

**Connections 2015:
Fairfax County
Comprehensive Transit Plan**

3. Analysis of Demographics, Land Use and Travel Flows

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Prepared for:

Fairfax County Department of Transportation

By:



In association with:

**Foursquare Integrated Transportation Planning
WBA Research**

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3.1 Fairfax County Overview

Encompassing just over 390 square miles, Fairfax County is bordered on the northwest by Loudoun County, on the southwest by Prince William County, and on the east by the Potomac River, Arlington County and the cities of Falls Church and Alexandria. Across the Potomac River lie Maryland and Washington, DC. The City of Fairfax, while technically not part of Fairfax County, is located near the center of the County and is completely surrounded by Fairfax County. The location of Fairfax County is shown in Figure 3.1.

The Capital Beltway (I-495) loops through the county from northeast to southeast and serves as a major north-south link in the eastern part of the County connecting Tysons Corner and the North County with Springfield and the South County. Major north-south arterials further west include Ox Road/Chain Bridge Road (Route 123), Fairfax County Parkway (Route 286) and Sully Road (Route 28). Three radial limited access highways, I-95, I-66 and the Dulles Airport Access Road (Route 267), emanate from Washington DC and traverse the south, central and northern parts of Fairfax County, respectively. Other radial routes include Leesburg Pike (Route 7), Lee Jackson Highway (US-50), Lee Highway (US-29) and Richmond Highway (US-1). Washington-Dulles International Airport is located just off the Dulles Airport Access Road, along the northwest border of the County west of Sully Road.

The County includes three incorporated towns, Vienna, Herndon and Clifton, which each have their own mayor and Town Council. The Census Bureau lists over 60 Census Designated Places (CDPs) in the County, which do not have local government. These include such locations as Tysons Corner, Reston, Annandale and Mount Vernon. Large employment centers in the County include Tysons Corner, the Dulles Corridor (along Routes 267 and 28 approaching Dulles airport), Fairfax Center (including the City of Fairfax), Merrifield, and the two major Department of Defense (DoD) facilities, Fort Belvoir and the National Geospatial-Intelligence Agency (NGA). Fort Belvoir contains some 100 military organizations including the new Fort Belvoir Community Hospital. The new East Campus for the NGA contains more than 2.2 million square feet of research and office space and the surrounding area attracts many DoD contractors and supporting services.

The Fairfax County Economic Development Authority describes Fairfax as a “world class center of commerce and trade and the technology hub of the east coast.” During 2013, the County added almost 7,500 jobs to the local economy, including 500 at Amazon.com in Herndon.¹ Other major employers in the County include the U.S. Department of Defense, Inova Health System and Booz Allen Hamilton. Jobs categorized as professional and technical services make up the largest portion of the County’s economy, 27 percent, and government spending in Fairfax County in FY2013 totaled \$23 billion.²

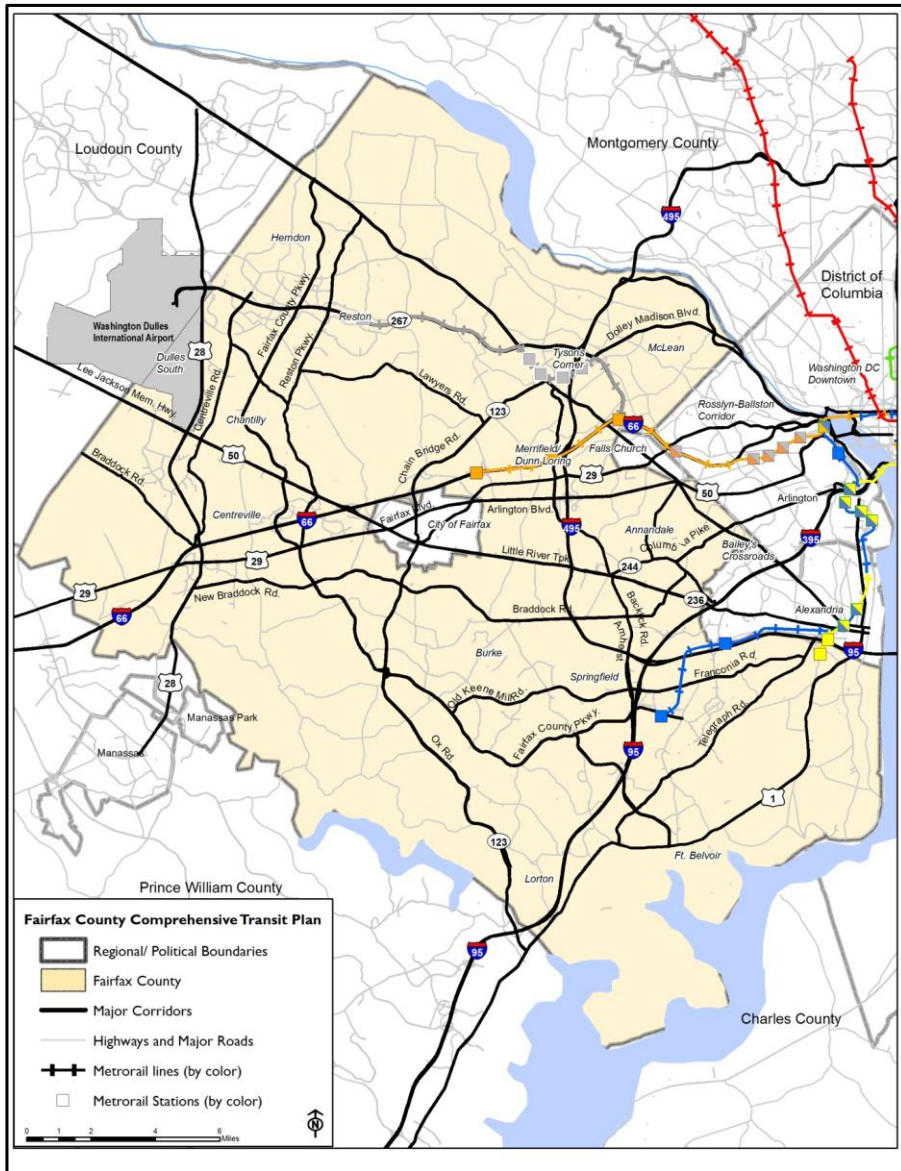
The County is also home to institutions of higher learning, including Northern Virginia Community College with 60,000 students and George Mason University with 31,000 students.³ Other schools in the area include the University of Virginia and Virginia Tech branches at Falls Church, University of Virginia Darden School of Business and the Commonwealth Graduate Engineering Program.

¹ Fairfax County Economic Development Authority. <http://www.fairfaxcountyyeda.org/>.

² Ibid.

³ Fairfax County Economic Development Authority. <http://www.fairfaxcountyyeda.org/higher-education>.

Figure 3.1 Fairfax County Location



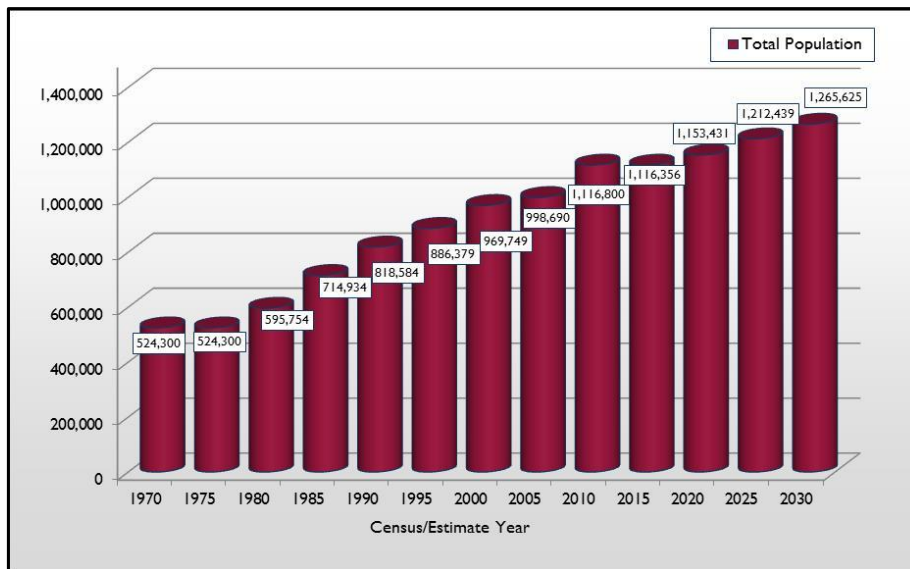
3.2 Population and Demographics

3.2.1. Existing Conditions

Fairfax County is, by far, the most populous county in Virginia, with just over 1.1 million residents in 2012. Persons under 18 years of age make up about 24 percent of the population, while persons 65 years of age and older make up about 11 percent. About 70 percent of County residents own their home and the median household income in 2012 was just under \$110,000, the second highest in the nation, behind only adjacent Loudoun County. Only 5.6 percent of the population of Fairfax County lives below the poverty line.

Figure 3.2 demonstrates the County's population growth for the last 40 years as well as the Metropolitan Washington Council of Governments' (MWCOG) projected growth out to the year 2030. As shown, until 2010, the County experienced a steady increase in residents, from about 500,000 in the 1970s to over one million by 2010. After 2010, population growth is expected to slow slightly, with a very slight decrease expected by 2015. After 2015, population is expected to once again grow, although at a moderate pace. The current population is projected to grow 13 percent by 2030, to close to 1.27 million people.

Figure 3.2 Fairfax County Population Growth (1970-2030)



Data Sources: U.S. Census Bureau Decennial Census, American Community Survey (ACS), and Population Estimates Program; MWCOG 8.2 Cooperative Forecasts

The following is a description, with maps, of Fairfax County's demographic characteristics, including population and household density, population by age, disability status, persons in poverty, median household income, zero-vehicle households, population by race and Limited English Proficiency (LEP) population. Because of its central location surrounded by Fairfax County, the City of Fairfax is included

in the data and maps. Each of the characteristics addressed plays an important role in the use of transit, either by acting as an indicator to the propensity for transit use and/or because they are important factors that must be considered in completing the Title VI analyses that are required for receipt of federal transit funding.

The demographic data contained within this chapter was obtained from various sources, including the U.S. Census Bureau's Decennial Census, American Community Survey (ACS) and Population Estimates Program; MWCOCG's Cooperative Forecasts Program; and the County of Fairfax. For more detailed reference, each map cites a specific data source.

Population Density

According to the U.S. Census Bureau, the 2012 population of Fairfax County is just over 1.1 million, living within 390 square miles of land area. Figure 3.3 shows the number of persons per square mile at the block group level and illustrates that most of the County is made up of areas of 1,000 persons or more per square mile. The most sparsely populated areas of the County are those on the outskirts, south near Prince William County and north along the Potomac River across from Montgomery County. In many of the population centers in Fairfax County, there are block groups with over 15,000 residents per square mile.

One of the most notable features in the development pattern of Fairfax County is that there are two areas of dense population separated by a less densely developed area in the middle. The larger densely populated area, the area east of VA-123, is an extension of the urban development pattern emanating from Washington, DC that includes Arlington County and the cities of Alexandria and Falls Church. The second, smaller area in the western part of the County is adjacent to Dulles Airport and includes Centreville, Chantilly, Reston and Herndon. The two areas are connected by a narrow densely populated strip in the Fairfax Center area.

Household Density

For the purpose of identifying areas with enough population density to support public transit service, density is generally measured in households per acre, rather than persons per square mile. The number of households per acre by block group is shown in Figure 3.4. The majority of the County is covered by areas with fewer than three households per acre, with a significant part of the County having less than one household per acre. The block groups with three or more households per acre are scattered throughout more the densely populated areas in the eastern and western parts of the County.

Population by Age

Persons over the age of 65 ("older adults") have a higher propensity for transit use than persons of other ages. Figure 3.5, below, shows the number of persons 65 years and older per square mile by block group. In most of the densely populated areas of the County, there are at least 100 older adults per square mile. Block groups with very high densities of older adults are mostly located east of Route 123, and southeast of Richmond Highway. Unlike total population, the density of older adults appears to be higher in the eastern part of the County (east of Route 123) than in the Dulles Corridor in the west indicating a higher percentage of older adults in the east.

Persons with Disabilities

The number of persons with disabilities is captured by the Census Bureau at the tract level rather than at the block group level. The American Community Survey's definition of disability categorizes types of disabilities into communicative, physical, and mental domains according to a set of prescribed criteria

and all types are included in this analysis. Figure 3.6 illustrates the number of persons with disabilities per square mile in Fairfax County. As shown, there are fewer than 500 persons with disabilities per square mile in most of the County. Higher concentrations of persons with disabilities can be found at a few locations inside the beltway, as well as along Richmond Highway, in Springfield and at a few locations along the Dulles Corridor.

