Metropolitan Washington Airports Authority, and Route 50 corridor property owners.

3. The County recommends general alignments for the north collector road, portions of Tall Cedars Parkway and Defender Drive, Route 606 Extended (the west spine road) and existing Route 659 as shown on the Arcola Area/Route 50 Corridor Planned Land Use Map.

4. Right-of-way for the ultimate road section for Route 50 must be provided as each new development application for frontage properties is processed.

5. The County supports the development of alternative forms of transportation in the corridor such as transit and bicycle and pedestrian facilities.

6. Projected levels of service in all segments of the road network, including Route 50 will be level "D" in each phase of any new development.

## Business Community

The County envisions a mix of uses in the modified Business area. While the predominant use is office and/or light industrial the area may also feature housing and/or commercial/retail uses with the exception of those areas designated Destination Retail Overlay and Hybrid Retail Center, which are prohibited by policy from having a residential component. The County may support additional commercial retail and services uses within the modified Business area when specific criteria is met. In addition, all of the uses will have a component of public/civic uses and parks and open space. Policies guiding retail development can also be found in the *Countywide Retail Policy Plan Amendment*.

### Business Community General Policies

1. In the Route 50 Corridor, areas designated Business Community shall be subject to the policies and land use mix ratios of Chapter 6 except as modified or supplemented below.

2. In order to address the deficit of retail uses as well as the potential for tourism in the Route 50 corridor, the County will consider commercial retail and service uses in the Business Community that exceeds

the 10 percent retail maximum recommended in the Business Community policies of Chapter 6. The County will use the following criteria to evaluate proposals for increased retail uses in the Route 50 corridor:

a. The retail use provides the goods and services needed by local employment and residential communities and/or supports the development of tourism in the Route 50 corridor;

b. The retail use is compatible with and can illustrate a coordinated design, transportation connection or other relationship with the surrounding communities that exist or have been approved;

c. The retail use does not access Route 50 directly;

d. The proposal provides appropriate and adequate transportation infrastructure; and

e. The proposal conforms with policies in the Retail Plan.

3. Proposals to rezone properties to provide residential development north of Route 50 will be evaluated according to how the proposed development integrates and supports the surrounding non-residential uses, minimizes conflicts with Dulles Airport operations and noise, provides or has convenient access to residential services and amenities, and mitigates transportation impacts. For Business Community parcels adjoining the noise contours, including those within the Village and Village Perimeter Transition Area, integrated uses shall be encouraged (such as but not limited to using "Main Street," live/work, or office over retail designs). Structured parking is also encouraged. For Business Community parcels with Route 50 frontage, residential rear elevations shall not face Route 50.

4. While the business community policies may allow residential densities to be calculated based on land area impacted by noise contours, and while no residential units may be located in the 65 Ldn or west of the Village of Arcola and the Village Perimeter Transition Area, all residential proposals for the area immediately north of Route 50 will be limited to 14 units per acre on the land area occupied by residential use.

## Industrial Community

Industrial uses north of Route 50 are intended to accommodate the continued expansion of the Chantilly Crushed Stone Quarry as well as attract airport-related and airport-compatible development. The County may support additional commercial retail and services uses within this area when specific criteria are met.

### General Industrial Policies

1. In the Route 50 Corridor, areas designated General Industrial shall be subject to the policies and land use mix ratios of Chapter 6 except as modified or supplemented below.

2. The County will consider additional commercial retail and service uses in General Industrial developments within the Route 50 corridor that exceed the specified land use mix. The County will use the following criteria to evaluate proposals for increased retail uses in General Industrial areas:

a. The retail use provides the goods and services needed by local employment and/or supports the development of tourism in the Route 50 corridor;

b. The retail uses is compatible with the surrounding Industrial communities that exist or have been approved/proposed;

c. The retail uses does not access Route 50 directly;

d. The proposal provides appropriate and adequate transportation infrastructure; and

e. The proposal conforms with policies in the Retail Plan.

3. The County will support industrial uses as the preferred use in designated Industrial Communities. Proposed uses shall ensure that their development does not jeopardize the viability of existing industries.

4. The County will protect the Chantilly Crushed Stone Quarry from incompatible neighboring uses by ensuring that encroaching new development does not hinder the operation of the quarry.

### Hybrid Retail Center Policies

1. The County supports the development of retail uses in Dulles South that provide for convenience and routine shopping needs, generally defined as Service-Based Retail, and also provide some comparative and specialty goods, generally found in Destination Retail centers. A hybrid retail center can be developed north and south of the Route 50 corridor in the area designated Hybrid Retail Center on the Arcola Area/Route 50 Land Use Map. The County anticipates that other uses (such as office, light industrial, and civic uses) will also develop in the area designated for Hybrid Retail centers.

2. The Hybrid Retail Center may provide for convenience goods (such as food, pharmaceuticals), personal services (such as cleaners, banking), and a variety of merchandise (such as apparel, hardware, appliances). The Hybrid Retail center may include variety stores, discount and junior department stores, and off-price stores.

3. Hybrid Retail centers (generally 250,000 to 450,000 sq. ft.) will be permitted to develop fronting the Route 50 parallel roads in the designated area.

4. The County will seek to limit strip retail development in the Route 50 corridor by encouraging the consolidation of CLI properties with other properties to encourage coordinated development with minimal access points.

## Village of Arcola and Village Perimeter Transition Area

The County supports the revitalization of the Village of Arcola and the development of a Village Perimeter Transition Area. The County envisions a mixture of uses in the Village of Arcola and Village Perimeter Transition Area to consist of small scale retail and employment uses (office and light industrial), institutional uses, residential outside of the 65 Ldn noise contour, and public and civic uses.

### Village of Arcola and Village Perimeter Transition Area General Policies

1. The County supports the revitalization of the Village of Arcola, including the development of a Village Perimeter Transition Area surrounding the Village that will protect the Village from larger scale, higher intensity development.

2. The Village of Arcola and Village Perimeter Transition Area will function as an alternative shopping and working environment to the destination retail and large-scale employment uses planned to the east. New development in the Village of Arcola and Village Perimeter Transition Area will be evaluated by its contribution to achieving the following objectives:

   a. A mix of land uses including residential, retail, office, institutional, public facilities, parks, playgrounds and other uses offering goods and services to surrounding neighborhoods;

   b. Preservation and adaptive reuse of existing buildings where such buildings contribute to the historic character of the community;

   c. A pattern of development that emulates the existing Village of Arcola lot pattern with smaller

buildings in the Village of Arcola and larger footprint development locating in the Village Perimeter Transition Area closer to the Business Community areas to the east, buildings oriented to the street encouraging pedestrian activity, and using architectural design, materials, color, signage and lighting to establish and maintain a unified village design concept;

d. A mix of open space to include active, passive and natural open space areas, with particular emphasis on preserving mature vegetation and using features such as floodplains and hedgerows to buffer and separate different uses;

e. A range of community civic uses including churches, community centers, libraries and cultural attractions; and

f. Safe and convenient walkways and streets connecting the Village of Arcola and Village Perimeter Transition Area to the surrounding areas.

3. New development in the Village of Arcola and Village Perimeter Transition Area will be evaluated on its compatibility with surrounding uses, availability of adequate roads, services and infrastructure, relationship to existing cultural and environmental resources, contribution to the land use pattern and conformance with the design objectives.

4. To protect and enhance the character and cultural importance of historically significant areas in the Village of Arcola and the Village Perimeter Transition Area, the County, along with the local community shall work towards the designation of County Historic and Cultural Conservation Districts to protect resources such as the Slave Quarters and the Arcola Methodist Church.

5. Retail and office proposals will combine open and civic space in features such as pedestrian promenades and plazas, public art, entrance features, linear parks and trails, outdoor seating, lawns and greens and similar design features that invite pedestrian activity.

6. For individual uses, landscaped open space will frame pedestrian spaces and walkways, courtyards, front yards and street frontage.

7. The County supports reduced parking standards, shared parking and remote parking in the Village of Arcola and Village Perimeter Transition Area.

## Retail Development Policies

1. Retail development within the Village of Arcola and Village Perimeter Transition Area will establish and maintain a pedestrian scale, walkable shopping experience offering such features as entrances immediately adjacent to sidewalks, pedestrian amenities, outdoor eating areas, screened parking, on-street parking, parks and playgrounds and a variety of impulse, specialty outlets and services.

2. Retail uses requiring building footprints larger than 10,000 square feet should locate outside the Village of Arcola, but may locate within the Village Perimeter Transition Area when such uses are similar in scale to adjacent uses or sufficiently buffered from adjacent uses to screen the difference in scale or design. Buildings requiring heights greater than three stories should locate outside of the Village of Arcola and Village Perimeter Transition Area.

3. Retail buildings within the Village of Arcola and Village Perimeter Transition Area will use architectural features, materials, color, building scale, landscaping and other means to create a common design theme within the Village of Arcola and Village Perimeter Transition Area and will reduce the potential impact of building size, exterior cladding of the building, signs, parking and other features. Pedestrian and vehicular circulation systems in and around the retail uses will form a safe and convenient network. Outdoor lighting and signs will be small and low profile to reflect the pedestrian

nature of the community.

4. Retail buildings offering residential or office uses on upper floors are encouraged in the Village of Arcola and Village Perimeter Transition Area. Second story uses shall not be credited against density limits for planning purposes.

5. New automobile-oriented retail uses such as building supply, nursery operations, auto dealers, truck terminals, warehousing, service stations, furniture stores, drive-through restaurants and drive-through banks will not be permitted in the Village of Arcola or Village Perimeter Transition Area.

6. Where possible, and in coordination with VDOT, the County will credit on-street parking adjacent to a commercial use towards meeting parking requirements in the Village of Arcola or Village Perimeter Transition Area.

7. To maintain the integrity of an established streetscape or lot pattern and to minimize parking lot frontage along streets within the Village of Arcola or Village Perimeter Transition Area, parking lots more than 70 feet wide will be placed to the rear of buildings or will be separated from the street by a landscaped park/buffer designed to function as a public space.

## Employment Use Policies

1. Office and flex industrial uses requiring building footprints larger than 10,000 square feet should locate outside the Village of Arcola, but may locate within the Village Perimeter Transition Area when such uses are similar in scale to adjacent uses. Buildings requiring heights greater than three stories should locate outside of the Village of Arcola and Village Perimeter Transition Area.

2. In evaluating proposed employment uses, the following will be considered:

    a. The compatibility of the proposal with adjacent uses in terms of scale, operational activities (parking, loading, noise, odor…), signs, and other associated features;

    b. The available capacity of utilities and roads and safe and convenient pedestrian linkages to residential and retail uses in the Village;

    c. The potential fiscal and environmental impacts of the proposal;

    d. The relationship of the proposed use to land use and design policies; and

    e. Other matters that may determine how the proposal relates to County policy.

3. Two and three story buildings, particularly those that provide a mixture of uses, are encouraged in the Village of Arcola and Village Perimeter Transition Area.

## Residential Development Policies

1. The County may permit residential rezoning at densities up to 4.0 dwelling units per acre in the Village of Arcola and Village Perimeter Transition Area depending upon the availability of utilities, transportation infrastructure, public facilities, participation in open-space preservation efforts, and compatibility with surrounding uses. All residential proposals will offer convenient and safe access to surrounding recreation, retail and employment uses.

2. Residential development above first floor retail or employment uses is strongly encouraged in the Village of Arcola and Village Perimeter Transition Area and shall not be calculated towards the planned residential density of a project.

3. The County supports residential uses at a maximum of three stories in height.

## Unmet Housing Needs

1. The County encourages a variety of housing types and innovative designs to be developed in mixed-use communities to assist fulfilling unmet housing needs.

2. The County will identify options for unmet housing needs not covered by the ADU zoning ordinance and work toward an implementation plan.

3. Developers of residential and mixed-use projects are encouraged to include proffers to fulfill unmet housing needs in their development proposals.

4. The County will explore options for the creation of programs, tools and incentives both publicly and privately developed that will fulfill unmet housing needs.

5. The County will examine the authority to establish and use the benefits of Housing Trust Funds to help fulfill unmet housing needs.

6. The County will encourage public and private initiatives to provide increased housing opportunities for residents and the local workforce. Both programmatic and design approaches will be encouraged in all projects to fulfill unmet housing needs.

7. Unmet housing policies will apply until such times as the Board adopts additional housing policy.

# Route 28 Corridor Plan

## Introduction

The *Route 28 Corridor Plan* is the result of an issues-driven, results-oriented process with significant emphasis on community involvement. Policies in the Plan build upon the significant amount of data and public input gathered through the various Route 28 corridor activities and initiatives since January 2008 These efforts included public input sessions, interviews, targeted questionnaires, and research to develop several reports, including the Route 28 Business Outreach Results Report; Belfort Park Task Force Final Report; the Route 28 Tax District Existing Conditions Report; and the Route 28 Corridor Analysis of Development Potential for Class A Office Space[1]. The following policy language and associated maps will be added to the *Revised General Plan* as a specific plan for the Route 28 Corridor. Other policies of the Comprehensive Plan will apply as appropriate.

The County envisions the Route 28 Corridor as an airport-anchored gateway into Loudoun County offering a positive and welcoming business environment that supports significant job growth and economic activity in varied settings. The County also envisions the corridor evolving into a premier location for regional, national, and international businesses with a high-quality image that offers employees vibrant centers of activity and highly-integrated pedestrian and transit-friendly employment developments. This vision reinforces the County's commitment to the continued commercial growth of the corridor that in turn contributes to the overall fiscal health and economy of the County.

The Economic, Land Use, Transportation, Housing, Design, and Sustainable Development policies contained in the plan are intended to provide a framework for future development that reflects five vision statements derived from the public process.

1. The Route 28 Corridor is an employment-based corridor that offers broad employment opportunities. The Corridor promotes a consistent pattern of development adjacent to Route 28 with higher-density office development and mixed-use activity centers. Residential densities are supportive and subordinate to employment densities within Mixed-Use Office Centers and in locations that can induce greater business activity;

2. The form and design of the Route 28 Corridor will be critical in promoting the County's vision of a high-quality office and commercial corridor that achieves higher office densities, attracts regional, national, and international businesses, and provides a unified development pattern throughout the corridor. "Places" or centers of activity offering office and office-supportive amenities along with public and civic uses will give the corridor a community identity;

3. The Route 28 Corridor takes advantage of its proximity to Washington Dulles International Airport by attracting new aviation and airport-ancillary businesses to the corridor and supporting the expansion of existing airport-related businesses in appropriate areas. The airport's location on the southern end of the Corridor also generates demand for office space from businesses that want to locate close to an international airport as well as hotels, restaurants, and retail centers that cater to business travelers and tourists;

4. The Route 28 Corridor promotes multi-modal connectivity, including transit, with the existing and planned transportation infrastructure; and

5. The Route 28 Corridor encourages sustainable development practices.

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[1] All CPAM- related materials, including source documents, can be found in the Loudoun County Department of Planning public files.

The Route 28 Corridor boundaries include properties that are generally bordered by Broad Run and Loudoun County Parkway to the west, Dulles Airport and Fairfax County to the south, Cascades Parkway, Potomac View Road, and the W&OD Trail to the east, and Route 7 and Bles Park to the north. The Route 28 Corridor Boundary Map shows the actual boundaries of the Route 28 Corridor. The properties contained within these boundaries are subject to the policies contained within the *Route 28 Corridor Plan*. These policies are described below.

## Economic

The County can attract greater commercial development, including high-quality office, to the Route 28 Corridor based on several advantages:

- Approximately 3,100 acres of undeveloped land within the corridor;
- High visibility and accessibility for properties adjacent to or within proximity of Route 28;
- Proximity to an improved highway, air transport, and a future mass transit network for cost-efficient and timely distribution of goods and services, employee mobility, and greater workforce commuting options;
- Direct access to the world through ample fiber lines at MAE-East and international flights at Washington Dulles International Airport;
- Close proximity to the intelligence and surveillance hub along the Route 28 South Corridor and a host of neighboring peer organizations such as Orbital Sciences, Raytheon, AOL, M.C. Dean and others;
- Availability of properties suitable for custom campus and secure office developments that can accommodate security needs and/or combined office, research and manufacturing operations; and
- Proximity to a highly-educated, diverse workforce.

The *Route 28 Corridor Plan* policies maximize the commercial development potential within the Route 28 Corridor by building on these strengths: offering planned land uses within locations that reflect the full economic potential of properties, and providing office development options within employment settings that reflect the kind of environments sought by business users. *Route 28 Corridor Plan* policies also support economic development in the corridor by accelerating the timing and absorption of office into the Route 28 Corridor submarket. Lastly, the *Route 28 Corridor Plan* promotes the growth of the commercial tax base; improving the revenue balance between commercial and residential, offsetting the greater costs of services for residential development, helping to meet or exceed the ability of the County to pay Route 28 Tax District bonds, and relieving the tax pressure on County residents by maintaining an affordable real property tax rate.

The policies contained within the plan are also intended to meet the key demands for development associated with the County's Board-adopted targeted Industry Clusters - Federal Government Contracting, Defense and Aerospace, and Information Communications Technology, as well as the emerging International Business cluster. While these businesses are currently recruited based on a cluster strategy which uses the County's existing business assets, the plan's policies establish a long-term vision for the corridor that will solidify Loudoun's corporate image and help expand the presence of these industries into the future. The plan also protects and encourages several critical features of high-end, corporate environments consistently sought by these types of industries. Specifically, the plan provides highly visible locations for high-quality office development, including custom campus headquarters and mid-to-high-

density office, and multi-use office buildings within mixed-use environments. Route 28 development patterns encourage the highest-density office space fronting along both sides of Route 28 supported by lower-density Office and Flex uses that support information technology, research-and-development, and high-end manufacturing behind the "wall" of mid- to high density, high quality office.

The *Revised General Plan* policies anticipate the continued growth and expansion of Washington Dulles International Airport for both passengers and cargo and seek to maximize the economic opportunities created by the airport. The *Route 28 Corridor Plan* policies continue to recognize Washington Dulles International Airport as a 21st Century multi-modal transportation hub that attracts airport-linked and ancillary businesses to the corridor and provides a gateway to the world. Airport-linked businesses include those businesses which rely significantly on the airport's passenger and cargo capacity, including businesses which depend on frequent long-distance travel and businesses involved with air-surface cargo warehousing and distribution. Airport-ancillary businesses include retail, hotels, and restaurants that support the growing airport-linked businesses moving to the corridor, along with national and international businesses who locate near the corridor due to its high-quality image and accessibility to the region's transportation network.

By clustering industrial and flex along Route 606, the County continues to support high-end manufacturing and distribution logistics, including air-surface cargo distribution, and other ancillary businesses, with the opportunity to capture even more airport-linked businesses in addition to those already emerging. The *Route 28 Corridor Plan* also encourages legacy industrial users currently along Route 28 to relocate to the more appropriate Route 606 area, which will in-turn establish a competitive, corporate gateway into Loudoun along Route 28, and strengthen and protect the identities of both Route 28 and Route 606 in future decades.

## Economic Policies

1. To evolve the corridor into a premier location and employment destination for regional, national, and international businesses, including the County's targeted Industry Clusters, properties that offer high visibility and accessibility to Route 28 shall have mid to high-density office.

2. The highest density office shall occur in areas fronting along Route 28.

3. Office developments within mixed-use settings shall be supported within the corridor to create "places", or centers of activity, that offer a complete set of uses and amenities that will appeal to office tenants, visitors, and residents alike.

4. New residential shall be concentrated and supportive to office within three high-density Mixed-Use Office Center development envelopes that are strategically located within areas where there is the highest potential to capture high-quality and high-density Office, thereby catalyzing the office development potential of sites and their vicinities while having an overall positive impact to the County's Route 28 Tax District debt obligations.

5. The County shall target industrial and flex businesses, including distribution logistics, to locate to the planned Industrial area in the vicinity of Route 606 where properties offer more immediate access to the airport, Route 28, and the regional surface transportation-network.

6. Legacy industrial users currently along Route 28 are encouraged to relocate to planned Industrial areas.

7. A multi-modal transportation network, including transit, within the corridor will move employees, visitors, and residents seamlessly between various modes of transport.

8. The County supports the planned development and growth of Washington Dulles International Airport and will coordinate county planning with airport planning to ensure that the health and growth of the airport and corridor economies are mutually supportive. All new development shall consider and sufficiently mitigate potential impacts to the airport, such as transportation congestion, environmental impacts, and conflicting land uses.

## Land Use

The County envisions the Route 28 Corridor as a major economic and employment center with predominantly commercial development within distinct land development patterns. Office development options are intended to meet the individual needs of regional, national, and international businesses that reflect evolving market preferences and potential. The development options range from suburban, lower-density office settings to medium-density, compact, pedestrian-oriented office clusters and higher-density, transit-oriented mixed-use office centers. Other parts of the corridor more immediate to Washington Dulles International Airport and Route 606 west of Route 28 are planned for Industrial uses.

Office employment in the Route 28 Corridor is planned within the Route 28 Business area, which supports Office and Flex uses, as well as a Route 28 Core area where two types of office employment shall be developed: Office Clusters and Mixed-Use Office Centers. These land development use patterns are defined by the overall form and character of development, as well as their recommended land use mixes and intensities. Land use planning encourages higher intensity office employment uses immediately adjacent to Route 28 (generally between the parallel roads of Pacific Boulevard and Atlantic Boulevard/Shaw Road/Glenn Drive). The County may consider higher density office development adjacent to the east side of Atlantic Boulevard/Shaw Road/Glenn Drive and the west side of Pacific Boulevard as part of an integrated Office Cluster development or Mixed-Use Office Center. Flexible development options are offered elsewhere in the corridor. To catalyze office development at key locations and their surrounding areas, the development options allow three high intensity mixed-use areas to develop under certain criteria (as discussed below) that shall serve as centers of activity along the corridor. A broad range of supportive uses shall be permitted and encouraged as appropriate, such as residential, hotels and retail. To support Loudoun's industry clusters related to Federal Government Contracting, Defense and Aerospace, Information Communications and Technology, and other emerging industry clusters, the corridor shall offer unique opportunities for businesses to develop customized hybrid campuses that include combinations of office, research-and-development, and manufacturing in one development setting.

The County also will carefully consider compatibility in uses, densities, and site design of new developments with existing uses, specifically the Washington Dulles International Airport, the Loudoun Quarry, Loudoun Water's Broad Run Water Reclamation Facility and existing and planned residential neighborhoods, during the land development process. Any potential negative impacts from new developments shall be mitigated and compatible transitioning should be demonstrated. The corridor shall include a distinctive identity through the use of landmark projects as well as high quality landscaping, architecture, signage, sustainability and other design elements that will set it apart from competing areas. The County's plan for the Route 28 Corridor is intended to stimulate the development of high-quality employment settings and transform the corridor into one of greater density, a synergistic mix of uses, more pedestrian and transit friendliness, and sustainability in design and function.

### General Policies

1. The Route 28 Corridor is a premier business corridor with an organized pattern of development. All land development within the corridor shall conform to the Route 28 Corridor Land Development Patterns Map and the related plan policies contained herein.

2. The County supports the continued growth of higher education and research-and-development uses within the Route 28 Corridor that are complementary and compatible with the employment character of the corridor.

3. Any large-scale Public and Civic uses located within the Route 28 Core should be well-integrated within a development and enhance economic development potential.

4. All new development within the Route 28 Corridor shall mitigate any potential negative impacts to Washington Dulles International Airport, Loudoun Quarry, Loudoun Water's Broad Run Water Reclamation Facility, and existing and planned residential neighborhoods. Compatible transitions to these uses may be appropriate through a combination of use, intensity, scale and/or building heights, and setbacks.

5. Higher Floor Area Ratios (FARs) and minimum number of stories shall ensure that land situated along Route 28 will build to its full potential, though the overall density of a project may be reduced based on environmental considerations, compatibility with surrounding uses and business requirements, and to further other planning objectives. The resulting development pattern should conform to the goal of locating the highest intensities closest to Route 28 and within ¼ mile of planned transit (bus or rail) stations.

6. With the exception of Mixed-Use Office Centers, all office land use categories provide flexibility for office campuses that include combinations of office, research-and-development, and manufacturing, provided that the project fully meets the design guidelines of this Plan.

7. The Route 28 parallel roads of Atlantic Boulevard/Shaw Road/Glenn Drive and Pacific Boulevard function as the “spines” of development in the corridor, as shown on the Land Development Patterns Map contained herein. Therefore, the County may consider higher density office development adjacent to the east side of Atlantic Boulevard/Shaw Road/Glenn Drive and the west side of Pacific Boulevard as part of an integrated Office Cluster development or Mixed-Use Office Center. Consolidation of land or parcels should occur on both sides of these roadways such that the overall development results in well-designed, high-quality uses that are functionally and visually integrated with a pedestrian-oriented streetscape that includes safe and pedestrian-friendly movement across Atlantic Boulevard/Shaw Road/Glenn Drive and Pacific Boulevard. Appropriate transitions in density from the Route 28 Core to the Route 28 Business areas should be provided within areas near existing and planned residential neighborhoods.

8. Any land development proposal located within Office Cluster or Mixed-Use Office Center areas, that includes land adjacent to the east side of Atlantic Boulevard/Shaw Road/Glenn Drive and the west side of Pacific Boulevard, may have flexibility in the internal allocation of densities such that internal areas may exceed the recommended maximum FAR provided: a.) the overall density and site design remains in conformance with plan policies, b.) the proposal is a single, fully integrated project, c.) the resulting development pattern conforms to the goal of locating the highest intensities closest to Route 28 and within ¼ mile of planned transit stops, and d.) the internal allocation of densities does not create situations where developable land is underutilized. Such proposals shall be considered on a case-by-case basis, with special consideration given to environmental and physical constraints.

9. Residential development shall continue to be located outside the adopted Ldn 65+ (day/night average noise level) noise contours for Washington Dulles International Airport.

10. Residential development within the Route 28 Tax District shall be limited to three Mixed-Use Office Centers, the Urban Center, and Residential and High Density Residential areas included in the Land Development Patterns Map. Policies for the Mixed-Use Office Centers are contained herein. Policies

for Residential, High Density Residential, and the Urban Center are located in Chapter 6 of the *Revised General Plan*.

11. Destination retail uses will be limited to the parcels bounded by Potomac View Road to the east, Cascades Parkway to the west, and Route 7 to the north as identified on the *Countywide Retail Policy Plan Amendment* map for Route 7. Policies guiding destination retail development can be found in the *Countywide Retail Policy Plan Amendment*.

12. Flex uses are supported in the Route 28 Corridor. Flex uses include laboratory, data centers, and training facilities in combination with office and research and development. Supportive Retail and Commercial uses over 10% shall be limited to showrooms associated with the predominant use.

13. Flex and Light Industrial uses are supported within planned Industrial areas in conformance with the Land Development Patterns Map.

14. The County encourages the consolidation of existing smaller properties in order to create more unified development within the Route 28 Corridor. The advantages of consolidated development include comprehensive urban design, uniform architectural treatment, controlled access, more efficient parking and landscaping, and environmental protection. Consolidation of land or parcels should occur such that the development results in well-designed, high-quality uses that are sensitive to, and functionally and visually integrated with, planned and existing developments both within and adjacent to the corridor.

15. All development proposals shall conform to a generally rectilinear grid system of streets. Development proposals adjacent to vacant or underutilized land shall include opportunities for connectivity and demonstrate coordinated site design.

16. All development within the Route 28 Corridor shall comply with the base design standards contained in this Plan. Office Clusters and Mixed-Use Office Centers shall comply with the applicable base design standards contained in the Plan regarding site design, street and block, streetscape, building form, parking, parks and open spaces, public and civic uses, landscaping, and signage that ensure high-quality design. All developments should contribute to the aesthetics of the corridor.

17. The County supports the development of a Public/Civic Facilities Plan specific to the corridor that includes the identification and location of planned public facilities, including parks and open spaces, and civic uses unique to the corridor and at a scale that is compatible with planned development.

18. For the purposes of the *Route 28 Corridor Plan*, the definition of Parks and Open Spaces and Civic and Public uses are as follows:

    *Parks & Open Spaces* - Outdoor areas that are dedicated for public use such as athletic fields and courts, parks, greens, squares, plazas, courtyards, forecourts, and playgrounds. These spaces shall be integrated purposefully into the overall design of the development and not merely be residual areas left over after buildings and parking lots are sited. Parks and Open Spaces include open spaces in their "natural" state, such as forests, wetlands, or meadows; trails and trail connections, along with active and passive recreational spaces. The preservation of environmentally fragile and valuable land and habitat shall be given a priority. Parks and Open Spaces also include greens, squares, plazas, forecourts, and courtyards, which should be designed as appealing places that foster social interactions and are designed to hold short-term informal activities and programmed events.

    *Civic Use* - A single-use or shared building operated by a nonprofit group or organization, exclusive of government, that is dedicated to social, recreational, religious, educational, or charitable services. A single-use building or shared building operated for-profit for public assembly may be considered as a civic use on a case-by-case basis.

*Public Use* - Any building or structure, accessible to the general public, and held, used or controlled exclusively for public purposes by any department or branch of the federal, state, or Loudoun County government, such as post offices, motor vehicle departments, general government support offices, libraries, community centers, recreation centers, sheriff substations, fire and rescue stations, etc.

19. The County encourages partnerships among multiple developments to contribute toward significant, meaningful, shared Parks and Open Spaces and Public and Civic uses that shall serve multiple areas within the corridor. Such a contribution may count towards a project's required Parks and Open Spaces and Public and Civic use components.

20. The County encourages innovative and sustainable design to meet a project's Parks and Open Spaces requirements, such as terraces, forecourts, promenades, enhanced entrance features, bioswales, rain gardens, and green roofs and walls. Green roofs that are proposed to meet a project's Parks and Open Spaces requirement must be accessible to the general public, or at a minimum, to all residents and employees of the building or development. Projects shall include a variety of open space types.

21. The following policies apply to all land development in the southeast quadrant of the corridor (generally south of Route 606 and east of Route 28) to reflect its proximity to Washington Dulles International Airport, Fairfax County and the Town of Herndon:

    a. All land development proposals in this area shall be functionally and visually integrated with the adjacent transit station area planned in Fairfax County surrounding the Route 28/CIT metro station. All land uses shall be compatible with those existing and planned for Washington Dulles International Airport, Fairfax County and the Town of Herndon.

    b. All development proposals shall provide coordinated roads, sidewalks, bike paths, and trails that provide linkages within Loudoun County to adjacent areas within Fairfax County and the Town of Herndon, in particular the Route 28/CIT metro station.

    c. A network of streets shall be implemented to connect future development in Loudoun County to adjacent future and existing development in Fairfax County, including a grid street pattern surrounding the Route 28/CIT transit station. The grid should create a hierarchy of streets and multiple access points to higher capacity roads intended to handle the traffic.

22. The County encourages Route 28 Tax District landowners in the corridor to rezone to appropriate zoning districts in the revised zoning ordinance that are consistent with the County's overall land use vision.

23. The County supports mechanisms and incentives that extend public utilities, where absent, within the corridor.

24. The County supports a project's ability to receive an increased FAR when commitments are given that support the policies of the *Route 28 Corridor Plan*. These commitments can include, but not be limited to, exceeding the minimum number of unmet housing needs units, lot consolidation of existing smaller properties for a more unified development pattern, green building design, and structured parking at full build-out.

## Route 28 Core Policies

The *Route 28 Corridor Plan* identifies areas adjacent to Route 28 for high-quality, high intensity office developments that take advantage of the economic opportunities associated with frontage on Route 28. The Route 28 Core is generally bounded by Pacific Boulevard and the Broad Run floodplain to the west and Atlantic Boulevard/Shaw Road/Glenn Drive to the east. The County supports the development of Office Clusters within the Core. To stimulate economic activity along the corridor, up to three mixed-use office

developments can be developed within this area in conformance with the Mixed-Use Office Center policies of this Plan.

## General Policies

1. The Route 28 Core supports development within an Office Cluster or a Mixed-Use Office Center per the policies of this Plan.

2. The County may consider custom campuses that include combinations of office, research-and-development, and manufacturing uses within the Route 28 Core provided the predominant use in the proposed development remains office or research-and-development and the proposal conforms to the applicable base design standards.

3. With the exception of Destination, Full-Service Hotels, all new Commercial Retail and Service uses within the Core immediately adjacent to Route 28 shall be incorporated within mixed-use buildings.

4. Hotels within the core should include mid-priced, upscale, and/or luxury full-service hotels. All of these should provide at a minimum restaurant, lounge facilities, meeting space, room service and bell service.

5. Destination, full-service hotels are encouraged in the corridor and are defined as multi-story, large-scale hotels with a minimum of 200 rooms that are targeted to business and/or leisure travelers and include large meeting facilities of 10,000 square feet or greater or are combined with a convention center, and contain high-quality services and extensive amenities, including one or more restaurants, bell and valet service, room service, concierge service, 24-hour front-desk service, business services, spa service, fitness center and recreational/entertainment facilities.

6. With its proximity to Washington Dulles International Airport and as a gateway into Loudoun County, the County supports a higher concentration of destination, full-service hotels south of Sterling Boulevard.

7. Office Cluster or Mixed-Use Office Center proposals shall comply with the following criteria:

    a. Is consistent with the intent and purpose of the Route 28 Corridor policies and base design standards contained herein.

    b. Supports the orderly and coordinated development of its surroundings by providing appropriate connections, landscaping and opportunities for integration of the adjacent properties, through design and street connectivity.

    c. Mitigates any adverse impacts to the built and natural environment.

    d. Achieves adherence to the base design standards within the *Route 28 Corridor Plan*.

    e. Complies with the sustainable development and unmet housing needs policies of the *Route 28 Corridor Plan*.

## Office Cluster Policies

Office Clusters are defined as medium and high-density compact, pedestrian-oriented office developments with highly integrated office-supportive amenities including retail, restaurants, hotels, personal services, parks and open spaces, public and civic uses, and both surface and structured parking at full build-out. They do not permit a residential component.

1. Premier, highly-visible Office Clusters adjacent to Route 28 are supported in areas depicted on the Route 28 Corridor Land Development Patterns Map as Route 28 Core. Office within an Office Cluster is defined as high-quality office buildings containing four or more stories and located within areas that provide significant visibility and proximity to heavily traveled roadways.

2. A minimum of five stories is recommended for office buildings immediately adjacent to Route 28.

3. The County encourages a mix of highly-integrated uses and employment supportive uses, including Commercial Retail and Services uses, within Office Clusters. No residential development shall be permitted.

4. Vertically-mixed buildings, such as multi-story office buildings with commercial storefronts on the ground level, are encouraged within Office Clusters.

5. Single-story retail uses are permitted in Office Clusters provided they are integrated within the development and provide pedestrian accessibility.

6. Secure office and research-and-development campuses shall be permitted within areas designated as Office Clusters contingent on general compliance with the base design standards contained herein. For secure campuses, deviations from the applicable base design standards may be considered on case-by-case basis in order to accommodate security elements, for example greater building setbacks, secured perimeters, controlled site access, etc. The land use mix in an Office Cluster, based on square footage by use category, shall substantially comply with the following ratios:

| **Land Use Category*** | **Minimum Square Footage Required** | **Maximum Square Footage Permitted** |
|---|---|---|
| Office | 60% | 100% |
| Commercial Retail & Services* | 0% | 10% |
| Flex | 0% | 10% |
| Public & Civic** | 0% | 15% |

* For retail policies, see *Countywide Retail Policy Plan Amendment*

** When Public and Civic buildings are proposed, the percentage square footage of the use may count towards meeting the minimum 15% requirement as described in Policy 7

7. All Office Clusters shall include a combination of Parks and Open Spaces and Public and Civic uses consisting of a minimum of 15% of the land area of the site. All such uses shall be meaningful and appropriate to the scale, setting and location of the development. All Parks and Open Spaces and Public and Civic uses shall conform to the base design standards contained herein.

8. Subject to a County-approved Public/Civic Facilities Plan, which includes Parks and Open Spaces, up to one-third of the required Parks and Open Spaces and Public and Civic uses may be waived if contributions in the form of cash-in-lieu are provided toward such uses off-site and within the Route 28 Corridor.

9. To support adjacent and surrounding office developments, destination, full-service hotels proposed south of Sterling Boulevard may exceed the recommended 10% Commercial Retail and Services and lower FAR's may be allowed.

10. Non-residential FARs between 0.6 and 1.0 FAR are envisioned in Office Clusters within the Route 28 Core contingent upon the availability of adequate transportation improvements.

## Mixed-Use Office Center Policies

The County's vision includes Mixed-Use Office Centers within development envelopes located in the northern and southern ends of the corridor to promote the County's image as a world-class business destination. A third Mixed-Use Office Center development envelope is envisioned in the central portion of the corridor. These live-work centers shall have higher intensities and a greater variety of uses than other areas of the corridor, including multi-family residential, to support a diversity of residents and workers, transit, and retail, entertainment, and recreational activities that promote vibrant 24/7 activity during morning and evening hours when employees are typically absent. Full-service and high-end limited service hotels, meeting places, destination attractions, culture, and entertainment that offer greater weekend and nighttime activity for office and Washington Dulles International Airport employees are encouraged. The mix of uses shall allow for the creation of vibrant, activity-rich centers that shall attract office tenants and a broad spectrum of residents and employees to the corridor and create unique "places" that are amenities for the entire corridor and its surrounding areas. Public and civic areas are to be provided as part of Mixed-Use Office Centers.

Within each Center, a high quality working and living environment shall be created through well-designed projects. A range of residential dwelling units that help fulfill the County's unmet housing needs shall be a vital element in these areas to ensure that affordable housing options shall be located close to employment opportunities and transit. The phased density of these Centers may be higher than other areas within the Route 28 Corridor in order to provide a well-designed urban pattern of residential and non-residential uses with the "critical mass" needed to support employment and mass transit.

1. The Plan foresees the development of up to three premier, high-intensity, Mixed-Use Office Centers, each located within the development envelopes depicted on the Route 28 Corridor Land Development Patterns Map. Office within a Mixed-Use Office Center is defined as high-quality office buildings containing seven or more stories and located within areas that provide high visibility, proximity to Route 28, accessibility from major roadways, and accessible, multi-modal transportation options.

2. Mixed-Use Office Centers shall consist of a core development located within the development envelopes depicted on the Land Development Patterns Map, be at least 50, but no more than 90, buildable acres in size and shall substantially comply with the land use mix ratios indicated in Policy 18. The County may consider proposals under 50 acres on a case-by-case basis that meet the intent of the Mixed-Use Office Center policies.

3. Additions to Mixed-Use Office Centers may be considered by the County on a case-by-case basis. The proposed addition shall:

    (i) be adjacent to and contiguous with the core development,

    (ii) provide an integrated development plan both internal and with the core development achieved through roadway, pedestrian and bicycle connections as well as a consistent streetscape,

    (iii) conform to the base design standards for Mixed-Use Office Centers contained herein, and

    (iv) shall not cause the aggregate acreage of the center to exceed 90 acres in size.

4. Proposed additions to the Mixed-Use Office Center core development may vary from the land use mix provided the aggregate Mixed-Use Office Center acreage still complies with the recommended land use mix ratios in Policy 18.

5. While the County may consider higher density development adjacent to the east side of Atlantic Boulevard/Shaw Road/Glenn Drive and the west side of Pacific Boulevard as part of an integrated Mixed-Use Office Center, the County will not support a Mixed-Use Office Center proposal that extends beyond the northern and southern boundaries of the Mixed-Use Office Center development envelopes.

6. As a major, limited access highway, Route 28 is an impediment to Mixed-Use Office Center integration and the highway shall always act as an edge when centers are proposed adjacent to the highway. As such, Mixed-Use Office Centers shall be limited to either the east or the west side of Route 28.

7. Mixed-Use Office Centers shall be developed as 24/7 amenity-rich environments unique to the corridor that appeal to a broad spectrum of employees, business tenants, and residents. A mix of mutually supportive uses shall be provided in these Centers, including business, retail, restaurants, personal services, hotels, for-sale and rental housing, civic, public, cultural, and entertainment. They shall serve as centers of activity along the corridor.

8. Mixed-Use Office Centers shall develop as vertically integrated mixed-use buildings, such as multi-story office and residential buildings with commercial storefronts at ground level. Individual residential buildings are allowed if they are well-integrated into the design of the center and conform to the Route 28 Corridor base design standards for Mixed-Use Office Centers. The Centers shall have the distinctive characteristics of an urban environment with pedestrian-oriented building facades, ground-floor shops and civic amenities, and streets culminating in distinctive public spaces. Pedestrian circulation shall be enhanced by short blocks arranged in a rectilinear grid-street pattern.

9. Single-story retail buildings conflict with the compact, pedestrian-oriented nature of these developments, are not appropriate, and should not be permitted greater than 2,000 square feet.

10. Any drive-through retail uses shall be incorporated within mixed-use buildings.

11. Residential dwellings within Mixed-Use Office Centers shall be high-density, multi-family and meet the housing policies of this Plan. The County expects the development of multi-family housing at a variety of price points for rent and for purchase.

12. Mixed-Use Office Centers shall provide for a safe, accessible, and pedestrian-friendly environment. Pedestrian and bicycle access shall be provided to transit stops/stations and neighborhoods adjacent to the area. Any potential conflicts between non-pedestrian and pedestrian circulation are to be resolved in favor of the pedestrian right-of-way.

13. Within the Centers, the highest concentration of development should be within a ¼ mile of existing, proposed, and/or planned transit stops/stations. The mix of uses at the highest concentration of development should create a critical mass of pedestrian activity as people live, work and spend leisure time in this area.

14. Major access roads shall be located on or near the periphery of Mixed-Use Office Centers to avoid conflict with pedestrian traffic.

15. Parking within Mixed-Use Office Centers at full build-out should consist primarily of structured parking. Surface parking should be avoided except for on-street parking and as needed on an interim basis in the early phases of development.

16. Given the potential for the highest intensities and the greatest mixture of uses, each land development application proposing a Mixed-Use Office Center shall analyze and effectively mitigate potential

fiscal, transportation, capital facility, housing, and environmental impacts. The following criteria shall be used to evaluate Mixed-Use Office Center proposals:

a. New residential uses shall be contingent on the prior or concurrent construction of office uses such that office uses are the predominant use(s) on the property during each phase of the development;

b. The provision of a unified, coherent concept plan showing the type and scale of uses, densities, and the physical and functional integration of proposed land uses in all phases of development, including specific plans and commitments for transit station(s) that shall connect to existing and planned transit service along Route 28, and the Dulles Greenway and future connections to adjacent parcels;

c. The availability of appropriate multi-modal transportation improvements, including pedestrian and bicycle travelways;

d. The provision of utilities, public services and facilities such as schools, fire and rescue, sheriff, and recreational facilities;

e. The pedestrian-scaled, mixed use character of the area shall be established, commencing in the initial phase of development. The initial phase should include a grid street pattern, vertically-integrated land uses with ground-floor retail and other pedestrian activity-generating uses located along the street, plazas and usable open space, etc.; and

f. Commitments to address the County's unmet housing needs.

17. Approval of future development applications seeking to implement a Mixed Uses Office Center in the central portion of the Route 28 corridor, will be dependent on completion of the parallel road network to the currently congested Waxpool Road corridor, and such development applications will not exacerbate congestion in the Waxpool corridor and will provide transportation enhancements such as completion of the planned road network, including multi-modal and transportation demand management (TDM) solutions.

18. The land use mix in a Mixed-Use Office Center, based on square footage by use category, shall substantially comply with the following ratios:

| **Land Use Category*** | **Minimum Square Footage Required** | **Maximum Square Footage Permitted** |
|---|---|---|
| Office | 55% | 70% |
| Commercial Retail & Services* | 10% | 20% |
| High Density Residential | 15% | 25% |
| Public & Civic** | 5% | No Maximum |

* For retail policies, see *Countywide Retail Policy Plan Amendment*

** At least 2% of the Public and Civic square footage shall be provided on-site.

19. Mixed-Use Office Centers that propose Destination, Full-Service Hotels may exceed the maximum 20% Commercial Retail and Services.

20. All Mixed-Use Office Centers shall include Parks and Open Spaces consisting of a minimum of 10% of the land area of the site.

21. Subject to a County-approved Public/Civic Facilities Plan, which includes Parks and Open Spaces, up to half of the required Parks and Open Spaces and three-fifths of the required Public and Civic uses may be waived if contributions in the form of cash-in-lieu are provided toward such uses off-site and within the Route 28 Corridor. Contributions would be in addition to the anticipated Capital Facilities contributions associated with the Mixed-Use Office Center.

22. All Public and Civic uses and Parks and Open Spaces shall conform to the base design standards contained herein.

23. The County anticipates a maximum residential and non-residential FAR of 1.0 and up to 1.5 with incentives for Mixed-Use Office Centers within the northern and central Mixed-Use Office Center areas and a maximum residential and non-residential FAR of 1.5 and up to 2.0 with incentives for the southern Mixed-Use Office Center area.

## Route 28 Business Policies

The Route 28 Business area, as depicted on the Route 28 Corridor Land Development Patterns Map, reserves land outside the Route 28 Core for low to mid-density Office and Flex uses. Office settings allow for a limited amount of internally-oriented office-supportive uses and amenities. Within Flex settings, buildings contain spaces that can be configured to allow a flexible amount of office or showroom space in combination with research-and-development, laboratory, high-tech, and warehousing uses. Flex uses also include Data Centers. The overall intensity of these areas should generally be lower than Office Clusters and Mixed-Use Office Centers. Office and Flex developments are anticipated to include a combination of well-integrated Parks and Open Spaces and Public and Civic Uses.

1. The Route 28 Business area supports up to 100% Office and Flex uses with supportive Commercial Retail and Services limited to 10% of the floor area.

2. The County supports and encourages the development of secure office campuses and research-and-development uses within the Route 28 Business area.

3. No additional residential development shall be permitted within the Route 28 Business area outside those areas specified in Land Use General Policy 10.

4. Typical buildings within the Route 28 Business area shall contain two or more stories. The County encourages higher intensities, generally four or more story buildings, adjacent to major roadways such as George Washington Boulevard, Russell Branch Parkway, Waxpool/Church Road (Route 625), Loudoun County Parkway, Moran Road, Sterling Boulevard, Route 7, and Route 606 east of Route 28. Flex uses shall not be permitted adjacent to these roadways.

5. Route 28 Business prohibits the outside storage of materials and equipment.

6. All developments within the Route 28 Business area shall include a combination of Parks and Open Spaces and Public and Civic uses consisting of a minimum of 15% of the land area of the site. All such uses shall be meaningful and appropriate to the scale, setting and location of the development and shall conform to the base design standards contained herein.

7. Subject to a County-approved Public/Civic Facilities Plan, which includes Parks and Open Spaces, up to one-third of the required Public and Civic uses and Parks and Open Spaces may be waived if contributions in the form of cash-in-lieu are provided toward such uses off-site and within the Route 28 Corridor.

8. Non-residential FARs between 0.4 to 1.0 are envisioned within the Route 28 Business area. Lower FARs may be allowed for Flex developments.

### Route 28 Industrial Policies

The Route 28 Industrial area supports Heavy Industrial, Light Industrial, and Flex uses that have traditionally clustered near the Washington Dulles International Airport. Light Industrial and Flex businesses that include warehousing, distribution, and manufacturing that rely on time-sensitive air-cargo transfer can take advantage of locating within the Industrial area. This area provides more immediate access to the airport, Route 606, Route 28, and the regional surface transportation network. Locating the Route 28 Industrial area near the airport and along the Route 606 Corridor west of Route 28 also protects land critical to airport-related businesses and directs these types of uses to land that is outside the Route 28 Core.

1. Route 28 Industrial supports up to 100% Heavy Industrial, Light-Industrial, and Flex uses with supportive Commercial Retail and Services, limited to 10% of the floor area, as depicted on the Route 28 Corridor Land Development Patterns Map as Route 28 Industrial.

2. Within Light Industrial settings, buildings contain spaces that can be configured to allow a flexible amount of office space in combination with warehouse distribution, manufacturing (light and heavy), freight-forwarding (truck terminals and air cargo), and heavy equipment repair.

3. Uses requiring considerable outside materials and equipment storage, heavy equipment repair, and similar activities shall be permitted within areas designated as Industrial.

4. All developments within the Route 28 Industrial area shall include Open Spaces consisting of a minimum 10% of the land area of the site. All such uses shall be meaningful and appropriate to the scale, setting, and location of the development and shall conform to the base design standards contained herein.

5. Subject to a County-approved Public/Civic Facilities Plan, which includes Parks and Open Spaces, up to half of the required Open Spaces may be waived if contributions in the form of cash-in-lieu are provided toward such uses off-site and within the Route 28 Corridor.

6. The County shall provide opportunities and incentives to encourage legacy industrial businesses within the corridor to relocate to designated industrial areas.

7. Non-residential FARs between 0.20 to 0.40 are envisioned within the Route 28 Industrial area.

## Housing

The County's policies for Mixed-Use Office Centers include the provision of multi-family housing located close to employment, transit, shopping and services. In addition to office and residential, Mixed-Use Office Centers shall include a mix of commercial retail and services and other types of supportive uses. The plan's housing policies promote Mixed-Use Office Centers that enable employees in the corridor to live close to their places of employment.

In 2007, the Loudoun County Board of Supervisors adopted revised housing policies that are aimed at promoting housing options for all people who live and/or work in Loudoun. The County's housing policies focus on the unmet housing needs of Loudoun's citizens and workers earning up to 100% of the Washington Metropolitan Area Median Income (AMI). A 2006 study produced for the Loudoun County Housing Advisory Board by AECOM CONSULT identified a shortage of rental and owner-occupied units available for Loudoun's workers. According to the study, there is a shortage of available rental units for incomes ranging from 10 to 60% of AMI. Over time, the rental housing shortage is expected to get worse for incomes from 10 to 50% of AMI. For owner-occupied units, the shortage occurs from 10 to 120%.

Shortages worsen over time for income ranges from 50 to 100% of AMI with the most pronounced shortages for incomes at 80% of the median.

All development within the Route 28 Corridor that includes a residential component should address the County's unmet housing needs. In particular, the residential component of Mixed-Use Office Centers should accommodate a variety of age groups, interests, and needs and be accessible to those without cars, meet ADA requirements, and incorporate universal design. Appropriate contributions include Affordable Dwelling Units (ADUs) required pursuant to the Zoning Ordinance, below market rate for-purchase and/or rental units that the County deems to meet the intent of these housing policies.

## Housing Policies

1. All residential development within the Route 28 Corridor shall conform to County policies for addressing unmet housing needs to encourage a diverse population of residents to support a variety of jobs.

2. Housing that is developed to fulfill unmet housing needs should be well integrated and dispersed throughout the Mixed-Use Office Centers while locating near existing or planned employment opportunities, transit routes and stops, and other amenities.

