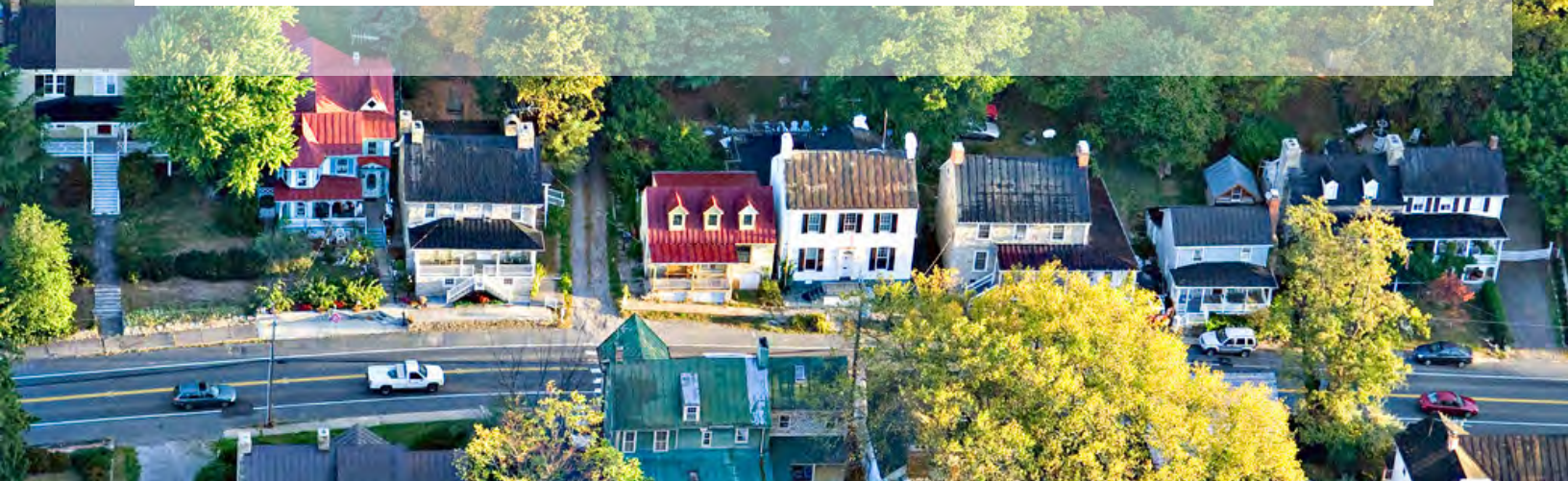




Foundations Report



February 2017

PREFACE

Our Planning Process: Envision Loudoun

Envision Loudoun is the County's public planning process that will have a lasting impact on the Loudoun community, helping to promote a continued high quality of life in the County. Envision Loudoun is a rare opportunity to plan for future growth, land use, transportation, community facilities and amenities, economic development, and fiscal management in Loudoun. It will result in a new Comprehensive Plan that will serve as Loudoun County community's guiding policy for the foreseeable future. The public input process is designed to achieve three goals:

- **Openness and Inclusivity** - This process is designed and facilitated so that everyone feels comfortable engaging and sharing their ideas. It is welcoming and respectful of the diversity of experiences and opinions.
- **Opportunity** - The planning process is a key means to explore opportunities, such as, creating a "complete community." The process is also a means of building upon the high quality of life we currently enjoy in Loudoun. It will make sure the County is moving forward to meet the challenges and embrace the opportunities of today and in the future. This process is intended to identify opportunities that the community is excited to pursue.
- **Connectivity** - The New Comprehensive Plan process is a County-wide initiative and an opportunity to connect people and issues to the future. The process is designed to motivate and facilitate deeper participation and connections with our neighbors and fellow residents. The County is diverse with respect to development (rural, suburban, and urban), varying points of view, and culture. This diversity presents us with exciting possibilities for shaping our future.



<http://envision-loudoun.org/>

Why is it important to update our Comprehensive plan?

Estimates show that by 2045, Loudoun County may add an additional 120,000 new residents.

Where will these residents live? What types of services will they need? Where will they work? How will they get around? Will this increase in residents increase public service costs for the County?

These are important questions to be asking in preparation for the future of Loudoun. Envision Loudoun offers an opportunity to explore these questions and develop a common vision for our county's future.



Envision Loudoun provides the citizens of Loudoun with the opportunity to shape the County's future. This process began with a series of Listening and Learning Workshops in the fall of 2016 to gain insight about the future from residents and other stakeholders.

The Plan for Creating Our Plan

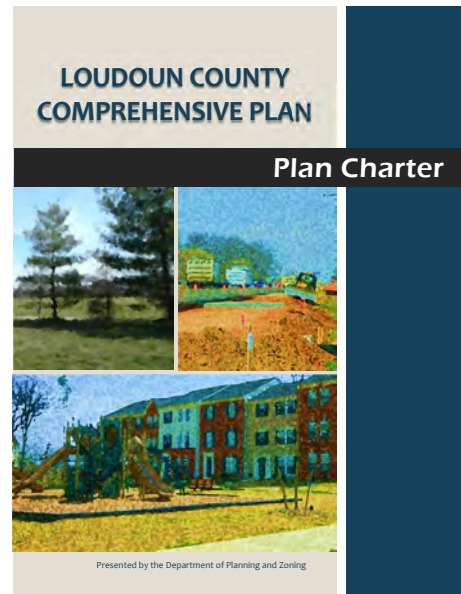
On April 21, 2016, the Loudoun County Board of Supervisors unanimously approved the *Plan Charter*. This “plan to do the plan” was the first step in the New Comprehensive Plan effort.

The *Plan Charter* contains pertinent background information and broad existing conditions, a preliminary list of the prominent issues the Plan should address, a description of the planning process and schedule, the organizational structure, a description of the community outreach and engagement strategy, and the role of consultants.

Key Planning Issues

The Plan Charter identifies nine key planning issues that will be addressed in the New Comprehensive Plan:

- Economic Development
- Transition Policy Area
- Residential Housing Choice and Diversity
- Redevelopment/Revitalization
- Suburban Policy Area
- Community Facilities and Supporting Infrastructure
- Quality Development
- Fiscal Management
- Growth Management



Want to check out the *Plan Charter*? Go to www.loudoun.gov/newcomplan

Our Planning Process



How can I get involved?

Envision Loudoun offers a unique opportunity to build the County's new Comprehensive Plan. Citizens are encouraged to participate in Envision Loudoun by sharing their ideas through a broad range of community engagement opportunities.

How can I get more information?

For more information on Envision Loudoun and ways you can engage in the process, check out:

<http://envision-loudoun.org/>

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1. INTRODUCTION

Loudoun County has evolved from a collection of rural villages to a world renowned suburban community 25 miles from the nation’s capital, known for its high quality neighborhoods, excellent schools, and growing technology business sector. In the early days, Loudoun was primarily an agricultural community with dairy farms located along the Washington and Old Dominion (W&OD) Railroad that served Washington, DC customers. The closing of the railroad and opening of Dulles International Airport marked an important shift in Loudoun County’s history, spurring development and prosperity.

The County has accommodated a high rate of growth over the past five decades by concentrating new development in the eastern portion of the County where utilities and roadways can serve the population more efficiently. Accommodating the planned growth while maintaining its rural landscape and agricultural economy is one of the reasons Loudoun is recognized as one of the best counties in the United States to live, work, and play.

However, changing market conditions since the last comprehensive planning effort -- including a shrinking supply of land designated to accommodate future residential development, new demand for urban type development, continued population growth, and new planned transit expansions -- have spurred Loudoun’s leaders to review the planning policies that have shaped the County.

About This Foundations Report

This *Foundations Report* is the first product of the new Loudoun County Comprehensive Plan process - Envision Loudoun - that began in the spring of 2016 with the initiation and endorsement of the *Plan Charter*. It provides an overview of the fundamental planning influences of critical importance to this long-range planning effort, and presents a foundation for understanding the role of the Comprehensive Plan as well as conditions, trends, and current policies that impact Loudoun County. This *Foundations Report* was intentionally drafted to consider the nexus between land development activities, the County’s fiscal sustainability, environmental quality, and quality of life. This report addresses how the economy is impacted by the County’s transportation network, how growth affects the provision of public investment and operational costs, how housing choices impact local economic opportunities, and other similar relationships. Each of the following sections addresses three main components:

- 1. Past Trends and Future Forecasts
- 2. Relevant Policies and Planning Systems
- 3. Key Policy Questions for Further Exploration

The new Comprehensive Plan will include a robust array of community planning topics that relate to various aspects of life in Loudoun. The table below highlights the plan topics explored in this report.

Section	Focus
Our People	demographic trends, population growth and forecasts
Our Built Environment	land use policies, development trends, inventory of land
Our Housing	housing growth, housing inventory
Our Economy	economic trends, industry clusters, rural businesses
Our Community Infrastructure	capital planning, anticipated infrastructure needs
Our Transportation System	commuter trends, system performance, system gaps
Our Environmental, Agricultural, and Cultural Heritage	components of green infrastructure system: natural areas, productive lands, heritage places
Our Lifestyles	Loudoun’s key characteristics, changing dynamics

What is Loudoun County’s Comprehensive Plan?

The Comprehensive Plan is a community-based vision for the development of Loudoun County. It is intended to guide future land use development decisions, plan for the provision of community amenities and facilities, as well as inform the location and timing of future infrastructure investment.

What are the goals for creating the New Comprehensive Plan?

Envision Loudoun will create a new Comprehensive Plan that will be:

Strategic

The New Plan recommendations will be fiscally sound to balance growth with public investment and operations rooted in the realities of changing demographics and market conditions to serve as a foundation for economic prosperity for the County.

Easy to Understand

The New Plan will be highly illustrative, clear, concise, and easy to use. To ensure ease of comprehension and availability, multiple formats of the Plan will be available for easy dissemination to the general public.

Overarching

The Plan will bridge different functions and other County plans by including a broad vision, goals, and objectives for the County. The Plan will be integrated with other relevant County plans and policies, comprehensive to ensure wide-spread implementation across County operations, and instill confidence in the community to reach its policies and goals.

Flexible

The New Plan will be adaptable and enduring, able to accommodate changing technologies, demographics, and markets.

Why do we need a comprehensive plan?

A comprehensive plan is a “blueprint” document that provides guidance for elected officials and other governmental decision-makers as to where and how a community will grow in the long-term. Comprehensive plans typically consist of maps, goals, objectives and implementation strategies for addressing a number of issues relating to land use, housing, economic development, transportation, community character and design, parks, recreation, historic preservation and other planning topics.

Comprehensive plans provide an opportunity for communities to think collectively about the future of their community, and to develop a shared set of values and strategies intended to achieve a unified vision. They are critical tools for managing growth, the provision of capital facilities, and the fiscal health of communities. They are especially important for high growth communities like Loudoun County, where change can happen quickly, and a comprehensive plan is needed to guide that change.

The Commonwealth of Virginia requires that all local governments prepare a comprehensive plan to achieve “coordinated, adjusted, and harmonious development” of land. The Code of Virginia § 15.2-2223 sets out requirements for localities to review their plans every five years to determine if updates are needed. Envision Loudoun complies with this requirement.

What is Loudoun’s Comprehensive Plan?

Loudoun County’s Comprehensive Plan is a collection of several plans that sets out Loudoun County’s vision for the future. The Comprehensive Plan’s two main components include:

[The Revised General Plan](#)

The Revised General Plan addresses a wide array of planning topics (land use, housing, employment, economic development, environmental protection, agriculture, historic and cultural preservation, etc.) The original General Plan was adopted in 1991, and was revised to its current form in 2001, with 27 approved amendments since that time. This document guides and assists staff, advisory boards, and the Board of Supervisors when making decisions about proposed developments, funding for capital improvements, and other community planning needs.

[The Countywide Transportation Plan](#)

The 2010 Countywide Transportation Plan (CTP) guides future transportation infrastructure investment to be financed by federal, state, and local dollars as well as the private sector. The 2010 CTP also helps to inform residents and employers of the County’s approach to addressing mobility needs and how the future transportation system may impact a specific neighborhood or property.



What is Loudoun's current growth policy?

The County has a long history of strong community support for maintaining the quality of life and community character offered in Loudoun. County actions have been driven by policy directions included in the County's Comprehensive Plan founded on the principles of smart and managed growth. For decades, the County has supported the protection of its rural and agricultural areas to the west, and focused development in suburban areas to the east. The County has accommodated growth near existing infrastructure to support development in a fiscally sound manner, and in close proximity to Dulles International Airport and Washington, DC where the market forces are strongest for new residential and employment 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." -Revised General Plan

This policy has resulted in some of the most highly valued residential communities in the region. The Plan encourages new business development in designated areas to provide job opportunities to residents and reduce the tax burden on County citizens with business and commercial generated revenue.

The County plans for long-range capital improvements, while monitoring the County's fiscal health. This means that the County closely manages its budget to wisely use tax revenues. The County Board of Supervisors has supported these efforts through a robust set of policies and implementation strategies that have guided growth related decisions for decades. The policies and strategies have shaped much of the development pattern of present day Loudoun County that continues to attract new people and businesses to the County.



Envisioning the Future of Loudoun County

Loudoun County is rapidly transforming. The County has experienced tremendous growth over the past several decades, reaching the climax of its planned growth. The County also has growing market demand for new types of development and community amenities, continuing population growth, and plans for new transit lines. Taken together, these present significant questions regarding the future of Loudoun County. The changing market also spurs the need for a new assessment of existing conditions and a new plan that charts the path forward. By evaluating the conditions, trends, and current policies that impact Loudoun County, this Foundations Report provides the knowledge base to assist in preparing the new Loudoun County Comprehensive Plan.

What else is included in Loudoun's Comprehensive Plan?

In addition to the Revised General Plan and the Countywide Transportation Plan, the Comprehensive Plan also includes:

•Strategic Plans:

- *Bicycle and Pedestrian Mobility Master Plan*
- *Telecommunication Facilities Plan*
- *Countywide Retail Policy Plan*
- *Heritage Preservation Plan*
- *Greenways and Trails Policies*

•Small Area Plans and Area Management Plans:

- *Comprehensive Plan for the Town of Hamilton*
- *Cub Run Area Management Plan*
- *Dulles North Area Management Plan*
- *Dulles South Area Management Plan*
- *Eastern Loudoun Area Management Plan*
- *Leesburg Area Management Plan*
- *Round Hill Area Management Plan*
- *Rt. 28 Policies and Corridor Plan*
- *Rt. 50 - Arcola Area*
- *Toll Road Plan*
- *Waterford Area Management Plan*



2. OUR PEOPLE

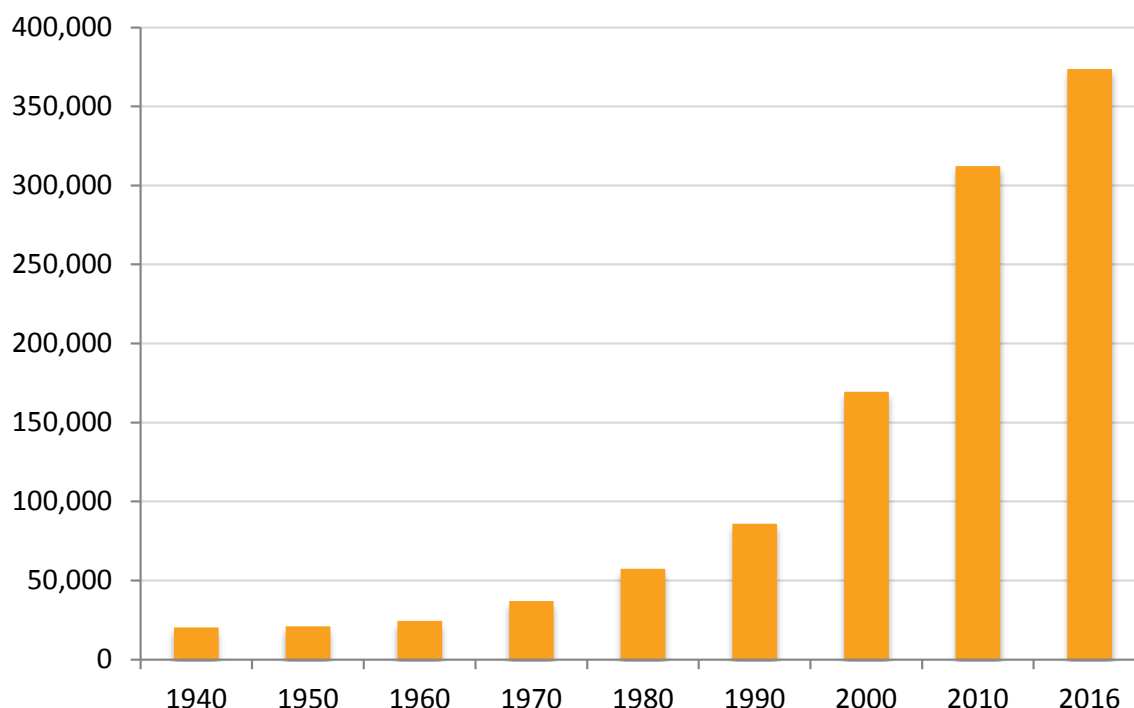
Loudoun is a fast growing and diversifying County. This growth is expected to continue, though likely at a slower pace. In addition to this overall population growth, the population has also grown increasingly diverse. More residents identify as an ethnic or racial minority than they did in the past. The County's residents are well educated and affluent, exceeding regional and national median household income figures. Poverty rates in Loudoun are significantly lower than regional and national poverty rates. Looking to the future, Loudoun will have to consider how these demographic trends will impact the amount and type of development that occurs within the County.

Who lives in Loudoun County and how has that changed since the last plan update?

More People Live In Loudoun than Ever Before

The population in Loudoun County has risen over the decades as the Washington, DC Metropolitan Region has grown and as Loudoun County has captured more of this regional growth. In 1940, the County's population was just over 20,000 people. Fifty years later, the population had quadrupled, totaling just over 86,000 people in 1990. Since 1990, the population has quadrupled again, with an estimated 373,000 people in 2016. However, this exponential growth is projected to slow as Loudoun continues to mature, a trend that may already be occurring. From 2000-2010, Loudoun was the 5th fastest growing county in the nation, but dropped to the 20th fastest growing county from 2010-2015.

Loudoun County Historic Population Trends



Sources: U.S. Census Bureau, Decennial Census. and Loudoun County Department of Planning and Zoning, April 15, 2016 Estimate Series.

How has growth in Loudoun compared to counties across the country?

#5 county in the nation for growth (2000-2010)

#2 among counties with a population of 100,000 or more (2000-2010)

Where Are Loudoun Residents From?

24%

of Loudoun's residents identified as foreign born in 2015. Six countries make up over half of Loudoun's foreign born population:

20%
India

12%
El Salvador

5%
Philippines

5%
China

4.5%
Korea

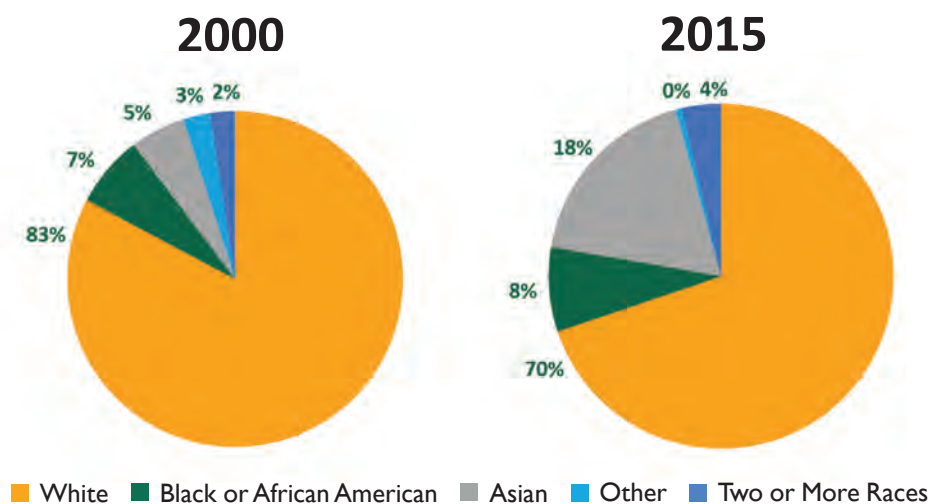
4%
Vietnam

Similar to National Trends, Loudoun County Is Becoming Racially and Ethnically Diverse

The percentage of residents identifying as Hispanic or Latino or as a racial minority has grown in the past fifteen years. Between 2000 and 2015, the percent of people identifying as Hispanic or Latino more than doubled from 6% to 13.6%. Loudoun's foreign born population has grown in share to nearly one quarter of the population in 2015.

In addition to becoming more ethnically diverse, Loudoun is becoming more racially diverse. A growing percentage of the County's residents identifies one of the minority racial groups shown in the figure below. The percentage of the Loudoun population identifying as Asian has grown the most rapidly, and the percentage of the population identifying as Black or African American is also growing, but at a much slower rate.

Changing Racial Diversity



Place of origin for over half of Loudoun's foreign born population



The Population Is Aging, But On Average Is Younger Than the Region and Nation

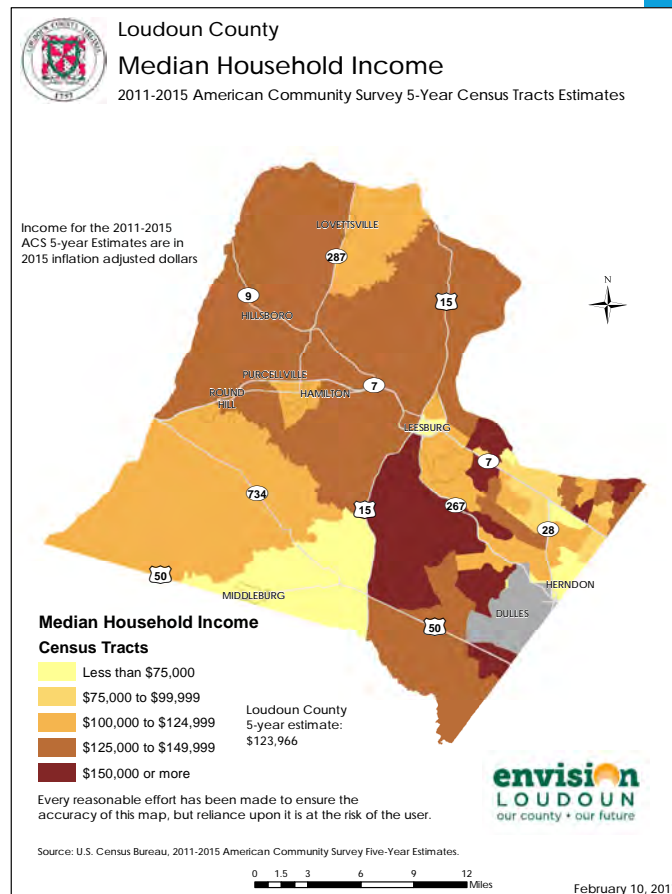
The percentage of the Loudoun County population age 45 and over increased steadily between 2000 and 2015. The population ages 25-45 decreased during the same time period. Despite an aging population, the median age of the County is less than that of the region or nation.

The Workforce is Well Educated

Over 60% of Loudoun County residents age 25 and older have attained a Bachelor's Degree or higher. In 2015, the County ranked 5th in the nation for jurisdiction with a population of 65,000 or larger. A well educated population may account for the top occupations in Loudoun, the majority of which are in professional, scientific, management, and administrative services. These occupations are consistent with a strong technology industry which is often found in areas of high education. The County's high level of education may also be linked to its affluence.

Median Household Income in Loudoun Is Higher than National and Regional Medians

Compared to both the surrounding D.C. Metropolitan area and the nation, Loudoun County households have high household incomes, ranking #1 in the nation since 2007. In 2015, the County 5-year median household income was \$123,453, well above that of the D.C. Metro Area, \$92,324. Census tracts with the highest household incomes are found south of Leesburg along Route 15 and western portions of Loudoun County. The lowest are found in the Sterling area, downtown Leesburg, and the areas surrounding Middleburg. The census tracts may not show smaller concentrated areas where income differs from the surroundings.



How does the age of Loudoun residents compare to the region and nation?

The median age of residents in 2015 at the county, regional, and national level:

35.3
Loudoun

36.3
Washington, DC Metro Area

37.6
Nationwide

Policy Topic to Explore: Impacts of the County's Changing Population on the Future of Loudoun

As Loudoun County's population becomes more diverse, so may the preferences of the new population. Aging seniors, empty nesters, millennials (persons generally born between 1980-2000), and racially and ethnically diversifying households may demand different housing types, public services, and lifestyle options than provided in the past. These trends may have an impact on how we design the community for the future. As the population continues to grow and diversify, there may be opportunities to capitalize on the increasing diversity and culture found in Loudoun, allowing the County to continue to thrive in a changing economy and world.

How does Loudoun's poverty rate compare to the region and nation?

In 2015 Loudoun's poverty rate was well below that of the region and nation:

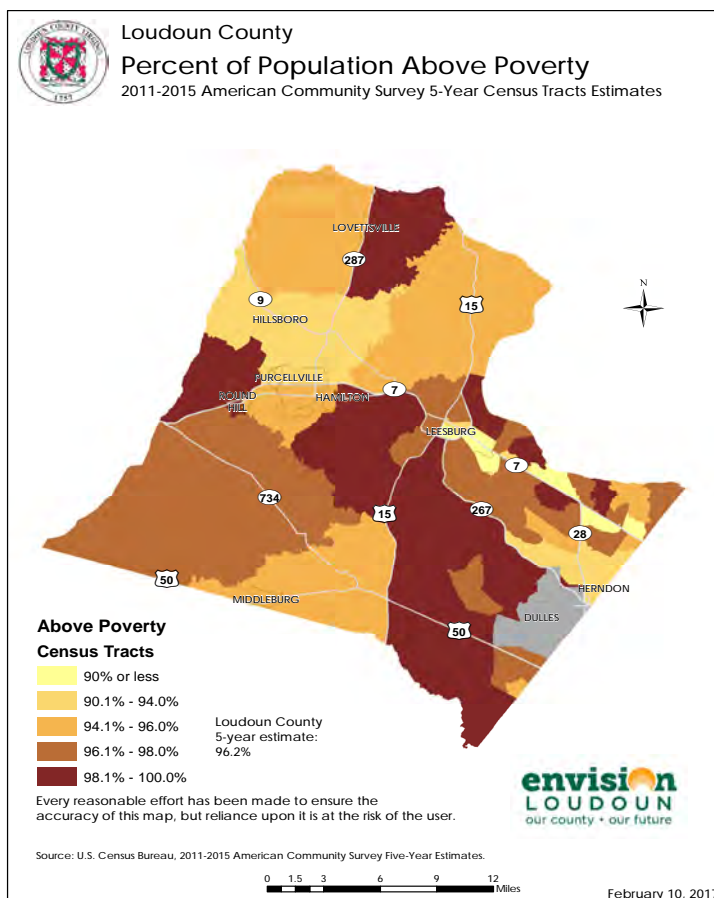
4.0%
of population below
poverty level in Loudoun

8.3%
of population below poverty
level in D.C. Metro Region

15.5%
of population below poverty
level in Nation

What are the trends for households below the poverty level?

Loudoun has a low percentage of households living below the poverty level. The households seem to be clustered in areas of older development including along the Route 7 Corridor (90% or less above poverty). There are some people in need of assistance throughout the County, and the normal challenges of poverty can be exacerbated by higher costs of living.

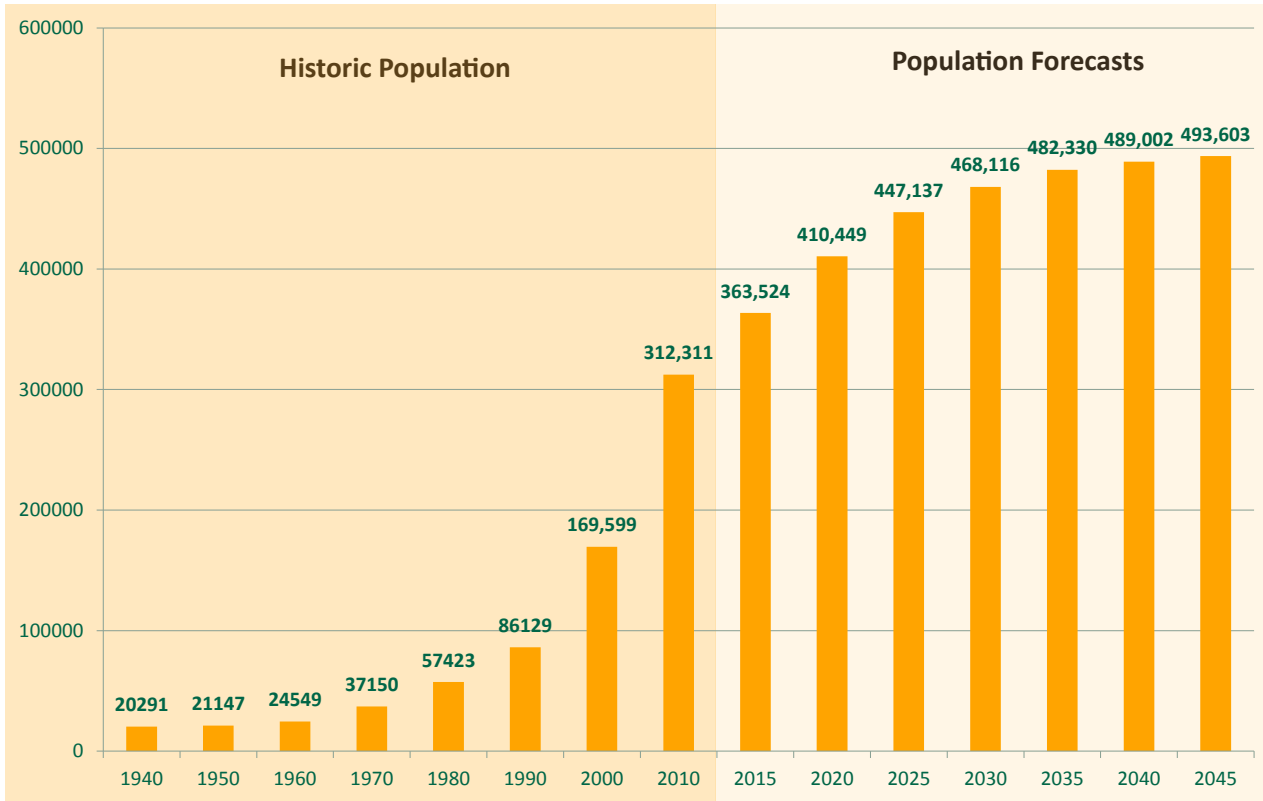


How is our population expected to change through 2045?