Figure 3.3 Fairfax County Population Density (2012)

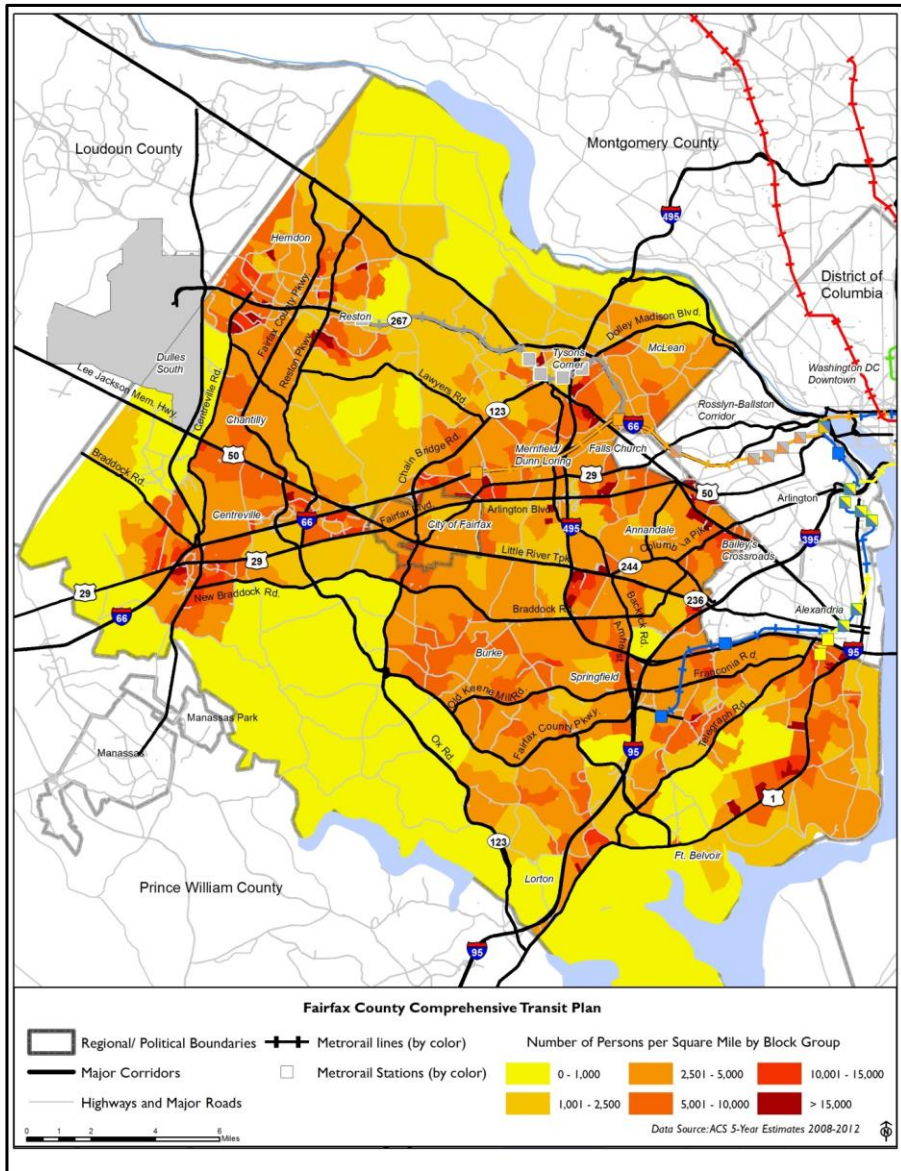


Figure 3.4 Fairfax County Household Density (2012)

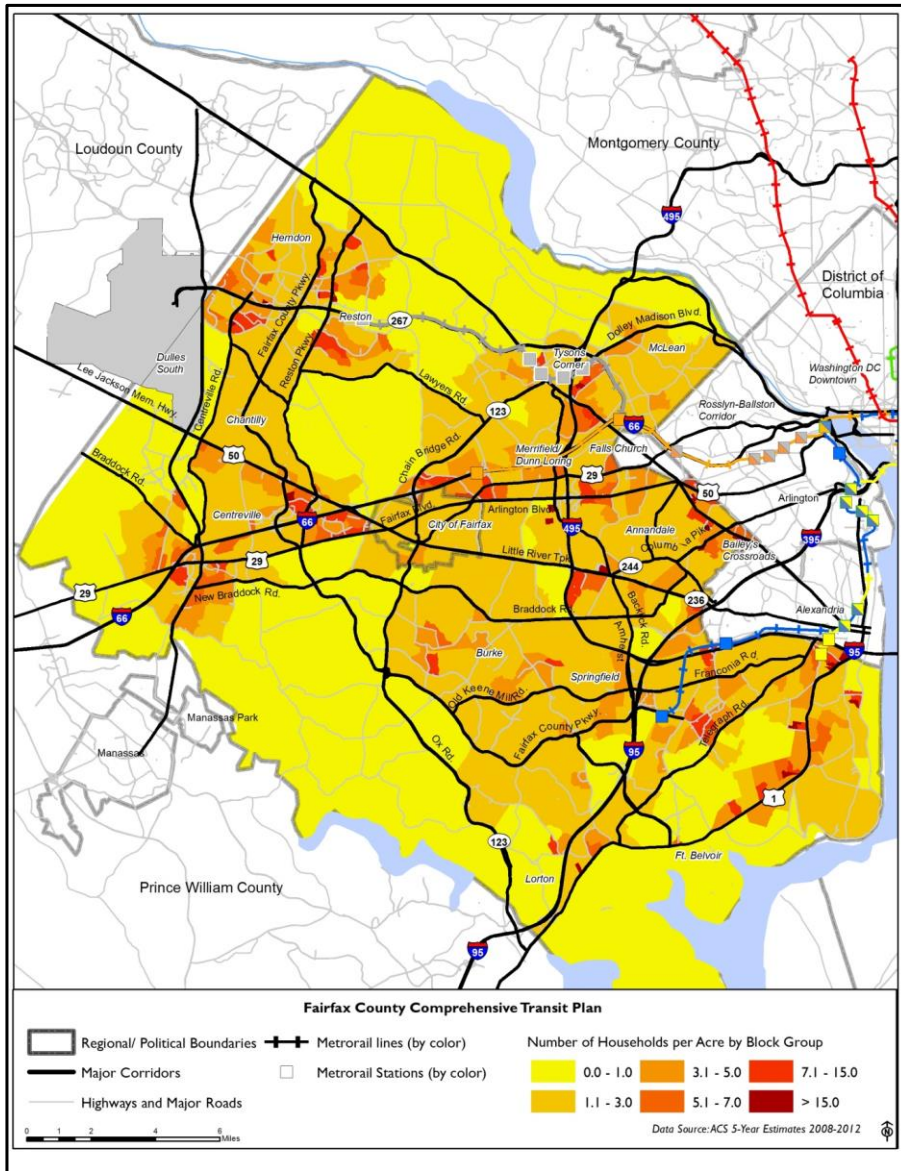


Figure 3.5 Fairfax County Density of Older Adults (2012)

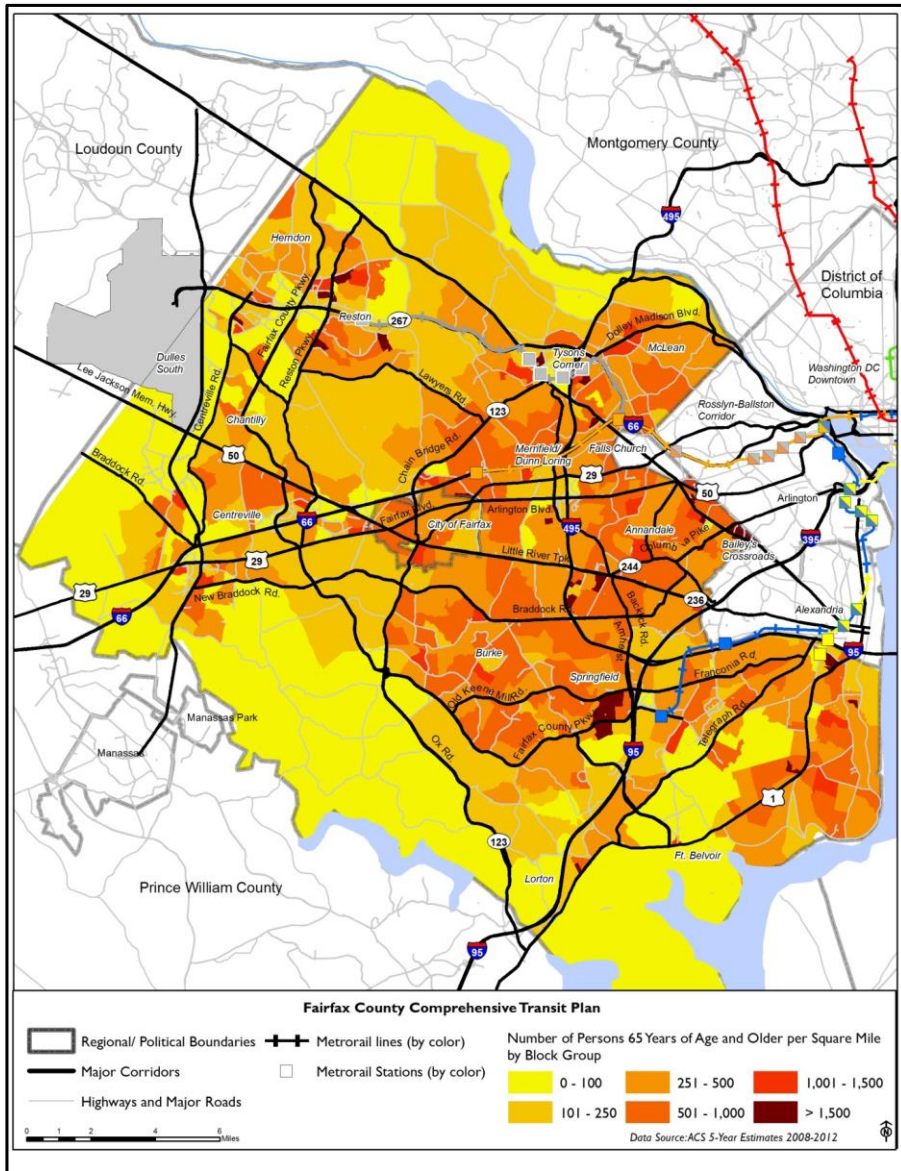
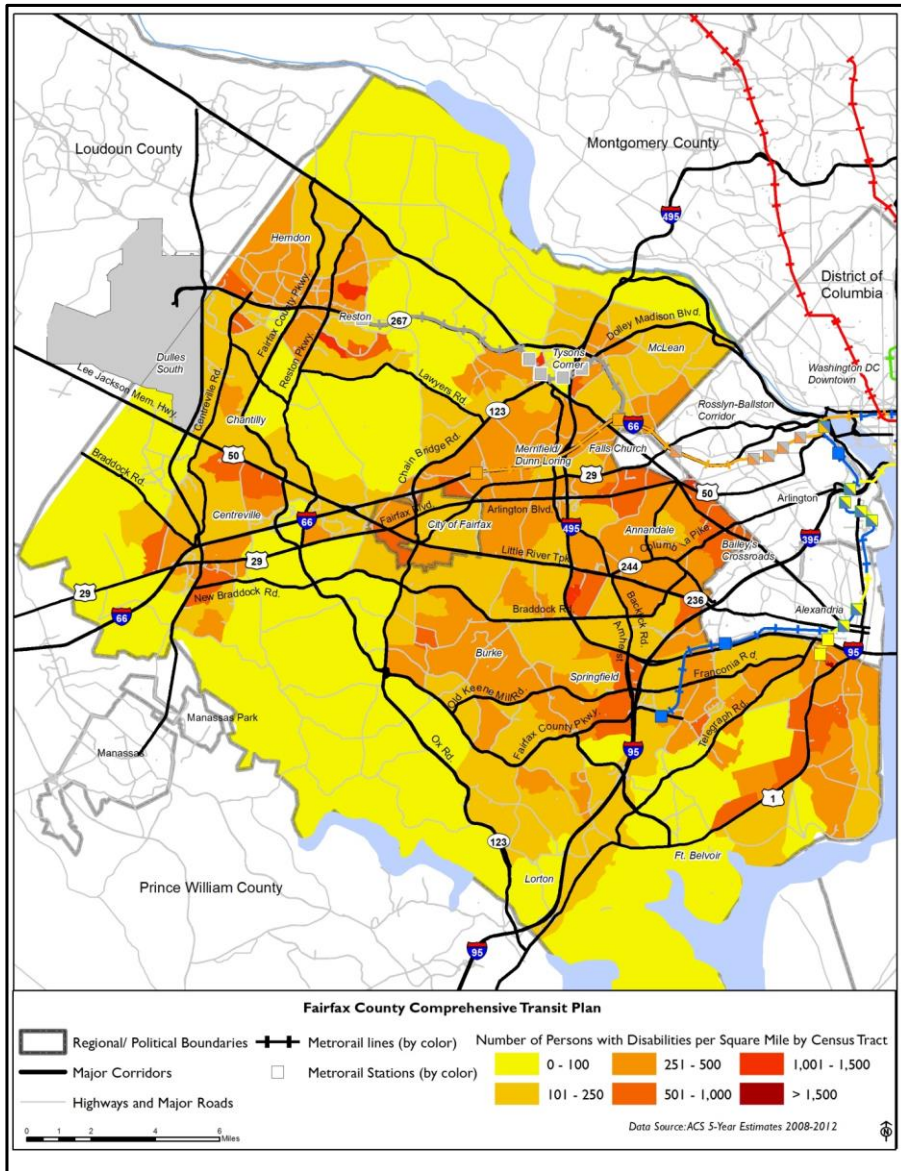


Figure 3.6 Fairfax County Density of Persons with Disabilities (2012)



Persons in Poverty

The number of persons in poverty per square mile by tract is displayed in Figure 3.7. Compared to other regions, the overall County rate of poverty, 5.6 percent, is relatively low⁴. Still, as demonstrated by the map, there are some areas with more than 500 persons in poverty per square mile. In Herndon and Reston, the same areas where there is high density housing, there are tracts with more than 1,000 persons in poverty per square mile. In Centreville, along US 1 in the south, and in Bailey's Crossroads, there are more than 1,500 persons in poverty per square mile.

Median Household Income

The median household income in Fairfax County, \$110,000, is extremely high, not only compared to the rest of Virginia, but also to the rest of the nation. This is illustrated in Figure 3.8, which shows the median household income categories by census tract. Only very small areas of the County, the same areas with high poverty and high density housing, contain households with median annual earnings of \$45,000 or less. In the least densely populated areas in the north and south edges of the County, median income is well over \$175,000 per year.

Zero-Vehicle Households

As illustrated by Figure 3.9, the vast majority of households in the County have access to at least one personal vehicle; less than 1.5 zero-vehicle household per acre. Bailey's Crossroads/Seven Corners and along US-1 northeast of Fort Belvoir, as well as parts of Springfield and Annandale, are the areas with the most zero-vehicle households.