3. All proposals for Mixed-Use Office Centers shall provide a minimum of 12% of the proposal's total units on-site to address unmet housing needs. Flexibility regarding the percentages within the income tiers may be considered for projects that meet additional housing needs identified by the County. Examples include providing a higher proportion of units in the lowest income tiers or providing a high proportion of accessible units. Such proposals shall be evaluated on a case-by-case basis.

4 The minimum number of units shall be distributed as affordable based on the countywide housing policies and the following Income Tiers:

**Income Tiers for Addressing Unmet Housing Needs in the Route 28 Corridor**
**Based on Washington Metropolitan Area Median Income (AMI)**

| Income Tier | % of Total Units | % of Total Units (Rental Only Projects) |
|---|---|---|
| 0 up to 30% | 2 | 2 |
| Above 30% up to 60% | 5 | 10 |
| Above 60% up to 80% | 3 (For Sale Only) | - |
| Above 80%-100% | 2 (For Sale Only) | - |

5. If required by the Zoning Ordinance, ADUs may be counted toward meeting the 12% unmet housing needs objective.

6. A covenant securing affordability for a minimum 30 years shall be attached to each unit that addresses unmet housing needs.

7. Mixed-Use Office Center proposals that commit to at least 15% of the total units for unmet housing needs objectives as set forth in Policy 4 shall be entitled to receive an increase in the FAR not to exceed 0.1 over the upper density limit set forth in the plan. Mixed-Use Office Centers that provide a greater amount of very-low income housing units based on the project's total units (0 up to 30% of AMI) may be eligible for an additional 0.1 FAR increase in floor area. Increases in floor area may be used for residential and non-residential uses in accordance with the overall land use mix.

8. All dwelling units intended to address unmet housing needs should be provided prior to or concurrently with market rate units, be dispersed throughout the project, have a similar mix to market rate units in the number of bedrooms and floor area, and be comparable to market rate units in terms of appearance, materials, and finished quality.

## Transportation

Route 28 is one the most heavily traveled transportation arteries in Loudoun County, extending from Route 7 in the north to Washington Dulles International Airport and the Fairfax County line to the south. Route 28 in Loudoun County is a 6-mile long, six-lane, limited access, median divided, principal arterial with seven grade-separated interchanges. As of 2008, the latest available data from VDOT, Route 28 carries anywhere from 70,000 (at its northern most end), to 111,000 daily trips (where it intersects the Dulles Toll Road). Two parallel roads, Atlantic Boulevard to the east, and Pacific Boulevard to the west of Route 28, provide local north/south access to the corridor. A series of east/west roadways provide connections to countywide systems and allow local traffic to access the Route 28 Corridor. There are numerous bicycle and pedestrian facilities planned within the Route 28 Corridor, although the overall network remains incomplete. The Washington & Old Dominion (W&OD) Trail is the most significant non-motorized facility in the corridor. The Route 28 Corridor is currently served by both commuter and local bus service, with anticipated connections to future Metrorail.

While the corridor is currently automobile dependent, the transportation network in the future must provide more opportunities for greater bicycle, pedestrian, and transit accessibility to support the types of densities envisioned. The establishment of a multi-modal transportation network, with an emphasis on transit, is an important component to reduce future traffic impacts due to growth and to support the types of vibrant pedestrian-friendly employment and mixed-use developments envisioned in the corridor. Investments in transit within the corridor can enhance the value of adjacent properties, support greater high-quality Office development, and increase the competitiveness of the corridor within the region to attract national and international businesses. Travel Demand Management (TDM) strategies which reduce the use of single-occupant vehicle trips, optimize non-vehicular modes of transportation and maximize transportation system performance are critical for the development of the corridor. TDM strategies, in addition to the use of alternative modes of transportation (i.e. bicycle, pedestrian, and transit), also advocate a shift in traditional work schedules which may include teleworking, compressed work week, flexible work hours etc. to achieve peak hour trip reductions. The implementation of TDM strategies is also consistent with the County's goals for environmental sustainability, providing opportunities for decreased fuel consumption and reductions in greenhouse gas production. The appropriate balance between land use and transportation demands to support expected growth in the corridor is critical to maintaining the viability and economic success of the corridor as it develops in the coming years.

### Transportation Policies

1. Development in the corridor shall be linked to transportation capacity. The Route 28 Corridor shall offer a balance of transportation options, including automobile, transit, pedestrian, and bicycle.

2. Development within the Route 28 Core should be compact, higher-density, and include a mixture of uses to support reductions in vehicle trips and overall traffic congestion and multi-modal development.

3. The County shall support the planning, funding, and development of public transit services for the Route 28 Corridor.

4. Per the *Countywide Transportation Plan*, the County will work with VDOT to prioritize, fund, and implement road improvements that create better efficiencies and reduce traffic congestion within the corridor.

5. The County shall require street connectivity within and between developments through a finer grid of streets to disperse traffic, reduce vehicle trips, and improve bicycle and pedestrian mobility.

6. The County shall consider reduced design speeds and other flexible design standards on road segments within the corridor to ensure safe pedestrian and bicycle mobility.

7. The County shall develop guidelines for context-sensitive street designs to improve bicycle and pedestrian accessibility, connectivity, functionality and safety within the corridor.

8. On-road bicycle accommodations and off road shared use paths and/or sidewalks shall be provided, where feasible, on the parallel roads (Atlantic Boulevard/Shaw Road/Glenn Drive and Pacific Boulevard) and major connecting roadways to provide a balanced multi-modal system.

9. The County anticipates improved multi-modal connections within the corridor and shall develop opportunities for greater bicycle, pedestrian, and transit accessibility from employment areas to existing and planned residential neighborhoods within and outside the corridor.

10. The County supports the identification of additional locations for Route 28 bicycle and pedestrian cross-connections, including bridges and decks, which shall decrease the barrier of the highway to bicycle and pedestrian movement.

11. Trail and/or sidewalk facilities shall be incorporated in all road improvement projects in which provision for pedestrian movement is consistent with the function and character of the road and/or where there is an opportunity to establish a connection with the County's existing or proposed trail system.

12. Transportation solutions in the southern section of the corridor, including transit, pedestrian and bicycle ways, and road improvements, shall be determined through a regionally-oriented approach with Fairfax County, the Town of Herndon, and the Metropolitan Washington Airport Authority (MWAA).

13. The *Route 28 Corridor Plan* incorporates the work and recommendations of the Inter-jurisdictional Group (representatives from the Town of Herndon, Fairfax County, and Loudoun County), as referenced in the following Route 28/Toll Road Area Regional Transportation Concepts Map. The County also supports the incorporation of the recommendations into the *Countywide Transportation Plan*.

14. The County's Travel Demand Management (TDM) strategies contained in the *Countywide Transportation Plan* shall be used, with the assistance from the private sector, to reduce the use of single-occupant vehicle trips and optimize transportation system performance during peak and off-peak periods.

15. The County shall require a Travel Demand Management (TDM) plan for all Mixed-Use Office Center and Office Cluster developments. The TDM plan shall establish specific trip reduction thresholds related to various phases of development, identify measures to quantify these trip reductions, and include penalty provisions in the event trip reductions thresholds are not achieved.

**Route 28 Corridor Plan Land Development Pattern Matrix**

| Land Development Pattern | Floor-to-Area Ratio (FAR) | Typical Uses Envisioned | Number of Stories |
|---|---|---|---|
| Route 28 Core: | | Office Clusters;<br>Mixed Use Office Centers | |
| • Office Cluster | Between 0.6 and 1.0 FAR contingent on transportation improvements | Mix of highly integrated uses and employment supportive uses; encourage vertically-mixed buildings with commercial storefronts on ground level; no residential uses allowed; may include custom campuses; predominately Office, limited Commercial Retail and Services; Public and Civic uses | Four or more stories; minimum of five immediately adjacent to Route 28 |
| • Mixed-Use Office Center (MUC) | 1.0 FAR up to 1.5 FAR with incentives for the northern and central MUC areas; 1.5 FAR up to 2.0 FAR with incentives for the southern MUC area | Mix of mutually supportive uses including:<br>business, retail, restaurants, personal services, hotels, for-sale and rental housing, civic, public, cultural and entertainment uses; 27/7 amenity-rich developments; vertically integrated mixed use buildings;<br>"urban feel" with pedestrian-oriented building facades; high-density, multi-family residential dwellings only | Seven or more |
| Route 28 Business | Between 0.4 and 1.0 FAR;<br>lower FARs in Flex developments | Low to mid-density Office and Flex uses; includes secure office campuses and R&D; supportive Commercial Retail and Services up to 10% of FAR; no residential uses; no Flex adjacent to major roadways; no outdoor storage; Large scale Public and Civic uses allowed | Two or more; higher intensities, generally four or more adjacent to major roadways |
| Route 28 Industrial | Between 0.2 and 0.4 FAR | Up to 100% Heavy Industrial, Light Industrial, Flex uses with supportive Commercial Retail and Services limited to 10% of FAR; Includes: warehousing, distribution, manufacturing; outdoor storage of materials and equipment allowed | Not specified |

## Design

The development patterns supported in the Route 28 Corridor, including Mixed-Use Office Centers, Office Clusters, Office, and Flex, focus as much on the physical form and character of development as much as their uses. Adherence of developments to the base design standards below is important to achieving a unified development pattern in the corridor that is consistent with the Route 28 Corridor Land Development Patterns Map. Adherence to the base design standards also contributes to a high-quality image for the corridor that attracts regional, national, and international businesses.

### General Policies

1. The County shall develop a user-friendly, illustrative design handbook that reflects the Route 28 base design standards contained herein. The handbook shall convey a high quality image for the Route 28 Corridor and promote an overall sense of place through design elements that relate to block size, circulation and connectivity, streetscape and street sections, building form, placement (setbacks), orientation, articulation, Parks and Open Spaces, Public and Civic uses, landscaping and sustainability.

2. The base design standards emphasize the integration of natural features and shared, meaningful Parks and Open Spaces.

3. Office Clusters and Mixed-Use Office Centers shall create a sense of place and establish the Route 28 Corridor as a premier employment location. In particular, development of a gateway at the southern end of the corridor shall convey a positive and welcoming sense of arrival for visitors and business travelers to the Route 28 employment corridor and into Loudoun County. Unique design shall occur within or proximate to a Mixed-Use Office Center, including iconic buildings, structures, and monuments, significant signage, and public art/sculptures that are visible from the gateway crossroads of Route 28 and the Dulles Greenway/Toll Road.

4. Design commitments for proposed developments within the Route 28 Core and Route 28 Business areas shall demonstrate conformance with the standards of the Plan.

5. The County shall consider incentives for property owners to upgrade their existing developments to meet the Route 28 Corridor base design standards.

6. Developments within the Route 28 Corridor shall have minimal impact on environmentally-sensitive areas and surrounding residential uses and exhibit design consistent with the Green Infrastructure and land use policies of the Plan. Existing historic sites, as well as the natural environment, should be incorporated and highlighted in the overall architectural and landscape design.

7. Office Clusters and Mixed-Use Office Centers within the entire Route 28 Corridor shall be subject to specific base design standards contained herein.

8. Developments proposed in the Route 28 Business area shall be subject to the applicable base design standards for Office and Flex uses contained herein. Generally, Flex developments in these areas should be designed within a park-like atmosphere, exhibiting a high curb appeal through the use of extensive landscaping and coordinated building architecture. Office uses should be located to the front of the building along the roadways, with Flex uses and parking to the rear of the property.

9. Developments proposed in the Route 28 Industrial area shall be subject to the applicable design guidelines for General Industry uses contained in the *Revised General Plan*.

10. Developments on small parcels that may not be able to achieve the full vision of an Office Cluster may be considered if proposed developments are able to meet the intent of the base design standards and can demonstrate compatibility and integration with adjacent developments.

## Office Cluster and Mixed-Use Office Center Design Standards

The Route 28 Core supports a development pattern of mid to high-density, compact, and pedestrian oriented Class A Office developments through Office Clusters and Mixed-Use Office Centers.

Adherence to the base design standards listed below for Office Cluster and Mixed-Use Office Center developments establishes a consistent development pattern along Route 28 that supports a viable, cost-effective planned transit system. The base design standards also establish a more predictable development environment for businesses seeking to develop and locate into the corridor; ensure that developments are compatible with adjacent land uses; contribute to the character of the neighborhood and larger community; create vibrant, pedestrian-oriented places; and support developments that are high quality and visually appealing from adjacent streets and surrounding neighborhoods with an emphasis on building placement and orientation as well as site design.

The development pattern for Office Clusters shall be highly-integrated, compact, mid- to high-rise employment settings. Buildings in Office Clusters shall be four or more stories and shall provide both structured parking and minimal surface parking. It is envisioned that larger-scaled buildings with building heights of five stories or more shall be located along Route 28 with lower density and building heights further away. Office Clusters feature buildings arranged around squares, greens, plazas, forecourts, and courtyards on blocks formed with a rectilinear street pattern. Office Clusters also include landscaped, walkable streets that can feature buildings with storefronts offering ground floor Commercial Retail and Services. Office Clusters are encouraged to provide Parks and Open Space features such as pedestrian promenades, linear parks and trails, outdoor amphitheatres, and similar design features that invite additional pedestrian activity, recreation, and socialization.

The development pattern for Mixed-Use Office Centers calls for a higher intensity of development than Office Clusters. Office buildings within Mixed-Use Office Centers contain seven or more stories. Parking within Mixed-Use Office Centers at full build-out shall consist primarily of structured parking. The centers should have a lively, robust character with an integrated mix of uses that include Office, Commercial Retail and Services, Residential, Parks/Open Spaces and Public/Civic Uses. The design of Mixed-Use Office Centers is similar to Office Clusters and features a compact urban design with pedestrian-oriented building and parking garage facades, ground-floor shops, and distinctive public spaces. Pedestrian and transit circulation are enhanced by short blocks arranged in a rectilinear grid-street pattern.

### *Site Design Standards:*

1. Office Clusters and Mixed-Use Office Centers shall be designed as higher density, compact, and highly integrated developments that foster pedestrian activity.

2. Developments shall enhance the existing character of the area, and build upon an established sense of place in the surrounding neighborhoods.

3. Heritage and environmental resources shall be preserved and incorporated into the overall design of developments.

4. Pedestrian and bicycle facilities shall be incorporated into all new developments.

5. Transit stops shall be incorporated into the layout of all Mixed-Use Office Centers.

### *Street and Block Standards:*

1. Internal streets shall follow a grid-street pattern to maximize pedestrian connectivity, improve traffic movement along multiple transportation routes and encourage shorter trips, unless precluded by natural and topographical barriers.

2. A hierarchy of streets shall be identified, both internal and adjacent to a development, with street design standards that are context-sensitive to adjacent developments. Street hierarchy shall include primary streets where there shall be a focus of pedestrian activity, along with key areas of ground-floor retail activity where there is a high percentage of planned Commercial Retail and Service uses.

3. The street network shall provide for the efficient movement of vehicles while minimizing conflicts with pedestrians and bicycles.

4. The street network shall provide connections to adjacent existing and planned developments. The street network shall also connect to the surrounding street network.

5. Blocks shall be configured at a pedestrian-scale that encourages walkability. "Superblocks" should be avoided. Perimeter block sizes within Mixed-Use Office Centers and Office Clusters generally should not exceed 2,000 feet.

6. Blocks in Mixed-Use Office Centers should not exceed 400 linear feet. To mitigate the impact of longer blocks, any one block with a linear length of 400 feet or greater should provide in the middle of the block an alley, driveway, pedestrian way or other significant pedestrian feature such as a plaza, park, or promenade.

### *Streetscape Standards:*

1. Streetscape design shall ensure the space between the buildings and the roadways contribute to a comfortable pedestrian environment providing adequate space for efficient, safe, and accessible pedestrian circulation and a sense of enclosure that supports useable pedestrian spaces. Street trees and plantings should be considered to enhance the character of the street.

2. Large-lot commercial developments shall provide both vehicular and non-vehicular linkages to surrounding areas and between office buildings and other uses.

3. Transit stops not integrated into buildings, shall be provided with safe, covered bus stops and waiting areas to shelter pedestrians from the elements.

### *Building Standards:*

1. Office Clusters shall feature buildings of four or more stories, except adjacent to Route 28 where buildings of five or more stories are envisioned. Mixed-Use Office Centers shall feature buildings of seven or more stories with a general stepping down of densities towards the periphery of developments when necessary to be compatible with surrounding communities and developments.

2. Where not incorporated into mixed-use buildings, residential buildings within Mixed-Use Office Centers shall be urban in character and compatible in form and scale with surrounding commercial buildings.

3. Distances between buildings shall be minimized to create safe, pleasant, and active street-level environments and support pedestrian connectivity between buildings, thereby reducing the need for residents, employees, and visitors to drive their automobiles to reach supportive uses, including Commercial Retail and Services.

4. Buildings shall be placed close to streets with minimal setbacks and include planting, pedestrian, sidewalk, and frontage zone standards appropriate to the context of adjacent developments. Buildings should adhere to build-to-lines.

5. Primary building entrances shall be oriented towards the street or a common gathering place such as a plaza, green, park, square, or pedestrian passageway. Pedestrians should be able to easily identify primary entrances into commercial establishments.

6. Buildings greater than 12 stories shall be designed to include façade articulation with design details and features such as building step-backs, to reduce visual massing and mitigate impacts to adjacent properties.

7. Building materials and colors shall exhibit high-quality designs with articulation on all sides of the building.

8. Mixed-Use Office Center service areas, including refuse and loading areas, should be enclosed within the principal building. Doors for access to the service areas should blend with the architectural treatment of the building.

9. Office Cluster service areas, including refuse and loading areas, should be screened from view by visitors and passers-by through landscaping or screening.

### *Parking Standards:*

1. To encourage compact, pedestrian-oriented developments, structured parking is supported within Office Clusters and Mixed-Use Office Centers. Office Clusters may contain both surface and structured parking, depending on the density proposed on-site, whereas Mixed-Use Office Centers shall contain predominately structured parking at full build-out.

2. Phasing of surface to structured parking during the construction of Office Clusters and Mixed-Use Office Centers shall be considered through the application process.

3. The joint use of drive aisles and parking areas should be encouraged to reduce overall parking needs.

4. Parking should be located to the rear of buildings, within the interior of blocks, with access from alleys or streets which do not conflict with pedestrian access.

5. Structured parking should be conveniently or centrally located, but visibly minimized from arterial streets and public spaces. Surface parking should not occupy lots which terminate a street vista or abut street intersections.

6. In Mixed-Use Office Centers and Office Clusters with supportive uses, primary pedestrian streets with ground-floor structured parking should include ground-floor uses or liner buildings with retail, services, restaurants, and offices.

7. Surface parking lots should be avoided along primary pedestrian streets. Surface parking lots should be adequately screened from the street side.

8. Within Mixed-Use Office Centers, parking at full build-out shall not be located along blocks where it is the sole use.

## *Parks and Open Spaces Standards:*

1. Parks and Open Spaces include pedestrian-scaled outdoor areas such as greens, squares, plazas, courtyards, forecourts, and playgrounds. Parks and Open Spaces also include open spaces in their "natural" state, such as forests, wetlands, or meadows; trails and trail connections; and active and passive recreational spaces.

2. Parks and Open Spaces shall be integrated purposefully into the overall design of a development and not merely residual areas left over after buildings and parking lots are sited.

3. Parks and Open Spaces designed to function as gathering places should be clearly identified and accessible to pedestrians and bicyclists.

4. Parks and Open Spaces shall be dispersed so that all residential dwellings and non-residential buildings are located within 1,500 feet of such spaces.

5. Greens, squares, plazas, forecourts, and courtyards shall be designed as appealing places to gather with the type of amenities that foster informal social interaction among users. Examples of amenities within these areas include ponds, fountains, ornamental lamps, terraces, waterfalls, sculptures and other public art, planted beds, benches, drinking fountains, and clock pedestals.

6. Within Mixed-Use Office Centers, greens, squares, and plazas are encouraged to consider outdoor seating areas, amphitheatres, and other design elements that support more structured, formal activities.

7. Small-scale single or two story commercial retail buildings, such as restaurants, coffee shops, bakeries, and public markets, are allowed within greens, squares, plazas, forecourts, and courtyards.

8. Heritage and environmental resources shall be incorporated into Parks and Open Spaces and pursuant to the *Heritage Preservation Plan*.

9. The preservation of environmentally fragile and valuable land and habitat shall be given a priority for Open Space set-aside.

10. Parks and Open Spaces should connect with and provide views to natural amenities.

11. Developments should identify linkages to the existing or planned trail network.

12. Mixed-Use Office Centers should provide active Open Space to serve the concentration of residents within the center.

## *Public and Civic Standards:*

1. Public and Civic Uses shall be integrated into the community with maximum visibility and accessibility.

2. Planned transit stops shall be provided at all Public and Civic buildings.

3. Prominent and highly visible sites should be prioritized for Civic and Public uses. Prominent sites include a location along a primary pedestrian street or at the terminus of a street vista.

4. Parks and Open Spaces should be considered in combination with public and civic buildings that include seating areas, public art, planted beds, benches, drinking fountains, etc.

### *Landscaping Standards:*

1. Landscaped areas should be used to frame and soften structures, to define site functions, to enhance the quality of the environment, and to screen undesirable views.

2. Tree and plant selection and location should promote safety and security, enhance natural environment and stormwater management, provide shade for vehicles and pedestrians, reduce heat islands, and minimize maintenance requirements.

3. Low water use plants and native vegetation shall be used to landscape new developments.

4. No invasive plant species shall be allowed in the landscape design.

### *Signage Standards:*

1. Visitors and residents should be able to locate and identify major attributes of a development through a unified signage concept.

2. Signage should contribute to the overall architectural and landscape theme.

3. Signage should be used to clearly identify public versus private/residential areas.

4. Streetscape signage should be appropriately scaled for pedestrians.

## Sustainable Development

Sustainable development is the relationship between people, the built environment, management practices, and green infrastructure. Sustainable development calls for practices that are economically cost-effective, enhance human health and well being, and protect and restore the environment. The *Route 28 Corridor Plan* supports opportunities and incentives for sustainable development so that land development is at the forefront of such practices, including green building techniques and technologies which include sustainable site design and integrated energy management planning. The Route 28 Corridor also includes older, developed areas that do not meet today's current stormwater management requirements. As a result, stormwater management facilities in these areas do not achieve adequate pollution filtration and control. Sustainable landscaping strategies can help correct these deficiencies and retain and treat stormwater, reduce stormwater runoff pollution, provide habitats for insects and migratory birds, and retain open space.

Given the diversity of Green Infrastructure within the Route 28 Corridor, the opportunity exists for development at full densities while promoting stewardship of natural areas. The defining natural feature of the corridor is the Broad Run, which drains to the Potomac River. The remaining forested lands in the corridor are primarily associated with the Broad Run and its floodplain. The Broad Run watershed also includes numerous streams, including Cabin Branch, Indian Creek, and various unnamed tributaries. The quality of these waters and the surrounding riparian areas are important not only to aquatic life and wildlife, but when integrated into development, can be an amenity for businesses, employees, and residents in the corridor. Other Green Infrastructure resources associated with the Broad Run include a heron rookery, the State-threatened Wood Turtle within upstream tributaries of Broad Run, and habitat along portions of and areas surrounding Bles Park.

Significant standing heritage resources in the Route 28 Corridor include the W&OD Trail along with the Toll House and its associated Broad Run Bridge remnants, or Stone Bridge, both of which date to 1820. Other heritage resources in the area include portions of the Vestal's Gap roadbed, of which a small segment remains in the vicinity of the Dulles Town Center and a continuous segment survives through the Claude Moore Park, and historic sites in the Old Sterling area. Archaeological village and encampment sites can

also be expected at the confluence of major streams with smaller settlements expected along contributing streams. Other Green Infrastructure elements within the Route 28 Corridor include planned and existing trails and noise contours associated with Washington Dulles International Airport. In addition, steep and moderately steep slopes are present, primarily within or adjacent to the stream valleys and surrounding the Loudoun Quarry.

## Energy Policies

1. The County shall encourage opportunities for efficiency through consumption, transmission and localized production. These opportunities can include increased building weatherization and system efficiencies, micro-grid development, and renewable/alternative energy installations.

2. The County shall encourage benchmarking the energy use of existing and planned buildings in the Route 28 Corridor to establish a baseline for energy demand estimates in the corridor.

3. The County expects localized, integrated energy management systems, such as recovery waste heat from high output uses like data centers, to provide heating and cooling to nearby properties and promote the use of non-traditional energy sources.

## Stormwater Policies

1. The County expects the harvesting of rainwater for non-potable use, such as landscape irrigation, within all projects.

2. To mitigate the effects of impervious cover within the Broad Run watershed and to update older stormwater facilities, the County shall encourage efforts such as retrofitting stormwater systems and rehabilitating degraded areas to enhance their pollution removal capabilities and enable these facilities to become open space amenities.

3. The County promotes the use of low-impact development to replicate natural hydrologic patterns and alleviate the strain on centralized systems. Low-impact development practices can include stormwater planters, rain gardens, and wetlands to convey, retain, and treat rainwater.

## Green Building Policies

1. The County shall establish a green building program to assist the private sector in implementing the recommendations outlined in this plan.

2. The County shall establish standards and promote green building within the Route 28 Corridor.

3. All county-constructed facilities shall be constructed to a minimum of LEED Silver, or equivalent standards.

4. The County shall support Loudoun Water in the expansion of the reclaimed water network.

## Landscaping Policies

1. The County encourages landscape approaches that conserve energy, treat stormwater runoff, minimize yard waste, control the spread of invasive species, and improve the health of site users.

2. The County promotes the use of salvaged materials whenever possible, restoration of degraded areas, the reintroduction of native vegetation, the use of street trees to reduce energy and stormwater treatment costs, and practices to decrease soil compaction and increase the soil's nutrient content and its ability to absorb water.

3. Habitat and recreational paths shall be encouraged along utility and abandoned rights-of-way and natural features such as streams and wetlands.

### Green Infrastructure Policies

1. The Green Infrastructure is a critical framework of the corridor that shall guide where and how development and redevelopment occurs. Green Infrastructure resources shall be protected and enhanced.

2. The stream corridors associated with the Broad Run and its tributaries shall be used as its primary organizing element. As the main organizing feature of the Route 28 Corridor, the Broad Run shall be protected and enhanced to provide ecological benefits while being an amenity for employees and residents.

3. The Broad Run and its floodplain is envisioned to serve as a linear park that protects the river as a natural resource while integrating it into development as an amenity for businesses and their employees - including providing the opportunity for employees to bike and walk to work.

4. The Broad Run's tributaries, including Cabin Branch, Indian Creek, Russell Branch, Beaverdam Run, Stallion Branch, and Horsepen Run, should be used as Green Infrastructure links that connect employment centers with neighborhoods and other hubs of activity both within and adjacent to the corridor, including parks, heritage resources, and Public/Civic buildings. Current and planned hubs include the Urban Center, Claude Moore Park, and the Toll House and Broad Run Bridge. Connections should include recreational trails with permeable surfaces similar to the C&O Canal Path.

5. Development activities should assess the condition of Green Infrastructure resources, enhance these resources, and create links to other areas to create a Green Infrastructure network.

6. For degraded forested areas close to the Broad Run and its tributaries, the County promotes reforestation.

7. The County shall collaborate with the Department of Environmental Quality on any pollution impairment issues that become apparent within the Broad Run and its tributaries and shall support volunteer water quality monitoring efforts and coordination of these efforts with federal, state, and local water quality data collection.

8. The County shall support public access through the Broad Run floodplain using methods that protect sensitive features, including the use of pervious trail surfaces.

9. The County shall coordinate with the Metropolitan Washington Airport Authority regarding water quality protection within the Broad Run watershed.

10. Unique heritage resources within the corridor, including the Broad Run Toll House and Bridge, the remaining segments of Vestals Gap Road, and the W&OD Trail should be preserved and considered in the design, construction, operations, and maintenance of development within the corridor. Preserving and enhancing these resources fosters an appreciation for their role in the built environment.

## Implementation

The *Route 28 Corridor Plan* envisions the corridor as an airport-anchored international gateway into eastern Loudoun County that supports significant job growth and economic activity within varied settings. The County also envisions the corridor evolving into a premier location for regional, national, and international businesses. The policies contained in the *Route 28 Corridor Plan* are therefore intended to

induce development towards this vision. Expected outcomes include the acceleration of the timing and absorption of Class A office and an increase in the overall rate of commercial development in the corridor. This will also provide the revenue required for the County to meet or exceed the ability to pay Tax District Bonds. The Countywide outcome will be a growth in the commercial tax base; thereby improving the revenue balance between commercial and residential, offsetting the greater costs of services for residential development, and relieving the tax pressure on County residents by maintaining an affordable real property tax rate.

The County shall form a temporary Route 28 Implementation Committee of public and private experts to assist the County with the marketing, development and monitoring of the Corridor's strategic implementation plan, including the metrics used to assess the impact of the *Route 28 Corridor Plan* on expected outcomes. The Implementation Committee shall establish three work groups related to plan implementation:

a. Design: The work group will assist with: the development of an illustrative design handbook and architectural standards for property owners and developers in the corridor, coordinate with the Zoning work group on the development of design regulations and performance standards as part of revisions to the *Loudoun County Revised 1993 Zoning Ordinance*, and identification and planning of high priority gateways, bridge enhancements, landscaping projects, and other roadway beautification efforts;

b. Zoning: The work group will advise the County with the development of the zoning mechanisms (regulations and performance standards) that will be used to implement corridor plan policies;

c. Transportation: The work group will assist with: coordination with VDOT to develop priorities and implementation plans for road improvements that create better efficiencies and reduce traffic congestion within the corridor, develop guidelines for context-sensitive street designs, identify opportunities for greater bicycle, pedestrian, and transit accessibility from employment areas to existing and planned neighborhoods within and outside the corridor, identify additional locations for Route 28 bicycle and pedestrian cross-connections, including bridges and decks, which will decrease the barrier of the highway to bicycle and pedestrian movement, and develop Travel Demand Management strategies with assistance from the private sector to reduce the use of single-occupant vehicle trips and optimize transportation system performance during peak and off-peak periods.

## Implementation Policies

1. The County shall develop metrics, such as absorption rates and assessed values, to be used on a regular basis to assess the impact of the *Route 28 Corridor Plan* on the expected outcomes as defined in the Plan.

2. The County shall amend the Zoning Ordinance by developing Land Use Patterns as an alternative development option within specific Zoning Districts as well as create a new Mixed-Use Zoning District to implement the policies of this Plan. The County shall establish a Coordinated Review Committee comprised of representatives from various County agencies to ensure consistency with the Use Pattern design controls and standards.

3. The County shall develop a user-friendly, illustrative design handbook that reflects the Route 28 base design standards contained herein. The handbook shall convey a high quality image for the Route 28 Corridor and promote an overall sense of place through design elements that relate to block size, circulation and connectivity, streetscape and street sections, building form, placement (setbacks), orientation, articulation, Parks and Open Spaces, Public and Civic uses, landscaping and sustainability.

4. The County supports the development of a Public/Civic Facilities Plan specific to the corridor that includes the identification and location of planned public facilities, including parks and open spaces, and civic uses unique to the corridor and at a scale that is compatible with planned development. Such a plan shall also include the identification of mechanisms for development contributions of such uses off-site and within the Route 28 Corridor that may also count toward projects' required Parks and Open Spaces and Public and Civic use components.

5. The County shall develop a "fine-grained" road network map of the corridor for the purpose of developing and implementing a preferred corridor street pattern to advise and guide proposed developments.

6. The County shall explore opportunities to encourage the consolidation of existing smaller properties to promote more unified use patterns within the Route 28 Corridor. Potential incentives for lot consolidation include:

    a. Development intensity bonuses in the form of increased Floor Area Ratio (FAR) densities for developments initiating a lot consolidation to a certain minimum overall size, including different tiers of increased FAR bonuses based on the overall size of the consolidated parcels, location of the project site, and/or type of development proposed (Office Cluster, Mixed-Use Office Center, Route 28 Business); and

    b. Fee assistance and other financial incentives to encourage lot consolidation such as permit fee assistance (waivers, reduced fees, etc.)

7. The County shall designate specific commercial revitalization target areas in the corridor and identify potential revitalization opportunities for property owners to upgrade under-utilized properties to their highest and best use, such as property tax abatements for real and personal property taxes over a specified time period, and establish a commercial revitalization program that provides financial assistance in the form of exterior rebates and commercial loans for physical improvements to commercial properties, including improvements to exterior building façades (storefronts, awnings, exterior lighting), renovations to correct code violations or improve handicap accessibility, etc.

## 1. Urban Centers

An Urban Center functions as an intensive, large-scale mixed-use community. It features well-configured squares and greens, a traditional network of landscaped streets with frontages dedicated to the social, recreational, and visual enjoyment of the pedestrian as well as the motorist, a rectilinear pattern of small blocks, and the location of civic buildings that act as landmarks and symbols of community identity. Like traditional urban centers that go through continual cycles of change, the modern Urban Center will evolve through phasing in response to changes in the surrounding communities, the development of services such as mass transit, and changes in business and housing trends.

The Plan foresees the development of one high-intensity, mixed-use Urban Center in the Suburban Policy Area at the Route 7/Route 28 interchange, which is currently in development. The phased density of the Urban Center will be higher than other Suburban areas and similar to Transit-Oriented Development to provide a well-designed urban pattern of residential and non-residential use related to mass transit. The development of an Urban Center will include a conceptual plan for expansion and will include specific plans for a transit stop to connect with transit service along the Dulles Greenway.

## Urban Center Policies

1. One Urban Center is proposed at the southeast quadrant of the Route 28 and Route 7 intersection, intended to evolve from the current shopping/mixed-use center.

2. The Urban Center functions as a mixed-use service, retail, and residential component of a larger Business land use.

3. The Urban Center will be located in the interior rather than on the edge of the community it serves and should have easy pedestrian, bicycle, transit, and automobile access.

4. The Urban Center will be between 50 and 90 acres in size.

5. Commercial uses within the Urban Center will not include destination retail uses such as a building supply, nursery operation, auto dealership or similar uses requiring outdoor display or storage. Large-scale single-story retail uses that require over 20,000 square feet also conflict with the compact nature of the center and are not appropriate in the Urban Center.

6. Residential densities from 8.0 to 16.0 dwellings per acre may be permitted in the Urban Center, contingent upon the availability of utilities, pedestrian and bicycle travelways , and public facilities; conformance to the community design and growth management policies of this Plan; the preservation of a substantial amount of open space either on-site or off-site (but in the same community) through open space easements or other means. Density up to 24.0 dwelling units per acre will be permitted when bus transit related services (e.g., bus, light rail) and facilities are provided, such as a transit stop and access to it through a dedicated transit corridor. Residential areas within the Urban Center will be subject to the design criteria outlined in the Residential policies and Chapter Eleven of this Plan.

7. Non-residential FAR up to 0.4 may be permitted in the Urban Center, contingent upon the availability of utilities, pedestrian and bicycle travelways, and public facilities. Non-residential FAR up to 1.0 may be permitted when adequate bus transit facilities are provided, such as a transit stop and access to it through a dedicated transit corridor. Non-residential FAR up to 2.0 may be permitted in an Urban Center when rail facilities are planned, scheduled, designed, and fully funded to serve the Urban Center, residential densities.

8. The land use mix (measured as a percentage of the land area) in an Urban Center generally will comply with the following ratios:

| Land Use Category* | Minimum Required | Maximum Permitted |
|---|---|---|
| a. High Density Residential | 10% | 25% |
| b. Commercial Retail & Services* | 10% | 50% |
| c. Regional Office | 0% | 50% |
| d. Overall Office & Light Industrial Uses (c & d combined) | 30% | 20% |
| e. Public & Civic | 10% | No Maximum |
| f. Public Parks & Open Space | 10% | No Maximum |

* Retail Policy guidance provided in *Countywide Retail Plan*

9. Urban Center policies will be updated by Community Plan policies.

## 2. Transit Nodes

The two Transit Nodes located along the Dulles Greenway are key land use components of the Suburban Policy Area. The Transit Nodes are associated with transit centers. Transit centers are places where transit services connect in the transportation network and where passengers transfer between transportation modes. Transit centers will be sufficiently separated along the Dulles Greenway to preserve the distinct features of each Transit Center and to protect sensitive environmental features between them. In addition, sufficient separation provides for the efficient engineering and operation of transit – allowing sufficient start/stop time and operation at preferred speeds.

The two nodes are very different, in terms of their function and design, and as such are denoted as a Transit-Oriented Development (TOD) and a Transit-Related Employment Center (TREC). The discussion and policies contained in the *Toll Road Plan* regarding Transit Nodes have been included here and modified for clarity of the transit strategy planned for eastern Loudoun. The policies contained in this section provide guidance for the two types of transit nodes. Additional transportation policies for the Suburban Policy Area are contained in the *Revised Countywide Transportation Plan*. The County expects that property owners will work together with the public sector (the County, Washington Metropolitan Area Transit Authority, Metropolitan Washington Airport Authority, State Department of Rail and Public Transportation, etc.) to ensure that adequate transit facilities and connections for all modes are in place to support maximum use of the transit system. This type of joint public-private partnership is required in the planning of the Transit Nodes, and all property owners are encouraged to work together in designing a unified development plan for the Transit Nodes.

The purpose of Transit Nodes is to limit sprawl and to reduce public costs; to provide the "critical mass" needed to support bus and rail transit; to provide a development alternative that promotes the separation of automobile-oriented land uses from transit-oriented land uses; and to maintain the efficient operation of the Dulles Greenway. The two Transit Nodes are both-transit-oriented, but serve several different functions. One is envisioned as a compact employment center with offices and support services, or as a Special Activity destination, consisting of a convention center, professional sports stadium, or other Special Activity use with supporting hotels and commercial services. The other Transit Node is a mix of high-intensity land uses ranging from high-density residential uses, regional offices, entertainment and cultural centers, and other business and support services.

The TOD will be located between the Loudoun County Parkway and Route 772 interchanges and comprise a mixed-use development. The TREC will be located to the north of the Dulles Greenway north and west of the Route 606 interchange and the Dulles North Regional Transit Center, a regional park-and-ride facility. Because of the constraints of the Dulles Airport 65 Ldn, the Dulles North Transit Center, and the importance of preserving the natural environment around the Broad Run, the TREC is planned for concentrated employment use or Special Activity use without a residential component.

## Transit Node Policies

1. The areas that could accommodate the TOD or the TREC are depicted on the Land Use Map.

2. The boundaries of a Transit Node will vary to correspond with physical and natural barriers that limit compact development, pedestrian connections and movement, and access to the transit station. Limiting factors will include topography, and major arterials, so that the Transit Node may not be a full radius, but will be influenced in form by natural and man-made barriers.

3. Major access roads will be located on or near the periphery of the Transit Nodes to avoid conflict with transit services and pedestrian traffic.

4. Nodal land uses should be adjoining or located in close proximity to one another to ensure a compact development pattern and a continuous urban streetscape not interrupted by parking lots or empty lots.

5. Proposals for the development of a Transit Node should include a unified, coherent concept plan showing the type and scale of uses, densities, and the physical and functional integration of proposed land uses, including the pedestrian connections between uses and transit stops.

6. The County will encourage the cooperation of all landowners in the development of the Transit Nodes to ensure conformance with the Transit Node concept set forth in the *Revised General Plan*.

7. Automobile-oriented land uses such as building supply; nursery operations; auto dealers; large-scale, single-story retail uses; truck terminals; warehousing; golf courses; service stations; furniture stores; drive-through restaurants and drive-through banks will not be located in Transit Nodes.

8. The County expects that property owners will work together with the public sector (the County, WMATA, MWAA, DRPT, etc.) to ensure that adequate transit facilities and connections for all modes to support maximum use of the transit system.

## a. Transit-Oriented Development (TOD)

Land adjacent to the Dulles Greenway will be the site of a compact Transit-Oriented Development (TOD) that will have densities to support a balanced mix of jobs, transportation, and high-density housing. The TOD will provide pedestrian-scale development with a mix of residential, commercial, public, and employment uses. Pedestrian circulation will be enhanced by short blocks arranged in a rectilinear grid-street pattern. The street pattern should be simple, memorable, and direct, avoiding circuitous routes. For the pedestrian, an inter-connected (or grid) street layout makes destinations clear and routes easy to navigate. The TOD will have an “urban feel” with pedestrian-oriented building facades, ground-floor shops, and distinctive public spaces.

Depending on the planned location of the transit stop, the TOD can be located on the south side of the Dulles Greenway or could straddle the road. If the TOD’s transit stop is located outside the median of the Dulles Greenway, the TOD should be located completely on the same side of the roadway. If the transit stop is located within the median of the roadway, the TOD could be located on both sides of the Dulles Greenway preferably with an urban deck.

The TOD will comprise a commercial core and an outer core. In addition, the surrounding area will have a transit-supportive role. Transit stops will be located in the center of the commercial core. The TOD will encompass an area no greater than that defined by the 1/2 mile radius from TOD edge to the transit stop to ensure compact mixed-use development, with reliance on transit and pedestrian circulation. This circulation will be implemented through a traditional network of grid streets with the pattern extending into the transit-supportive area.

The highest land use intensities will be located close to the transit stop at the commercial core (1/4-mile from the transit stop). The commercial core should have the most "urban-feel" with a vertical mix of uses, such as ground-floor shops and upper story residences, and public gathering places. Land uses will diminish in intensity as they increase in distance from the transit stop, although they will continue the same grid pattern. The TOD will be surrounded by a transit-supportive area, providing for a complementary density and design transition from the intense TOD to the less-intense development outside the TOD.

The development intensity of a TOD will be phased when road and transit capacity can support it. The County will consider density increases when there is adequate transportation capability to handle the associated traffic increases (roads, bus, and rail). Each density phase can be achieved when the next level of transportation capacity is planned, programmed, designed, and fully funded for construction either by public programs, a joint public/private venture, a consortium of property owners, or the private sector, in order to ensure adequate transportation capacity.

## Transit-Oriented Development (TOD) Policies

1. The location for TOD will be determined when a proposal for the development of a TOD complies with the policies of this Plan and meets these seven criteria:

    a. The location provides road access with adequate capacity and a network that supports bus transit to the transit stop located at the center of the TOD ensuring timely, efficient transit service.

    b. The location is between interchanges, so that the intensity of the TOD is supported by two interchanges, and so that auto-oriented land uses are conveniently separated from transit-oriented land uses. When rail serves the TOD, the rail can either leave the median of the Dulles Greenway or remain in the median and not be hampered by the configuration of the road network. Dulles Greenway interchanges should not be congested by the high-density land uses planned for the TOD.

    c. There is sufficient land area to support the development needed to sustain bus and rail transit and the size meets the TOD size policies included in the Plan.

    d. The location has minimal environmental constraints, such as RSCOD and steep slopes.

    e. The location will not negatively affect established neighborhoods by promoting through-traffic and other such intrusions to the neighborhood.

    f. The location can clearly provide a transit opportunity that can be engineered to serve the TOD, including accommodating rail in the median of the Dulles Greenway.

    g. The location does not harm the planned regional road network or planned regional transit facilities.

2. The TOD will be located between the Route 607 and Route 772 interchanges.

3. TODs will be located between the Dulles Greenway interchanges. TOD edges will be located no closer than 1,500 feet from the center point of an interchange.

4. The preferred location for a TOD is completely on the south side of the Dulles Greenway. If the transit

facility is located in the median of the Dulles Greenway, the TOD can extend to both sides of the Dulles Greenway.

5. The land use mix (measured as a percentage of the gross land area) in a TOD will generally comply with the following ratios:

| Land Use Category* | Minimum Required | Maximum Permitted |
|---|---|---|
| a. Residential | 20% | 50% |
| b. Regional Office | 20% | 50% |
| c. Commercial Retail & Services | 10% | 30% |
| d. Public Parks, Civic & Open Space | 15% | No Maximum |

* Retail Policy guidance provided in *Countywide Retail Plan*

6. The TOD will contain a mix of uses including residential uses as well as two or more significant tax-producing land uses that are mutually supporting.

7. The County will encourage the development of a mix of housing types, densities, and building types in the TOD.

8. The TOD will consist of a commercial core, an outer core. The commercial core will extend to 1/4-mile from the transit stop. The outer core will extend from 1/4-mile to 1/2-mile out from the transit stop. In addition, there will be a transit supportive area surrounding the TOD. It will extend from the outer core edge (1/2-mile) to one mile from the transit stop.

9. Transit stops will be located in the commercial core. The preferred location of the transit stop is at least 1/2-mile off of the Dulles Greenway to maximize the TOD development within a 1/2-mile radius; however, if upon further study, cost, engineering, and/or design characteristics prohibit the transit stop from leaving the Dulles Greenway median, the transit stop could be within the median and the TOD could extend to either or both sides of the Dulles Greenway.

10. The TOD will provide pedestrian-scale development with a mix of high-density residential, commercial, public, personal services, and employment uses. Pedestrian circulation will be enhanced by short blocks arranged in a rectilinear grid-street pattern. The TOD will have an “urban feel” with pedestrian-oriented building facades, ground-floor shops, and streets culminating in distinctive public spaces.

11. TOD land uses should include convenience retail uses and civic uses, such as public plazas, libraries, day care, and postal services. The commercial core will contain the highest land use intensities in the Dulles Greenway corridor. Use intensities will step down from the commercial core to the outer core to the transit supportive area.

12. The TOD land use intensity will be phased as alternative modes of transit are available. Use intensities may increase as the specified mode of transit is planned, scheduled, designed, and funded to serve the TOD. The following density increments may be achieved:

    a. The density for the TOD when served only by roads is up to 16 dwelling units per acre for residential development and up to 0.6 FAR for non-residential development contingent upon the

availability of utilities, pedestrian and bicycle travelways, public facilities, and conformance to the community-design and growth-management policies of the *Revised General Plan*.

b. When bus service and facilities are planned, scheduled, designed and fully funded to serve the TOD, residential densities may increase above 16 dwelling units per acre up to 32 dwelling units per acre and a non-residential FAR above 0.6 up to 1.0, contingent upon the availability of utilities, pedestrian and bicycle travelways, public facilities, and conformance to the community-design and growth-management policies of the *Revised General Plan*.

c. When rail transit and facilities are planned, scheduled, designed, and fully funded to serve the TOD, residential densities can increase above 32 dwelling units per acre up to 50 dwelling units per acre and a non-residential FAR above 1.0 to 2.0.

13. A vertical mix of uses is encouraged in multi-story buildings in the commercial core, such as ground floor retail with upper story residences or offices. When a vertical mix of uses is provided, the land use matrix will be more flexible to accommodate this type of development.

14. The provision of an urban deck is encouraged in the design of the transit station and TOD if the transit station is located in the median of the Dulles Greenway to ensure an appealing convenient pedestrian environment and convenient access to the TOD land uses.

15. The transit supportive area will consist of the land located between approximately 1/2-mile and one mile from the transit stop.

16. The transit supportive area is meant to provide a transitional and complementary area between the high-density core and the surrounding development pattern outside of the TOD.

17. Transit-supportive areas should provide a mix of land uses that complement and support TOD land uses. Commercial uses within the transit supportive area should not compete with the major retail, office, and service commercial in the Commercial Core of the TOD.

18. The transit-supportive area street network should complement and support the TOD area street network by providing multiple and direct vehicular, bicycle, and pedestrian connections to the transit station.

19. Transit supportive areas will be developed to reflect their underlying land use designations. Business land use areas will be permitted to develop to a maximum density of 24.0 dwelling units per acre depending on the availability of bus service to the nearby TOD core. Higher density residential or mixed-use areas should be clustered in pockets along transit corridors to support feeder bus travel.

20. The County may consider an additional TOD west of the Route 772 interchange in the event the Dulles Corridor Bus Rapid Transit/Rail Project is planned to extend beyond the Route 772 Interchange.

## b. Transit-Related Employment Center (TREC)

A Transit-Related Employment Center (TREC) or Special Activity destination is planned north and west of the Route 606 interchange with the Dulles Greenway and the regional park and ride facility. A transit stop is planned to serve the Dulles North Regional Transit Center, a regional park and ride lot that will accommodate 750 vehicles initially, and eventually 6,000 vehicles in parking garages. The park and ride lot is located within 1/2-mile of the planned transit stop, and this type of use is incompatible with TOD. However, because a transit station is planned for this area, the County plans to make the fullest use of the land close to that stop to be supportive of and served by the transit service. The TREC is planned for concentrated compact employment use. This area also may be appropriate for a special activity such as a professional sports stadium. The location of the park and ride lot and the transit stop make the 1/2-mile area

close to the stop attractive for a Special Activity use. The TREC will encompass an area no larger than 1/2-mile north of the station. This area is limited by the Dulles Airport property and the park and ride lot to the southeast, and the Route 606/Dulles Greenway interchange to the south.

The TREC will provide compact, high-intensity employment uses and/or a Special Activity use, with a support retail and service component. Pedestrian circulation will be enhanced by short blocks arranged in a rectilinear grid-street pattern. The street pattern should be simple, memorable, and direct, avoiding circuitous routes. Pedestrian connections from the employment or Special Activity use to the transit station and park and ride lot should be safe, convenient, and easy to navigate.

To reach the allowable net FAR of 2.0 in the TREC, an applicant will ensure that travel to existing and future transportation facilities is not encumbered. This includes providing necessary roadway improvements such that access to Dulles Airport, the Dulles North Transit Center, and the transit station are not negatively affected by high-intensity development on the TREC.

## Transit-Related Employment Center (TREC) Policies

1. The TREC will be located to the north and west of the Dulles Greenway and the Route 606 interchange. This area, encumbered by the regional park and ride facility, the RSCOD, Route 606, Route 789, and the 65 Ldn cannot be developed as a TOD.

2. The TREC will be located entirely on the north side of the Dulles Greenway north of the Dulles Airport property, no further than 1/2-mile from the transit stop.

3. The location for the TREC will be determined when a proposal for the development of a TREC complies with the policies of this Plan and meets these six criteria:

    a. The location provides road access with adequate capacity and a network that supports bus transit to the transit stop located south of the TREC ensuring timely, efficient transit service.

    b. The location will provide road improvements such that the auto-oriented land uses are conveniently separated from transit-oriented land uses. When rail serves the TREC, the rail will not be hampered by the configuration of the road network. Dulles Greenway interchanges should not be congested by the high-intensity land uses planned for the TREC.

    c. The location will not negatively affect established neighborhoods by promoting through-traffic and other such intrusions to the neighborhood.

    d. The location can clearly provide a transit opportunity that can be engineered to serve the TREC, including accommodating rail in the median of the Dulles Greenway and safe and convenient access to the transit station.

    e. Because of the planned land use intensity, the location does not harm the planned regional road network or planned regional transit facilities.