In the past, there has been exponential growth. As Loudoun matures, population projections show this growth slowing as land in the County becomes built out under the current Revised General Plan policies.

The County forecasts growth in conjunction with the Metropolitan Washington Council of Governments (MWCOC). The County's own growth projections are combined with the rest of the region and an entire snapshot is created. County forecasts are based on the land use policies included in the Revised General Plan and the market demand for housing and jobs as they relate to these land use policies. These forecasts will likely change as a result of the final Silver Line Comprehensive Plan Amendment expected to occur in 2017.

Loudoun County Population: Historic and Forecasted



Policy Topic to Explore: Comparison of County's Forecasted Population and Unconstrained Market Demand

Loudoun County's growth is largely driven by the land use policies in the Revised General Plan, and the same is true for the County's growth forecasts. While these growth forecasts do reflect market factors, they are also "constrained" forecasts in that they limit the amount of development, and population growth, that is forecasted to occur in the County per the land use policies in the Revised General Plan. The Envision Loudoun process provides an opportunity to consider "unconstrained" forecasts to better understand market demand for housing in Loudoun that is not constrained by current land use policies. This can allow for a comparison between the amount of forecasted development to house future populations per current policies, and unconstrained market demand.

By 2045, the population in Loudoun County is expected to increase by 120,000, for a total of nearly 1/2 million people.

Sources of Information Used for this Section

Population estimates are provided by the Loudoun County Department of Planning and Zoning's April 15, 2016 estimates. The forecasts for future population growth are from the Department of Planning and Zoning's December 2016 population forecast. Age, race, ethnicity, poverty, and household income are provided by the U.S. Census Bureau's America Community Survey, 2015 estimates. These sources can be found below.

[Loudoun County Demographics and Data](#)

[American Community Survey](#)

[Loudoun County Census Quick Facts](#)

3. OUR BUILT ENVIRONMENT

Loudoun County has a long history of strong growth that has required its leaders to develop systems to maintain character and plan for community needs generated by new development. The County is now entering a phase where limited land is available for future development. This condition, and changing demographics and market preferences, pose many critical policy choices about the future of Loudoun County's built environment.

How has the County grown since the last plan update, and how does this relate to regional growth trends?

The County has Grown Significantly

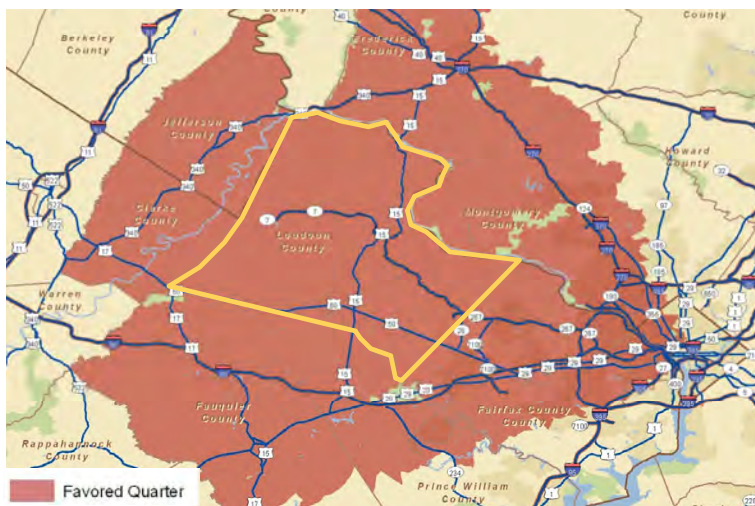
Loudoun County has grown significantly in the past 16 years. The population and number of housing units have more than doubled, while commercial space nearly doubled. Growth has mainly been along Belmont Ridge Road/NorthStar Boulevard. Residences built between 2000 and 2016 have mostly been on the western edge of the Suburban Policy Area and parts of the Transition Policy Area in a line running roughly south from Leesburg (see map on next page). There has been less concentration of new homes built in the western Rural Policy Area, though there has been more in the Towns and along US 15 than other parts of the west.

Loudoun County Grew Faster than the Region

Growth in Loudoun is spurred by the growth of the Greater Metropolitan Washington, DC region, taking into account the jurisdiction of the Metropolitan Washington Council of Governments (MWCOG). From 2000 to 2015, the regional population increased from 4.5 million to 7.1 million people, using the Loudoun grew faster than the region as a whole, growing from 3.8% of the regional population in 2000 to 5.3% of the regional population today. Economic studies commissioned by Loudoun County have acknowledged that Loudoun sits in the heart of this "Favored Quarter," west of the District-- an area projected to see 44% of household growth and 48% of job growth for the region over the next two decades.

Loudoun County is Located in Washington DC's Favored Quarter

Source: Market and Fiscal Impact Analysis of the Phase 2 Metrorail Extension to Loudoun County by Robert Charles Lesser & Co.



History shows that the evolution of cities to larger metropolitan areas often includes a prominent direction outward from the city that is the focus of much of the economic growth, along with high-end housing and development. Loudoun County is located within Washington, DC's "favored quarter."

Recent Growth

Population



2000: 169,599
2016: 373,694

Housing Units



2000: 62,160
2015: 129,773

Commercial Space



2000: 44 Million Sq. Ft.
2015: 91 Million Sq. Ft.

Growth by the Numbers (2000-2016)

67,613

New Housing Units

45%

Single Family Detached

34%

Single Family Attached

21%

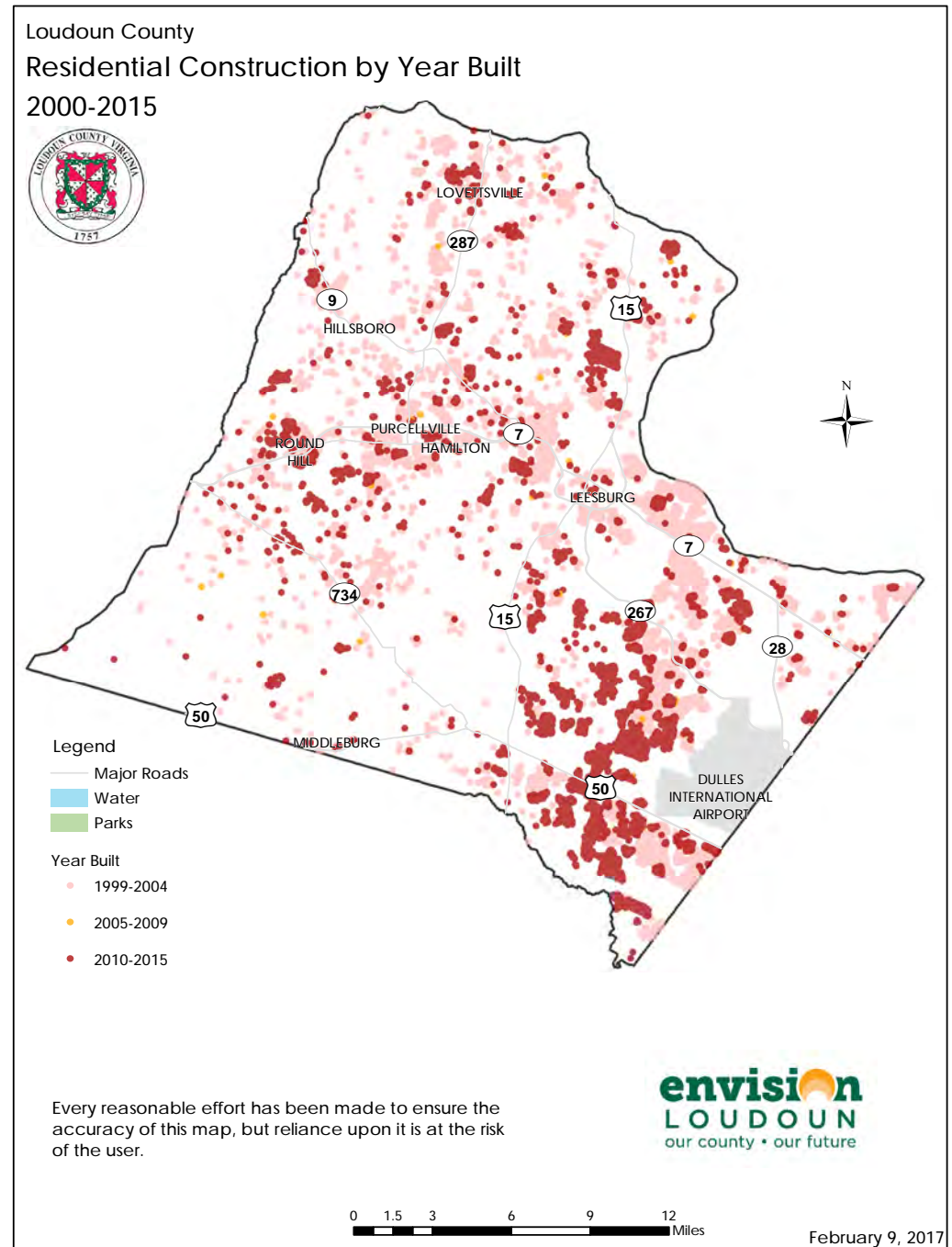
Multifamily

47,000,000

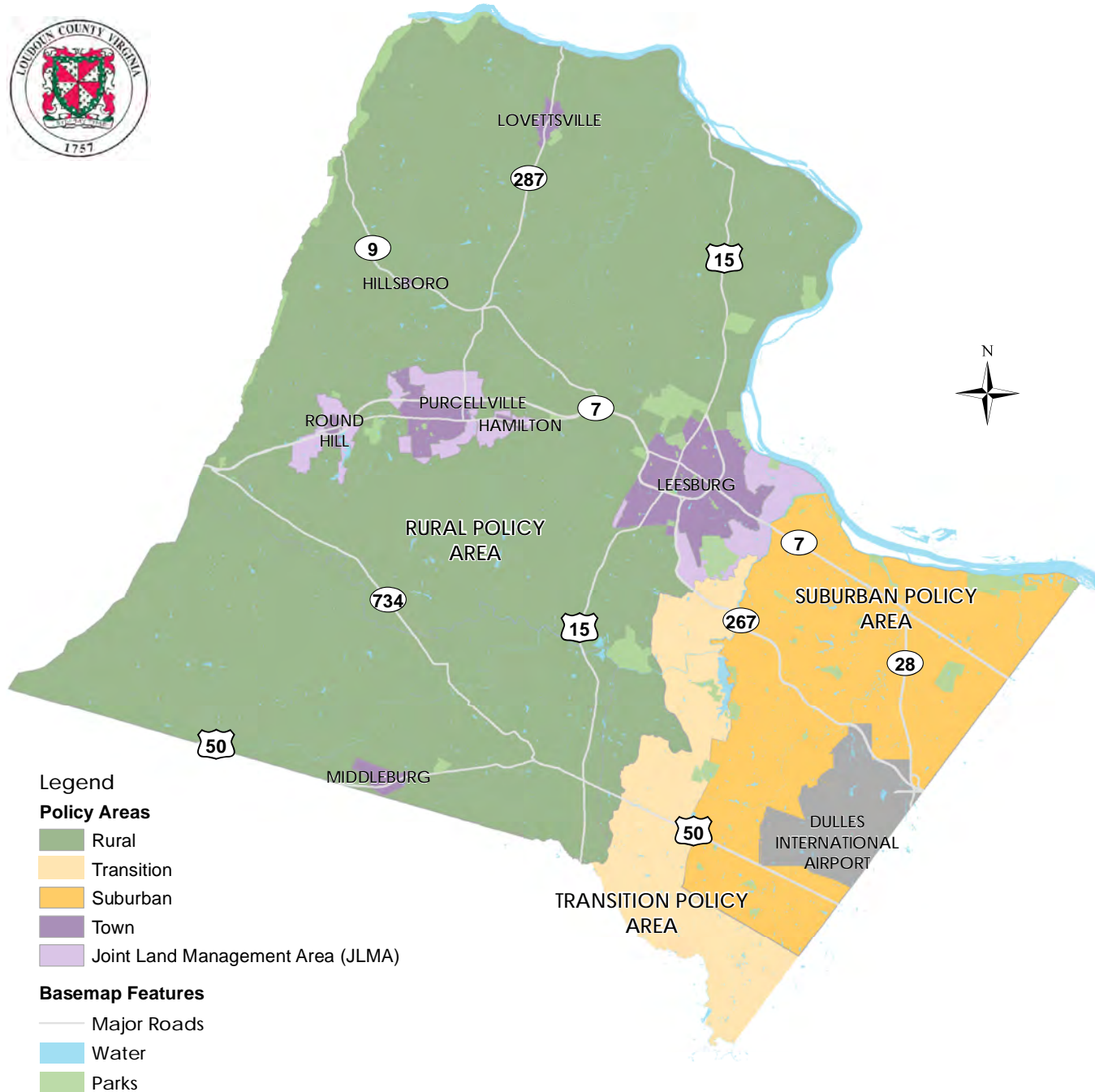
New Nonresidential
Square Footage

What type of growth has occurred in the County since the last plan update and where has the growth been located?

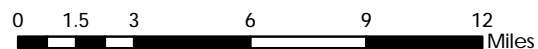
Generally speaking, the majority of development in Loudoun County has occurred in the towns, and Suburban and Transition Policy Areas, with limited development in the Rural Policy Area. The map below illustrates the locations of residential construction by year, showing growth that occurred in the last five years in the red band leading southeast of Leesburg and Route 267. A non-residential construction inventory is currently being developed and will be included in future analyses.



Loudoun County Established Policy Areas



Every reasonable effort has been made to ensure the accuracy of this map, but reliance upon it is at the risk of the user.



January 13, 2017

The Rural Policy Area:

200,000 acres
in western Loudoun

home to

6 of 7 Towns

&

12 of 13 Villages
in Loudoun

What are Loudoun's "Policy Areas"?

The designation of Policy Areas in the General Plan is the core framework for land planning, and these Policy Areas represent the diverse character found in Loudoun County. The Suburban Policy Area is in the east near Dulles Airport and toward Washington, DC where the majority of development has occurred. The Rural Policy Area is located in the north and west of the County, and includes countryside farms and open spaces, as well as 13 established villages that historically grew at crossroad locations or around a railroad depot, mill, church, or store. The Transition Policy Area is between the other two, and as its name implies is intended to be a land use transition between the two. The Policy Areas are used to manage growth in a manner compatible with the respective landscape and character of each area by influencing the effect of development regulations and guiding the location, design, and timing of infrastructure investment.

Loudoun County's seven towns exercise planning and zoning controls within their corporate limits. In addition to the three Growth Policy Areas, the County has partnered with several of its towns to develop Joint Land Management Areas (JLMA) around the edges of the towns. The JLMA is a joint planning area where Loudoun and each respective town sets the limits for municipal water and sewer extension, which effectively serves as a growth boundary for each town. The map on the previous page illustrates the boundaries of these Policy Areas.

Rural Policy Area

The Rural Policy Area in the western portion of the County is designed to preserve the agricultural, historical, and natural heritage of Loudoun. The Revised General Plan states that 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." This includes the rich agricultural and rural heritage of crossroads settlements, wineries, breweries, equine stables, abundant natural resources, and picturesque landscapes. It is composed of three areas: (1) a northern area where the minimum lot size for homes is 20 acres, (2) a southern area with an ingrained equestrian tradition where the minimum lot size for homes is 40 acres, and (3) rural villages. Additionally, all towns are surrounded by their Joint Land Management Areas and the Rural Policy Area.

The concept of the Rural Policy Area was developed in 2001 as a response to the conversion of land from agriculture to denser development and the decline of farming. In order to protect working lands, the policies for the area support rural-scale agriculture, tourism, and environmental protection. Agribusiness and agritourism is a growing part of the equation for allowing growth while maintaining a rural character. This includes wineries, vineyards, event spaces, and farm-to-table experiences.

Rural Policy Area Growth and Density (as of 2016)

14,296
Residential Units

11%
of All Residential
Units in the County

1:20

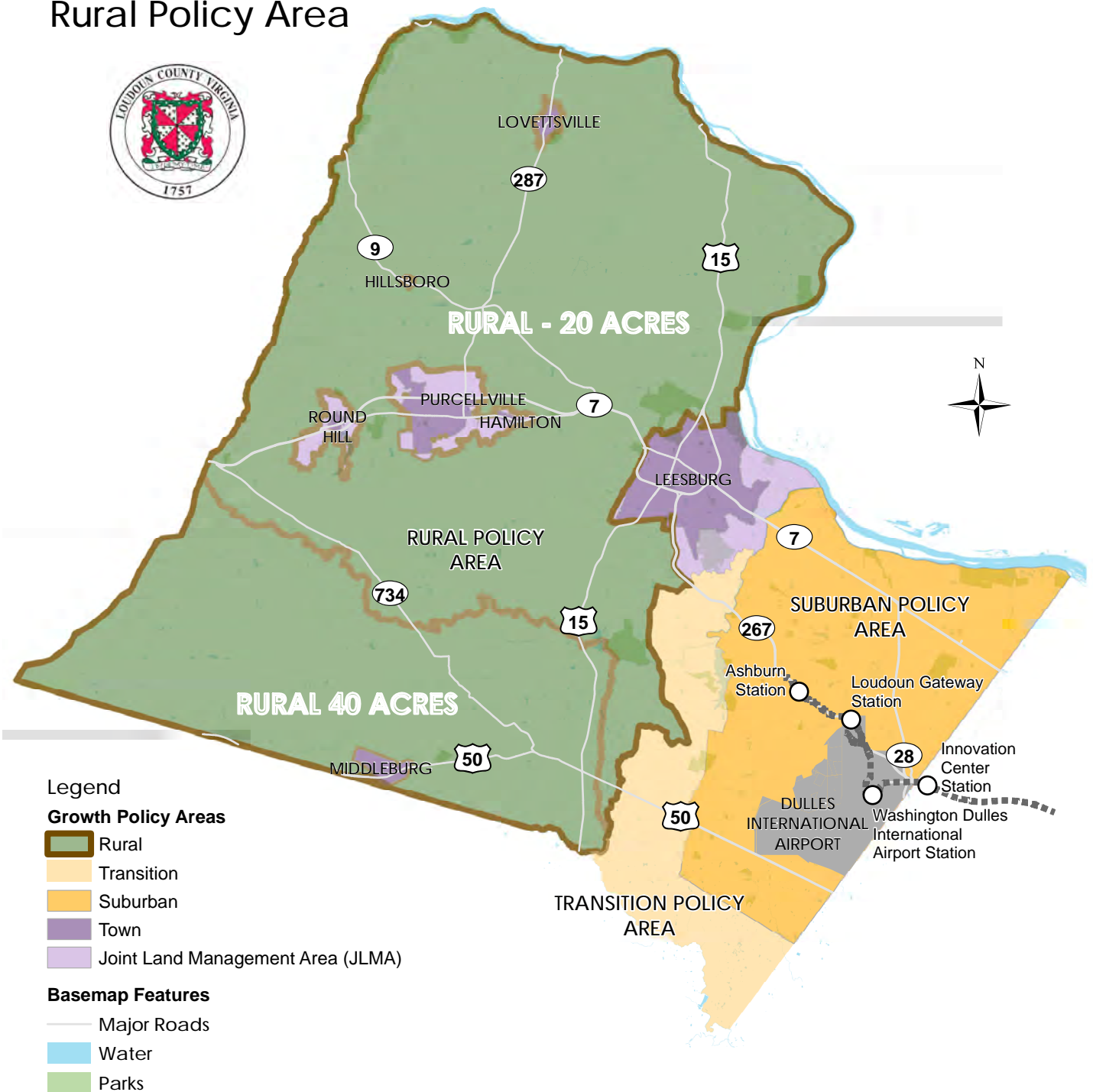
1 Dwelling Unit per 20
Acres in the Northern Rural
Subarea, Can be Increased to
1 Dwelling Unit per 5 Acres if
Clustered

1:40

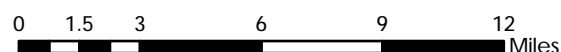
1 Dwelling Unit per 40
Acres in the Southern Rural
Subarea, Can be Increased to
1 Dwelling Unit per 15 Acres
if Clustered

Loudoun County

Rural Policy Area



Every reasonable effort has been made to ensure the accuracy of this map, but reliance upon it is at the risk of the user.



November 30, 2016

The Suburban Policy Area:

60,000 acres
in eastern Loudoun

is Loudoun County's designated

Growth Area

home to

**Potomac, Sterling,
Ashburn, and Dulles
Communities**

Suburban Policy Area

The Suburban Policy Area is broken into four suburban communities: Ashburn, Dulles, Potomac, and Sterling. According to the Revised General Plan, each of these communities are intended to be self-sustaining communities framed by open spaces and roads, and may become more distinct with enhanced development quality as future development and redevelopment is tailored to fit the existing contexts. Policy guidance for development in the Suburban Policy Area has focused on creating compact and walkable development, high quality design standards, and protection of open spaces. With the Silver Line extension under construction and land use and station planning underway, growth policies in the Suburban Policy Area near the stations may change.

The Suburban Policy Area is largely developed today, and it is expected that in the future the area will be prime for redevelopment of aging commercial centers, and possibly neighborhoods.

Suburban Policy Area Growth and Density (as of 2016)

86,568

Residential Units

66%

of Residential Units
in the County

4:1

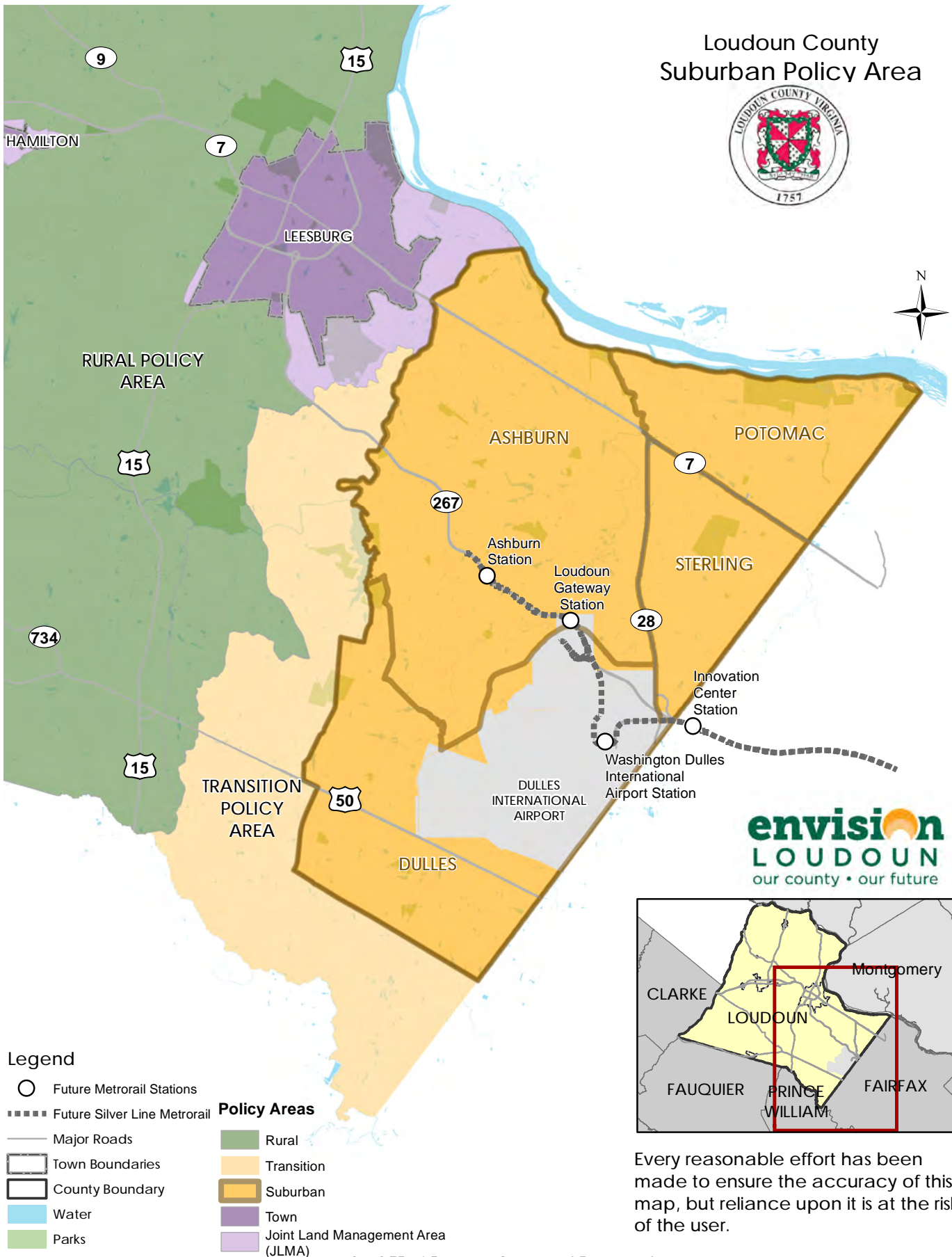
4 Dwelling Units per 1
Acre Average Density
Throughout the Suburban
Policy Area, Pockets of 8 to
24 Dwelling Units per Acre
in Designated High Density
Residential Areas

Policy Topic to Explore:

Future Vision for Suburban Policy Area

The Suburban Policy Area is reaching its capacity as envisioned by current land use policies. Future development within the Suburban Policy Area will likely result in a shift toward redevelopment of existing sites and infill development of land with access to public infrastructure. The market for redevelopment will likely be driven by lifestyle preferences of the two largest segments of our population - aging baby boomers and maturing millennials - and the location of land available for development. What will this redevelopment look like? What types of uses will be accommodated through future redevelopment and infill development? Will these new developments be different in character than what is currently in the Suburban Policy Area? The form that future redevelopment and infill development will take is a critical question that will be addressed during the Envision Loudoun planning process.

Loudoun County Suburban Policy Area



Every reasonable effort has been made to ensure the accuracy of this map, but reliance upon it is at the risk of the user.

January 16, 2017

The Transition Policy Area:

20,000 acres
in eastern Loudoun

has

6 distinct Subareas

is or can be

served by public utilities

Transition Policy Area

Established in 2001, the Transition Policy Area serves as a buffer between the Suburban and Rural Policy Areas. It includes six subareas defined on the map to the right, and extends across three watersheds and two potable water sources: Beaverdam and Goose Creek Reservoirs. Geologic characteristics (diabase rock) in the northern section of the Transition Policy Area pose challenges to groundwater extraction.

When the Transition Policy Area was established, only the Lower Foley and Lower Bull Run subareas were planned for central water/wastewater utilities. In 2005, this policy was changed through the Board of Supervisors approval a Comprehensive Plan Amendment (CPAM) that opened up the entire Transition Policy Area to be served by central water and wastewater systems.

The area is predominantly residential, however there are some industrial spaces focused on quarry activity and energy infrastructure. The land use policy vision for this area is implemented primarily through protected open space and large lot or clustered developments. This Policy Area limits development and protects open space to protect drinking water resources and watersheds through a mandatory requirement of 50-70% open space for all residential and non-residential developments.

The Transition Policy Area is split into six subareas, each of which has a unique tailored density requirement. Due to the 2005 Comprehensive Plan amendment to extend utilities to all the subareas, the Transition Policy Area has seen increased residential development over the last decade.

Transition Policy Area Growth and Density (as of 2016)

5,543

Residential Units

4%

of Residential Units
in the County

Varied

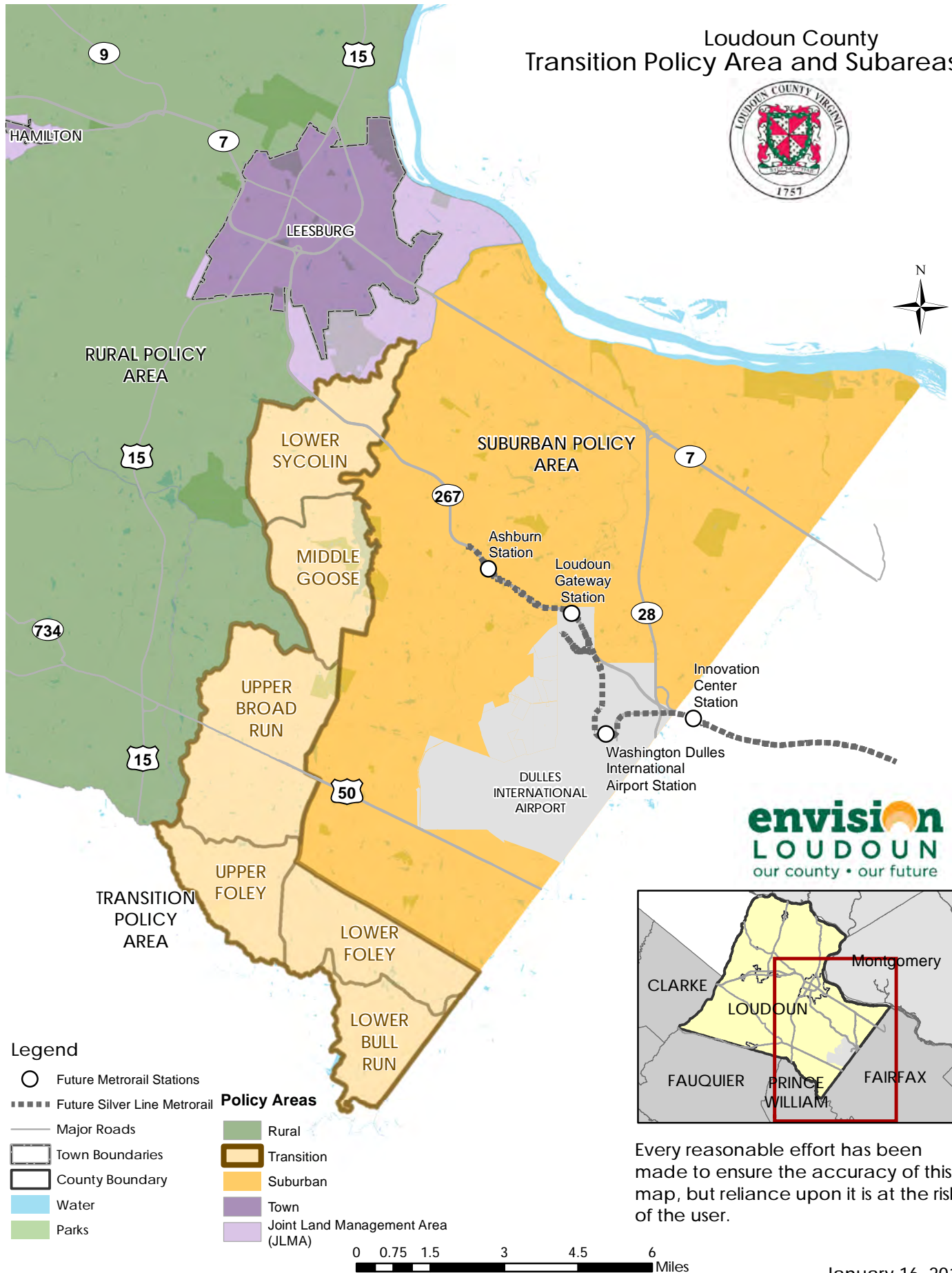
Residential Densities,
Specific to the
Character of the
6 Subareas

Policy Topic to Explore:

Direction for the Transition Policy Area

Increasing development pressure is challenging existing policies in this area due to its proximity to the Suburban Policy Area, the fact that the Suburban Policy Area is reaching the development capacity envisioned by current land use policies, and that developments in the Transition Policy Area can be served by public utilities. In addition, previous entitlements that do not necessarily reflect the vision of the Transition Policy Area are coming to fruition. In addition, neighborhoods in the Transition Policy Area must travel to commercial centers in the Suburban Policy Area to the west for daily service needs. Envision Loudoun provides an opportunity for the County to define the future vision for the Transition Policy Area.