Population by Race and Limited English Proficiency (LEP)

While race and English language proficiency are not strong indicators of transit-usage, an analysis of those characteristics is included here because of the important role Title VI requirements play in ensuring eligibility to receive federal transit funding, especially with the final FTA guidance and requirements released in October 2012. However, a full Title VI analysis requires greater detail than that which is presented here. This section just provides a general picture of where concentrations of minority and LEP populations exist in the County.

Fairfax County is fairly diverse in terms of the number of non-white persons per square mile. As shown in Figure 3.10, there are many areas of the County where there are more than 1,500 non-white persons per square mile. From Herndon south to Centreville, most census tracts contain 1,000 or more non-white persons per square mile. The same is true in areas adjacent to and east of Route 123. Areas of the County that are sparsely populated in general are the same areas where we see a low concentration of minority persons.

⁴ The U.S. Census Bureau determines poverty status by comparing annual income to a set of dollar values called poverty thresholds that vary by family size, number of children, and the age of the householder. The thresholds do not vary by region. If a family's before-tax money income is less than the dollar value of their threshold, then that family and every individual in it are considered to be in poverty. For people not living in families, poverty status is determined by comparing the individual's income to his or her poverty threshold.

Figure 3.7 Fairfax County Density of Persons in Poverty (2012)

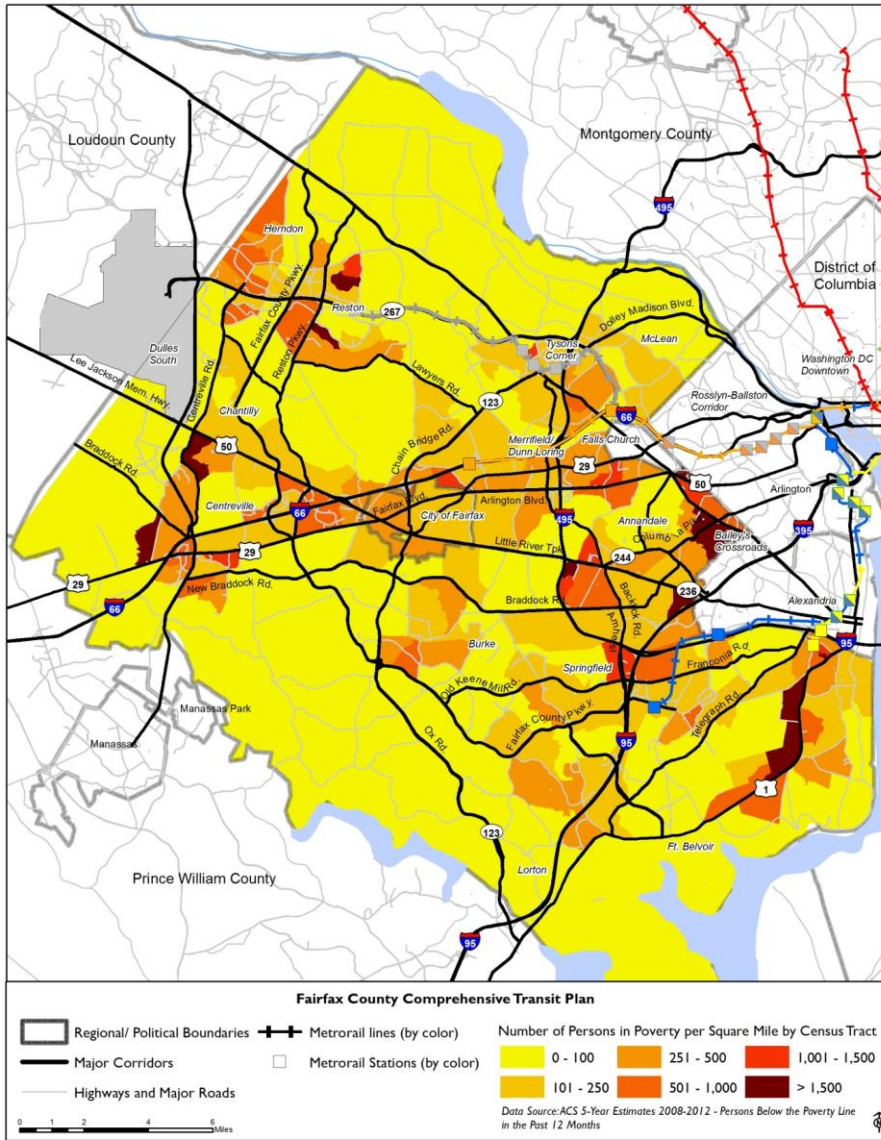


Figure 3.8 Fairfax County Median Household Income (2008-2012)

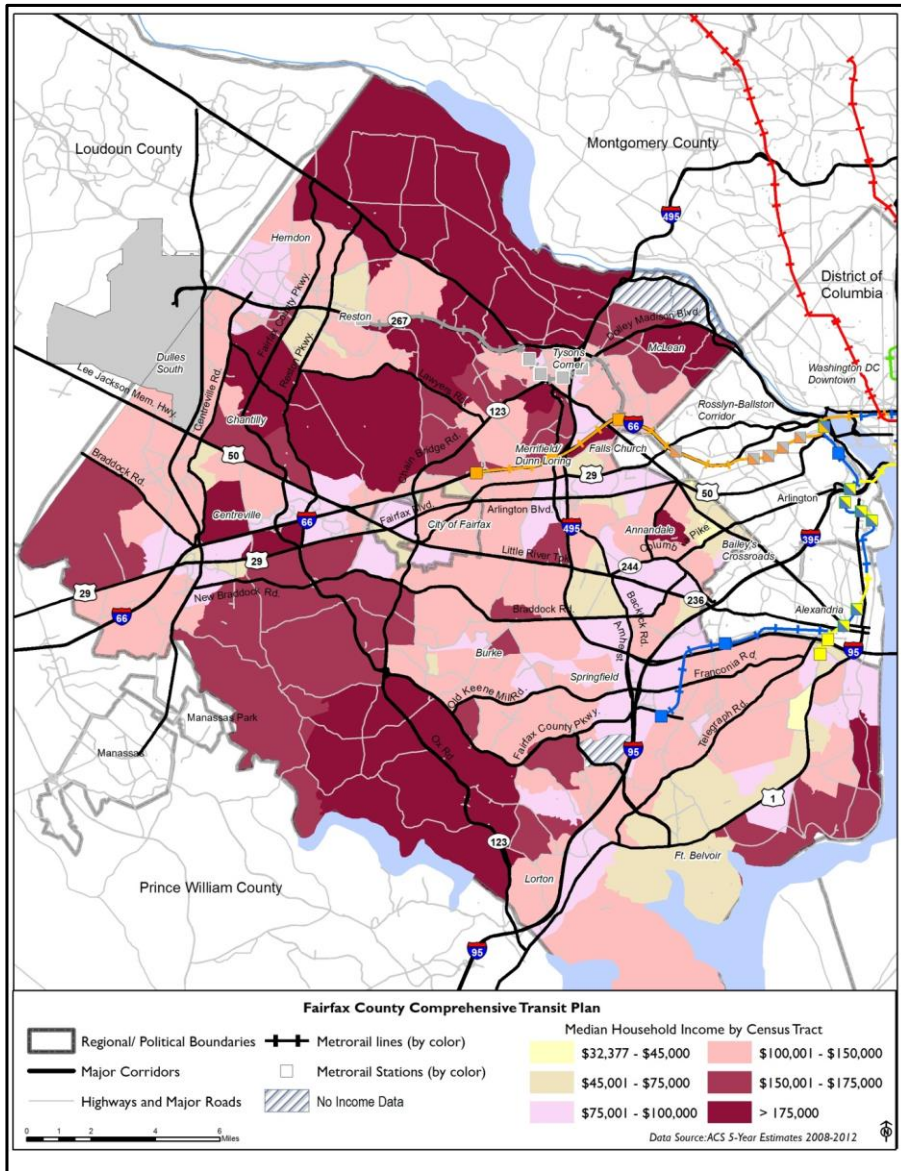


Figure 3.9 Fairfax County Density of Zero-Vehicle Households (2012)

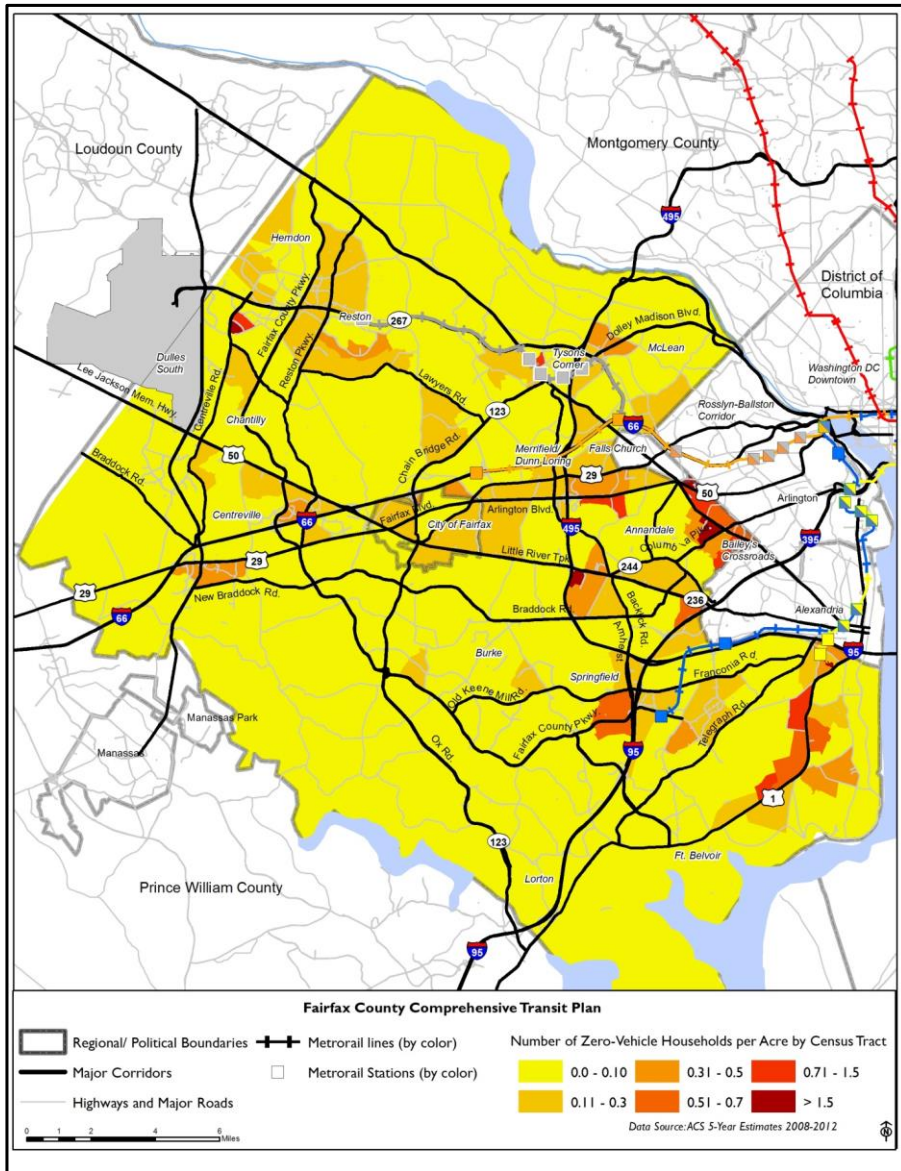
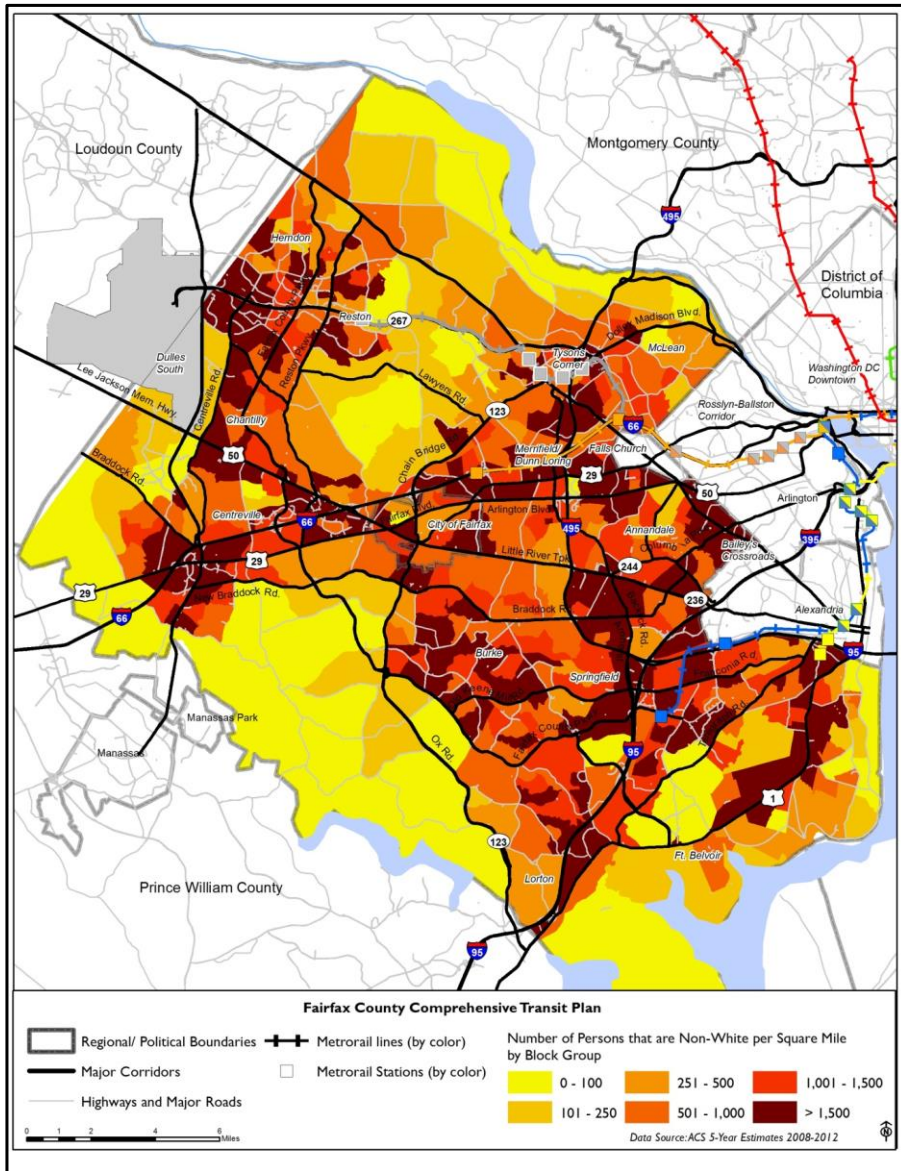


Figure 3.10 Fairfax County Density of Non-White Persons (2012)



Error! Not a valid bookmark self-reference. shows the percentage of the population that is non-white, again at the census tract level. There is wide variation in the percentage of the total population that is non-white. In areas of the County that are less dense overall, minorities tend to make up no more than 30 percent of the total population. In other areas, typically those with greater population density, there are areas that are 40 percent or more non-white, with some areas where more than 60 percent of the population are minority. One area that has a high minority percentage that is less densely populated than other minority areas, is the I-95 corridor in Newington and Lorton, where between 40 and 75 percent of the population is minority. In most areas of Reston, Chantilly and Centreville, 40 percent or more of the population is minority.