4. The land use mix (measured as a percentage of the gross land area) in a TREC will generally comply with the following ratios:

| Land Use Category* | Minimum Required | Maximum Permitted |
|---|---|---|
| a. Regional Office | 25% | 75% |
| b. Light Industrial | 0% | 20% |
| c. Special Activity Uses | 0% | 50% |
| d. Commercial Retail & Services | 10% | 30% |
| e. Public Parks, Civic & Open Space | 15% | No Maximum |

* Retail Policy guidance provided in *Countywide Retail Plan*

5. The County will encourage the cooperation of all landowners in the development of the TREC to ensure conformance with the TREC concept set forth in the *Revised General Plan*.

6. The TREC land use intensity will be phased as alternative modes of transit are available. Use intensities may increase as the specified mode of transit is planned, scheduled, designed, and funded to serve the TREC. The following density increments may be achieved:

   a. The density for the TREC when served only by roads is up to 0.6 FAR for non-residential development contingent upon the availability of utilities, pedestrian and bicycle travelways, public facilities, and conformance to the community-design and growth-management policies of the *Revised General Plan*.

   b. When bus service and facilities are planned, scheduled, designed and fully funded to serve the TREC, non-residential FAR above 0.6 up to 1.0, contingent upon the availability of utilities, pedestrian and bicycle travelways, public facilities, and conformance to the community-design and growth-management policies of the *Revised General Plan*.

   c. When rail transit and facilities are planned, scheduled, designed, and fully funded to serve the TREC, non-residential FAR above 1.0 to 2.0.

7. To reach the allowable net FAR of 2.0 in the TREC, an applicant will ensure that travel to existing transportation facilities is not encumbered, including pro-viding necessary regional roadway improvements such that access to Dulles Airport, the Dulles North Transit Center, or the transit station are not negatively impacted. Roadway improvements include maintaining an acceptable level of service for Routes 789, 606, and 607.

8. The County may consider the development of FAR above 0.4 north of the Greenway and west of the Broad Run if the applicant demonstrates the following:

   a. Loudoun County Parkway, Shellhorn Road, Route 789, Route 606, and the Dulles Greenway can continue to function at acceptable levels.

   b. Negative impact to the RSCOD is minimized.

   c. Access to the Dulles North Transit Center is not hampered.

   d. A unified development plan is provided that establishes clear pedestrian and transit linkages between the areas east and west of the Broad Run.

   e. Adequate, safe, and logical pedestrian connections can be made from the land uses on the west side of the Broad Run to access the transit stop east of Broad Run.

If all of these criteria cannot be met, the area north of the Greenway and west of the Broad Run will be developed under the Keynote Employment policies of this Plan.

9. The highest land use intensities in the TREC will be closest to the transit station, and use intensities will step down as uses radiate to the outer edge of the TREC.

10. The County will work with the Metropolitan Washington Airports Authority to encourage use of Dulles Airport property for the rail maintenance and storage yard.

## 3. Keynote Employment Centers

Keynote Employment Centers are 100-percent premier office or research-and-development centers supported by ancillary retail and personal services for employees. They do not permit a residential component. Keynote Employment centers have high visibility along major corridors, their structures accented with heavily landscaped greens and tree-lined boulevards, and reflect the County's growing prominence as a global crossroads for business. Keynote Employment Centers house headquarters for businesses such as America Online and MCI/WorldCom.

The preferred location for Keynote Employment Centers is along Route 7 and the Dulles Greenway. The Route 7 corridor will maintain its campus-like appearance and continue to be one of the primary locations for Keynote Employment Centers. The County should vigorously attempt to locate regional and nationally oriented office centers on Route 7 and Route 28 and in the Dulles Greenway corridor.

### Keynote Employment Center Policies

1. Keynote Employment uses are defined as large-scale regional office developments that feature high visual quality and high trip-generating uses, including office parks, research and development parks, corporate headquarters, and similar uses of a large scale (e.g., 40,000 gross square feet or greater). Keynote Employment areas will be single-use with the ancillary services necessary to support the predominant office use.

2. Keynote Employment along Route 7 should be set back a minimum of 300 feet from the right of way, with green buffering, preferably native vegetation.

3. Keynote Employment areas are identified on the Land Use Map and generally are located along Route 7 and the eastern end of the Dulles Greenway. These roads are prominent corridors in the County and are intended to be the location of premier office sites for high-visibility.

4. The land use mix (measured as a percentage of the land area) in a Keynote Employment area generally will comply with the following ratios:

| **Land Use Category*** | **Minimum Required** | **Maximum Permitted** |
|---|---|---|
| a. Regional Office | 70% | 85% |
| b. Commercial Retail & Services* | 0% | 10% |
| c. Public & Civic | 5% | No Maximum |
| d. Public Parks & Open Space | 10% | No Maximum |

* Retail Policy guidance provided in *Countywide Retail Plan*

5. The County encourages the use of structured parking in the Keynote Employment areas.

6. The Zoning Ordinance will distinguish Keynote Employment areas from other Office Districts.

## 4. Regional Office Uses

Regional Office uses support a variety of office employment in the convenience of a mixed-use setting. Large Regional Office uses outside of an Urban Center are to be developed along major collector roads such as Route 607, and Route 625. They are to have a mix of housing and public and civic space, as well as a limited amount of retail and light/industrial flex uses. The County supports the continued growth of educational and institutional uses as complementary uses to regional office development.

### Regional Office Use Policies

1. High-Density Residential uses may be permitted in conjunction with a larger Regional Office development that exceeds 75 acres in buildable area. These residential areas will be subject to the density and design criteria outlined in the High-Density Residential policies of this Plan and contingent upon the availability of utilities, transportation facilities, and public services and implementation of the community design and growth management objectives of this Plan.

2. The land use mix (measured as a percentage of the land area) in a Regional Office area generally will comply with the following ratios:

| **Land Use Category*** | **Minimum Required** | **Maximum Permitted** |
|---|---|---|
| a. High Density Residential | 15% | 25% |
| b. Regional Office | 50% | 70% |
| c. Commercial Retail & Services* | 0% | 10% |
| d. Light Industrial/Flex | 0% | 20% |
| e. Overall Commercial & Light Industrial (c plus d) | 0% | 20% |
| f. Public & Civic | 5% | No Maximum |
| g. Public Parks & Open Space | 10% | No Maximum |

* Retail Policy guidance provided in *Countywide Retail Plan*

## 5. Light-Industrial Uses

Light-Industrial uses are an integral component of the County's Business land use areas. The County encourages the co-location of light-industrial uses that are compatible with office, commercial, and residential development. Campus-style industrial parks are appropriate along the major corridors of the County. Warehouse, manufacturing and repair uses should be located along the less visible industrial collector roads and should have high accessibility to Dulles Airport.

### Light-Industrial Use Policies

1. Light-Industrial uses, including flex, research and development, and smaller-scale manufacturing, are considered an integral component of Business areas. The County will permit industrial uses that are compatible with office, commercial, and residential development by virtue of size and the lack of outdoor storage, or manufacturing activities, and other activities or emissions that could have a detrimental impact on surrounding residential or business uses.

2. Light-Industrial and regional office uses are encouraged in compact, high-intensity nodes on the arterial corridors of the County in areas designated Business Community on the Land Use Map.

3. Light-Industrial uses will be limited to those that do not require outside storage and which have negligible emissions (i.e., noise, odor, vibration).

4. The provision of safe, convenient, and attractive pedestrian access to nearby residential areas and to local businesses for ancillary retail services and goods will be evaluated in approving or denying such proposals.

5. The land use mix (measured as a percentage of the land area) in Light-Industrial communities generally will comply with the following ratios:

| **Land Use Category*** | **Minimum Required** | **Maximum Permitted** |
|---|---|---|
| a. High Density Residential (outside noise impact area) | 0% | 25% |
| b. Commercial Retail & Services* | 0% | 10% |
| c. Regional Office | 0% | 40% |
| d. Overall Business Uses (b & c combined) | 0% | 40% |
| e. Light Industrial/Flex | 45% | 85% |
| f. Public & Civic | 5% | No Maximum |
| g. Public Parks & Open Space | 10% | No Maximum |

* Retail Policy guidance provided in *Countywide Retail Plan*

6. High-Density Residential uses may be permitted in conjunction with a Light-Industrial development. Residential areas will be subject to the designated density and design criteria outlined in the residential policies of this Plan and subject to the availability of utilities, roads, and public services, compliance with the countywide proffer policies, and implementation of the community design guidelines and growth management objectives of this Plan.

## 6. Parking

In the past, the size, location, and configuration of parking lots has sent a clear and simple message: "arrive by car only." By changing the standards for parking design, a friendlier environment for alternative forms of transportation, including walking and bicycling is created. The parking standards for Business land uses contained here reflect the County's emphasis on multi-modal transportation, mixed-use development, and environmental protection. Placing parking to the rear of buildings encourages pedestrians to approach because they are not traversing wide expanses of asphalt. Encouraging shared parking among businesses provides the same benefit. The benefits of on-street parking include traffic calming and protecting pedestrians from on-street traffic. Structured parking provides a high-quality look to business development and protects the environment by reducing stormwater run-off.

### Suburban Parking Policies

1. The County discourages developments from providing additional impervious surface that exceeds the parking requirements of the Zoning Ordinance.

2. The County will continue its practice of reducing parking requirements for development within 1,500

feet of existing transit centers in order to encourage transit usage.

3. The County will reduce parking requirements when a development proposal includes Transportation Demand Management (TDM) strategies that can be demonstrated to reduce trip making to and from the development. Such strategies may include, but are not limited to carpool and vanpool coordination, parking incentive programs, transit subsidies and teleworking programs, and coordination with non-auto arrival modes, such as transit, bicycle, or pedestrian, when facilities for these modes are in place. Parking reductions in such instances will be commensurate with the demonstrated reduced demand for parking.

4. The County will encourage existing and new employment and business uses to support alternative travel modes by offering ridesharing and car/vanpooling, minimizing the availability of parking beyond current County requirements, and providing site amenities (e.g., transit shelters and bicycle lockers) as appropriate. Employers also should investigate other incentives (e.g., parking cashout programs and telework policies).

5. The County will provide incentives to encourage structured parking in all Business land use areas, especially Keynote Employment areas.

6. The Zoning Ordinance will continue to allow shared/reduced parking based upon the joint-use, time-of-day, or time-of-week needs of different uses.

7. Where possible, and in coordination with VDOT, the County will credit on-street parking adjacent to a commercial use toward meeting parking requirements.

8. The County encourages the use of pervious parking surfaces where existing soil types and current technology will allow.

9. Where appropriate, parking lots will be placed to the rear of buildings.

10. Design guidelines will be established to facilitate adequate landscaping, berms, pedestrian access, and environmentally sound stormwater run-off.

## C. General Industrial

Industrial Centers are intended to accommodate the continued operation and expansion of major industrial uses in the County and to provide a degree of protection for industrial uses from other land uses. Primary land uses in these industrial areas are General Industry and Heavy Industry.

General Industrial uses are predominantly labor-intensive industrial and commercial uses. Their outdoor storage requirements, noise levels, and emissions present difficult design issues and make them incompatible with residential development. Associated activities also make them incompatible with residential and other business areas. Such developments are best located away from major roads, accessed from within an industrial park, and limited to a minor portion of a larger development.

Heavy Industry is not conducive to mixed-use development. Heavy industrial sites generally are limited to land within the 65+ Ldn (day/night average sound level) Noise Zone or where residential development is otherwise undesirable. The County requires that industrial uses provide adequate buffers and protection to mitigate negative impacts on surrounding uses. Quarries are considered Heavy Industrial uses. Policies governing quarries are located in Chapter Five, the Green Infrastructure.

## General Industrial Use Policies

1. New industrial centers will be located in accordance with the Land Use Map and the community design guidelines and land use policies of this Plan.

2. The County will require that industrial uses provide sufficient buffering from nearby residential areas and business uses to ensure that the effects of noise, vibration, odor, or other emissions that may be associated with the industry do not exceed specified levels.

3. Industrial uses will be located in the 65+ Ldn (Day Night average sound level) Noise Zone as measured on the Integrated Noise Model Mod 3.8 and projected by the Federal Aviation Authority in its noise studies for the Washington Dulles International Airport when the facility is operating at full five-runway capacity and only as designated in the County's Comprehensive Plan.

4. Land bordering Route 606 and south of the Washington Dulles International Airport will be designated for General Industrial uses (e.g., manufacturing, bus/trucking repair facilities, ware-house and assembly, and airport serving uses).

5. Light Industrial Development may be located as an ancillary component of a General Industrial Use development.

6. Where General Industrial uses are proposed to develop in free-standing industrial parks the following guidelines will be met:

   a. Screen all outdoor storage and equipment parking areas from adjoining non-industrial properties and roads.

   b. Locate allowed retail uses along internal street frontages.

   c. Minimize the number of entrances to the industrial park from major collector or arterial roads.

7. General Industrial uses will not be adjacent to a residential neighborhood.

8. The land use mix (measured as a percentage of the land area) in a General Industrial Area generally will comply with the following ratios:

| **Land Use Category*** | **Minimum Required** | **Maximum Permitted** |
|---|---|---|
| a. Residential | 0% | 0% |
| b. Commercial Retail & Services* | 0% | 10% |
| c. Office | 0% | 20% |
| d. Light Industrial | 0% | 20% |
| e. Industrial | 70% | 90% |
| f. Public & Civic | 0% | No Maximum |
| g. Public Parks & Open Space | 10% | No Maximum |

* Retail Policy guidance provided in *Countywide Retail Plan*

9. Heavy Industry uses will be buffered from residential uses. This separation may be accomplished by locating less-intensive employment uses permitted in Regional Office or Light Industrial areas in transitional areas adjoining the Heavy Industry use. The width of the transition area adjoining the Heavy Industrial use will be determined on a case-by-case basis. The County may consider the

existence of natural or manmade barriers between the uses (such as streams and floodplains or major collector or arterial roads, existing buffers or greenbelts and topographic features of the area).

10. Heavy Industry uses should have access to, but be screened from, views along arterial roads. Outdoor activities such as equipment parking and material storage should be screened from view from adjoining roads.

11. The County will place a limitation on the size of heavy industry, and appropriate linkages will be established based on road capacity, employment generation, and water requirements.

12. The County will protect the Luck Stone Quarry from incompatible neighboring uses by ensuring that encroaching new development not hinder the operation of the quarry.

## D. Special Activity Uses

Special Activity uses are single uses or activities that may not be compatible with the mixed-use communities in the Suburban Policy Area due to their scale. Special Activity uses include professional sports stadiums, conference facilities, and theme parks. While economic benefit would be derived from the use and from ancillary development spurred by its existence, the Special Activity use substantially could affect surrounding land uses.

Loudoun County's unique amenities increase its potential to attract Special Activity uses that would serve the region. The Washington Dulles International Airport, the Dulles Greenway, and future transit make certain areas within the Suburban Policy Area especially attractive.

The County encourages the development of Special Activity uses in designated areas and will evaluate Special Activity use proposals on a set of criteria to ensure the selection of the best site and the mitigation of potentially adverse impacts. The Land Use Map identifies areas for possible Special Activity use.

## Special Activity Use Policies

1. Special Activity uses will be considered only in areas identified on the Land Use Map. Special Activity uses which are not permitted in any other County zoning district except the PD-SA zoning district, may be permitted only in the identified Special Activity Area.

2. Special Activity use proposals must meet all of the following nine criteria:

    a. All Special Activity proposals will be evaluated for their fiscal impacts and the use must promote the County's economic development goals and must be expected to provide a positive fiscal benefit to the County.

    b. The use must be served by central sewer and water facilities.

    c. To discourage through traffic in residential neighborhoods, the use must be served by an adequate road network, operating at an acceptable level of service, as defined by the County's Facilities Standards Manual (FSM), with access to the regional road network via the Dulles Greenway and other arterial and major collector roads. The use will be designed and located to be compatible with traffic movement on regional roads and achieve acceptable levels of service (D or better) on those roads. Where a facility is adjacent to the Dulles Greenway, every effort should be made to work with the Toll Road Investors Partnership II to develop dedicated "slip ramps" that will provide direct access to parking areas during events.

    d. The use must be designed to accommodate transit facilities and must demonstrate a commitment

to providing access to public transit (bus or rail) on the site to link those facilities to existing or planned mass transit service.

e. The use must be designed to meet specific standards for environmental quality and for impacts on surrounding uses.

f. Potential impacts from noise, lighting, signs, parking, and similar activities must be addressed and mitigated through the rezoning process.

g. The use must be adequately separated and buffered from incompatible adjacent uses.

h. If the use will be visible from any arterial road, structures will be designed and located to enhance the visual character of the corridor. Outdoor storage or display and activities such as loading areas will not be visible from any arterial road.

i. Any PD-SA rezoning proposal must include a detailed outline of activities to be conducted on the site, the nature and extent of ancillary uses, proposed hours of operation, and the anticipated frequency and duration of proposed events.

## Suburban Policy Area Land Use Matrix

| Land Use | Definition | Density | | |
|---|---|---|---|---|
| Residential | Mixed-type housing neighborhoods. Allows for mix of residential supportive uses. | Residential: 1.0 to 4.0 dus/acre | | |
| High-Density Residential | Single-family attached and multi-family housing. Allows for mix of residential and supportive cases. | Residential:<br>8.0-16.0 dus/acre<br>8.0-24.0 dus/acre in Toll Road corridor | | |
| Town Center | A "downtown" or "Community Core". Mixed-use with emphasis on pedestrian movement (vs. vehicular). | Res: 8.0-16.0 dus/acre<br>Non-Res. to 0.4 FAR | | |
| Urban Center | Intensive, large-scale mixed-use. Rectilinear layout with public greens & squares with landscaped streets & pedestrian-oriented buildings. | **Phase**<br>w/Roads<br>w/Bus<br>w/Rail | Res. dus/acre<br>8.0-16.0<br>to 24.0<br>to 24.0 | Non-Res. FAR<br>to 0.4<br>0.4-1.0<br>1.0-2.0 |
| Transit Node: Transit-Oriented Development (TOD) | Compact mixed-use development at densities to support transit. Streetscapes and building frontages that are pedestrian scale. | **Phase**<br>w/Roads<br>w/Bus<br>w/Rail | Res. dus/acre<br>8.0-24.0<br>to 32.0<br>to 50.0 | Non-Res. FAR<br>to 0.6<br>0.6 to 1.0<br>1.0 to 2.0 |
| Transit Node: Transit-Related Employment Center (TREC) | Compact employment-based development at densities to support transit. Streetscapes and building frontages that are pedestrian scale. No residential component, where limited by airport Ldn. | **Phase**<br>w/Roads<br>w/Bus<br>w/Rail | Res. dus/acre<br>N/A | Non-Res. FAR<br>to 0.6<br>0.6 to 1.0<br>to 2.0<br>(2.0 net cap) |
| Keynote Employment | 100% office or research & development centers supported by | Res: N/A | | |

| | | |
|---|---|---|
| | ancillary retail & services. Corporate headquarters/premiere office development, heavily landscaped and visually impressive. | Non-Res. FAR: 0.40 to 1.0 |
| Regional Office | Mixed-use development supports a variety of office with some high-density residential and supportive services and retail. | Res: 8.0-24.0 dus/acre<br>Non Res. FAR 0.40-1.00 |
| Light Industrial | Lowrise (primarily 2-story or less) development, includes flex/warehouse, small-scale manufacturing. Compatible with office commercial and residential-no outdoor storage or emissions. | Res: 8.0-24.0 dus/acre<br>Non-Res. FAR 0.30-0.40 |
| General Industrial | Labor intensive industrial & commercial uses. Buffered and separated from residential. Outdoor storage, noise, & emissions. | Res: N/A<br>Non-Res. FAR: 0.30-0.40 |

## Reference Maps

Suburban and Transition Policy Areas

Airport Ldn Contours

Green Infrastructure

Planned Land Use

Suburban Community Boundaries

Road Surfaces Suburban and Transition Policy Areas

Arcola Area/Route 50

Route 28 Corridor Boundary

Route 28 Development Pattern

Toll Road Area Concepts

# Chapter 7
# Rural Policy Area

## General Characteristics

The Rural Policy Area includes all of the western part of the County outside of the Towns, as well as Joint Land Management Areas (JLMAs) around certain Towns. The southern, western, and northern boundaries are the County's shared borders with Prince William, Fauquier, and Clarke counties, and with the West Virginia and Maryland's Potomac River boundaries. The policy area's eastern boundary, immediately adjacent to the Transition Policy Area, is defined by a combination of Leesburg's town boundary, the Dulles Greenway, Route 621, and the Broad Run watershed boundary. (Refer to Rural Policy Area Map)

The Rural Policy Area is the largest of the County's three policy areas. It encompasses 227,904 acres, representing about 67 percent of Loudoun County's total land (333,558 acres). Six of the County's seven incorporated Towns are located completely in the Rural Policy Area. They are Hamilton (population 562), Hillsboro (96), Lovettsville (833), Middleburg (632), Purcellville (3,584), and Round Hill (500). Purcellville's population increased by 67 percent while the other Towns remained relatively stable in the 1990s. Purcellville is continuing to grow as a result of annexations for largely suburban-style developments and the Round Hill area's current growth is attributable to the 1,100-unit Villages at Round Hill project.

The Rural Policy Area also includes twelve villages of the thirteen Existing Villages in the County (also see Chapter Ten). These villages, which have churches, schools, convenience stores, fire stations, post offices and community centers, serve as community focal points for the rural area. Three new rural villages were approved by the County during the mid 1990s for a total of 851 dwelling units on 2,496 acres.

The Rural Policy Area contains large and small farms, producing a variety of products, vineyards, bed and breakfast lodging, home-based and other businesses. The 7,000 dwelling units in the Rural Policy Area are in crossroads settlements, in A-3 and A-10 subdivisions, and on large and small farms dispersed throughout the Rural Policy Area. The gross density of the rural area outside of the Towns, JLMAs, and villages is one dwelling unit per 26.8 acres. More concentrated rural residential development has located around Lovettsville, Philomont, and in the Route 7 corridor at densities of one unit per four to five acres. (Refer to Rural Parcels Under 12 Acres Map)

The Loudoun Valley, located between the Blue Ridge, Short Hill, and Catoctin Ridge, has rich soil that not only makes it good for agricultural production, but also for the location of septic fields which encourages residential subdivision. Two parts of the Rural Policy Area are comprised of very large parcels averaging one dwelling unit per 32 acres. One is the area north of Leesburg noted by the unique limestone conglomerate feature; the other is south of Philomont which is characterized as the center of the equine industry.

# Policy Background

Loudoun County has long recognized the value of retaining the Rural Policy Area as the location of a 240-year-old farming community. These farms and communities are important economic, scenic, and historic resources. However, new residential subdivisions have developed alongside the farms and traditional villages at accelerating rates that now pose a threat not only to land and other natural resources, but also to the rural economy and the area's centuries-old rural character. Residents throughout the County are concerned about keeping rural Loudoun a vital, identifiable place. Loudoun County for almost two decades has worked to protect this valuable rural resource.

The A-3 zoning, which allows one house on 3 acres, was established in 1959 to allow farmers to break off individual home sites in order to raise capital for their working farms. No one imagined at the time that traditional farming in Loudoun County would be replaced by a sprawl pattern of 3-acre lot development on the hills and pastures of former farms. Since then the County has adopted a variety of plans and policies to preserve the rural area without changing the underlying A-3 zoning. All of these efforts have failed to slow rural residential development.

In 1984, the Board of Supervisors adopted the *Rural Land Management Plan* (RLMP) to "guide future rural land use changes, increase the opportunities and choices of farm-land owners, establish a healthy and affordable pattern of growth in the rural areas, and conserve irreplaceable agricultural and environmental resources". [1](RLMP, p. 1) It established Urban Growth Areas (UGAs) around the County's seven incorporated Towns in the hope that new residents and public facilities would locate there and theoretically enable large amounts of open land to be preserved for farming and for maintaining the area's rural character. The plan offered landowners a variety of voluntary conservation measures that included clustering development, leasing of easements, and transferring development density but none were used extensively. Within four years of the adoption of the *Rural Land Management Plan*, one-third of the countryside had been re-platted into lots smaller than 12 acres.

In July 1988, the Board of Supervisors adopted a "Vision for Rural Loudoun" that introduced the concept of clustered development in a traditional pattern of small hamlets and new rural villages surrounded by farms and forests, similar to the pattern of Loudoun's historic settlements. It was hoped the clustered development pattern would replace 3-acre lot subdivisions and accommodate residential development that would not eradicate the County's treasured landscape and rural heritage.

The 1991 *General Plan*, which superseded previous County planning documents, continued to promote clustered hamlets and villages, as well as voluntary residential development options such as: New Rural Villages, Rural Hamlets and Large-lot/Low-density Subdivisions with 25- to 50-acre lots as the most preferred. However, the Plan did not change the zoning or address the escalating conversion of productive farmland to residential uses.

Rural residential development has accelerated rapidly since the mid-1990s with the opening of the Dulles Greenway, which has provided convenient access to employment centers in the east. This activity is destroying the rural landscape and negatively affecting natural resources, consuming rich agricultural soils, jeopardizing the rural economy, stressing rural road capacities and raising concerns about groundwater potability. It is also diverting limited public resources away from areas planned by the County for growth.

Between 1993 and 2000, the County received 158 applications to rezone or subdivide more than 26,600 acres in the Rural Policy Area. The landowners requested densities to allow more than 3,400 units on that land. The pace of development activity in the rural area increased between 1999 and 2000, when the

[1] *Loudoun County Rural Land Management Plan*, 1984, page 1

County received 74 applications to allow up to 1,714 dwelling units on more than 9,528 acres. If the conversion of rural land to residential uses were to continue at the pace experienced in the last two years, almost half of the Rural Policy Area (100,000 acres) would be in residential use by 2020.

In the Rural Policy Area, there is the potential for 14,045 additional housing units, including 1,503 units in the pipeline. It is anticipated that by the end of the twenty-year planning period, 7,564 housing units will have been absorbed, and a total of 14,964 housing units will exist. At that time, the Rural Policy Area is projected to have a population of 44,003 persons, an increase of 98 percent over the 2000-population estimate.

A recent analysis of the potential build out of rural Loudoun under the 1991 *General Plan* revealed that rural land outside of the Towns and their JLMAs could accommodate over 58,000 dwelling units that would add billions of dollars in public costs. The *Revised General Plan* seeks to overcome the deficiencies of previous planning efforts, while providing a range of incentives to facilitate the implementation of the new rural strategy.

## Land Use Pattern and Design

The Rural Policy Area land use pattern and design strategy is fundamentally committed to retaining the rural area as an essential asset of Loudoun County. The strategy sets forth policies that recognize the interdependence of the key elements of rural development. For a decade, the County has counted on a variety of voluntary development options and incentives to entice desired development patterns, rather than directing development into specific patterns to protect the Rural Policy Area. The County is now re-focusing its plan for rural Loudoun to achieve many of the same objectives of the 1991 *General Plan* that have been unobtainable under the old approach. The *Revised General Plan* represents a significant shift in strategy due to the area's changing circumstances, which include the decline of traditional farming and the rapid conversion of agricultural land.

There must be a viable rural economy to preserve the rural landscape. The rural economy is much more than traditional farming, now in decline. It includes innovative agriculture, horticulture, forestry, commercial and non-commercial equine industry, other forms of animal husbandry, tourism, rural based public and commercial recreation, ancillary rural business and compatible rural institutional uses. All of these sectors are growing and collectively contribute significantly to Loudoun's economy and provide several thousand jobs. The County's suburban citizens benefit from the proximity of rural based activities and services and the rural enterprises benefit from the suburban markets for goods and services.

To help agriculture continue as a long-term use in the Rural Policy Area, the County will support voluntary participation in programs that provide assistance and reduced tax burdens to the farm community. Such programs as the Land Use Valuation program, the Agricultural and Forestal District Program, the Purchase of Development Rights program, and the formation of conservation tax districts will be used to encourage land-owners to use their land to expand the rural economy rather than to convert it to residential use.

The Plan recognizes the failure of previous County efforts to control rural residential growth and proposes new policies, incentives and supporting regulations that will lower overall densities, while providing balance and flexibility in terms of land use and design. Future residential development should be clustered to protect groundwater resources, preserve open space and the Green Infrastructure, enhance the rural economy, and reduce potential congestion on rural roads.

The preservation of the Rural Policy Area's unique Green Infrastructure includes the preservation of the physical environment of public open space and trails, stream valleys, floodplains, wetlands, and mountainsides as well as the scenic byways and vistas, historic and archaeological sites. The rural economy

directly benefits from the protection and enhancement of the Green Infrastructure and it contributes to the quality of life of all of Loudoun's citizens.

The Plan strategy seeks protection of groundwater resources that supply all of the towns and homes in rural Loudoun. Whether or not continued residential growth will seriously deplete groundwater supplies (and surface water stream flows) is an open issue. The failure of groundwater supplies and/or extensive contamination, however, will destroy property values and lead to enormous additional costs to homeowners and taxpayers. A prudent policy is required to minimize these uncertainties and risks. The County encourages the use of communal water and wastewater treatment systems and a combination of alternative systems to serve clustered developments. Use of these systems will also help protect groundwater resources and provide opportunities for institutional and business uses to locate in the Rural Policy Area.

Protecting the rural character and scenic quality of rural roads is fundamental to the rural strategy. Citizens and public officials have continued to voice concerns about the impact of rural residential development on existing roads that may not be able to safely or effectively handle additional traffic. Simply stated, the County's rural roads and 3-acre lot subdivision pattern in rural Loudoun are incompatible. Further, with more than 300 miles of dirt roads in Loudoun's countryside, and the two-lane nature of the rural area's paved roads, state or County funding is not available or sufficient to improve them to meet traffic demands associated with 3 acre lot residential density. Any limited road-improvement funding the County does obtain must be applied to address traffic concerns in the Suburban Policy Area. As such, the County will not support the destruction of the scenic, rural roads, or the negative impact that such destruction would have on the rural economy to increase road capacity.

## Land Use Pattern and Design Strategy Policies

1. The County values the rural character of the Rural Policy Area, formed by the elements of the Green Infrastructure and the working landscape, and will protect it by supporting and enhancing the rural economy through regulations in the land development ordinances.

2. The County recognizes that the vitality of the rural economy and the rural way of life require the protection and enhancement of the County's Green Infrastructure. The County will protect its natural and cultural-resource base (including stream corridors, wetlands, steep slopes, ridges, mountains, working landscapes, woodlands, historic and archaeological resources, habitats, greenways, trails, reservoirs and public facilities) in order to preserve the rural character of the land and the social and experiential aspects of the rural way of life.

3. The County will protect its land resources for farming, bio-agricultural industries, vineyards, Christmas trees, forestry, nurseries, fruit and specialty vegetable production, and other innovative agricultural uses that contribute to the rural economy, as part of an overall rural economy strategy by reducing substantially the County's development density, thereby increasing the investment potential and attractiveness of agricultural land for families and businesses.

4. The County will preserve agricultural land, natural resources, open space and historic landscapes through the implementation of the Purchase of Developments Rights Program, the Agricultural and Forestal District Program, conservation-design regulations and other land use programs.

5. The County will facilitate and promote programs that support the expansion of equine-related businesses, non-traditional businesses, and direct-market rural businesses such as orchards, vineyards, nurseries, flower farms, and commercial stables, that generate rural tourism and enhance the overall rural economy while preserving rural character.

6. The County supports the creation of a variety of opportunities for rural commercial, industrial, employment, and institutional activities that preserve rural character and that are compatible with the dominant rural land use pattern in the Rural Policy Area. Rural business uses will meet established performance criteria, including traffic capacity limits, employee limits, meet site design standards (i.e., buffering, use intensity, siting, architectural features) and pose no threat to public health, safety and welfare. Appropriate uses include bed-and-breakfast enterprises, country inns, rural retreats and resorts, private camps and parks, farm markets, wayside stands, small businesses, rural corporate retreats, small corporate office and training facilities, bio-tech research facilities, private schools or medical facilities, private conference centers, meeting facilities, and similar types of uses. Where possible, such uses should locate in existing historic and /or agricultural structures.

7. The County supports its "Right to Farm" policy to protect existing farms and farmers from nuisance complaints from neighboring rural residents. The County will develop zoning standards, other legislation, and educational programs designed to reduce potential conflicts arising from the proximity of agriculture to residential development.

8. The County supports the Rural Policy Area as a permanent rural landscape, a unique composite of natural and man-made environments, farms and forestal areas, natural areas and wildlife habitats, villages, and hamlets. The County will permit development in the Rural Policy Area that promotes opportunities for the expansion of rural economic uses, open space, farms, historic and natural areas, forests, the Green Infrastructure, and protects the rural character of the landscape.

## The Rural Economy

The preservation and enhancement of the rural economy is a central focus of the rural strategy. The Rural Policy Area's land base supports a wide array of agricultural enterprises, as well as the majority of the County's local tourist attractions, wineries, small retail and service establishments, home-based businesses, and some light industry. This kind of broad-based rural economy has been a net-revenue generator for the County because tax revenues generally exceed expenditures for rural populations. The County recognizes its fiscal responsibility to protect the land resource for the rural economy, to provide fundamental protection for rural businesses, to ensure prudent fiscal management of limited public resources and to provide needed protection of the public health and safety.

The Rural Policy Area enterprises include crop and cattle production, the equine industry, vineyards, wineries, specialty farm products such as Christmas trees, farm stands, fruits, vegetables, flowers, herbs, dairy products, locally produced organic food products. Visitor experiences such as farm tours, picnic areas, nature trails, hayrides, pony rides, animal petting areas, pond fishing, and arts and crafts sales are also important elements of the rural economy. Farm-supportive businesses in the area include blacksmiths, veterinarians, farm equipment and feed stores. Commercial enterprises dependent on the area's rural atmosphere include bed-and-breakfast inns, corporate retreats, camps and lodges.

These rural enterprises are land based, and their survival depends on what happens to that valuable resource. The 1998 report, "The 200,000-Acre Solution," recognized this symbiotic relationship, stating that "unless the best, most appropriate land is reserved for rural enterprises, in part by curtailing residential development, there can be neither sustainability of the current rural economy nor growth of its various components." That report by the Rural Economic Development Task Force called on the County to preserve the rural economy's natural resource base, and the Board of Supervisors, in adopting the document, called protection of the rural area its top priority.

The equine industry is a major component of the rural economy. It is the largest agricultural employer in Loudoun County, and its barns, stables, and rolling pastureland are valuable components of the Rural

Policy Area's unique character. The Marion du Pont Scott Equine Medical Center, near Leesburg, is one of the nation's leading veterinary research, teaching, and treatment centers. The Virginia Tech Middleburg Agriculture Research (MARE) center which is dedicated to horse forage research and established in 1949 is partially located in Loudoun. In addition, Loudoun County is home to several major equine associations, including the Virginia Horseman's Association, the American Academy of Equine Arts, the National Sporting Library, Chronicle of the Horse, Middleburg Training Center, the Masters of Foxhounds Association of America, and the U.S. Combined Training in Leesburg. The equine industry should be afforded the same benefits and encouragement extended to other forms of local agriculture. This industry has also felt the effects of growth and development. Several Loudoun-based equine events are no longer held in Loudoun because of the lack of facilities (e.g., the Middleburg Classic Horse Show and the Loudoun Pony Show). The preservation of personal and commercial equestrian pursuits is important to maintaining the rural character that makes Loudoun County a beautiful place to live and to visit.

The success of the rural tourism industry depends on the preservation and enhancement of the County's rural character, specifically its natural and cultural resource base. Most of the attractions that draw tourists to the County are located in the Rural Policy Area and the area's unique sense of place and nostalgia enhance the authentic rural experience. Primary attractions in the policy area are the historic Towns with their restaurants, specialty shops, and festivals; other historic sites; Christmas tree farms and other farms that market directly to consumers; wayside stands; wineries; plant nurseries; bed-and-breakfast inns; and recreational activities and special events. Bed-and-breakfasts alone account for $4.5 million a year in tourist dollars. However, there is room for expansion in this and in other sectors of the tourism industry. With so much untapped potential, rural Loudoun should be seen as ripe for investment and reinvestment.

The County recognizes that traditional farming is in decline. This classification of land in the County declined from 206,600 acres in 1987 to 184,988 in 1997 according to the U.S. Census of Agriculture. The number of individual farms grew during the period from 934 to 1,032 but farming was the principal occupation of fewer than 40 percent of those occupying the land and only 5 percent of the farms yielded annual sales in excess of $100,000. Nevertheless, the Plan seeks to encourage the retention of traditional farming through fiscal and other incentives.

In addition to protecting the land resource, the County will undertake several initiatives to enhance the rural economy in the coming years. As explained in the following policies, some of that support will be in the form of tax incentives and streamlined regulations. The rest will be through the creation of new programs and services to support this valuable component of Loudoun's economy.

## Rural Economy Policies

1. The County will foster and expand the diversity and richness of the rural economy through a variety of policy, regulatory, incentive-based, and programmatic approaches and will protect the rural resource base, including open, farmable land; all elements of the Green Infrastructure; historic and agricultural structures; and the rural character features necessary to advance the rural economy.

2. The County supports its rural tourism industry through the preservation and enhancement of the County's unique rural character, specifically its Green Infrastructure and cultural resource base and will protect this rural character to help to achieve the County's economic, as well as social and environ-mental goals.

3. The County will support the rural economy by facilitating the development of rural businesses that are compatible in scale, use, and intensity with the rural environment and preserve large areas of land to be used for agriculture, forestry, and viticulture. The Zoning Ordinance will include innovative types of agricultural uses. New programs and amendments to the Zoning Ordinance will permit flexibility in

the sale of farm products and related auxiliary products, provide more alternatives to promote rural tourism; and provide opportunities for rural conference or retreat centers, private camps and parks, and similar kinds of low intensity, rural land uses subject to the capacity of rural roads, groundwater, and limited employment generation.

4. The County will allow a range of on-farm uses by right on working farms to allow a rural property-owner access to additional sources of income to supplement revenue from agricultural products, subject to performance criteria. Such uses will include small businesses that are a logical extension of the farm use, including farm product sales and services related to agriculture (i.e., farm co-ops, wayside stands, welding services, farm machinery repair, rental and leasing), to provide economical and convenient services to the rural economy, and to provide for the operation of home-based businesses that are compatible with the rural landscape. Such uses will be compatible in scale, size, and intensity with the primary agricultural use and the rural environment, and will be subject to performance standards.

5. The County will help increase available capital for the expansion and/or upgrade of farm operations by working with community banks to develop an agricultural linked-deposits program.

6. The County will facilitate the expansion of rural hospitality businesses, such as bed and breakfasts and country inns, which preserve the rural character while offering services that support rural tourism.

7. The County will prepare an expedited special-exception process at reduced costs for certain uses in the Rural Policy Area, if feasible.

8. The County supports the development of businesses necessary to support the County's agricultural and equine industry, including agricultural equipment sales, rental, and repair services, veterinary services, product storage, and seed supply.

9. The County recognizes both the commercial and recreational equine industry as a fundamental component of the rural economy and will promote its expansion. County ordinances will be amended to reflect the current practices and needs of the industry.

10. The County will encourage an environment supportive of the ownership and boarding of horses, for both commercial and recreational use, by promoting land development practices that preserve large tracts of land appropriate for grazing, growing hay, and riding horses. The County will also provide tax incentives such as expanding the Land Use Tax Program to include all sectors of the equine industry.

11. The County will facilitate public accessibility to recreational equine activities and participation in the equine industry by establishing a trail network, show ring, cross country course, exercise ring, or other related features in at least one County park. These activities may be supported through partnerships with nonprofit entities such as the 4-H program and the private sector.

12. Because the expansion of equestrian activities in the County is dependent on having expansive, pleasant places to ride, the County will encourage rural development proposals to provide easements for the creation of an equestrian trail network. The backbone of this trail network will be the W&OD Trail and planned trails that will be funded through a range of public and private contributions.

13. The County will seek to expand Agricultural and Forestal District eligibility to include acreage used for equine-related activities, such as stables, training and racing facilities, and breeding farms.

14. New non-rural commercial uses that are not compatible with the dominant agricultural land use pattern will be allowed to locate only in the Towns. The County may permit non-agriculturally related commercial uses by special exception in the Rural Policy Area if the use is agriculturally and rurally

compatible in scale and intensity, poses no threat to public health, safety and welfare, and if the use helps to preserve farmland and open space and continue agricultural operations.

15. The County will modify the by right and special exception uses provided in the Rural Commercial zoning district to those appropriate to the rural land use policies of this plan. The County will also evaluate and inventory existing commercial districts to determine consistency with the objectives for commercial services in the Rural Policy Area with attention to permitted and special exception uses, the mix of uses, scale, adherence to the traditional street pattern and design and building footprint and set-backs. Such an assessment may result in the County re-mapping these properties in accordance with this Plan. (Also see Economic Development Policy 15, page 4-10.)

16. Existing non-conforming commercial, industrial, and institutional uses in the Rural Policy Area may be expanded by special exception if the use and proposed expansion are small scale, agriculturally based, pose no serious threat to public health or safety, and meet applicable performance standards.

17. Expansions to existing institutional uses will be permitted in the Rural Policy Area if the proposed expansion is compatible with neighboring uses and poses no serious public health or safety problems and if the necessary infrastructure and supporting or ancillary activities can be provided cost-effectively.

18. Country clubs and golf courses in rural areas will be permitted only by Special Exception.

## Rural Economy Incentive Policies

1. The County will provide local-government resources such as technical assistance, research, educational programs, and support of committees to help promote and expand the rural economy, and seek rural entrepreneurs to locate in western Loudoun.

2. The County will establish incentive programs to protect and enhance the rural economy.

3. The County will aid in the establishment of rural conservation service districts by a super majority of property-owners within such districts. Property-owners will pay a special tax that will be used to fund or match County funds appropriated for the Purchase of Development Rights (PDR) program.

4. Use Value Assessment ("land use") and other existing agricultural programs (such as Agricultural and Forestal Districts), amended and updated as necessary, will be used to assist in maintaining the viability of farming in Loudoun County. Additional voluntary agricultural conservation programs will be designed and implemented to maintain and strengthen the rural economy and rural character of Loudoun County. In addition, the County will explore all available incentives to retain and encourage agricultural activities.

5. The County will evaluate and if necessary amend the Use Value Assessment Program. The County will consider amendments that may include the addition of the following:

    a. Woodlands, stream valleys, meadowland, flood-ways, and wetlands and the other natural components of the Green Infrastructure as qualifying uses for reduced real property tax rates;

    b. The elimination of roll-back real property taxes on the part of a cluster development that remains in a qualifying land use;

    c. The dedication of roll-back real property taxes to the PDR program;

    d. Allow land used for equine operations as a qualifying use for a lowered real property tax rate,

regardless of whether or not it produces a product for sale;

e. A reduction in land use-related tax rates;

f. A reduction in the roll-back period, if the change in land use involves a cluster development or a rural commercial use, and significant open land is preserved;

g. An increase in roll-back period for standard development that does not save open land; and

h. Making farm-worker tenant dwelling land eligible for the Use Value Assessment program if it meets the Uniform Statewide Building Code.

6. The County will first study and where appropriate seek changes in the State Code to reduce real property taxes in certain circumstances conducive to the objectives of the County's rural strategy. These include the following: tax credits on farm-related capital improvements; tax abatement or deferral when a farmer makes an investment in high-value crops that do not turn a profit for several years (orchards, Christmas trees, vineyards, etc.); assessment of tenant housing on farms below residential market value; additional reduction in the real estate tax rate on rurally zoned property that is under permanent conservation easement; and a reduction in the personal property tax for farm vehicles.

7. The County will use public funds to purchase easements on farms that have prime agricultural soils, historic buildings and sites in a rural setting and other elements of the Green Infrastructure as part of a comprehensive open-space preservation program.

8. The County will explore and pursue all available federal, state, and local options for acquiring conservation easements at full price, bargain sale, charitable gift, installment purchase, lease/purchase, strategic re-sale of eased land, real estate transfer tax, and conservation credit card.

9. The County will study and if feasible aid in the establishment of a conservation foundation whose main purposes are to educate landowners about the income and estate tax benefits of conservation easement donation, to accept donations to support the County's PDR program, and to develop a network of charitable creditors and conservation-oriented buyers to guarantee loans and to purchase eased property.

10. The County will continue to seek enabling legislation to implement a Transfer of Development Rights (TDR) program.

11. The County will establish a coordinated service approach to assist rural landowners in the review and development of alternatives to preserve the agricultural potential on individual farms, coordinate a rural design service, and assist in filing applications, which support agricultural uses in the Rural Policy Area.

12. County departments will work with the Loudoun Convention and Visitors Association to promote rural tourism, including: the marketing of rural tourist businesses, the production of brochures high-lighting vineyards, farmers' markets, wayside stands and pick-your-own operations; tourism events such as farm tours; the promotion of historic and rural overlay districts, non-traditional and direct market businesses for their tourism value; and the tourism efforts of the incorporated Towns.

13. The County will facilitate effective distribution of local agricultural products and encourage the growth of the market for local products. The following are examples of such initiatives:

    a. Facilitate physical improvements to support the farm community, such as farmers' markets, a product distribution center and produce cooler by providing county-owned land for location;

    b. Analyze market research on high-value agricultural products, ancillary farm businesses, and other

rural economic uses such as farm resorts, retreats, and country inns;

c. Develop and expand, in conjunction with the Loudoun Convention and Visitors Association, brand identification of Loudoun farm products;

d. Facilitate "red-tape" problems, processing questions, and other identified regulatory obstacles.

e. Advise and promote products to Loudoun-based businesses.

14. The County will form a public/private Rural Economic Development Council comprised of rural industry sector leaders. This organization will:

    a. Link governmental, non-governmental, and regional organizations;

    b. Coordinate state and federal farm assistance programs;

    c. Receive and make grants;

    d. Act as an advocacy group for rural issues;

    e. Promote activities that nurture the rural economy.

15. The County will assist in accomplishing the following:

    a. Establish joint marketing efforts, equipment buying programs, central farm product distribution systems and facility management;

    b. Market specialized Loudoun products in order to support the creation and expansion of alternative rural land based businesses and promote a diversity of agricultural products;

    c. Maintain and provide access to the land lease data base;

    d. Develop and maintain a community supported agriculture concept that provides for the direct sale of farm products between farmers and local consumers including local restaurants and retailers;

    e. Develop and maintain a rural electronic data bank; and

    f. Assist in sharing labor and transportation resources.

16. The County will evaluate the potential for and, if appropriate, establish a "farm viability enhancement program" in conjunction with an appropriate state or local agency.

17. The County will endorse and support rural community events such as festivals, vineyard fairs, and farm and garden tours as a means of showcasing the rural economy, strengthening the economic vitality of towns, and promoting the rural experience.

18. The County will invest in such marketplace incentives as may reasonably be determined to encourage rural entrepreneurs to locate in Western Loudoun. Further, the County will adopt a set of supporting regulations and ordinances designed to enhance the effectiveness of those incentives.

19. The County will facilitate a robust rural economy by revising its Zoning Ordinance to expand permitted by-right nonresidential uses in the rural area, subject to performance and location criteria. Examples of such uses could include new equestrian centers and boarding facilities, additional vineyards and wineries, event facilities, nurseries, conference centers, corporate retreats and training facilities, telecommuting facilities, heritage and rural tourism destinations, truck farms and farmers markets, agricultural biotech startups, bed and breakfasts, restaurants, and related service firms.

20. The County will study the feasibility of organizing agricultural cooperatives.

# Rural Residential

For a decade, the County has counted on a variety of voluntary residential development options and incentives to entice desired development patterns rather than directing development into specific patterns to protect the agricultural industry, essential open space, natural environment, and the rural culture and character of the Rural Policy Area. However, the County has been relatively unsuccessful in achieving the desired development pattern.

The 1991 *General Plan* set rural residential priorities. Rural Villages and Hamlets that permitted clustered densities and required permanently protected open space, additions to Existing Rural Hamlets and Villages and large lot development (one dwelling unit per 25 acres) were cited as the preferred development patterns. Nevertheless, the uniform, 3-acre lot subdivision pattern and to a certain extent the 10-acre lot subdivision have remained the favored development choices in the rural area. The County has attempted to discourage these forms of development because they encourage rural sprawl and destroy rural character. This pattern consumes prime agricultural soils that are important to the rural economy, is costly to provide services to and often exceeds the design capacity of the rural road network. It also results in a proliferation of individual, on-site wells and septic systems that threaten groundwater quality.

The basic concept underpinning the County's strategy for the Rural Policy Area is to protect the land resource of the area for rural economy uses and to provide a balance of residential and non-residential uses that enhance a rural quality of life. Such uses require prime agricultural soils, protect open land and rural character; maintain fiscal balance; and relieve the strain of rural residential development on rural road capacity and service delivery. To accomplish these goals, the County must limit the number of houses in the Rural Policy Area and direct new residential development, there and countywide, to locations that are consistent with County goals. A variety of residential development options exist within the Rural Policy Area, including conventional subdivision, spin-off lots, and rural clusters. The appropriateness of each development option will vary depending on site-specific characteristics such as parcel size, road access and location.

The County recognizes that rural residential living provides a high quality of life and responds to a substantial market niche. The County is also aware that rural land values are in part related to the development potential for housing and as such retaining acceptable land value has been considered in establishing rural residential policies. An appropriate balance has been set that adheres to the following objectives:

- Provide for a wide variety of land parcel sizes that will meet the needs of the rural economy and provide room for growth of rural residential neighborhoods.
- Encourage rural residential clustering and the use of communal water and wastewater systems. Analysis has shown that clustered lots are equal in value to "grid" lots at the same density.[2]
- Require all rural residential development to incorporate existing Green Infrastructure elements into the design of the site.

The Plan provides two rural residential areas each with cluster options as described below:

1. The Southern Tier (defined generally as south of Goose Creek and North Fork of Goose Creek to the County border with Fauquier County and west of the Transition Policy Area).

[2] Analyses of Value Retention of Rural Area Development Options (Loudoun County), Robert Charles Lesser & Company, August 2000.

This area is characterized by an existing large lot pattern with a significant number of land parcels already under easement. It is the center of Loudoun's equine industry and an important part of the rural economy. It surrounds Middleburg, a major tourist attraction, and includes many historic structures and sites including important Civil War sites of cultural importance and tourist interest. It covers a substantial portion of the Mosby Heritage Area and the Beaverdam Historic Roadways District as well as several agricultural districts that already have established 50-acre minimum lot sizes. Limiting residential growth in this area will reduce the need for additional road capacity and support these programs. There is also strong citizen support for keeping Route 50, which bisects the area, a two-lane road that is the subject of a "traffic calming" initiative from Aldie in Loudoun County to Paris in Fauquier County. As such, the Plan calls for this area to develop at a base density of 40 acres per lot, with development options to spin-off residential lots at the equivalent of one dwelling unit per 20 acres or clustered residential lots at the equivalent of one dwelling per 15 acres.