Loudoun County Transition Policy Area and Subareas



Every reasonable effort has been made to ensure the accuracy of this map, but reliance upon it is at the risk of the user.

Towns and Surrounding Joint Land Management Areas

Six of Loudoun County's seven towns (Hamilton, Hillsboro, Lovettesville, Middleburg, Purcellville, and Round Hill) are located primarily in the Rural Policy Area, with Leesburg additionally abutting the Transition and Suburban Policy Area. These communities conduct their own planning and zoning activities within their corporate limits. Four of these communities (Leesburg, Purcellville, Hamilton, and Round Hill) have Joint Land Management Area plans that coordinate planning in areas of common interest on the edges of each town's corporate limits. These JLMAs are served by town utilities and extension of services is based on future needs identified in local and JLMA plans.

Town and JLMA Growth (as of 2016)

25,123
Residential Units

19%
of Residential Units
in the County

How are Loudoun's Policy Areas performing?

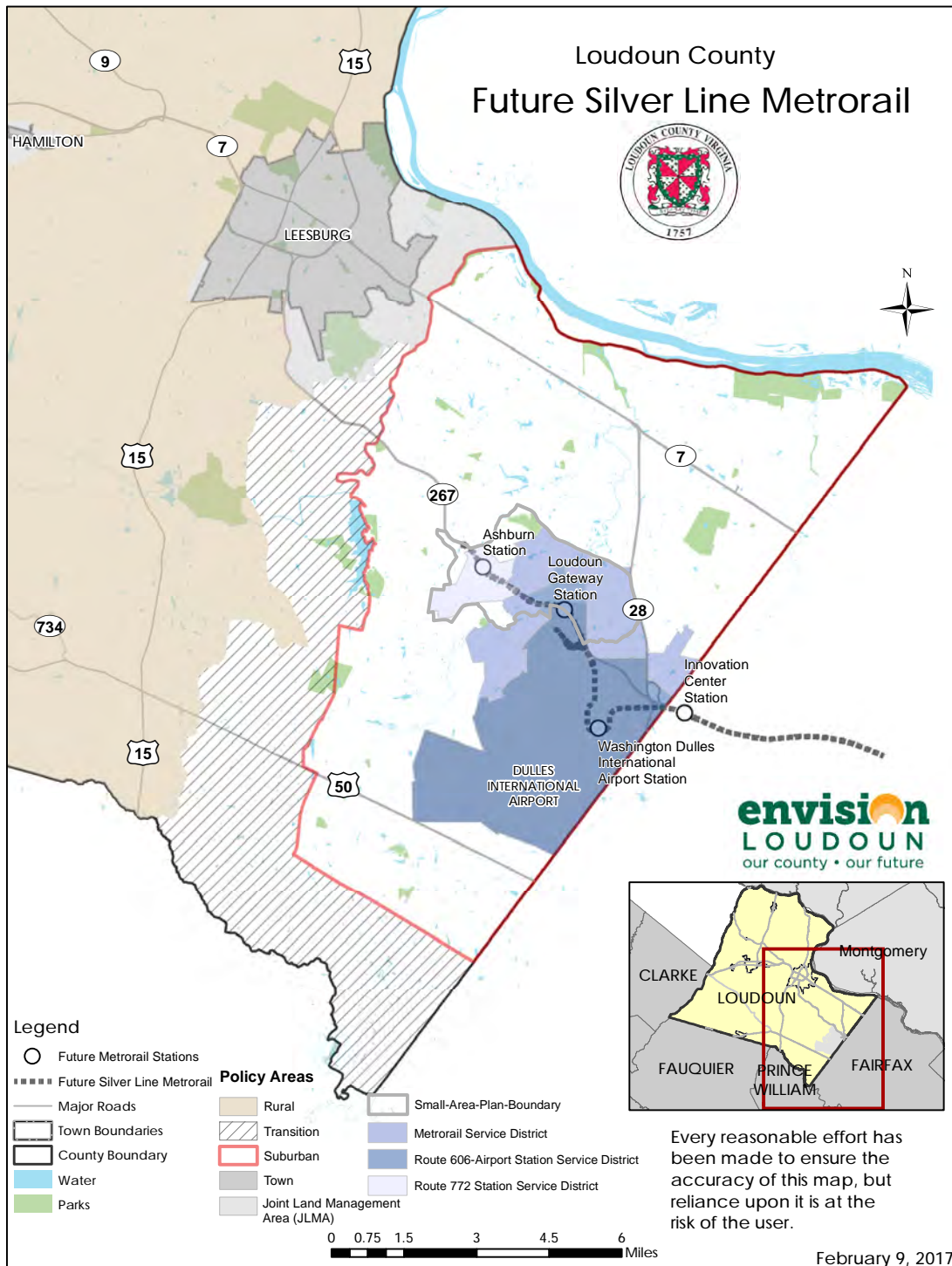
Conformance with the Comprehensive Plan is one of six standards considered by the Board of Supervisors for decisions on rezoning requests. Between 2002 and 2014, nearly two-thirds of the applications approved were determined to be in conformance with the Comprehensive Plan's land use policies, and one third were a departure from the policy guidance in the Revised General Plan. Most nonconforming approvals were located around the County's major corridors that include the Route 50 corridor, the Route 28 and Route 7 Interchange, the Route 7 corridor, and the Dulles Greenway Corridor (Route 267) where the cost of land tends to be greater than areas without access to significant infrastructure. Many of the non-conforming applications converted land planned for business use to residential use. The land areas planned for industrial uses west of Washington Dulles International Airport (along Old Ox Road) and the boundary between Suburban and Transition Policy areas south of Route 50 also attracted applications not in conformance with plan policy.

The approval of land development proposals that are not conforming with the current Revised General Plan is an indication of changing market conditions and potentially community preferences. This demonstrates the timeliness of the potential for reevaluation inherent in the Envision Loudoun process.

How will the new Comprehensive Plan relate to the Silver Line Comprehensive Plan Amendment (CPAM)?

Loudoun County is currently engaged in another planning process to create a plan for the new Silver Line Metro Stations and the areas surrounding them. This is being developed as a formal amendment to Loudoun's current Comprehensive Plan.

Throughout Envision Loudoun, planners will be working to fold in the new information and guidance that is being provided through the Silver Line CPAM process. Ultimately, when the new Comprehensive Plan is adopted, it will carry forward the Silver Line policies and strategies and coordinate them with other community policies.



2045 County Forecasts for Development

(based on the Revised General Plan Policies)

49,720

New Residential Units for a Total of 176,188 units

54 million

New Square Feet of Nonresidential Development for a Total of 144 million Sq. Ft.

Critical Planning Studies

Three ongoing planning initiatives or studies being undertaken by the County will likely have additional implications on future land use planning in Loudoun:

- 1. Silver Line Comprehensive Plan Amendment
- 2. Inventory of Nonresidential Development
- 3. Housing Needs Assessment

What amount and kind of development can the Revised General Plan support in the future? What can the market support?

Much of the Available Residential Land is Already Committed to Development

Loudoun County staff tracks development activity and creates forecasts for future developments using remaining lands available for development and the land use policies in the Revised General Plan. These analyses reveal that much of Loudoun County’s residential land, particularly land in the Suburban and Transition Policy Areas, is either developed or is considered “in the pipeline” with some level of development approvals. The remaining uncommitted or underdeveloped residential land that could be developed in the future is approximately 1/3 of available residential land in the Rural and Transition areas and only 2% of residential land in the Suburban. These forecasts do not include land use policy changes that may come about as part of the Silver Line CPAM changes to the Comprehensive Plan.

Under the current Revised General Plan policies, the Suburban Policy Area is close to build-out, and the Transition Policy Area buildout is expected to occur within the next 20 years.

The map on the next page illustrates the lands available for future development in the Transition and Suburban Policy Areas.

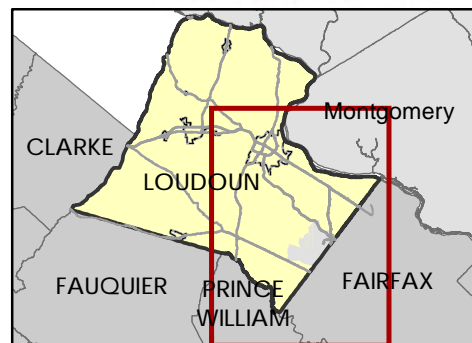
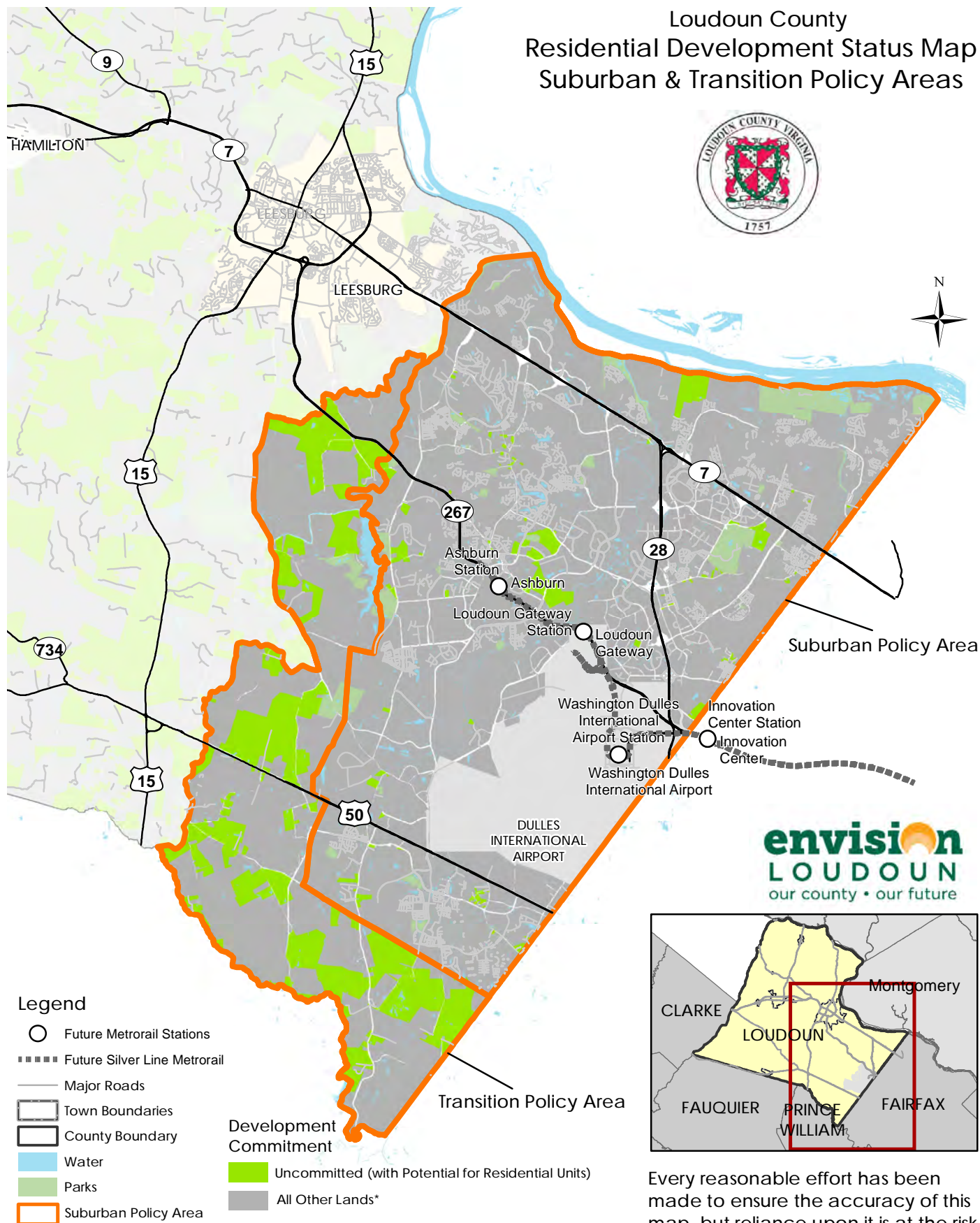
Land Available for Development in the Policy Areas

	RURAL	TRANSITION	SUBURBAN
acres available for residential development	82,600	7,400	1,200
% of total area remaining for residential development	36%	33%	2%

Policy Topic to Explore: Planning for Remaining Undeveloped Land in Loudoun County

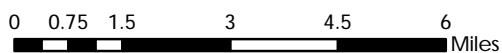
With limited land available for development in the Suburban and Transition Policy Areas, it is anticipated that these areas will be “built out” under current land use policies within the planning horizon of the new Comprehensive Plan. A critical question to answer through Envision Loudoun is whether or not the current land use policies should be amended to provide for additional demand for growth beyond what the current plan can support. This choice will be based on the values and aspirations of the community. Additional planning studies are underway that will help inform this policy discussion (see note to the left).

Loudoun County Residential Development Status Map Suburban & Transition Policy Areas



Every reasonable effort has been made to ensure the accuracy of this map, but reliance upon it is at the risk of the user.

*All other lands includes:
 -Committed and Uncommitted Property (Nonresidential Only)
 -Pipeline Development (with Residential Units)
 -Committed Property (with Residential Units)
 -Under Developed Property (with Potential for Residential Units)



February 10, 2017

There is Market Demand for Residential Units, Commercial Space, and Specialty Developments Like Data Centers

Loudoun will continue to be an attractive place for residential development given its geographic location in the region, school system performance, and notable quality of life measures. Demand for residential product will need to meet a wide variety of preferences, driven by attractiveness for families, young adults forming new households, and downsizing occurring in the Baby Boomer generation, as well as the County's assets, infrastructure, and hightech ecosystem. The extension of the Silver Line Metro into Loudoun County will create opportunities for higher-density residential that capitalizes on proximity to transit.

Demand for non-residential development will be driven by the addition of new households, the County's assets, infrastructure, and the County's high tech ecosystem. Retail users will follow new residential development, seeking locations that offer accessibility and visibility to an expanding customer base. Other employers seeking office and industrial space will locate in areas that serve their target needs. It is expected that retail and office space that is incorporated into mixed-use developments, like those proposed near the future Silver Line Metro, will be highly competitive.

There are seventeen million square feet of data center facilities completed, under construction, or planned. Future demand for data centers will need to be accommodated in places that have access to utilities, including electricity, water, and fiber. Supply of industrial and flex space is being outpaced by demand, resulting in low vacancy rates. As available greenfield sites in eastern Loudoun County become more limited, preservation of key tracts for targeted employment uses will be critical for future economic growth. This is particularly critical as the development of data centers is driving land prices up.

What trends could affect future development opportunities?

Office Space Requirements Per Employee are Declining

Nationally, average office space per employee has been on a long-term decline. Increasingly popular open floor-plans can accommodate more workers in less space. The decline is also attributable to fewer designated office spaces, reductions in size of electronics, and less reliance on paper and filing cabinets for on-site storage. Loudoun County's Fiscal Impact Committee (FIC) relies on an average factor of 200-250 square feet per employee for office space, depending on intensity. This average is higher than the estimated 150-square-foot per employee national average, reflecting a more suburban development pattern.

An increase in telecommuting is another contributing factor in the national decline in average space per employee. Working from home is on the rise. According to US Census data, the employed population over the age of 16 that rely on home workspace has more than doubled since 2005 and continues to rise. Many major employers are increasing the presence of shared 'hotel' work spaces for employees that are in the office only a portion of their time.

The Silver Line Will Open New Opportunities in the County

The County's connection to the regional Metrorail network through the Silver Line extension will have an impact on future development opportunities. The stations create an opportunity to address demand for a well-connected community. Specific planning for the areas around the stations is ongoing, and other Washington-area communities are taking advantage of new transit connections to increase the density of buildings around transit nodes. Design around transit is often complete streets, or streets that enable all forms of travel, from cars to buses to bicycles and pedestrians.

Catering to a Millennial Workforce Leads to a Focus on Mixed Uses

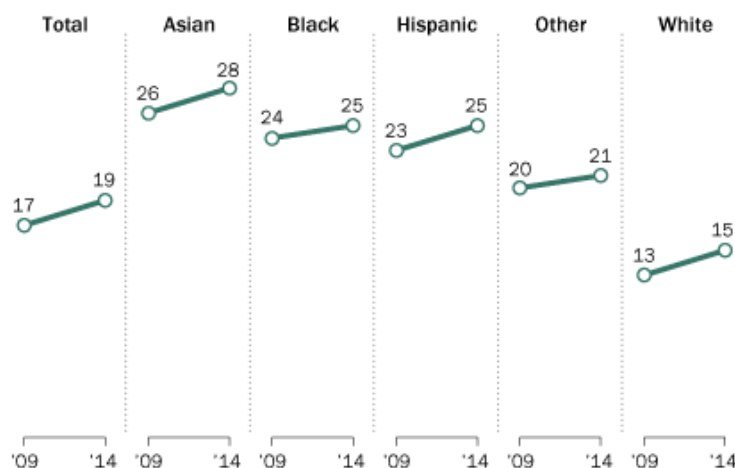
To attract top talent, many employers are focusing on employee satisfaction when considering locations and designs of office space. With a keen focus on the growing Millennial workforce - persons generally born between 1980-2000 - this is resulting in a resurgence for development

in urban or mixed-use locations. Employers in professional services, technology, and innovation sectors are shifting away from traditional suburban offices towards a “live, work, play” environment to enhance quality of life. This has more commonly taken shape through places where employees can walk to a cafe, movie, gym, or have a dinner with out-of-town colleagues or clients staying at a hotel nearby.

Growing Diversity May Lead to Demand for New Housing Types

National trends show that aging seniors, empty nesters, couples without children, millennials, and single person households may demand different housing types, public services, and lifestyle options than provided in the past. These trends may have an impact on how we plan for future development, particularly housing preferences. There is also a general trend toward more people living in multigenerational households (households where the kids remain home after school, where grandparents have moved in, or where extended family lives together). This trend exists across demographic categories. It also happens to be more pronounced in two minority populations that are making up an increasingly larger portion of the County: those identifying as Asian or Hispanic. Multigenerational households may require different types of units, with more bedrooms, bigger common areas, places for privacy, or other attributes that help accommodate growing household sizes.

% of population living in multigenerational households



Note: Hispanics are of any race. Asians include Pacific Islanders. Whites, blacks and Asians are single-race only and refer to their non-Hispanic component.

“Other” are single- or mixed-race non-Hispanics.

Source: Pew Research Center analysis of 2009 and 2014 American Community Surveys (IPUMS).

PEW RESEARCH CENTER

How has the design of developments in the County changed since the last Plan update?

In general, changes in the type, density, and design of new developments in Loudoun since the last plan update have leaned toward maximizing the yield within existing regulations to meet rising demand, and to create a finer grained mix of uses within individual developments. This includes more four-story townhomes and slightly smaller lots that are 80 feet instead of 100 feet deep to accommodate more dwelling units. Developers will sometimes strategically request zoning a site to a mixed use district to be able to build higher density housing, and to provide amenities to residents not found in other neighborhoods in Loudoun. In some cases, existing neighborhoods are expanded, placing larger burdens on existing neighborhood amenities, such as parks and recreational centers, to serve new households.

How is the County responding to market pressure for mixed use developments and increasing density?

In the Past, Loudoun County Has Identified Strategic Locations for Increasing Density

In small area plans undertaken since the last major Revised General Plan update, the County has provided increased opportunities for density. The Route 28 Corridor Plan in 2011 increased opportunities to build office clusters and mixed use centers, while increasing development potential within a core area. However, the Route 28 Corridor Plan likely needs to be revisited as few developments have chosen to build at the densities set out in the plan. The Silver Line CPAM planning effort (still in progress) may include opportunities for higher intensity and mixed use buildings.

Other areas that are still planned for suburban office style development remain under-built, such as the Keynote Employment Area west of Dulles International Airport. This is a potential opportunity area for reconsidering land use policies to accommodate more uses and denser development. Redevelopment of aging commercial centers and declining neighborhoods offer other opportunities to consider land use policy changes.

Still other areas are meeting the increased density through reuse of existing buildings for more intensive land uses, or through infill projects that make use of land that was passed over in previous waves of development and maximize development potential of the land.



Crescent Place Infill Development in Leesburg, Virginia

Policy Topic to Explore: New Opportunities for Mixed-Use Developments

Suburban communities across the nation are encouraging the development of compact and efficient community development using mixed-use designs. The design and character of these developments differ based on market demand and community character preferences. Should Loudoun County decide that more of these types of development would benefit the County and offer new housing and commercial choices demanded by residents, it will be important to clarify the scale, density, design, and function of these centers. It will also be critical to develop the right set of planning and regulatory tools to encourage this type of development.

How has the County planned for a balance of land uses to achieve fiscal sustainability?

Loudoun County Has Conducted Several Major Fiscal Impact Studies in Recent History

The purpose of fiscal impact studies is to test the impacts of land use and development choices on the County's bottom line. These activities are separate from the capital facilities and operational budget planning activities the County undertakes annually. Fiscal impact models are focused on determining the fiscal impact of different land uses on both the County's revenues (such as real property taxes), and expenditures (such as costs for new students to attend schools) so that land use policy decisions can be made with a more complete understanding of the fiscal tradeoffs. Loudoun County has conducted fiscal modeling in the past:

- As part of the last General Plan update in 2001,
- As part of the planning for a transit-oriented development community at the Rt. 772 (now Ashburn) station,
- To test out the fiscal implications of extending the Silver Line Metrorail to into Loudoun in 2012, and
- To test out land use policies for the areas surrounding the County's two Silver Line Metro rail stations as part of the ongoing Silver Line CPAM planning process.

These modeling efforts have helped the County's leaders understand the fiscal tradeoffs of different land use policies, enabling them to calibrate the policies so that the final fiscal results for the Route 772/Ashburn Station and the last General Plan update modeling efforts were fiscally positive.

Policy Topic to Explore: Right Mix of Land Uses Needed to Achieve a Fiscal Balance

Part of Envision Loudoun is to undertake an evaluation of different land use policy choices and their impacts on many aspects of community planning - including the County's fiscal health. While it is not the only consideration for determining what mix of land uses are appropriate for the future, it is a critical consideration, and this information will be shared with the public.

Sources of Information Used for this Section

Data on existing residential and commercial development were provided by the Loudoun County Department of Planning & Zoning using the most recent available data: Sept. 19, 2016 FIC packet for non-residential development, Oct. 27, 2016 FIC meeting packet Table A-5 for housing unit growth by type, and 2016 residential building permit data available on Loudoun County's Demographics and Data website. Buildout analysis was taken from the Oct. 4, 2016 staff report to the Board of Supervisors.

[Market and Fiscal Impact Analysis of the Phase 2 Metrorail Extension to Loudoun County](#)

[Metropolitan Washington Council of Government Data](#)

[The Economic and Fiscal Contribution Data Centers Make to Virginia - Northern Virginia Technology Council](#)

[Pew Research Center Report on Multigenerational Housing](#)

[Rt. 28 Employment Policies and Corridor Plan](#)

[Loudoun County Facts](#)

[Loudoun County Demographics Maps](#)

[Loudoun County Forecasts](#)

[Loudoun County Revised General Plan](#)

[Loudoun County Board of Supervisors Staff Report on Residential Buildout \(Oct. 4, 2016\)](#)

4. OUR HOUSING

The 2001 Revised General Plan states that 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. These policies include direction for the County to facilitate the development of an adequate supply of varied types of housing, both rental and for-sale, in locations throughout the County, and that this 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, the Revised General Plan includes policies for the development of a diversity of housing types in a broad range of prices in all areas of the County. Housing for special needs populations incorporating a programmatic approach are also addressed.

When this objective was set out, the number of housing units in Loudoun had increased by nearly 1000% over the previous half century. Nearly half of what existed in the year 2000 was built after 1990. In the decade and a half since the Plan was adopted, the number of housing units has doubled, reaching 129,733 by 2016. Growth of housing is expected to begin to slow as the County matures, but there is still significant demand from people who want to live in Loudoun County.

What is the status of housing in Loudoun County?

Single family homes are the predominant housing type currently in Loudoun County. Some of them are detached - completely separate structures from their neighbors - and some of them are attached to each other in duplexes, triplexes, or townhomes. The other major category is multifamily homes which are units within a building varying in size from a two unit building with one unit atop the other to a traditional multi-story apartment and condominium building near transit. The unit of analysis is the "dwelling unit" each of which is essentially a home of one of these varied types.

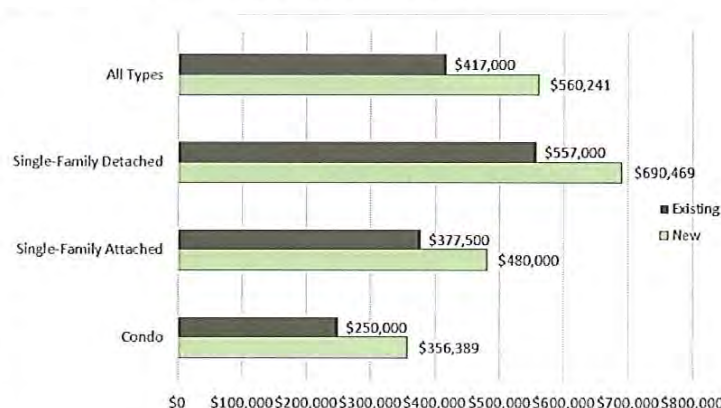
Housing Prices Remain Strong After Market Fluctuations

Housing in Loudoun was subject to the housing bubble and downturn in the mid to late 2000s but has had a relatively strong rebound. Between 2000 and 2014, median existing home prices in Loudoun County jumped 116%. Median rents jumped 75.5% over the same period. New housing commands a premium and is selling for an average of 34.3% over existing housing.

In 2000, 71.7% of homes were sold for under \$300,000. The percentage of sales in this category plummeted to 6.9% at the height of the housing bubble in 2006, rose again to 40.4% in 2009, and has since stabilized near 15%. Single family detached homes generally command the highest price, followed by single family attached homes and condo properties.

Rents in the Greater Washington Region have increased significantly since the year 2000. This effect was seen in counties on both sides of the Potomac. Loudoun's median rental price of \$1,674 per month was a 75% jump since 2000. In 2014, approximately 8,900 rental units were priced below \$1,500 per month, 11,300 were priced between \$1,500 and \$2,000 per month, and 6,500 were priced above \$2,000 per month in Loudoun County.

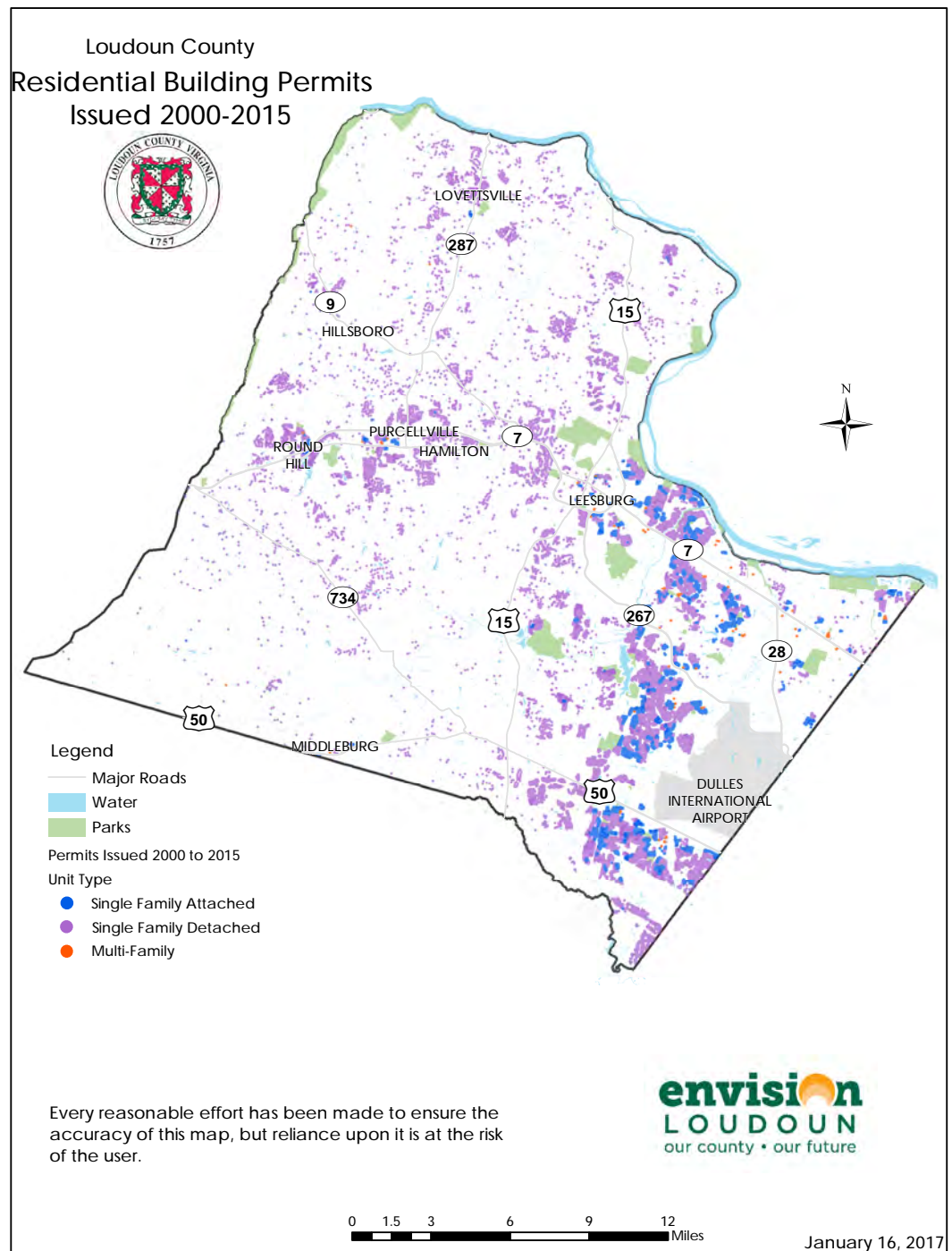
Median Home Sales Price, 2015



Source: Metropolitan Regional Information Systems (Existing), Loudoun County Clerk of the Circuit Court (New)

Residential Development Has Primarily Occurred at the Edge of the Suburban Policy Area

Over the past 15 years, construction of new housing has occurred throughout the County with the greatest number and diversity of permits occurring in the Suburban Policy Area. The map shown below illustrates the locations of units permitted between 2000 and 2015.