The number of persons per square mile who speak English less than well is displayed in Figure 3.12. County wide, about 15 percent of persons five years of age and older speak English less than well, although as shown in Figure 3.13 there are many tracts within the County that contain a higher percentage of LEP persons. This is especially true in Herndon, Centreville and Lorton, as well as most of the area inside the beltway between Tysons and Springfield, where most tracts are made up of more than ten percent LEP persons. In much of the rest of the County ten percent or less of the population speaks English less than well.

3.2.2. Demographic Projections

Projections of the population and number of households into 2025 were obtained from MWCOG's Round 8.2 Cooperative Forecasts. MWCOG's Department of Community Planning and Services provides public projections at the level of Traffic Analysis Zone (TAZ). Data is presented in five year increments. Detailed information on projection methodology can be found on the MWCOG web site.⁵

Population

Between 2010 and 2025, the population of Fairfax County is projected to grow from 1,116,800 to 1,212,439; a change of just about eight percent. Fairfax City is projected to grow from 22,737 to 26,420; a change of just about 16 percent. The number of persons per square mile and the projected percentage growth in population between 2010 and 2025 at the TAZ level are shown in Figure 3.14 and Figure 3.15, respectively. As demonstrated by the maps, the highest percentages of population growth are expected to occur in or adjacent to several areas that are already densely populated, such as the Herndon, Chantilly and Centreville corridor near the airport. In only a small number of TAZs, population is projected to decline.

Figure 3.16 shows the density and growth information as a series of dots, each representing 200 people, distributed evenly within each TAZ, with. The 2010 population is shown by the darker colored dots and the projected additional population in 2025 is shown by the lighter colored dots. The figure more clearly shows the large projected increase in Tysons Corner. The Herndon, Chantilly and Centreville corridor also shows significant growth, as well as smaller pockets in Springfield and Merrifield.

Households

Fairfax County's households are projected to grow at a similar rate to overall population; about 14 percent. In 2010, there were 386,103 households in Fairfax County. By 2025, MWCOG expects that there will be 438,812 households. Figure 3.16 Fairfax County Projected Population Growth

⁵ http://www.mwco.org/publications/departmental.asp?CLASSIFICATION_ID=6&SUBCLASSIFICATION_ID=27

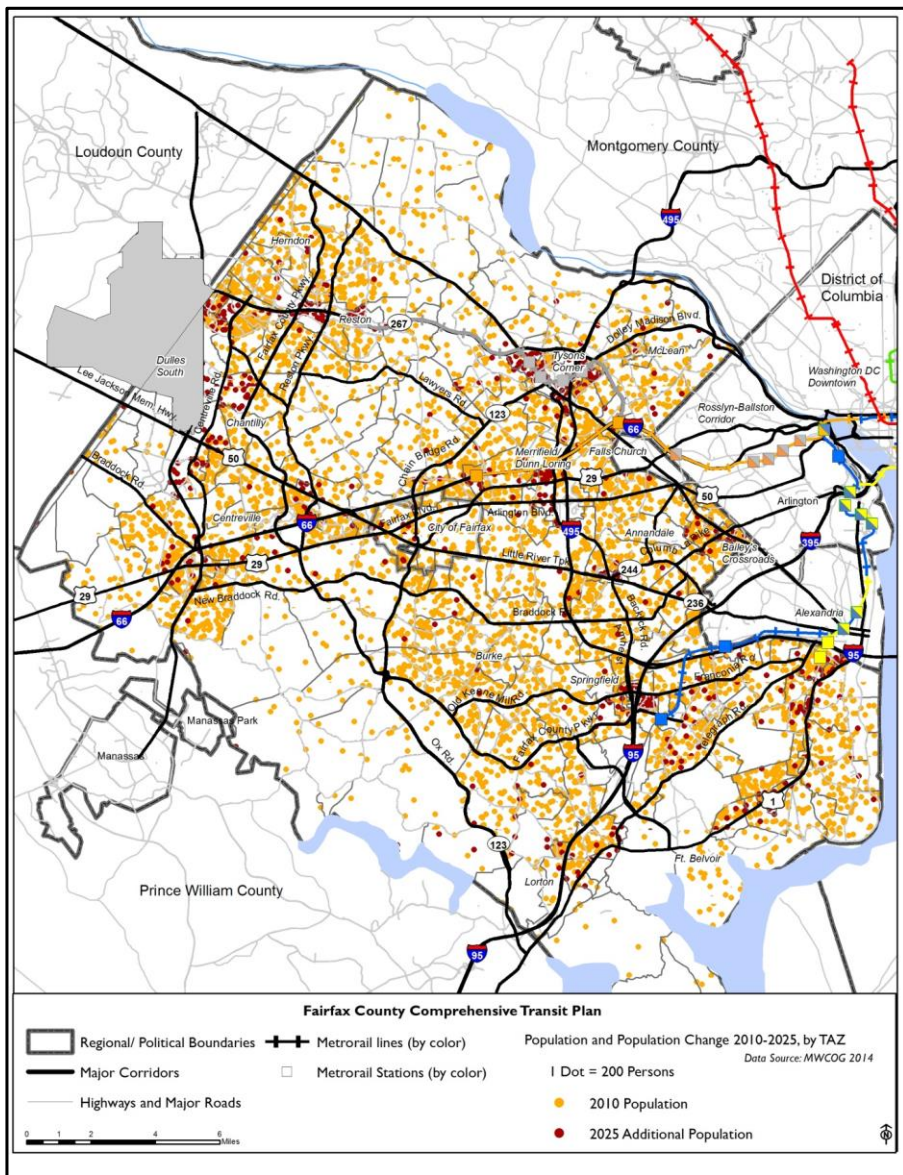


Figure 3.17 shows the projected number of households per square mile at the TAZ level, for the year 2025.

Figure 3.11 Fairfax County Percentage of the Population that is Non-White (2012)

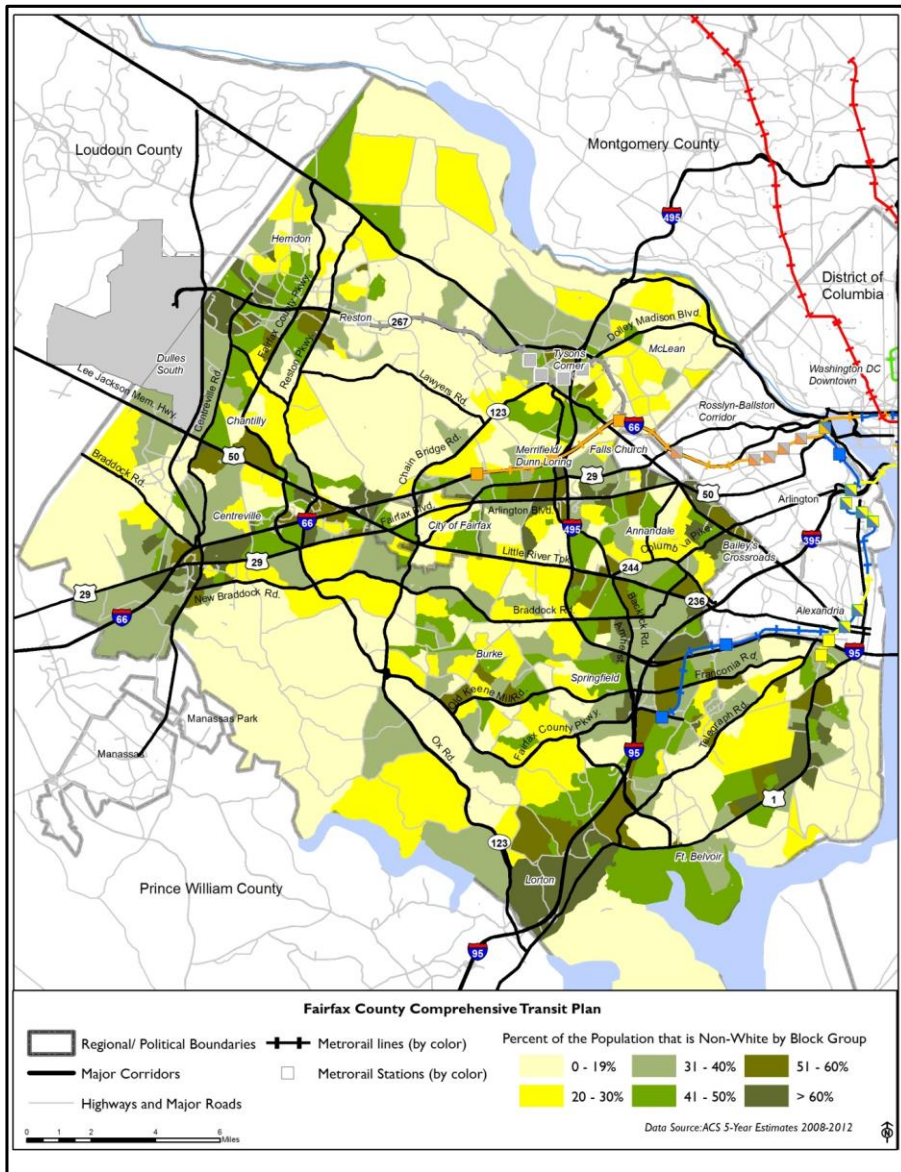


Figure 3.12 Fairfax County Density of Limited English Proficiency (LEP) Persons (2012)

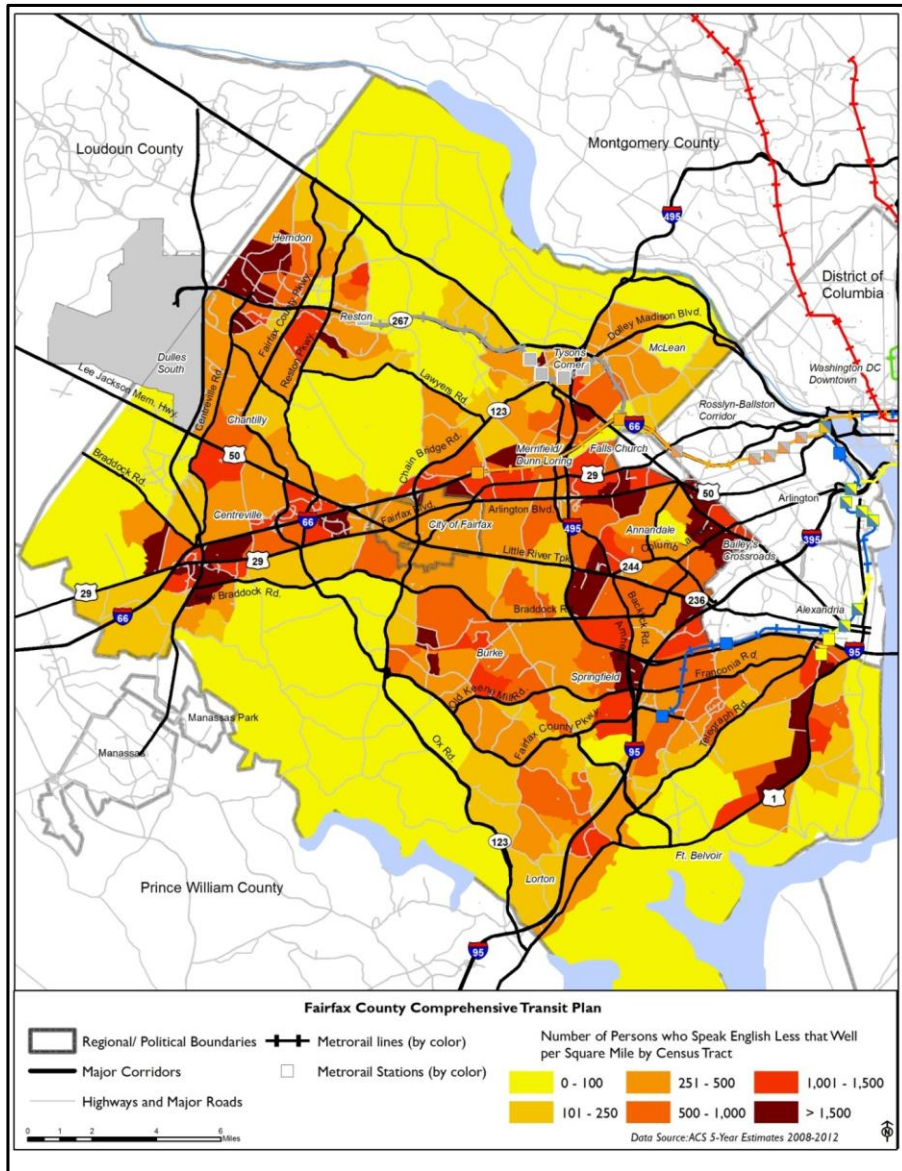


Figure 3.13 Fairfax County Percentage of Limited English Proficiency (LEP) Persons (2012)