2. The Remainder of the Rural Policy Area (defined generally as north to and west of the Potomac River and west of the Transition Policy Area).

   The existing land use pattern in this area is mixed, with a large number of smaller lots interspersed with large parcels still in agricultural use. Many of the new rural economy uses in the area require land parcels ranging from 10 to 50 acres in size. Therefore, a balanced approach that provides for the further development of clustered rural residential neighborhoods that provide a variety of lot sizes while preserving large parcels for future rural economy enterprises is appropriate. Rural character will be preserved through the implementation of the Green Infrastructure policies. Within this area, environmental overlay districts contained in the Zoning Ordinance will provide special protection for these critical environmental features. As such, the Plan calls for this area to develop at a base density of 20 acres per lot, with development options to cluster or spin-off residential lots at the equivalent of one dwelling unit per 5 acres.

## Rural Residential Policies

1. The Rural Policy Area is comprised of three geographic areas governed by unique land use policies. These subareas include the southern one-third of the Rural Policy Area, Existing Villages, and the northern two-thirds of the Rural Policy Area. The County will develop and implement rural design standards that protect the Green Infrastructure and rural character of the Rural Policy Area in every subarea.

2. The southern part of the area is planned for rural economy uses and limited residential development at a base density of 40 acres per lot. In this area, residential densities can be increased up to one dwelling unit per 20 acres when it is developed in a spin-off lot subdivision, or up to one dwelling unit per 15 acres when it is developed in a cluster pattern leaving substantial amounts of land available for rural economy uses.

3. The northern part of the Rural Policy Area is planned for rural economy uses and limited residential development at a base density of 20 acres per lot. Likewise, residential densities in this area can be increased up to one dwelling unit per 5 acres when it is developed in a clustered pattern or spin-off lot subdivision leaving substantial amounts of land available for rural economy uses.

4. The County provides for clustered and large lots and low density to ensure the preservation of parcels at a size conducive for commercial and non-commercial rural economy uses, as well as to protect the Green Infrastructure, preserve rural character, minimize the problems of increased traffic, and reduce the need for additional public and commercial facilities and services.

5. Existing parcels under 20 acres may provide for smaller farms and rural residential uses. Incentives will be developed to encourage the consolidation of undeveloped, small lots into larger parcels.

6. The County recognizes and supports the intent of the Family Subdivision Statute to provide for small family lots on family farms. Family subdivisions will continue by right in the Rural Policy Area at the base density provided by the Zoning Ordinance for that area.

7. The County will increase the amount of time to five years prior to resale that a lot created through the family subdivision process must be held by a family member. An exception may be made in the case of estate sales.

8. In order to enable a property-owner to generate capital from the sale of a lot, the County will provide for a spin-off lot subdivision process. Spin-off lots may be as small as 80,000 square feet (approximately 2 acres), can be clustered, and can be served by a private access easement as provided by the Zoning Ordinance for the applicable zoning district. The lots created by the spin-off process would be counted against density permitted by the originating tract.

9. A variety of residential unit types and accessory apartments will be permitted by the Zoning Ordinance in the Rural Policy Area to achieve affordability.

10. The County, as part of broader housing initiatives, will study, establish and implement a housing program that addresses the maintenance, conservation, and improvement of existing housing stock and the development of new housing for seasonal farm laborers and year round tenant housing. New regulations for housing farm laborers will be developed and incorporated into the Zoning Ordinance if necessary.

11. Rural Cluster developments allow landowners to group lots in a traditional rural community pattern, while preserving the majority of the land base for rural economy uses. A Rural Cluster is the grouping of building units on lots of varying sizes with the largest part of the site remaining in open land. Lots served by on-site water and on-site wastewater within a rural cluster may be a minimum of 40,000 square feet (approximately 1 acre). Lots served by on-site water and off-site wastewater within a rural cluster may be a minimum of 20,000 square feet (approximately ½ acre). Lots served by communal water and wastewater within a rural cluster will have no minimum lot size. A variety of lot sizes is encouraged within all rural clusters to provide a diversity of housing types and rural economy uses. The residual open land in a cluster accounts for the overall lower density of the site, and will serve to accommodate rural economy uses and preserve rural character. Rural economy uses are encouraged on any and all residential lots.

12. The County may consider a cluster to include the siting of houses in a group and not just the siting of lots on a parcel. The cluster should incorporate existing Green Infrastructure elements into the design and preserve the rural character of the site.

13. In locating the open space required for a Rural Cluster, the following site features should be considered to ensure that the land kept in open space provides for appropriate rural economy uses:

    a. Percent of open space area that is made up of prime agricultural soils;

    b. Size of the area that is usable for agricultural production;

    c. Contiguity of open space area to other designated open space or agricultural land;

    d. Relationship of development of adjacent properties to the agricultural activity on the open space area;

e. Relationship of non-agricultural use of the open space area to adjacent agricultural uses; and

f. Unique site features and Green Infrastructure implementation.

14. The County will identify options for affordable housing in the rural area not covered by the ADU zoning ordinance and work towards an implementation plan.

15. The Board will immediately establish a transportation impact fee, as permitted by current law, and further, the Board will seek authority from the state legislature to establish impact fees in the Rural Policy Area, where rezoning applications are not permitted, to help cover the costs of constructing new capital facilities.

## Green Infrastructure

The Rural Policy Area is distinguished by exceptional elements of the Green Infrastructure that not only add beauty to daily life and document the County's past; but are also an essential component of the tourism industry and the rural economy. Major components of the Green Infrastructure that require preservation include:

- The slopes and ridges of the Blue Ridge, Short Hill, and Catoctin mountains.
- Two state-designated scenic rivers, Goose Creek (all) and Catoctin Creek (from Waterford to the Potomac), and their tributaries which form a complex network of waterways;
- The lush soils of Loudoun Valley located between the mountain ranges;
- The limestone conglomerate area north of Leesburg and east of the Catoctin Ridge a fragile environment with unusual rock outcrops and topography;
- A network of 330 miles of unpaved, often historic, rural roads with stone fences, old growth canopy trees, and adjoining historic structures and spectacular views of the countryside;
- The state-designated Scenic Byways (various segments of Route 15 and Routes 734, 731, 728, 722, 719, 704, 690, 681, 673, 665, and 662) that have linked rural communities and historic places for generations;
- Historic structures including 18th century structures made of stone or log and stately, 19th-century manor houses, such as Oak Hill, Rockland, and Chestnut Hill.
- Smaller tracts and less imposing homes reflecting the influences of Quakers and Germans who settled farming communities west of the Catoctin Ridge.

The Rural Policy Area also has special districts that protect components of the Green Infrastructure. Twenty-one of the County's 23 Agricultural and Forestal Districts are in the policy area and encompass more than 60,000 acres. These voluntary districts protect agricultural and other land-based uses from the intrusion of suburban services and infrastructure and secure land for agricultural production for a voluntary fixed time period.

There are six County Historic Districts (Aldie, Bluemont, Goose Creek, Oatlands, Taylorstown and Waterford) that contain vast heritage and architectural resources. The Village of Waterford, Oatlands Plantation, Balls Bluff, Dodona Manor and Oak Hill are designated National Historic Landmarks. The Catoctin Rural Historic District, located between the Catoctin Ridge and the Potomac River, is a State

Historic District. The entire historical and archeological inventory in the County includes 1,100 historic structures and more than 300 archeological sites. These heritage and natural resource elements of the Green Infrastructure are an integral part of the County's way of life that must be preserved for future generations as they have been for the past 240 years.

There are many other important features of the rural landscape that help define the rural, working landscape and help protect water quality, air quality, and wildlife habitat and are critical for the health of the rural economy and the County. They include: hedgerows, meadows, farm fields, forests and tree cover, wild and domestic animals, bodies of water, topography, slopes and ridge-lines, stream valleys and wetlands, road enclosures (including embankments, tree canopy and structures), roads (paved and unpaved), cemeteries, agricultural structures, historic bridges, fence lines, historic rights-of-way, driveways, field demarcations, property entrances, community spaces (including parks and greens), hamlets and villages, scenic vistas and the rural experience.

## Green Infrastructure Policies

1. The County will develop and implement rural subdivision design regulations that address the location of houses on the landscape, the use of cul-de-sacs, the retention of open space in contiguous parcels suitable for economic production; and the protection of green infrastructure features such as the best agricultural soils, stream corridors, wetlands, steep slopes, major ponds, important tree stands, historic structures and stone walls, and major rock outcrops and geological features.

2. Land development in the Rural Policy Area will retain rural economic opportunities, preserve farms, forests, open space, and the rural character of the landscape through conservation subdivision design, clustering, and the preservation of large lots at low density.

3. The County will conduct a visual landscape analysis to record and map the scenic aspects of road corridors and will prepare and implement protection measures for rural character features (such as designation of historic roadway districts).

4. The County will identify those properties that are not conducive to development due to sensitive environmental, cultural, and historical characteristics, and promote their purchase through various programs (such as the County's PDR program, through land trusts, etc.).

5. The County will promote the preservation and reclamation of farm buildings and structures to maintain the agricultural infrastructure for future rural economy uses and to retain them as important contributing elements to the visual integrity of the County. The County will use incentives, such as Virginia tax credits and develop new incentives, such as a local tax abatement program.

6. The County will encourage owners of 20 acres or more to avail themselves of the open space category of the Use Value Assessment Legislation by entering into voluntary contracts with the County requiring preservation of open space, particularly in sensitive environmental areas such as river and stream corridors, forested areas, areas adjacent to Scenic Byways and primary roads in rural areas, and other areas designated as part of the County's Green Infrastructure.

## Water and Wastewater

### A. Groundwater

Groundwater is a precious resource that is highly susceptible to fluctuation in quantity and quality. The variation is influenced by recharge rates, withdrawals from the water table, and contamination.

Groundwater is recharged by surface water filtering through soils and fractures, joints, and pores in rock. Recharge and its rate are affected by the volume and duration of precipitation; the permeability of the soils and rock; topography, and the degree of fracture-to-fracture interconnection. Preliminary findings of the County's Groundwater Advisory Committee state that there may be a negative effect of additional withdrawal on the quantity of groundwater available to support new development. Although it is not now known with certainty that additional wells will lower the overall water table or affect regional groundwater quantities, local supplies can be affected by draws because of the cone of depression created by pumping a well.

Individual wells drilled to the groundwater table are the most prevalent method of providing potable water to rural residents. About 12,000 individual wells serve homes in the County, most of them in the Rural Policy Area. About 234 public-use wells serve towns, schools, private subdivisions, restaurants, gas stations, and other facilities. About 98 irrigation wells and 13 industrial wells are employed for uses such as golf courses or concrete plants. Countywide, there are about 13,000 on-site, individual wastewater systems that include a septic tank and drainfield. The proliferation of individual wells and on-site waste disposal systems may pose a serious groundwater contamination risk. The County can reduce the risk by encouraging a development pattern that is served by communal facilities, rather than by individual wells.

The quality of groundwater, however, may well be exposed to significant contamination risk as increasing numbers of drainfields associated with exurban residential development are installed in the Rural Policy Area. Groundwater contamination can originate on the ground's surface, in the unsaturated ground above the water table, and in the saturated ground below the water table. Because groundwater moves so slowly, once it is contaminated, it may take years for the contamination to be mitigated. A major cause of groundwater contamination is effluent or outflow from on-site sewage disposal systems (septic tanks and drainfields). When these systems are improperly sited, designed, constructed, or maintained, they can contaminate the groundwater with bacteria, nitrates, viruses, detergents, chemicals, and chlorides. Although individual failed systems make an insignificant contribution to contamination, a multitude of these systems makes them a serious contamination threat to the quality of groundwater in the Rural Policy Area.

Communal water systems that are based on one or more communal wells and provide water to multiple homes in a compact geographic area have many distinct advantages over individual private wells. Communal water systems are required to be designed to state and local standards, and will be owned and operated by the LCSA, which has the expertise and resources to operate and maintain the systems to a high level. Fewer wells and proper location of wells with respect to septic drainfields or other wastewater discharge locations reduces the potential for groundwater contamination.

The long-term quality and quantity of groundwater is critical to the health and welfare of residents of the Rural Policy Area. In order to protect the quality and quantity of groundwater, the County can institute a wellhead protection program, a groundwater monitoring program, reduce groundwater use by decreasing the number of groundwater withdrawals through water conservation and reduction in the number of wells, reduce the number of wells to reduce potential contamination opportunities, use communal and/or central water systems when possible to avoid drilling multiple individual wells in close proximity to one another, require comprehensive hydrogeologic studies of entire properties proposed for development prior to approval, and adjust land use policies based on the potential effects of surficial activities on groundwater quality.

Water policies are contained in Chapter Two of this Plan and Groundwater Policies are contained in Chapter Five.

## B. Wastewater

As rural dwelling units proliferate, groundwater contamination from failed drainfields becomes a growing threat. Septic systems pollute groundwater either by not effectively removing contaminants from wastewater or by failing. Even properly maintained systems have a useful life of no more than 25 to 40 years. When a system fails, a replacement must be installed in a second drainfield on the same property. The County now requires owners of all newly installed systems to have on their building sites reserved drainfields to fully accommodate replacement systems.

Posing less of a threat to groundwater quality are alternative, on-site individual disposal systems. They more effectively pre-treat wastewater, releasing higher-qualify effluent. However, there are more complicated operational and maintenance issues associated with these systems. They must receive regular inspection, service, and oversight by trained professionals.

Conventional communal wastewater systems for multiple users are available but generally require a minimum of 50 taps in order to be economically and operationally efficient. Costs associated with communal systems have been a deterrent to clustered residential development. Current 2001 zoning regulations allow clustered development on individual septic and drainfield systems. However, lot sizes in such developments have been enlarged and drainfields placed off-site, defeating the environmental and open-space efficiencies of clustering. Recently, alternative communal systems have become available to economically serve smaller clusters of units. The Loudoun County Sanitation Authority (LCSA) oversees the operation of communal systems in the County.

To protect the groundwater that supplies drinking water for residents and businesses in the Rural Policy Area, the County will limit the number of individual wells and wastewater disposal systems by decreasing the density in the Rural Policy Area. This will have a direct, positive impact by reducing the number of potential septic tanks and intrusions in the water table. The County will encourage the development of combination and alternative systems where feasible and communal systems both water and wastewater to support clustered residential development. The County will rely on the LCSA to identify or contract for the professional expertise required to manage alternative and communal systems installed in the Rural Policy Area.

Wastewater policies are contained in Chapter Two of this Plan.

# Transportation

The County's rural road network was developed to serve the needs of the farming community. (See Road Surfaces Map) The roads originally were laid out to accommodate the slow travel of horse-drawn wagons. Today, these roads do not have the capacity to safely accommodate the substantial volumes of higher speed, modern traffic associated with the 3-acre lot subdivision pattern in the Rural Policy Area. Sensitivity to centuries-old stone walls, large trees, homes and outbuildings, scenic views and the Green Infrastructure must be an essential element of road improvements if Loudoun is to retain its rural character.

Though many roads in the County's rural area have the benefit of an all-weather surface, half of them are gravel. More than 300 miles of unpaved roads are 16 feet wide or less. Narrow widths, excessive horizontal and vertical curvatures, bridge and drainage problems, and poor intersection alignments on rural roads contribute to the safety concerns associated with increasing motor vehicle traffic but there is a shortage of funds for improvements.

For this reason, the County supports road improvement levels that do not meet the highway standards of the state. On a select, project-by-project basis, County and state officials have been able to develop modified

road improvements that incorporated rural character features as well as safety. Rural road improvement policies should continue to recognize the dual elements of safety and sensitivity.

Increased residential densities in the Rural Policy Area are producing traffic congestion during commuting times and requiring more maintenance of the fragile rural road network of predominantly narrow, two-lane paved and unpaved roads. Major collector and arterial roadways already are beyond capacity, and improving roads that feed traffic onto them would not solve, and could even exacerbate, existing capacity problems. In addition, state and County transportation funding is not sufficient to substantively improve the road network. The County instead will make only limited safety improvements, as necessary, to rural roads and will reduce the overall housing density of the area to a level that can be serviced by existing roads. The ultimate residential density of the Rural Policy Area and resulting vehicle trips must be coordinated with the capacity of the existing and planned rural road network in order to avoid significant traffic congestion and unsafe road conditions.

## Rural Transportation Policy (see *Revised Countywide Transportation Plan*)

1. The *Revised Countywide Transportation Plan* (Revised CTP) provides transportation policy direction for the transportation network in the Rural Policy Area. The hierarchy of roads will be amended to reflect the scale and function of the Policy Area Land Use.

## Reference Maps

Rural Policy Area Map

Rural Parcels Under 12 Acres Map

Road Surfaces Map

# Chapter 8
# Transition Policy Area

The Transition Policy Area is envisioned as a distinct planning area to serve as a visual and spatial transition between the Suburban Policy Area to the east and the Rural Policy Area to the west. It is envisioned that the Transition Policy Area will afford some unique development opportunities within Loudoun County at intensities greater than those typically permitted in the Rural Policy Area. New development designs within the policy area will incorporate both suburban and rural features.

## General Characteristics

The Transition Policy Area extends over an area of 22,813 acres, constituting approximately 6.8 percent of Loudoun County's total area of 333,558 acres. The policy area is comprised of six distinct subareas: Lower Sycolin, Middle Goose, Upper Broad Run, Upper Foley, Lower Foley, and Lower Bull Run. These subareas extend in an L-shaped configuration along the western and southern boundaries of the Suburban Policy Area and serve as a separation between the Suburban and Rural Policy Areas. (Refer to Transition Policy Area Subareas Map)

The western edge of the Transition Policy Area starts below Route 7 and extends along the Leesburg Joint Land Management Area (JLMA) boundary, Sycolin Creek, Evergreen Mills Road and the western boundary of the Broad Run watershed to the Prince William County line. The eastern edge of the Transition Policy Area extends along Goose Creek, the Goose Creek and Beaverdam reservoirs, the 65 Ldn Airport Noise Contours, the planned alignment for Route 659 Relocated to Route 620/Braddock Road. The boundaries along the southern segments of the Transition Policy Area are comprised of Route 620/Braddock Road to the north, the Fairfax County line to the east and the Prince William County line to the south.

Each of the six subareas in the Transition Policy Area has different characteristics. Much of the Transition Policy Area exists with a rural, low-density residential and agricultural character. Existing businesses in the Transition Policy Area include the Bull Run quarry, the Luck Stone Quarry and a limited number of nurseries, private schools and institutions, commercial stables, kennels and veterinary services. Some Planned Development-Housing (PD-H) Districts were previously approved that are partially within the Transition Policy Area. The approved, but unbuilt, developments include parts of Brambleton, Kirkpatrick Farm and Broadlands.

In the Transition Policy Area, there is the potential for 13,190 additional housing units, including 1,631 units in the pipeline. It is anticipated that by the end of the twenty-year planning period, 10,153 housing units may have been absorbed, and a total of 10,681 housing units may exist. At that time, the Transition Policy Area is projected to have a population of 30,525 persons.

The northern portion of the Lower Sycolin subarea located northeast of Sycolin Road (Route 625) and the Dulles Greenway (Route 267), east of the Leesburg JLMA and west of Goose Creek is emerging as an Industrial area with the legislative approval of several projects that permit the development of a natural gas-fueled electric power plant, data centers, expansion of the Luck Stone Quarry, and a water treatment plant The approved projects reflect the unique characteristics of this portion of the subarea which include proximity to a major natural gas transmission line and a high-voltage overhead electric transmission line and concentrations of diabase rock in proximity to existing quarrying operations. In December 2013 as part of CPAM 2013-0001 the County changed the planned land use designation to Industrial for the

northern portion of the Lower Sycolin subarea and adopted General Industrial policies applicable to this portion of the subarea.

## Land Use Pattern

The Transition Policy Area is a permanently defined policy area to provide a visual and spatial transition between the suburban development in the eastern part of the County and rural development in the west.

The County envisions that land uses in the Transition Policy Area will achieve a visual and spatial transition between the Suburban and Rural Policy Areas. The Transition Policy Area will develop as a unique planning area, incorporating an innovative blend of rural and suburban development features. The Transition Policy Area will achieve a balance between the built and natural environments. All development within the Policy Area will be clustered with 50 to 70 percent open space and the full implementation of the Green Infrastructure policies.

The Plan reaffirms an Urban Growth Boundary (UGB) beyond which central sewer and water is not allowed. Beginning in the north, the UGB follows the Suburban Policy Area boundary to the point where it meets the Transition Policy Area. The UGB then follows the western edge of the Transition Policy Area to meet the Prince William County line in the south. As such, central water and sewer lines are permitted in the Transition Policy Area. Natural open spaces will be the predominant visual element and create a contiguous network of green spaces consistent with the Countywide Green Infrastructure objectives.

Land uses within the Transition Policy Area will incorporate varying densities and development patterns in response to surrounding development patterns, cultural resources and environmental constraints. Higher density mixed-use villages will develop along with residential clusters at varying densities and large-lot, low-density residential development. The Plan envisions that these mixed-use villages will foster communities with a sense of place and community identity, supporting an integrated mix of residential and non-residential uses, organized around community cores. Specific location criteria will guide the development of these communities within the Transition Policy Area. The Plan also calls for the development of an area plan to solidify the development scheme and continuity in the area.

The non-residential component of the Transition Policy Area will be comprised of uses that represent an appropriate transition from suburban to rural land uses, such as golf courses, active recreation uses, kennels, nurseries and similar commercial uses, public and private schools and other compatible institutional uses. These uses will serve to promote a rural character while serving both rural and suburban populations. The active quarries located at the southern and northern ends of the Transition Policy Area will continue to be protected from encroaching residential development. New non-residential uses that support residential development, such as schools, churches, small scale commercial retail and home business occupations/local offices will be organized within the community cores of villages at appropriate scales. Other commercial and institutional uses will be considered in this area if they are compatible with the overall land use pattern.

## General Policies

1. The County will protect the drinking water resources of the Occoquan, Beaverdam, and Goose Creek Reservoirs by limiting density in the Lower Bull Run, Middle Goose, and Lower Sycolin subareas.
2. The County's vision for the Transition Policy Area is for land uses that provide a visual and spatial transition between the suburban development in the east and rural development in the west. The Transition Policy Area will be developed as a unique and innovative blend of rural and suburban development features that fully integrate the elements of the Green Infrastructure, and establish natural open spaces as a predominant visual element and enhancement to the area's river and stream corridors.

3. Central utilities may be extended to the all subareas of the Transition Policy Area.
4. New developments proposed within the Lower Foley and Lower Bull Run subareas of the Transition Policy Area will be required to connect to central water and wastewater utility lines.
5. New developments proposed within the Landfill Water Service District will be required to connect to central water services. (See LCSA Water and Sewer Lines Map)
6. Where LCSA and the County determine that the extension of central water lines to a site cannot be engineered, is not economically feasible and/or has adverse impacts on the environment, the County promotes the use of communal water systems to protect groundwater quality by reducing the number of wells.
7. The County will continue to protect the extractive industry (Bull Run and Luck Stone quarries) through a quarry zoning overlay district.
8. The County supports the development of General Industrial uses in the northern portion of the Lower Sycolin subarea on properties located northeast of Sycolin Road (Route 625) and the Dulles Greenway (Route 267), east of the Leesburg JLMA and west of Goose Creek.
9. To protect the historic character, surrounding landscape and cultural importance of Evergreen Mills Road, as part of the "Old Carolina Road", the County will seek its designation as a Historic Roadway District as provided for in the Zoning Ordinance and in coordination with the long-term transportation plans of the County.
10. The County will support a compatible road network in the Transition Policy Area based on the ultimate planned densities established. Specific locations in the Transition Policy Area that maintain a low density and rural character will have ultimate roadways matched for appropriate capacities and road section type.
11. The County will discourage the use of individual wells and septic systems and drainfields to serve new developments in the Transition Policy Area. These individual systems may be considered only where the proposed development densities, scale of development and location of public utility systems, makes the extension of central utilities or connection to an adjoining communal system economically infeasible.

## A. Community Design

The Transition Policy Area seeks to create unique residential communities using conservation design techniques that fully implement Green Infrastructure policies and preserve substantial amounts of open space. The open space and Green Infrastructure elements provided in developments will link developments together and promote a transition in land development intensity between the Suburban and Rural Policy Areas. The primary development options offered in the Transition Policy Area include Villages and Residential Clusters.

Villages are envisioned as mixed-use communities with residential and non-residential uses integrated to create pedestrian friendly self-sustaining developments and are intended to support a mix of housing types and range of housing prices. Rural Villages with up to 300 residential units, as prescribed in the 1993 Zoning Ordinance, are envisioned for the Lower Sycolin, Middle Goose Creek and Lower Bull Run subareas given their strong relationship to the Rural Policy Area and rural areas of the adjacent jurisdictions of Prince William and Fairfax. Countryside Villages that are more likely to evolve into new towns and that are more compatible with the suburban pattern are envisioned for the Lower Foley subarea. Non-residential uses will consist primarily of civic and institutional uses, small commercial and retail services and home

businesses or local offices organized around a compact community core to serve an individual community or a combination of Villages.

Countryside Villages will be permitted on central utilities in the Lower Foley subarea and Rural Villages will be permitted on central utilities in the Lower Bull Run, Lower Sycolin and Middle Goose subareas.

The densities and open space requirements associated with Villages and Residential Clusters are directly related to specific subareas. The desired density and development pattern for each subarea is provided below.

## 1. Lower Sycolin and Middle Goose Subareas

The County envisions that the Lower Sycolin and Middle Goose subareas in the northern portion of the Transition Policy Area will have a base density of one dwelling unit per ten acres in a clustered development pattern. Clusters will be smaller developments supporting between 5 to 25 units, predominantly single-family residential units in individual hamlets. Rezonings to Rural Villages with incorporation of the design criteria for Rural Villages contained in the 1993 Zoning Ordinance at one dwelling unit per three acres will be permitted when 70 percent of the site is maintained as open space. The County envisions that these two subareas will have a more rural character, with lower densities and higher open space requirements than that in the other subareas, to facilitate a transition to the Rural Policy Area. Open spaces will be the dominant visual feature of the landscape.

All new developments within the Landfill Water Service Area District in the Lower Sycolin subarea will be required to be served by central water lines. Central and communal water and wastewater systems are preferred over individual utility systems in all other areas of the Lower Sycolin and Middle Goose subareas. Wastewater systems proposing subsurface or surface discharge will be discouraged in these subareas, given their proximity to the Goose Creek and Beaverdam reservoirs. Alternate sewage disposal systems that ensure a high level of treatment and offer efficiencies in cost, operation and maintenance will be encouraged.

Luck Stone Quarry, located within the Lower Sycolin subarea, will continue to be protected from encroaching residential development. Also, the creation of a buffer and voluntary open space area that is consistent with the RSCOD policies is a priority in this subarea.

The northern portion of the Lower Sycolin subarea located northeast of Sycolin Road (Route 625) and the Dulles Greenway (Route 267), east of the Leesburg JLMA and west of Goose Creek as depicted on the Planned Land Use Map will develop as a General Industrial area in accordance with Plan policies (CPAM 2013-0001).

## 2. Lower Foley Subarea

It would be most appropriate if the Lower Foley subarea developed with Countryside Villages on central utilities, at densities of up to two dwelling units per acre. However, development in a clustered pattern at existing zoning of one dwelling unit per three acres or one unit per acre would also be appropriate and reasonable. The variation in parcel sizes and base densities within this subarea provides opportunities for an innovative blend of development patterns. Further, as a potential receiving area for density transfer from the Lower Bull Run subarea, densities in the Countryside Villages could be up to three dwelling units per acre. A 300-foot buffer is required from the Bull Run to provide additional protection to the Occoquan watershed and reservoir.

## 3. Upper Broad Run and Upper Foley Subareas

Development in a clustered pattern at the existing zoning of one dwelling unit per three acres or one unit per acre is reasonable and appropriate. The variation in parcel sizes and base densities within these subareas provides opportunities for an innovative blend of development patterns. Central and communal water and

wastewater systems are preferred over individual utility systems. Alternate sewage disposal systems that ensure a high level of treatment and offer efficiencies in cost, operation and maintenance will be encouraged.

### 4. Lower Bull Run Subarea

Lower density, clustered development on central utilities at up to one dwelling unit per three acres will be encouraged in the Lower Bull Run subarea. Rezonings to Rural Villages with incorporation of the design criteria for Rural Villages contained in the 1993 Zoning Ordinance at one dwelling unit per three acres will be permitted when 70 percent of the site is maintained as open space. The Lower Bull Run subarea is also intended to serve as a sending area for density transfer to the Lower Foley subarea. Under this situation, open space, with priority given to the land located along the Bull Run and the Fairfax County boundary, would be acquired through easement or purchase and further protected in accordance with the Density Transfer Guidelines provided in Chapter Eleven of this Plan. Overall, this will serve to promote development patterns that are sensitive to the environment, the Bull Run and compatible with the lower density areas in the adjacent jurisdictions of Prince William and Fairfax Counties. Further, residential development encroaching upon the active Bull Run Quarry located at the southern end of the Transition Policy Area in the Lower Bull Run subarea will be discouraged. In addition, rezonings at up to one dwelling unit per acre (excluding affordable dwelling units) will be considered for the northern portion of the Lower Bull Run. The northern portion of the Lower Bull Run sub-area is limited to properties lying outside of the quarry Notification Overlay District as mapped prior to April 2004.

## Community Design Policies

1. Residential uses within the Transition Policy Area will develop as Rural Villages, Countryside Villages, and Residential Clusters, with base densities and rezoning options related to the conditions of the specific subareas.

2. The County will establish a density of one dwelling unit per ten acres with development clustered on lots up to three acres in the Lower Sycolin and Middle Goose subareas. The County will provide the option to rezone to a Rural Village with a density of one dwelling unit per three acres in accordance with the 1993 Zoning Ordinance. Development will be clustered to maintain a minimum of 70 percent of a site as open space.

3. The County will retain the densities of one dwelling unit per three acres and one dwelling unit per acre as established in the current zoning patterns in the Upper Broad Run, Upper Foley, and Lower Foley and Lower Bull Run subareas.

4. The County will revise the existing regulations in the Zoning Ordinance to require clustered development patterns with a minimum of 50 percent of the site maintained as open space and no minimum lot size to promote housing type diversity.

5. In the Lower Foley subarea, densities up to two dwelling units per acre can be developed in Countryside Villages, with a minimum of 50 percent of the site maintained as open space. With density transfers from the Lower Bull Run subarea, up to three dwelling units per acre may be possible.

6. The Lower Bull Run subarea is planned for one dwelling unit per three acres. The County will provide the option to rezone to a Rural Village with a density of one dwelling unit per three acres in accordance with the 1993 Zoning Ordinance. Development will be clustered to maintain a minimum of 70 percent of a site as open space. Density transfer to the Lower Foley subarea is encouraged in accordance with the Density Transfer Guidelines of this Plan. The County will consider rezonings at up to one dwelling unit per acre (excluding affordable dwelling units) for properties in the northern portion of the Lower Bull Run. The northern portion of the Lower Bull Run sub-area is limited to properties lying outside of the Quarry Notification Overlay District as mapped prior to April 2004.

7. The design guidelines for the Lower Sycolin, Middle Goose and Lower Bull Run subareas will incorporate the design criteria for Rural Villages in the existing 1993 Zoning Ordinance, to foster developments in the character of Rural Villages.

8. Residential Cluster development in all Transition Policy Area subareas close to the Rural Policy Area will develop as clusters of 5 to 25 units with predominantly single-family detached residential units. The Residential Cluster is intended to draw from the traditional development pattern of Rural Hamlets and facilitate a transition in the scale of residential cluster developments from the Suburban to Rural Policy Areas.

9. Residential Clusters and Villages will be developed with specific design criteria that help to form open space (which may include active and passive recreation) surrounding the residential development. Refer to the Design Guidelines contained in Chapter Eleven.

10. Residential Cluster developments allow landowners to group lots in a traditional rural community pattern while preserving the majority of the land base in open space. A Residential Cluster is the grouping of building units on small lots with the largest part of the site remaining in open land. There is no minimum lot size for the clustered lots. The cluster is both visual and spatial with the dwellings scaled and sited to maintain coherent relationships to each other and the surrounding landscape. The residual open land accounts for the overall lower density of the site.

11. The County may consider a cluster to include the siting of houses in a group using conservation design and not just the siting of lots on a parcel.

12. In locating the open space required in the conservation design of a Residential Cluster, the County will consider the contiguity of the open space area to other designated open space and unique site features and Green Infrastructure implementation.

13. Open space provided within developments will be located to accomplish the following:

    a. Create and supplement the 300-foot buffer and 200-foot transitional area proposed along the Bull Run in the Upper Foley, Lower Foley and Lower Bull Run subareas, consistent with the RSCOD policies.

    b. Create and supplement the 300-foot buffer and 1000-foot voluntary open space area proposed along the Goose Creek and the Goose Creek Reservoir and the Beaverdam Reservoir in the Lower Sycolin and Middle Goose subareas, consistent with the RSCOD policies.

    c. Create a contiguous network of green spaces to supplement the Countywide Green Infrastructure.

14. Adding to the creation of the greenbelts and buffer will be credited to the satisfaction of open space requirements.

15. The County will encourage the development of non-residential uses in the Transition Policy Area that provide a transition from suburban to rural. Such uses may include but are not limited to equestrian centers, golf courses, retail nurseries, boarding schools and kennels, large institutions provided they meet specific criteria that address the nature, scale and intensity of the use, market area and design characteristics.

16. Non-residential uses will serve to define the Transition Policy Area as a unique planning area. The County will allow for a range of uses that are compatible with desired development patterns and the rural landscape and are at intensities not permissible within the Rural Policy Area.

17. Small-scale commercial uses permitted through the home occupation and small business provisions of the Zoning Ordinance are appropriate in the Transition Policy Area.

18. Villages exceeding 100 dwelling units should provide a community core that will serve as the focal point within the development.

19. The community core can vary in scale, design and use depending on the scale of the community it serves. The total area dedicated to the non-residential uses shall not exceed three percent of the area of the proposed development. The following location and design criteria apply.
    a. A Village Core is intended to create a sense of place and identity for the community.
    b. A Village Core is intended to be a compact grouping of residential, business, commercial retail and service and civic uses providing convenience goods and services to residents in adjoining neighborhoods.
20. Approval of a request to rezone property to permit Villages shall be contingent on the provision of appropriate civic uses and services, compatibility with existing neighborhoods, and compliance of the proposal with the community design goals and policies of the County.
21. The County will require a variety of housing types and lot sizes in the Villages, such as single-family, multi-family and townhouse units.
22. Civic and institutional uses will constitute the predominant component of the non-residential uses within the Villages. Office and commercial retail uses will be permitted at scales necessary to foster a self-sustaining community. Cores will not develop as destination retail centers.
23. Civic uses that are appropriate within Villages include houses of worship, community centers, elementary schools, government human services offices and facilities such as senior cafés, branch libraries and similar uses. In addition, the following location criteria apply.
    a. Civic uses should be located at prominent locations within the core such as the end of a street or street intersection.
    b. Parking, signs, lighting and loading areas must be located and designed to have minimal undesirable impact on surrounding areas and ensure that the standards and environmental impacts on surrounding areas conform to County requirements.
    c. The scale of civic uses must be compatible with the residential and pedestrian nature of the surrounding village. Large-scale civic or institutional uses requiring more than 15 buildable acres, either individually or in a multipurpose facility, should be located on the periphery of an individual neighborhood or in core areas on roads that can accommodate the anticipated traffic volume.
24. Open space such as natural areas, tot lots, athletic fields, parks and greens should generally be dispersed in Villages so that they are conveniently located to most people. In addition, the following location criteria apply.
    a. Athletic fields should be located, where practical, along collector roads and should be buffered from adjoining residences, although trails and sidewalks should provide a connection with the neighborhood.
    b. Greens and other maintained passive parks should serve both a recreational and a design function. They should be located in high-visibility areas or in conjunction with civic uses such as schools, churches or community buildings and neighborhood commercial centers where the green can serve as either a “mall” for the center or as a buffer for adjoining homes.
25. Equestrian facilities and trail networks will be promoted and enhanced within the Transition Policy Area.
26. The County will protect the Bull Run Quarry in the Lower Bull Run subarea and the Luck Stone Quarry in the Lower Sycolin subarea from incompatible uses by ensuring that encroaching new development does not hinder the quarry operation.
27. The County will develop and implement an area management plan to provide detailed design and land

use guidance for planned development in the Transition Policy Area. The area management plan process will involve the area's citizens and business owners in the development of plan policy.

## B. Location Criteria for Villages

Location policies will direct development to sites that enhance or augment the County's Green Infrastructure, complement the rural character of existing landscapes, protect environmentally sensitive resources, allow for the provision of infrastructure facilities and remain compatible with surrounding development densities. It would be most appropriate if the locations of villages are coordinated through the policy area planning effort.

Rezoning's to achieve the Countryside Village pattern of development served by central water and wastewater utilities are desired in the Lower Foley subarea.

## Location Policies

1. Development within Villages should be located on areas of the site that afford the least disruption of natural views of the rural landscape.
2. Villages located within 500 feet of archaeological and historic sites and scenic byways will be reviewed for compatibility with the existing landscape.
3. Villages should be designed so that open spaces surrounding the developments augment or enhance the Green Infrastructure.

## C. General Industrial

General Industrial Developments within the Transition Policy area will be limited to the northern portion of the Lower Sycolin subarea located northeast of Sycolin Road (Route 625) and the Dulles Greenway (Route 267), east of the Leesburg JLMA and west of Goose Creek as depicted on the Planned Land Use Map. The industrial uses are intended to accommodate the continued operation and expansion of the Luck Stone Quarry and other major industrial uses and provide a degree of protection for the industrial uses from other land uses. Primary land uses in the industrial area are General Industry and Heavy Industry. Quarries are considered Heavy Industrial uses. Policies governing quarries are located in Chapter Five, the Green Infrastructure.

General Industrial uses are predominantly labor-intensive industrial and commercial uses. Their outdoor storage requirements, noise levels, and emissions present difficult design issues and make them incompatible with residential development. Associated activities also make them incompatible with residential and other business areas. The County requires that industrial uses provide adequate buffers and protection to mitigate negative impacts on surrounding uses. Such industrial uses are best located away from major roads, accessed from within an industrial park, and limited to a minor portion of a larger development.

## General Industrial Policies

1. General Industrial Developments will be located in accordance with the Planned Land Use Map and the community design guidelines and land use policies of this Plan.
2. The County will require that industrial uses provide sufficient buffering from nearby residential areas and business uses to ensure that the effects of noise, vibration, odor, or other emissions that may be associated with the industry do not exceed specified levels.
3. Where General Industrial uses are proposed to develop in free-standing industrial parks the following guidelines will be met:

a. Screen all outdoor storage and equipment parking areas from adjoining non-industrial properties and roads.

b. Locate allowed retail uses along internal street frontages.

c. Minimize the number of entrances to the industrial park from major collector or arterial roads.

4. General Industrial uses will not be adjacent to a residential neighborhood.

5. Heavy Industry uses will be buffered from residential uses. This separation may be accomplished by locating less-intensive employment uses permitted in Regional Office or Light Industrial areas in transitional areas adjoining the Heavy Industry use. The width of the transition area adjoining the Heavy Industrial use will be determined on a case-by-case basis. The County may consider the existence of natural or manmade barriers between the uses (such as streams and floodplains or major collector or arterial roads, existing buffers or greenbelts and topographic features of the area).

6. Heavy Industry uses should have access to, but be screened from, views along arterial roads. Outdoor activities such as equipment parking and material storage should be screened from view from adjoining roads.

7. The County will place a limitation on the size of heavy industry, and appropriate linkages will be established based on road capacity, employment generation, and water requirements.

8. The County will protect the Luck Stone Quarry from incompatible neighboring uses by ensuring that encroaching new development not hinder the operation of the quarry.

# Green Infrastructure

The Green Infrastructure Policies outlined in Chapter Five: Green Infrastructure: Environment, Natural and Heritage Resources of the *Revised General Plan* apply in the Transition Policy Area and are a fundamental component of the land use pattern to be developed. Among the existing Green Infrastructure assets in the policy area are the following:

## A. Reservoirs, River and Stream Corridors

Three distinct watersheds intersect the Transition Policy Area, namely the Goose Creek, Broad Run and Occoquan watersheds. The dominant physical features of the Transition Policy Area include the streams draining into these three watersheds: Goose Creek, a State Scenic River in the Goose Creek watershed, Broad Run in the Broad Run watershed and Bull Run that flows into the Occoquan watershed. The Goose Creek supports two drinking water reservoirs, the Goose Creek and Beaverdam Reservoirs, while the Bull Run drains into the Occoquan Reservoir that is located between Prince William and Fairfax Counties. These reservoirs are sources of drinking water for Loudoun County, Fairfax County and the City of Fairfax and must be protected.

## B. Agricultural Potential

Limited prime agricultural soils are located within the policy area and are generally located along the Route 621/Evergreen Mills Road corridor and the “finger” tributaries of the Broad Run in the Upper Broad Run subarea. The Upper Foley, Lower Foley and Lower Bull Run subareas have poor soils with shrink-swell characteristics that present problems for the construction of building foundations and on-site wastewater systems. There are two Agricultural and Forestal Districts in the Transition Policy Area that together total approximately 800 acres and should be considered part of the Green Infrastructure assets.

## C. Cultural and Heritage Resources

While there are no designated Historic Districts in the Transition Policy Area, there are more than 30 surveyed historic structures, including Fleetwood Farm, which is listed on the National Register, the

settlement of Lenah, and more than 30 identified archaeological sites, many of which are prehistoric sites located along Goose Creek, Broad Run, Bull Run and their tributaries. In addition there are many abandoned mill sites, such as the site of Evergreen Mills along the Goose Creek. The Arcola Elementary School and a few open space easements are also located in the policy area.

## D. Geological Resources

The policy area contains concentrations of diabase rock used for the construction of roads and buildings. The Bull Run quarry is an active quarry located at the southern end of the Transition Policy Area in the Lower Bull Run subarea. The Luck Stone quarry is also an active quarry located at the northern end of the policy area.

# Water and Wastewater

The Transition Policy Area has very limited central water and wastewater service. A waterline traverses the area from east to west in the Lower Sycolin subarea to serve a special water service district located adjacent to the County landfill. The Lower Sycolin subarea of the Transition Policy Area contains some properties that are within the Landfill Water Service Area District. New developments within the Landfill Water Service Area District will be required to connect to central water utility lines. (LCSA Water and Sewer Lines Map)

At the southern portion of the Transition Policy Area sewer service is being engineered to serve the Kirkpatrick Farms development, which straddles Braddock Road. A pump station will be built to serve the Lower Foley subarea. A pump station located near the intersection of Route 620/ Braddock Road with Elklick Road is currently serving the Elklick area with the South Riding Community which is located in the Suburban Policy Area.

Central utilities may be extended to all subareas.[1] Where the extension of central utilities cannot be engineered, is economically infeasible and/or has adverse impacts on the environment, groundwater quantity and quality will be protected in the Transition Policy Area through water conservation efforts that promote the use of communal systems and limit the number of individual groundwater withdrawals.

Chapter Two provides the detailed water and wastewater policies.

## Water and Wastewater Policies

1. The County promotes the use of central and communal water and wastewater systems to serve residential clusters, Rural Villages and Countryside Villages in the Transition Policy Area. At the time of application, LCSA will evaluate the various alternatives to identify the utility system that best promotes the objectives of the County's Comprehensive Plan.

2. The County will encourage communal water and wastewater systems proposed to serve new developments to combine with existing or approved LCSA-owned communal systems, where the following criteria are met:

    a. The service areas of the new communal system and the existing or approved communal system are both contained within the Transition Policy Area as defined in the County Comprehensive Plan documents.

[1] This amends the central utilities boundary shown in the 1993 *Dulles South Area Management Plan* (DSAMP) which was subsequently amended on October 15, 1997, to preclude central sewer and water west of the designated Interim Planning Area Boundary. At that time, staff was directed to make the necessary revisions to the DSAMP to implement the Board's policy decisions that would have, among other things, revised incorrect Figures 4 and 5 of the DSAMP. With the adoption of this Revised General Plan, these revisions are not required.

b. The service area of the new communal system immediately adjoins the service area of existing or approved LCSA-owned communal system(s).

c. LCSA determines the inter-connection between the two systems can be engineered, is economically feasible and minimizes impacts on the environment.

3. New developments proposing to combine their communal water and/or wastewater systems with those of adjoining existing or approved developments, shall not rely on the combination to meet their water and wastewater requirements but show that they can be supported through on-site individual and/or communal systems.

4. Inter-connections between established and proposed communal systems shall not be used to facilitate a change in land use or development density that is not in conformance with the County Comprehensive Plan.

5. The County encourages the retrofitting of existing or approved communal water systems within the Transition Policy Area with central utilities to solve the potable water problems or the public health problems of existing developments.

6. The County encourages the retrofitting of existing or approved communal wastewater systems within the Transition Policy Area with central utilities to solve the wastewater problems such as failing drainfields or the public health problems of existing developments.

## Transportation

The Transition Policy Area contains many historic roads or segments of roads that were important to Loudoun's transportation network during Colonial times. Portions of Route 621/Evergreen Mills Road and Route 860/Watson Road were part of the Old Carolina Road, perhaps the most well used Colonial north-south right-of-way through the County. Little River Turnpike (now Route 50/James Mosby Highway) and Route 620/Braddock Road also were major historic east-west corridors linking the cities of Winchester and Alexandria.

Portions of arterial and collector roadways that traverse the County are in the Transition Policy Area (see Road Surfaces Suburban and Transition Policy Areas Map). They include roads that run east to west such as Route 50/James Mosby Highway and the Dulles Greenway. Roads that traverse the policy area in a north south direction include Route 621/Evergreen Mills Road and Route 659/Belmont Ridge Road. The planned Tri-County Parkway also will move traffic in a north south direction. Other road improvements are planned for Route 621 and Route 659. These planned improvements are described in the appendix of the *Revised Countywide Transportation Plan*, which provides the transportation policy direction for the Transition Policy Area. The construction of these road improvements is prerequisite to the implementation of the land use pattern in the Transition Policy Area. Currently, there are inadequate funds appropriated for such transportation improvements. The developers will be expected to pay for the majority of costs for these improvements.

In order to promote the transition from Suburban Policy Area to Rural Policy Area, the character of the road network in the Transition Policy Area should be designed to promote a visual transition. This may include revised road lanes, rural shoulders instead of curb and gutter, direct driveway access points and increased building setbacks. The *Revised Countywide Transportation Plan* provides specific transportation policy direction for development in the Transition Policy Area.

# Reference Maps

Transition Policy Area Subareas Map

LCSA Water and Sewer Lines Map

Road Surfaces Suburban and Transition Policy Areas Map

# Reference Maps

Transition Policy Area Subareas Map

LCSA Water and Sewer Lines Map

Road Surfaces Suburban and Transition Policy Areas Map

# Chapter 9
# The Towns

The seven incorporated Towns in Loudoun County offer a window to the County's past and are a key component of its unique character today. Most were incorporated more than a century ago. The Towns became agricultural business centers, providing markets for farm products and the necessary goods and services for rural residents. The origins of several towns are also in tourism as many city dwellers traveled on the train to stay in lovely boarding houses and inns for summer vacations. Over the years, the Towns have developed as the population centers as well as the location for employment and public facilities.

Today, the Towns, while still influenced by their agricultural tradition, play a more varied role that includes retail and service-based businesses, home-based businesses, educational opportunities, and telecommuting as well as serving as bedroom communities for many who commute to jobs in the region. Yet, they have largely managed to retain their charm and distinct sense of community.

Leesburg serves as the County seat and is the largest of the Towns. Hamilton, Purcellville, and Round Hill are located in close proximity along the western Route 7 corridor. Middleburg is the southernmost Town and is located astride Route 50. Lovettsville is located in the northern portion of the County along Route 287 and Hillsboro, the smallest incorporated Town in the County, is located in the northwest section of the County on Route 9. (Map of Towns)

Town leaders have stated common goals of preserving the built and social heritage of the Towns. While growth in and around the Towns presents a challenge to preserve the historic and social fabric, Town leaders are determined to enhance and plan for increasingly autonomous and sustainable communities.

The County values the character of each of the seven incorporated Towns and will be proactive in working with the Towns to assure a vibrant future for them. The County recognizes that the health of each Town contributes to the County's overall strength and attractiveness as a place to live. To that end, the County is committed to a new era of partnership with the Towns. The County will provide resources to assist the Towns with facilities planning, economic development, and land use planning and supports an open and thorough process of working with the Towns.

The following sections address general growth management, land use, transportation, public utility, and public facility strategies and policies. These sections are followed by specific discussion and policies for each Town.

## Growth Management

The strategy of the Plan is to encourage compatible development within the Towns and the adjoining areas. The 1991 *General Plan* established Urban Growth Areas (UGAs) for the Towns of Leesburg, Hamilton, Purcellville, Round Hill, and Lovettsville. The UGAs would provide an expansion area around the Towns that would concentrate development in order to maintain viable communities, limit development sprawl, and ensure that public facilities adequately and efficiently serve the Towns and surrounding areas. The UGA boundaries set the limits of municipal water and sewer extension that the Towns control and mark the edge of future town limits.

# Reference Maps

Transition Policy Area Subareas Map

LCSA Water and Sewer Lines Map

Road Surfaces Suburban and Transition Policy Areas Map

Since the adoption of the 1991 General Plan, residential growth has boomed in the areas around the Towns. The towns have reassessed their ability to serve the areas in the UGAs with public water and sewer and some Towns have decided to reduce the UGAs. The following revisions to these boundaries are made through this revised Plan:

- Eliminate the Lovettsville UGA and concentrate development within the Town's boundaries.
- Reduce portions of the Hamilton and Round Hill UGAs.
- Reduce the Leesburg UGA in the north and southwest.
- Middleburg and Hillsboro have matured to their ultimate corporate limits and will not expand beyond the existing corporate limits.

Along with the reassessment of boundaries, the County recognizes that the term "Urban Growth Area" no longer reflects the intent of either the County or the Towns. Therefore, "Urban Growth Area" has been changed to "Joint Land Management Area" (JLMA). The boundary of the JLMA, with an exception for the Town of Purcellville as set forth in Chapter 9 Public Utilities Policies, sets the limits of municipal water and sewer extension and in that respect, it continues to serve as an urban growth boundary. It defines a significant change in land use between the areas within the JLMA and that which is outside of the boundary.

In the Joint Land Management Areas, there is the potential for 11,498 additional housing units, including 3,316 units in the pipeline. It is anticipated that by the end of the twenty-year planning period, 9,227 housing units will have been absorbed, and a total of 11,562 housing units will exist. At that time, the JLMAs are projected to have a population of 31,171 persons, an increase of 512 percent over the year 2000 population estimate[1].