The following chart displays the number of development permits by housing type and Policy Area between 2000-2015. During this time period, approximately 65,700 units were approved countywide with the vast majority located in the Suburban Policy Area.

Development Approvals by Type and Policy Area (2000-2015)

	Single-Family Detached	Single-Family Attached	Multifamily Units	TOTAL
Suburban	15,600	18,500	11,400	45,500
Transition	4,000	700	100	4,800
Rural	5,800	-	-	5,800
Town & JMLAs	5,200	3,400	1,000	9,600
TOTAL	30,600	22,600	12,500	65,700

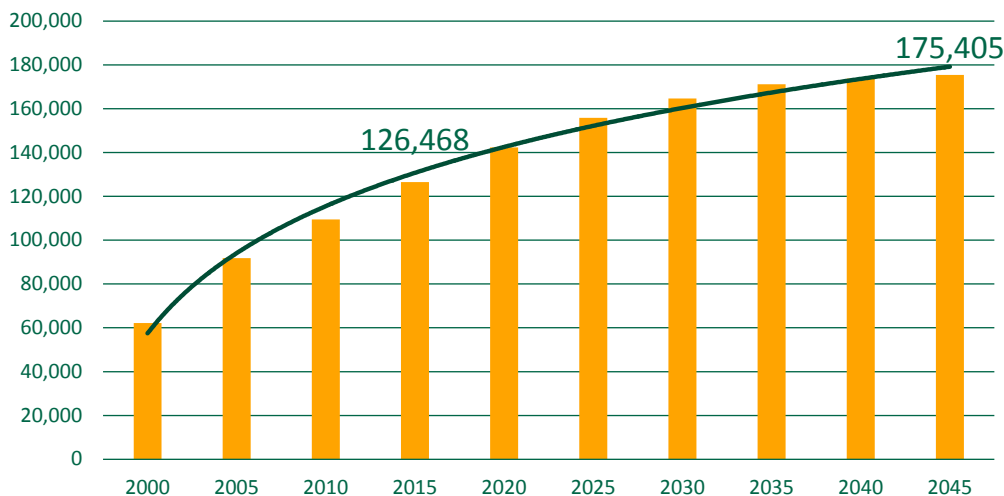
What is the expected demand for housing in Loudoun County through the planning horizon?

Loudoun County's Plan-Based Forecast Includes an Additional 50,000 Units

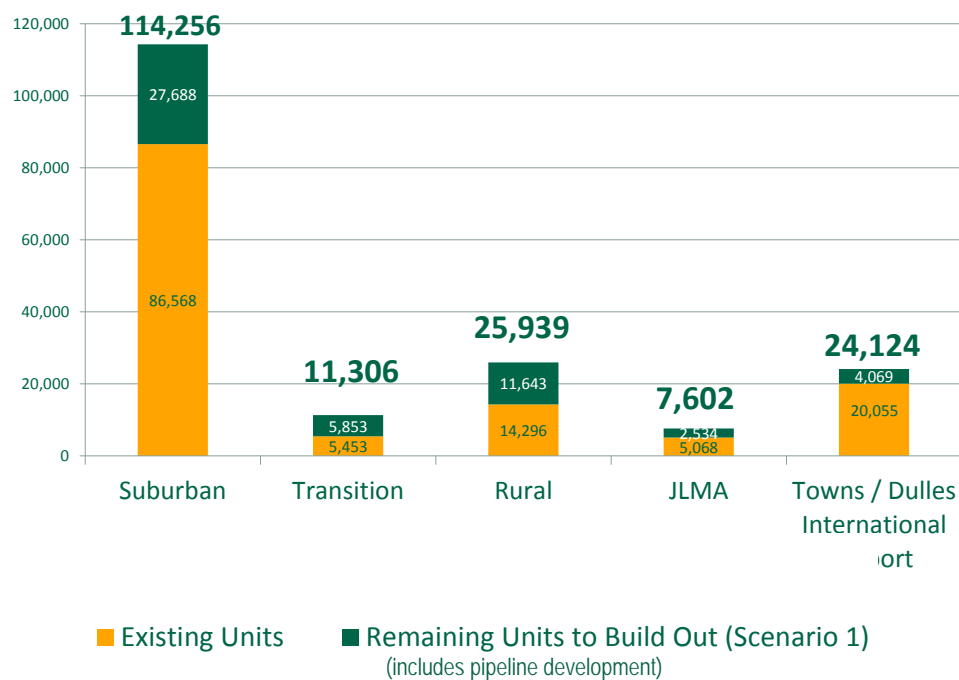
Loudoun County forecasts development of housing through the planning horizon (2045). These forecasts take into account existing development, residential development approved but not yet constructed (pipeline development), potential future housing development based on the land use policies of the Revised General Plan, permitting trends by neighborhood, and market demand.

By the year 2045, the forecast shows that the County will have 175,405 housing units, up nearly 50,000 from 126,468 in 2015. These forecasts do not take into account additional units that could be accommodated through the Silver Line CPAM land use policies that are in process of being finalized. If the Silver Line CPAM is adopted, additional residential units will be added to the Suburban Policy Area and countywide forecasts.

2045 Forecasted Housing Units



Under Current Land Use Policies, County Buildout Will Include 183,227 Housing Units



In 2016, Loudoun County prepared a residential buildout analysis to identify the number of units that could be developed under the current land use policies. While forecasts identify expected development through a certain point in time, buildout assumes that all available land is developed as planned for, and while unlikely to occur, it is a useful analysis to understand the potential for future development.

This detailed buildout analysis evaluated the residential development potential of all lands in the County. Broken down by Policy Area, the chart to the left demonstrates that the vast majority of existing and future buildout units are currently planned for the Suburban Policy Area, with remaining housing units available for development in the other four Policy Areas.

The Suburban and Transition Policy Areas are expected to reach buildout before 2045. However, there may be opportunities for redevelopment of existing developed areas.

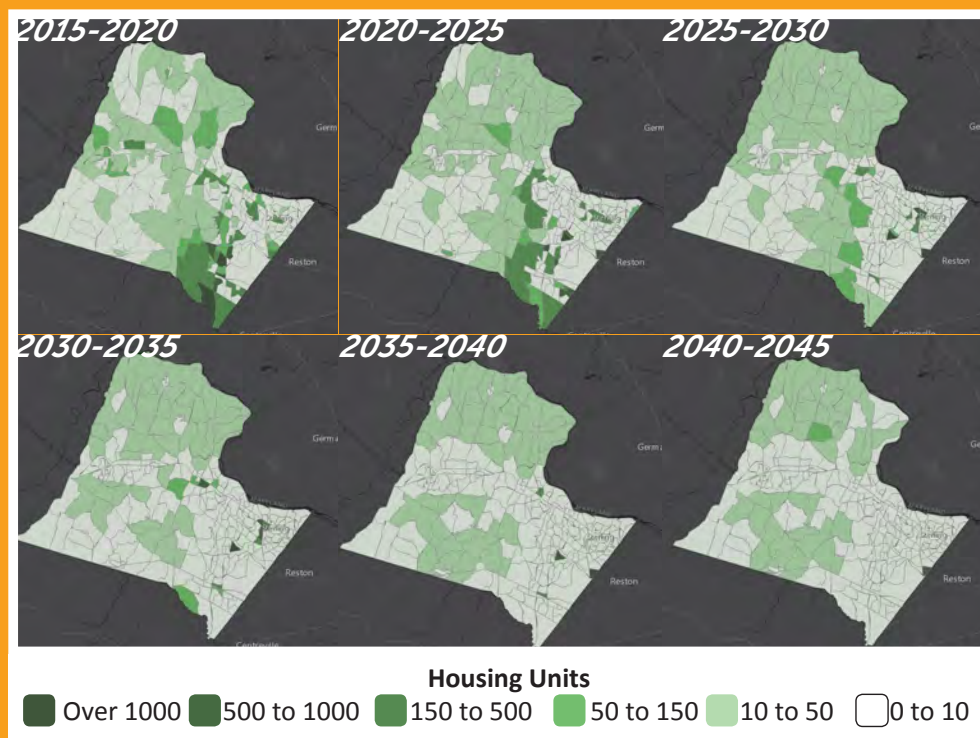
Included in the remaining units to build out are pipeline development projects that have received some level of development approval, but that have not fully completed construction of the housing development. These units, by Policy Area and unit type, are provided in the table below. In total, 29,000 units are included as pipeline development. The majority of these units are included in the Suburban Policy Area. An additional 2,700 units are included in the Transition Policy Area.

Pipeline Development by Policy Area (July 2016)

	Single-Family Detached	Single-Family Attached	Multifamily Units	Group Quarters	TOTAL
Suburban	835	4,709	16,637	483	22,664
Transition	3,135	-	102	-	3,237
Rural	1,309	-	-	-	1,309
JLMA	467	481	-	68	1,016
Towns/Dulles International Airport	686	442	373	0	1,501
COUNTY TOTAL	6,432	5,632	17,112	551	29,727

Housing Forecast Over Time

2015-2045



The six maps shown above illustrate housing growth forecasts from 2015 - 2045 in five year increments. Green areas are where development is expected to occur. Darker areas illustrate where more concentrations of new housing units are expected to be constructed during that time period. Loudoun County's housing forecast analysis, formed in conjunction with the Washington Regional Council of Governments, suggests that the Suburban Policy Area will generally achieve its planned build out first by 2025 (although areas by the rail stations and along Route 28 may take longer), followed by the Transition Area in 2035.

Policy Topic to Explore:

Implications of Achieving Housing Buildout

The Loudoun County housing forecast suggests that land available for new housing units within the Suburban and Transition Policy Areas will be built out by 2045 and possibly earlier. What this means is that if full build out is achieved under the current land use policies, there will be no land remaining for future growth in these Policy Areas, and will essentially mark the achievement of the current revised general plan. This buildout potential under the current Plan has implications for the County that will be considered during the Envision Loudoun process, including the value of housing and housing affordability, meeting demand for housing needs, fiscal impacts from reduced housing growth, and the implications of housing buildout on the local economy.

What demand for housing is not being met in Loudoun County?

A Housing Needs Assessment Study is being prepared for Loudoun County to forecast demand for housing and potential housing gaps within the County that exist today. The Envision Loudoun planning process will use this information to inform policy discussions undertaken by Loudoun residents and leaders.

Policy Topic to Explore:

Accommodating Future Housing Demand

The County's Housing Needs Assessment is being developed to identify housing needs for the future. In light of the near term residential buildout expected within the Suburban and Transition Policy Areas, understanding demand within this planning horizon is an important consideration for the County. The findings of this report will be important to consider whether or not land use policies should be amended to accommodate additional growth in the future.

Existing County Programs Help to Establish a Broad Range of Housing Prices

The County operates several programs to help provide affordable housing including: the federally funded Housing Choice Voucher rent subsidy and the Community Development Block Grant programs and several homeownership loan and home improvement programs. The County has also used Board-allocated monetary proffers to help non-profit affordable housing developers, such as Habitat for Humanity and the Good Shepherd Alliance, to purchase and renovate affordable housing. Affordable housing in the form of Low Income Housing Tax Credit apartments and other programs, developed by the private sector, are also located throughout the County, including in Middleburg, Purcellville, and Leesburg.

Not all residents of Loudoun or potential residents who are employed in Loudoun can afford the rents or purchase prices of available homes. To address this constraint to the workforce, the County operates an Affordable Dwelling Unit (ADU) program (including both rental and units for purchase) that requires new residential development to include affordable units, and an Unmet Housing Needs (UHNU) program consisting of proffered workforce housing units. ADUs are a zoning requirement for new residential development and UHNUs have been negotiated as part of residential zoning approvals. Most (88%) of them are in the Suburban Policy Area near employment and transit and where most new development has been located. There are a few ADUs in the Rural Policy Area. All total as of October 2016, there were 2,472 ADUs and UHNU units in the County.

Through build-out, the number of ADUs and UHNUs could increase to 4,556 units. These units are typically sold to the new homeowner with an affordable housing deed restriction that allows for the market sale of the home after 15 years, so long as the profits from the sale (the difference between the affordable sales price and the market sales price) are split between the homeowner and the County.

By 2045, over 2,100 ADUs will have passed the 15 year mark and could conceivably be sold back into market rate status, with an additional 336 ADU rental unit covenants also expiring. This represents the potential loss of nearly half of the potential buildout stock of affordable housing units in Loudoun.

Affordable Units with Deed Restrictions

2,472

*existing affordable units
(2016)*

4,556

*potential affordable units to
be built (2045)*

-2,436

*affordable units potentially
vulnerable to loss due to
deed restrictions timing out
(2045)*

Policy Topic to Explore:

Ensuring an Adequate Supply of Affordable Workforce Housing

By 2045, half of the affordable housing stock that is forecasted to be developed by that time could potentially become market rate housing. This could have a significant impact on the local economy, as many industries need affordable housing for recruiting employees. Current affordable housing policies and regulatory programs will be revisited during the Envision Loudoun process to further evaluate options for ensuring an adequate supply of affordable workforce housing in the future. New solutions can also be explored, such as encouraging development of smaller market rate units that tend to be more affordable.

Sources of Information Used for this Section

Forecasts for residential development were provided by the Loudoun County Department of Planning and Zoning's December 2016 update, available on the Loudoun County Demographics and Data website. The Residential Buildout Analysis results were pulled from the Oct. 4, 2016 Board of Supervisors Staff Report on the same topic.

Loudoun County Housing Needs Assessment (Preliminary Existing Conditions Data)

[Loudoun County Build Out Analysis](#)

[2001 Revised General Plan](#)

[Loudoun County Data and Demographics Website](#)



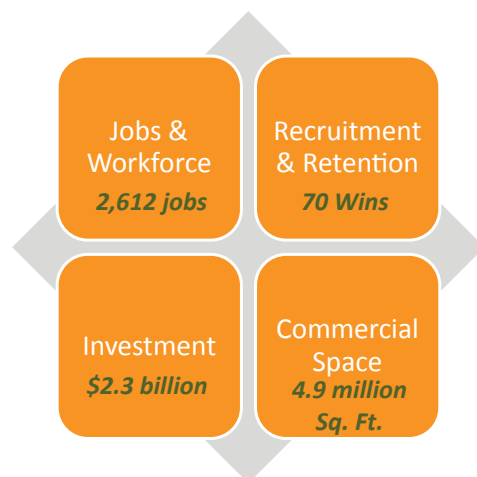
5. OUR ECONOMY

Over the last 50 years, Loudoun County's economy has undertaken a dramatic shift from an agricultural production center, to a world class center technology and business center. The County has a strong economic base and is focused on growing its key industry clusters while further diversifying the local economy.

What are the key factors used to determine the health of Loudoun County's economy?

Loudoun County's notoriety for offering a superior quality of life has not only benefited residents, but also supported the attraction of a diverse commercial base. The County's Department of Economic Development tracks four key metrics on a monthly and annual basis to determine the overall health of the local economy: jobs and workforce, recruitment and retention of companies, investment, and commercial space. Three of the four factors are highlighted here, with indicators regarding jobs and workforce detailed later in this section.

Key Performance Metrics (2016)



Recruitment and Retention

Fiscal year (FY) 2015-2016 was a period of strong continued growth for Loudoun County. In the last year, the Loudoun County Department of Economic Development has directly worked with 70 companies, resulting in retention, expansion, or new recruitment. These 'wins' retained or created over 2,600 jobs for the County, and are a significant increase over the 57 wins the previous year. These efforts are shaping a more diverse economy that is less dependent on government contractors than most other counties in the region.

Investment

For FY2016, Loudoun County attracted nearly \$2.3 billion in commercial investment. The FY2016 measure represents the largest annual influx of new commercial tax revenue since the County began tracking the measure, and is a sizeable increase over the \$1.3 billion investment in FY2015.

The recent momentum in the data center sector has been a driving force in the rapid escalation in commercial investment. Per the 2016 year-end report by the Department of Economic Development, data centers are generating \$120 million in local tax revenue each year. This contribution to the revenue stream helps to fund government operations, keeping resident tax rates low.

2015-2016 Loudoun County Business Wins

- Airbus
- Saab
- Black Hops Farm
- Solebrity
- JK Moving Services
- PepperPath
- Hydro
- Brickyard
- FCI Federal
- Pilot Malt House
- Hanley Energy
- Xgility

Loudoun County was named

**#1 in business
investment**

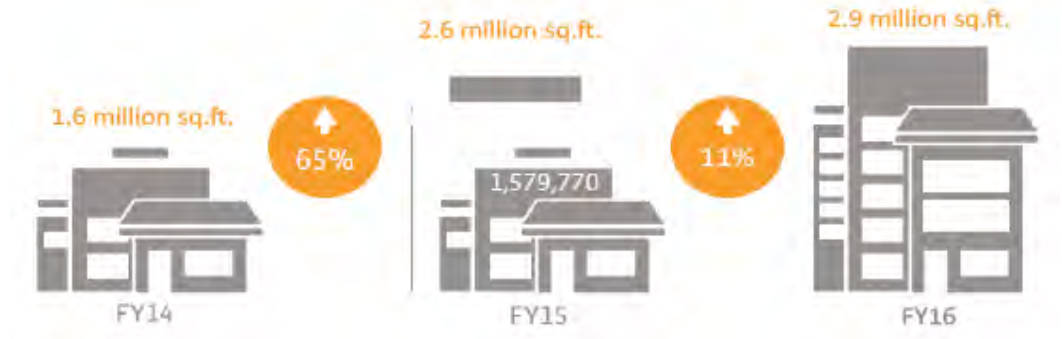
in Virginia

-SmartAsset, 2015 and 2016

Commercial Space

Loudoun County measures new non-residential space in terms of square footages recorded on pulled building permits. Annual commercial building permits have increased significantly from 1.6 million square feet in FY2014 to 2.9 million in FY2016. Flex space, which includes data centers, has comprised a large share of the total commercial permits in the last three years.

New Non-Residential Building Permit Trends

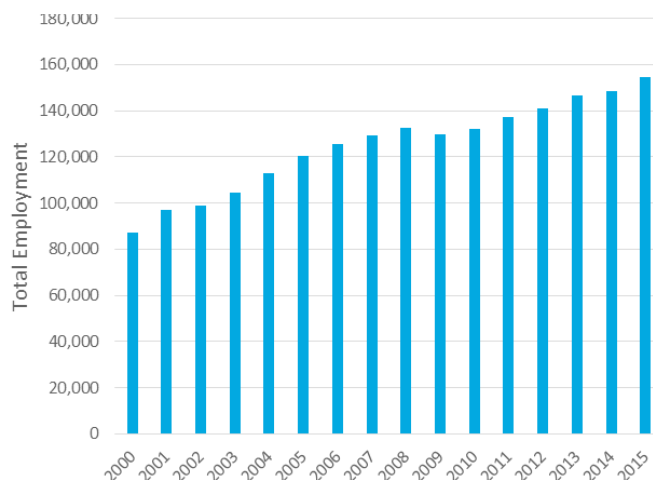


What industries are contributing to Loudoun County's economy?

Employment in Loudoun County has increased nearly 77% since 2000, adding over 67,000 new jobs in a 15-year period. Since 2000, the rate of annual job growth in Loudoun has averaged 3.9%, with only one year of net losses in 2009, during the 2007-2009 Recession. Momentum in Loudoun's job base has been influenced by activity in the surrounding region, proximity to Dulles International Airport, a growing information and communications sector, agritourism, and a robust increase in households requiring a wide array of services.

Loudoun County's surge in service-based jobs has mimicked regional and national trends. Nationally, service jobs make up a majority of the total employment and cover a wide expanse of industry sectors, most notably retail and wholesale trade, professional and business firms, healthcare, education, food and hospitality, and government. The national growth in service jobs began accelerating in the 1960s while manufacturing jobs have remained largely stagnant. More than three out of every four jobs in the national economy are service-related, and this sector's dominance is only expected to increase.

Historical Employment in Loudoun County (2000-2015)



2/3

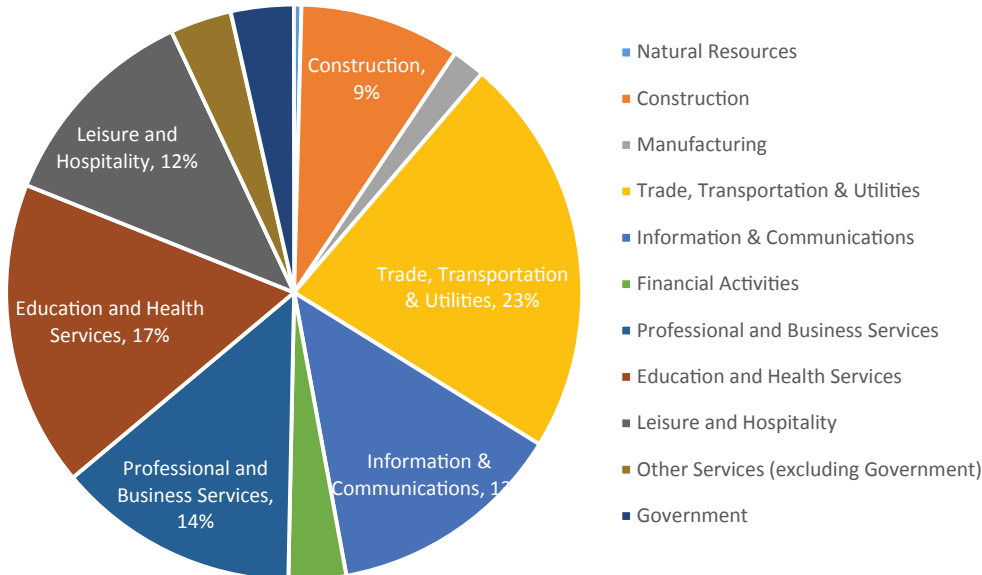
of total jobs in
Loudoun County
are in 4 sectors:

Trade, Transportation, and Utilities
Education and Health Services
Professional Services
Information and Communications

Loudoun County's largest employment sectors in 2015 were Trade, Transportation, and Utilities, Education and Health Services, Professional Services, and Information and Communications. Together, these four sectors comprised approximately two-thirds of the total jobs in the County.

Since 2000, four industries have more than doubled their total employment demonstrating extremely strong growth in the last 15 years. The County's largest absolute increase in the last 15 years was in Education and Health Services, growing by nearly 17,000 jobs, or 166%. This sector is particularly influenced by population growth, as both education and health jobs directly serve residents. Although the County has measured notable job growth, increases in population have been stronger. Since 2000, the number of jobs per resident has gradually declined from 0.51 in 2000 to 0.41 in 2015.

Share of Loudoun County Jobs by Industry (2015)



Entities Employing 1000+ workers in Loudoun

1. Loudoun County Public Schools
2. Loudoun County Government
3. Verizon Business
4. U.S. Department of Homeland Security
5. Orbital ATK, Inc.
6. United Airlines, Inc.
7. M.C. Dean, Inc.
8. Inova Loudoun Hospital
9. Raytheon Company
10. U.S. Postal Service
11. AOL, Inc.

175 Businesses Have 100 or More Employees

Policy Topic to Explore:

Building on Loudoun's Competitive Advantage

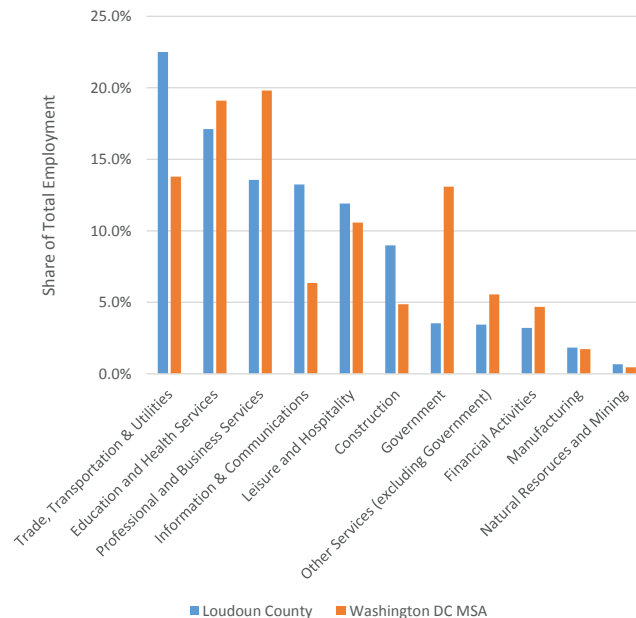
Building off the County's competitive advantages, the Loudoun County Department of Economic Development is undertaking an effort to prepare an Economic Development Strategic Plan that will identify key strategies and initiatives for growing and diversifying the local economy. The Envision Loudoun process provides an opportunity to reinforce these objectives and evaluate capital infrastructure and land use planning objectives that can support this new economic development strategy.

How does Loudoun County's job base compare to the region?

The 154,500 jobs in Loudoun County in 2015 represented 5.1% of the 3.0 million jobs in the 24-city and county Washington-Arlington-Alexandria Metropolitan Statistical Area (MSA). Driven by new job growth, Loudoun County's capture of the total regional job base has increased from 4.2% in 2005 to 5.1% in 2015.

Industries in Loudoun County that capture the highest shares of regional growth include Information and Communications, Construction and Trade, Transportation, and Utilities, largely driven by proximity to the Dulles International Airport. Each of these sectors comprised approximately 10% of the regional job base.

Share of Total Employment (2015)



Up to 70%
of the world's
internet traffic

passes through data
centers located in
Loudoun County on a
daily basis

Although, the development of data centers has recently escalated in Loudoun County, these facilities host a limited number of jobs. Momentum in Information and Communication sector is largely attributable to the steady growth in other high-tech jobs, many beginning as small start-ups established by entrepreneurs. While data centers don't create a significant number of jobs alone, they attract a skilled labor force that can be shared across many high-tech company profiles. Additionally, these facilities generate significant local property and state income tax revenue.

Agricultural businesses in western Loudoun County, including wineries, breweries, farms, and equestrian facilities, have increasingly become an attractor for tourism. Although Loudoun accounts for 18% of the total agriculture jobs in the entire region, this impact is likely undercounted as data from the State only includes full-time equivalent jobs. Estimates by Woods & Poole indicate that Loudoun County's total farm employment in 2015 was over 1,800 positions.

Policy Topic to Explore:

Keeping Pace with Market Innovation and Changing Conditions

Businesses operate in an ever evolving and quickly changing global and regional context. One of the tenets of the Envision Loudoun process is to develop strategies that will allow Loudoun County to maintain flexibility in times of change, and as new opportunities and challenges spur priority shifts. This planning process provides an opportunity to evaluate how that flexibility can be best manifested, such as through further diversification of industry sectors in the County, while also reinforcing the community's core values with respect to economic development and quality of life.

How are different commercial real estate sectors performing in Loudoun County?

Office Space

There is more than 195 million square feet of multi-tenant office space in the Washington DC/northern Virginia market, including DC, Alexandria, Arlington County, Fairfax City/County, Loudoun County, and Prince William County. Loudoun County's 17 million square feet of space accounts for 9% of the regional total.

Regionally, vacancy rates have been on the rise, impacted by the Recession, more efficient use of office space, and consolidations of professional service firms, most notably legal firms. In the last year, the region's strongest concentrations of leasing were reported in Rosslyn, Reston, and Tysons Corner. Office vacancy in Loudoun County is estimated at 13%, lower than the 18% regional average.

Office space in Loudoun County is largely represented by suburban-style office campuses. However, Class A office space offered as part Loudoun Station, located next to the future Silver Line Metro, currently achieves notable rent premiums, representing one of the few vertically mixed-use developments currently underway.

Industrial and Flex Space

A variety of users are seeking industrial or light industrial spaces in Loudoun County. The County is offering access to key transportation corridors, available utility infrastructure, and proximity to Dulles International Airport. Industrial space vacancy rates in the Washington DC region are nearing historic lows. Industrial vacancy in Loudoun County was estimated at approximately 5%. Vacancy for warehousing and transportation space is expected to remain low in Loudoun County given a limited pipeline of new construction due to elevated land values from data center growth.

Flex space, or space constructed in a way that can accommodate a variety of office and light industrial users, also has a low vacancy rate in Loudoun County at 7%. In fact, Loudoun has the lowest flex space vacancy rate of any tracked county in the region. The low vacancy rates in Loudoun County are primarily due to limited new supply, as well as competition for well-located space with non-traditional users, including data centers, breweries, gyms, and churches.

Data Centers

Data centers represent one of Loudoun County's most active real estate sectors. Loudoun hosts more than 70 data centers with approximately 10 million square feet in operation and another seven million square feet in the development pipeline. While these facilities generate high-paying jobs, the number of employees required for daily operation is lower than a traditional office building. In fact, approved assumptions by the Fiscal Impact Committee (FIC) show that the average data center in Loudoun County averages 3,700 square feet per employee compared to 200-250 square feet for professional office space and 600 square feet for flex/industrial. Data centers are also fiscal winners for the County, with every dollar on public services spent on data centers generating \$9.50 in tax revenue.