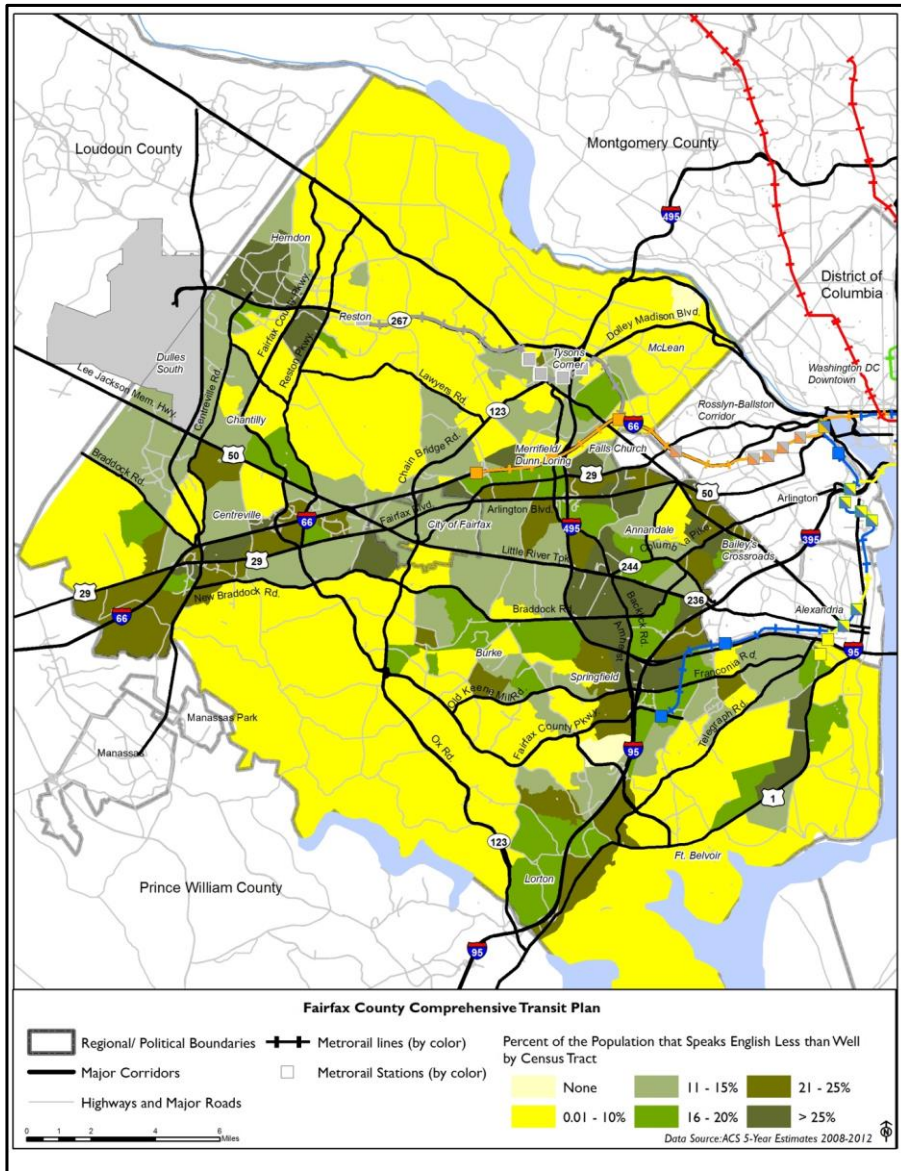


Figure 3.14 Fairfax County Population Density Projected to 2025

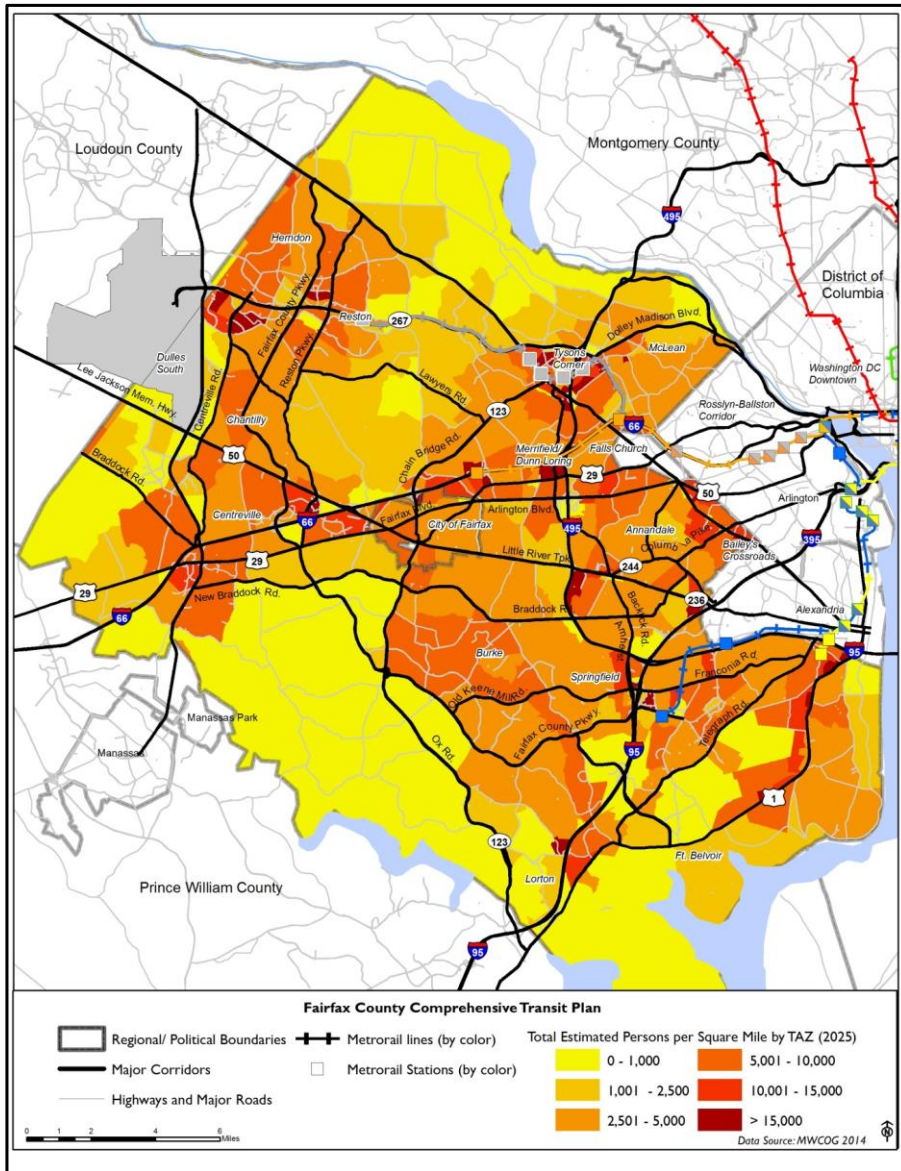


Figure 3.15 Fairfax County Projected Population Growth Rates

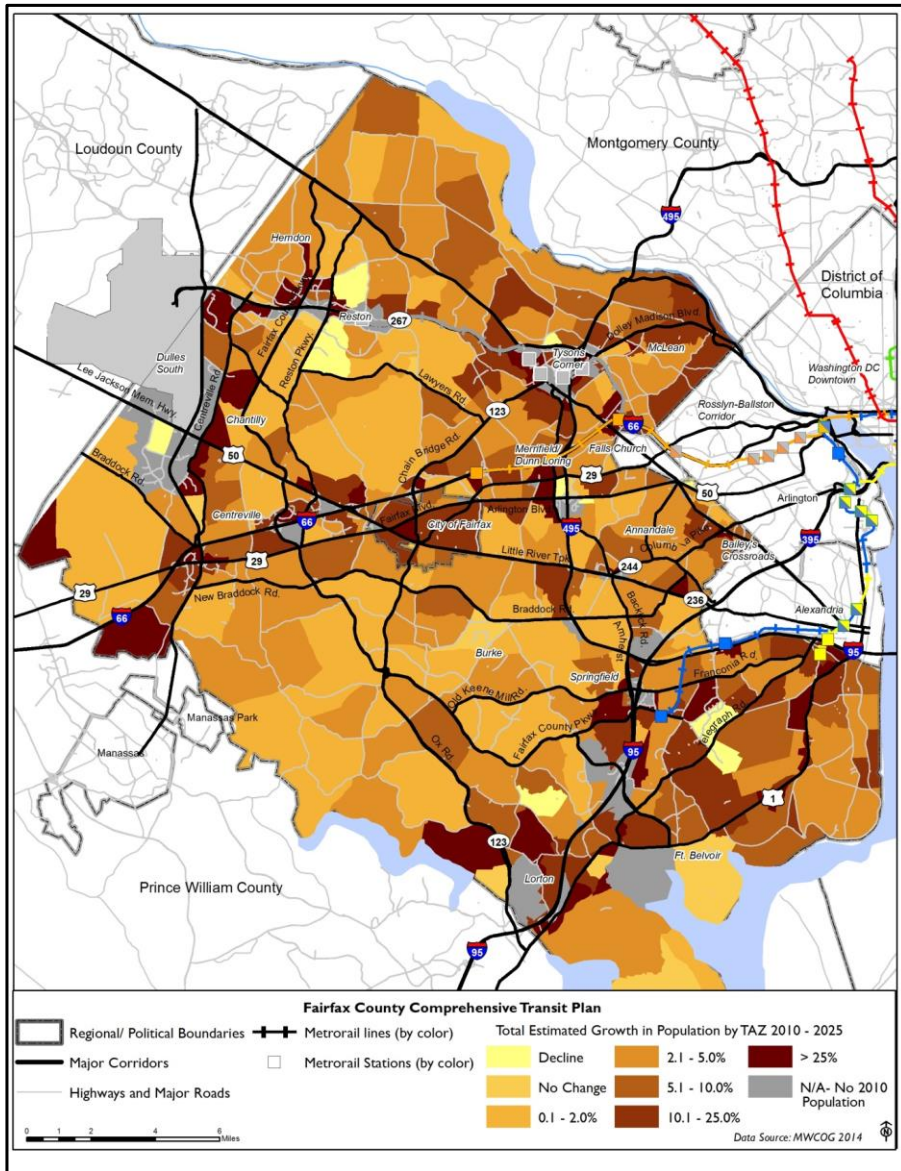


Figure 3.16 Fairfax County Projected Population Growth

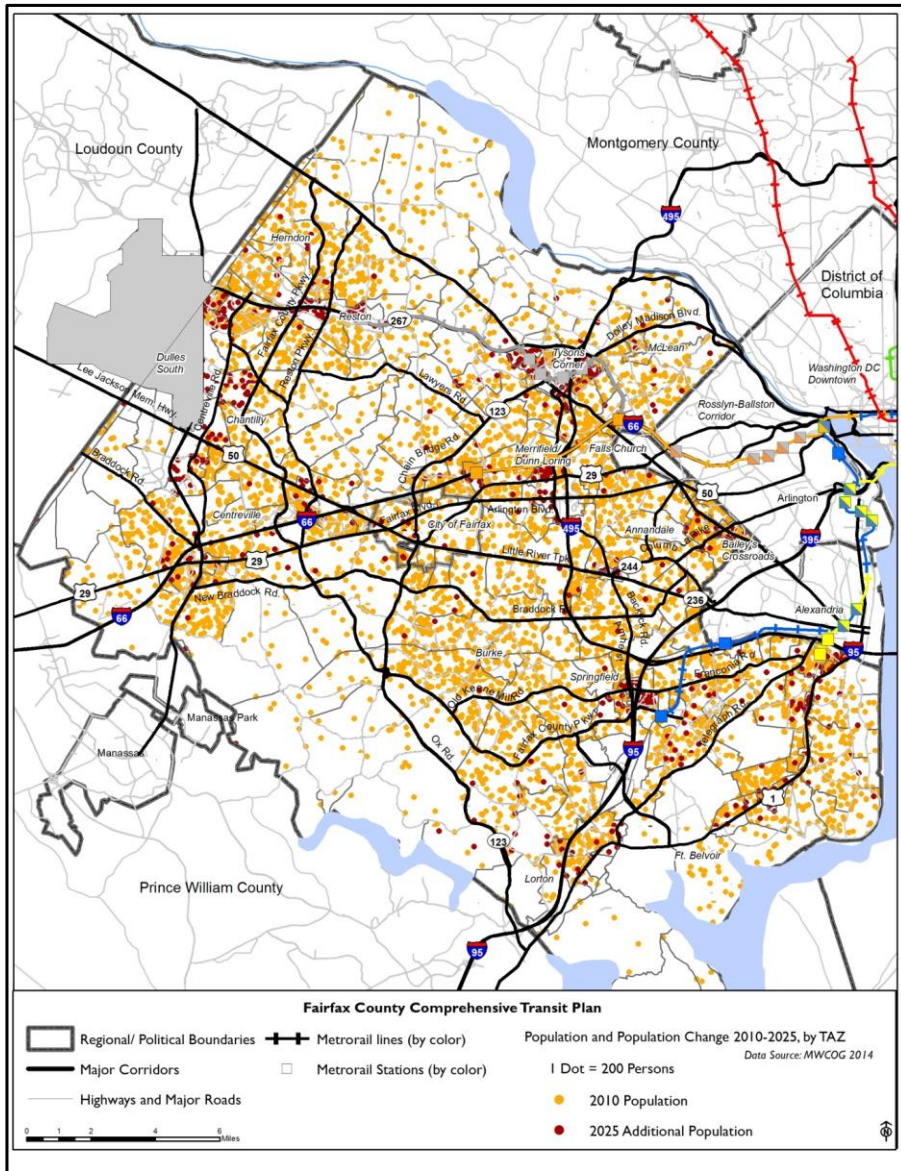
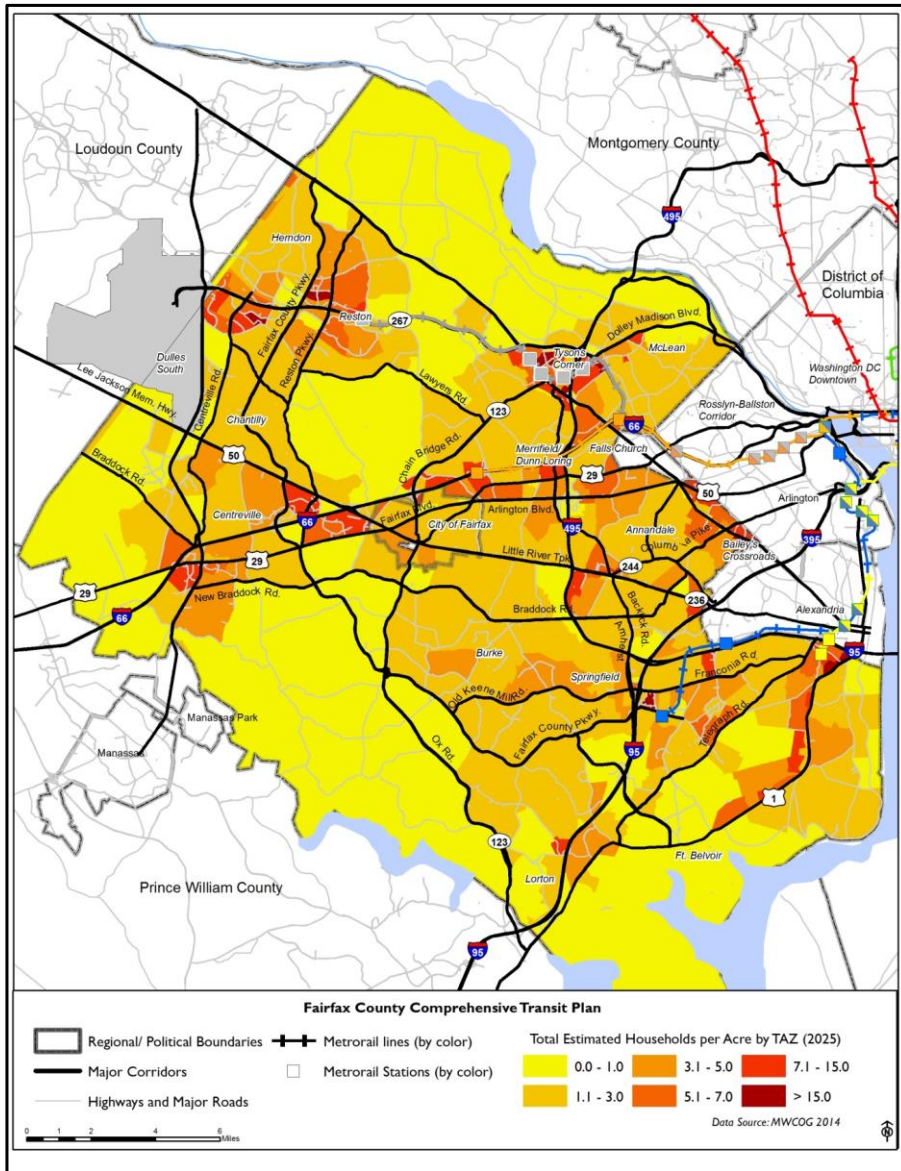