In the incorporated Towns, there is the potential for 6,816 additional housing units, including 3,385 units in the pipeline. It is anticipated that by the end of the twenty-year planning period, 5,011 housing units will have been absorbed, and a total of 18,154 housing units will exist. At that time, the incorporated Towns are projected to have a total population of 46,544 persons, an increase of 35 percent over the year 2000 population estimate[2].

The County will continue to work closely with each Town on development proposals within the JLMAs in order to promote a logical, cohesive extension of the existing Town fabric. While the Towns are responsible for the planning and zoning within their boundaries, the County and the towns have agreed to joint responsibility for planning of the JLMA and the County's Zoning Ordinance applies to these areas. While this Plan calls for a remapping of the planned land uses in the County, current zoning densities will continue to apply in the JLMAs.

Area plans have been adopted for Leesburg, Round Hill, and Hamilton. The jointly adopted *Purcellville Urban Growth Area Management Plan* (PUGAMP) has been superseded pursuant to CPAM 2012-0002. The area plans provide more specific guidance for land use in those JLMAs. Area plans will continue to be an important planning tool for the County and the Towns. Updating these plans and keeping them current

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[1]With CPAM 2012-0002 Purcellville retains its JLMA, however, further central utility extension is not anticipated except for extensions to serve Autumn Hill, ZMAP 1990-0019.

[2]The projected housing units and population is inclusive of higher residential densities within the Purcellville JLMA that were originally envisioned by PUGAMP.

will be a priority for the County.

Annexation guidelines are key implementation tools. Annexation is a logical extension of the increased role played by Towns in the provision of public facilities, services, utilities and commercial products and services. Annexation will allow system providers a larger role in managing the services and facilities in each Town. Potentially annexation could result in the enhancement of the towns' tax revenues. Leesburg has an annexation agreement with the County. All Towns can work with the County on possible annexations. (See Chapter Eleven for annexation guidelines)

## Growth Management Policies

1. The *Revised General Plan* identifies Joint Land Management Areas around some of the Towns in the County to accommodate growth emanating from them and that will establish distinct boundaries between the Towns and the adjacent policy area. The County will work with Town Officials to improve coordination on land use, annexation and other matters affecting the Joint Land Management Areas.

2. New non-government development is encouraged to locate within the corporate limits of the Towns before moving into contiguous designated Town Joint Land Management Areas (JLMAs) to facilitate the compact and efficient use of resources.

3. Planning and policy documents in the JLMAs will be adopted by the County through cooperative planning efforts with the Towns, and decisions on land use applications concerning land in the JLMAs will be made by the County in consultation and collaboration with the Towns.

4. The County will coordinate with the Towns on rezonings and subdivision development within the areas surrounding the Towns and in designated JLMAs regarding the provision of utilities, public facilities, and compliance with community design, growth management, and other goals and policies stated in the *Revised General Plan* and applicable area plans.

5. The Board of Supervisors will establish joint Town and County committees to oversee planning efforts in the JLMAs, assign staff as required to provide technical support, and encourage a public process to invite the participation of Town and County residents.

6. The *Revised General Plan* seeks the creation of a "greenbelt", depending on topography and physical features, around the Towns and/or their JLMAs to assist in maintaining the distinct character of each Town. Development will be limited to that permitted by the underlying zoning and will observe all Green Infrastructure policies.

7. The County will seek the implementation of a greenbelt through dedication of open-space easements, purchase of development rights, large-lot subdivisions, clustering, open space or cash-equivalent proffers, transfer of development potential, and other means.

8. As water and sewer are extended into a Town JLMA, annexation of the area by the Town will be encouraged by the County.

9. The County will coordinate closely with the Towns on residential subdivisions proposed outside the Town limits.

10. The County will coordinate with the Towns on development issues in order to promote fiscally balanced growth that will not unduly strain County or Town resources, including County and Town budgets, the natural environment, public facilities and utilities.

# Land Use

From a land use perspective, the Towns represent good examples of the traditional development pattern. Each is a distinct community with a variety of business and residential opportunities to maintain a human scale where people can walk from home to the store, church, and school. Many people who live in the Towns volunteer in the local fire and rescue company, serve on town committees, and actively participate in community activities. Towns also are the focal point for the large rural communities that surround them.

The Central Business Districts (CBDs) for each of the Towns have been built in traditional patterns. The business areas represent efficient land use patterns as buildings are located compactly, a variety of businesses are located close to the street, with an emphasis on pedestrian movement. Sidewalks are located along the street with little area dedicated to parking**.** The *Revised General Plan* seeks to preserve and to enhance these traditional qualities and functions provided by the Towns. Policies in the Plan address issues relating to the protection and enhancement of traditional and distinctive character of each Town. The County is currently working cooperatively with the Towns to investigate the National Trust for Historic Preservation's Main Street Program, or a similar approach, as a vehicle for comprehensively addressing issues, like parking, in the CBDs.

The Towns will continue to play an important role in providing for a wide range of housing needs. The existing housing stock in each Town represents a variety of housing types and price ranges. The County, in collaboration with each Town, strives to encourage this housing pattern in the JLMAs, and particularly the inclusion of affordable housing in new developments to meet local demand. Growth poses challenges to the historic design features and character of the Towns. Conventional suburban style development is frequently adjoined to Towns with little sensitivity to the traditional design, transportation constraints, and unique architectural qualities of the existing community. Careful consideration must be given to both scale and design of new developments to preserve and enhance the traditional community character. The County recognizes the importance of designing the road entrances to the Towns as gateways to assist in defining the distinct character of each Town.

# Land Use Policies

1. The County will work with the Towns and interested preservation groups to identify open-space and agricultural-preservation strategies such as: the purchase of development rights, donation of conservation easements, fee-simple purchase, transfer of development potential, clustering, and the possible creation of a conservation service district and/or nonprofit foundation to promote and implement open-space preservation around the Towns.

2. The County will work with the community to identify existing and potential funding sources for open-space preservation, including the Loudoun County Purchase of Development Rights program, TEA-21 grants, the Virginia Land Conservation Fund, local and national land trusts, and other public or private funding sources.

3. Mixed-use development is encouraged in the existing Towns and JLMA areas around the Towns to reinforce the traditional growth patterns, to reduce auto trips, to minimize the need for additional road improvements, and to encourage walking to employment and shopping. Specific land use plans will be adopted jointly by the County and Towns to cooperatively plan JLMAs or to plan areas around Towns without JLMAs.

4. Within JLMAs, the County encourages the development of a variety of housing types in an urban pattern of compact neighborhoods extending in a contiguous, rational and convenient manner from the existing Town.

5. The County encourages the adaptive re-use, redevelopment, maintenance, conservation, and improvement of existing housing stock in a manner supporting social and economic diversity within the community.

6. Future development will apply appropriate community-design concepts with a variety of lot sizes that complement and enhance the existing development patterns of the Towns. When applicable, new development will incorporate the traditional town-development patterns.

7. Residential Community design will incorporate a variety of lot sizes. This design may be exhibited through:

    a. Numerous connections to existing streets where an existing rectilinear street pattern is evident and connection is possible;

    b. An interconnected street network without cul-de-sacs and P-loop streets except where required for environmental reasons;

    c. A rectilinear block pattern (modified only where needed to address environmental constraints) with compact lots, shallow front and side-yard setbacks and block sizes of 300 to 600 feet;

    d. Sidewalks along all streets, providing pedestrian access to the town or neighborhood center, public buildings, parks, and other destinations;

    e. A compatible mix of residential and non-residential uses such as home-occupation businesses, churches, and schools;

    f. A hierarchy of parks, squares, or greens, and natural open spaces throughout the development; and;

    g. A central public focal point consisting of any, all, or a combination of a park (village green); a public facility such as a church or community center; natural features; or neighborhood commercial uses.

8. New residential development will preserve the Green Infrastructure and should incorporate open-space conservation into its design.

9. The County will support the strengthening of the commercial areas within the Towns as the preferred, principal location of retail and service businesses, office development, and major civic uses.

10. Commercial retail and service development in Town JLMAs will consist of businesses that are compatible with the rural economy and the existing businesses of the Towns. This also may include innovative recreational or institutional uses or home-occupation uses out of residents' homes. A neighborhood center may be appropriate when proposed in conjunction with a residential community development or where it can be integrated with an existing residential area.

11. The County will work with the Towns to identify tourism opportunities in and around the Towns and to coordinate action on these opportunities with the countywide tourism objectives.

12. The County will support the Towns in assessing the historical and cultural resources in the Town and will work with the Town on historic preservation efforts both in and around town.

13. The County encourages the protection of the Towns' historic and archaeological resources.

14. The County will encourage the Towns to continue efforts to maintain commercially viable downtowns.

15. Recognizing the Towns' intent to create distinct "gateways" into each community, the County will

consult with each Town to ensure that planning and development of these gateways will be coordinated where land in both the Town and the County is part of the gateway.

16. The County will work with the Towns to help ensure the protection of unique environmental resources in the vicinity of the Town and in the Town.

## Public Utilities

The Plan calls for the County to provide support to the Towns for needed public utility, public facility, and transportation planning and to make facility provision in and around the towns a priority. The County will selectively provide financial assistance to Towns for needed utility improvements. In the past, lack of funding for needed public utility improvements has put the Towns in the position of having to rely on private development proposals for financial support. As such, the need for improved water and sewer service places environmental protection, community design and other matters in a secondary position when development applications are reviewed.

All the Towns with the exception of Leesburg rely on groundwater sources for drinking water. Each town needs a reliable water source. In recent years, some of the Towns have had to take action to clean up municipal wells that were temporarily polluted. The County will place a high priority on protecting groundwater supplies for the Towns and rural residents. (Also see Chapter Five)

The Plan recognizes that technology for communal and on-site wastewater systems has improved significantly in recent years. In the past there was well-founded concern for the effects of such systems on the environment. However, technology today has proven that the effects are less detrimental. The County must consider the need for providing various public facilities to serve a growing population and the use of communal facilities in the JLMAs should be considered as one means of serving these facilities.

## Public Utilities Policies

1. The Towns will be the providers of public sewer and water in their town JLMAs unless a different provider is agreed upon by the County and the Town.

2. The County will encourage and support the expansion of existing Town sewer and water facilities that encourage a coordinated development pattern and further the goals and policies of the *Revised General Plan*.

3. The County will investigate means of providing financial assistance (such as revolving loans or grants) to Towns to improve sewer and water systems to meet minimum health standards established by the state for the existing populations of the Towns.

4. The County will work with the Towns to ensure that the expansion of public sewer and water into the Town JLMAs satisfies the goals and policies of the *Revised General Plan* and the County's Adopted Area and Service Plans.

5. Extensions of sewer and water lines to serve new development in Town JLMAs will be the financial responsibility of the developers and the Towns.

6. A commission permit will be required to extend sewer and water lines into the Town JLMAs.

7. All development in the Joint Land Management Areas is planned to be served by public sewer and water, with the exception of areas within the Town of Purcellville JLMA, provided that Town sewer

and water extensions shall be permitted to serve the Autumn Hill development pursuant to ZMAP 1990-0019. Communal facilities may be used to serve Town and County owned and operated public facilities and cluster residential developments with densities no greater than one unit per three acres within JLMAs.

## Public Facilities Infrastructure

The County in cooperation with the School Board and Towns will concentrate school facilities in and around the Towns. Between 1990 and 2000, the County issued 2,851 building permits around six of the Towns within the Rural Policy Area. Another 5,241 permits were issued in the Leesburg area. Consequently, many schools are at or near capacity. Plans are being made to acquire property to build additional facilities to accommodate the growth that has occurred over the past ten years.

The need for new schools, however, must be balanced with the importance of maintaining existing schools. In July 1999, the Loudoun County Rural School Study Committee's report made recommendations to the School Board. An overwhelming consensus among the committee was that all planning for schools must focus first on community. The study noted that small rural communities consider their local school as the heart of the community. The County endorses the concept to maintain existing rural community based schools as an essential component of the community. (Also see Chapter Three)

## Public Facilities Policies

1. The existing Towns will be the principal location of public facilities in western Loudoun County when land is available for development. If land is not available for new facilities within a Town, the facilities will be located in or immediately adjacent to the JLMA.

2. The County will encourage the continued use and enhancement of existing public facilities located in the Towns and JLMAs.

3. Schools in Town JLMAs will be located to provide convenient and safe access for students. All schools will be linked by sidewalks or trails to surrounding residential neighborhoods, and school bus collection points will be planned in conjunction with existing or planned sidewalk systems or pedestrian trails.

4. The Department of Fire and Rescue Services and the Fire-Rescue Commission will identify the need for new facilities in designated Town JLMAs and will identify suitable sites based on the *Revised General Plan* land use and growth policies.

5. The County will cooperate with the Town Councils of those communities providing local law enforcement to ensure a coordinated enforcement strategy within the Town JLMAs.

6. The County will seek the establishment of recycling facilities in the Towns or surrounding Town JLMAs or at regional parks.

7. The County will work with the Towns and the School Board to maintain existing rural community-based schools as an important component of existing rural communities.

## Transportation

Transportation access from the Towns to the region's employment areas has improved with construction or

improvement of major east-west roadways in the past decade. The combination of through traffic and increasing traffic on local streets is an important issue. In Middleburg, Hillsboro, and Lovettsville, major roads pass through or near the town centers and residential neighborhoods. Pass-through traffic conflicts with the character and function of these areas and poses a major safety concern for the residents. In Hamilton, Purcellville, and Round Hill, there is debate about whether development of circumferential roads will help or hurt each Town. Through implementation of the *Revised General Plan*, the County will work with each Town to tailor solutions to fit each Town's needs.

The relationship of new streets to the traditional road network that serves the Towns is also an important issue from the standpoint of community design. The *Revised General Plan* emphasizes the expansion of the original network to maintain design continuity. (Also see *Revised Countywide Transportation Plan*)

## Transportation Policies

1. Proposed neighborhood streets and collector roads associated with new developments will be reviewed in light of their relationship to existing streets and the preservation of natural and cultural features of the Green Infrastructure, such as steep slopes, stream valleys, trees, and historic stone walls for compliance with the community-design objectives of the *Revised General Plan*. The County will seek funding for traffic-calming design and mechanisms as identified by Town officials.

2. New roads and road improvements serving new development will be financed by the development community.

3. The County, if requested by the Towns, will collaborate with the Towns in discussions and negotiations with VDOT and other relevant agencies to try to ensure that development, improvements, or other changes in roads and/or transportation services within and in the vicinity of the Towns, or which impact the Towns significantly, will be consistent with both the Towns' and the County's development goals and priorities.

## Leesburg

Since the mid-1700s, Leesburg has been the social, judicial, business and political hub of Loudoun County. The Town was founded in 1758 and, as the County seat, is a key part of the County's heritage. Preservation of the Town's heritage is a priority in Leesburg, and much of the core area of the Town is on the National Register and has been designated as a historic district. Leesburg has been and will continue to be attractive as an employment center, and it is a major retail and service center for Loudoun County. The County government should maintain its presence in Leesburg to contribute towards the ongoing economic stability and to honor the historic and cultural role of the Town.

In 1984, the Town entered into an annexation agreement with the County, and 4,805 acres were added to the Town. The Town is approximately eleven square miles. Since then, the Town has completed water and sewer plants that are expected to continue to meet the projected service demands of Leesburg and the JLMA. (Refer to Leesburg and JLMA Map) The estimated population of the Town is about 30,000, making it the largest town in the County.

The Town of Leesburg sits on the divide between eastern and western Loudoun. It is a pass-through point for western residents who commute to jobs to the east and has become a significant crossroads for commuters from the northern part of the County and for Maryland residents. With the construction of the Dulles Greenway, Leesburg is at the terminus of a major east-west thoroughfare through Northern Virginia. The Leesburg Executive Airport is also an increasingly important transportation facility in the region

serving private and corporate aircraft. Leesburg has always been a destination point for tourists and a business center as the seat of County government. Most recently, however, economic development associated with good road connections to the east, utility capacity and a growing residential population has elevated Leesburg's position as an activity center and strengthened Leesburg's interest in attracting emerging technology industries within the corporate limits and the JLMA.

The combined effects of increased commuter travel and destination-oriented economic development activity are creating traffic congestion within and just outside of the Town. Town officials are considering initiatives to improve public transit and to develop more pedestrian and biking connections between residential subdivisions. The County will study development of Crosstrail Boulevard between Route 621 and Route 7 as a component of the Town's future transportation network. In terms of land use planning, the Town continues to support the Joint Land Management Area as a growth area.

The County will continue to work cooperatively with Leesburg to resolve issues of concern to both the County and the Town. The Town of Leesburg/County of Loudoun Joint Review Committee will continue to facilitate the review of issues concerning both jurisdictions. Issues relating to land development, comprehensive planning, and transportation planning will also be addressed through established planning procedures between the Town and the County.

## Leesburg Joint Land Management Area Policies

1. The Town of Leesburg will continue to be the principal location of County Government offices and to serve as the County seat.

2. Development within the Joint Land Management Area will comply with the *Leesburg Area Management Plan*, the *Toll Road Plan***,** the Annexation Area Development Policies as may be amended, and the *Leesburg Town Plan*.

3. Power generation plants are not compatible with existing residential areas within or near the Town JLMA, and therefore, are not allowed in the Leesburg JLMA.

4. The *Revised General Plan* designates a greenbelt around the Town and within the JLMA consisting of the following areas:

    a. Land within the 100-year floodplain of the Sycolin and Goose creeks, provided that the County's River and Stream Corridor Overlay District (RSCOD) policies also apply;

    b. To the west and north of the Town, where the corporate limits represent the JLMA, the greenbelt extends into the Rural Policy Area for 2,600 feet; and;

    c. Adjacent to the JLMA along Route 15, north of Leesburg, the greenbelt extends 2,600 feet into the Rural Policy Area.

5. Development to the west of Route 621 will preserve and enhance the rural character of the viewsheds along Route 15 and be compatible with the Town's Historic Corridor Overlay District.

6. The Town and County will work cooperatively to create a conservation area along the Potomac River in the northeast section of the JLMA as a component of the Green Infrastructure.

7. The County will return the northern triangle and the southwestern section of the JLMA (the area west of the Toll Road and south of the Town Boundary) to the Rural Policy Area, with the exception of the small area on the west side of the Town located behind the Woodlea subdivision.

8. The southeastern portion of the JLMA will be remapped to zoning classifications that are compatible with the Land Use Map and that are compatible with the Leesburg Executive Airport.

9. The County will coordinate with the Town of Leesburg and VDOT on the feasibility of planning and building Edwards Ferry Road as a two-lane facility with a bike path. The County will work with the Town and VDOT to designate the road as a scenic by-way.

10. The County supports the future study of extending the Dulles Corridor Bus Rapid Transit (BRT)/Rail project to Leesburg.

11. The County will, in coordination with the Town of Leesburg, study the proposed design and function of Crosstrail Boulevard from Route 621 to Route 7.

12. The County encourages a variety of housing types and innovative designs to be developed in mixed-use communities to assist fulfilling unmet housing needs.

13. The County will identify options for unmet housing needs in the Leesburg area not covered by the ADU zoning ordinance and work toward an implementation plan.

14. Developers of residential and mixed-use projects are encouraged to include proffers to fulfill unmet housing needs in their development proposals.

15. The County will explore options for the creation of programs, tools, and incentives both publicly and privately developed that will fulfill unmet housing needs.

16. The County will examine the authority to establish and use the benefits of Housing Trust Funds to help fulfill unmet housing needs.

17. The County will encourage public and private initiatives to provide increased housing opportunities for residents and the local workforce. Both programmatic and design approaches will be encouraged in all projects to fulfill unmet housing needs.

## Lovettsville

The Town of Lovettsville, known as “The German Settlement”, is the northern-most incorporated Town in Loudoun County and in the Commonwealth. Records date back to the early 1700’s, when German families came from Pennsylvania to settle in the area. The General Assembly officially established Lovettsville as a Town in 1836 and the Town was incorporated in 1876. Farming was very much a part of the Lovettsville community, as was sustainable economic development that offered retail sales, lodging, professional services and entertainment.

Town officials today, encourage business development that is consistent with the existing character of the Town and that serves Town residents and they envision the reestablishment of some of the services, both professional and commercial, that were provided within the Town in the past. Town officials support efforts to encourage a strong town economy that, in turn, will contribute to a strong rural economy.

The Town is developing a town center concept that is intended to be a well-integrated, pedestrian-friendly, civic and commercial district. Lovettsville’s vision for its central business district is to create a traditional main street by positioning new businesses close to the street and diminishing the prominence of parking

lots. To this end, the Town intends to work in partnership with Loudoun County to become a part of the Virginia Main Street Program. This vision also includes a pedestrian and bike path network in Town that will ultimately connect with County and regional networks. Town officials have also expressed interest in having Lovettsville considered as a location for new schools.

A new wastewater treatment facility is expected to be in operation in the near future. Town officials are proceeding with plans to expand the water supply, but have no plans to serve areas outside of the corporate limits with either water or sewer services. Therefore, the Town has requested elimination of the JLMA and will plan to provide public utility service to new development within the corporate limits. (Refer to Lovettsville Map)

The County will continue to work cooperatively with, and assist the Town on issues and concerns. The County, when requested, will work to rectify the corporate boundary when properties under one ownership are positioned both in the Town and in the County. Planning and economic development resources from the County will be available to the Town to assist in planning its future. The County and Town may use a Joint Review Committee for planning and coordination.

## Lovettsville Area Policies

1. Reflecting the fact that a large percentage of the land within the Town's boundaries remains available for both open space conservation and development, the Town wishes to consolidate development within its boundaries. Therefore, there will be no JLMA around Lovettsville.

2. The County will work with the Town, when requested, on boundary-line adjustments for properties that are positioned both in the County and in the Town, in order to resolve jurisdictional questions for affected property owners and to support the Town's goals and priorities.

3. The County encourages the retention and recruitment of businesses that serve the needs of Lovettsville residents and, that in terms of scale and design, are consistent with the Town's existing character.

4. Employment uses will be encouraged to locate within the Town properties that have zoning to accommodate these uses.

5. The County will support the Town's implementation of a town-center design for its existing business district.

6. The County will consult with the Town in the planning and regulation of development along the road corridor north of Lovettsville to the Potomac River and will ensure that the scenic quality of this road is protected to the extent possible within the authority of the County.

7. The County will consult with the Town in planning and development of the County's greenways and trails system with a view to coordinating this system with the Town's internal trail and bikeways system. This coordinated effort may include the development of hiking, equestrian, and bike path facilities that link Lovettsville with the C&O Canal, just three miles to the north, and with the W&OD bike path in Purcellville to the south.

8. The County will continue to plan the location and design of County facilities within Lovettsville, in consultation with the Town, to support as fully as possible the Town's vision for satellite offices for both the Loudoun County Sheriff's Department and departments of County government that could offer services to the Lovettsville community.

9. The County will collaborate with the Town and VDOT on transportation planning in and around the

Town and to achieve traffic calming in the Town, including the provision of a roundabout at the proposed town center.

## Hamilton

Like several Towns, Hamilton has faced residential development pressure in its Joint Land Management Area. It also has experienced water and sewer capacity problems brought about by growing demand and aging facilities. In 1995, the Board of Supervisors and the Town of Hamilton approved the *Comprehensive Plan for the Town of Hamilton and Adjacent Area 1993-2013*. In accordance with this Plan, the Town studied capacity and financial issues related to expansion of the sewer and water facilities to serve the JLMA. Following this study, the Town pursued a reduction of the land area in the Hamilton JLMA in September 2000 which the County endorsed.

The planning strategy for the Hamilton area is to encourage predominately residential development at a relatively low density in and around the Town. Residential development will be compatible with the visual character and scale of the Town, and will reinforce the Town as the center of community. The focus of commercial development will be the center of Town.

The Town wants to increasingly provide some of the convenience retail and service uses needed by residents. To that end, the Town plans to strengthen its core downtown area and work to achieve a well-defined central business district. In the coming years, the County will assist the Town in planning and economic development efforts to help the Town develop its town center.

The County will continue to work cooperatively with the Town to address issues of interest or concern to both jurisdictions. Hamilton and the County have established a Joint Review Committee for considering land development applications and for comprehensive planning. Finalizing modifications to the Comprehensive Plan for the JLMA will be a priority with the County and the Town. (See Hamilton and JLMA Map)

## Hamilton Joint Land Management Area Policies

1. Development within the Hamilton JLMA will comply with the comprehensive plan for the Town of Hamilton and the adjacent area in the Joint Land Management Area.

2. The County will support Town efforts to develop an identifiable town center to serve as a community focal point for the Town and the JLMA.

3. Development in the Hamilton JLMA will extend the existing street pattern where feasible, and in lieu of extending the existing pattern, develop a traditional street network and block pattern to reflect the County's and Town's community design objectives.

4. The County will coordinate with the Town to assure that new developments in the JLMA are planned with roads that are compatible with traditional town designs.

5. The County will work with the Town to effectively manage transportation systems around the Town and to explore methods of traffic calming on Business Route 7 through town including the possible use of a traffic circle at Route 7 and St. Paul.

6. The County will work with Hamilton to implement the use of greenbelts or other open space and land management techniques in the JLMA or outside of the JLMA as a means of maintaining a distinct identity for the greater Hamilton community. The County will work with the Town to achieve a

balanced land use pattern that will retain Hamilton's historic small town character in a rural setting and maintain its unique sense of place.

7. The County will work with the Town and School Board to support the continuation of Hamilton Elementary school at its present site.

## Purcellville

Historically, Purcellville has been the business hub of the Rural Policy Area. It has been the central location for agriculturally related business. Today, retail in the Town satisfies much of the consumer demand in the rural area. The Purcellville area has become an increasingly attractive location for development because of utility and transportation improvements in recent years. Completion of the Route 7 Bypass improved linkages to the east. The Town's population has more than doubled in the past decade to 3,584. Purcellville's geographic position at the crossroads of major thoroughfares in western Loudoun will continue to be an incentive to development and bolster the Town's regional role in the western part of the County.

In 1995, the Town of Purcellville and the County jointly adopted the *Purcellville Urban Growth Area Management Plan* (PUGAMP) that established detailed land use and growth-management policies for the area surrounding the Town. This Plan was unique because it was jointly adopted by the Town and County. If an amendment was proposed to PUGAMP, the County and the Town must each approve the change.

In 1999, an amendment was approved to the PUGAMP to establish development-phasing guidelines. In 2012, recognizing that the Town did not desire any increased density and growth outside the current incorporated Town boundaries into the JLMA, the Purcellville Joint Policies Review Committee and the Town of Purcellville called for the repeal of the PUGAMP. Accordingly, the County has revised and superseded policies in regard to the PUGAMP and the Town of Purcellville (CPAM 2012-0002) to include retaining the Purcellville JLMA as a planning area by the County that will develop in accord with the underlying County zoning designations ascribed to the area. (Refer to Purcellville and JLMA Map)

The County will continue to work cooperatively with the Town on issues of importance to Purcellville. Established planning procedures and processes will be used to coordinate on issues between the two jurisdictions.

## Purcellville Joint Land Management Area Policies

1. The County encourages a mix of residential and business uses in and around the Town that are compatible in scale with the small-town character of Purcellville.

2. The County will work with the Town to plan for a trail extension to Franklin Park that connects the W&OD Trail with the park.

3. The County will retain the southern circumferential road south of the Town that connects Routes 287 and 690. The southern circumferential road is designated in the *Revised Countywide Transportation Plan* as a rural collector with limited access.

4. Developments along Route 7 and Route 287 and the Route 7 Bypass will include setbacks, height limitations, and landscaping to preserve town character.

5. The County will encourage the use of frontage roads, coordinated development plans, and other means of minimizing the number of driveways along Route 7 and Route 287.

# Round Hill

Round Hill is Loudoun's most western town and is positioned both as a gateway to the County and as the gateway to the Blue Ridge Mountains. The Town began to develop in the mid-1880s. When the W&OD Railroad was extended to the area, business began to develop in the town and the train brought summer visitors from Washington, D.C. to the Town to enjoy the rural countryside and to escape the heat.

Round Hill has retained much of the original character of its early years. The axis roads through town are lined with gracious old homes and the population within the corporate limits is stable at about 500. It is primarily a residential town where residents commute to work. To this day the center of town remains the commercial core and provides for basic business and service needs.

To guide development around the Town, the *Round Hill Area Management Plan* (RHAMP) was adopted in January 1990. The Plan provides detailed land use and growth-management goals and policies to encourage coordinated growth around the Town. (Refer to Round Hill and JLMA Map)

At roughly the same time that the area management plan was adopted, the County approved a rezoning for approximately 1,100 residential units, currently known as the Villages at Round Hill, Mountain Valley and Lakepoint. This project, which is in the Town JLMA, when built out, will wrap around the corporate limits on the north, the east and the south. Other residential subdivision activity has proliferated in areas surrounding the Town as well. Much of the land has been converted from agricultural uses to largely "by-right" residential development which is presenting challenges to the Town in terms of transportation and utility service provision. These changes have also threatened the small town historic character that is the hallmark of the Town's identity.

Consequently, the Town has recommended that the portions of the western JLMA that have developed with "by-right" residential densities be taken out of the JLMA. In addition, the Town has recommended that properties west and east of Route 719, south of town be taken out of the JLMA because the Town is unable to serve them with public sewer and water. However, the Town has recommended that the property containing the Town's wastewater treatment plant and public park at Sleeter Lake be included in the JLMA.

Round Hill will continue to be a residential community preserving its historic and environmental heritage and fostering a strong sense of community while expanding its economic base that primarily serves the Round Hill area.

The Town of Round Hill and citizen volunteers have recently partnered in developing Loudoun Street Park at the center of Town. This park has quickly become a focal point and activity center in the Town. The Town envisions the park improvement to be a catalyst for other public improvements in an effort to revitalize and attract everyday usage of the center of town. Other future public improvements may include streetscaping and stormwater management systems.

Round Hill envisions that public improvements including an expanded post office, the park and an expanded pedestrian network will provide positive stimulus to attract commercial ventures. Town officials would like to pursue economic development linking the Town with nearby environmental recreation resources as well as build upon its past as a tourist destination and hub for community interaction.

The County will support and work with the Town through established planning processes on comprehensive planning changes and on land development and economic development issues. Specifically, the County will work cooperatively with the Town to update the RHAMP to assure that the policies and

goals in that plan are consistent with this *Revised Plan* and with current Town policy. When the area management plan update process commences, the Town specifically recommends that the following be addressed:

- To provide more definition to three commercial districts in Round Hill and in the JLMA:
  - The Town envisions the eastern commercial district, which is located within the Villages at Round Hill, to be planned to accommodate the daily commercial needs of the citizens of Round Hill and neighborhoods within the Round Hill area.
  - The Town envisions that the central commercial district that is located in the center of town will undergo revitalization efforts that will include physical streetscape planning; and transportation management improvements combined with a strategic economic development plan to attract specialty goods, restaurants, and businesses. These efforts will be undertaken with the intent of complementing the Town's historic character and maintaining its sense of place.
  - The Town envisions the western commercial district, currently the area of the Hill High Orchard, to develop as another area of commerce that will emphasize agricultural uses such as farm markets, tourism and passive recreation.
- To consider a location for a new public safety center to house services including fire and rescue and the Sheriff's Department.
- To study school facility needs for the Round Hill area by considering the continued use of the old Round Hill elementary school and by investigating the possibility of locating a new middle or high school in the area.
- To develop plans for a park and ride lot that is currently planned to be located within the Villages at Round Hill.
- To establish a community center adjacent to the central commercial district.
- To complete the development of Woodgrove Park as a community park as originally designed.
- To study, renovate and develop adaptive reuse of existing farm structures dedicated to the Town and/or County.
- To explore a possible connection of Route 719 south of town to Harry Byrd Highway without going through the center of town.

## Round Hill Joint Land Management Area Policies

1. The County will support planning efforts to retain the small-town character of Round Hill and will assist the Town in efforts to preserve the historic character and resources in and around the town. To enhance the identity of the Town, the County supports the development of gateway features into the town.
2. County support will be extended to the Town to plan for enhancing the economic base of Round Hill through such things as tourism, vitalizing the Town's commercial center through development of a "main street" concept for the town core, and attraction of new business.
3. The Town will be the sole provider of public utility service in the Town's JLMA.
4. The County will support development of a green-way for a pedestrian and bike trail that connects civic

and public facilities with residential and commercial land uses in the Town and JLMA. The network will consist of sidewalks and trails. This pedestrian system ultimately will connect with regional trail networks to Franklin Park and with future linkages to the W&OD Trail.

5. The County will coordinate with the Town on road network planning for the area to ensure that traffic generated from development within the County does not adversely affect the Town. The County will work with the Town on traffic calming measures. The County also will encourage traditional design and neighborhood connectivity for streets emanating from the Town.

6. The County will support the extension of the Northern Collector Road (Evening Star Drive) from Route 719 west to a connection with Harry Byrd Highway (Bypass Route 7).

7. The County recognizes that the Town limits and JLMA boundaries will change over time as the Town grows and further refines its ability to provide public utilities and public services to these areas. As such, the County anticipates that future areas that are being considered for incorporation into the Town or inclusion in the JLMA will be planned for uses that are compatible with the Town character and the rural area surrounding the JLMA.

## Middleburg

The Town of Middleburg was established in 1787. It is the southernmost town in the County and it has a rich historical past, from colonial times through the Civil War to more recent times, that is treasured by the citizens of Loudoun and especially by the citizens of Middleburg. A significant portion of the Town has been placed on the National Register for Historic Places and the Town administers a local Historic District to provide architectural review over development. The Town of Middleburg has had a stable population for several years, and this trend is expected to continue.

The Town of Middleburg attracts tourists from around the world. The commercial core of Middleburg contains upscale shops that are marketed for the tourist industry. Visitor dollars at restaurants, shops, and inns within the Central Business District generate 60 percent of annual town revenues.

The equestrian farms and estates located around Middleburg and the associated equestrian businesses are central to Middleburg's social fabric and way of life. Many citizens of Middleburg have connections to the equestrian industry either though direct work on the farms or work in equestrian related businesses. Equestrian activities also provide entertainment to citizens in the area as well as to visitors. This equestrian industry is a major contributor to Loudoun's economy.

A high priority for the community is to ensure the protection of its historic character and to ensure the viability of the equestrian industry. The Town and property owners of large estates surrounding Middleburg, want to take precautions to assure the future health of these things. The Town is concerned about the rate of growth in the County and wants to protect the open space around the Town from rural residential encroachment. To address this concern, the Town is pursuing development of a conservation district for a large area around the Town and the surrounding rural area. The County is committed to providing necessary resources to assist in the creation of this conservation district.

The community has also become concerned about the volume and speed of traffic on Route 50, which is the Town's main street inside the corporate limits. Following a detailed study, a federal Transportation Equity Act (TEA-21) grant was provided to implement traffic-calming initiatives along the Route 50 corridor in

coordination with the Virginia Department of Transportation. This initiative, which is currently in the design phase, is a high priority for the Town.

The Town has approximately 158 acres of vacant land within its corporate limits to accommodate future growth. Middleburg has sufficient water to meet future demands, but improvements to the Town's wastewater treatment system are needed. By accommodating growth within the corporate boundaries, as recommended by the Town Council, design guidelines and controls can be used to maintain the historic character of the community. The corporate limits of Middleburg will continue to serve as the limits of corporate growth. The Town has reiterated its desire not to have a Joint Land Management Area to allow for future expansion. (Refer to Middleburg Map)

Cooperation should continue between the County and Middleburg to address issues important to both jurisdictions. The County will continue to use existing venues for working with Middleburg and may explore the use of new collaborative tools to address specific issues affecting Middleburg such as preserving open space around the Town.

## Middleburg Area Policies

1. The County supports the Town's interest in establishing a "hard edge" for development that clearly distinguishes where the Town stops and where the rural, undeveloped countryside begins.

2. The County will work with the Middleburg community and interested preservation groups to identify open-space and agricultural preservation strategies such as: the purchase of development rights, donation of conservation easements, fee-simple purchase, and the possible creation of a conservation service district and/or nonprofit foundation to promote and implement open-space preservation around the Town.

3. Support shall be provided for the implementation of the U.S. 50 Traffic Calming Plan.

4. County and Middleburg officials will strive to protect small town and rural roads and scenic views through measures such as revised state road improvement standards; scenic easements; historic corridor overlay zoning for Route 50, Foxcroft Road (Route 626), and the Plains Road (Route 626 south of Middleburg); and development setbacks.

5. The County will provide assistance, as requested, for the promotion of tourism, including promotion of Mosby Heritage Area programs, as a means of increasing public support for preservation of the scenic and historic Middleburg area.

6. The County will work with the Town of Middleburg to implement strategies that will preserve and enhance agriculture as the predominant use in the Rural Policy Area around Middleburg.

## Hillsboro

The Town of Hillsboro is a village of 18th-century homes and small businesses in the foothills of the Blue Ridge Mountains. (Refer to Hillsboro Map) It is the second-smallest incorporated town in the Commonwealth, with a population of 96. The Town contains lovely historic residential properties and a small commercial area. The Town is currently working with the County on economic development strategies for the core business area.

While the predominantly historic stone residences and businesses give the Town a distinct character, the quality of life there has been affected by heavy traffic on Route 9. The two-lane roadway through the

middle of Hillsboro has become a busy commuter thoroughfare connecting West Virginia to Northern Virginia's growing employment centers. Traffic congestion and vehicle and pedestrian safety have become serious concerns for local residents.

Town officials also are concerned about the adequacy of other public infrastructure. Limited revenues have prevented the Town from adequately maintaining its water system and from constructing a central wastewater treatment plant. On-site wastewater drainfields are malfunctioning, and there are not adequate drainfield sites for some homes.

The Town does not have or desire a Joint Land Management Area. Cooperation between the County and the Town will continue through use of existing planning processes.

## Hillsboro Area Policies

1. The County will work with the Town and with VDOT to identify long-term solutions for improving the safety of Route 9 in western Loudoun and through Hillsboro that do not compromise the rural character of Hillsboro.
2. The County in collaboration with the Town and VDOT will identify short-term traffic management solutions for Route 9 including but not limited to a traffic-calming plan using traffic islands at Route 9/620 and Route 9/719.
3. Safety measures for pedestrian movement along and/or across Route 9 shall be explored and promoted.

## Reference Maps

Towns

Leesburg and JLMA

Lovettsville

Hamilton and JLMA

Purcellville and JLMA

Round Hill and JLMA

Middleburg

Hillsboro

# Chapter 10
# Existing Villages

There are several small villages and hamlets located outside the boundaries of Loudoun's incorporated towns and planned residential communities. These small settlements grew up at crossroads or around a railroad depot, an important mill, a church or a store. Today, they serve as focal points for the surrounding areas and exert a social and "place name" influence extending beyond their visual and physical boundaries. These villages are unique scenic and historic resources. With careful planning and moderate growth, they will maintain their scenic and historic character, as well as their social and economic viability.

There are 13 major villages (see Existing Villages Map) in the County: Aldie, Aldie Mountain, Ashburn, Bluemont, Lincoln, Lucketts, Neersville, Loudoun Heights, Paeonian Springs, Philomont, St. Louis, Taylorstown, and Waterford. With the exception of Ashburn, all are located in the Rural Policy Area. Regardless of location, they all maintain a rural feel and a true sense of community. Land uses in the villages are governed by the County.

The County's policy strategy for maintaining the viability and sense of place associated with the Existing Villages is to limit growth in and around them. Existing Villages should continue to be hubs for community activities and new residential and nonresidential development. By encouraging compact development, these policies also complement the County's efforts, particularly in the Rural Policy Area, to preserve agricultural land and maintain the character of the rural, working landscape.

The individual character of each village should be maintained and respected. The County's policies for Existing Villages are aimed at limiting new residential and non-residential activities to that which is compatible with the existing structures and development patterns of the communities. If new development expands an Existing Village, it should be in the particular pattern of the individual village, adhering to its street pattern, mix of uses, indigenous and varied architectural styles, and human scale.

Although limited new development generally is permitted in Existing Villages, new development should not pose a threat to public health or safety. Several of the County's Existing Villages lack either an assured water supply or a wastewater disposal system, or both. The policies for Existing Villages provide options for improving the quality and safety of public services in these villages.

## Existing Village Policies

1. The County recognizes the Existing Villages as important heritage resources that contribute to the rural economy, providing economic benefit to the County and encouraging tourism in a manner that does not conflict with or intrude on the villages' existing quality of life and will not adversely affect their rural character.

2. The County will allow compatible development to occur within those Existing Villages that have adequate public facilities, zoning, transportation facilities and land resources to accommodate growth.

3. The County will encourage the retention and reinforcement of the cultural and visual identity of

individual villages.

4. New development in and around Existing Villages must be designed to be visually compatible in terms of street pattern, street design and building footprint and setbacks. Conventional, suburban forms are not appropriate in and contiguous to the Existing Villages. Design guidelines, incentives and regulations to achieve compatible designs will be established and implemented by the County.

5. The County encourages a diverse range of dwelling unit types in Existing Villages, including accessory apartments attached to single family dwellings or as second story uses in commercial structures. New units will be designed, sized and sited to ensure compatibility with the present scale and character of the existing village.

6. Rezonings to higher residential densities will not be approved in Existing Villages unless the proposed zoning provides a design that reinforces the character, pattern of development and identity of the Village in a manner not possible under the existing zoning. In considering rezoning proposals in Existing Villages the County will consult with Village residents.

7. Large-scale commercial uses will not be allowed in Existing Villages. The County encourages the location of small scale, convenience-sized commercial uses that meet local neighborhood needs on parcels with existing commercial zoning. New commercial uses will be compatible in scale to the surrounding buildings and related uses in the village.

8. The County will convert existing RC zoned land in villages to a new village commercial district(s) which will be designed to better meet the needs of rural village residents and the commercial landowner as well. The new district(s) should ensure that the new commercial uses are compatible with existing village scale and character and allow local, neighborhood related commercial uses. The zoning regulations/requirements of this new commercial district will be devised in consultation with input from the councils of some Existing Villages and citizen groups from the village and surrounding rural area.

9. The County will allow small-scale industrial, commercial and institutional uses in Existing Villages that are compatible with existing residential and agricultural land uses in and around the village and where existing zoning would permit such uses.

10. Mining or extraction activities will be prohibited in or adjacent to Existing Villages. Rezonings and special exceptions to permit resource extraction will not be approved in these areas.

11. The County encourages the preservation of historic structures and sites by promoting the establishment and expansion of County Historic Districts, the donation of facade and open space easements, designation of sites on the State and National register, inclusion in the County's inventory of historic sites, adaptive reuse and rehabilitation and other public and private mechanisms in Existing Villages.

12. New development will be designed, built and sited to be compatible with the scale, size, historic character and style of buildings of the village. This policy applies to all architectural and landscape elements of any new structures, including the proportions and design of facades, building heights, fenestration, materials, massing, structural system, orientation, siting and yard layouts, relationship to adjacent buildings, landscaping, roof pitch and especially the relationship to the public street. The County's Historic District Guidelines establish principles and standards for achieving such compatibility.

13. The County will encourage the National Park Service and other public or private preservation agencies to purchase (at fair market value) and place easements on properties that are in the Waterford National

Historic Landmark boundaries to minimize the impact of development in the Landmark area. When it is not feasible for a property to be purchased outright, the County will encourage the voluntary transfer of density from property within the Waterford National Historic Landmark area to property elsewhere in the County.

## Reference Map

Existing Villages

# Chapter 11
# Implementation

The *Revised General Plan* is part of an ongoing process. The Plan's policies and recommendations are, to varying degrees, refinements of policies from past plans. Likewise, the policies in the revised Plan will be building blocks toward future planning efforts. For this reason, the Plan does not end with a conclusion or summary, but with some specific guidelines-for the future and an outline of the next steps to be taken. The Implementation chapter is divided into two sections. The first section details Proffer and Community Design guidelines. The second section outlines the initial actions that should be undertaken to implement the Plan.

The guidelines included in this chapter are specific reflections of funding and land use and community-design policies set forth in the Plan. These guidelines reflect the final recommendations of the Board of Supervisors. The priority implementation strategy is an outline of steps that the County must take to implement Plan policies. The County will actively pursue this strategy on a set timetable with a specific work program in a priority order established by the Board of Supervisors.

## Proffer Guidelines

(Refer to Proffer Policies, Chapter Three, pg. 3-5.)

### A. Capital Facilities

1. To assist the County in an equitable and uniform evaluation of developer proffers and other proposals for densities above the specified base density for each planning policy area, which otherwise conform with the policies of this plan, the County anticipates developer assistance valued at 100 percent of capital facility costs per dwelling unit.

2. Estimated capital facilities costs per unit by unit type will be calculated by a Capital Facility Intensity Factor (CIF) based on the adopted service plans and levels for each type of development. The CIF will be calculated using the following formula:

   CIF = (Household Size x Facility Cost Per Capita) + (Students Per Household x School Cost per Student)

   The Board of Supervisors will review the CIF on a biennial basis. If revisions are proposed, the revisions will be subjected to Board Public Hearing.

3. The following definition of "Capital Facility Proffer" will be used for the purpose of evaluating proffers:

   A contribution consistent with county policies and service needs, in cash or in kind (land or improvement), that benefits county residents at large, which is agreed to as a condition of a rezoning.

   To be considered a proffer based on this definition, the following criteria need to be met:

a. The facility proffered is dedicated to the County or to a local, state, federal or regional authority or otherwise satisfies a need identified in the County's Service Plan(s) and Levels, Capital Needs Assessment (CNA), and/or Capital Improvement Program (CIP). Facilities that are not dedicated for the exclusive use of a subdivision or group of subdivisions may be partially credited toward capital facility proffers. The partial credit is dependent on the Board of Supervisor's adopted service levels and plans, CNA and CIP, at the date of the official acceptance or at the date or reactivation of an inactive application. The measure of credit will be determined on a case-by-case basis and may not exceed what the County would expect to supply given the BOS adopted service plans and level-of-service standards for the population served at the date of official acceptance of the application or at the date of reactivation of an inactive application.

b. The contribution has a quantifiable value.

c. The value of land contributed for public use or use as a public facility site is recognized as a capital facility proffer. Land for County facilities should be conveyed to the County or its designee. The value of land to be retained by an owners' association or land developer is not recognized as a capital facility proffer.

d. The contribution would not be required under existing statutes or ordinances.

e. The proffer is irrevocable.

f. Transportation and road improvement proffers will not be included.

4. Base density thresholds are to be specified by planning policy areas as follows:

a. Rural Policy Area: The Rural Policy Area policies contained in Chapter Seven and related policies elsewhere in the plan address the County's rural strategy. Both the planned density for the Rural Policy Area and the resulting zoning pattern do not portend future zoning map amendments. In the event that planned densities are to be equivalent to potential density in the rural zoning district(s), a specified base density figure is not necessary. However, the County anticipates that residential zoning map amendment applications within existing villages and other similar applications in the rural policy area will include capital facility contributions.

b. Transition Policy Area: The Transition Policy Area policies contained in Chapter Eight and related policies elsewhere in the Plan address the County's vision for a separate and distinct planning area between the Rural and Suburban Policy Areas. For subareas of the Transition Policy Area that are planned for higher densities than those permitted by zoning district regulations applicable to property in the subarea, zoning map amendments may be pursued and capital facilities proffers will be anticipated. Such contributions will be evaluated in accordance with a base density equivalent to that contained in the existing zoning district regulations applicable to the property, and in effect at the time of application for a change in zoning.

c. Suburban Policy Area: The Suburban Policy Area policies contained in Chapter Six and related policies elsewhere in the Plan address the County's vision for unique communities with stringent design guidelines and performance standards. For zoning applications within the Suburban Planning Area that propose increases in residential densities, capital facilities proffers will be anticipated. Such contributions will be evaluated in accordance with a specified base density of 1.0 dwelling unit per acre or a base density equivalent to the density requirements contained in the existing zoning district regulations applicable to the property and in effect at the time of application for a change in zoning, whichever represents the lower base density.

d. Joint Land Management Areas: The Joint Land Management Area policies contained in Chapter Nine and related policies elsewhere in the plan address the mutual vision of the County and the Towns with respect to the delineation of joint land management areas proximate to the Town's

corporate limits. For zoning applications within designated management areas that propose increases in residential densities, capital facilities proffers will be anticipated. Such contributions will be evaluated in accordance with a specified base density of 1.0 dwelling unit per acre or a base density equivalent to the density requirements contained in the existing zoning district regulations applicable to the property and in effect at the time of application for a change in zoning, whichever represents the lower base density.

5. A developer proffering a land site as a part of an active re-zoning application shall contact Loudoun County for a list of appraisal firms approved by the County to determine the market value of land at its planned land use designation in the *Revised General Plan*. The developer shall contact one of the approved appraisal firms and request an appraisal. The cost of the appraisal will be paid for by the developer.

## B. Open Space

In this Plan, the County has outlined a number of methods for acquiring open space. In the past, the Open Space Preservation Program was linked to increases in density. In the *Revised General Plan*, sufficient open space is recognized as a key component to all development regardless of density. However, the Open Space Preservation Program remains in place for the highest suburban density levels – from 3.5 dwelling units per acre to 4.0 dwelling units per acre. The County's program for obtaining open space comprises a "toolbox" approach with a number of mechanisms to ensure the adequate provision of active, passive, and natural open space in the County.

1. Open space within a development will be obtained through conservation design and clustering as detailed in this Plan and subsequent regulations. Conservation design provides for the on-site transfer of density away from environmentally sensitive or culturally significant areas (i.e., components of the green infrastructure including RSCOD).

2. Participation in the Open Space Banking Program permits up to 50 percent of required open space on an individual site to be provided off-site.

3. To achieve higher densities in residential communities, the Board of Supervisors anticipates evidence of participation in the Open Space Preservation Program according to the following guidelines:

   a. Residential Neighborhoods: Densities ranging from 1.0 dwelling units per acre for the Suburban Policy Area up to 4.0 dwelling units per acre may be considered by the County in accordance with the capital facilities guidelines of this Plan and may be considered by the County for voluntary participation in the Open Space Preservation Program. Residential densities above 3.5 and up to and including 4.0 dwellings per acre may be considered by the County in return for voluntary participation in the open space preservation program according to the guidelines presented below and the Density Transfer Guidelines.

   b. To achieve higher densities in High-Density Residential areas, the Board of Supervisors anticipates evidence of participation in the Open Space Preservation Program. Five percent of all residential units associated with densities above 4.0 dwellings per acre should result from the acquisition of an equivalent number of open space easements according to the guidelines presented below and the Density Transfer Guidelines. Offsite open space can include priority open space areas, greenbelts, and components of the green infrastructure. A land contribution on an acre-by-acre basis is desired. If the land offered does not suit the County in terms of quality or location, the County may consider cash in lieu of the land for the purchase of open space. The County will pursue the purchase of open space to provide additional active recreation, to create key trail connections, and to protect environmentally sensitive areas. The County will create a database of infill or other sites targeted for possible purchase. A per unit cash donation may be

made to the County for the purchase of open space, according to policies of this Plan. Cash donations for open space will be spent in the density transfer area from which the proffer contribution is obtained.