Retail

Driven by momentum in the residential sector, Loudoun County currently has 15.5 million square feet of retail space. The increase in new retail space is further exhibited in recent employment trends, with the Retail Trade sector nearly doubling in size since 2000. Retail Trade jobs now account for 12% of all employment in the County.

Performance in Loudoun County multi-tenant retail space varies by location, year constructed, and product type. Driven by demand generated by rapid population growth, the average 4% retail vacancy rate in the County is lower than the region's 5% rate.

Loudoun's Employment Spaces by the Numbers

**17 million
square feet**

Data Centers

(new, under construction, or approved)

**17 million
square feet**

Office Space

**15.5 million
square feet**

Retail Space

7%

vacancy rate

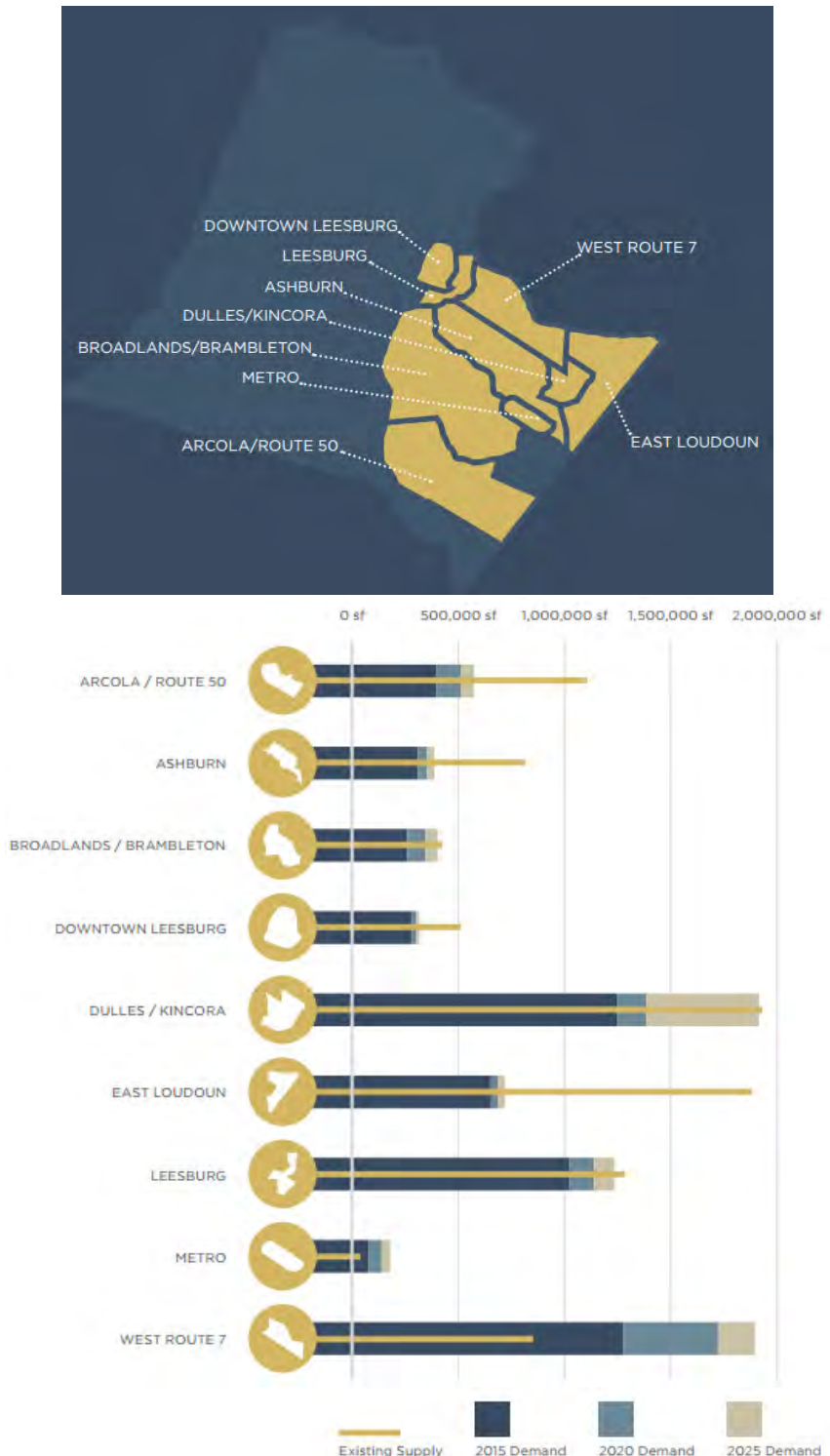
Flex Space

*(lowest vacancy rate for flex space in the
Washington Metro Region)*

The Retail, Entertainment, and Culture Cluster Study, prepared for Loudoun County by Streetsense in 2016, compares existing supply with future retail demand for nine submarkets in the eastern part of the County. As shown in the graphic below, four of the nine submarkets have a current inventory that exceeds demand. Demand is based on a combination of households, income levels, visitors, and employment. In fact, only the West Route 7 submarket demonstrated any notable future demand for construction of new retail product that is not already in the development pipeline.

In the future, retail development will continue to be impacted by a shift towards e-commerce. While technology is likely to reduce overall demand in the future, it will not replace the need for brick and mortar stores. Many consumers are shopping for the best deals using both online and in-store options.

Projected Retail Demand by Submarket (2015)



Policy Topic to Explore:

Fostering Growth and Revitalization of Commercial and Employment Areas

Some office developments in Loudoun are no longer performing as successfully as they once did. Market dynamics are changing for employment space, and the County must consider the types of developments that are going to be most successful in achieving Loudoun's economic development objectives. Envision Loudoun will include assessments of alternative employment designs that can be considered for the areas zoned and/or planned along Route 7, for office development along Loudoun County Parkway, areas such as the Keynote corridors, and potentially other locations where employment development is desired. This includes strategies to revitalize and redevelopment aging commercial and employment centers, and to plan for needed capital facilities to support future commercial and employment businesses.

How competitive is Loudoun County's workforce?

Loudoun County is nationally recognized as having a highly-educated workforce with 60% of residents over age 25 having earned at least a Bachelors degree. As a point of comparison, 58% of residents in the larger Washington DC SA and 30% nationwide have the same levels of education. There are seven higher education facilities located in Loudoun County, furthering the creation of an educated and skilled workforce.

An evaluation of the consumer spending patterns and lifestyle attributes of Loudoun County households reveals that more than 50% of householders in each of the top three segments hold a Bachelor's degree, have high labor force participation, and most have two working professionals. Common employment industries include science, technology, healthcare, law, and finance.

Wages

Average wages in Loudoun County have increased 13.2% from \$54,132 in 2000 to \$61,256 in 2015. Comparably, wages in Loudoun County are lower than the \$71,556 measure reported for the larger Washington DC MSA in 2015. The sectors with the highest annual wages in Loudoun County in 2015 were Information, Manufacturing, Financial Activities, and Professional Services.

Wages generated by momentum with data center development is captured in the Information sector. While data centers typically generate wages far above the annual average for Loudoun County, the sector only accounts for 4.8% of the total employment base.

Accolades for Higher Education Attainment

Loudoun County has received numerous accolades based on demonstrated education levels:

Ranked **#5** nationally in 2015 for jurisdictions with a population 65,000 or greater

Ranked **#9** nationally for the 2010-2014 period out of all jurisdictions in the nation

60%
of Loudoun County residents
over the age of 25 hold a
Bachelor's or Graduate/
Professional degree

Loudoun's Key Industry Clusters

- Data Centers
- Information and Communications Technology
- International
- Federal Government Contracting
- Aerospace and Defense
- Aviation and Transportation
- Health Innovation and Technology
- Agriculture and Related Businesses

What is the County's current economic development approach?

Loudoun County's Department of Economic Development is growing the local economy through three main strategic approaches: targeting key industries, supporting recruitment and expansion through strong business assistance programs, and assisting businesses with incentives and workforce training opportunities.

Targeting Key Industries and Foreign Investment

Loudoun County's Department of Economic Development strategically pursues industry clusters through recruitment and laying the groundwork necessary for its key industries to succeed. By focusing on targeted complementary clusters, the County grows its brand and economy together, with the two mutually reinforcing each other. Targeted industries are shown to the left. Courting foreign investment is also a key strategy for the County. The County can highlight its location near the capital and Dulles International Airport, data and technology sectors, community amenities, and its access to the global stream of commerce through connections to major transportation networks to market to foreign investors.

Business Recruitment and Expansion Support

The County works with existing and prospective businesses interested in locating in Loudoun to connect them with the resources needed. This includes guidance navigating business startups, serving as a clearinghouse for non-profit and government resources for small businesses, site location assistance, providing assistance for businesses going through the County's development process, and sharing information about the Fast-Track Commercial Incentive Program and other incentive, tax, and financing programs.

Workforce Training and Recruitment

The Department of Economic Development offers businesses with a variety of workforce training and recruitment services aimed at ensuring that firms are accessing top talent and workers are staying on top of job skills training. The Department works with local and regional partners, such as the Northern Virginia Workforce Development Board, the Workforce Resource Center, Loudoun Small Biz, higher educational institutions, and other partners to connect employees and employers with each other and training opportunities.

New Economic Development Strategic Plan

A full Department of Economic Development Strategic Plan is currently in production and will hone the strategies that will be used to realize Loudoun's economic potential. This Strategic Plan will be the key driver of economic development goals and strategies within the new Comprehensive Plan.

#LoudounPossible

The Office of Economic Development provides active assistance to aid the growth and development of local businesses including a video platform for owners to tell their own success story.



What are the preferences of prospective businesses with respect to employment environments, transportation needs, and overall quality of life for Loudoun's targeted industries?

Innovation and Technology Service Sectors Are Demanding Mixed-Use Business Environments

In recent years, traditional employer location preferences have begun to shift, focusing on employee desires in order to attract top talent. Employers anticipate that their employees are more satisfied in places that offer diverse, connected land uses. Given a focus on employee satisfaction, particularly young talent, urban or mixed-use locations have experienced a resurgence. The innovation and technology service sectors exhibit these new preferences more noticeably than many other industries.

Quality of Place and Lifestyle are a Key Factor in Target Industry Decision-making

Consideration of quality of place and lifestyle will be an important consideration for several of Loudoun County's target industries, most notably Information and Communications Technology. As previously noted, innovation firms have more often demonstrated a shift to selecting locations that offer key quality of life measures including walkability to services, access to alternative transportation modes, and nearby housing. Locations near future Silver Line Metro stations will offer key opportunities for development that meets the evolving needs of these tenants. The County has actively pursued lifestyle upgrades, including taking steps to cultivate a more active and robust nightlife for its residents through the work of the Nighttime Economy Ad Hoc Committee.



Infrastructure and Location

Several of Loudoun's target industries for economic growth are driven by location decisions that will continue to use more traditional site selection metrics, most notably inherent location and infrastructure accessibility. These sectors include data centers, federal contracting, aerospace and defense, aviation, and agriculture. These industries benefit from Loudoun's transportation corridors, proximity to Dulles International Airport, proximity to Washington, DC, access to utilities including fiber optics, industry clustering, and land affordability.

The success of one sector can become critical infrastructure for another sector. For example, the success of aviation - related services dependent on Dulles International Airport can improve service and make the County more attractive to Federal contractors. In the County's promotional materials for attracting the health and medical research industry, it includes the nearby data center cluster as necessary processing power that can help run more sophisticated research.

Traditional Site Selection Factors

1. Proximity to skilled labor
2. Access to highways
3. Site and land availability
4. Access to utilities
5. Energy availability
6. Industry clustering
7. Incentives and tax rates
8. Housing options
9. Quality of life

Some industries are also becoming more interested in locating in connected and vibrant communities that foster innovation and provide employees with desired urban amenities.

Rural Economy by the Numbers

Loudoun County's impressive rural businesses add significant value to Loudoun's economy:

\$117 million

value of land, buildings, machinery, equipment, and ag products sold

1,387

tons of grapes produced

\$2 million

value of grapes produced

\$36 million

value of wine produced

\$180 million

economic impact of equine industry

1,396

USDA farms

How have rural and agricultural policies and the promotion of the agricultural industries impacted the local economy over the last decade?

Industries present in Western Loudoun including art, tourism, traditional agriculture, equine sports, hospitality services, and agribusinesses account for over 4,700 jobs. Other industries such as wedding/event venues, vineyards, and food (restaurant or artisanal production) do not have formalized industry reporting, but account for additional jobs and sales within the rural economy. The statistics shown to the left illustrate the value of these industries to Loudoun. The open spaces and agritourism of western Loudoun can also be seen as an amenity that can help attract residents and businesses to other parts of the County.



Sources of Information Used for this Chapter

[2016 Virginia Data Center Report](#)

2012 Targeted Cluster Analysis & Strategy Report

[Core Values: Why American Companies are Moving Downtown](#)

[The Long View: A Business Development Plan for Loudoun County's Rural Economy](#)

[Market and Fiscal Impact Analysis of the Phase 2 Metrorail Extension to Loudoun County](#)

[Nighttime Economy Ad-Hoc Committee Report](#)

[Preferred Office Locations - National Association of Industrial and Office Property Research Foundations](#)

[Retail, Entertainment & Culture Cluster Study](#)

[U.S. Census OnTheMap](#)

Environmental Systems Research Institute

[Visit Loudoun Visitors Guide](#)

[Additional Loudoun County Department of Economic Development Analytic and Promotional Materials.](#)

[Bureau of Labor Statistics, Virginia Labor Market Information](#)

[2011-2015 American Community Survey, Five-Year Estimates](#)



6. OUR COMMUNITY INFRASTRUCTURE

What community infrastructure does Loudoun County provide?

Loudoun County provides high quality and award winning public services and facilities to its citizens. In fiscal year 2017, Loudoun County's budget for County operations and capital facilities totaled nearly \$2.5 billion. The County's public facilities are located on 535 properties totaling 8,151 acres of land that are either owned or leased by the County.

Loudoun County Public Facilities

Types of County Facilities	#	Example Facilities
General Government Facilities	20	Government Center, storage/warehouse, offices, Community Corrections, Health Department soil labs
Fire and Rescue Facilities	26	Fire stations, public safety centers, Fire-Rescue Support
Sheriff Facilities	16	Sheriff stations, community policing offices, administrative offices
Parks	62	Community parks, nature preserve, regional parks
Recreation Centers	12	Community centers, Potomack Lakes Sportsplex
Waste Management	3	Loudoun County Landfill, Lovettsville Recycling Center, Wastewater Treatment System
Parking	8	Park and ride lots, staff parking lots
Loudoun County Public Schools		
Administrative	6	Loudoun County Public Schools Administrative Building, Instructional Materials Center, Warehouse, Valley Services Center
Elementary Schools	54	
Middle Schools	12	
High Schools	16	
Technology Center	1	CS Monroe Technology Center

The vast majority of residents living in Loudoun County live in the Suburban Policy Area. To provide efficient public services, the County has located public facilities in close proximity to its residents, and therefore most of the public facilities that provide direct services to residents (such as parks and community facilities) are located in the eastern portions of the County. The locations of these public facilities are shown on the map on the following page. To make the map easier to read, it focuses on public facilities located in eastern Loudoun County, but there are additional facilities located in western parts of the County as well.

Loudoun County Public Facilities

535

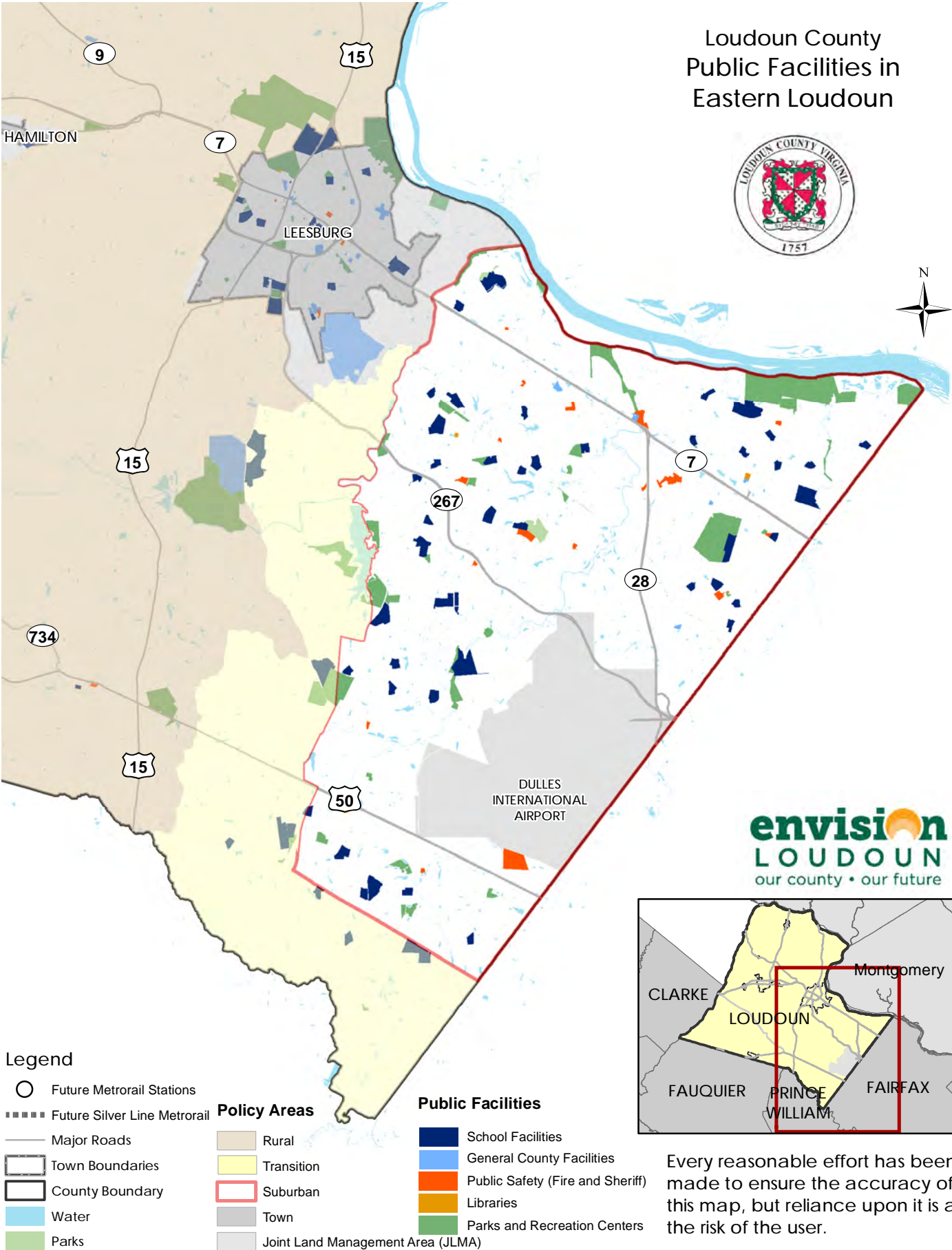
Properties (owned or leased)

8,151

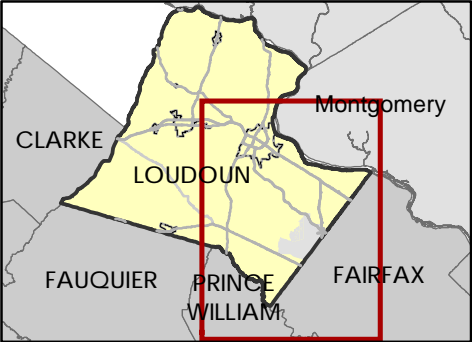
Acres of Owned/Leased Land



Loudoun County Public Facilities in Eastern Loudoun



envision
LOUDOUN
our county • our future



Every reasonable effort has been made to ensure the accuracy of this map, but reliance upon it is at the risk of the user.

January 15, 2017

How does Loudoun County plan for future capital needs?

Loudoun County has a sophisticated capital planning system for a County its size. The system includes several key planning and analysis tools described below.

Fiscal Impact Committee (FIC) and Fiscal Impact Committee Guidelines

As an advisory committee to the Board of Supervisors, the FIC reviews assumptions about future growth and capital facility needs, and provide recommendations for use in the County's long-range planning. The Committee develops forecasts based on current approved development projects, and anticipated growth as guided by land use policies in the Revised General Plan. These forecasts of housing, population, development, and employment are documented in the Fiscal Impact Committee Guidelines, adopted by the Board of Supervisors. The FIC also reviews and advises on updates to the County's capital planning guides listed below.

Capital Facility Standards (CFS)

The CFS outlines the type, acreage and size of future capital facilities, along with "triggers" based on population, population within a given age group, or geographic factors. These standards are reviewed every two years by the Fiscal Impact Committee and ultimately adopted by the Board of Supervisors.

Capital Needs Assessment (CNA)

The CNA serves as the linkage between the policy guidance provided in the Comprehensive Plan and the specific capital projects that are included in the Capital Improvement Program (CIP). The Capital Needs Assessment uses the County's forecasted population growth in the Fiscal Impact Committee Guidelines, and the adopted Capital Facility Standards (CFS) to identify the type and number of capital facilities that will be needed to serve the public over a ten-year planning period beyond the CIP. This analysis is conducted for planning subareas (see map on the next page), and the CNA is updated every other year.

Capital Improvement Program (CIP)

The CIP sets out short-term capital planning needs for six fiscal years that includes individual projects and their associated funding sources. The CIP facilitates land acquisition, facility design and construction, and procurement of capital equipment; and considers both capital and operational costs of new capital projects and any debt service requirements.

The CIP is developed as a biennial budget with the same six-year planning period in place for two years and two new years added every other year. Projects included in the CNA comprise the majority of projects considered for inclusion in the CIP, but not all projects included in the CNA for a given fiscal year are always approved as part of the CIP. The inclusion of projects in the CIP depends upon the need for the facility, available land, local tax revenues available to achieve the 10% "pay as you go" local financing requirement, and debt capacity.

ABCs of Capital Planning

CFS

Capital Facility Standards:
standards used to forecast
future capital planning needs

CNA

Capital Needs Assessment:
identifies capital needs for the
ten year period after the Capital
Improvements Program

CIP

Capital Improvement Program:
6 year schedule and funding
plan for near-term capital
projects

CIF

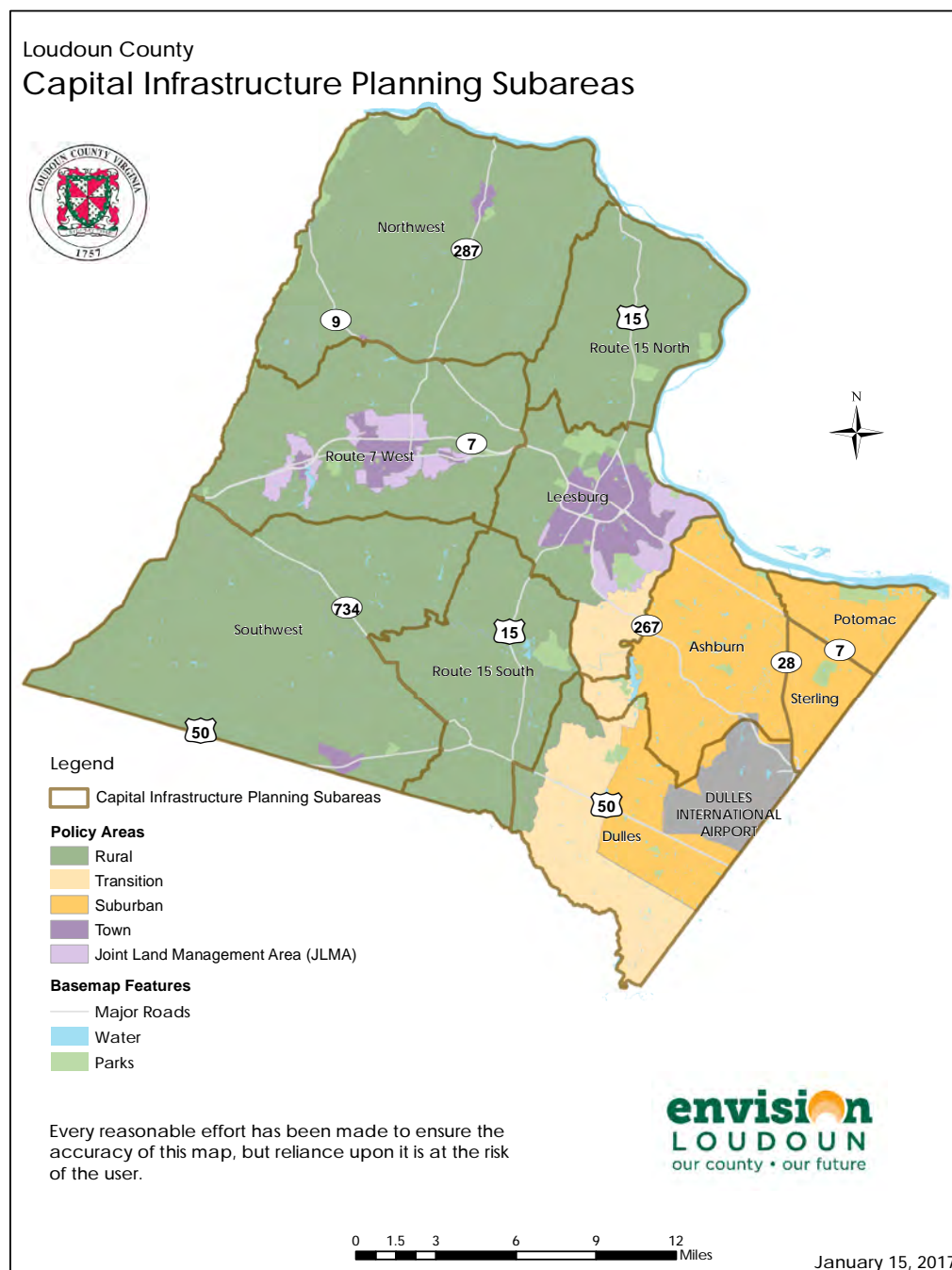
Capital Intensity Factor:
capital cost estimates per type
of newly developed residential
unit used in proffer negotiations

Capital Intensity Factor (CIF)

The CIF serves as a guide to the County for determining the cost of capital facilities that will need to be developed as a result of population growth from increasing density on a residential property. It does this by establishing an estimate of the average capital facilities costs associated with a new residential unit in Loudoun. The CIF is used in the evaluation and negotiation of proffers associated with residential rezonings. Proffers are voluntary contributions provided to the County to help offset the costs of future capital facility development generated by the rezoning of land to a higher density.

Capital Infrastructure Planning Subareas

Capital infrastructure planning is conducted at the planning subarea level in Loudoun (see map below). These ten geographic regions are used to identify service delivery areas and as a guide to the placement of new capital facilities. While similar to the County's Policy Areas, the Planning Subareas are not completely aligned with the Policy Areas.



Policy Topic to Explore:

Future Considerations for Loudoun's Capital Infrastructure Planning System

Recent development approvals to higher density and mixed-use developments, and land use planning for the Silver Line Metrorail stations suggest that the current County forecasts, and correspondingly, the Capital Needs Assessment, may be conservative in setting out future capital facility needs. In addition, if new types of development are included in the updated Comprehensive Plan, these development types will need to be incorporated into the capital infrastructure planning system. Any new use types will likely have an impact on growth forecasts, the Capital Intensity Factors, and the Capital Needs Assessment. The Envision Loudoun process will include an assessment of these issues and strategies for improving the capital infrastructure planning system will be developed.

What are the forecasted future needs for public infrastructure?

Between 2015 and 2045, County forecasts show that Loudoun could add 49,720 new housing units, 120,000 new residents, and 54 million square feet of nonresidential development. These new residents, businesses, and employees will require public services and facilities to meet their needs.

Loudoun County's Fiscal Year (FY) 2017-FY2022 Capital Improvement Program sets out \$1.79 billion of County capital construction projects, including school construction and renovation projects to be completed over the next six fiscal years. This includes two major transportation projects: Route 7 and Belmont Ridge Road (Route 649) Interchange, and the Silver Line Dulles Metrorail Project.

The County's FY2017-FY2022 Capital Improvement Program (CIP) explains that capital expenditures have increased significantly in the past five years due to several factors, including costs for major transportation projects (Silver Line Metrorail) and non-school and non-transportation County government projects. School capital project costs decreased over this period.

At the same time, funding for the FY2017-FY2022 Proposed CIP decreased from the previous adopted CIP due to completion of appropriation requirements for the Metrorail Silver Line construction, development of public parking garages, and the completion of appropriations for several major school projects. This also corresponds with slower paced growth of real property values as a result of the lingering effects of reductions in federal spending and lower rates of employment and income growth.

The County's longer term capital facility needs are documented in the FY2021-FY2030 Capital Needs Assessment (CNA). The CNA acts as a tool for identifying capital needs ahead of the creation of the CIP, documenting projected needs based on projected population growth. The majority of projects in the CNA are identified for FY2021 due to forecasted population increases triggering needs for capital facilities, and the fact that several projects were delayed from the FY2015-2021 CIP. At the point the Board of Supervisors considers the CIP, the Board balances the projected needs identified in the CNA with current needs based on actual population growth and fiscal constraints.

What types of capital infrastructure projects are included in the FY2017-FY2022 CIP?

36

County Road Projects

15

Public Safety Projects

15

School Projects

11

Parks and Library Improvements

7

Transit Projects

Capital Project Identified in
FY2021-2030 Capital Needs Assessment by Planning Subarea

	Ashburn	Dulles	Leesburg	Northwest	Potomac	Route 7 West	Route 15 North	Route 15 South	Southwest	Sterling	Countywide
Adolescent Residence											
Adult Day Center		X									
Community Park	X	X	X						X		
Developmental Services Residence	X										
District Park	X	X	X								
Elementary School		X				X				X	
Fire/Rescue Station	X	X									
General Government Support Space										X	
Library	X		X								
Mental Health Residence	X	X	X						X		
Neighborhood Park	X	X	X		X	X		X	X		
Park and Ride Spaces		X		X							
Recreation Center					X						
Recreational Trails										X	
Regional Park	X										
Senior Center	X										
Teen Center	X								X		

Management of Loudoun Water

Loudoun Water is governed by a Board consisting of nine members appointed by the Loudoun County Board of Supervisors. The Loudoun Water Board members serve four year terms and can be reappointed by the County. The Board appoints the General Manager, who is responsible for the daily management of Loudoun Water.

How are land use and utilities policies coordinated?

Loudoun Water is an enterprise utility managed separately from Loudoun County that provides drinking water and wastewater services to over 65,000 households in Loudoun. Water sources include the Potomac River and Goose Creek, which are fully treated by either Fairfax Water, or Loudoun Water at the Goose Creek Water Treatment Facility.