Figure 3.17 Fairfax County Household Density Projected to 2025



3.3 Employment

Current and projected employment levels for the County and surrounding areas were obtained from MWCOG's Round 8.2 Cooperative Forecasts. Like population and households, MWCOG's Department of Community Planning and Services provides public projections for employment at the level of Traffic Analysis Zone (TAZ). Data is presented in five year increments. Detailed information on projection methodology can be found on the MWCOG web site.

3.3.1. Existing Conditions

In 2010 total employment in Fairfax County was 622,877, while 20,382 were employed in Fairfax City. Figure 3.18 shows the number of jobs per acre by TAZ for the year 2010 for Fairfax County and the surrounding area. A large portion of the County is covered by low-employment TAZs, one or fewer jobs per acre. Within Fairfax County, the largest collection of TAZs with a high concentration of jobs is in the Dulles Corridor, including areas south of the airport, along Route 28 and east along Route 267 through Herndon and Reston. Other collections of high job concentrations are located in Tysons Corner, Merrifield and in the Fairfax Center area. The figure also shows job concentrations in adjacent jurisdictions in eastern Loudoun County, Manassas and eastern Prince William County, as well as parts of Arlington, Alexandria, Falls Church and Washington DC.

Data on large employers in Fairfax County was obtained from the Virginia Employment Commission. Table 3.1 lists the 50 employers in the County with more than 1,000 employees. Of those, 42 are non-governmental organizations such as Capital One Bank, Accenture Consulting, and the Northrup Grumman Corporation. There are no employers in Fairfax City with more than 1,000 employees.

3.3.2. Employment Projections

Between 2010 and 2025, employment in Fairfax County is projected to grow from 622,877 to 770,581; an increase of 24 percent. Employment in Fairfax City is projected to grow from 20,382 to 22,756. The projected number of jobs per acre at the TAZ level and the percentage change between 2010 and 2025 are shown in Figure 3.19 and Figure 3.20, respectively. The areas with the largest projected percentage growth include the Dulles Corridor; the I-66 Corridor, including Merrifield, Fairfax Center and Centreville; and the Fort Belvoir, Lorton and Springfield areas in the South County. The southern end of the Dulles Corridor, along Route 28, shows some of the most significant projected growth.

Figure 3.21 shows the density and growth information as a series of dots, each representing 100 jobs, distributed evenly within each TAZ, with. The 2010 employment is shown by the darker colored dots and the projected additional employment in 2025 is shown by the lighter colored dots. The figure more clearly shows the largest increases in four established employment centers: Tysons Corner, the Dulles Corridor, Fairfax Center, and Merrifield, as well as new growth (much already realized since 2010) at the Fort Belvoir North Area and in Springfield.

Figure 3.18 Fairfax County Employment Density (2010)

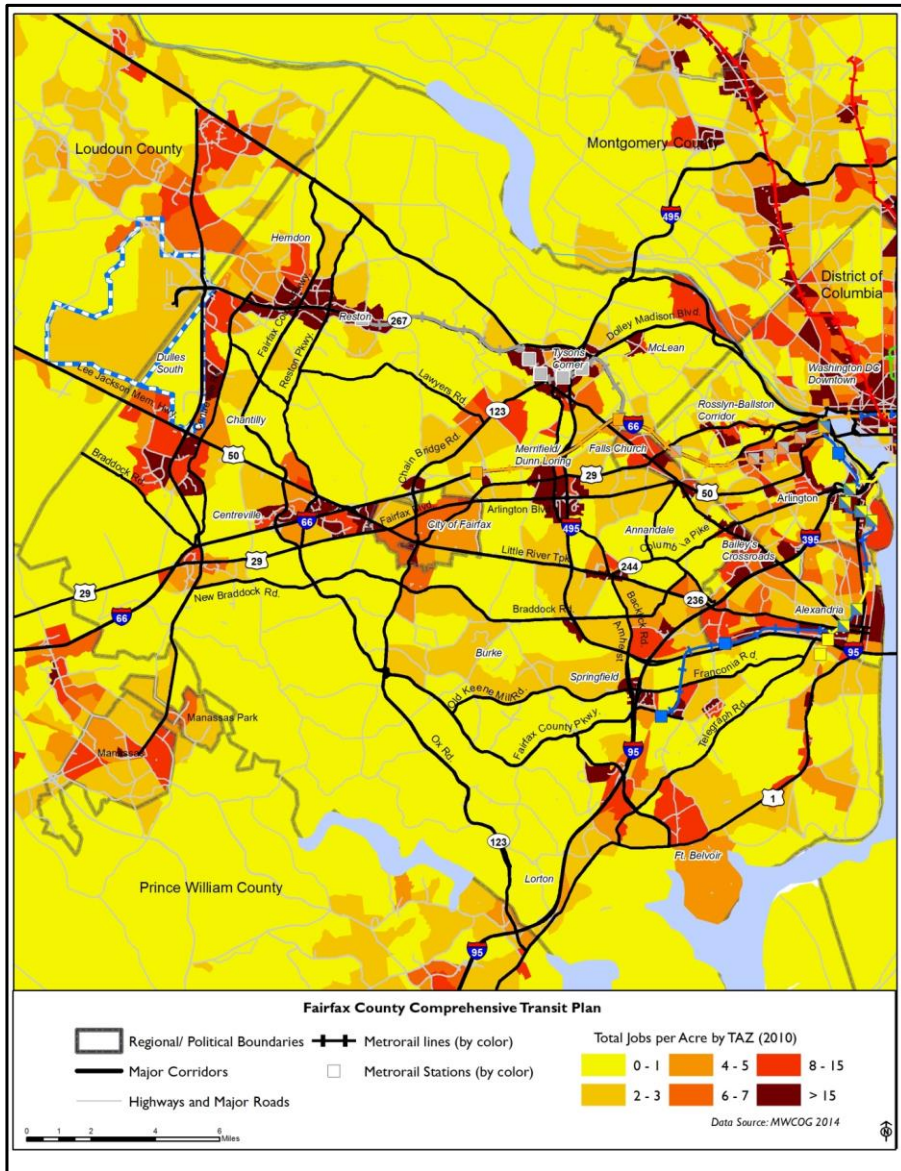


Table 3.1: Top 50 Employers in Fairfax County

Employer	Industry	Ownership
Accenture Consulting	Professional, Scientific, & Technical Services	Private
Accenture National Securities	Professional, Scientific, & Technical Services	Private
Administaff	Administrative & Support Services	Private
Anteon Corporation	Professional, Scientific, & Technical Services	Private
Bae Systems Enterprise Sys Inc.	Professional, Scientific, & Technical Services	Private
Booz, Allen and Hamilton	Professional, Scientific, & Technical Services	Private
Capital One Bank	Credit Intermediation & Related Activities	Private
Capital One Na	Credit Intermediation & Related Activities	Private
Catholic Diocese of Arlington	Educational Services	Private
CGI Federal Inc.	Professional, Scientific, & Technical Services	Private
Computer Sciences Corporation	Professional, Scientific, & Technical Services	Private
County of Fairfax	Executive, Legislative, & Other General Government Support	Local Govt.
Deloitte & Touche LLP	Professional, Scientific, & Technical Services	Private
Electronic Data Systems Corp	Internet Service, Web Search, & Data Processing	Private
Ernst & Young	Professional, Scientific, & Technical Services	Private
Exelis Inc.	Machinery Manufacturing	Private
Exxonmobil Corp	Gasoline Stations	Private
Fairfax County Public Schools	Educational Services	Local Govt.
Falls Church Medical Center	Ambulatory Health Care Services	Private
Fannie Mae	Credit Intermediation & Related Activities	Private
Federal Home Loan Mortgage	Credit Intermediation & Related Activities	Private
George Mason University	Educational Services	State Govt.
Giant Food	Food & Beverage Stores	Private
HCA Virginia Health System	Hospitals	Private
IBM Corporation	Merchant Wholesalers, Durable Goods	Private
Inova Health System	Hospitals	Private
Integrated Microcomputer System,	Professional, Scientific, & Technical Services	Private
Lockheed Martin	Professional, Scientific, & Technical Services	Private
ManTech Strategic Associates Ltd	Professional, Scientific, & Technical Services	Private
May Department Stores Company	General Merchandise Stores	Private
MetPath	Ambulatory Health Care Services	Private
Navy Federal Credit Union	Credit Intermediation & Related Activities	Private
Northern Virginia Community College	Educational Services	State Govt.
Northrop Grumman Corporation	Computer & Electronic Product Manufacturing	Private
Postal Service	Postal Service	Fed. Govt.
PricewaterhouseCoopers	Professional, Scientific, & Technical Services	Private
Safeway	Food & Beverage Stores	Private
Science Applications International	Professional, Scientific, & Technical Services	Private
Security Services	Administrative & Support Services	Private
Sprint United Management	Telecommunications	Private
Sun Microsystems Inc.	Professional, Scientific, & Technical Services	Private
Systems Research and Application	Professional, Scientific, & Technical Services	Private
Target Corp	General Merchandise Stores	Private
The Analytic Sciences Corporation	Professional, Scientific, & Technical Services	Private
The Home Depot	Building Material & Garden Equipment & Supplies Dealers	Private
The MITRE Corporation	Professional, Scientific, & Technical Services	Private
U.S. Department of Defense	National Security and International Affairs	Fed. Govt.
U.S. Department of Homeland Defense	Administration of Economic Programs	Fed. Govt.
U.S. Department of the Interior	Administration of Environmental Quality Programs	Fed. Govt.
Walmart	General Merchandise Stores	Private