4. Although the County does not have the authority from the state to conduct a formal Transfer of Development Rights program, the County will seek enabling legislation to do so. Until a formal program is in place, the County will guide development to desired areas through conservation design and the purchase of open space easements. The purchase of easements for additional density has been referred to as voluntary transfer of density, and not to be mistaken with a formal TDR program.

5. The County's Purchase of Development Rights (PDR) program compensates property owners who voluntarily agree to sell the right to develop their land. The PDR program protects agricultural, natural, historic, and scenic resources and seeks to retain open space in the Suburban Policy Area.

6. Cash contributions may be provided for the enhancement and/or improvement of historic features within the policy area to fulfill the open space guidelines if the County agrees to or requests the exchange.

## Density Transfer Guidelines

1. Density may be transferred from areas that are designated priority open space areas or greenbelts. Density may be transferred to appropriate suburban areas or Joint Land Management Areas provided that the new development potential does not exceed the receiving area's designated density cap. Development potential transferred from sending areas in the Rural or Transition Policy Area must be received by a property in one of those policy areas. Likewise, development potential transferred from sending areas within the Suburban Policy Area must be received by a property within the same suburban community. Density from properties included on the State or National Registers of Historic Places and/or from properties within local historic districts may be transferred, without regard to policy area boundaries, to any property qualified to receive additional density.

2. Development potential (density credits) will be calculated based on the density rate of the zoning district that applies to the sending parcel at the time the application is received. No density credit will be given for existing dwellings.

3. Transfers of development credits out of critical environmental areas that are identified in this Plan may be accomplished on site through conservation design.

4. Density credits from property in the Rural Policy Area may be transferred into Town Joint Land Management Areas.

## County/Town Annexation Agreement/Corporate Boundary Adjustment Guidelines

The County and the incorporated Towns will explore alternatives for entering into annexation agreements to facilitate the annexations of properties that are receiving Town sewer and water services. Agreements might include language based on the following recommendations:

1. It should be the intent of the County and of the Town that any property located within the Joint Land Management Area (as defined in the policies of this Plan) which is presently or would be served by Town sewer and/or water in accordance with the utility policies included in this Plan, should, in the

future, be annexed by the Town.

2. The Town and the County should only honor requests for the extension of sewer and/or water services outside the Town's corporate limits, within the designated Joint Land Management Area provided that the beneficiaries of such service prepare written acknowledgement of the right of the Town Council to annex the subject properties. If the Town should desire, this written acknowledgement shall include the beneficiaries' written agreement to join with the Town in a joint annexation petition.

3. Parcels located within the designated Joint Land Management Area and contiguous to the corporate boundaries of the Town which have agreed to annexation in exchange for Town sewer and/or water service should be immediately annexed by the Town upon County approval of the rezoning and/or development proposal that requires water and/or sewer service.

4. Parcels located within the designated Joint Land Management Area which have agreed to annexation in exchange for Town sewer and/or water but which are not contiguous to the corporate boundaries of the Town should enter into an agreement with the Town as follows: that annexation of these parcels should take place at such time as the subject parcels become contiguous with the corporate limits of the Town or five years from the date of County approval of the rezoning and/or land development proposal which requires Town water and/or sewer service, whichever comes first. In the latter case, where parcels receiving central sewer and water remain noncontiguous to the corporate limits of the Town, any parcels lying between the corporate limits of the Town and the noncontiguous parcel which is receiving Town sewer and water should be annexed at the end of the five year period. However, these intervening parcels should not be require to hook into the Town sewer and/or water service unless desired by the property owner or necessary in order to maintain public health standards.

5. At such time as the County approves the rezoning and/or development proposal of a property in the Joint Land Management Area, which would require Town sewer and/or water service, such approval should constitute the County's approval of such annexation. At the time of such approval, the County should also provide the Town with written consent of annexation.

6. All Towns may proceed with annexations or with corporate boundary line adjustments irrespective of whether the Town has a Joint Land Management Area. In cases where there is a need to make a minor adjustment to a corporate boundary, the Town and the County may process a corporate boundary line adjustment pursuant to the State Code provisions. For incorporation of property which is more expansive in size or which will have broader jurisdictional and land use implications for the Town as well as the County, an annexation proceeding is appropriate. The State Code provisions apply to annexations and the County will work with each Town on an annexation pursuant to state requirements.

## Design Guidelines

*The following design guidelines are interim guidelines and will provide direction in the evaluation of land development applications through both the legislative and ministerial process until the new design guidelines are adopted. Because of the importance of the design of new communities in achieving the Plan's goals (and in guiding the development of ordinances and regulations to implement the Plan) the creation and adoption of a comprehensive set of detailed design guidelines is a top implementation priority of the Plan. In the meantime, the following guidelines as amended to reflect the policies of the Revised General Plan will be applied much as they have been since the adoption of the 1991 General Plan. The Countywide Retail Policy Plan provides design guidance in the development of retail land uses. Specific area plans also provide community design guidance.*

Loudoun County is heir to a distinguished design tradition of settlement that creates communities of enduring quality and function. County development from the 1960s onward, however, has tended to follow a set of planning conventions that developed after World War II and has produced mixed social and transportation results. Loudoun County intends to encourage a return to historic settlement patterns with an emphasis on conservation design and the compact design it will provide in the evolution of existing places and in the design of new developments.

## A. Conservation Design

Conservation design is a method of land development that conserves the Green Infrastructure elements of a site while providing for development at full density credit on the remainder of the site. This design process will be applied countywide to all development. The method consists of a four-part process. The first step in conservation design is to identify those Green Infrastructure features of a site to be preserved. The unconstrained land then is available for development and buildings can be located in that area as part of the second step. Street, utility, and trail locations are then introduced on the development plan as the third step. The final step is to locate lot lines. This approach results in clustered, compact development patterns that promote a variety of nonresidential and residential building types and a contiguous Green Infrastructure network. Fundamental to the conservation design method is flexibility in setbacks, lot patterns, and lot sizes. The need for buffers between similar uses may be unnecessary. This type of development also reduces road and utility costs due to the clustered pattern of development.

## B. Suburban Community Design Guidelines

The design guidelines directing the pattern and style of development in the Suburban Policy Area will be more fully defined by the community during the Community Plan process. In that process, consideration will be given to the mix of land uses, the appropriate location and types of traffic calming techniques and pedestrian connections, and the identification of priority open space areas. Suburban Policy Area communities will be developed as efficient, compact, mixed-use and pedestrian-oriented communities with a range of residential lot sizes. They will provide a measurable standard of open space (active, passive, and natural), and will fully integrate the County's Green Infrastructure.

This Plan strongly endorses the development of four distinctive communities. This may include town centers and other mixed-use developments surrounded by residential neighborhoods and areas of natural open space to promote a sense of community, foster a pedestrian-friendly environment, and lessen reliance on the automobile. The central premise in this design approach is that the focus should be on designing communities rather than individual structures. The *Revised General Plan* outlines a variety of residential, business, and industrial communities. Each type of development offers unique design opportunities through function, scale, and ancillary activities. The following design guidelines are intended to give the landowner and developer ideas, not directions, that will help accomplish the County's community-design objectives.

## Community Form

Each suburban community will consist of well-defined neighborhoods and comprise a town center containing a mixture of civic, commercial, employment, and higher-density residential uses adjoining three or more residential neighborhoods with numerous street and trail connections to the center. Communities will be pedestrian-friendly environments, possessing a harmonious mix of housing types, commercial and employment land uses, and a full complement of public and civic facilities appropriate to the community.

The residential neighborhoods and town centers all generally will be designed in a rectilinear pattern of blocks and interconnecting streets. Such streets will be bordered by buildings and lined with street trees,

lighting, and other street furniture to create distinct public places that are comfortably and equally shared by pedestrians, bicyclists, and automobiles.

While a variety of uses may be located in the residential neighborhoods, the town centers will be the business, civic, and social heart of the community. Each area will express its own distinct character. Similarly, different communities will be identified by their unique character as exhibited by their scale, mix of uses, environmental features, and other means, and each will enjoy a certain clarity of definition by means of an interstitial or internal greenbelt containing parkland, schools, churches, and other land uses with an open quality.

## 1. Residential Neighborhoods

a. Function:

Residential Neighborhoods are intended to provide a mix of residential dwelling types and civic uses; they should have a peaceful character suitable for private domestic life, recreational activities, and neighborhood social gatherings. Residential neighborhood structures and facilities, while providing for a wide spectrum of housing types as well as civic, educational, recreational, and commercial use, should maintain an intimate, domestic scale and be designed to maximize privacy within residences and rear yards and foster small group interaction within the hierarchy of small communal squares and greens distributed throughout the neighborhood.

b. Scale:

The neighborhood is intended to provide densities of up to 4.0 dwelling units per acre. The proximity of adjoining buildings and the narrow streetscapes will provide a very pedestrian-oriented intensity. In general, buildings should be one to three stories. Residential Neighborhoods will be compact, with small lots for detached dwellings.

c. Land Use Arrangement:

Different land uses should be mixed in the same neighborhood. A variety of domestic and supporting land uses such as day care, personal services, or local recreation sites will be fundamental to all neighborhoods; additional civic, commercial, and employment uses also may occur as part of a Residential Neighborhood commercial component. These different uses should be combined in logical and harmonious ways but should not be relegated to single-use pods, as is typical of a conventional suburban development.

For reasons of community harmony and visual compatibility, like uses should front one another across secondary collector and local access streets, while compatible but different types of uses may be placed on adjoining lots along these streets. Compatibility will be measured in terms of size, architectural similarities, landscaping, site development, and other similar matters. Should other considerations cause the fronting of unlike uses, every effort should be made to maintain a similarity of building mass, scale, window and door openings, and detail. In short, different and even disparate uses may and should be harmoniously located within the residential neighborhoods and within the individual block as well.

Open space and how it functions in the neighborhood also is important. The “outdoor rooms” of a community play a critical role in establishing community identity and facilitating social activities. The *Revised General Plan* calls for a significant open space component consisting of elements of the Green Infrastructure such as stream corridors, floodplains, woods, wet ponds, community gardens, greenbelts, buffers, trails, structured parks, athletic fields and playgrounds. A hierarchical assortment of squares and greens should be located throughout the residential neighborhoods,

while neighborhood, community, district, and County parks should be located between them.

Active open space generally should be located within 1500 feet of all residences within residential neighborhoods. In Residential Neighborhoods recreational areas should be open to the surrounding streets and contribute to a sense of spaciousness. While protection and integration of the natural features of a site through conservation design techniques will be paramount, usable open space such as squares and greens generally should be flat and well drained and have a minimum size of 10,000 square feet fronting on a local street.

Community, district, and County parks generally will be located between Residential Neighborhoods and be reached on foot, by means of sidewalks on local access streets and/or trail connections or by automobile on primary or secondary collector roads. While topography, vegetation, hydrology, proposed use, and design intentions should determine the location of playing fields and placement of community centers, bleachers, and other structures in these parks, significant park buildings generally should be located along and be very visible from the secondary collector roads linking neighborhoods, town centers, and should be near the areas served.

Civic and community uses should be recognized as the major landmarks of a community and should be associated with the town centers and urban centers, although placement on a secondary collector road within the residential neighborhoods also may be appropriate. Though the sponsors of these uses may not be able to afford the price that a prominent site might command, every attempt should be made to provide civic and community uses with highly visible locations, such as the termination of a vista or a prominent location around a square. Furthermore, civic or public structures should be located along a collector road or street.

Such uses should be featured and not lost within a sea of parking on an inconsequential side street of a community. Parking for civic and public uses should be either provided as parallel parking along the street or behind the use, in the middle of the block. Because users of these buildings frequently arrive after the conclusion of the working day or on the weekend, shared parking agreements with nearby office or commercial developments may be appropriate, reducing the required lot size, and rendering the projects more affordable.

Blocks should be the main organizing feature of individual neighborhoods. While conservation design, hydrology, proposed use and design intentions should determine block size and configuration, Residential Neighborhoods should have small block widths and lengths - an exception to this rule may apply to those blocks on the edge of a community where a low-density “country” effect is sought. Although considerable design freedom is granted in the design of blocks, pedestrian movement is best encouraged by blocks not exceeding 400 feet in length. Furthermore, residential blocks of greater than 200 to 300 feet in width tend to develop accessory, sometimes unanticipated, land uses along the service alleys.

Pedestrian movement is stimulated by a brisk succession of structures and intricate building detail. Movement declines with boring front yards, nondescript side yards and dull garage doors. Side yards provide little usable family outdoor recreation space while generating the need for additional, costly road and utility construction and rectangular rear yards generally provide the most effective space for family activities. Neighborhood lots should reduce front and side yards to the minimum needed for health and safety reasons and strive to provide effective and usable rear yards. To this end, lot designers should consider the use of a “build-to” line, which would establish the maximum setback of structures from the street and also consider establishing a clear definition such as a low wall or hedge, between the private front yard and the sidewalk space.

d. Streetscape:

Neighborhood rights-of-way should be designed in a hierarchical, generally rectilinear pattern of collector roads and local access streets and alleys that respects the Green Infrastructure elements of the community. Streets should terminate in other roads and streets. Collector and local access streets are to be considered the main "public rooms" of a community and should be designed to accommodate a number of specific, interactive functions, such as: (i) pedestrian, bicycle and vehicular movement, and the parking of cars; (ii) foreground and entryway into private residences, communal and public buildings; and (iii) interactive social space.

To achieve these functions streets should be designed as a network of defined yet lively spaces surrounding blocks. Each street should be further designed as a set of carefully graduated zones as follows:

i. A zone of privacy near the entry and ground floor windows of residential buildings or an "eddy" area adjacent to commercial buildings;

ii. A pedestrian movement and meeting zone;

iii. A buffer zone of street trees, plantings and parked cars; and

iv. A zone of moving vehicles.

In order to define the street space, buildings facing each other across the street should be placed close to the street with minimal setbacks to frame the street. Spatial definition should be reinforced with the regular planting of street trees chosen to develop an overhead leaf canopy. Further street definition should be sought by emphasizing block corners with street lights, while the vista at the end of the street should terminate with a centrally placed building façade, such as a major house or civic building, an archway into a neighborhood green, a church spire or a monument.

Major collector roads, used primarily to connect communities with each other and with the arterial network, should avoid dividing any Residential Neighborhood, although major collector roads may skirt such neighborhoods. Secondary collector roads, which act as the primary link between the residential neighborhoods, should be distinguished from the local access streets that they serve by means of larger scaled and more dignified structures, such as churches, major residences, grander tree species and richer choices of street furniture. Local access streets should possess a liveliness generated by variety of building types and details such as entryway porches, interesting doors, lighting fixtures and by careful selection of street furniture and trees.

Alleys provide for property service functions such as rear yard and accessory apartment access, parking and garaging, utilities and trash collection. While the service function of alleys will strongly influence design character, a certain irregular charm and casual mix of ad-hoc service and recreational functions should be sought in the design of these, important playground and "chore-ground" areas.

Continuous parallel parking for additional cars and visitors should be provided in the street at the front of residential lots. Garages should be set back from the front façade of the dwellings.

Parking for non-residential, civic, commercial, employment and recreational uses located in the residential neighborhoods should be provided in the middle of blocks and reached by means of alleys, and/or provided by continuous on-street parallel parking, or provided on the perimeter of

the neighborhood and reached by secondary collector roads. In no case should parking lots occupy significant frontage along residential neighborhood streets or in the town centers. Parking space requirements may be relaxed in those instances of mixed employment, commercial, and residential use in a town center, urban center, or transit node in which the time-sharing of a parking space is feasible.

Streets and their widths are perhaps the most distinguishing feature of suburban developments. Typically designed to move only auto-mobiles, streets seldom play a constructive role in community character. However, street designs that are sensitive to views, pedestrian movement, landscape, and physical enclosure may create, in new communities, an outdoor public space that encourages community interaction and social activity.

Cul-de-sacs, along with significant building spacing and homogeneity of uses, represent a basic visual characteristic of suburban neighborhoods. In some circumstances, the use of cul-de-sacs and curvilinear streets will be essential in order to implement conservation design. Cul-de-sacs can separate one neighborhood from another and may prevent convenient pedestrian or vehicular movement. Interconnected streets, whether in a grid or curvilinear pattern within the neighborhood provide better traffic movement and emergency service response as well as greater opportunities for social interaction. Cul-de-sacs should be limited to the minimum required to address environmental and engineering constraints.

Sidewalks and pedestrian ways supplement and complement street systems in establishing the character of a residential environment. The pedestrian circulation system need not parallel the street system. However, a sidewalk should be provided on at least one side of a public street. Trails and paths behind homes or through public open space present a safety concern for both the pedestrian and the adjoining property owner. Any use of trails not associated with a larger publicly managed park system should incorporate design features that enhance safety and security for users and property owners. Pedestrian circulation systems should be provided as convenient, safe, and attractive links between residential groupings, open space areas, recreational areas, schools, and local shopping centers.

## 2. High-Density Residential Uses

a. Function:

High-Density Residential neighborhoods are established to provide for a variety of attached and multi-family housing types in neighborhood settings with supporting non-residential uses in a planned environment fostering a strong sense of community. High-Density Residential neighborhoods are intended to implement Loudoun County policies related to residential and public uses of land in those areas that have been developed at, or are appropriate for, medium- and high-density residential densities.

It is the intent of the Plan that density that would otherwise be spread out in a low-density pattern will be drawn into specific mixed-use communities and that these communities will provide a greater range of housing types and sizes to meet the County's affordable housing objectives. At the same time, such a pattern is intended to provide significant quantities of open space (preferably public open space) both in and around the high density neighborhood or the community in which the neighborhood is located.

b. Scale:

A High-Density Residential neighborhood should have an overall density range from 8.0 and 24.0

dwelling units per acre in the Dulles Greenway corridor, and from 8.0 to 16.0 units per acre in mixed-use areas located outside the Dulles Greenway corridor depending on the character of the community in which it is located, limits set by the land use and location policies of the Plan, and the availability of utilities, roads, and amenities.

The mix of uses should be such that a full range of housing opportunities is provided. The scale of individual structures, including larger apartment buildings possibly with structured parking; larger public facilities such as parks and community centers, and close proximity to commercial and employment opportunities also will set the High-Density Residential neighborhood apart from other neighborhoods.

c. Land Use Arrangement:

The High-Density Residential neighborhood designation is established to provide for the development of a mix of duplex, single-family attached and multi-family dwelling units recognizing that conservation design may warrant more compact development on certain sites. Compatible governmental, educational, religious, recreational, and other uses required to support the residents of these areas may form a residential neighborhood center around which the residential uses are located. Convenience establishments designed to serve the daily or frequent retail and service needs of the immediate surrounding population, as governed by the *Countywide Retail Policy Plan*, may form a part of a residential neighborhood center in a High-Density Residential neighborhood.

Open space plays a critical role in defining the quality of life in a High-Density Residential neighborhood because of the greater concentration of residents. Sufficient space must be set aside in the form of neighborhood and community parks, greens, trails, and greenbelts so that all residents, especially children, can easily walk to and enjoy the open space. The open space should not be centralized in one area but should take the form of a larger central facility with numerous smaller parks and playgrounds at appropriate locations throughout the neighborhood.

A High-Density Residential neighborhood should provide for safe, efficient, convenient, and harmonious groupings of structures, uses, and facilities. Elements of the proposed development should be designed to account for existing characteristics of the property through conservation design including its topography, vegetation, habitat, and hydrology. The site plan should address the role of spaces between and around buildings relative to intended uses and structural features.

d. Streetscape:

High-density structures should be within convenient walking distance of a Town Center and/or toward the entrance of the community to minimize the traffic through lower-density areas. This also will facilitate the designation of the Town Center as a transit stop. Wherever they are located, multi-family buildings should be designated as part of a tiered unit with townhouses acting as a transition between multi-family and single-family detached units.

Principal vehicular access points should be designed to encourage smooth traffic flow with controlled turning movements and minimum hazards to vehicular or pedestrian traffic. Left-hand storage and right-hand turn lanes and/or traffic dividers should be provided where existing or anticipated heavy flows indicate need. Minor streets should not be connected with streets outside the development in such a way as to encourage the use of such minor streets by substantial amounts of through traffic.

Yards, fences, walls, or vegetative screening at the edges of any High Density Residential neighborhood should be provided where needed to protect residents from undesirable views,

lighting, noise, or other off-site influences, or to protect residents of adjoining residential neighborhoods from similar adverse influences. In particular, extensive off-street parking areas, service areas for loading and unloading non-passenger vehicles, and areas for storage and collection of refuse should be screened.

## 3. Town Centers

a. Function:

A Town Center should have a lively, robust character integrating employment, commercial, residential, and public uses. Town Center structures and facilities should have a larger scale than their surrounding neighborhoods. Rather than dilute the energy associated with Town Centers, land uses should be located on multiple floors of buildings with small footprints and maximum use made of shared and structured parking. Refer to *Countywide Retail Policy Plan* for policies governing the retail component.

b. Scale:

The Town Center will have an overall area of 30 to 60 acres. Rectangular blocks should be the main organizing design feature of individual lots in any Town Center. Pedestrian movement is best encouraged by blocks not exceeding 400 feet in length. Residential blocks of greater than 200 to 300 feet in width and commercial/ employment blocks greater than 300 to 400 feet in width tend to develop accessory, sometimes unanticipated, land uses along the service alleys.

The Town Center will seek to create urban enclosures or “outdoor rooms” using the space created between buildings and streets. In large cities the enclosure is stifling because of the monumental scale of the buildings. In Town Centers, a human scale is achieved by limiting building height to two to four stories, providing street trees to break the vertical view or using architectural features to disguise the impact of higher structures and minimizing the distance between facing buildings. When discussing enclosure, it will be important to consider the view looking towards the end of the street. These views must terminate in a structure(s) of equal size and scale in order to accomplish the enclosure. The Town Center, at its core, literally should stand above the surrounding neighborhoods and then transition downward to the edge of the residential neighborhood.

Individual buildings should be narrow along the street frontage to provide the pedestrian with an interesting variety of facades and patterns. Large structures (more than 100 feet wide) should provide a variable façade with numerous openings and setbacks rather than an unbroken wall.

c. Land Use Arrangement:

A mix of land uses should be located in the Town Center. Public, civic, commercial, and employment uses will predominate in the Town Center. Local and regional office functions should be located in the middle of the Town Center, with community and some regional commercial uses located on the ground floor. Furthermore, such non-residential uses should be visible and accessible from the collector roads that link the centers with their surrounding neighborhoods and that converge within the Town Centers. Parking for those employed in office and commercial uses should be located within the center of the blocks, either on grade or in parking structures.

Residential structures also should be located in the Town Center, and should share in the more ample scale and higher intensity of the center by being incorporated into business structures. Freestanding residential development will be predominantly townhouses and apartments. Although gardens for such residential uses should be provided, in the interest of not dissipating the

vigor and energy of the center, these open spaces should have a private character and not dominate the streetscape. Housing should range from affordable through market rate garden multi-family units, to luxury condominiums. Again, affordable units should be interspersed with larger, full-featured dwellings.

For reasons of community harmony and visual compatibility, similar uses should generally front one another across secondary collector and local access streets while compatible uses may be placed on adjoining lots along these streets. Should other considerations cause the fronting of unlike uses, every effort should be made to maintain a similarity of building mass, scale, window and door openings, and detail. The parking for such various uses on opposite sides of a block may be located along the alleys and should be shared if appropriate.

A hierarchical assortment of squares and greens should be located throughout the Town Center. In the Town Center, these small squares and greens should be protected from the street by low walls or thick hedges to create a quiet environment away from the bustle of urban activity. While protection and integration of the natural features of a site through conservation design techniques will be paramount, usable open space such as squares and greens generally should be flat and well drained and be a place for recreation and social activities.

A civic square and/or formal civic boulevard should be located prominently in the Town Center. This green area should be surrounded by institutional, commercial, and office structures and should be designed as the central meeting place of the community in times of special community events as well as daily small group and individual relaxation. The green should be a substantial size relative to the surrounding community to provide a sense that it is a dignified or special place, and much of its perimeter should open onto the surrounding streets. The square should have durable ground surfaces, appropriate outdoor furniture and low walls for sitting, spotlight and background lighting, and suitable landscaping (with minimal eye-level obstruction but with a significant overhead leafy canopy in summer months).

Civic and public uses should be recognized as the major landmarks of a community and should be associated with the Town Center, although placement on a secondary collector road within the residential neighborhoods also may be appropriate. Every attempt should be made to provide civic and public uses in highly visible locations, such as at the termination of a vista or at a prominent location around a square. Furthermore, civic or community structures should be located along the collector road or street, closely integrated within the Town Center fabric. In short, such uses should be featured and not lost within a sea of parking on some inconsequential side street of a community.

Parking for civic and public uses should be provided either as parallel parking along the street or behind the use in the middle of the block. Because users of these buildings frequently arrive after the conclusion of the working day or on the weekend, shared parking agreements with nearby office or commercial developments may be very appropriate, reduce required lot size, and render these projects more affordable.

d. Streetscape:

Pedestrian movement is stimulated by a succession of structures and intricate building details and declines with boring front yards, nondescript side yards and dull garage doors. Side yards provide little usable space unless they serve as alleys, while generating the need for additional, costly road and utility construction. Rear yards provide the most effective space for utility functions and parking in business complexes. Town Center lots should reduce front and side yards to the minimum needed for health and safety reasons and strive to provide effective interaction with the

sidewalk. Lot designers should consider the use of a "build-to" line that would establish the maximum setback of structures from the street and thereby define them clearly.

Town Center roads and streets should be designed in a hierarchical, rectilinear pattern of collector roads providing access to arterial roads outside the community and local access streets and alleys connecting to adjoining neighborhood streets. Secondary collector and local access streets are to be considered the main "public rooms" of a community and should be designed to accommodate a number of specific, interactive functions including pedestrian, bicycle, and vehicular movement, daytime parking of cars, and interactive social space.

To define the street space, buildings facing each other across the street should be placed close to the street with minimal setbacks to frame the street. Spatial definition should be reinforced with the regular planting of street trees chosen to develop an overhead leaf canopy. Further street definition should be sought by emphasizing block corners with street lights, while the vista at the end of the street should terminate with a centrally placed building façade, such as a major house or civic building, an archway into a neighborhood green, a church spire, or a monument.

Town Center collector and local streets and the uses located along them may be appropriately designed in a "tartan" layout that distinguishes those most suitable for pedestrian movement and those most suitable for vehicular movement—although both should accommodate either mode of travel. In such specialized designs, office and apartment parking structures, gas stations, car washes, supermarket parking lots and other auto-related functions would be located along streets primarily designed for the automobile, while the office, apartment and most store entrances would be located along streets designed primarily for pedestrians.

Parking in Town Centers primarily should be located in the middle of blocks and reached by means of alleys or driveways. Parallel parking, for use mainly by visitors and shoppers, should be designed along both sides of the secondary collector and local access streets in the Town Center. Parking lots should not occupy significant frontage along Town Center streets and then only if the surface parking is screened from sidewalks with walls and hedges and street trees. Parking space requirements may be relaxed in those instances of mixed employment, commercial, and residential use in which the time-sharing of a parking space is feasible.

## 4. Urban Centers

One Urban Center will be located in the Suburban Policy Area. An Urban Center functions as an intensive, large-scale mixed-use community. It features well-configured squares and greens, a traditional network of landscaped streets with frontages dedicated to social, recreational, and visual enjoyment of the pedestrian as well as the motorist, a rectilinear pattern of small blocks, and the location of civic buildings that act as landmarks and symbols of community identity. The design guidelines for High Density Residential and Regional Office areas provide direction for these elements located within an Urban Center. Like traditional urban centers that go through continual cycles of change, the modern Urban Center will evolve through phasing in response to changes in the surrounding communities, the development of services such as mass transit, and changes in business and housing trends.

## 5. Transit Nodes

Two Transit Nodes, eventually served by rail transit, will be located along the Dulles Greenway. These two Transit Nodes will serve different functions: the Transit-Oriented Development (TOD) will serve as a compact mixed-use Transit Node, while the Transit-Related Employment Center (TREC) will serve as a compact, pedestrian-oriented area for employment or Special Activity uses. Each Transit Node will encompass an area no greater than a 1/2-mile from Transit Node edge to the transit stop to ensure compact

development, with reliance on transit and pedestrian circulation. Certain areas of the Transit Nodes should be reserved as car-free districts.

The TODs will be composed of a core and an outer core. Transit stops will be located at the center of the core. The highest land use intensities will be located close to the transit stop at the core of the TOD. Land uses diminish in intensity as they increase in distance from the transit stop. A Transit-Supportive area will surround the TOD, providing for a continuation of the pedestrian-oriented pattern, with short blocks arranged in a rectilinear pattern to facilitate pedestrian access to feeder bus stops, and efficient access for the feeder buses to the Transit Node core. Higher density development in the Transit-Supportive area should be clustered in pockets along transit corridors to support feeder bus travel.

The TREC will encompass an area no greater than a 1/2-mile arc north of the transit station. Because the TREC is encumbered with RSCOD and access to the site is limited by the Dulles North Transit Center, it is crucial that pedestrian networks be clear, safe, and logical. Development within the TREC will be compact and provide for efficient pedestrian and transit connections to the transit station. The TREC may develop as a special activity use, such as a sports stadium.

The development intensity of the Transit Nodes will be phased when road and transit capacity can support it. The County will consider density and intensity increases when there is adequate transportation capability to handle the associated traffic increases (roads, bus, and rail). Each density and intensity phase can be achieved when the next level of transportation capacity is planned, programmed, designed, and fully funded for construction either by public subsidy, a joint public/private venture, a consortium of property owners, or the private sector, in order to ensure adequate transportation capacity.

The *Toll Road Plan* provides additional design guidelines.

## 6. Destination Retail

The *Countywide Retail Policy Plan* amendment provides design guidelines for Destination Retail areas.

## 7. Light Industrial and Regional Office

a. Function:

In most cases, the design features of a Light Industrial area are much like those in a Regional Office area. The principal issue is the relationship of a mix of residential and non-residential uses to form a sustainable community. The following design guidelines are intended to address concepts in both the Regional Office and Light Industrial areas where a mix of uses is encouraged. The primary purpose of Light Industrial or Regional Office communities is to accommodate a mix of similar and compatible office, light industrial, related business uses, and accessory commercial uses in conjunction with compatible residential development. Such developments will exhibit a conservation design and have minimal impact on the natural environment or surrounding uses and exhibit the highest quality in site and building design consistent with the Green Infrastructure and land use policies of the Plan.

These communities advocate a mix of High Density Residential uses as a means of promoting a sustainable and localized living and working environment. Where residential uses are appropriate, a range of housing opportunities, including multi-family dwelling units and single-family attached dwelling units should be accommodated. However, such housing is to be provided as a subordinate use to the primary business function of the development.

The *Revised General Plan* acknowledges the benefit of promoting Keynote Employment developments. Keynote Employment development is intended to be a pure land use accommodating prominent, high-quality, high-traffic-generating uses comprised of 100 percent office and research and development parks located along the County's primary employment corridors including Route 7, and the eastern end of the Dulles Greenway. Although Keynote Employment developments do not have a residential component, they should have the general characteristics of Regional Office developments.

Regional Office or Light Industrial developments will emulate the key traditional design concepts of the *Revised General Plan* by addressing the design and function of exterior spaces, pedestrian access from adjoining residential areas, and architectural cohesiveness and environmental conservation. The Regional Office and Light Industrial uses will be the prominent features of the community when viewed from periphery roads as well as the predominant use in terms of percentage of site occupied. Within the Route 28 Corridor, all development will comply with specific base design standards contained within the *Route 28 Corridor Plan* in Chapter 6 of the *Revised General Plan*.

Other business and commercial uses are limited to types and scales designed to serve primarily the convenience needs of the business and local residential uses. Such establishments may include office supply stores, printers, courier services, variety stores, health clubs, drug stores, laundry and dry cleaners, and delicatessens. Employment-serving retail uses located within Regional Office and Light Industrial developments are governed by the land use policies and design guidelines included in the *Countywide Retail Policy Plan*.

The design of the residential portion of Regional Office or Light Industrial development is governed by the guidelines for High-Density Residential uses provided above. Such uses will be provided with a full complement of residential services and amenities including parks, playgrounds, public facilities where warranted, and sidewalks and trails for access to local employment and shopping. The residential uses should be of a scale comparable to the surrounding office or light industrial uses.

Where residential and office or industrial uses are planned together, the *Revised General Plan* does not seek to screen or buffer one completely from the other. Screening should be used where a light industrial activity creates noise, odor, dust, objectionable views, or emissions. Otherwise, consideration of building scale to ensure that adjacent uses are comparable; changes in landscape treatment to signify a transition along a street, providing pedestrian amenities such as sidewalks along business streets, interesting public open spaces and parks, and other design features will promote a blending of the uses into a unique community.

b. Streetscape:

Rights-of-way should be designed in a hierarchical, rectilinear pattern of collector roads and local access streets and alleys as accommodated by conservation design techniques. Streets should terminate in other roads and streets. Collector and local access streets are to be considered the main "public rooms" of a community and should be designed to accommodate a number of specific, interactive functions, such as: (i) pedestrian and vehicular movement and the daytime parking of cars, (ii) foreground and entryway into buildings and, to a lesser extent, (iii) interactive social space.

To define the street space, buildings facing each other across the street should be placed close to the street with minimal setbacks to frame the street. Spatial definition should be reinforced with the regular planting of street trees chosen to develop an overhead leaf canopy. Further street

definition should be sought by emphasizing block corners with street lights, while the vista at the end of the street should terminate with a centrally placed building facade.

Major collector roads, used primarily to connect communities with each other and with the arterial network, should avoid dividing any residential area, although major collector roads may skirt such neighborhoods. The major collector roads serving the development should be the location of larger-scaled and more dignified structures such as a corporate headquarters, or similar multi-storied buildings, grander tree species, and a richer choice of street furniture, gateways, walls, and other design features. Local access streets should possess liveliness generated by a variety of building types and details and, where appropriate, should transition downward in scale to be compatible with adjoining residential uses.

Front yards should be minimized and the buildings moved closer to the street to create a better sense of visual enclosure for motorists and pedestrians except in Keynote Employment areas. Parking should not be located at the front of buildings. Parking can be moved to the center of the block and shared by other uses. An alley would provide the principal egress from the parking area thereby minimizing the number of curb cuts along the street. Short-term and visitor parking can be accommodated along the side or on the street. Similarly, parking structures should be located in the middle of the block, screened from the street by office or industrial buildings.

Keynote Employment developments normally will maintain larger front and side yards to permit extensive landscaping and design features to accentuate the larger-scale structures. Unlike other office and light industrial communities, individual Keynote Employment uses are intended to be the focus of the development rather than interrelationships of a group of uses.

## 8. General Industry

a. Function:

The General Industry designation is established for industrial uses; industry-related commercial uses such as equipment repair, distributors, welding shops and similar uses; and necessary supporting accessory uses and facilities designed with a park-like atmosphere to complement surrounding land uses by means of appropriate arrangement of buildings and service areas, attractive architecture, and effective landscape buffering. General Industry areas, because of their function represent a unique design opportunity. The road network must serve industrial traffic; different uses require different levels of visibility (or invisibility) and other divergent needs and because of the wide range of uses that could locate in the development, uses within the development may not be compatible with each other.

Areas appropriate for a General Industry designation should be in locations served by one or more major roads and in those areas of the County served by public water and sewer. Because of the range of uses, General Industry developments should not be considered as the employment component of Residential Communities.

b. Scale:

General Industry areas will be developed on sites of approximately 20 acres to permit adequate landscaping, screening, and setbacks to be provided. The size and scale of individual lots will depend on the nature of the use but are expected to vary.

c. Land Use Arrangement:

As indicated above, the General Industry designation is established for industrial uses, including

such uses as warehousing, outdoor storage, and distribution uses, and the bulk storage of hazardous materials. In addition, certain necessary supporting accessory uses and facilities may also be permissible. General Industry developments should be designed with a park-like atmosphere to complement surrounding land uses by means of appropriate arrangement of buildings and service areas, attractive architecture, and effective landscape buffering.

Commercial uses should be located to minimize possible conflicts with industrial traffic. Most commercial uses should be located towards principal entrances to the development, but without direct access to an arterial or major collector road. Where a street connection is made to an adjoining community or neighborhood, compatible commercial and smaller-scale industrial uses should be located to provide a transition. The land use policies and design guidelines provided by the *Countywide Retail Policy Plan* govern employment supportive retail uses.

d. Streetscape:

Site planning within a General Industry development should provide for safe, compact, and harmonious groupings of uses, facilities, and outdoor spaces. Elements of the proposed development should be designed according to conservation design techniques consistent with the Green Infrastructure polices of the Plan. Design of the proposed development should be organized in relation to the size and shape of the lot, the character of the adjoining property, existing desirable trees, and the views within and beyond the site. In addition, the site plan should provide for the appropriate relation of space inside and outside of buildings to intended uses and structural features.

Front and side yards should be minimized, as in other neighborhoods to provide a human-scale enclosure along the street. Buildings should be the prominent feature of the site when viewed from the road, while outdoor storage and the majority of parking should be located toward the rear of a lot. Parking lots and loading areas should be accessed by an alley and wherever possible parking should be shared by several uses.

Principal vehicular access points should be designed to encourage smooth traffic flow with controlled turning movements and minimum hazards to vehicular or pedestrian traffic. Left-hand storage and right-hand turn lanes and/or traffic dividers should be provided where existing or anticipated heavy flows indicate need. Minor streets should not be connected with streets outside the development in such a way as to encourage the use of such minor streets by substantial amounts of through traffic.

Yards, fences, walls, or vegetative screening at the edges of any General Industry area should be provided where needed to minimize any undesirable view, lighting, noise, or other off-site influences from the street and to protect residents of adjoining residential neighborhoods. In particular, extensive off-street parking areas and service areas for loading and unloading non-passenger vehicles and areas for storage and collection of refuse should be screened.

Extensive use of landscaping as buffers, to break up monotonous parking surfaces, structural walls, and storage areas, and for aesthetic quality is strongly encouraged in General Industry areas.

Heavy and extraction industries and Special Uses are very dependent on the nature of the use, manufacturing operation, or resource and therefore may drastically vary from one use to another.

## C. Rural Policy Area Design Guidelines

### 1. Rural Clusters

a. Purpose and Function:

Rural clusters allow lots to be clustered in a traditional rural community pattern while retaining the majority of a site in common open space and/or rural economy lots. Rural clusters will support predominately single-family detached residential development. Clusters should be designed to protect groundwater resources, preserve open space and the Green Infrastructure, enhance the rural economy, enhance opportunities for alternative and passive energy residences, and reduce potential congestion on rural roads.

b. Size:

Clusters should comprise 5 to 25 lots and be surrounded by rural economy and/or common open space. The minimum lot size in a cluster shall be determined based on the type of water and wastewater to be provided to the individual lot. A variety of lot sizes is encouraged to provide a diversity of housing types and rural economy uses. While more than one cluster may be accommodated on a tract of land, such settlements should be physically and visually separated from adjoining residential and rural economy uses.

c. Physical Character:

The new rural cluster lots may be designed along a road and/or around a green/square or historic site feature with the dwellings arranged in a logical relationship with one another and with the surrounding landscape. Lots sizes and setbacks should be flexible to provide a tight cluster and maximize open space. While lots in the rural cluster may not front on an existing through road, the County will consider proposals to build a small bypass and to use the mature hedgerows and trees of the existing road in a new cluster design.

d. Location and Formation:

The new rural cluster should generally have two points of access to an existing collector or secondary road. Every effort should be make to keep existing villages and towns and new clusters visually distinct. The design and layout of the cluster should use existing topography, hedgerows, mature woodlands and other site features to blend with the rural and scenic quality of the landscape.

e. Land Uses:

Single-family detached houses would be the permitted use in new rural clusters. The land not associated with the cluster itself should remain open for and available for rural economy uses. Also to the extent feasible rural economy uses are encouraged on any and all residential lots within a cluster.

f. Transportation:

No lot of a new rural cluster may front on an existing public road unless a substitute “bypass” road is constructed. Rural cluster lots should front on a paved public road.

## D. Transition Policy Area Design Guidelines

The County envisions that the Transition Policy Area will achieve a balance between the natural and built environments, and development patterns will serve as a transition both visually and spatially between the

Suburban Policy Area to the east and the Rural Policy Area to the west. Development, through the application of conservation design, will define a green edge between the Transition Policy Area and Rural Policy Area. The prescribed cluster design will develop a contiguous network of natural systems to achieve the County's Green Infrastructure objectives. A key implementation step of the *Revised General Plan* is the development of a Transition Policy Area plan and Design Guidelines. The guidelines included below will serve as interim guidelines pending the adoption of those plans.

Properties within the Transition Policy Area vary in development potential with respect to lot size, permissible densities, access, surrounding development patterns and Green Infrastructure features offering a diverse pattern upon development.

The County envisions that development within the Transition Policy Area will occur in two forms-clusters and villages surrounded by a contiguous network of natural features and planned open spaces. Villages and clusters differ predominantly in the scale and mix of uses within the development types. Clusters will support predominantly single-family detached residential development at densities between one dwelling unit per 10 acres and one dwelling unit per one acre with significant open space areas.

Villages will be mixed-use developments planned to foster a sense of place and community identity, and to support an integrated mix of residential and non-residential uses, and organized around a community core. The community core should be of a small scale, consistent with the surrounding residential neighborhoods.

## 1. Residential Cluster

a. Function:

Residential clusters provide for a grouping of residential uses within a portion of the site, leaving the remainder of the site undisturbed as unbuilt open space. The residential clusters proposed in the Transition Policy Area are derived from the concept of Rural Hamlets defined by the 1991 *General Plan* and support primarily residential uses with associated open spaces.

b. Scale:

Residential Clusters are typically small in scale supporting anywhere between 5 to 25 residential units. Residential densities range from one dwelling unit per 10 acres to one dwelling unit per acre depending upon the subarea in which the cluster is located.

c. Land Use Arrangement:

All development will be clustered pursuant to the cluster design guidelines outlined above. There should be no minimum lot size in a cluster, to provide flexibility in design consistent with conservation design techniques. Residential clusters are likely to be predominantly single-family detached residential development. A minimum of 50 percent to 70 percent of the total development area will be designated as open space. Clusters may include a system of trails and pedestrian networks that connect residential units to the Green Infrastructure and serve to integrate the open spaces in a contiguous network.

d. Streetscape:

Streetscape design is central to defining both the visual and spatial quality of a development. Streets serving residential clusters should be lined with trees and constructed at minimum required widths to merge into the open landscape and slow traffic.

## 2. Villages

a. Function:

Villages will integrate residential and non-residential uses within pedestrian friendly communities. These mixed-use clusters are derived from the concept of Rural Villages defined by the 1993 Zoning Ordinance with residential units arranged around a community core.

b. Scale:

Village densities range from two dwelling units per acre to one dwelling unit per three acres depending on the subarea in which the Village is to be located. Within the village, densities may also vary. Higher densities generally will be associated with the community core, supporting a small-scale mix of uses. Lower density areas will develop as predominantly single family detached residential uses along the periphery of the development.

c. Land Use Arrangement:

Villages should incorporate a mix of uses, including residential, recreational, service-based commercial and local businesses, institutional and community facilities necessary to promote a self-sustaining community. These varied uses should be integrated in a manner that allows for a transition between diverse uses, promotes pedestrian movement, fosters community interaction and a sense of place.

Villages will include a community core. The core may be organized around an open space. One of the primary objectives of the community core is to foster community interaction and create a sense of place. While most developments typically have only one core, larger developments may have as many as two cores as long as they provide for easy access between the two cores. Community cores should include public facilities and amenities such as schools, churches, parks and not big-box commercial uses. Retail and recreational/entertainment uses must be located in the core.

Higher density residential uses such as townhouses and low-density apartments should be located near or around the community core. Lower density residential uses such as single-family residential units may be located at the periphery of the development.

The location of non-residential uses, including commercial will be based on the scale/intensity of the use and the markets that they serve. Smaller scale commercial retail, service and business uses such as variety stores, cafes, day care centers will be located in the core to facilitate community interaction. Larger or specialty stores and uses such as grocery stories may require broader markets that extend to surrounding communities. Such uses will be located along a major arterial or collector road, at the periphery of the mixed-use cluster. However, efficient pedestrian trails have to be provided between the residential areas and the non-residential uses.

d. Architecture:

The architectural character will be consistent throughout the development and be compatible with the rural landscape. These architectural design guidelines relate particularly to the issues of scale, materials and style of the buildings. As far as possible the community core should be the focal point of the development, either through the design or uses represented within it. Clear visual access to the same, in terms of recognizable pedestrian paths and roadways, may serve to identify the same as the focal point.

e. Open Space:

A minimum of 50 percent of the total development area will be designated as open space and

development will not exceed 50 percent of the total site. Open space design within a community should take into consideration natural features of the site and be consistent with conservation design techniques. The open space associated with a Village should serve to integrate the development with the existing natural landscape and Green Infrastructure. Open space areas will serve as a transition between the private and public realm.

Open spaces surrounding the periphery of the development will constitute the predominant component of the 50 percent open space requirement. A small part of the open space requirement may include central open space or community parks associated with the community core. In larger villages, parks and open space/green pockets will be distributed within the development to allow for easy pedestrian access from the residential neighborhoods, especially the single-family residential units located at the periphery of the development. This helps define a hierarchy of open spaces and parks within the development, connected by well-defined systems of pedestrian trails.

f. Streetscape:

Interior streets will be tree-lined with houses built close to the road to frame the street creating a shady lane. A comprehensive pedestrian and bicycle network must link all uses within the development with a view towards reducing automobile traffic and minimizing walking distances. Parking should be addressed through a combination of on-street and off-street choices. Large continuous surfaces of paved parking must be avoided. In community cores, street trees, common greens, on-street parking and sidewalks or trails are essential elements of the streetscape. Recommended designs include limiting the length of streets, introducing a rotary or traffic circle, shifting the street network through the use of T-intersections, or other similar techniques.

## 3. Non Residential Developments Along Major Arterial and Collector Roads

a. Function:

Non-residential uses will include commercial, business and institutional uses developed at a scale that would allow them to blend effectively (visually and spatially) into a rural landscape.

b. Scale:

Non-residential uses will be consistent with the scale of the surrounding developments and the rural landscape. Individual buildings will not be greater than 40 feet in height and 150 feet in length. Building heights will relate to the surrounding landscape and heights of adjacent structures. Building heights could be stepped to relate to adjoining structures.

c. Land Use Arrangement:

Non-residential uses will front major arterial or collector roads, and may be developed as part of a Village functioning as the community core. Conservation design will be applied. The scale and the volume of the primary built mass and accessory elements should not dominate over the natural landscape. Buildings should be shielded from the road using natural landscaping, earth berms, etc. Continuous plane building surfaces will be avoided. Homogeneous surfaces shall not exceed a linear distance of 20 feet especially when they front public access roads, such as major arterial or collector roads. Such surfaces will be broken up into smaller segments through fenestration and setbacks.

Parking areas will be located behind buildings and will not be the dominant feature of the landscape. Paved parking surfaces will be broken into modules; interspersed by tree plantings and other on-site landscape to prevent the creation of large paved surfaces as associated with suburban malls or office complexes. Developments will be sensitive to the use of glass and night lighting.

These building elements will have to be buffered from access roads. Signage will be scaled and designed to be compatible with the surrounding landscape.

d. Open Space:

Open space areas will serve as a transition between the private and public realm. Open spaces will form a contiguous network, integrated with pedestrian trails, etc., both within the development and where feasible with neighboring properties.

e. Streetscape:

Major arterial and collector roads servicing non-residential uses will be designed to merge as far as possible with the natural landscape and not develop as the dominant feature of the landscape. These roads will develop as boulevards, with sufficient landscaping and tree plantings on either side.

## Implementation Strategy

A work program for implementing the policies included in the *Revised General Plan* will be initiated upon adoption of the Plan. The implementation strategy provides an outline of the key actions that must occur to implement the *Revised General Plan*'s policy direction. It gives broad general guidance as to the regulations, guidelines, future planning efforts, and programs that will be developed and implemented to achieve the Plan's objectives. The work program and action schedule will continue to be amended, added to, and refined. The Board will use the Action Schedule of implementation steps recommended by the Planning Commission as the framework for developing the work program.

This implementation strategy defines the future tasks that should be undertaken to fully implement the *Revised General Plan*. Necessary implementation actions include studies, mapping, area plans, ordinances, design guide-lines, programs, and regional forums. Many of these actions are explicitly identified in the policies and text of the Plan.

The following list identifies key implementation actions:

- Design and adoption of a program for public participation in the area plan and implementation process.
- Preparation and completion of a comprehensive remapping of the County and adoption of a new Zoning Map and new Zoning Ordinance consistent with Plan policies.
- Preparation and adoption of an updated Land Subdivision and Development Ordinance consistent with Plan policies.
- Preparation and adoption of an updated Facility Standards Manual consistent with Plan policies.
- Preparation and adoption of illustrated design guidelines and incentives to include conservation design.
- Preparation and adoption of area plans to include the Sterling Community Plan, Potomac Community Plan, Ashburn Community Plan, Dulles Community Plan, and Transition Policy Area Plan.
- Preparation and adoption of an updated *Round Hill Area Management Plan, Comprehensive Plan for the Town of Hamilton and the Urban Growth Area.*
- Preparation and adoption of a Preservation Plan.

- Study, development and initiation of Affordable Housing incentives and programs including the establishment of a Housing Trust Fund and Housing Authority.
- Preparation and adoption of an updated County Water and Sewer Master Plan to include guidelines for the management of on-site wastewater systems and new technology, alternative individual and communal wastewater facilities.
- Preparation and adoption of Public Water Supply Watershed Protection program and associated ordinances.
- Preparation and adoption of updated Service Plans.
- Study and map Green Infrastructure components and develop the Resource Management Data Base.
- Preparation and adoption of a long-range integrated transit and land use plan for designated transit corridors.

# Glossary

***Active Adult Retirement Housing:*** Active adult retirement communities offer a form of housing most similar to traditional residential development. This housing type is tailored to the specific interests and desires of seniors and reflects a lifestyle choice. These communities offer an independent living environment with houses often designed to reduce maintenance requirements and cater to specific interests of the senior home buying market. Restricted to seniors above a certain age, these communities offer amenities and services tailored to this age group. These active-adult age-restricted communities cater to seniors seeking a living environment among similar age groups who share like interests and have the necessary leisure time. Such active adult dwelling units may also be found in age-targeted communities where they commingle with traditional family housing.