The utility's mission is to "sustainably manage water resources in advocacy of health, environment and quality of life." Loudoun Water maintains over 1,200 miles of water distribution pipelines, over 880 miles of wastewater collection system pipelines and a growing reclaimed non-potable water system. It maintains and updates a 10-year Capital Improvement Plan to plan for future capital needs generated by new growth.

Loudoun Water has a cooperative arrangement with Loudoun County to extend water and wastewater services only to locations as guided by the Comprehensive Plan, unless health and safety issues require the extension of utilities beyond identified service areas.

The Loudoun Water Service Area includes the Suburban and Transition Policy Areas.

Communal wastewater treatment systems outside of the service area within rural and transition areas can be transferred to Loudoun Water for ongoing management, contingent upon the system meeting Loudoun Water facility standards.

Loudoun Water is authorized to extract water from the Potomac River for treatment and use under the condition that this volume of water will be treated and returned to the Potomac River. The results of this net zero water policy is that growth is effectively controlled, and capital facility costs are significant to meet this requirement.

The 2011 Water and Wastewater Assessment provides an inventory of public water systems, such as Loudoun Water, that are operating in the County, small systems serving towns and subdivisions, and private systems with individual wells and sewage disposal systems. The report identifies two main water concerns in Loudoun: older neighborhoods that have been bypassed by development and are not currently on Loudoun Water's central system, and other older communities that either due to poor soil conditions or age of the unit, have water or wastewater systems that are at risk for significant problems or failure. The assessment identifies 16 at-risk communities and another 20 that potentially could be at risk, and provides strategies for addressing these issues.

Policy Topic to Explore:

Future Water and Wastewater Challenges

Rural residents and businesses are served by individual private drinking water wells or small systems. Some of these areas are at risk for system problems given the conditions of the system. As more growth occurs in both the Rural Policy Area and the Towns, there is also concern for the long-term sustainability for drinking water wells to provide needed potable water to new users. The new Comprehensive Plan and the plans for the County's Towns should consider potential future water constraints as part of land use planning analyses

What is the status of planning for the County's energy needs for the future?

Adopted by the Board of Supervisors in 2009, the Loudoun County Energy Strategy (CES) provides a comprehensive, 30-year road map of energy strategies for the Loudoun County government and community. Using 2007 as a base year, this plan sets out strategies to reduce energy consumption in the County and plan to: "always have reliable and affordable energy, be energy efficient, and have reduced greenhouse gases."

When the plan was written in 2009, homes (34%) were the largest energy user in the County, with 28% of energy use by commercial businesses and public buildings and 28% for transportation. At that time, 70,753,000 BTU (British Thermal Units) of energy were used in the County. If no changes occur, the forecasts suggest that the 2040 population of Loudoun would use 45% more energy with a 50% increase in greenhouse gas emissions.

The County Energy Strategy sets out specific action steps that are intended to allow the County to continue growing, while also conserving energy and reducing greenhouse gas emissions by 22% of 2009 emissions. Immediately following adoption of the Plan, several short-term projects were successfully implemented and funded through U.S. Department of Energy grants. Focus on implementing this plan has waned in recent years.

Policy Topic to Explore:

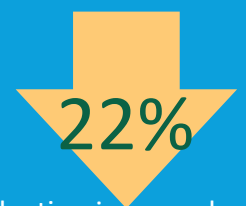
Impacts of Land Uses on Future Energy Needs

Achieving the County's energy conservation goals will largely be determined by the individual commuting choices made by the County's citizens, which will be impacted by the transportation choices offered in the future. Heavy energy users, such as data centers, offer many fiscal and economic benefits to Loudoun, but are also a challenge for achieving the County's energy goals. Future land use policies explored by Envision Loudoun should consider the impact of land uses on future energy demands.

Loudoun's Award Winning Energy Plan

The National Association of Counties recognized Loudoun County for its exemplary County Energy Strategy.

By 2040, Loudoun County sets out to achieve a:



reduction in greenhouse
gas emissions

Sources of Information Used for this Chapter

[Adopted Loudoun County FY2017 Budget \(Includes FY2017-FY2022 Capital Improvement Program\)](#)

[2015 Fiscal Impact Committee Guidelines](#)

[Loudoun County Capital Needs Assessment](#)

[Loudoun County Capital Intensity Factor](#)

[Loudoun County Capital Facility Standards](#)

[Loudoun County Energy Strategy](#)

[Loudoun County Water and Wastewater Needs Assessment](#)

7. OUR TRANSPORTATION

Loudoun County has many challenges and opportunities when considering the mobility of commuters and access to destinations through the region. With proximity to the Washington, DC urban core and major regional employment centers in Northern Virginia, the County attracts many residents who are employed in surrounding jurisdictions. The County is also a strong employment center, attracting both County residents and those from neighboring jurisdictions. In addition, there are those who utilize the County's infrastructure as a means to their final destination, traveling through the County every day and adding travelers to the transportation network.

**VMT =
vehicles miles
traveled**

What are Loudoun's commuter trends?

As the entire Washington region continues to experience residential and employment growth, automobile trips generated from within and through the County have continued to grow. From 2002 to 2014, Loudoun County roadways experienced a 50% growth in total daily vehicle miles traveled (VMT), from roughly 4 million daily miles in 2002 to over 6 million daily miles in 2014. Despite heavy investment in construction of a robust roadway network, continued residential and commercial development have resulted in ongoing traffic congestion during peak travel times (weekday morning and afternoon). This increasing demand continues to cause increased travel times and delay for local trips as well as regional connections. The impacts of this increased demand require a diversified set of travel options in conjunction with enhancements to the overall street network.

Among residents and employees of the County today, there is a growing appetite for access to multiple modes of transportation. However, there is a need to plan and promote these opportunities in a strategic manner in order to make them viable options for travelers. The extension of the Silver Line Metrorail is a great incentive for increased focus on transit, bicycling, and walking as part of the County's comprehensive transportation strategy. This forthcoming service presents the opportunity for innovative facilities and travel options, not only via the rail itself, but through the mode by which the passengers reach the stations.

A study is currently underway to identify missing links and opportunities within the multimodal transportation networks in the areas planned for higher density urban development. The Comprehensive Plan will need to incorporate this effort into the County's overall plan to provide meaningful connections to locations throughout the County. Current transportation policies will be reviewed and new policies will be developed in the new Comprehensive Plan to accommodate the recommended improvements.

Providing a walkable and transit-friendly environment is not only beneficial to local citizens, but can become an attraction for office and retail businesses to grow and thrive in Loudoun County. The combination of innovative transportation solutions with smart, market-oriented land use plans can enhance the County's position as a strong economic driver of the region.

**~6,000,000 VMT
in 2014**



**~4,000,000 VMT
in 2002**

**Population
~363,500 in 2014**



**Population
~203,500 in 2002**

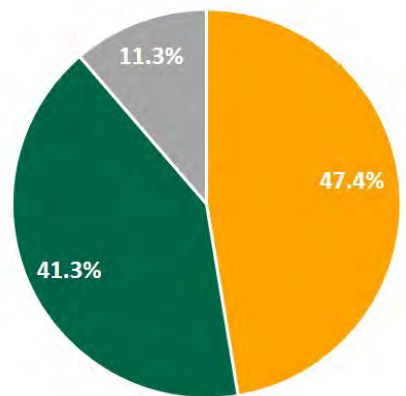
Where are employees working in Loudoun commuting from?

The US Census Bureau, OnTheMap application revealed that the greatest portion of employees in Loudoun County are residents of the County. Other popular residential origins of employees working in Loudoun include, but are not limited to:

- Fairfax County, Virginia
- Prince William County, Virginia
- Montgomery County, Maryland
- Frederick County, Virginia
- Jefferson County, West Virginia

In addition to employment and housing opportunities, Loudoun County is home to many recreational and tourist attractions, such as shopping and entertainment centers, vineyards, distilleries, and breweries, historic sites, and festivals amongst countless other opportunities. These quality of life amenities and attractions increase the desirability of our community, thereby increasing the number of trips to and within the County.

Where Employees Working in Loudoun County Reside



- Residency in Loudoun County
- Residency in other Virginia Counties
- Residency outside of Virginia

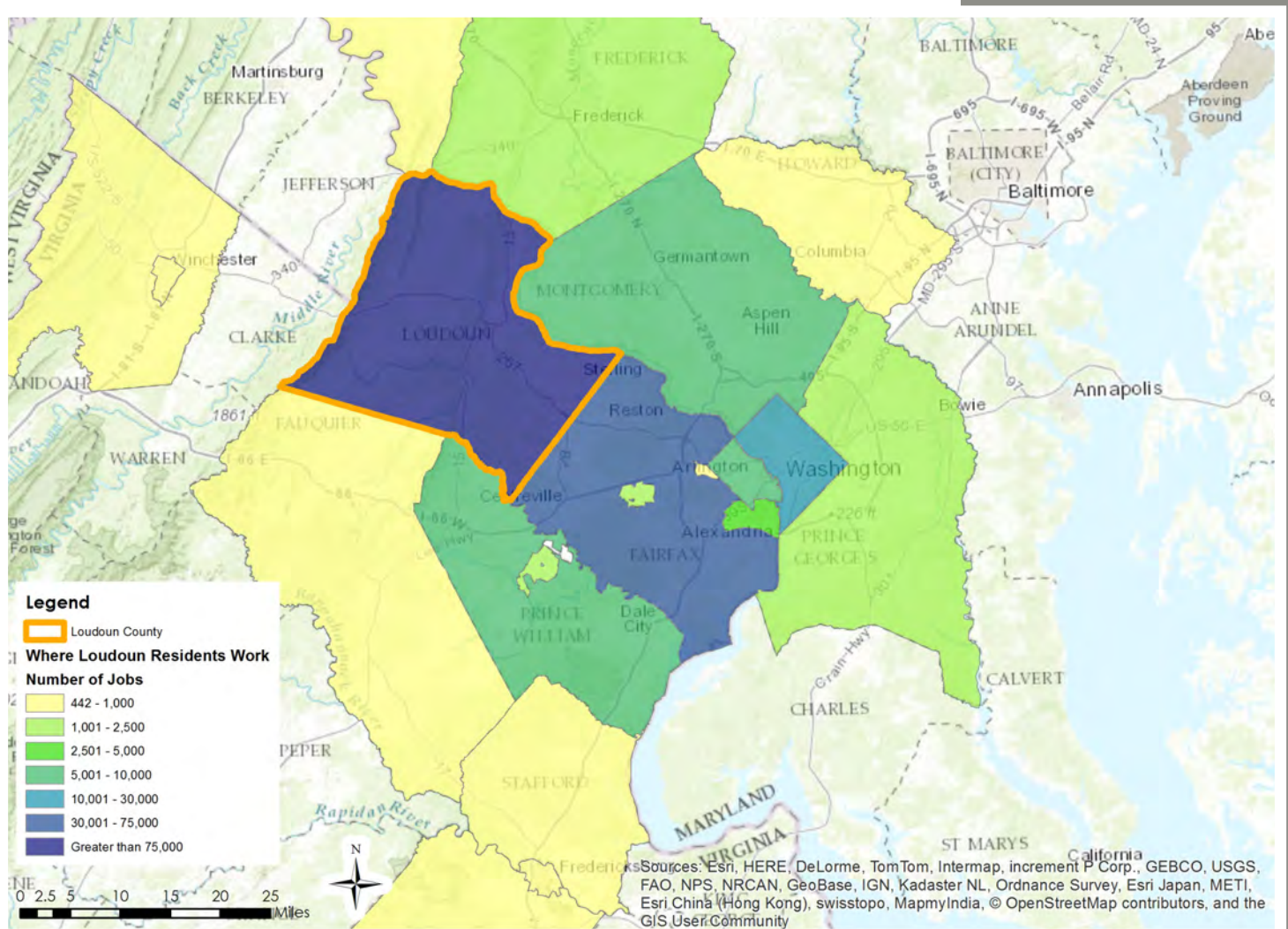
Source: ACS 2015 Estimate-Commuting Characteristics

Where do Loudoun's working residents commute to?

Many residents of the County also commute to neighboring jurisdictions. According to the US Census Bureau, OnTheMap application, popular destinations of County residents include but are not limited to:

- Fairfax County, Virginia
- District of Columbia
- Arlington County, Virginia
- Montgomery County, Maryland
- Prince William County, Virginia

Where Loudoun Residents Work



Note that the thresholds shown are based on the top 25 work destinations for Loudoun residents, and this map is not inclusive of every destination.

How Our Residents Get to Work



76%

Drive alone



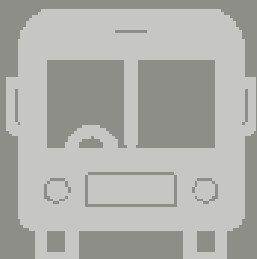
10%

Carpool/Vanpool



7%

Telework



4%

Take public transportation



2%

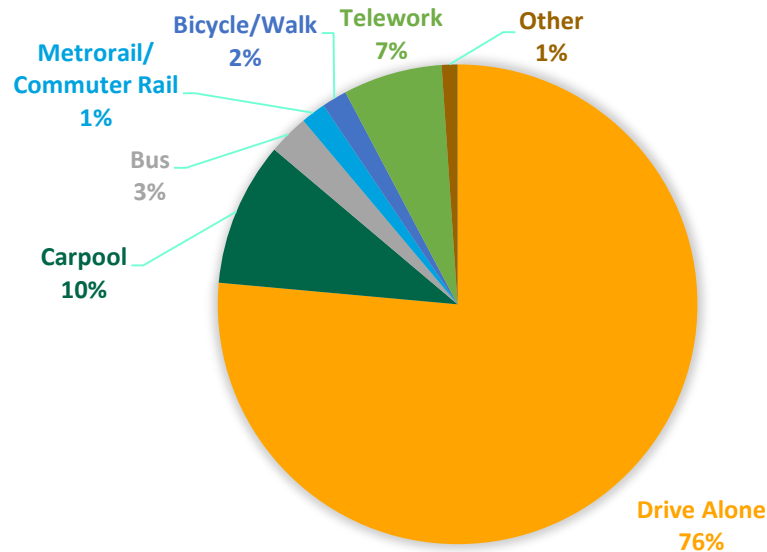
Walk or bike

1% take some other mode of transportation

How do Loudoun's residents travel?

As travel demand and congestion increases in the County and region, some County residents are seeking to travel via a mode other than driving. Based on 2015 American Community Survey data, most commuters (76%) still drive alone, but 24% are carpooling or vanpooling, riding public transit, bicycling, walking, or use other means of transportation to arrive at their place of work.

Mode Choice of Loudoun Residents



Source: ACS 2015 Data

Modes Available in the Region

Bus: local and commuter bus service provided by Loudoun County Transit

Metrorail/Commuter Rail: WMATA Metrorail, VRE Passenger Rail, and MARC Train

Other: taxi, motorcycle, teleworking, etc.

Policy Topic to Explore:

Consideration of Alternative Travel Modes

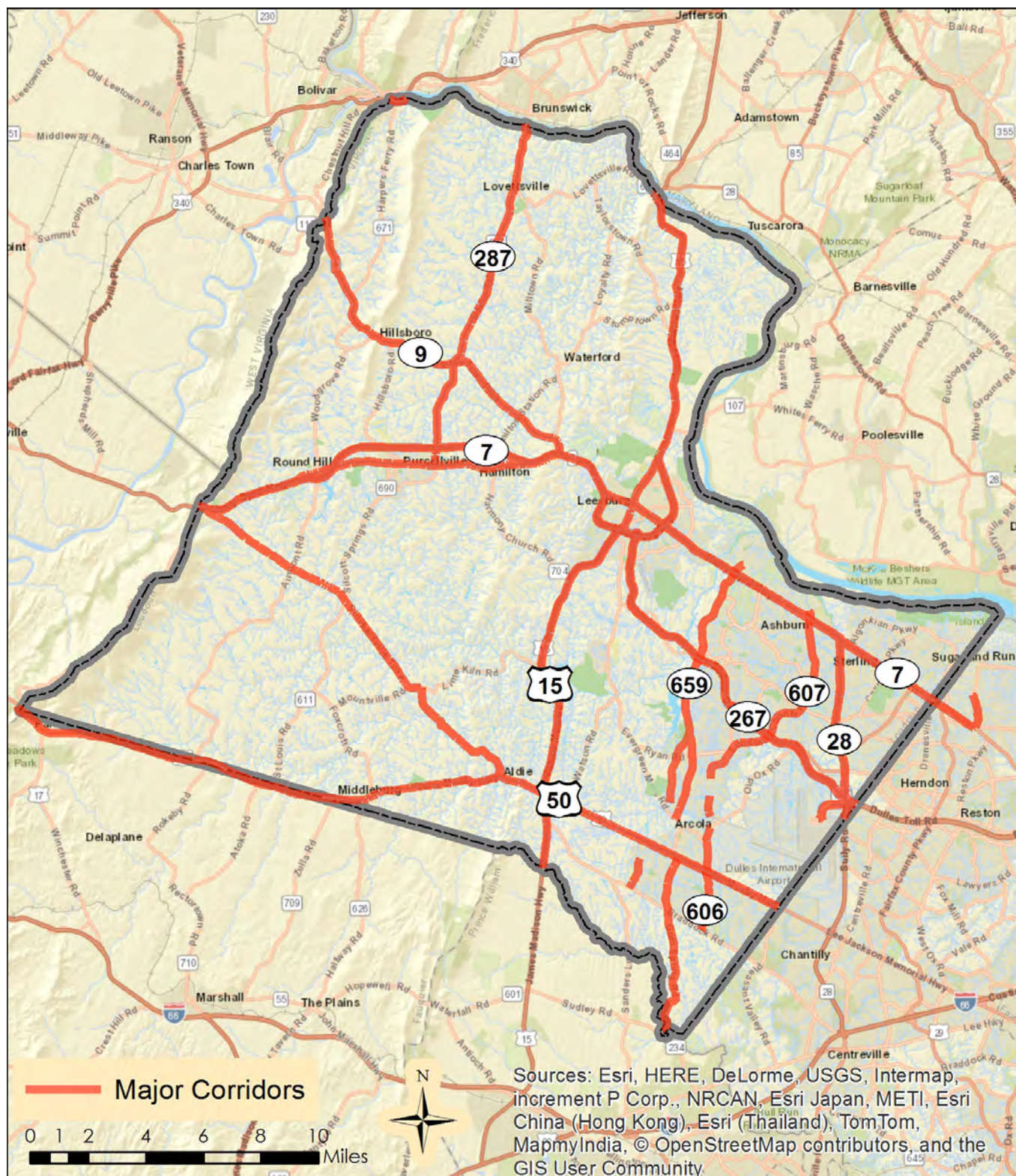
More robust bicycle and pedestrian options will be explored during the planning process. Future planned land use and designs will be considered for safety and attractiveness and the potential for increased use by pedestrians and cyclists. Street typologies will be reevaluated considering vehicle throughput and placemaking. Grade-separation and a variety of facilities will be considered to move people using all modes of travel.

Access to and from the future Silver Line Metrorail Stations is being evaluated under the Silver Line Area Plan, but should be incorporated and supported by this new Countywide Transportation Plan.

Corridor Characteristics

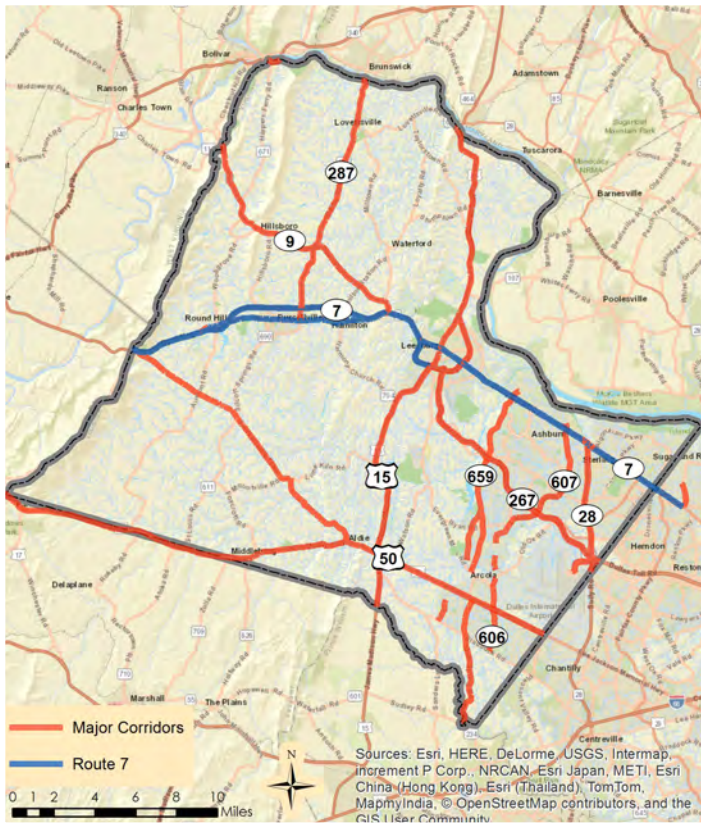
Loudoun County commuters are served by a series of major corridors that travel the length of the County and a network of intra-county connections that serve local trips and connect neighborhoods to major corridors. Travel demand management measures also exist in efforts to reduce travel demand or to shift travel demand by providing other transportation options. The corridors most critical to current commuters and in need of examination as the future CTP is developed are outlined as follows.

Major Corridors in Loudoun County



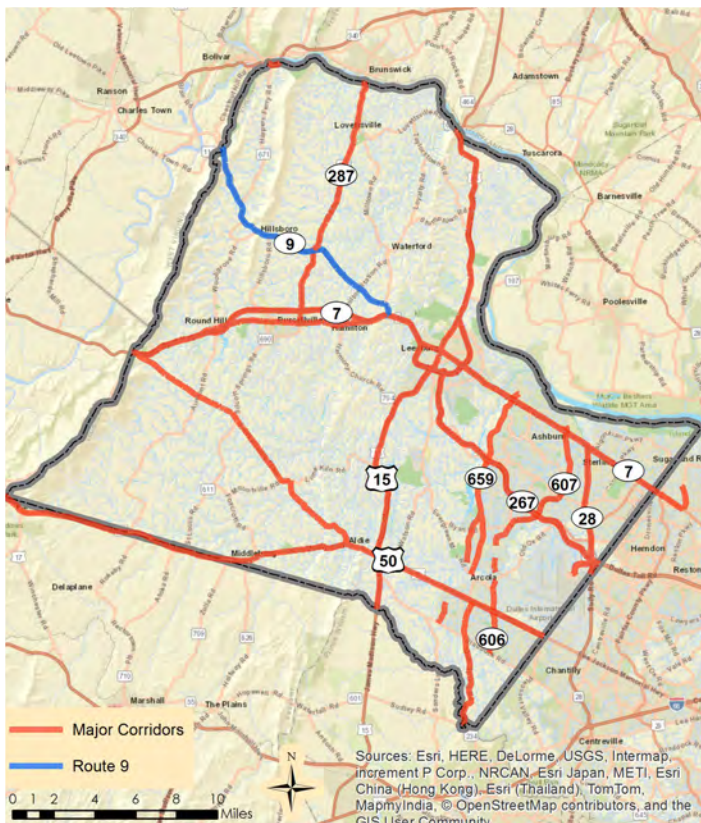
Virginia Route 7

Virginia Route 7 travels along the northern border in the eastern portion of the County and through the middle of the western portion of the County, connecting Round Hill, Purcellville, and Western Loudoun to Leesburg, Ashburn, and the Sterling area, and to external destination points to the east and west. This facility varies between segments of limited access interchanges to controlled access with signalized intersections. Transitions between these facility types and cross-sections create bottlenecks, especially between Leesburg and Paeonian Springs at Route 9 and as Route 7 crosses through Sterling into Fairfax County. Construction is underway to make Route 7 a limited access facility between Algonkian Parkway and Leesburg with interchanges under construction at Ashburn Village Boulevard and Belmont Ridge Road, and a planned interchange at Battlefield Parkway.



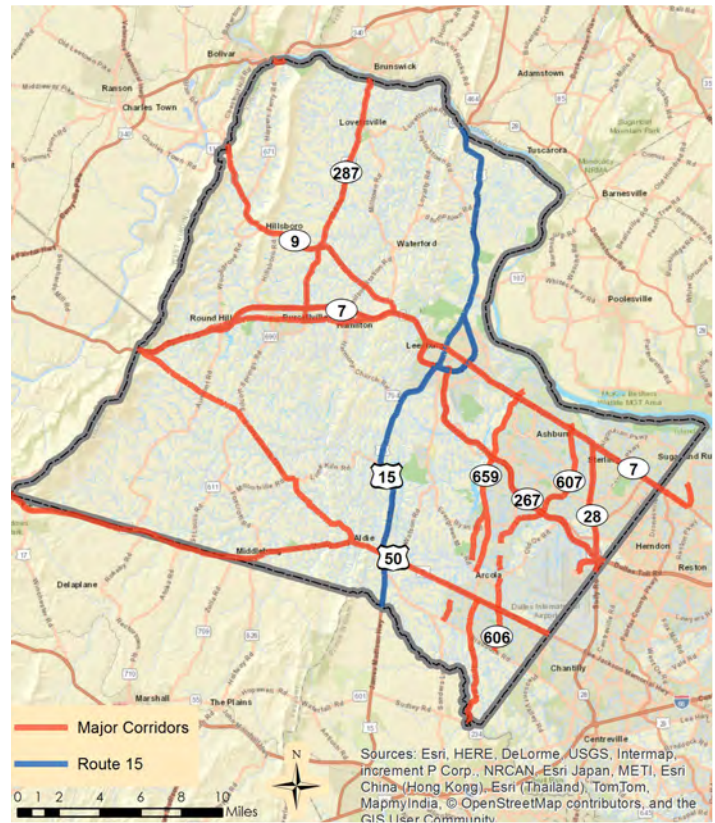
Virginia Route 9

A significant amount of traffic travels on roadways to and through the County from the west. Accompanying Route 7 to the western border of Loudoun is Route 9 which is a major route for traffic coming from West Virginia. Within Virginia, Route 9 operates as a two-lane undivided facility. However, the roadway widens to a four-lane divided highway in West Virginia. Due to limited travel options between Jefferson County, WV and Loudoun County, significant traffic volumes exist along this corridor. The congestion on this rural highway, which serves as a main street for Hillsboro, leads to additional traffic through the Town, changing the travel characteristics of the corridors and impacting nearby residents. Route 287, which serves north-south traffic through northwestern Loudoun County, experiences similar issues as traffic seeks to move between Purcellville and Lovettsville to Brunswick and other destinations in Maryland.



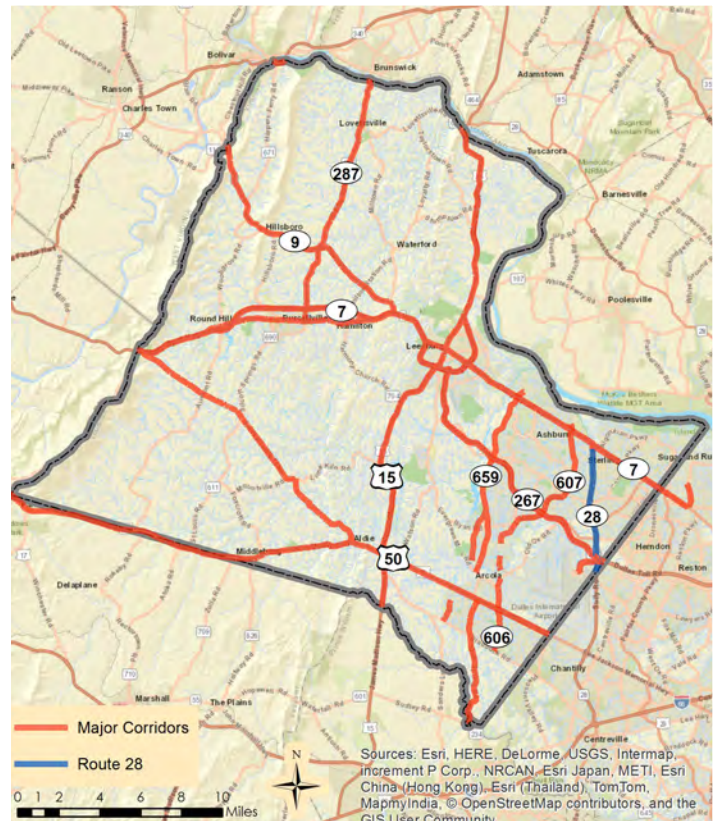
US Route 15

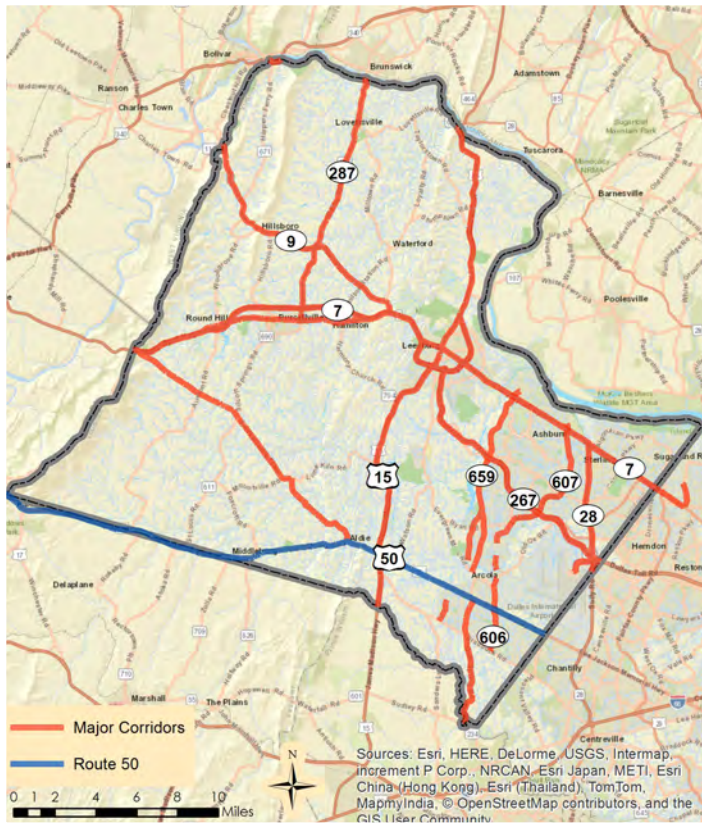
A Corridor of Statewide Significance, US Route 15 connects the County to Maryland across the Potomac River at the Point of Rocks Bridge. Southward, it provides a route all the way through the state of Virginia. It provides access to the Town of Leesburg, a key economic generator and location of the County's government, and extends north and south through more rural residential areas. Today, US Route 15 experiences heavy congestion north of Leesburg, as heavy commuter traffic enters and exits the County on a two-lane highway that connects to the first Potomac River crossing west of the Capital Beltway (I-495). A study is underway to evaluate mitigation measures for this corridor that could be accomplished while seeking to maintain its rural character.