Figure 3.19 Fairfax County Employment Density Projected to 2025

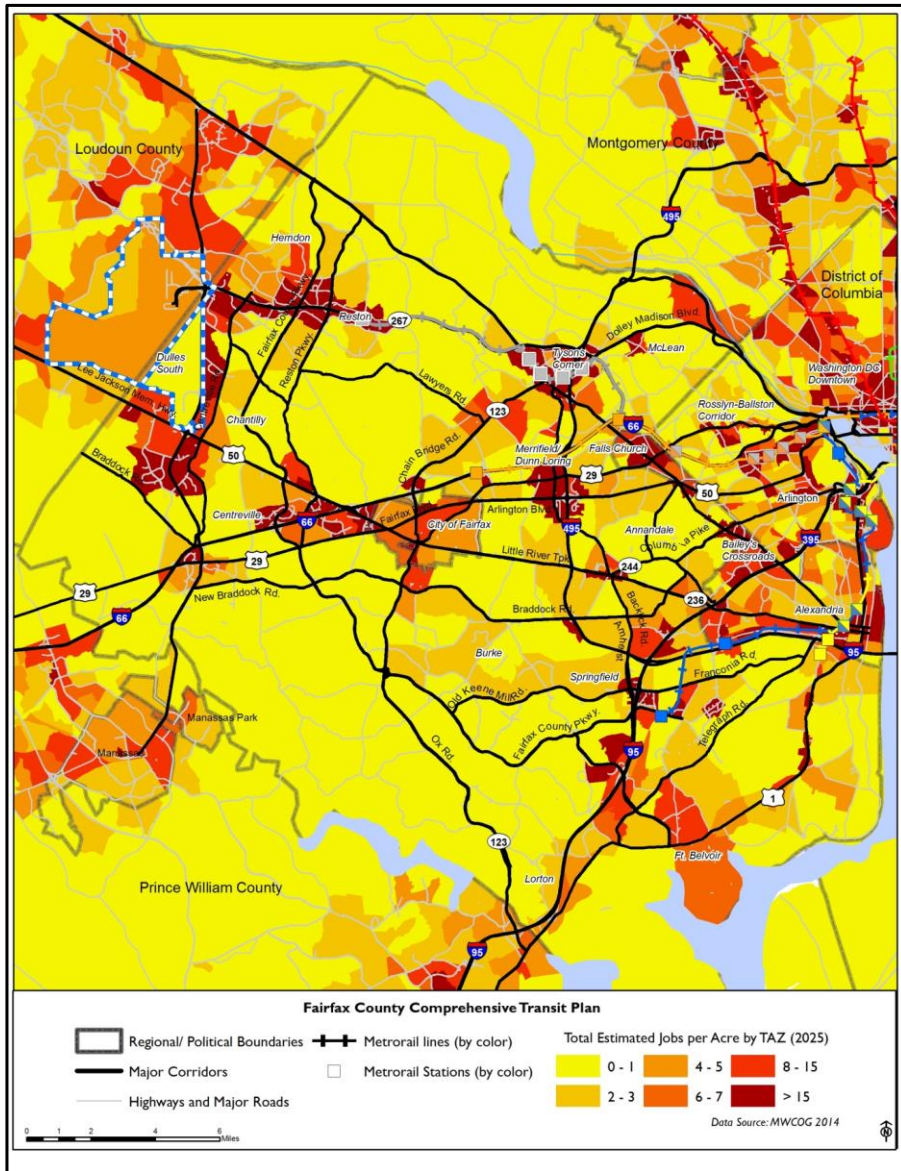


Figure 3.20 Fairfax County Projected Employment Growth Rates

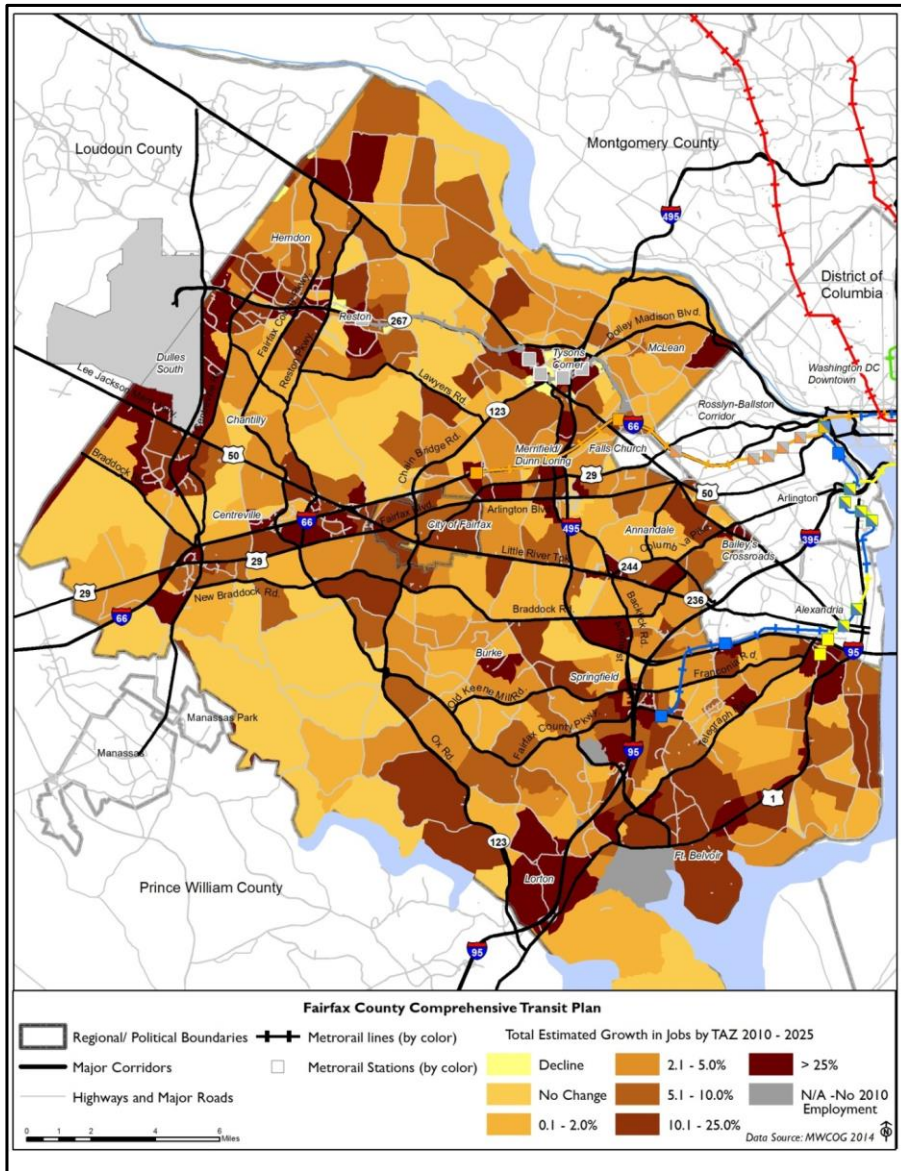
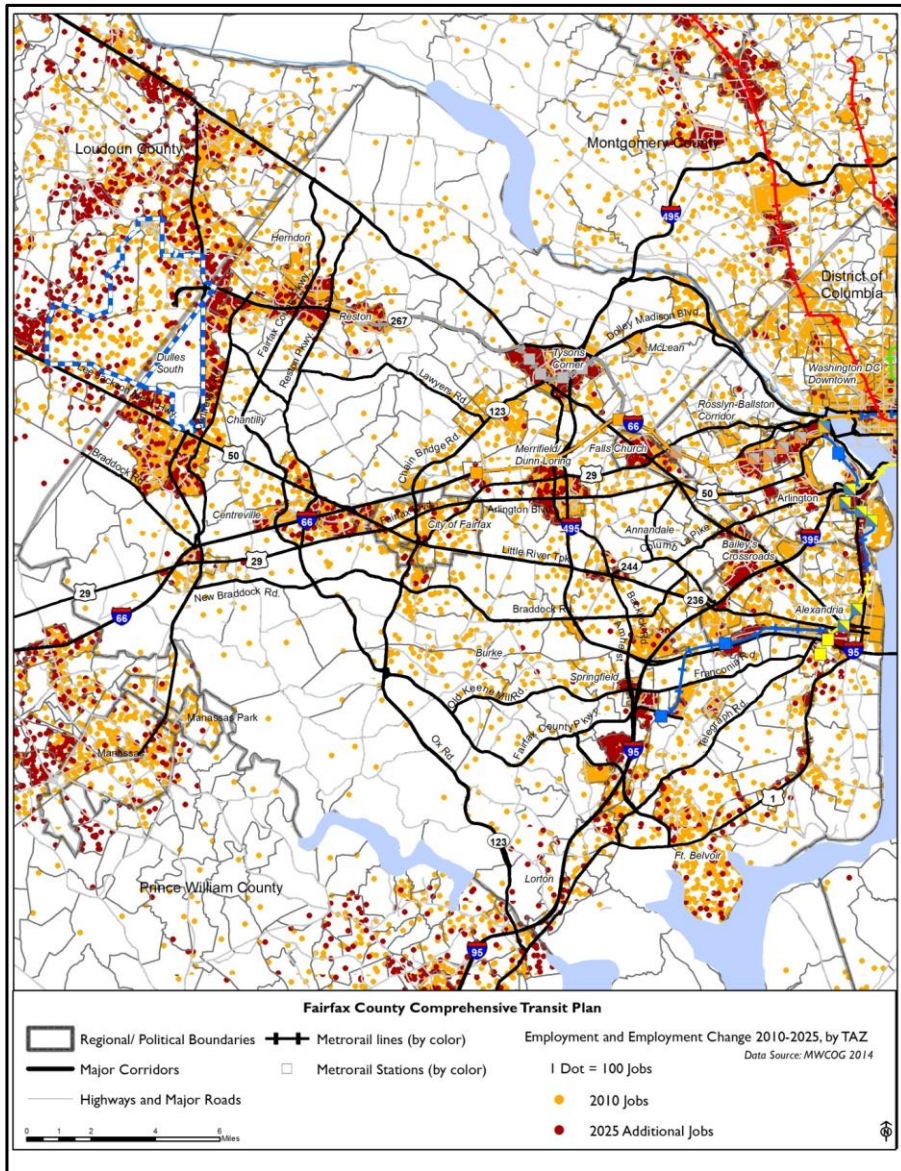


Figure 3.21 Fairfax County Projected Employment Growth



3.4 Land Use and Zoning

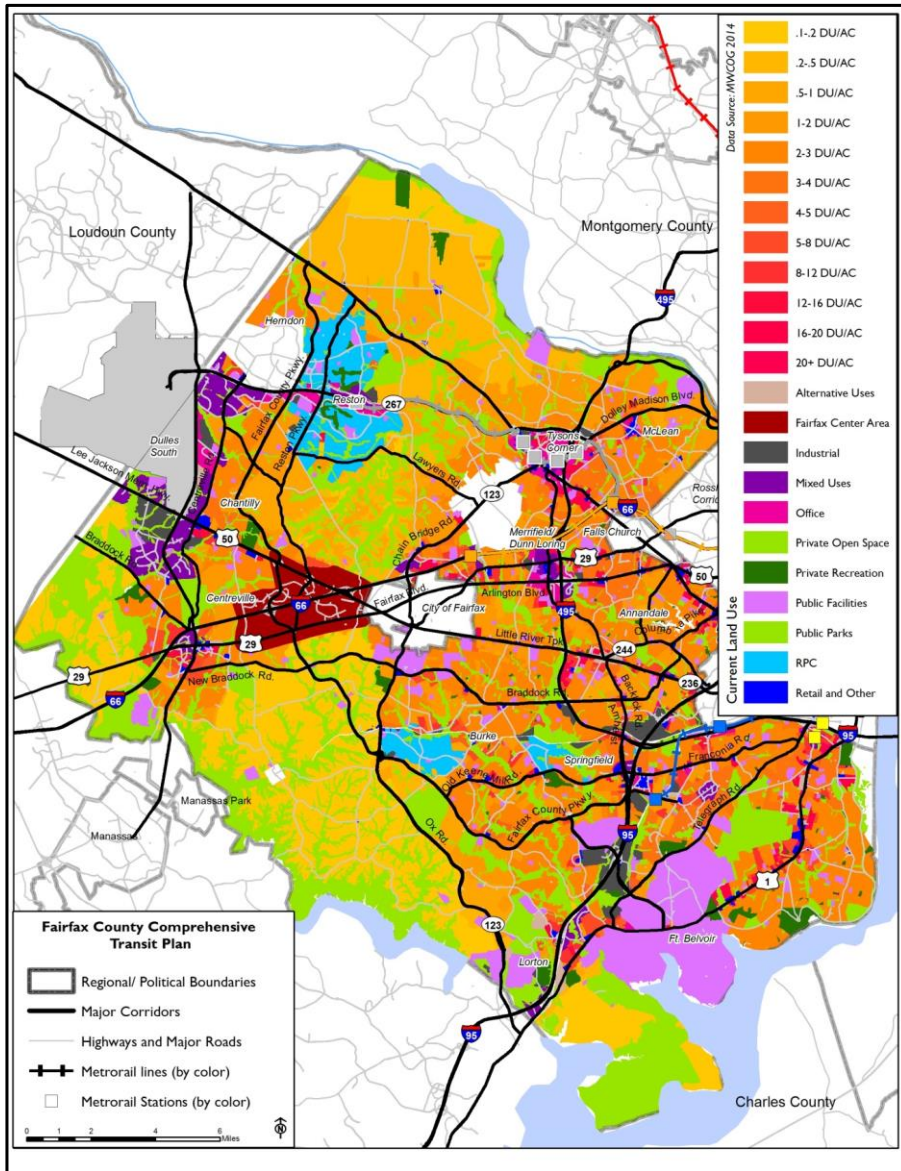
3.4.1. Existing Conditions

Land use and zoning play an important role in the sustainability and development of public transit options. With their decisions, policy maker can potentially dictate how and where transit will be successful.

Figure 3.22 displays the currently zoned land uses for the County, excluding the independent City of Fairfax, and the towns of Herndon, Vienna and Clifton. In the northeast corner of the County and along its southwestern edge, land is used primarily for low-density housing and public parks, while the remainder of the County has higher density residential and other uses. Industrial uses generally occur in the south along I-395/I-95 in Springfield and Newington while the largest concentration of Office use is in Tysons Corner. A large Mixed Use area surrounds the airport. The “Fairfax Center” area has its own zoning classification. Land earmarked for public facilities can be found throughout, with the largest areas comprising Fort Belvoir and George Mason University. There are three Residential Planned Communities (RPCs)⁶ in Reston, Burke Center and West Springfield.