***Adaptive Re-use:*** Use of an old structure for a different purpose than that originally intended, e.g., a house used as a restaurant. The purpose is to preserve the structure by finding an alternate use.

***Adjacent:*** Lying near or close to, sometimes contiguous; neighboring. Implies that the two things are not widely separated, although they may not actually touch or share a common lot line.

***Adjoining:*** Lying next to. To be in contact with; to abut upon. Sharing a common lot line.

***Affordable Housing:*** Non-subsidized housing (sale or rental) for those people whose income is 30–70 percent of the median household income for the area. Such housing should require no more than 30 percent of household income.

***Agriculture:*** Any land use that produces live-stock or plant materials to be used for food or fiber for human or animal consumption. Examples include activities that produce cattle, sheep, hogs, horses or other live-stock; activities that produce grains such as wheat, barley and corn; fruit and vegetable production and tree or timber production.

***Agricultural and Forestal District:*** Land areas voluntarily designated as districts by landowners. Must have a core of 200 contiguous acres. Adopted by the Board of Supervisors by ordinance, which establishes the district for a length of time from four to ten years. The Board may impose development restriction. Use-value assessment is guaranteed by the state ordinance.

***Ancillary:*** Subordinate, subsidiary, auxiliary, supplementary. An ancillary use complements a primary use such as an office supply store in an office park and is only to serve the principal uses within the district. [Zoning]

***Aquifer:*** A geologic formation or structure that transmits underground water in sufficient quantity to supply pumping wells or springs.

***Aquifer Recharge:*** Undeveloped or sparsely developed area where groundwater can be replenished by rainfall.

***Archaeological Site:*** The physical remains of any area of human activity greater than fifty years of age for

which a boundary can be established; including but not limited to domestic/habitation sites, industrial sites, earthworks, mounds, quarries, canals and roads.

***Archaeological Survey:*** The scientific archaeological investigation of a known or potential archaeological resource as defined by the Virginia Department of Historic Resources' Guidelines for Archaeological Investigations in Virginia.

***Area Plans:*** Specific detailed land use plans, which Loudoun County adopts for various areas of the County.

***Arterial Road:*** Generally, a publicly owned and maintained road, designed with restricted access and primarily intended to carry "through" traffic at 45 to 55 miles per hour. Arterial roads are identified in the Revised *Countywide Transportation Plan*.

***Assisted Living/Board and Care:*** Assisted living facilities (ALF), often also known as residential care, board and care, personal care, congregate care or sheltered living facilities, are facilities designed for the care of seniors. These facilities provide Varying degrees of personal care, assistance and support services to seniors who need help with daily activities (dressing, bathing, grooming, administering medication) and do not require skilled medical/nursing care.

Levels of care and service vary widely with most communities typically providing meals, laundry and housekeeping. The scale and type of facilities also vary with facility size ranging anywhere between 20 to 200 units, in a single-family home to an apartment style building. Assisted living facilities may also occur individually or in conjunction with/s part of a continuing care retirement community or life care community.

One of the most distinguishing features between ALFs and congregate housing is that services such as housekeeping are offered in the former more as a necessity and in the latter more as a convenience for independent residents. Many states impose licensing requirements on facilities where a higher degree of physical care is provided such as assistance with personal hygiene or medical management would often trigger licensure requirements rather than transportation facilities or housekeeping services such as linen and laundry.

***Bedrock:*** Rock formation that underlies a surface covering such as soil.

***Best Management Practices***: Specified practices that are the most effective and practical means for preventing or reducing the amount of non-point source pollution (NPS) to a level compatible with established water quality goals. (Non-point source pollution is carried in runoff that cannot be traced to a specific source and whose point of entry into the stream cannot be determined.)

***Buffer:*** An undeveloped or relatively undeveloped land area that lies between two areas with conflicting land uses. A buffer is intended for the purpose of reducing or eliminating harmful conflicts and screening one use from another. A buffer may include trees, plants, or other devices to further shield one use from the other.

***Built Environment:*** Intended to relate to the natural environment. Consisting of all man-made areas, including buildings and structures, utilities and communication infrastructure, roads, paths, parking and all paved surfaces, transportation infrastructure, man-made landscapes and open space, and all surface and sub-surface facilities related thereto.

***By-Right Uses:*** Uses or structures that are allowed under a particular zoning district classification without the need for a special permit.

***Canopy:*** The upper branches of a stand of trees; the tallest trees in a forested area.

***Capital Improvements Program (CIP):*** The County's plan for future capital project expenditures. This plan spells out the capital facilities that the County plans to finance, including schools, libraries, parks, etc.

***Central Water and Wastewater Systems:*** The network of major regional facilities, generally operated by a government entity or public utility, that provides for the collection, treatment and disposal of wastewater and to furnish potable water.

***Champion Tree:*** Any tree deemed largest of its species and listed on either the Virginia Big Tree Registry (maintained jointly by the Virginia Forestry Association, Virginia Department of Forestry and Virginia Tech College of Natural Resources) or the National Register of Big Trees (maintained by American Forests).

***Charitable Gift:*** A voluntary transfer of property with-out compensation.

***Civic Uses:*** Public or quasi-public institutional uses in residential or business areas that primarily serve the immediate community and that, due to their small size, design and limited ancillary activities (traffic, parking, noise, or similar activity) are compatible with the surrounding residential or business uses. Such uses may typically include small churches, fire and rescue facilities, schools, day care centers, group homes, community centers, post offices, and community club houses.

***Cluster Development:*** A cluster design is defined as the grouping of building units on smaller lots within a portion or portions of the site, with the intention of retaining a significant area of the land as a contiguous tract of unbuilt open land. Clustering is both visual and spatial with the dwellings scaled and sited to maintain coherent relationships to each other and the surrounding landscape. The open space accounts for the overall lower density of the site and may serve to preserve environmentally sensitive areas while catering to active or passive recreational uses and fostering the rural character by promoting agricultural, forestal, or other rural economy uses.

***Collector Road:*** A road into which local roads funnel and which, in turn, carries traffic to an arterial road. Ideally a collector road would have few private entrances accessing it directly.

***Colluvial Soils:*** Soils formed at the base of slopes and at the head of drainageways, consisting mainly of washed down topsoil and containing considerable organic material. Colluvial soils have seasonal high water tables and poor to marginal bearing capacity.

***Commercial Core:*** The highest density mixed-use area of a Transit-Oriented Node (TOD). The area within 1/4-mile radius of the transit stop. This area is encouraged to have ground floor retail, office, and commercial space.

***Commercial Use:*** Any wholesale, retail, or service business activity established to carry on trade for profit.

***Communal Wastewater Treatment Plant:*** A small sewage treatment system designed to serve small-scale developments and institutions that cannot be safely served by septic systems.

***Communal Water and Wastewater Systems:*** Water and/or sewage treatment systems that are designed to serve multiple users such as small-scale developments or clusters and institutions. These systems are public systems when owned and operated by a government entity or utility. LCSA does not accept ownership or operation of water or wastewater systems serving 3-14 residential lots. If requested by the County, LCSA agrees to provide technical services to the County by approving acceptable technologies, reviewing and approving system design and construction specifications, providing construction inspection and conducting semi-annual audits of system operation and maintenance. LCSA expenses for these services will be subject to reimbursement by the County.

***Community Plan:*** Specific detailed land use plans to be developed for the four communities of the Suburban Policy Area: Ashburn, Dulles, Potomac, and Sterling.

***Compatible:*** Not in conflict with; in harmony with.

***Comprehensive Plan:*** The general plan for the County and its supporting components. Every County in Virginia must have a Comprehensive Plan, which spells out policies for future development in order to ensure orderly growth and the protection of the public health and welfare. The Comprehensive Plan may consist of a number of components, such as local area plans, service plans, and specific land-use related resolutions of the Board of Supervisors.

***Congregate Housing:*** Historically congregate housing referred to a group living environment which offered a degree of care and assistance to seniors who needed some assistance but were for the most part capable of independent living. These services were intended to return the seniors to a semi-independent lifestyle while providing them with necessary social contacts and were primarily intended to prevent premature institutionalization.

Today, congregate housing refers to a form of independent group living where seniors live independently, but in a multifamily structure, sharing common areas, amenities, services and other social activities. Most of their meals are taken in common dining facilities. A higher degree of personal care or assistance is typically not provided in this form of housing. Individual residential units are usually apartment style units, and many offer seniors the option of designing/adapting the unit to facilitate senior living such as wheelchair accessibility.

As congregate housing developments typically do not offer long-term care commitments such as in life-care communities and continuing care retirement communities, there are no high upfront financial commitments. Often these units are rented, rather than sold and this makes them an affordable relatively short-term investment for seniors looking for the advantages of group living with independent units.

***Conservation Credit Card:*** A special credit card where an incentive on its use would accrue credit toward purchase of conservation easements.

***Conservation Design:*** Also referred to as conservation design techniques. A Countywide method for developing land that conserves the Green Infrastructure elements of a site while providing for development at full density on the remainder of the site. Conservation design begins with the identification of the Green Infrastructure elements to be preserved. Buildings, utilities, roads, and trails are then located on unconstrained land in relationship to these elements and, as a last step, the corresponding lot lines are defined. The result is a flexible, clustered, and compact development pattern that promotes a variety of building types while protecting on-site Green Infrastructure elements and supporting a contiguous Green Infrastructure network.

***Contiguous:*** Touching, abutting, adjoining at the border or immediately across the street.

***Continuing Care Retirement Communities:*** Designed to allow seniors the option to 'age-in-place', Continuing Care Retirement Communities (CCRC), also known as Life Care Communities, offer a continuum of care. Predominantly comprised of independent living units, these communities include supporting assisted living and skilled nursing facilities. Designed as residential campuses, they guarantee residents lifelong care and residence, unlike other forms of retirement housing. Seniors typically move into independent living units and if a higher degree of health care is necessary, they are able to move into the assisted living or skilled nursing facility, on a temporary or permanent basis, without having to move out of the community to obtain the needed care.

***dB:*** A unit measuring the volume of sound equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micro-newtons per square meter). In the text dB(A) "A" means it is weighted to approximate what the human ear hears.

***Demography:*** The statistical study of human population particularly with regard to number, distribution, vital statistics, and other human characteristics.

***Density:*** The amount of development permitted per acre. It may be expressed in dwelling units per acre for residential development or as building square footage per acre (floor area ratio [FAR]) for commercial/ industrial development.

***Density Transfer:*** The act of allowing additional dwellings to be built on a parcel of land designated for development in return for further limiting the number of dwellings to be built on a different parcel of land designated for conservation within the same policy area, or (for the Suburban Policy Area) the same community. Density may also be transferred from one part of a single owner's land to another part (within a single parcel or from one contiguous parcel under the same ownership to another). In this plan it generally means transfers may take place within a Policy Area as specified in the Density Transfer Guidelines in Chapter 11.

***Development:*** The act of building, or the existence of structures for human habitation or business use including houses, stores, schools, offices, roads, etc.

***Diabase:*** A fine- to medium-grained dark-colored igneous rock, which is a good source for crushed stone for road and building construction.

***Dillon Rule:*** The rule adopted by the Virginia General Assembly that limits the legislative powers of local government in Virginia to those powers that have been specifically and expressly granted to them by the General Assembly.

***Drainfield:*** Soil absorption trench fed by underground pipes for dispersion of the liquid portion of sewage from a septic system.

***Dulles Toll Road Corridor:*** The Dulles Toll Road Corridor is defined by the maps of the Dulles Toll Road Study.

***Easement:*** An interest in land owned by another that entitles its holder to a specific and limited use or enjoyment.

> ***Open Space (Scenic, Conservation) Easement:*** An easement by which the right to develop land is removed or reduced from the "bundle" of rights by deed and is held and supervised by another party, generally a governmental or non-profit organization. "Eased" is used as an adjective applied to land

with such open space restrictions.

***Façade Easement:*** Similar to an open space easement except that the restriction is on altering the exterior appearance of a structure, which cannot be accomplished without the permission of the party that owns the easement.

***Ecosystem:*** A complex network of organic communities and their interaction with their environment. A specific ecological unit that is smaller than a biome and larger than a community.

***Enabling Legislation:*** Legislation passed by the Virginia General Assembly which authorizes a locality in the state to carry out some particular program or which grants certain specific powers to those localities. Local governments may not enact ordinances without enabling legislation.

***Environmental Impact Assessment:*** A systematic, comprehensive review process designed to identify and evaluate potential environmental impacts of a project.

***Equity:*** The net value that a landowner holds in his property, not including the value possessed by a person or institution that holds a lien or mortgage on the property.

***Erosion:*** The wearing away and removal of materials of the earth's crust by natural means such as wind or water.

***Facilities Standards Manual:*** An adopted document that sets out specific regulations and design standards for such facilities as water/sewer service, roads and streets, soils review, etc.

***Fair Market Value:*** The value, expressed in dollars, of property when offered for sale on the open market.

***Fee Simple Ownership:*** The complete ownership interest in real property; the ownership of the entire "bundle" of rights attached to real property.

***Fiscal:*** Of or relating to public revenues, public expenditures and public debt; public financial matters.

***Floodplain:*** A low, usually flat terrain on either side of a river or stream that is normally dry but submerged at times of high water, and where accumulations of silt and sand are deposited away from the main channel.

***Floodplain, 100-year:*** Land adjoining a watercourse or other water body that will be inundated to a defined height by water from a flood that has a one percent chance of occurring in any year.

***Floor Area Ratio (FAR):*** The enclosed gross floor area of buildings on a given lot divided by the total area of the lot.

***Forest:*** A plant community predominantly consisting of trees and other woody vegetation of at least 10 acres in which 50 percent of the tree canopy coverage exceeds 25 feet in height and one that currently has or will result in 85 percent crown closure within ten years. A forest is further defined as forming an ecosystem that provides food, water, and shelter for various plant and wildlife habitats.

***Freestanding Emergency Care Centers:*** A type of freestanding ambulatory care center that is designed, organized, equipped, and staffed to provide medical care for injuries and illnesses, including those that are

life threatening. These centers include fully equipped, stand-alone emergency facilities that are licensed as a department of existing hospitals. These centers provide immediate, short-term medical care for minor and major medical emergencies.

***General Industrial Use:*** Labor-intensive industrial and commercial uses with outdoor storage requirements, noise levels, and emissions that make them incompatible with residential development or other business areas.

***Geotechnical Study:*** Study of bedrock and soils. Used to help determine potential safe development.

***Green Infrastructure***: A County-specified classification of the environment in a related, predominantly natural system of environmental, natural and heritage resources, open space assets and complementary elements that serves as the underlying structure for general land use, planning, development and redevelopment in the County. It provides the context in which the built environment relates to the natural environment, and guides where and how development and redevelopment is to occur.

***Greenbelt:*** Any largely undeveloped area or an area of low-density development consisting of entirely or primarily heavily vegetated open space surrounding a developed urban area or separating one urban area from another. In this plan, greenbelts serve to separate different policy areas, such as the Towns' Joint Land Management Areas from the surrounding rural area.

***Groundwater:*** The supply of freshwater beneath the ground surface in a saturated zone that forms a natural reservoir for potable water. Major source of water supply for western Loudoun County.

***Growth Management:*** The process of guiding development in the direction that is most efficient, and fiscally and environmentally sound.

***Habitat:*** The place or environment where animals or plants naturally or normally live and grow.

***Hamlet:*** A small cluster of dwellings generally at a crossroads and not large enough to be classified as a village. Historically hamlets in Loudoun County may have included a general store often combined with a post office.

***Healthcare-related Businesses:*** Businesses that support or derive a benefit from a health care facility. Includes all health care facilities as defined above, medical research facilities, and health-related support and supply services including, but not limited to, in-home and ambulatory transport which complement health care services and facilitate access to health care services.

***Health Care Facilities:*** Any institution, place, building or agency, whether or not licensed or required to be licensed by the State Board of Health or the State Mental Health, Mental Retardation and Substance Abuse Services Board, whether operated for profit or non-profit and whether privately owned or privately operated or owned or operated by a local governmental unit, (i) by or in which health services are furnished, conducted, operated or offered for the prevention, diagnosis or treatment of human disease, pain, injury, deformity or physical condition, whether medical or surgical, or two or more non-related mentally or physically sick or injured persons, or for the care of two or more non-related persons requiring or receiving medical, surgical or nursing attention or services as acute, chronic, convalescent, aged, physically disabled or crippled or (ii) which is the recipient of reimbursements from third-party health insurance programs or prepaid medical service plans. Includes hospitals; freestanding emergency care centers; urgent care centers; medical offices; diagnostic testing facilities; rehabilitation centers; psychiatric medical care; indigent care; elder medical care; senior housing facilities such as, nursing homes & assisted living

facilities, continuing care facilities, hospice facilities; and adult day care.

***Health Care Zone:*** A geographic area where various types of health care facilities and healthcare-related businesses collocate.

***Heavy Industry:*** A variety of uses that have public nuisance potential and, under the Zoning Ordinance, are subject to sensitive review for locational impact on surrounding land uses and the environment. Such uses are generally planned for land within the 65 Ldn noise zone or where residential development is otherwise undesirable. These industries include such uses as metal fabrication and quarries, asphalt or concrete mixing plants, and junkyards.

***Heavy Rail:*** High-speed, passenger rail cars operating singly or in trains of two or more cars on fixed rails in separate rights-of-way from which all other vehicle and foot traffic are excluded.

***Herbaceous Cover:*** Low plants, ground vines, small shrubs growing close to the ground beneath the canopy and understory in a wooded area.

***Heritage Resource:*** Any historic, architectural, archaeological, or scenic site, structure, landscape, or object that has cultural significance to the community.

***Heritage Trees:*** Any tree that has notable historic or cultural interest or significance to the community.

***Historic District:*** A zoning district overlaid on an existing zoning district and adding additional architectural and design controls to the regulations of the base district. Historic Site Districts (HS) comprise one property with its related structures; Historic and Cultural Conservation Districts (HCC) comprise a number of properties related in some way to each other.

***Historic District Review Committee (HDRC):*** A committee of citizens appointed by the Board of Supervisors and empowered to approve or deny the issuance of Certificates of Appropriateness for any construction, reconstruction, renovation or restoration in the Historic Districts.

***Historic Site:*** An architectural, engineering or archaeological area, structure, object, or landscape that has historic significance to the region, locality, community, or nation.

***Home Care and Services:*** Home care services are often offered within an individual's home by private home care agencies. Service levels may be tailored to the needs of the individual and offered on an hourly, daily, weekly or monthly basis. Service may also be intensive enough to be offered on a continual basis up to 24 hours a day. Home care services are often a more cost effective alternative to expensive hospital care or extended periods of stay in an assisted living or skilled nursing facility. This option is often amenable to seniors who wish to stay in their homes and live independent lives rather than move to a retirement community or assisted living facility.

***Hospice:*** Hospices are designed to provide physical and emotional support to individuals in the final phase of a terminal illness. This form of specialized care seeks to enable patients to spend their last days with dignity and as comfortably as possible. Hospice care can be made available in several settings: in the privacy of an individual's home, in an assisted care or skilled nursing facility or in a hospice facility.

***Hybrid Retail Center:*** A type of retail center that is found in the Arcola Area/Route 50 corridor that provides for convenience and routine shopping needs, generally defined as Service-Based Retail, as well as some comparative and specialty goods, generally found in Destination Retail centers.

***Hydrology:*** Science dealing with the properties, distribution, and circulation of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere.

***Hydrogeological Study:*** Study of groundwater, its location and prevalence.

***Hydric Soils:*** Soils that are saturated long enough to develop an anaerobic condition in the upper soil so that only certain plants can live in it. Hydric soil is an indicator of wetlands.

***Impervious Surface:*** Any material that prevents the absorption of water into the ground.

***Indigenous Vegetation***: Also referred to as native vegetation. Existing plant communities or species that occur naturally to a specified region or area, and that are descendants of plants that existed prior to the land being developed or cultivated.

***Industrial Uses:*** Nonresidential and noncommercial employment uses such as mining, milling, and manufacturing. Industrial Uses include both General Industrial and Heavy Industrial Uses.

***Infill Development:*** Establishment of a new land use on a site that may be undeveloped or underutilized but is located within an established, stable development where public facilities such as roads, water, sewer, and general services are available. Infill lots are often small (less than 25 acres), and their development should complement or complete a large development area.

***Infrastructure:*** Public facilities such as water/sewer and roads in place, which form the skeleton on which a development is built.

***Installment Purchase:*** Goods or services (in this text, conservation easements) are bought by making payments at intervals.

***Institutional Uses:*** Government offices and facilities; and public or private health, recreational, or educational uses and facilities such as schools, training centers, universities, libraries, hospitals, camps, congregate care facilities or similar facilities.

***Intensity:*** A measure of the extent to which a tract of land is developed. Residential density in units per acre is a measure of intensity; floor area ratio is also a measure of intensity, as is square feet per acre. Intensity can also be described or measured in terms of impacts such as traffic loading, sewage disposal needs, etc.

***Joint Land Management Area (JLMA):*** The growth area surrounding an incorporated town and served by public water and sewer or projected to be served in the near future. The JLMA is planned cooperatively by the County and the Towns. The boundary of the JLMA marks the edge of utility service and distinguishes between significantly different land uses and thus is an urban growth boundary.

***Karst:*** Refers to terrain characterized by the solution of bedrock that allows underground drainage and generates distinctive land forms and features such as sinkholes, pinnacled rock and caves. Much of the limestone conglomerate area is considered Karst.

***Land Trust:*** A public and/or private, organization with the authority to buy, accept donations, hold, and/or sell interests in real property for the purpose of land and/or building preservation.

***Ldn:*** Day-Night Sound Level. The energy-average level (Leq: see below) of sound for 24 hours adjusted to include a 10 decibel penalty for noise exposures during night-time hours (10:00 pm to 6:00 am).

***Lease/purchase:*** A lease under which the lessee has the right to purchase the property.

***Leq:*** Equivalent Sound Level. The average energy level of sound over a given period of time. The period of time is normally shown in parenthesis. For example, Leq (8) would be interpreted to mean the average energy level of sound over an 8-hour time period. Leq (h) in text is intended to represent the appropriate number of hours.

***Light Industry:*** Uses that have less deleterious impact on their locality than the heavy industries, located in industrial parks or in conjunction with large mixed-use development. May include such uses as manufacture and distribution of such products as scientific and precision instruments and other items that may be manufactured without unpleasant impacts on their surroundings. In the mixed-use communities, it should not require outdoor storage and be of architectural design and size compatible with non-industrial uses.

***Light Rail:*** Lightweight passenger rail cars operating singly or in short, usually two-car, trains on fixed rails in right-of-way that is not separated from other traffic modes for much of its route. Light rail vehicles are driven electrically with power being drawn from an overhead electric line via a trolley or a pantograph. Also known as a "streetcar," "tramway," or "trolley car".

***Limestone Conglomerate:*** Geologic formation that is highly water soluble and is characterized by numerous underground caves and surface sink holes; it is a natural groundwater aquifer and good water supply source. Limestone conglomerate consists of various small rocks cemented together with a carbonate matrix. In appearance, it is very similar to concrete.

***Local Road:*** A public, state-owned, and maintained road designed for direct access to individual lots.

***Manufactured Housing:*** Manufactured housing are homes built entirely in the factory, transported to the site, and installed under a federal building code administered by the U.S. Department of Housing and Urban Development (HUD).

***Medical Centers:*** An aggregation of health care facilities whose day-to-day operation is supplemented by the close proximity or collocation of other health care facilities or healthcare-related businesses.

***MGD:*** Million gallons per day (refers to sewage treatment or water supply flows).

***Mitigation (environmental):*** Methods used to alleviate or lesson the impact of development. Examples include planting of new forests to replace those that have been removed; creation of new wetlands to replace those destroyed by development. Mitigation is sometimes done in a different area than that previously occupied by the replaced forest, wetland, etc, but this practice is not encouraged.

***Moderately Steep Slopes:*** Surface formation with a vertical incline greater than 8.5 degrees or 15 percent and up to 22.5 degrees or 25 percent, a sufficient steepness to cause problems such as erosion or increased flooding when disturbed for land development or other purposes. (See also steep slopes.)

***National Historic Landmark:*** District, site, or structure listed on the National Register of Historic Places and considered to be of unusual importance to American history, architecture, archaeology, and/or culture. Under the jurisdiction of the Secretary of the Interior.

***National Register of Historic Places:*** A register of districts, sites, buildings, structures, landscapes, and objects significant in American history, architecture, archaeology, and/or culture. The Register is maintained by the Secretary of the Interior and administered by the Keeper of the National Register. Local nominations to the Register are made by the Virginia Historic Resources Board.

***Old Growth Forest:*** Also referred to as Ancient Forest. A forest that is ecologically mature and has been subject to negligible disturbance. Ecological maturity is typically defined when tree species reach the later stages of their life cycle, reflecting in significant amounts of the upper stratum or overstorey in the mature (old) growth phases.

***On-Site or Individual Water and Wastewater Systems:*** A system that serves a single user, commonly well and septic systems.

***Open Space:*** Any parcel or area of land or water essentially unimproved and designated for public or private use or enjoyment or for the use and enjoyment of owners, occupants, and their guests of land adjoining or neighboring such open space. There are three types of open space defined in this plan:

> ***Active Recreation Open Space:*** Areas dedicated to leisure-time activities, usually of a formal nature and often performed with others, requiring equipment and taking place at prescribed sites or fields. Examples include ballfields, tennis or basketball courts, swimming pools, tot lots, golf courses, dog parks, and other areas for recreational sports and games.
>
> ***Natural Open Space:*** Land left in a mostly undeveloped state. Examples include forests, meadows, hedgerows, and wetlands.
>
> ***Passive Recreation Open Space:*** Areas for activities that involve less energetic activities such as walking, sitting, picnicking, card games or table games. Examples include trails (hiking, biking, walking, or equestrian), picnic, camping, hunting, or fishing areas. Passive recreation uses have fewer potential impacts on the site and on surrounding land uses.

***Outer Core:*** Within a Transit-Oriented Development (TOD), the area from the Commercial Core to the TOD edge. The area between a 1/4-mile radius and 1/2-mile radius of the transit stop.

***Overlay Zoning District:*** A zoning district superimposed on another, but having validity in governing the use of the property. Historic Districts are overlay zoning districts.

***Partial Ownership Interest:*** The ownership of only one or more, but not all, of the entire fee simple "bundle" of rights in land.

***Performance Standards:*** A set of regulatory criteria or limits relating to certain characteristics that a particular use or process may not exceed.

***Perc Site (percolation site):*** An area where the soil may be used as a medium to effectively dispose of sewage by means of the sewage effluent percolating or filtering downward through the soil. Located by a "perc test," which measures time required for water to sink through the soil.

***Perpetuity:*** A state of something that is continuing or enduring forever. In planning, a limitation on property, which is not destructible by the persons who hold an interest in the property, is said to be held in perpetuity.

***Perpetual Easement:*** A right that may include the use or enjoyment of the land of another, which is unlimited with respect to time so long as the right is not extinguished. The right may not be extinguished arbitrarily; however, it may be extinguished because of future actions, for example, by a cessation of the purposes for which the easement was created, by an express release by both the property owner and the grantee of the easement, or by a change in condition not contemplated at the time of creation.

***Pervious:*** Materials that permit water to enter the ground by virtue of their porous nature or by large spaces in the material. Also, permeable.

***Pipeline:*** The sum of approved development applications progressing through the approval process.

***Physiographic:*** Pertaining to physical geography.

***Planning Commission:*** Composed of citizens appointed by the Board of Supervisors and empowered to prepare the Comprehensive Plan and to evaluate proposed land use changes for conformance with the Comprehensive Plan and the Zoning and Subdivision Ordinances. It is charged with making recommendations to the Board of Supervisors on proposed land use decisions.

***Primary Care Services:*** Preventive and routine medical care provided in the areas of family practice, general internal medicine, pediatrics and obstetrics/gynecology by physicians, nurse practitioners, physicians assistants or nurses.

***Primary Metropolitan Washington Statistical Area:*** The U. S. Government's Office of Management and Budget defines metropolitan areas in the United States and Puerto Rico for statistical purposes, following published standards. Statistical purposes include the collection, tabulation, and publication of data by federal agencies for geographic areas. A Primary Metropolitan Statistical Area consists of a large urbanized county or cluster of counties that demonstrate strong internal economic and social links in addition to close ties with the central core of the larger area. The Primary Metropolitan Washington Statistical Area consists of the counties of Arlington, Clarke, Culpeper, Fairfax, King George, Loudoun, Prince William, Spotsylvania, Stafford, and Warren in Virginia; Calvert, Charles, Frederick, Montgomery, and Prince Georges counties in Maryland; Berkeley and Jefferson counties in West Virginia; the cities of Alexandria, Fairfax, Falls Church, Fredericksburg, Manassas, and Manassas Park in Virginia, and the District of Columbia.

***Primary Road:*** A road owned by the Virginia Department of Transportation whose construction and/or maintenance is funded through the Virginia Transportation Development Program (VTDP).

***Priority Open Space:*** An area designated as a priority by the County for protection, control, and use of open space. Used to encourage the creation of greenbelts or provide additional environmental protection to Green Infrastructure elements or their buffer(s). Donations, proffers, purchase of land and protective easements, as applicable, will be encouraged

***Proffered Condition/Proffer:*** Voluntary promise or commitment given in writing by a developer to construct certain improvements, to make certain donations, or to develop property subject to specified conditions to mitigate the impacts of the proposed development land and to develop the property in accord with the Comprehensive Plan.

***Public Facilities:*** Public works supplied generally by a government organization. Examples include public roads, schools, water and sewer facilities, fire stations, and libraries.

***Public Hearing:*** Meeting of Boards and Commissions at which members of the public are invited to express their opinions. Differs from public meeting in that public participation is not necessarily part of the public meeting. Public hearings are required by State Code as part of the process of reviewing and acting on certain kinds of development applications.

***Public Service Area:*** Specific area designated over a 5-year period where the County has committed funds through the annual budget or an adopted Capital Improvements Program for construction or expansion of fire and rescue services, recreation, police protection, schools, sewer and water treatment plants, main trunk lines, and similar facilities.

***Public Water and Wastewater Systems:*** Water and wastewater systems that are owned and operated by a government entity or public utility. These include communal water and wastewater systems that are owned and operated by a government entity or public utility and central water and wastewater systems.

***Pump-and-Haul:*** A procedure in which a sewage holding tank is pumped out on a regular basis and the raw sewage is transported by vehicle to an authorized treatment plant.

***Real Estate Transfer Tax:*** State or local tax payable when title passes from one owner to another.

***Real Property:*** Land and any immobile buildings or structures attached to the land.

***Reasonable Use:*** A use that is fair and suitable under the circumstances, brings fair economic return (not necessarily highest economic return), is compatible with the general purposes of promoting the health, safety and general welfare of the public, and furthers a legitimate zoning purpose.

***Recreation, Active:*** A type of open space. Areas dedicated to leisure-time activities, usually of a formal nature and often performed with others, requiring equipment and taking place at prescribed sites or fields. Examples include ballfields, tennis or basketball courts, swimming pools, tot lots, golf courses, and other areas for recreational sports and games.

***Recreation, Passive:*** A type of open space. Areas for activities that involve less energetic activities such as walking, sitting, picnicking, card games or table games. Examples include trails (hiking, biking, walking, or equestrian), picnic, camping, hunting, or fishing areas. Passive recreation uses have fewer potential impacts on the site and on surrounding land uses.

***Redevelopment:*** A change in land use which would involve the removal and replacement, rehabilitation, or adaptive reuse of an existing structure or structures, or of land from which previous improvements have been removed. Redevelopment should be compatible with adjacent properties and occur with input and involvement from the community.

***Retail Sales:*** Establishments engaged in selling goods or merchandise to the general public for personal or household consumption and rendering services incidental to the sale of such goods.

***Revitalization:*** Re-establishing the economic and social vitality of an existing neighborhood or area through legislation, tax incentives, and other programs that maintain and enhance the existing development pattern and preserve the original building stock and historic character.

***Rezoning:*** A change in zoning district and consequently in allowed land use or allowed intensity of land use for a given parcel or group of parcels of land.

***Right-to-farm Act:*** A State Act that offers protection to farmers against nuisance suits. Localities are prevented from enforcing nuisance ordinances that would disrupt normal farm practices.

***Riparian:*** An area of land contiguous to a stream, river, lake or wetland that contains vegetation that, due to the presence of water, is distinctly different from the vegetation of adjacent areas.

***Riparian Forest:*** Also called a riparian forest buffer when part of a larger stream buffer. A strip of land along a river or stream where forest and vegetation help to protect water quality, filter pollutants, regulate water temperature, enhance aquatic and wildlife habitats, and provide aesthetic value to the river or stream.

***Rural Resort:*** A rural resort is defined as a public or private resort establishment, providing boarding and lodging facilities with accessory uses, in a rural setting. The built and open spaces cause minimal disturbance to and remain compatible with the character of the surrounding landscape. The use should serve to develop an appreciation for the rural environment and foster the rural economy, by integrating for example, resort activities such as, active and passive recreational uses with those indigenous to the rural environment.

***Scenic Highway/Virginia Byway:***

> ***Scenic Highway:*** A road located within a protected corridor and having recreational, historic or scenic interest.
>
> ***Virginia Byway:*** A road or part of a road having high aesthetic or cultural value or leading to an area of significant historical, national or recreational interest. Designation by Virginia Department of Transportation on recommendation of the Commission on Outdoor Recreation with approval of local Board of Supervisors. Designation does not imply any particular protection of the roadway from development or structural improvements.

***Scenic Rivers (Sec. 10-167(b) Code of Virginia):*** Rivers, streams, runs and waterways, including their shores and immediate environs which possess great natural and pastoral beauty." Designated by an Act of the General Assembly on recommendation of the Commission on Outdoor Recreation, and overseen by a local committee appointed by the governor of Virginia.

***Secondary Road:*** A road owned by VDOT whose construction and/or maintenance is funded through the Virginia Secondary Road Improvement Program. In Loudoun County, secondary roads are those numbered 600 and above.

***Septic System:*** Subsurface sewage disposal system that uses the natural absorption of soil to treat wastewater. The common use is to serve one dwelling, but could be designed to serve several homes. Drainfield refers to this soil absorption trench fed by pipes from the dwelling.

***Services:*** Establishments primarily engaged in providing assistance, as opposed to products, to individuals, business, industry, government, and other enterprises, including hotels and other lodging places; personal, business, repair, and amusement services; health, legal, engineering, and other professional services; educational services; membership organizations; and other miscellaneous services.

***Setback:*** The distance from a property line to a structure or use such as parking. Governed by the Zoning Ordinance or by covenants and/or easements or by proffers or conditions at the time of rezoning or special exception.

***Shrink-swell Soil:*** A soil having a layer of material that is dominated by a type of clay that has the capacity to shrink when dry and swell when wet.

***Silviculture:*** The art and science of controlling the establishment, growth, composition, health and quality of forests and woodlands.

***Sink Hole:*** A vertical opening or closed depression resulting from solution or collapse of underground soluble rock (see limestone conglomerate).

***Site Plan:*** A plan, to scale, showing proposed uses and structures for a parcel of land. It includes such information as location of lot lines, streets, buildings, parking areas, landscaping, utility lines and topographic information.

***Skilled Nursing Facilities:*** Nursing homes, nursing care facilities and convalescent homes are state licensed and regulated facilities that offer elderly persons a higher level of skilled medical care with round-the-clock nursing services. These facilities offer in addition to room and board, personal and medical care and are typically more expensive than assisted living facilities on account of the higher degree of care made available. These facilities are required to be individually certified by the State for Medicare and Medicaid and accept several payment options including Medicare, Medicaid, private insurance carriers and private funds.

Nursing facilities often offer multiple levels of care, from basic care to higher degrees of skilled care. Basic care level is intended to assist a resident with daily activities pertaining to personal care, mobility, and hygiene to maintain the overall health of the resident in a supervised environment. Higher degrees of skilled care require the services of registered nurses and service levels may vary from regular periodic treatments and procedures to comprehensive in-patient care designed for someone with an acute illness, disease or injury.

***Special Exception:*** A use permitted in a zoning district only upon showing that such use in a specified location will comply with all the conditions and standards specified in the Zoning Ordinance and/or imposed by the Board of Zoning Appeals and/or the Board of Supervisors at their discretion.

***Special Needs Population:*** Special needs populations include low income residents (incomes below the 30 percent Area Median Income (AMI)), elderly residents requiring congregate care, disabled residents, and the homeless.

***Special Taxing District:*** A geographical area that pays a special assessment in order to provide a desired or necessary amenity or facility mutually beneficial to all the landowners of the district.

***Specimen Tree:*** Any tree that is notable by virtue of its outstanding size and quality for its particular species.

***Steep Slopes:*** Surface formation with a vertical incline greater than 22.5 degrees or 25 percent, a sufficient steepness to cause problems such as erosion or increased flooding when disturbed for land development or other purposes. (See also moderately steep slopes.)

***Stormwater Run-off:*** The portion of the total precipitation that does not sink into the soil but instead flows across the ground or other surface and eventually reaches a watercourse.

***Stream Buffer:*** Defined as part of the River and Stream Corridor Overlay District as a minimum area of land directly adjacent to and on either side of a river or stream, designated as no-build where disturbance is

not allowed. The primary purpose of the stream buffer is to preserve or enhance natural vegetation in order to provide adequate filtration of pollutants and improve water quality.

***Stream Corridors:*** Also referred to as River and Stream Corridors. The area of a watershed defined by the River and Stream Corridor Overlay District and including rivers and streams draining 100 acres or more; all 100-year floodplains and adjacent steep slope areas; wetlands, riparian forests, and historic and cultural resources and archaeological sites that occur therein; along with a minimum stream buffer and a management buffer that surrounds the floodplain and adjacent steep slope areas.

***Subdivision:*** The division of a parcel of land into two or more new parcels. The process of subdividing is regulated by the Land Subdivision and Development Ordinance.

***Subdivision Control Line:*** One-mile radius surrounding specified incorporated Towns within which the Town exercises control over subdivision regulation and enforcement. However, the County controls the zoning of the area. In Loudoun County the Towns of Purcellville, Middleburg, and Hamilton have such authority. The purpose is to give the Towns the option of ensuring that roads, sewer lines, etc. coincide with those of the Towns.

***Subdivision Ordinance:*** (Land Subdivision and Development Ordinance-LSDO) The local ordinance that sets forth the regulations that guide site development standards such as road and grading requirements, utility provision, etc.

***Tertiary Medical Services:*** Tertiary medical services include the most complex services, such as open heart surgery, burn treatment, and high risk obstetric care, and such services are provided in inpatient hospital facilities. Tertiary medical services are generally affiliated with schools of medicine, and often participate in undergraduate and graduate medical education. Tertiary medical centers serve as regional referral centers.

***Town Center:*** A mixed-use, concentrated community core, which integrates employment, commercial, residential, and public uses. A town center will emphasize pedestrian movement over vehicular movement to create a pedestrian-friendly environment and will offer a full complement of services and amenities.

***Traffic Calming:*** Measures to reduce the negative effects of motor vehicle use, alter driver behavior, and improve conditions for non-motorized street users. Includes both physical (e.g., raised crosswalk, traffic circle, speed bumps) and non-physical measures (community education and enforcement).

***Transferable Development Rights (TDR):*** The process whereby an owner of designated rural land may sell his right to develop habitable structures to a landowner of designated urban land who may then build at a higher density on that urban land. The rural land from which the development rights have been sold is placed under a permanent open space easement. Not limited solely to rezonings.

***Transit:*** A shared mode of transportation, which often operates on a fixed route and fixed schedule, and is available to all who pay the fare; however, demand responsive transportation, which does not operate on a fixed route or fixed schedule is also a form of transit. Other examples include bus, light rail, and heavy rail.

***Transit Center:*** A place where transit services connect in the transportation network and where passengers transfer between transportation modes.

***Transit Oriented Development (TOD):*** Moderate- and high-density housing, along with complementary public uses, jobs, retail, and services concentrated in mixed-use developments along points along a transit

system.[1]

***Transit Station:*** Structures housing both passengers and transportation systems' operations and equipment.

***Transit Stop:*** A location along the street or transit line that has simple facilities like signage and shelters.

***Transportation Improvement Plan:*** A County transportation plan, which includes roads, car pools, public transportation and airport facilities, and which is designed to establish policies and priorities regarding county roads, public transportation, car pools, airports, and other transportation facilities.

***Tree Stand:*** A plant community predominantly consisting of trees and other woody vegetation sufficiently uniform in species composition, age, arrangement and condition: an area to be distinguishable as a group from the forest or other growth in the adjoining area.

***Understory:*** Low trees, large shrubs beneath the canopy in a wooded area.

***Universal Design:*** The simple design of both products and the built environment to be useable by people of all ages and abilities, and which promotes the ability for people to age in place.

***Unmet Housing Needs:*** The lack of housing options for households earning up to 100% of the Washington Metropolitan Area Median Income (AMI).

***Unstable Soils:*** Soils that because of their composition and unique landscape position have a higher than normal potential for erosion, particularly during periods of high rainfall.

***Urban Center:*** A mixed-use community in the Suburban Policy Area, developed in a manner that is supportive of transit. An urban center is pedestrian-friendly, laid out in a pattern of rectilinear blocks with a system of parks and greens, and provides civic uses that act as community landmarks.

***Urban Growth Boundary:*** The limit of central water and wastewater utility service, it marks the separation of distinctly different land uses and densities.

***Urban Forest:*** A plant community within a town or village or otherwise developed area predominantly consisting of trees and other woody vegetation of at least 3 acres in which 50 percent of the tree canopy coverage exceeds 25 feet in height and one that currently has or will result in 85 percent crown closure within ten years.

***Use-Value Taxation:*** (sometimes referred to as "land use tax") A program authorized by the state and implemented by localities at their option in which qualifying agricultural, forestal, and open space land is taxed at its use value rather than at its market value for development.

***Virginia Board of Historic Resources:*** A board appointed by the governor empowered to determine if properties, sites, and structures should be listed on the State Register of Historic Landmarks. The Board also recommends listings to the National Register.

***Virginia Landmarks Register:*** A register of districts, sites, structures significant in Virginia history and/or culture designated by the Virginia Board of Historic Resources and administered by the Department of Historic Resources.

***Watershed:*** A broad area defined by natural hydrology that collects and discharges water into surface water bodies or that recharges groundwater or both. A watershed generally includes rivers, streams, lakes, wetlands, and the surrounding landscape.

***Wetlands:*** Vegetated areas where plants are rooted in water or water-saturated soil, or that regularly tolerate flooding for extensive time periods. Includes but is not limited to swamps and marshes. Many wetlands do not appear wet at all times.

***Zoning District:*** A classification of land that designates and limits allowed uses, lot sizes, building setbacks and other land development regulations.

***Zoning Ordinance:*** A local ordinance that defines and implements land use and design standards such as permitted uses, lot sizes, setbacks, etc.

# Appendix

**Table A-1. Comparative Demographic Overview, 1990 and 2000**
**Loudoun County, Northern Virginia, Metropolitan Washington DC and United States**

| Jurisdiction | 1990 | 2000 | Change Number | Change Percent |
|---|---|---|---|---|
| **Population (000s)** | | | | |
| Loudoun County, Virginia | 86.1 | 169.6 | 83.5 | 97% |
| Northern Virginia Region | 1,732.4 | 2,167.8 | 435.4 | 25% |
| Metropolitan Washington DC | 4,223.5 | 4,805.1 | 581.6 | 14% |
| United States | 248,709.9 | 281,421.9 | 32,712.0 | 13% |
| **Households (000s)** | | | | |
| Loudoun County, Virginia | 30.6 | 59.9 | 29.3 | 96% |
| Northern Virginia Region | 641.3 | 805.6 | 164.4 | 26% |
| Metropolitan Washington DC | 1,570.8 | 1,802.3 | 231.6 | 15% |
| United States | 92,255.6 | 105,480.1 | 13,224.6 | 14% |
| **Median Age (in years)** | | | | |
| Loudoun County, Virginia | 31.6 | 33.6 | 2.0 | 6.5% |
| Northern Virginia Region | 32.2 | 34.7 | 2.5 | 7.6% |
| Metropolitan Washington DC | 32.4 | 35.1 | 2.7 | 8.2% |
| United States | 32.8 | 35.5 | 2.7 | 8.1% |
| **Minority Population (000s)** | | | | |
| Loudoun County, Virginia | 8.7 | 29.2 | 20.5 | 237% |
| Northern Virginia Region | 281.9 | 597.0 | 315.1 | 112% |
| Metropolitan Washington DC | 1,305.9 | 1,938.2 | 632.3 | 48% |
| United States | 40,271.0 | 69,961.3 | 29,690.3 | 74% |
| **Persons per Household** | | | | |
| Loudoun County, Virginia | 2.81 | 2.82 | 0.01 | 0.36% |
| Northern Virginia Region | 2.66 | 2.65 | -0.01 | -0.38% |
| Metropolitan Washington DC | 2.63 | 2.67 | 0.04 | 1.52% |
| United States | 2.63 | 2.59 | -0.04 | -1.52% |
| **Employment (000s)** | | | | |
| Loudoun County, Virginia | 53.4 | 92.9 | 39.5 | 74% |
| Northern Virginia Region | 1,145.1 | 1,436.8 | 291.7 | 25% |
| Metropolitan Washington DC | 3,000.2 | 3,401.3 | 401.2 | 13% |
| United States | 139,426.9 | 166,323.5 | 26,896.6 | 19% |
| **Average Household Income** | | | | |
| Loudoun County, Virginia | $72,433 | $97,987 | $25,554 | 35% |
| Northern Virginia Region | $74,461 | $107,934 | $33,473 | 45% |
| Metropolitan Washington DC | $70,857 | $100,082 | $29,225 | 41% |
| United States | $51,816 | $76,513 | $24,697 | 48% |

*Source: US Census and Woods and Poole Economics, Inc. 2001*

## Table A-2. Population of Washington Metro Area Jurisdictions, 1990 and 2000
## Washington, DC--MD--VA--WV—PMSA

| Jurisdiction | 1990 | 2000 | Change Number | Change Percent |
|---|---|---|---|---|
| **Washington, DC--MD--VA--WV PMSA** | 4,223,485 | 4,923,153 | 699,668 | 16.6% |
| **District of Columbia** | 606,900 | 572,059 | -34,841 | -5.7% |
| **Northern Virginia** | 1,732,377 | 2,167,757 | 435,380 | 25.1% |
| Arlington County, VA | 170,936 | 189,453 | 18,517 | 10.8% |
| Clarke County, VA | 12,101 | 12,652 | 551 | 4.6% |
| Culpeper County, VA | 27,791 | 34,262 | 6,471 | 23.3% |
| Fairfax County, VA | 818,584 | 969,749 | 151,165 | 18.5% |
| Fauquier County, VA | 48,741 | 55,139 | 6,398 | 13.1% |
| King George County, VA | 13,527 | 16,803 | 3,276 | 24.2% |
| Loudoun County, VA | 86,129 | 169,599 | 83,470 | 96.9% |
| Prince William County, VA | 215,686 | 280,813 | 65,127 | 30.2% |
| Spotsylvania County, VA | 57,403 | 90,395 | 32,992 | 57.5% |
| Stafford County, VA | 61,236 | 92,446 | 31,210 | 51.0% |
| Warren County, VA | 26,142 | 31,584 | 5,442 | 20.8% |
| Alexandria city, VA | 111,183 | 128,283 | 17,100 | 15.4% |
| Fairfax city, VA | 19,622 | 21,498 | 1,876 | 9.6% |
| Falls Church city, VA | 9,578 | 10,377 | 799 | 8.3% |
| Fredericksburg city, VA | 19,027 | 19,279 | 252 | 1.3% |
| Manassas city, VA | 27,957 | 35,135 | 7,178 | 25.7% |
| Manassas Park city, VA | 6,734 | 10,290 | 3,556 | 52.8% |
| **Suburban Maryland** | 1,789,029 | 2,065,242 | 276,213 | 15.4% |
| Calvert County, MD | 51,372 | 74,563 | 23,191 | 45.1% |
| Charles County, MD | 101,154 | 120,546 | 19,392 | 19.2% |
| Frederick County, MD | 150,208 | 195,277 | 45,069 | 30.0% |
| Montgomery County, MD | 757,027 | 873,341 | 116,314 | 15.4% |
| Prince George's County, MD | 729,268 | 801,515 | 72,247 | 9.9% |
| **West Virginia Panhandle** | 95,179 | 118,095 | 22,916 | 24.1% |
| Berkeley County | 59,253 | 75,905 | 16,652 | 28.1% |
| Jefferson County | 35,926 | 42,190 | 6,264 | 17.4% |

*Source: US Census*

**Table A-3. Population Distribution for Northern Virginia Jurisdictions, 1990 and 2000**
**Northern Virginia Portion of Washington PMSA**

| | 1990 | | 2000 | |
|---|---|---|---|---|
| Jurisdiction | Number | Distribution | Number | Distribution |
| **Northern Virginia** | 1,732,377 | 100.0% | 2,167,757 | 100.0% |
| Arlington County, VA | 170,936 | 9.9% | 189,453 | 8.7% |
| Clarke County, VA | 12,101 | 0.7% | 12,652 | 0.6% |
| Culpeper County, VA | 27,791 | 1.6% | 34,262 | 1.6% |
| Fairfax County, VA | 818,584 | 47.3% | 969,749 | 44.7% |
| Fauquier County, VA | 48,741 | 2.8% | 55,139 | 2.5% |
| King George County, VA | 13,527 | 0.8% | 16,803 | 0.8% |
| Loudoun County, VA | 86,129 | 5.0% | 169,599 | 7.8% |
| Prince William County, VA | 215,686 | 12.5% | 280,813 | 13.0% |
| Spotsylvania County, VA | 57,403 | 3.3% | 90,395 | 4.2% |
| Stafford County, VA | 61,236 | 3.5% | 92,446 | 4.3% |
| Warren County, VA | 26,142 | 1.5% | 31,584 | 1.5% |
| Alexandria City, VA | 111,183 | 6.4% | 128,283 | 5.9% |
| Fairfax City, VA | 19,622 | 1.1% | 21,498 | 1.0% |
| Falls Church City, VA | 9,578 | 0.6% | 10,377 | 0.5% |
| Fredericksburg City, VA | 19,027 | 1.1% | 19,279 | 0.9% |
| Manassas City, VA | 27,957 | 1.6% | 35,135 | 1.6% |
| Manassas Park City, VA | 6,734 | 0.4% | 10,290 | 0.5% |