Virginia Route 28

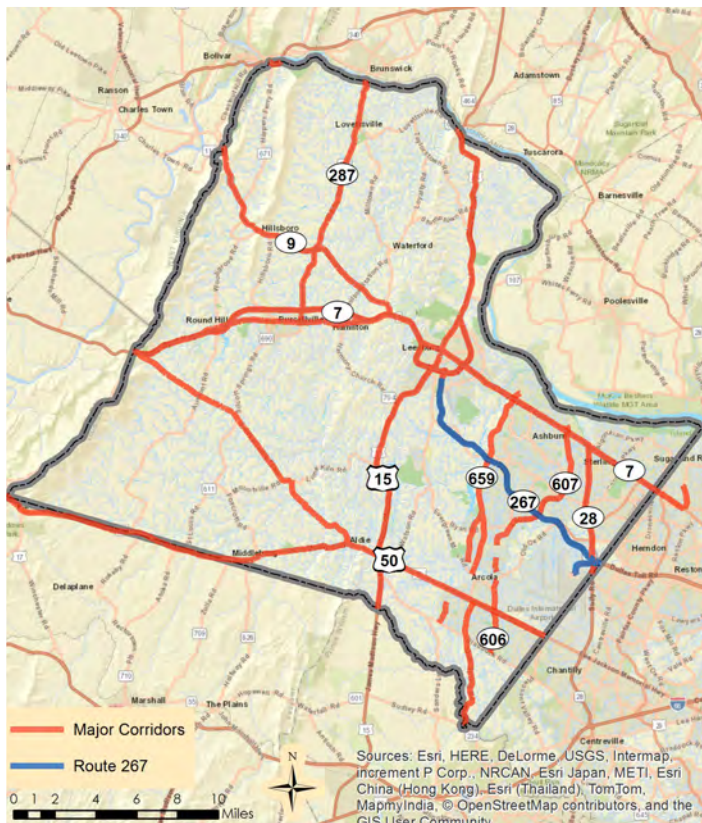
The primary north-south arterial in the eastern portion of the County, this 6- to 8-lane freeway connects many of the County's most substantial employment centers such as Dulles Town Center at Route 7, Sterling, and Dulles International Airport at Route 267. It continues south into Fairfax County where it connects with US 50 in Chantilly and I-66 in Centreville, both high-volume east-west corridors. Route 28 serves as an important connection for those in northern and southern Loudoun County to travel to job centers through the region.





US Route 50

US Route 50 travels along the southern edge of the County, connecting Middleburg, Aldie, Stone Ridge and South Riding before crossing into Fairfax County. This route also provides connections to other major commuter thoroughfares, such as Route 28, I-66, I-495, and Washington, DC. This route varies in width along the corridor, but maintains at-grade intersections within Loudoun County.

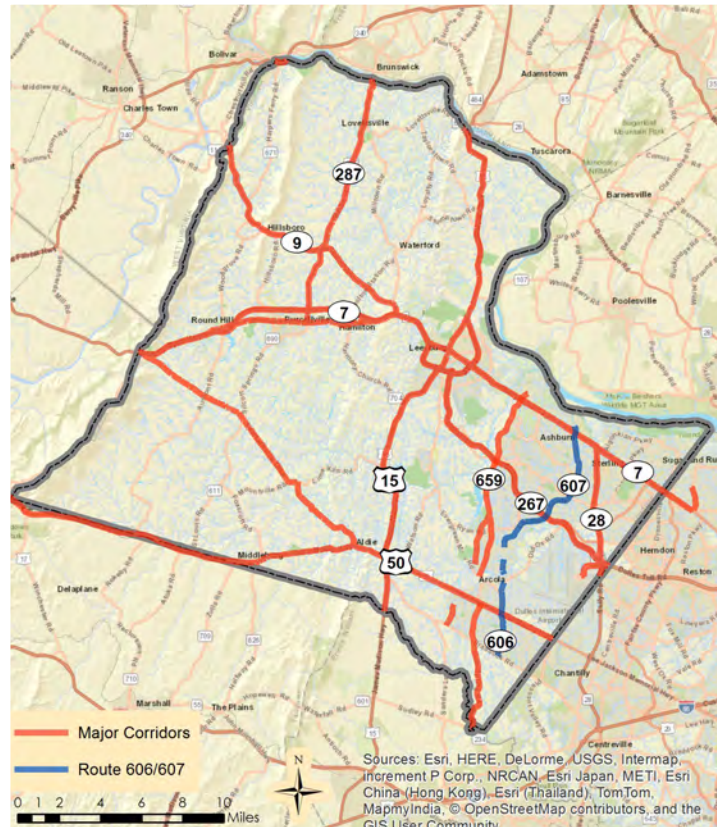


Dulles Greenway (Virginia Route 267)

Dulles Greenway (Route 267) is a privately owned, limited-access, toll facility that runs through the center of the eastern portion of the County. Due to the tolls charged for use of this facility, this freeway has available capacity. This capacity helps ensure a more dependable travel time, though backups occur at either end of the roadway due to bottlenecks at interchanges. Instead of paying the toll, many drivers may seek free alternative travel options, thereby increasing congestion on parallel facilities while leaving additional capacity available on the Greenway.

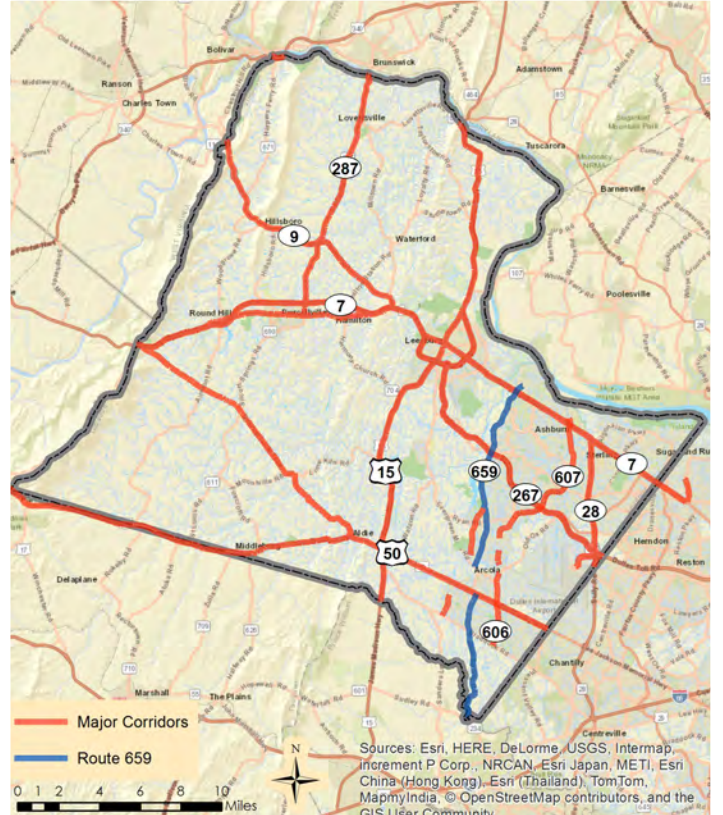
Loudoun County Parkway (Virginia Route 607)

This corridor is located west of Route 28, on the west side of the Broad Run, and connects residential, business, commercial, and retail land uses from University Center at Route 7 to Loudoun Valley and from Arcola Center to South Riding. Connection of these disparate segments is anticipated by the end of 2017. Loudoun County Parkway is centrally located between the two future Metrorail Stations and is anticipated to provide significant relief for Loudoun County commuters in Ashburn and South Riding seeking alternative travel options to Route 28.



Belmont Ridge Rd/Northstar Blvd/Bi-County Parkway (Route 659)

This corridor connects activity centers along Belmont Ridge and through Brambleton and Stone Ridge. It currently exists in two sections: one begins in Lansdowne north of Route 7 and travels to Shreveport Road in Brambleton; while the second section travels from Tall Cedars Parkway to south of Braddock Road, at which point it becomes Ashburn Farm Road and continues into Prince William County. Plans exist to connect this roadway to the Route 234 bypass in Prince William County to form the Bi-County Parkway. This multi-county connection is recognized by the Commonwealth of Virginia as a Corridor of Statewide Significance.



Transit and TDM Facts

- **20+** Park & Ride Lots in the County with over 4,000 spaces
- **8** Metro Connection Routes serving the Orange and Silver Lines
- Loudoun County Transit offers **15** Local Bus Routes, serving **303** bus stops, with annual ridership of approximately **489,000** in FY 2016
- **4** Long Haul Commuter Service Routes to Arlington and Downtown DC
- Commuter bus ridership has grown every year since Loudoun introduced its own service in 2003
- Silver Line Metrorail will expand into Loudoun County in 2020 with 3 new stations (Route 772, Route 606 & Dulles Airport)

Intracounty Circulation

Amongst the key commuter corridors are the network of more localized arterial, collector, and local roads that facilitate circulation and connectivity throughout the County. These roadways are crucial to moving residents between local activity centers without adding additional travel to the more regional roadways noted above. The previously adopted CTP incorporates a robust network of planned connections that the County strives to complete. This network will be evaluated and planned to best serve future travel demands.

Transit and Travel Demand Management (TDM)

Some commuters prefer to avoid driving and are instead choosing transit as a part of their daily commute. Loudoun County Commuter Bus service provides a reliable trip for multiple destinations in Washington, DC and Arlington, VA, traveling along the Dulles Greenway, Dulles Toll Road HOV lane, Dulles Airport Access Road, and dedicated shoulder lanes on the Dulles Connector to I-66, thereby providing a faster trip than driving in a private vehicle. Loudoun County also offers a MetroConnect service providing frequent transit from park and ride lot locations to the Silver Line Metrorail Station at Wiehle Avenue in Reston, and to the Orange Line Metrorail Station at West Falls Church, and other lines via destinations in Washington, D.C. As these alternate modes continue to increase in popularity, it is anticipated that additional commuters will choose to commute via the Silver Line as Metrorail extends into Loudoun County in early 2020, and as the County continues to expand its TDM programs. In addition to transit availability, many employers are offering variations in work schedules such as flex schedules and telecommuting, both of which reduce travel demand during the peak commuting periods.

Policy Topic to Explore:

Potential Future Challenges for Identifying Additional Network Capacity

Studies are underway to identify improvements to major commuter thoroughfares. It will be crucial to consider the outcomes of these studies in the new Plan. Should additional network capacity be identified as a future need, many constraints will need to be considered in identifying opportunities for network growth. Environmental barriers, existing development, future planned land use, and coordination with surrounding jurisdictions may present challenges to transportation improvements. Additionally, in a region with increasing transportation needs, funding is limited and need is great. Consideration of alternative funding sources will be critical.

How will Loudoun's commuters travel in the future?

The way people travel today is evolving. As the number of people demanding to travel increases in the County and throughout the entire DC region, new travel choices will become increasingly attractive to commuters and play a larger role in providing an efficient and dependable transportation system. Interest in varying travel options has been identified through recent surveying with the County. The Loudoun County Survey of Residents (2014) identified the following transportation improvements as priorities among residents:

- Improving and building roads
- Improving pedestrian walkways and bikeways
- Providing or improving commuter bus service to DC and the Pentagon
- Providing or improving local circulator buses to destinations other than Metrorail stations

When considering the Silver Line Metrorail access, respondents expressed desire for increased bus connections, parking, and bicycle storage. Though roadway improvements still prevail due to the auto-oriented nature of existing development, the appetite for evolving transportation solutions is apparent. Population increases and demographic shifts in recent years have contributed to the increased demand for a diversified transportation strategy. As younger residents and employees continue to move into the County, and other new residents relocate from places with more robust transportation options, the demand for transportation choices will continue to grow.

Future Challenges and Opportunities

The development of a new Countywide Transportation Plan provides the opportunity to reflect on the existing transportation system, identify potential improvements, and recognize future challenges and opportunities in the desired plan. The current plan was created with an auto-centric mindset in anticipation of incredible population and employment growth drawn by suburban development. Now that available land for development is diminishing and desired land uses and modes of transportation are moving towards a more urban-styled approach, existing policies will need review to determine how policy can best support the new plan.

A more robust bicycle and pedestrian plan will be a central component of the new effort. It will need to consider new planned activity centers and designs that will attract pedestrians and cyclists to provide greater access in a safe and attractive environment. Street typologies will be reevaluated to balance vehicle throughput and placemaking. Grade-separation and a variety of facilities will be considered to move people using all modes of travel, rather than just private cars.

Meanwhile, studies are underway to identify improvements to major commuter thoroughfares. It will be crucial to incorporate the outcomes of these studies in the new plan. The Plan will also provide an opportunity to identify opportunities to provide better interconnections to and through the County and enhance coordination with surrounding jurisdictions. To facilitate these efforts, regional agencies will be pivotal to the development of more fluid regional connections.

As these transportation policy areas are evaluated, funding, acquisition of right-of-way, and multimodal design will be essential. In a region with increasing transportation needs, funding is limited and need is great, and consideration of alternative funding sources is critical.

With a diverse population and a plethora of transportation needs to address in this new Plan, collaboration between transportation planners, the Board of Supervisors, other County departments, and—most importantly—the public will be vital to developing a plan that provides the best opportunity for continued success.

Policy Topics to Explore:

Potential Challenges to Introducing Transportation Infrastructure not Centered on Driving

With a diverse population and land use types, alternate transportation modes may not be the solution for everyone. To balance a plethora of transportation needs to address in this new Plan, collaboration between transportation planners, the Board of Supervisors, other County departments, and—most importantly—the public will be vital to developing a Plan that provides the best opportunity for continued success.



Sources of Information Used for this Section

[Loudoun County Demographics and Data](#)

[American Community Survey](#)

[2014 Loudoun County Survey of Residents Report of Results](#)

[U.S. Census OnTheMap](#)

[2010 Revised Countywide Transportation Plan](#)

[Silver Line Comprehensive Plan Amendment](#)

[FY2017-FY2022 Transit Development Plan](#)

8. OUR ENVIRONMENTAL, AGRICULTURAL AND CULTURAL HERITAGE

Abundant natural resources and a rich cultural heritage have defined Loudoun County's unique sense of place for more than two and a half centuries. The Blue Ridge Mountains, Broad Run and other major watersheds, forests, rural open spaces, 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 the Loudoun economy. The County has a history of protecting and preserving the components of its green infrastructure system through policies, regulatory measures, land acquisition, and educational programs. As the County grows in the future, it will be important to understand how green infrastructure will continue to be managed and protected over time.

What is Loudoun County's Green Infrastructure?

Loudoun County defines its green infrastructure system as a "collection of natural, cultural, heritage, environmental, protected, passive, and active resources that [are] integrated in a related system." This is a complex system of interrelated natural and historic features that can be best described as including four main components:

1. **Natural Resource Assets** (rivers, streams, wetlands, water sources, geology, soils, forests, trees, vegetation, and wildlife habitats)
2. **Heritage Resource Assets** (historic and archaeological resources, and scenic areas and corridors)
3. **Open Space Assets** (greenways, trails, parks, recreation, public school sites, open space easements; some are for passive enjoyment and some have active programming)
4. **Complementary Natural Assets** (air quality, dark skies, and the aural environment)

The Value of Green Infrastructure

Green Infrastructure systems provide natural resource value to the Loudoun community, along with many social, economic, and fiscal benefits:

- **Increased Property Values**—open space, greenways, and parks increase property values
- **Natural Stormwater Management**—increasing stormwater storage through protection of natural hydrologic systems results in fiscal savings and reduction of private property loss due to flooding
- **Community Health**—limiting exposure to land and water pollutants increases the health of our community
- **Sense of Place**—protecting historic sites, cultural resources, and the surrounding spaces that provide the context for these special places helps to preserve Loudoun's sense of place and the visual and tangible conservation of its cultural and historic identity
- **Energy Efficiency**—protecting tree canopy and forests reduces the "heat island effect" and results in savings on utility bills
- **Recreation and Active Living**—recreational access to nature through parks, greenways, and trails creates a healthier active environment for residents, and adds value to related recreational businesses
- **Enhancement of Tourism**—protecting natural open spaces and heritage areas adds value to the tourism economy and enhances the value of related businesses
- **Species Diversity**—protecting natural habitat and migration corridors can support plant and animal species diversity and help them thrive

Loudoun's Green Infrastructure At-A-Glance



30,375 acres
of floodplain



39 miles
of Potomac River waterfront



8,143 acres
of parkland



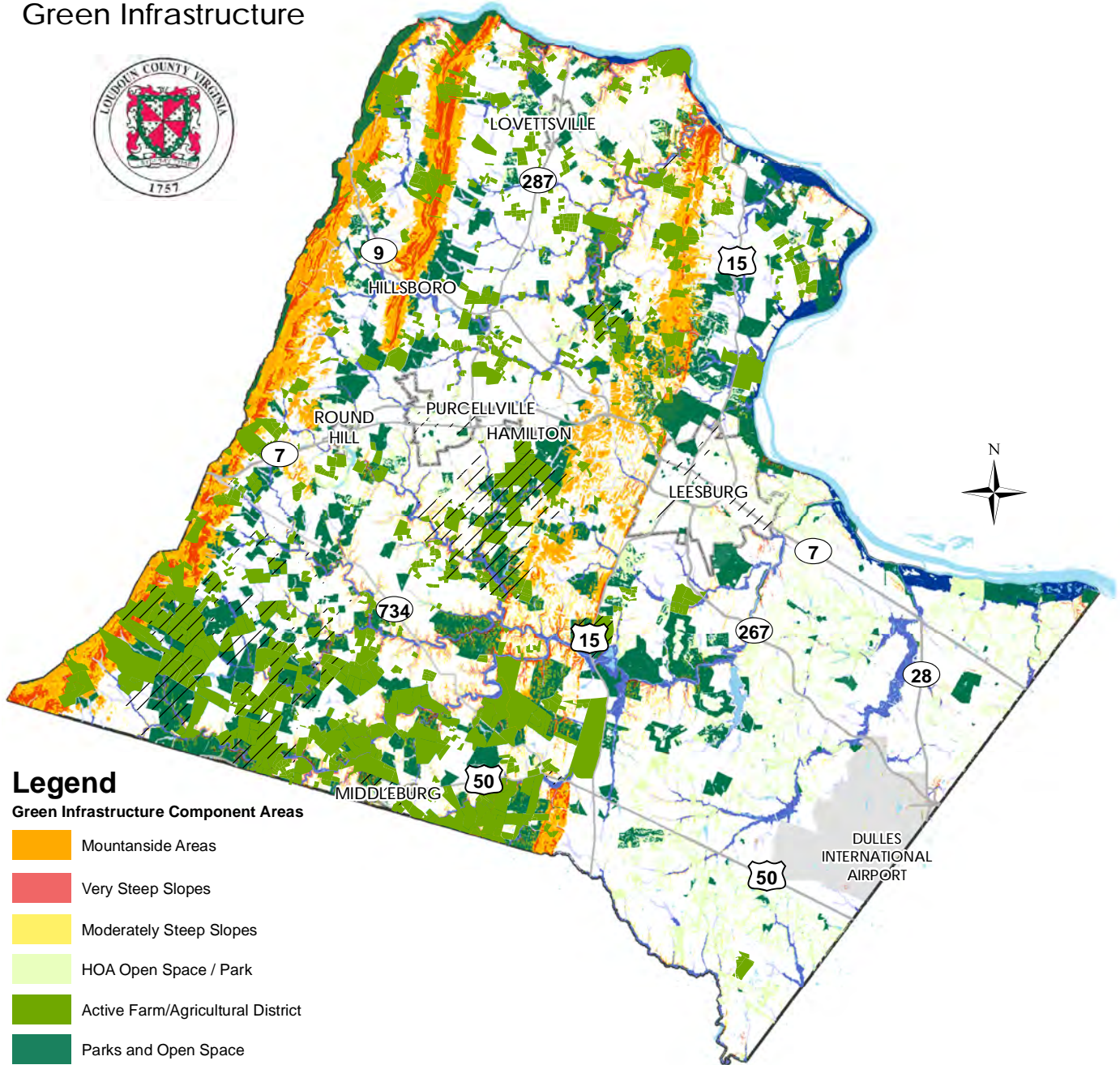
43,528 acres
of active farms and
agricultural districts



**9 historic
districts**

for historic and cultural
conservation areas, historic
sites, and historic roadways

Loudoun County Key Components of Green Infrastructure



Legend

Green Infrastructure Component Areas

- Mountainside Areas
- Very Steep Slopes
- Moderately Steep Slopes
- HOA Open Space / Park
- Active Farm/Agricultural District
- Parks and Open Space
- Floodplain
- Water
- Historic Districts

- Major Roads
- Town Boundaries
- County Boundary

envision
LOUDOUN
our county • our future

0 1.5 3 6 9 12 Miles

Every reasonable effort has been made to ensure the accuracy of this map, but reliance upon it is at the risk of the user.

February 9, 2017

How are Loudoun's natural assets managed?

Within the County's green infrastructure system, Natural Resource Assets, including critical water and land components, make up Loudoun's ecosystems. The County protects these assets using local preservation approaches that supplement state and federal laws. This includes restoration of assets to their natural state wherever practical. There are also numerous local partner organizations that assist with protecting Loudoun's natural assets, such as the Loudoun County Preservation and Conservation Coalition which serves as an umbrella group for over 30 such organizations.

Water Resources

Loudoun County's water resources are the largest component of the County's green infrastructure network. On the surface these resources include rivers, streams, wetlands, reservoirs, lakes, and ponds that collect rainwater and support diverse plant and wildlife ecosystems. These waters flow into one of the County's 17 watersheds, which comprise Loudoun's portion of the Potomac River Basin. Water resources below the ground include aquifers, springs, and wells that provide many rural residents with their potable water. Loudoun Water customers receive drinking water from the Potomac River and Goose Creek.

Protecting these water resources has been an important goal of the County for some time. These water resources and the lands surrounding them are valued as an important backdrop to the County's landscape and rural character. They provide numerous recreational opportunities for residents and visitors, protection against erosion and flooding, and diverse ecosystems for wildlife and plants. The State of Virginia has designated segments of Catoctin Creek and all of Goose Creek within the County as "Scenic Rivers" to maintain their scenic value. The Potomac River is designated as an "American Heritage River," by a federal program that can open the door to more resources for protecting the Potomac.

Natural Lands Resources

Loudoun County's natural lands are comprised of environmentally sensitive areas, productive lands, and natural forests and habitat found throughout the County, and focused within the rural portions of Loudoun.

Environmentally Sensitive Lands

The County's environmentally sensitive lands present a unique character and geography that are also highly sensitive to land disturbance and construction. Chief among them are floodplains, wetlands, areas of steep slopes, mountainsides, and the karst limestone area.

Floodplains support the County's water resources by providing a natural system that manages stormwater buildup during heavy rain events. They serve both natural systems through the conveyance of stormwater and protect the health and safety of Loudoun's citizens by reducing stormwater hazards.

Protections for steep slopes and mountainsides are valuable for maintaining the integrity of soils and land beneath the surface, managing the flows of the County's headwaters, and for serving as groundwater recharge areas. Steep slopes are defined as having a slope of 15% or greater and occupy approximately 53,000 total acres throughout Loudoun. Most are located along the easternmost front of the Blue Ridge Mountains comprised of the Bull Run Mountain along the western border of Loudoun, and Short Hill Mountain to the northeast.

Loudoun is also home to karst geology where limestone rock exists approximately one mile either side of State Route 15 from south of Leesburg north to the Potomac River. This landform causes constraints on development, as it is porous and forms natural conduits to the larger groundwater system of the County. This makes the land use above the limestone directly relevant to preserving the County's water quality. The rock can be susceptible to developing sinkholes.

Water Resources

Challenges to assets:

- nearby land disturbances
- pollution from upstream and adjacent land uses
- Failing septic and wastewater treatment systems

Tools used in Loudoun County to protect assets:

- U.S. Clean Water Act standards
- Watershed Management Plans
- Regulation of protected buffers
- Acquisition of stream corridors
- Open space dedications



Environmentally Sensitive Lands

Challenges to asset:

- nearby land disturbances
- soil slippage
- loss of scenic quality and mountain views

Tools used in Loudoun County to protect assets:

- Floodplain Overlay District
- FEMA Floodplain Maps
- Steep slope performance standards for new development
- Mountainside Development Overlay Zoning District
- Limestone Overlay District

Productive Lands

Challenges to assets:

- Adjacent development that is incompatible
- Improper soil management
- Conversion of land to development

Tools used in Loudoun County to protect assets:

- Agricultural Zoning Districts
- Mineral Resources – Heavy Industry Zoning District

Forest, Tree Canopy, and Habitat Areas

Challenges to asset:

- Deforestation
- Hazards such as insect outbreaks, diseases, severe weather, and wildfires

Tools used in Loudoun County to protect assets:

- Performance standards for landscape plantings
- Requirements for tree conservation and landscaping plans for new developments
- Tree protections standards that protect trees during construction
- Forest management plans
- Reforestation standards

Productive Lands

Parts of Loudoun County continue to produce economic value through either extraction of natural resources or through agricultural use. These activities are a contributing part of the County's green infrastructure network.

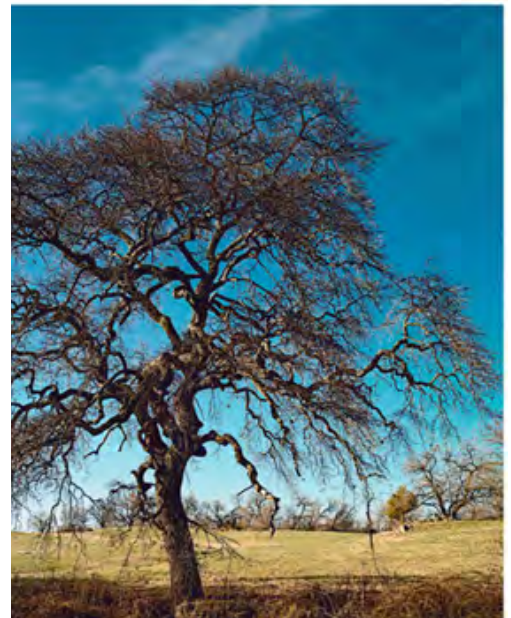
Prime agricultural soils account for approximately 19% of Loudoun County's soils. These soils are found in areas that are nearly level, well drained, and well irrigated—the same attributes that make land conducive to development. Loudoun's best agricultural soils are generally located in the Rural Policy Area. Prime agricultural lands that have been converted to a different use are difficult to reclaim. The County has emphasized the rural economy as an important part of its overall economic health, and this area is an important draw for residents from throughout the County and tourists alike, making prime farmland and agricultural soils especially valuable.

Diabase, or trap rock, is a significant mineral resource found in Loudoun south of Leesburg and near Washington Dulles International Airport. It is a hard, brittle rock actively mined for use as a base component for construction of roads and for building foundations.

Forest, Tree Canopy, and Habitat Areas

The forest ecosystems in Loudoun County serve as a green infrastructure resource that improves the lives of residents and preserves habitat for a variety of species. Some of the state's best hardwood stands for lumber and veneer production are located in Loudoun. These forest ecosystems provide multiple benefits to Loudoun residents. Forests protect air and water quality, provide plant and wildlife habitats, serve as buffers between communities, conserve energy through natural shading, reduce stormwater runoff, and can increase property values. Federally designated threatened and endangered species habitat in Loudoun County includes the bald eagle (recovery), green floater clam (under review), and the northern long-eared bat (threatened). There are also state designated species such as the wood turtle (threatened) and the aforementioned green floater clam.

Preservation of existing trees and forests in the eastern portions of the County help to make attractive places in which to live, work, and visit. Special tree designations, such as National and State Champion Trees, State Big Trees, and Specimen Trees, help to highlight the value of trees in rural and developing areas.



The First place photo in the 2015 Arbor Day Photo Contest is of a Black Gum Tree in a field west of the wastewater Treatment Plant in Middleburg.
Photo by Stephen H. Wade

Policy Topic to Explore:

Adequacy of Current Natural Resource Protection Tools

The 2001 Revised General Plan set out strong policy guidance for the protection of the County's natural resource assets through regulatory means, which were enacted for a time, but were ultimately removed from the County's code. There are many other tools being used to protect the County's resources, and one question Envision Loudoun will answer is whether the current set of tools is successful in achieving the County's preservation, conservation, and restoration goals.

What are Loudoun's open space assets and how are they managed?

Best described as the places where nature meets the built environment, Loudoun's open space assets enhance the vibrancy of communities by providing public interaction with nature and opportunities for outdoor activity. The County's sense of place and community attractiveness is in large part due to the protection of open spaces that include greenways and trails, parks and recreation, public school sites, and open space easements. Property owners have voluntarily put more than 70,000 acres in private conservation easements, and another 3,600 acres of open land is owned by Homeowners Associations.

Open space assets may be held in either private or public ownership or a combination thereof. Many complement and protect natural features like rivers, streams, and wetlands, others protect historic locations or key agricultural areas, while others provide recreational and educational opportunities in the form of parks and nature preserves. Regulation of protective buffers, donation of open-space easements, and performance standards are used by the County and individual property-owners to manage these elements.

Cluster Development design is a method of land development available to landowners that conserves Loudoun's green infrastructure elements located on a given site by grouping homes on small lots on a portion of the property at full density while providing large areas of usable open space on the remainder. This approach results in clustered, compact development patterns that promote a variety of nonresidential and residential building types, and can support protection of a contiguous green infrastructure network. Fundamental to the cluster development method is flexibility in setbacks, lot patterns, and lot sizes. This type of development also reduces road and utility costs due to the clustered pattern of development.

Policy Topic to Explore:

Exploring Conservation Design Solutions

The cluster development option is available to property owners interested in using alternative development plans to protect open space through clustering small lot development and saving large areas of open space. This process does not always include the protection of critical green infrastructure components on the site - a design approach referred to as conservation design. It may be worth exploring potential solutions for making this design approach more attractive to future developers.

Open Space Assets

- Greenways and Trails
- Parks, Recreation, and School Sites
- Open Spaces

Tools used in Loudoun County to protect assets:

- Regulation of protective buffers
- Donation of open space easements
- Open space performance standards for new development

Challenges to asset:

- Not all privately owned open space is permanently preserved

Cultural and Historic Resource Assets

- Historic and Archaeological Sites
- Scenic Areas and Corridors
- Historic battlefield sites

Challenges to asset:

- Degradation of historic structures
- Razing of structures or loss of historic sites to new development
- Changes in character of surrounding environment
- Loss of archaeological sites to development
- Insufficient public awareness/ education

Tools used in Loudoun County to protect assets:

- County Administered Historic Districts (9)
- Loudoun County Historic Preservation Plan
- Community Education
- Heritage Tourism
- National Register of Historic Places
- Phase 1 Survey for Residential Developments to Identify Historic and Cultural Resources
- Proffers

What are Loudoun County's heritage resource areas, and how are they protected?

Loudoun has a greater variety of documented heritage resources than any other County in Virginia. Loudoun County's rich geologic and environmental resources provided natural prehistoric settlement areas, particularly water courses and upland areas. The ridges and valleys of the County have been traversed for thousands of years, first by Native Americans traveling between winter and summer camps and later by settlers traveling north and south along the Old Carolina Road and east and west along the earliest turnpikes during the western frontier movement. Vestiges of these population movements and settlement areas remain, as do the natural resources that first attracted humans to the area. 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 many of them are set, historic sites represent the County's largest tourist attraction.

Loudoun County's Special Places

- 5,087 cultural resources surveyed in Loudoun
- 300 miles of unpaved rural roads
- 213 African American heritage properties
- Journey Through Hallowed Ground Civil War battlefield sites
- Washington & Old Dominion Railroad Regional Park
- Scenic Byways and Scenic Rivers
- National Historic Landmarks (5)
- National Register Historic Places (88, including 13 Districts)

Policy Topic to Explore:

Tools to Protect Special Cultural and Historic Places

Loudoun County has used the proffer negotiation process (money voluntarily pledged in a document signed by the owner of property subject to rezoning) to protect historic and cultural sites and places, as well as the list of tools shown to the left. As new development occurs, the Envision Loudoun process can evaluate whether additional local tools are needed to preserve and protect the County's unique heritage sites.

What environmental elements are complementary to Loudoun County's Green Infrastructure?

The Revised General Plan lists a set of complementary issues that are important to consider to preserve Loudoun County residents' high quality of life. These are air quality, lighting and the night sky, and aural environment.

Air quality is impacted by air pollution from various sources of emissions. By its very nature, air quality requires regional approaches. Loudoun County cooperates with the Metropolitan Washington Council of Governments Air Quality Committee (MWAQC) to develop air quality plans for the region that fold into State Implementation Plans – a requirement of the Clean Air Act. When an area is not meeting the nationwide standard for levels of a pollutant, it is said to be in nonattainment. Loudoun is part of a nonattainment area for Ground Level Ozone. MWAQC has produced regional plans to attempt to correct this using measures like emissions testing.

The natural rustic character of Loudoun County, can be harmed by light pollution caused by excessive and improper lighting. The County has standards for lighting of public and private developments to address nuisances associated with light pollution.

The aural environment, or sound, is another important part of quality of life. 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, and highway noise adjacent to arterial and major collector roadways.

Legal Authority Granted to Loudoun County by Virginia

Local governments in Virginia are bound by a legal concept known as Dillon's Rule whereby local governments only have powers specifically granted by the general assembly. This means that in protecting and promoting the natural and historical heritage and special places within the County, the County is bound by the actions of the Virginia General Assembly. New tools may become available through enabling legislation over the life of the Comprehensive Plan and others may become unavailable. It will be essential to plan with the current toolkit available to Loudoun, but to regularly monitor statewide changes.



Waterford, VA

Sources of Informations Used in this Section

[Commonwealth of Virginia, Green Infrastructure GIS, Green Infrastructure Advisory Workgroup Technical Findings Report \(2006\)](#)

[Loudoun County African-American Architectural Resources Survey \(2004\)](#)

[Loudoun County Heritage Preservation Plan \(2003\)](#)

[Loudoun County Revised General Plan \(Adopted 1991, Revised 2001, Amended through 2013\)](#)

[Loudoun County Revised Zoning Ordinance \(1993\)](#)

[Loudoun Water: Central System Water Quality Annual Report for the Year Ending 2015](#)

[The Rural Road Network of Loudoun County – Loudoun County Preservation and Conservation Coalition Rural Roads Committee \(2013\)](#)

[US EPA Green Book National Area and County-Level Multi-Pollutant Information](#)

[Virginia Cultural Resource Information System](#)

[Virginia Department of Transportation Rural Rustic Road Program Manual \(2014\)](#)

[Washington & Old Dominion \(W&OD\) Trail Amenities Crowd-Sourced Map](#)

9. OUR LIFESTYLES

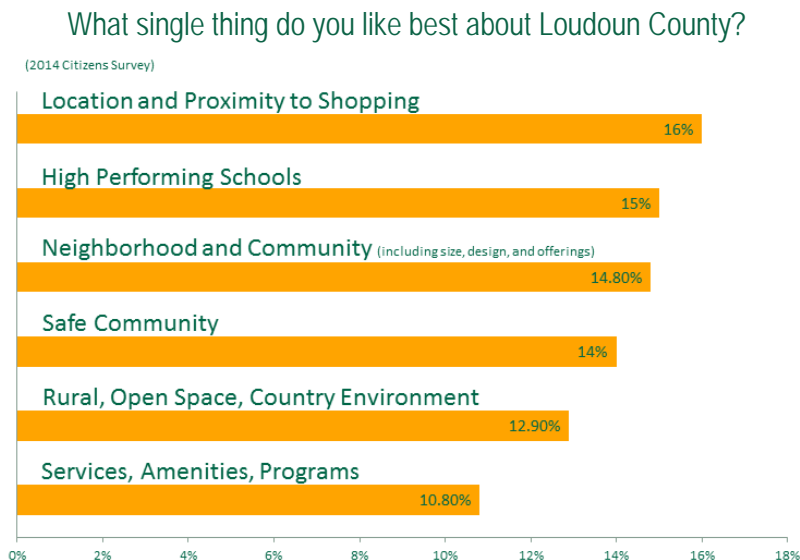
Loudoun County prides itself on being a place “where tradition meets innovation.” Its setting of rural landscapes, historic towns, and thriving new suburban and urban development offers young families, professionals, and retirees with the amenities necessary to live a high quality rural, small town or suburban lifestyle. The County’s high rate of growth - particularly residential growth - and business investment over the last several decades is tied to the quality of life offered in Loudoun County. Put simply, Loudoun County is a highly desirable place to live. It is important to protect those aspects of the County that make it such a great place to call home, while also addressing current and future growth opportunities and challenges.

What attracts people and businesses to Loudoun County?

Loudoun County offers a unique blend of amenities in the DC region – high quality developments, rural heritage, tourism and lifestyle assets, excellent public schools, 21st century jobs, and exemplary services and amenities.

An Outstanding Quality of Life

A biennial Loudoun County citizen survey conducted in 2014 asked respondents what single thing they liked best about Loudoun. The results of this survey demonstrated that there are a broad range of reasons why people love their County. Over the years, the quality of life in Loudoun has been improving according to its residents, and they feel like they receive a good value for their taxes.



Residents in Dulles, Ashburn, Potomac, and Sterling communities also shared their opinions about their local communities between 2008 and 2015 as part of community outreach activities in these areas. These participants from the Suburban Policy Area identified the following reasons for why Loudoun is a great place to live.

- Sense of community
- Aesthetically appealing community
- High performing schools
- Quality of public facilities, parks, and trails
- Natural environment and ample open space
- Businesses eager to invest in the community
- Proximity to work, services, and shopping
- County events
- Low crime rate / public safety
- Quality of roads

Just a Few of Loudoun County's Achievements

• **#1 in America in business investment** for counties of our size - International Economic Development Council

• **Highest median household income in the nation** three years in a row for jurisdictions with a population of 65,000 or higher

• **3rd highest job growth in the nation** - U.S. Bureau of Labor Statistics

• **#1 in Virginia for business investment** for two years in a row - Smart Asset

• **70% of the world's internet traffic passes through Loudoun data centers every day**

• **More wineries and breweries than any other county in Virginia**

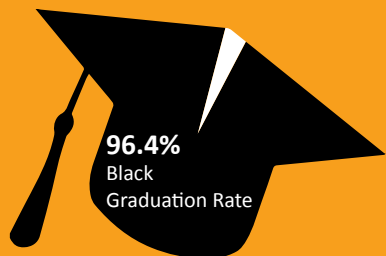
• **#1 in Virginia in grape-growing, bee farms, and honey sales**

• **Winner of the 2016 Certificate of Achievement Award** - International City/County Management Association

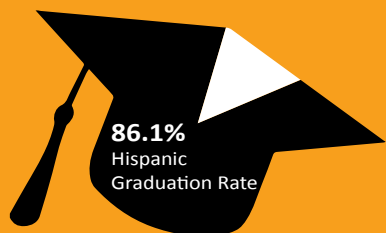
In 2016, Loudoun County Public Schools had...



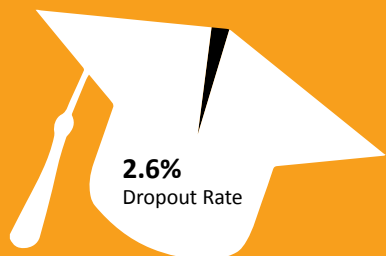
Compared to 91.3% statewide



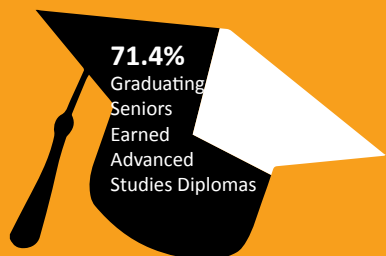
Compared to 88.3% statewide



Compared to 82.8% statewide



Compared to 5.3% statewide



Compared to 51.7% statewide

[An Environment of Educational Experience](#)

Loudoun County public schools consistently excel when compared to other school districts in the Commonwealth, and are an important attraction for potential residents and workers looking to relocate.

High school graduates and workers have many options within Loudoun County to pursue advanced degrees. These higher education institutions play a significant role in training the County's workforce and advance economic development potential in Loudoun. Northern Virginia Community College provides necessary training for local industries. George Mason University collocates with a community college site, and George Washington University operates the Virginia Science and Technology Campus, helping to produce an educated workforce in the area and providing access to academic thought leaders.

Centers of Higher Education in Loudoun County include:

- The Art Institute of Washington-Northern Virginia (branch of The Art Institute of Atlanta)
- Northern Virginia Community College - Loudoun Campus
- George Mason University - Loudoun Campus
- Patrick Henry College
- The George Washington University - Virginia Science and Technology Campus
- Shenandoah University - Northern Virginia Campus
- Strayer University - Loudoun Campus



[Unique Destinations and Events](#)

Loudoun County offers a variety of destinations and events that attract both residents and visitors from all over the U.S. Many of these are focused on the food, wine, brews, and spirits produced right in the County, and others celebrate Loudoun's agricultural heritage and historic attractions. The County hosts numerous annual events, festivals, and equestrian events throughout the year. The County's proximity to Washington, DC and Dulles International Airport also helps to draw many national and international conferences to the County.

Opportunities to Play and Connect with Nature

Loudoun residents have direct access to a plethora of outdoor recreational activities and sporting events. With the Blue Ridge Mountains as its backdrop and accessibility to the Appalachian Trail and Potomac and Shenandoah Rivers, adventure seekers in Loudoun can hike, bike, ride a horse, canoe, zipline, and kayak.

Called the “skinniest park in Virginia,” the 45-mile, multi-use Washington and Old Dominion Rail Trail connects Purcellville in Loudoun to Arlington, Virginia, as well as other trails that ultimately lead to Washington, DC. The County is also home to 35 sporting venues and offers several mature sports destinations and sporting events, including the Babe Ruth World Series and the PGA Senior Golf Tour. The County provides a full range of parks, recreational facilities, and programming to its residents, including regional parks and recreation centers that account for one million visits annually.

Specifically, Loudoun County Department of Parks, Recreation & Community Services, provides its residents with...

1700	acres of open space
60	miles of trails
200	athletic fields
27	parks
18	playgrounds
10	community centers
6	sports complexes
4	misc. sites and centers
3	adult daycare centers

There's a lot going on in Loudoun County...

Nearly **50** vineyards and related businesses



18 breweries and spirit shops



24 historic attractions and museums



10 annual events and festivals



10 farmers markets



Loudoun County is a strong economic competitor

one of the most highly educated populations in the nation

In 2015, 60.2% of citizens 25 and older have earned a minimum of a Bachelor's Degree

highest share of job growth in region

11.1 Regional share of job growth from 1990-2010

home to 30% of world's data centers

every dollar on public services spent on data centers generates \$9.50 in tax revenue

An Attractive Environment for New Businesses

Over the last three decades, Loudoun's economy has experienced significant growth. As more people took up residence in Loudoun County, with high incomes and significant spending power, the retail businesses followed. Over the last fifteen years, the County's inventory of retail space went from less than 1 million to nearly 15 million square feet.

From 1990-2010, Loudoun County achieved 2nd place in the Metro Region in terms of overall job growth behind Fairfax County. Forty percent of the jobs averaged during that time period were for office-using businesses. Many industries have located in Loudoun to take advantage of its access to the County's highly educated workforce, to transportation and particularly Dulles International Airport, and to the nation's capital. The County also has a strong entrepreneurial culture, as illustrated by small businesses comprising 80% of all businesses in the County.

Competition for top talent is fierce and businesses locate where there is a high quality workforce to maintain their competitive edge. Businesses look at a variety of factors when making relocations decisions, such as available sites, local tax rates, access to a skilled workforce, and cost of doing business.

Depending upon the industry being targeted, the lifestyle provided by a community can be a determining factor for relocation. Factors such as affordable workforce housing, transportation accessibility for workers, quality of schools, and community amenities can play a significant role in determining relocation sites. This helps maintain a local labor pool and makes the employer more attractive when recruiting talent from afar. The quality of life in Loudoun has been a significant driver of employment growth in the County. Maintaining a competitive edge and providing the types of environments and amenities that targeted industries desire is Loudoun's challenge for the future.

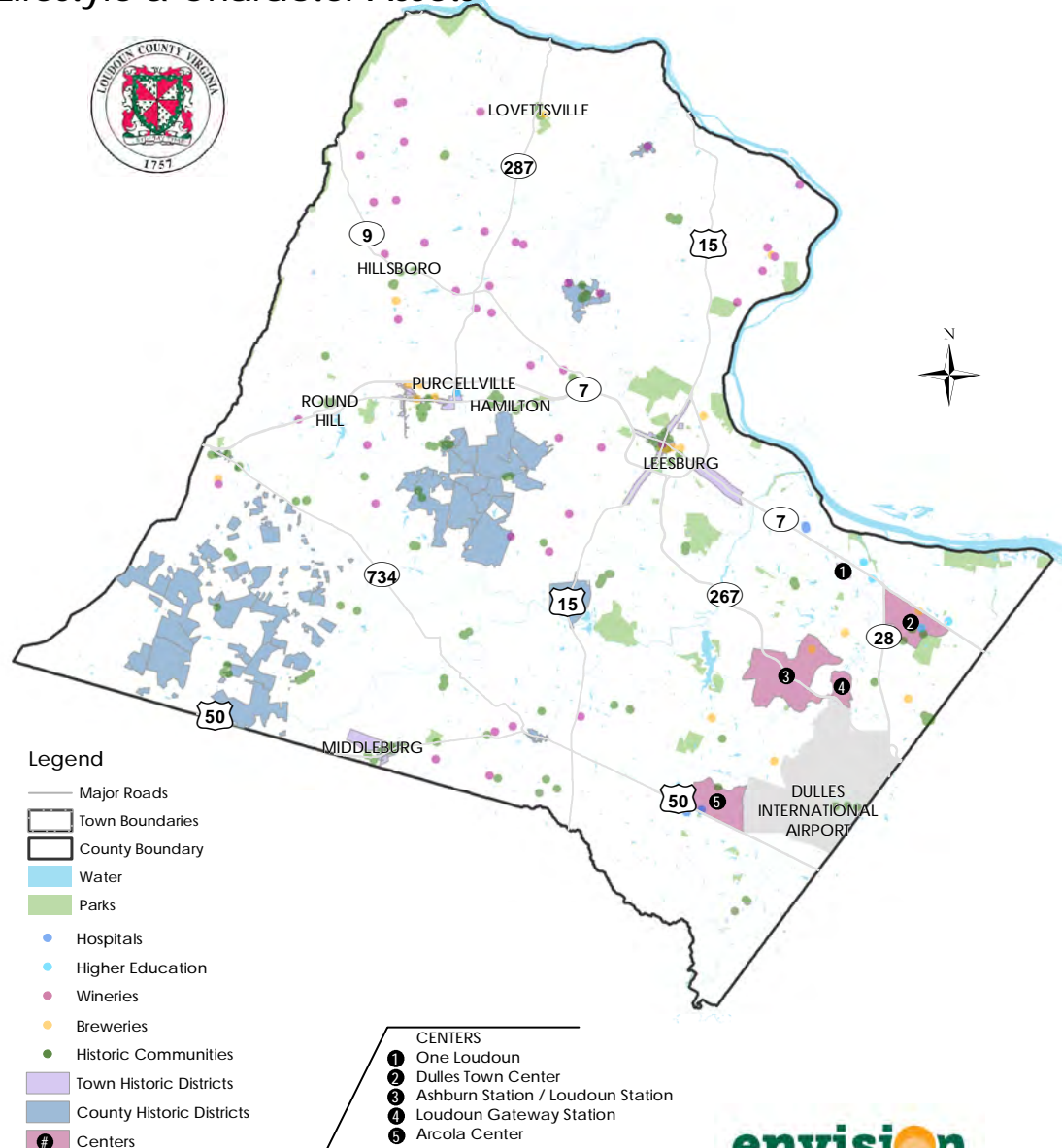


What areas contribute to the lifestyle of residents in the County?

Loudoun is a tapestry of neighborhoods, centers, downtowns, recreational areas, farms, and rural destinations tied together through a network of roads, sidewalks, greenways, and trails. The suburban and rural distinction in Loudoun is an important demarcation of the different lifestyles offered in the County. The suburban areas to the east provide the most variety for shopping, jobs, housing, and entertainment. And the rural areas to the west are home to the County's scenic viewsheds, active farms, farmsteads, and agrotourism businesses including numerous wineries, breweries, and wedding venues.

Loudoun County

Lifestyle & Character Assets



Every reasonable effort has been made to ensure the accuracy of this map, but reliance upon it is at the risk of the user.

envision
LOUDOUN
our county • our future

0 1.5 3 6 9 12 Miles

February 10, 2017

How have our lifestyles affected County growth patterns?

From Agricultural Hub, to Suburb of DC, to a Growing Metro Community

For more than two centuries, Loudoun's early settlement patterns were largely defined by the needs of farmers and access to markets. Rural roads later became the current Routes 7, 15 and 50, and natural features and waterways necessitated meandering roads and longer travel patterns. With the construction of the Dulles International Airport and the construction of Route 28 in the 1960s, the County became a full-fledged Washington, DC suburb, providing greater access to the capital city and opening up new opportunities for employment. The momentum of these major improvements spurred significant growth that continued to accelerate through the 1990s and 2000s. Strong demand for residential development that took advantage of both the access to DC and the scenic qualities of Loudoun, as well as the construction of a major community infrastructure, led to development of Loudoun's many high quality neighborhoods. Retail developments to serve these residents followed first as small neighborhood shopping centers, later evolving to larger community and regional destinations.

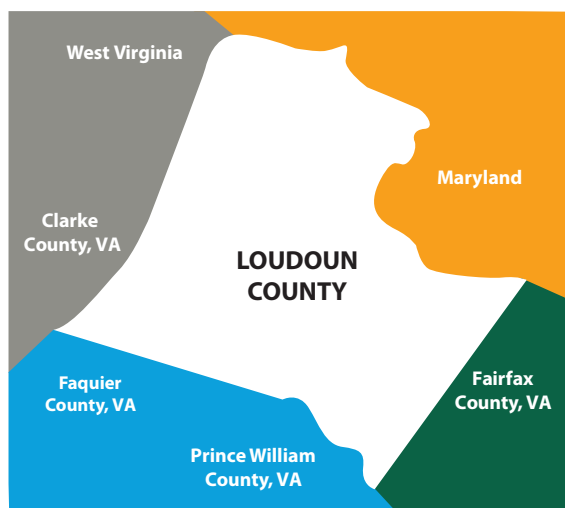
During this time, the community created a vision through the Loudoun County General Plan to focus investment and development in the eastern portions of the County closest to the regional market draw by preserving the rural and agricultural character of western Loudoun. Today, Loudoun is not just a bedroom community of DC, but is a full-service community that offers a considerable share of regional employment that continues to expand.

Commuting Patterns Illustrate Draw to DC and Demand for Regional Travel Options

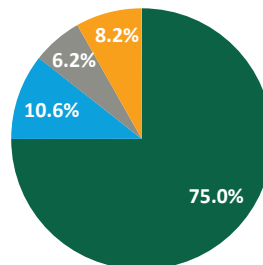
In 2015, 47.4% of workers age 16 and up living in Loudoun County were employed within the County. Many of the 52.5% of workers employed outside the County and workers traveling through the County contribute to peak period trips as they commute to and from work.

While there are people traveling throughout the region, the southeast border with Fairfax County (leading most directly to Washington, DC) sees the majority of these trips. Trips across this border account for three quarters of all trips out of Loudoun in the morning and into Loudoun in the evening, as well as half of trips into Loudoun in the morning and out of Loudoun in the evening. Others travel to other cities and counties in Virginia, Maryland, and West Virginia.

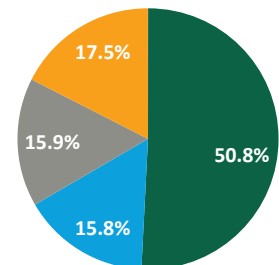
Direction of Peak Period Trips To and From Loudoun (2015)



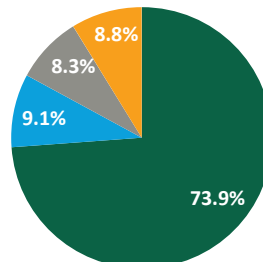
Morning, Leaving Loudoun



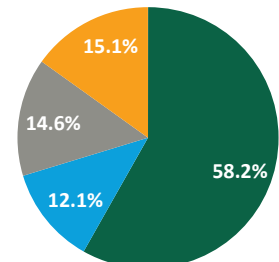
Morning, Entering Loudoun



Evening, Entering Loudoun



Evening, Leaving Loudoun



Most Residents Currently Travel by Car

U.S. Census American Community Survey estimates for 2010-2014 show that the majority of Loudoun residents drove to work. A small fraction telecommuted. Telecommuting in particular is a trend that can change work patterns. In the 2014 Loudoun County Survey of Residents, among residents with at least one full-time employed person in the household, over a third of respondents reported living in a household where someone telecommuted at least once a week. Telecommuting was defined by the survey as working remotely from home or from a telecommuting center away from the main office. A small minority took the bus, walked or biked to work. Understanding these commuting patterns helps to inform priorities for transportation investments.

According to a May 2015 report, 93% of Loudoun County's public transit users are satisfied with the current bus service. The average Loudoun commuter bus rider: drove to the park and ride lot to access the bus, is typically traveling to work in the DC area, and walked to their final destination after departing the bus. These bus commuters were split on the likelihood that they will consider using Metrorail in the future, and those that are more satisfied with the County's current bus service are less likely to consider using Metrorail.

What are the biggest challenges facing our quality of life?

Respondents to the 2014 Loudoun County Survey of Residents stated that the biggest challenges facing Loudoun centered on traffic, growth and development, and schools. Community outreach efforts for Dulles, Ashburn, and Potomac/Sterling reveal a desire for greater connectivity when walking or cycling between destinations, centralized retail hubs, greater transit service, and better proximity to jobs.

Another survey of residents conducted by Loudoun's Economic Development Advisory Commission identified the desire for more entertainment options and a more walkable community as the top two additions to the County that would make it a more popular destination. This survey also identified housing issues including a desire for affordability and density preferred by over half of survey respondents.

These findings suggest that while Loudoun has successfully produced desired rural and suburban environments, the preferences of at least some residents are shifting toward walkable communities that provide better access to entertainment, dining, and shopping options. These preferences suggest that there is latent demand for places to work and live in Loudoun that provide a mix of uses in close proximity.



How Loudoun Transit Commuters Get to Work:



*Of Loudoun
residents who
commuted by
bus...*

91%

Drove to a park and ride lot
to access bus transit

60%

Took the bus to Washington
DC

81%

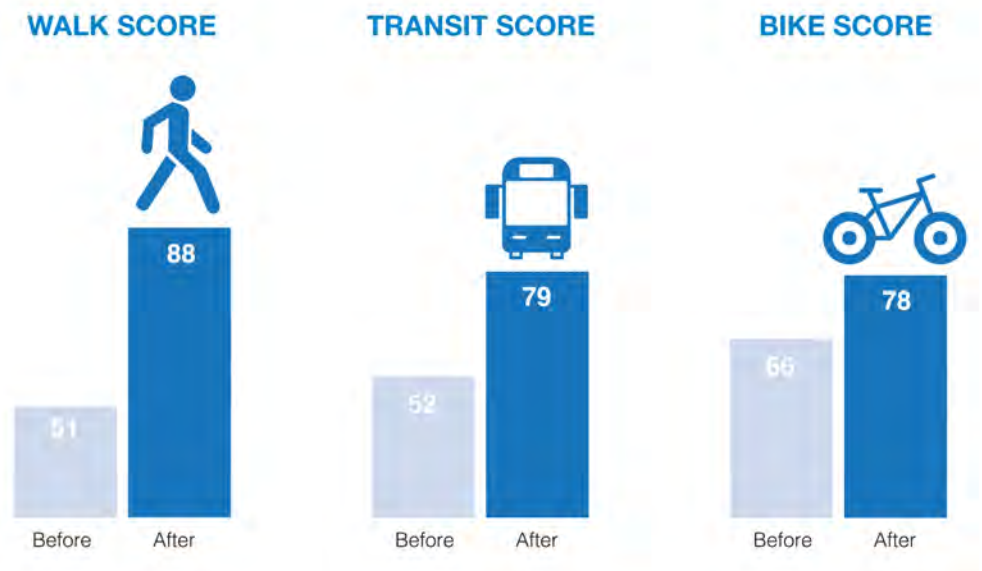
Walked to their final
destination after departing
the bus

National Trends Show Changing Lifestyle Preferences

National trends mirror Loudoun's survey findings as it relates to work settings. A survey completed by the National Association of Industrial and Office Properties (NAIOP) found that office tenants preferred "vibrant" suburban centers to traditional single use suburban office centers, and that these vibrant centers were outperforming traditional office centers. Vibrant centers were defined by having successful live-work-play environments in the form of compact and walkable centers with a mix of employment, shopping, and housing uses.

Smart Growth America surveyed several hundred major companies that relocated in the 2010s and computed index scores out of 100 for walkability, transit, and bicycle infrastructure for the original business site and the new location. All indices were higher in the new locations, suggesting that corporate America is moving from the traditional suburban business park to walkable mixed use centers.

Scores for Character of New and Old Business Sites After Corporate Relocations



"Core Values: Why American Companies are Moving Downtown." Smart Growth America

These changing preferences apply to where and how we choose to live. A national study of Generation Y/Millennial housing preferences by the Urban Land Institute found that 50 percent of the generation was renting (60% of that segment was renting apartments or townhomes), and that nearly 2/3 of those surveyed were satisfied with being renters. When selecting neighborhoods, three factors were much more likely to be listed among their top concerns: cost of housing, neighborhood safety, and proximity to work. Nationally, this generation is 78.6 million members strong – the largest generation in the US, so their preferences will have a major impact on housing demand.

Taken together, the evolving preferences of some businesses and of the largest employed generation are pointing toward demand for more choices for where they work, live, and play. New options for a more walkable environment that integrates land uses and creates a more connected environment could complement the suburban and rural lifestyle options provided in Loudoun today.

The County is creating the building blocks for this lifestyle with the two new Silver Line Metrorail stations and the potential for more dense and mixed developments surrounding the stations. The area around the two stations, named Ashburn and Loudoun Gateway, will likely change, welcoming in new denser development.

Policy Topic to Explore:

Adapting to Changing Resident and Business Preferences

Development within Loudoun has been guided now for decades by policies that support suburban and rural lifestyles. These policies are highly supported by Loudoun citizens. As lifestyle preferences change, the County will need to determine its vision for addressing these changing demands, while also preserving what is best about Loudoun.

Sources of Information Used in this Section

[2014 Loudoun County Survey of Residents Report of Results](#)

[American Community Survey](#)

[Ashburn Community Outreach Project](#)

[Commuter Connections – State of the Commute Survey 2016](#)

[Core Values: Why American Companies are Moving Downtown](#)

[Dulles Community Outreach Project Final Report](#)

[Gen Y and Housing: What They Want and Where They Want it](#)

[Loudoun County Department of Parks, Recreation & Community Services Activity Guide](#)

[Loudoun County Public Schools](#)

[Loudoun County Transit O & D Study Summary Report](#)

[Market and Fiscal Impact Analysis of the Phase 2 Metrorail Extension to Loudoun County](#)

[Nighttime Economy Ad-Hoc Committee Report](#)

[Parks, Recreation, and Community Services Strategic Plan 2016-18](#)

[Preferred Office Locations - National Association of Industrial and Office Property Research Foundations](#)

[Results Report for the Potomac and Sterling Communities](#)

[Retail, Entertainment & Culture Cluster Study](#)

[U.S. Census OnTheMap](#)

[Visit Loudoun Visitors Guide](#)



10. NEXT STEPS

This Report is the first work product of the Envision Loudoun Comprehensive Planning process. A summary of this report will be provided to the Envision Loudoun Stakeholder Committee at a February 21 meeting and to the Board of Supervisors at a February 23 meeting. It will also be made available for full public viewing on the project website:

www.envision-loudoun.org.

This information, along with the public input provided during the first phase of planning (Phase 1: Foundation) will be used to generate the County's vision for the Plan in Phase 2: Vision, that will ultimately guide development of the new Comprehensive Plan goals and actions.



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