*Source: US Census*

## Table A-4. Population Trends, 1900-2000
## Loudoun County, Virginia

| | | Increase from Previous Period | |
|---|---|---|---|
| **Year** | **Population** | **Number** | **Percent** |
| 1900 | 21,948 | (1,326) | |
| 1910 | 21,167 | (781) | -3.6% |
| 1920 | 20,577 | (590) | -2.8% |
| 1930 | 19,852 | (725) | -3.5% |
| 1940 | 20,291 | 439 | 2.2% |
| 1950 | 21,147 | 856 | 4.2% |
| 1960 | 24,549 | 3,402 | 16.1% |
| 1970 | 37,150 | 12,601 | 51.3% |
| 1980 | 57,427 | 20,277 | 54.6% |
| 1990 | 86,129 | 28,702 | 50.0% |
| 2000 | 169,599 | 83,470 | 96.9% |

*Source: US Census*

## Table A-5. Housing Inventory, 1990 and 2000
## Loudoun County, Virginia

| | 1990* | | 2000** | | Change 1990-2000 | |
|---|---|---|---|---|---|---|
| | **Number** | **Distribution** | **Number** | **Distribution** | **Number** | **Percent** |
| Number of Housing Units | 32,370 | 100% | 63,592 | 100% | 31,222 | 96% |
| **Housing Units by Type** | | | | | | |
| Single Family Detached | 21,133 | 65% | 35,779 | 56% | 14,646 | 69% |
| Single Family Attached | 6,864 | 21% | 15,622 | 25% | 8,758 | 128% |
| Multifamily | 4,373 | 14% | 12,191 | 19% | 7,818 | 179% |

*Source: *US Census; **Loudoun County Department of Economic Development estimate*

## Table A-6. Trends in Residential Construction, 1990-2000
## Loudoun County, Virginia

| | Building Permits Issued for New Units | | | | | | |
|---|---|---|---|---|---|---|---|
| | Single Family Detached | | Single Family Attached | | Multifamily | | |
| Year | Number Issued | Percent of Total | Number Issued | Percent of Total | Number Issued | Percent of Total | All Units |
| 1990 | 389 | 2.1% | 444 | 2.4% | 1,416 | 7.7% | 2,249 |
| 1991 | 523 | 2.8% | 493 | 2.7% | 84 | 0.5% | 1,100 |
| 1992 | 1,369 | 7.4% | 942 | 5.1% | 115 | 0.6% | 2,426 |
| 1993 | 1,610 | 8.8% | 1,175 | 6.4% | 319 | 1.7% | 3,104 |
| 1994 | 1,723 | 9.4% | 1,339 | 7.3% | 786 | 4.3% | 3,848 |
| 1995 | 1,382 | 7.5% | 1,066 | 5.8% | 238 | 1.3% | 2,686 |
| 1996 | 1,646 | 9.0% | 1,065 | 5.8% | 345 | 1.9% | 3,056 |
| 1997 | 1,904 | 10.4% | 1,278 | 6.9% | 323 | 1.8% | 3,505 |
| 1998 | 2,384 | 13.0% | 1,527 | 8.3% | 1,363 | 7.4% | 5,274 |
| 1999 | 2,746 | 14.9% | 1,817 | 9.9% | 1,289 | 7.0% | 5,852 |
| 2000 | 2,713 | 14.8% | 2,375 | 12.9% | 1,082 | 5.9% | 6,170 |
| Total 1990-2000 | 18,389 | 100.0% | 13,521 | 73.5% | 7,360 | 40.0% | 39,270 |

*Source: Loudoun County Department of Economic Development*

## Table A-7. Characteristics of Households, 1990 and 2000
## Loudoun County, Virginia

| | | | Change | |
|---|---|---|---|---|
| | **1990*** | **2000**** | **Number** | **Percent** |
| **Number of Households** | 30,490 | 60,169 | 29,679 | 97% |
| | | | | |
| **Households by Unit Type** | | | | |
| Single Family Detached | 20,535 | 33,990 | 13,455 | 66% |
| Single Family Attached | 6,224 | 14,841 | 8,617 | 138% |
| Multifamily | 3,731 | 11,338 | 7,607 | 204% |
| | | | | |
| **Tenure** | | | | |
| Rent | 8,149 | 10,229 | 2,080 | 26% |
| Own | 22,341 | 49,940 | 27,599 | 124% |

*Source: *US Census; **Loudoun County Department of Economic Development estimate*

## Table A-8. Trends in Public School Enrollment and New School Construction, 1990-2000
## Loudoun County, Virginia

| | September Enrollment | | | New Schools Opened | | | |
|---|---|---|---|---|---|---|---|
| | | Increase from Previous Year | | | | | |
| Year | Total Enrollment | New Students | Percent | Elementary | Middle | High | Total |
| 1990 | 14,632 | | | 0 | 0 | 0 | 0 |
| 1991 | 15,118 | 486 | 3.3% | 0 | 0 | 0 | 0 |
| 1992 | 15,887 | 769 | 5.1% | 1 | 0 | 0 | 1 |
| 1993 | 17,067 | 1,180 | 7.4% | 0 | 0 | 0 | 0 |
| 1994 | 18,270 | 1,203 | 7.0% | 0 | 0 | 0 | 0 |
| 1995 | 19,967 | 1,697 | 9.3% | 3 | 1 | 0 | 4 |
| 1996 | 21,733 | 1,766 | 8.8% | 0 | 0 | 0 | 0 |
| 1997 | 23,782 | 2,049 | 9.4% | 2 | 0 | 1 | 3 |
| 1998 | 26,091 | 2,309 | 9.7% | 1 | 0 | 0 | 1 |
| 1999 | 28,787 | 2,696 | 10.3% | 3 | 1 | 0 | 4 |
| 2000 | 31,804 | 3,017 | 10.5% | 2 | 0 | 1 | 3 |
| Total 1990-2000 | | 17,172 | | 12 | 2 | 2 | 16 |

*Source: Loudoun County Public Schools*

## Table A-9. Trends in Home Sales and Prices, 1990-2000
## Loudoun County, Virginia

| | Single Family Detached | | Single Family Attached | | Condominium | | All Units | |
|---|---|---|---|---|---|---|---|---|
| Year | Number Sold | Average Sales Price | Number Sold | Average Sales Price | Number Sold | Average Sales Price | Number Sold | Average Sales Price |
| 1990 | 1,480 | $218,788 | 682 | $149,794 | 410 | $103,976 | 2,572 | $182,191 |
| 1991 | 1,331 | $210,048 | 718 | $146,303 | 84 | $95,848 | 2,133 | $170,246 |
| 1992 | 1,837 | $208,928 | 1,027 | $143,131 | 115 | $94,051 | 2,979 | $175,292 |
| 1993 | 2,415 | $215,460 | 1,336 | $145,958 | 319 | $93,364 | 4,070 | $178,894 |
| 1994 | 2,377 | $222,003 | 1,293 | $145,957 | 786 | $103,458 | 4,456 | $185,869 |
| 1995 | 2,151 | $229,515 | 1,543 | $155,007 | 238 | $99,474 | 3,932 | $187,101 |
| 1996 | 2,561 | $239,569 | 1,483 | $150,687 | 345 | $101,319 | 4,389 | $198,492 |
| 1997 | 3,006 | $246,772 | 1,642 | $154,032 | 323 | $100,629 | 4,971 | $205,587 |
| 1998 | 3,625 | $264,715 | 2,032 | $156,092 | 1,363 | $133,572 | 7,020 | $217,265 |
| 1999 | 4,228 | $290,851 | 2,706 | $165,590 | 1,289 | $117,686 | 8,223 | $232,359 |
| 2000 | 4,433 | $346,205 | 3,436 | $188,679 | 1,082 | $134,958 | 8,951 | $262,654 |
| Total 1990-2000 | 29,444 | | 17,898 | | 6,354 | | 53,696 | |

*Source: Loudoun County Department of Economic Development*

## Table A-10. Trends in Civilian Labor Force, 1990-2000
## Loudoun County, Virginia

| Year | Civilian Labor Force | Employed Persons | Unemployment Rate |
|---|---|---|---|
| 1990 | 52,396 | 51,553 | 1.6 |
| 1991 | 54,738 | 52,841 | 3.5 |
| 1992 | 56,912 | 54,525 | 4.2 |
| 1993 | 60,094 | 58,112 | 3.3 |
| 1994 | 64,473 | 62,417 | 3.2 |
| 1995 | 69,223 | 67,287 | 2.8 |
| 1996 | 70,739 | 69,061 | 2.4 |
| 1997 | 75,536 | 74,021 | 2.0 |
| 1998 | 78,286 | 77,245 | 1.3 |
| 1999 | 84,158 | 83,148 | 1.2 |
| 2000 (preliminary) | 96,991 | 96,241 | 0.8 |

*Source: Virginia Employment Commission*

## Table A-11. Trends in Adjusted Gross Income (AGI), 1990-2000 Loudoun County, Virginia

| Year | Total AGI | Per Capita AGI | Median AGI per Return |
|---|---|---|---|
| 1990 | $1,624,478,000 | $18,631 | $33,728 |
| 1991 | $1,752,866,529 | $19,489 | $34,587 |
| 1992 | $1,937,528,120 | $20,602 | $36,818 |
| 1993 | $2,186,656,903 | $21,710 | $38,115 |
| 1994 | $2,449,575,216 | $22,682 | $39,315 |
| 1995 | $2,665,469,302 | $22,951 | $41,076 |
| 1996 | $3,059,548,318 | $24,651 | $43,012 |
| 1997 | $3,687,604,767 | $27,484 | $46,305 |
| 1998 | $4,408,803,232 | $30,508 | $49,288 |
| 1999* | $5,104,660,008 | $32,644 | NA |
| 2000* | $5,923,919,859 | $34,929 | NA |

*Source: Virginia Department of Taxation*

*Loudoun County Department of Economic Development estimate

## Table A-12. Trends in Nonresidential Construction, 1990-2000
## Loudoun County, Virginia

| | Square Footage of Permits Issued for New Construction | | | | |
|---|---|---|---|---|---|
| | Type of Space | | | | |
| **Year** | **Office** | **Retail** | **Other*** | **Industrial** | **Total** |
| 1990 | 165,442 | 25,587 | 238,878 | 874,955 | 1,304,862 |
| 1991 | 24,257 | 349,254 | 700,995 | 395,935 | 1,470,441 |
| 1992 | 197,370 | 304,805 | 264,432 | 26,946 | 793,553 |
| 1993 | 0 | 398,487 | 64,091 | 48,855 | 511,433 |
| 1994 | 0 | 161,429 | 459,978 | 67,166 | 688,573 |
| 1995 | 201,790 | 425,850 | 172,025 | 131,034 | 930,699 |
| 1996 | 355,684 | 533,283 | 695,943 | 262,625 | 1,847,535 |
| 1997 | 468,391 | 121,278 | 841,337 | 777,366 | 2,208,372 |
| 1998 | 1,843,364 | 1,158,478 | 1,098,211 | 913,249 | 5,013,302 |
| 1999 | 1,708,919 | 532,130 | 1,882,646 | 1,217,589 | 5,341,284 |
| 2000 | 2,075,016 | 909,121 | 1,776,230 | 3,230,771 | 7,991,138 |
| Total 1990-2000 | 7,040,233 | 4,919,702 | 8,194,766 | 7,946,491 | 28,101,192 |

*Source: Loudoun County Department of Economic Development*

* Included hotel/motels, schools, libraries, etc.

## Table A-13. Trends in At Place Employment, 1990-2000
## Loudoun County, Virginia

| Year | Number of Jobs | Number of Business Establishments* | Average Weekly Wage |
|---|---|---|---|
| 1990 | 40,122 | 2,458 | $480 |
| 1991 | 39,861 | 2,489 | $490 |
| 1992 | 40,217 | 2,539 | $512 |
| 1993 | 43,377 | 2,721 | $526 |
| 1994 | 47,011 | 3,068 | $530 |
| 1995 | 51,819 | 3,258 | $535 |
| 1996 | 55,172 | 3,422 | $560 |
| 1997 | 60,732 | 3,661 | $583 |
| 1998 | 65,951 | 3,943 | $639 |
| 1999 | 76,416 | 4,186 | $768 |
| 2000 | 87,048 | 4,565 | $933 |

*Source: Virginia Employment Commission*

* The VEC changed the method used to count business establishments therefore increases from 1993 to 1994 are not comparable.

## Table A-14. At Place Employment By Industry Classification, 1990 and 2000
## Loudoun County, Virginia

| Industry Classification | 1990 | 2000 | Change | |
|---|---|---|---|---|
| | | | Number | Percent |
| Agriculture | 809 | 2,119 | 1,310 | 162% |
| Mining | 220 | 186 | -34 | -15% |
| Construction | 5,465 | 8,190 | 2,725 | 50% |
| Manufacturing | 2,921 | 4,908 | 1,987 | 68% |
| Transportation, Communications, Public Utilities | 6,206 | 13,643 | 7,437 | 120% |
| Wholesale Trade | 2,127 | 3,718 | 1,591 | 75% |
| Retail Trade | 5,814 | 14,721 | 8,907 | 153% |
| Finance, Insurance, Real Estate | 1,255 | 2,174 | 919 | 73% |
| Services | 8,305 | 24,465 | 16,160 | 195% |
| Government: State | 533 | 709 | 176 | 33% |
| Government: Local | 4,591 | 7,947 | 3,356 | 73% |
| Government: Federal | 1,876 | 4,268 | 2,392 | 128% |
| Total | 40,122 | 87,048 | 46,926 | 117% |

*Source: Virginia Employment Commission*

## Table A-15. Major Employers, 2000
## Loudoun County, Virginia

| Company Name | Employment |
|---|---|
| Airline Tariff Publishing Company | 500 to 999 |
| America Online Incorporated | 1,000 to 4,999 |
| ARAMARK Corporation | 250 to 499 |
| Atlantic Coast Airlines/United Express | 1,000 to 4,999 |
| Barber & Ross | 250 to 499 |
| Computer Sciences Corporation | 500 to 999 |
| Dynamic Details, Inc. | 250 to 499 |
| Dynatram/Dynalectric | 250 to 499 |
| Federal Aviation Administration | 500 to 999 |
| L F C Nationwide, Incorporated | 250 to 499 |
| Lansdowne Resort | 500 to 999 |
| Loudoun County Government | 1,000 to 4,999 |
| Loudoun County Public Schools | 1,000 to 4,999 |
| Loudoun Healthcare, Incorporated | 1,000 to 4,999 |
| Marriott Host International | 500 to 999 |
| Metropolitan Washington Airports Authority | 1,000 to 4,999 |
| N.E.W. Customer Services Companies, Inc. | 250 to 499 |
| National Association of Letter Carriers | 250 to 499 |
| Network Solutions Registry | 250 to 499 |
| Orbital Sciences Corporation | 1,000 to 4,999 |
| OSP Consultants | 1,000 to 4,999 |
| Sato Travel | 250 to 499 |
| Southern Concrete, Inc. | 250 to 499 |
| Telos Corporation | 250 to 499 |
| United Air Lines | More than 5,000 |
| WorldCom/UUNet | More than 5,000 |
| Xerox Document Company | 250 to 499 |

*Source: Loudoun County Department of Economic Development*

## Table A-16. Business Establishments By Industry Classification, 1990 and 2000
## Loudoun County, Virginia

| Industry Classification | 1990 | 2000 | Change | |
|---|---|---|---|---|
| | | | Number | Percent |
| Agriculture | 124 | 177 | 53 | 43% |
| Mining | 4 | 7 | 3 | 75% |
| Construction | 480 | 576 | 96 | 20% |
| Manufacturing | 98 | 146 | 48 | 49% |
| Transportation, Communications, Public Utilities | 117 | 260 | 143 | 122% |
| Wholesale Trade | 152 | 322 | 170 | 112% |
| Retail Trade | 430 | 741 | 311 | 72% |
| Finance, Insurance, Real Estate | 193 | 338 | 145 | 75% |
| Services | 800 | 1,924 | 1,124 | 141% |
| Government: State | 19 | 19 | 0 | 0% |
| Government: Local | 27 | 31 | 4 | 15% |
| Government: Federal | 14 | 24 | 10 | 71% |
| Total | 2,458 | 4,565 | 2,107 | 86% |

*Source: Virginia Employment Commission*

* The VEC changed the method used to count business establishments therefore increases from 1993 to 1994 are not comparable.

## Table A-17. Trends in Rezoning Approvals, 1990-2000
## Loudoun County, Virginia

| Year | Net New Housing Units | | | | Net New Nonresidential SF |
|---|---|---|---|---|---|
| | SFD | SFA | MF | Total | |
| 1990 | 3,219 | 794 | 96 | 4,109 | 8,311,233 |
| 1991 | 971 | 2,648 | 600 | 4,219 | 5,849,726 |
| 1992 | 1,170 | 806 | 788 | 2,764 | 4,067,316 |
| 1993 | 2,955 | 3,123 | 3,493 | 9,571 | 6,329,637 |
| 1994 | 821 | 1,030 | 306 | 2,157 | (1,371,108) |
| 1995 | 2,599 | 2,320 | 4,197 | 9,116 | (12,978,220) |
| 1996 | 786 | 668 | 519 | 1,973 | (1,910,984) |
| 1997 | 994 | 389 | 216 | 1,599 | 1,913,725 |
| 1998 | 418 | 116 | (246) | 288 | 14,048,500 |
| 1999 | 180 | 130 | 290 | 600 | 975,556 |
| 2000 | 204 | 10 | 0 | 214 | 705,742 |
| Total 1990-2000 | 14,317 | 12,034 | 10,259 | 36,610 | 25,941,123 |

*Source: Loudoun County Departments of Economic Development and Planning*

## Table A-18. Government Operating Funds*, FY 90 and FY 00
## Loudoun County, Virginia

| | | | Change | |
|---|---|---|---|---|
| | **1990** | **2000** | **Number** | **Percent** |
| Total Revenues ($M) | $161 | $405 | $244 | 152% |
| Total Expenditures ($M) | $161 | $379 | $218 | 135% |
| | | | | |
| Per Capita Revenues | $1,871 | $2,391 | $520 | 28% |
| Per Capita Expenditures | $1,871 | $2,236 | $365 | 20% |
| | | | | |
| Real Property Tax per $100 | $0.88 | $1.11 | $0.23 | 26% |

*Source: Loudoun County Department of Management Services*

*Not adjusted for inflation

## Table A-19. Existing Residential Units, 2000
## Revised General Plan Policy Areas

| | Policy Areas | | | | | |
|---|---|---|---|---|---|---|
| **Housing Units** | **Suburban** | **Transition** | **Rural** | **JLMA** | **Towns** | **Total** |
| Single-Family Detached: < 0.25 acre | 12,166 | 50 | 97 | 477 | 2,937 | 15,727 |
| Single-Family Detached: 0.25 to 0.99 acre | 5,868 | 75 | 515 | 795 | 3,301 | 10,554 |
| Single Family Detached: 1.00+ acre | 1,055 | 403 | 6,784 | 807 | 449 | 9,498 |
| Single-Family Attached | 12,441 | 0 | 0 | 256 | 2,925 | 15,622 |
| Multi-Family | 8,656 | 0 | 4 | 0 | 3,531 | 12,191 |
| Total Housing Units | 40,186 | 528 | 7,400 | 2,335 | 13,143 | 63,592 |

*Source: Loudoun County Department of Financial Services, LMIS.*

## Table A-20. Population Distribution, 1990 and 2000
## Revised General Plan Policy Areas and Incorporated Towns

| | | | Change | |
|---|---|---|---|---|
| | **1990** | **2000** | **Number** | **Percent** |
| **Policy Area*** | | | | |
| Suburban | 46,802 | 106,551 | 59,749 | 128% |
| Transition | 1,164 | 1,246 | 82 | 7% |
| Rural | 14,900 | 22,168 | 7,268 | 49% |
| JLMA | 2,733 | 5,096 | 2,363 | 86% |
| Incorporated Towns | 20,530 | 34,538 | 14,008 | 68% |
| Total County Population | 86,129 | 169,599 | 83,470 | 97% |
| | | | | |
| **Incorporated Towns**** | | | | |
| Hamilton | 700 | 562 | -138 | -20% |
| Hillsboro | 72 | 96 | 24 | 33% |
| Leesburg | 16,202 | 28,311 | 12,109 | 75% |
| Lovettsville | 749 | 853 | 104 | 14% |
| Middleburg | 549 | 632 | 83 | 15% |
| Purcellville | 1,744 | 3,584 | 1,840 | 106% |
| Round Hill | 514 | 500 | -14 | -3% |
| Total Town Population | 20,530 | 34,538 | 14,008 | 68% |

*Source: *Loudoun County Department of Economic Development estimate,** US Census*

## Table A-21. Existing Nonresidential Space (000s of SF), 2000
## Revised General Plan Policy Areas

| | Office | Retail | Other* | Industrial | Total | Distribution |
|---|---|---|---|---|---|---|
| **Policy Area** | | | | | | |
| Suburban | 4,643 | 3,735 | 6,164 | 9,657 | 24,199 | 83% |
| Transition | 18 | 0 | 65 | 11 | 94 | 0% |
| Rural | 4 | 18 | 252 | 35 | 310 | 1% |
| JLMA/Towns | 604 | 1,958 | 1,435 | 513 | 4,509 | 15% |
| Total | 5,269 | 5,711 | 7,916 | 10,216 | 29,112 | 100% |

*Source: Loudoun County Department of Economic Development*

* Includes hotels/motels, schools, libraries, etc.

## Table A-22 Trends in Residential Building Permits by Type, 1996 – 2000
## Revised General Plan Policy Areas

| | | Policy Area | | | | | |
|---|---|---|---|---|---|---|---|
| **Year Issued** | **Unit Type** | **Suburban** | **Transition** | **Rural** | **JLMA** | **Towns** | **Total** |
| 1996 | MF | 322 | 0 | 4 | 0 | 19 | 345 |
| 1997 | MF | 323 | 0 | 0 | 0 | 0 | 323 |
| 1998 | MF | 1,346 | 0 | 0 | 0 | 17 | 1,363 |
| 1999 | MF | 1,265 | 0 | 0 | 0 | 24 | 1,289 |
| 2000 | MF | 947 | 0 | 0 | 0 | 135 | 1,082 |
| 1996-2000 | MF | 4,203 | 0 | 4 | 0 | 195 | 4,402 |
| Distribution | | 95.5% | 0.0% | 0.1% | 0.0% | 4.4% | 100.0% |
| | | | | | | | |
| 1996 | SFA | 954 | 0 | 0 | 0 | 111 | 1,065 |
| 1997 | SFA | 1,019 | 0 | 0 | 49 | 210 | 1,278 |
| 1998 | SFA | 1,241 | 0 | 0 | 83 | 203 | 1,527 |
| 1999 | SFA | 1,504 | 0 | 0 | 114 | 199 | 1,817 |
| 2000 | SFA | 1,826 | 0 | 0 | 287 | 262 | 2,375 |
| 1996-2000 | SFA | 6,544 | 0 | 0 | 533 | 985 | 8,062 |
| Distribution | | 81.2% | 0.0% | 0.0% | 6.6% | 12.2% | 100.0% |
| | | | | | | | |
| 1996 | SFD | 1,056 | 3 | 215 | 81 | 291 | 1,646 |
| 1997 | SFD | 1,114 | 2 | 248 | 216 | 324 | 1,904 |
| 1998 | SFD | 1,445 | 4 | 297 | 291 | 347 | 2,384 |
| 1999 | SFD | 1,545 | 95 | 352 | 331 | 423 | 2,746 |
| 2000 | SFD | 1,205 | 87 | 378 | 474 | 565 | 2,709 |
| 1996-2000 | SFD | 6,365 | 191 | 1,490 | 1,393 | 1,950 | 11,389 |
| Distribution | | 55.9% | 1.7% | 13.1% | 12.2% | 17.1% | 100.0% |

*Source: Loudoun County Department of Building and Development/LMIS. Compiled by Department of Economic Development*

## Table A-23. Total Unbuilt Housing Units by Policy Area, 2000, 1991 General Plan

| Unit Type | Suburban | Transition | Rural | JLMA | Towns* | Total |
|---|---|---|---|---|---|---|
| **Not in Pipeline** | | | | | | |
| Single Family Detached | 10,699 | 23,401 | 58,444 | 19,937 | 1,389 | 113,870 |
| Single Family Attached | 12,376 | 0 | 0 | 5,301 | 1,276 | 18,953 |
| Multi-Family | 10,831 | 0 | 0 | 5,301 | 766 | 16,898 |
| Total Units not in Pipeline | 33,906 | 23,401 | 58,444 | 30,539 | 3,431 | 149,721 |
| **Pipeline** | | | | | | |
| Single Family Detached | 10,159 | 1,167 | 1,449 | 1,481 | 1,391 | 15,647 |
| Single Family Attached | 8,777 | 248 | 54 | 1,627 | 1,277 | 11,983 |
| Multi-Family | 8,209 | 216 | 0 | 208 | 767 | 9,400 |
| Total Units in Pipeline | 27,145 | 1,631 | 1,503 | 3,316 | 3,435 | 37,030 |
| **Total** | | | | | | |
| Single Family Detached | 20,858 | 24,568 | 59,893 | 21,418 | 2,780 | 129,517 |
| Single Family Attached | 21,153 | 248 | 54 | 6,928 | 2,553 | 30,936 |
| Multi-Family | 19,040 | 216 | 0 | 5,509 | 1,533 | 26,298 |
| Total | 61,051 | 25,032 | 59,947 | 33,855 | 6,866 | 186,751 |

*Source: Departments of Planning and Economic Development*

* Based on Towns estimates, not planned land use

## Table A-24. Demand for Housing Units by Type, 2000, 2005, 2010, 2015 and 2020
## 1991 General Plan

| Unit Type | Existing Inventory 2000 | Total Units Demanded 2005 | 2010 | 2015 | 2020 |
|---|---|---|---|---|---|
| Single-Family Detached: < 0.25 acre | 15,727 | 21,479 | 27,143 | 32,807 | 38,471 |
| Single-Family Detached: 0.25 to 0.99 acre | 10,554 | 14,012 | 17,080 | 20,148 | 23,216 |
| Single Family Detached: 1.00+ acre | 9,498 | 11,496 | 13,384 | 15,272 | 17,160 |
| Single-Family Attached | 15,622 | 24,605 | 32,865 | 41,125 | 49,385 |
| Multi-Family | 12,191 | 17,049 | 21,769 | 26,489 | 31,209 |
| Total Housing Units | 63,592 | 88,641 | 112,241 | 135,841 | 159,441 |

*Source: Fiscal Impact Analysis, 4/24/01*

## Table A-25. Projected Population, Households and Housing Units by Policy Area, 2000, 2005, 2010, 2015 and 2020 1991 General Plan

| | Base Year | Projected | | | |
|---|---|---|---|---|---|
| | 2000 | 2005 | 2010 | 2015 | 2020 |
| **Suburban Policy Area** | | | | | |
| Total Housing Units | 40,186 | 58,117 | 71,878 | 83,397 | 91,544 |
| Total Households | 38,004 | 54,949 | 67,949 | 78,823 | 86,542 |
| Total Population | 105,411 | 151,377 | 186,169 | 215,337 | 237,410 |
| **Transition Policy Area** | | | | | |
| Total Housing Units | 528 | 1,342 | 4,735 | 8,962 | 13,958 |
| Total Households | 502 | 1,275 | 4,496 | 8,503 | 13,243 |
| Total Population | 1,555 | 3,929 | 13,699 | 25,455 | 39,356 |
| **Rural Policy Area** | | | | | |
| Total Housing Units | 7,400 | 9,608 | 11,722 | 13,870 | 16,236 |
| Total Households | 7,030 | 9,127 | 11,137 | 13,177 | 15,424 |
| Total Population | 21,789 | 28,297 | 34,526 | 40,842 | 47,736 |
| **Joint Land Management Areas** | | | | | |
| Total Housing Units | 2,335 | 4,509 | 7,821 | 12,089 | 14,984 |
| Total Households | 2,218 | 4,280 | 7,412 | 11,454 | 14,190 |
| Total Population | 6,804 | 12,735 | 21,330 | 32,433 | 39,875 |
| **Incorporated Towns** | | | | | |
| Total Housing Units | 13,143 | 15,066 | 16,085 | 17,523 | 22,719 |
| Total Households | 12,415 | 14,237 | 15,201 | 16,562 | 21,446 |
| Total Population | 34,041 | 39,199 | 41,841 | 45,523 | 57,240 |
| **Total County** | | | | | |
| Total Housing Units | 63,592 | 88,641 | 112,241 | 135,841 | 159,441 |
| Total Households | 60,169 | 83,868 | 106,194 | 128,519 | 150,845 |
| Total Population | 169,599 | 235,537 | 297,564 | 359,591 | 421,617 |

*Source: Fiscal Impact Analysis 4/24/01*

## Table A-26. Projected Employment, 2000, 2005, 2010, 2015 and 2020
## 1991 General Plan

| | Base Year | Projected | | | |
|---|---|---|---|---|---|
| | **2000** | **2005** | **2010** | **2015** | **2020** |
| Total Employment | 87,049 | 125,518 | 146,708 | 172,520 | 199,943 |
| Building Based Employment | 73,779 | 106,688 | 124,699 | 146,638 | 169,947 |
| Non-Building Based Employment | 13,270 | 18,830 | 22,009 | 25,882 | 29,996 |

*Source: Fiscal Impact Analysis, 4/24/01*

## Table A-27. Projected New Capital Facilities, 2001 through 2020
## 1991 General Plan

| | Facilities Needed During 5-Year Period | | | | |
|---|---|---|---|---|---|
| **Agency/Facility** | **2001 - 2005** | **2006 - 2010** | **2011 - 2015** | **2016 - 2020** | **Total** |
| **Schools** | 14 | 13 | 13 | 13 | 53 |
| Elementary Schools | 9 | 9 | 8 | 9 | 35 |
| Middle Schools | 3 | 2 | 3 | 2 | 10 |
| High Schools | 2 | 2 | 2 | 2 | 8 |
| Total Schools | 14 | 13 | 13 | 13 | 53 |
| **Public Safety** | | | | | |
| Public Safety Centers | 1 | 2 | 2 | 2 | 7 |
| **Parks, Recreation, Community Services** | | | | | |
| Lg. Baseball Field | 13 | 12 | 12 | 13 | 50 |
| Sm. Baseball Field | 32 | 31 | 31 | 32 | 126 |
| Football Field | 6 | 6 | 6 | 7 | 25 |
| Softball Field | 32 | 31 | 31 | 32 | 126 |
| Lg. Soccer Field | 21 | 21 | 21 | 21 | 84 |
| Sm. Soccer Field | 32 | 31 | 31 | 32 | 126 |
| Lacrosse Field | 3 | 3 | 3 | 3 | 12 |
| Ball Fields | 139 | 135 | 135 | 140 | 549 |
| Community Center | 8 | 9 | 8 | 8 | 33 |
| Recreation Center | 2 | 2 | 2 | 2 | 8 |
| Recreation/Community Centers | 10 | 11 | 10 | 10 | 41 |
| Respite Center | 1 | 1 | 1 | 2 | 5 |
| Senior Center | 0 | 1 | 1 | 1 | 3 |
| Senior Facilities | 3 | 3 | 5 | 5 | 16 |
| Total Facilities | 299 | 294 | 292 | 303 | 1,188 |
| **Mental Health/Mental Retardation** | | | | | |
| MH/MR Group Homes | 4 | 5 | 4 | 5 | 18 |
| **Social Services** | | | | | |
| Youth Shelter | 1 | 1 | 1 | 2 | 5 |
| Juvenile Detention Facility | 0 | 1 | 0 | 1 | 2 |
| Youth Facilities | 1 | 2 | 1 | 3 | 7 |
| **Libraries** | | | | | |
| Regional Library | 1 | 1 | 1 | 2 | 5 |
| **General Government Office Space (000s SF)** | 75 | 71 | 71 | 71 | 288 |

*Source: Fiscal Impact Analysis, 4/24/01*

## Table A-28. Demographic Characteristics at Theoretical Buildout 1991 General Plan

| | Theoretical Buildout |
|---|---|
| Existing Units (2000) | 63,592 |
| Total Unbuilt Units | 186,701 |
| Total Units | 250,293 |
| | |
| Total Households | 237,009 |
| | |
| Total Population | 682,098 |
| Population 55+ Years | 143,240 |
| | |
| Total Public School Enrollment | 157,563 |
| Elementary | 82,517 |
| Middle | 34,904 |
| High | 40,142 |

*Source: Fiscal Impact Analysis 4/24/01*

## Table A-29. Projected

## New Capital Facilities at Theoretical Buildout
## 1991 General Plan

| Agency/Facility | Total |
|---|---|
| New Capital Facilities | |
| Schools | 125 |
| Elementary Schools | 82 |
| Middle Schools | 23 |
| High Schools | 20 |
| Public Safety Centers | 15 |
| Ball Fields | 1,118 |
| Recreation/Community Centers | 85 |
| Senior Facilities | 28 |
| MH/MR Group Homes | 37 |
| Youth Facilities | 16 |
| Regional Library | 10 |
| General Government Office Space (000s SF) | 512 |

*Source: Fiscal Impact Analysis, 4/24/01*

## Table A-30. Summary of Developable Parcels *
## Revised General Plan

| Characteristics | Policy Area | | | | Total |
|---|---|---|---|---|---|
| | Suburban | Transition | Rural | JLMA | |
| **Number of Parcels** | | | | | |
| Fully Developable | 336 | 263 | 3,772 | 138 | 4,509 |
| Occupied by Existing Single Family Unit | 218 | 191 | 3,461 | 107 | 3,977 |
| Total | 554 | 454 | 7,233 | 245 | 8,486 |
| **Legal Acres**** | | | | | |
| Fully Developable | 4,152 | 10,583 | 73,877 | 1,828 | 90,440 |
| Occupied by Existing Single Family Unit | 2,463 | 9,122 | 112,341 | 3,310 | 127,236 |
| Total | 6,615 | 19,705 | 186,218 | 5,138 | 217,676 |
| **Maximum Potential Unbuilt Units (at Buildout)** | | | | | |
| Fully Developable | 21,248 | 6,328 | 6,907 | 3,528 | 38,011 |
| Occupied by Existing Single Family Unit | 9,602 | 5,231 | 5,635 | 4,653 | 25,121 |
| Total | 30,850 | 11,559 | 12,542 | 8,181 | 63,132 |

*Source: LMIS, 9/5/00, Updated 3/17/01 and 7/23/01*

* Does Not Include Pipeline or Towns

** Not in 65 Ldn

## Table A-31. Developable Parcels in the Suburban Policy Area*
## Revised General Plan

| Characteristics | Total |
|---|---|
| **Number of Parcels** | |
| Fully Developable | 336 |
| Occupied by Existing Single Family Unit | 218 |
| Total | 554 |
| **Legal Acres (Not in 65 Ldn)** | |
| Fully Developable | 4,152 |
| Occupied by Existing Single Family Unit | 2,463 |
| Total | 6,615 |
| **Maximum Potential Units - Base Zoning (4du/ac)** | |
| Fully Developable | 16,508 |
| Occupied by Existing Single Family Unit | 9,602 |
| Total | 26,110 |
| **Transit Node** | |
| Bus Node (2005) | 1,600 |
| Rail Node (2008) | 2,500 |
| **Mixed Use Areas** | |
| Downtowns (2006-08) | 1,120 |
| Redevelopment Areas (2012-15) | 1,120 |

*Source: LMIS, 9/5/00, Updated 3/17/01 and 7/23/01*

* Does Not Include Pipeline

## Table A-32. Developable Parcels in the Transition Policy Area*
## Revised General Plan

| Characteristics | Subareas | | | | | | |
|---|---|---|---|---|---|---|---|
| | Lower Bull Run | Lower Foley | Lower Sycolin | Middle Goose | Upper Broad Run | Upper Foley | Total |
| **Number of Parcels** | | | | | | | |
| Fully Developable | 31 | 45 | 31 | 31 | 96 | 29 | 263 |
| Occupied by Existing Single Family Unit | 15 | 30 | 14 | 29 | 88 | 15 | 191 |
| Total | 46 | 75 | 45 | 60 | 184 | 44 | 454 |
| **Legal Acres** | | | | | | | |
| Fully Developable | 923 | 1,734 | 1,386 | 1,350 | 2,830 | 2,361 | 10,583 |
| Occupied by Existing Single Family Unit | 1,086 | 1,472 | 2,293 | 901 | 2,873 | 497 | 9,122 |
| Total | 2,008 | 3,206 | 3,679 | 2,251 | 5,702 | 2,858 | 19,705 |
| **Maximum Potential Units** | | | | | | | |
| Fully Developable | 304 | 3,452 | 449 | 437 | 913 | 773 | 6,328 |
| Occupied by Existing Single Family Unit | 342 | 2,904 | 744 | 256 | 840 | 145 | 5,231 |
| Total | 646 | 6,356 | 1,193 | 693 | 1,753 | 918 | 11,559 |

*Source: LMIS, 9/5/00, Updated 3/17/01 and 7/23/01*

*Does Not Include Pipeline

## Table A-33. Developable Parcels in the Rural Policy Area*
## Revised General Plan

| Characteristics | Subareas: Southern Tier | Subareas: Remainder | Total |
|---|---|---|---|
| **Number of Parcels** | | | |
| Fully Developable | 790 | 2,982 | 3,772 |
| Occupied by Existing Single Family Unit | 819 | 2,642 | 3,461 |
| Total | 1,609 | 5,624 | 7,233 |
| **Legal Acres** | | | |
| Fully Developable | 21,098 | 52,779 | 73,877 |
| Occupied by Existing Single Family Unit | 37,942 | 74,399 | 112,341 |
| Total | 59,040 | 127,178 | 186,218 |
| **Maximum Potential Units - Base Zoning** | | | |
| Fully Developable | 901 | 3,893 | 4,794 |
| Occupied by Existing Single Family Unit | 418 | 1,735 | 2,153 |
| Total | 1,319 | 5,628 | 6,947 |
| **Maximum Potential Units - Clustered Zoning** | | | |
| Fully Developable | 1,302 | 5,605 | 6,907 |
| Occupied by Existing Single Family Unit | 1,193 | 4,442 | 5,635 |
| Total | 2,495 | 10,047 | 12,542 |

*Source: LMIS, 9/5/00, Updated 3/17/01*

* Does Not Include Pipeline

## Table A-34. Developable Parcels by Parcel Size in the Rural Policy Area*
## Revised General Plan

| Parcel Size | Fully Developable | Occupied by Existing Single Family Unit | Total |
|---|---|---|---|
| 0.25 to 0.99 | 16 | 0 | 16 |
| 1.00 to 1.99 | 286 | 13 | 299 |
| 2.00 to 4.99 | 833 | 173 | 1,006 |
| 5.00 to 9.99 | 516 | 585 | 1,101 |
| 10.00 to 14.99 | 1,094 | 1,379 | 2,473 |
| 15.00 to 19.99 | 227 | 297 | 524 |
| 20.00 to 24.99 | 151 | 201 | 352 |
| 25.00 to 49.99 | 329 | 334 | 663 |
| 50.00 to 99.99 | 193 | 202 | 395 |
| 100.00 to 499.99 | 125 | 269 | 394 |
| 500.00 to 999.99 | 2 | 7 | 9 |
| 1000.00 + | 0 | 1 | 1 |
| Total Parcels | 3,772 | 3,461 | 7,233 |
| | | | |
| 0.25 to 0.99 | 15 | 0 | 15 |
| 1.00 to 1.99 | 379 | 25 | 404 |
| 2.00 to 4.99 | 2,769 | 526 | 3,295 |
| 5.00 to 9.99 | 3,569 | 4,366 | 7,936 |
| 10.00 to 14.99 | 12,156 | 15,381 | 27,537 |
| 15.00 to 19.99 | 3,858 | 5,042 | 8,899 |
| 20.00 to 24.99 | 3,309 | 4,413 | 7,722 |
| 25.00 to 49.99 | 11,220 | 11,519 | 22,739 |
| 50.00 to 99.99 | 13,337 | 14,063 | 27,400 |
| 100.00 to 499.99 | 22,207 | 51,000 | 73,207 |
| 500.00 to 999.99 | 1,058 | 4,961 | 6,019 |
| 1000.00 + | 0 | 1,043 | 1,043 |
| Total Acres | 73,876 | 112,340 | 186,216 |

*Source: LMIS, 9/5/00, Updated 3/17/01*

* Does Not Include Pipeline

## Table A-35. Characteristics of Developable Parcels in Joint Land Management Areas* Revised General Plan

| | Joint Land Management Areas | | | | |
|---|---|---|---|---|---|
| **Characteristics** | **Hamilton** | **Leesburg** | **Purcellville** | **Round Hill** | **Total** |
| **Number of Parcels** | | | | | |
| Fully Developable | 48 | 11 | 46 | 18 | 123 |
| Occupied by Existing Single Family Unit | 44 | 6 | 36 | 12 | 98 |
| Total | 92 | 17 | 82 | 30 | 221 |
| **Legal Acres** | | | | | |
| Fully Developable | 222 | 286 | 877 | 150 | 1,535 |
| Occupied by Existing Single Family Unit | 181 | 216 | 2,293 | 103 | 2,794 |
| Total | 403 | 503 | 3,170 | 253 | 4,328 |
| **Maximum Potential Units** | | | | | |
| Fully Developable | 118 | 568 | 2,610 | 232 | 3,528 |
| Occupied by Existing Single Family Unit | 114 | 424 | 4,021 | 94 | 4,653 |
| Total | 232 | 992 | 6,631 | 326 | 8,181 |

*Source: LMIS, 9/5/00, Updated 3/17/01*

* Does Not Include Pipeline

## Table A-36. Total Unbuilt Housing Units by Policy Area
## Revised General Plan

| Unit Type | Suburban | Transition | Rural | JLMA | Towns* | Total |
|---|---|---|---|---|---|---|
| **Not in Pipeline** | | | | | | |
| Single Family Detached | 10,798 | 10,811 | 12,542 | 4,335 | 1,389 | 39,875 |
| Single Family Attached | 12,340 | 561 | 0 | 2,470 | 1,276 | 16,647 |
| Multi-Family | 7,713 | 187 | 0 | 1,376 | 766 | 10,041 |
| Total Units not in Pipeline | 30,850 | 11,559 | 12,542 | 8,181 | 3,431 | 66,563 |
| **Pipeline** | | | | | | |
| Single Family Detached | 10,159 | 1,167 | 1,449 | 1,481 | 1,391 | 15,647 |
| Single Family Attached | 8,777 | 248 | 54 | 1,627 | 1,277 | 11,983 |
| Multi-Family | 8,209 | 216 | 0 | 208 | 767 | 9,400 |
| Total Units in Pipeline | 27,145 | 1,631 | 1,503 | 3,316 | 3,435 | 37,030 |
| **Total** | | | | | | |
| Single Family Detached | 20,957 | 11,978 | 13,991 | 5,816 | 2,780 | 55,522 |
| Single Family Attached | 21,117 | 809 | 54 | 4,097 | 2,553 | 28,630 |
| Multi-Family | 15,922 | 403 | 0 | 1,584 | 1,533 | 19,441 |
| Total | 57,995 | 13,190 | 14,045 | 11,497 | 6,866 | 103,593 |

*Source: Department of Economic Development. Updated 7/23/01.*

* Based on Towns estimates

## Table A-37. Projected Population, Households and Housing Units by Policy Area, 2000, 2005, 2010, 2015 and 2020 Revised General Plan

| | Base Year | Projected | | | |
|---|---|---|---|---|---|
| | 2000 | 2005 | 2010 | 2015 | 2020 |
| **Suburban Policy Area** | | | | | |
| Total Housing Units | 40,186 | 56,665 | 69,078 | 77,435 | 80,298 |
| Total Households | 38,004 | 53,582 | 65,309 | 73,199 | 75,911 |
| Total Population | 105,411 | 148,008 | 179,611 | 200,953 | 209,053 |
| **Transition Policy Area** | | | | | |
| Total Housing Units | 528 | 1,347 | 4,651 | 8,114 | 10,681 |
| Total Households | 502 | 1,279 | 4,416 | 7,701 | 10,136 |
| Total Population | 1,555 | 3,944 | 13,481 | 23,210 | 30,525 |
| **Rural Policy Area** | | | | | |
| Total Housing Units | 7,400 | 9,557 | 11,675 | 13,543 | 14,964 |
| Total Households | 7,030 | 9,079 | 11,091 | 12,865 | 14,214 |
| Total Population | 21,789 | 28,141 | 34,372 | 39,852 | 44,003 |
| **Joint Land Management Areas** | | | | | |
| Total Housing Units | 2,335 | 4,424 | 7,361 | 10,385 | 11,562 |
| Total Households | 2,218 | 4,199 | 6,978 | 9,841 | 10,952 |
| Total Population | 6,804 | 12,530 | 20,197 | 28,106 | 31,171 |
| **Towns** | | | | | |
| Total Housing Units | 13,143 | 14,798 | 15,730 | 16,577 | 18,154 |
| Total Households | 12,415 | 13,984 | 14,866 | 15,667 | 17,146 |
| Total Population | 34,041 | 38,520 | 40,950 | 43,106 | 46,544 |
| **Total County** | | | | | |
| Total Housing Units | 63,592 | 86,791 | 108,495 | 126,055 | 135,659 |
| Total Households | 60,169 | 82,124 | 102,660 | 119,273 | 128,358 |
| Total Population | 169,599 | 231,143 | 288,610 | 335,227 | 361,296 |

*Source: Fiscal Impact Analysis 4/24/01*

Note: The fiscal impact analysis was performed on the Planning Commission Draft (May 1, 2001) of the *Revised General Plan*. Subsequent changes to the *Revised General Plan* by the Board of Supervisors are not reflected in this table.

## Table A-38. Demand for Housing Units by Type, 2000, 2005, 2010, 2015 and 2020
## Revised General Plan

| Unit Type | Existing Inventory 2000 | Total Units Demanded 2005 | 2010 | 2015 | 2020 |
|---|---|---|---|---|---|
| Single-Family Detached: < 0.25 acre | 15,727 | 22,382 | 28,745 | 34,195 | 38,136 |
| Single-Family Detached: 0.25 to 0.99 acre | 10,554 | 12,218 | 13,809 | 15,171 | 16,156 |
| Single Family Detached: 1.00+ acre | 9,498 | 12,358 | 15,064 | 17,591 | 19,907 |
| Single-Family Attached | 15,622 | 23,453 | 30,367 | 35,146 | 35,581 |
| Multi-Family | 12,191 | 16,380 | 20,510 | 23,952 | 25,879 |
| Total Housing Units | 63,592 | 86,791 | 108,495 | 126,055 | 135,659 |

*Source: Fiscal Impact Analysis, 4/24/01*

**Table A-39. Projected Employment, 2000, 2005, 2010, 2015 and 2020**
**Revised General Plan**

| | Base Year | Projected | | | |
|---|---|---|---|---|---|
| | **2000** | **2005** | **2010** | **2015** | **2020** |
| Total Employment | 87,049 | 125,175 | 146,301 | 171,620 | 196,873 |
| Building Based Employment | 73,779 | 106,396 | 124,353 | 145,873 | 167,338 |
| Non-Building Based Employment | 13,270 | 18,779 | 21,948 | 25,747 | 29,535 |

*Source: Fiscal Impact Analysis, 4/24/01*

## Table A-40. Projected New Capital Facilities, 2001 through 2020
## Revised General Plan

| Agency/Facility | Facilities Needed During 5-Year Period | | | | Total |
|---|---|---|---|---|---|
| | 2001 - 2005 | 2006 - 2010 | 2011 - 2015 | 2016 - 2020 | |
| **Schools** | 14 | 12 | 10 | 6 | 42 |
| Elementary Schools | 9 | 8 | 6 | 4 | 27 |
| Middle Schools | 3 | 2 | 2 | 1 | 8 |
| High Schools | 2 | 2 | 2 | 1 | 7 |
| Total Schools | 14 | 12 | 10 | 6 | 42 |
| **Public Safety** | | | | | |
| Public Safety Centers | 1 | 2 | 1 | 1 | 5 |
| **Parks, Recreation, Community Services** | | | | | |
| Lg. Baseball Field | 12 | 11 | 10 | 5 | 38 |
| Sm. Baseball Field | 30 | 29 | 23 | 13 | 95 |
| Football Field | 6 | 5 | 5 | 3 | 19 |
| Softball Field | 30 | 29 | 23 | 13 | 95 |
| Lg. Soccer Field | 20 | 19 | 16 | 8 | 63 |
| Sm. Soccer Field | 30 | 29 | 23 | 13 | 95 |
| Lacrosse Field | 3 | 2 | 3 | 1 | 9 |
| Ball Fields | 131 | 124 | 103 | 56 | 414 |
| Community Center | 8 | 7 | 7 | 3 | 25 |
| Recreation Center | 2 | 2 | 1 | 1 | 6 |
| Recreation/Community Centers | 10 | 9 | 8 | 4 | 31 |
| Respite Center | 1 | 3 | 2 | 2 | 8 |
| Senior Center | 1 | 1 | 2 | 1 | 5 |
| Senior Facilities | 2 | 4 | 4 | 3 | 13 |
| Total Facilities | 284 | 270 | 226 | 123 | 903 |
| **Mental Health/Mental Retardation** | | | | | |
| MH/MR Group Homes | 4 | 4 | 3 | 2 | 13 |
| **Social Services** | | | | | |
| Youth Shelter | 1 | 1 | 1 | 1 | 4 |
| Juvenile Detention Facility | 0 | 1 | 0 | 0 | 1 |
| Youth Facilities | 1 | 2 | 1 | 1 | 5 |
| **Libraries** | | | | | |
| Regional Library | 1 | 1 | 1 | 0 | 3 |
| **General Government Office Space (000s SF)** | 70 | 66 | 53 | 30 | 219 |

*Source: Fiscal Impact Analysis, 4/24/01*

## Table A-41. Demographic Characteristics at Theoretical Buildout Revised General Plan

| | Theoretical Buildout |
|---|---|
| Existing Units (2000) | 63,592 |
| Total Unbuilt Units | 98,378 |
| Total Units at Buildout | 161,970 |
| | |
| Total Households | 153,354 |
| | |
| Total Population | 38,174 |
| Population 55+ Years | 92,017 |
| | |
| Total Public School Enrollment | 96,619 |
| Elementary | 50,600 |
| Middle | 21,403 |
| High | 24,615 |

*Source: Fiscal Impact Analysis, 4/24/01*

## Table A-42. Projected New Capital Facilities at Theoretical Buildout Revised General Plan

| Agency/Facility | Total |
|---|---|
| New Capital Facilities | |
| Schools | 64 |
| Elementary Schools | 42 |
| Middle Schools | 12 |
| High Schools | 10 |
| Public Safety Centers | 8 |
| Ball Fields | 452 |
| Recreation/Community Centers | 45 |
| Senior Facilities | 15 |
| MH/MR Group Homes | 19 |
| Youth Facilities | 8 |
| Regional Library | 5 |
| General Government Office Space (000s SF) | 269 |

*Source: Fiscal Impact Analysis, 4/24/01*