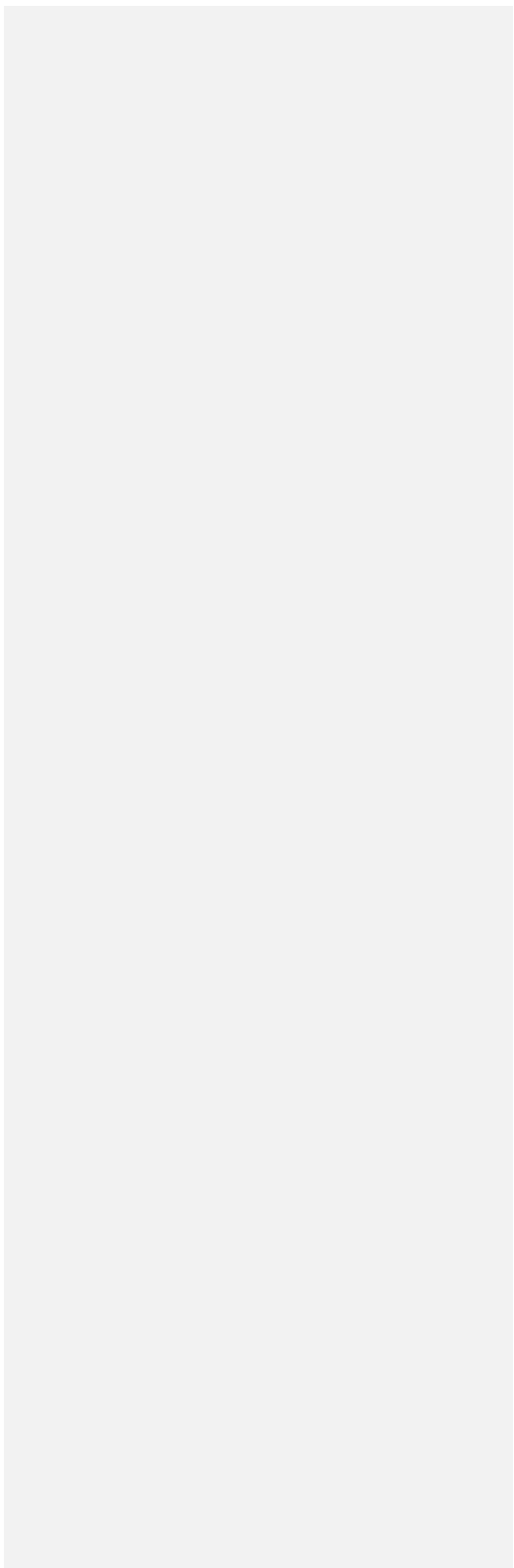
⁶ A Residential Planned District is established to permit the development of planned communities. According to Fairfax County zoning ordinances, “The PRC District regulations are designed to permit a greater amount of flexibility to a developer of a planned community by removing many of the restrictions of conventional zoning. This flexibility is intended to provide an opportunity and incentive to the developer to achieve excellence in physical, social and economic planning.”

Figure 3.22 Fairfax County Current Land Uses





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3-63.5 Travel Flows

MWCOG regional travel forecasting model results were obtained in order to identify travel patterns to, from and within Fairfax County. Projections were obtained by year, trip purpose, mode, and transit sub-mode.⁷ In this section, work trips are analyzed both for Fairfax County residents and for employees working in Fairfax County for 2015 and 2025. In this section, a trip refers to a weekday round trip from a residential origin to a work destination.

3-6-1-3.5.1. Work Destinations of Fairfax County Residents

Fairfax County and Fairfax City residents are projected to be making over 295,000 daily work trips by all modes in 2015. That figure is expected to increase by 11 percent by 2025. Table 3.2 summarizes the destinations of those work trips. In terms of absolute numbers, work trips to destinations within Fairfax County are projected to increase the most, while trips to neighboring Loudoun County are projected to have the largest percentage increase. It is notable that Washington DC, while remaining the second largest destination, is projected to have no increase in work trips from Fairfax County. Nearby Arlington, Alexandria and Montgomery County are expected to remain the third, fourth and fifth largest destinations with near average growth in work trips from Fairfax.

Table 3.2 Work Destinations for Fairfax County and City Residents

Destination	2015		2025		Growth
Fairfax County	139,547	47.3%	160,031	48.9%	14.7%
District of Columbia	67,656	22.9%	67,472	20.6%	-0.3%
Arlington County	46,882	15.9%	51,822	15.8%	10.5%
City of Alexandria	13,973	4.7%	16,040	4.9%	14.8%
Montgomery County	10,377	3.5%	11,243	3.4%	8.4%
Fairfax City	4,888	1.7%	5,093	1.6%	4.2%
Loudoun County	4,132	1.4%	7,035	2.1%	70.2%
Prince George's County	2,508	0.8%	2,864	0.9%	14.2%
Falls Church	2,264	0.8%	2,836	0.9%	25.3%
Prince William County	2,148	0.7%	2,120	0.6%	-1.3%
Manassas	738	0.2%	590	0.2%	-20.0%
Manassas Park	173	0.1%	118	0.0%	-31.7%
Total:	295,287		327,264		10.8%

held by Fairfax County residents match the areas of highest employment density in the Dulles Corridor, Tysons Corner, Merrifield, the Fairfax Center area and around Fort Belvoir. Concentrations of jobs

⁷ Trip table outputs in production-attraction format were obtained from MWCOG model version 2.3.52. Projections were provided for both home-based work and all other purposes combined for all modes and for the transit mode. The transit mode was further broken down by sub-mode (bus-only, bus-rail, rail-only and commuter rail). Forecasts were provided for both 2015 and 2025.

held by Fairfax County residents outside the county are largely limited to Washington DC and the Rosslyn-Ballston and Pentagon/Crystal City/Airport sections of Arlington County.

Figure 3.23 and Figure 3.24 show how these destinations are concentrated in a few major activity centers in Fairfax County and the surrounding area. Within the County, large concentrations of jobs held by Fairfax County residents match the areas of highest employment density in the Dulles Corridor, Tysons Corner, Merrifield, the Fairfax Center area and around Fort Belvoir. Concentrations of jobs held by Fairfax County residents outside the county are largely limited to Washington DC and the Rosslyn-Ballston and Pentagon/Crystal City/Airport sections of Arlington County.

Figure 3.23 Work Destinations of Fairfax County/City Residents (2015)

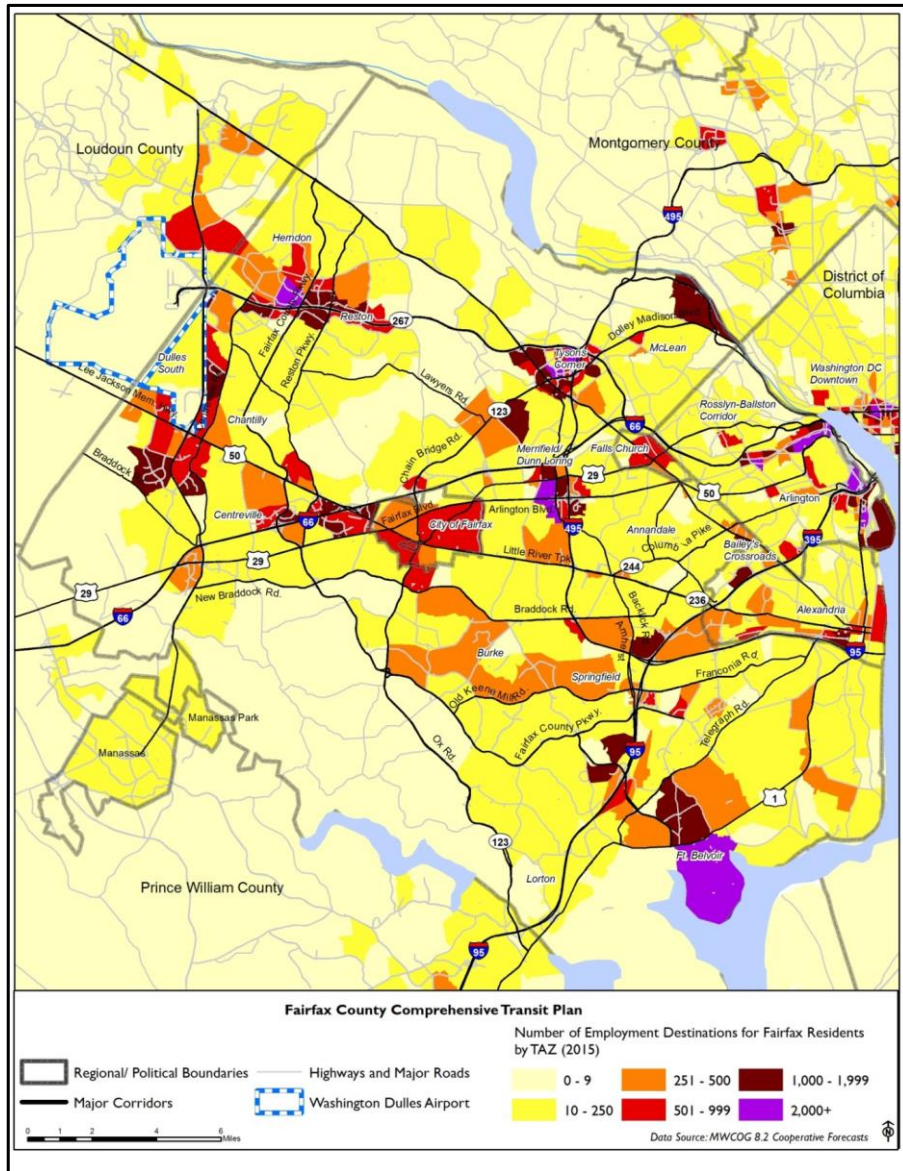
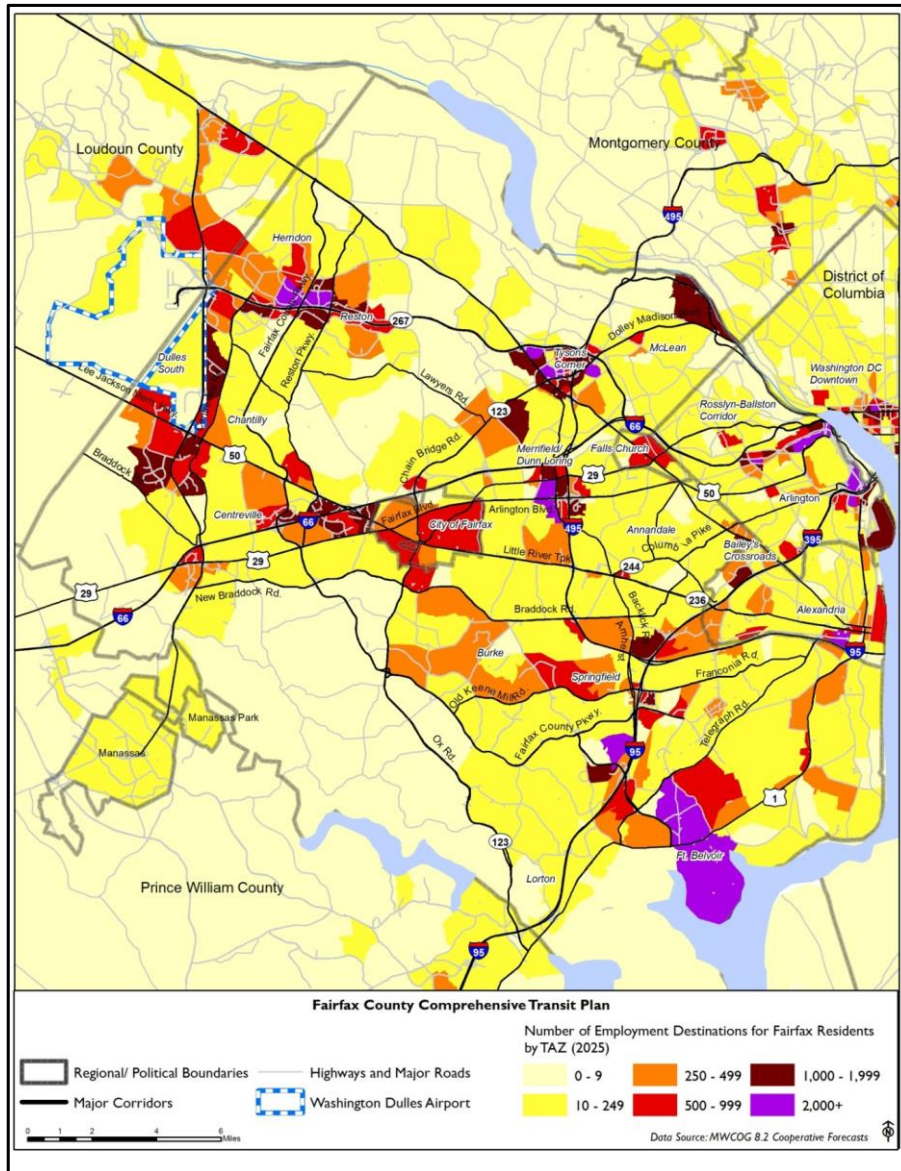


Figure 3.24 Work Destinations of Fairfax County/City Residents (2025)



3.6.2.3.5.2. Origins of Work Trips to Fairfax County Destinations

In 2015, it is projected that over 258,000 daily work trips will be made by all modes to Fairfax County and Fairfax City jobs. That figure is expected to increase by 21 percent by 2025. Table 3.3 summarizes the origins of those work trips. In terms of absolute numbers, work trips within Fairfax County are projected to increase the most, while trips from neighboring Loudoun County are projected to have the largest percentage increase among the neighboring jurisdictions. Prince William and Montgomery counties are also projected to have larger than average increases, while Arlington, Alexandria, and Washington DC are projected to have lower than average increases in work trips to Fairfax County.

Table 3.3 Home Origins of Fairfax County/City Workers

Origin	2015		2025		Growth
Fairfax County	140,543	54.4%	160,841	51.5%	14%
Prince William County	31,081	12.0%	40,399	12.9%	30%
Loudoun County	18,521	7.2%	30,323	9.7%	64%
Arlington County	11,689	4.5%	12,925	4.1%	11%
Montgomery County	10,862	4.2%	13,361	4.3%	23%
City of Alexandria	10,045	3.9%	11,068	3.5%	10%
Prince George's County	7,666	3.0%	8,167	2.6%	7%
District of Columbia	5,449	2.1%	5,828	1.9%	7%
Fairfax City	3,892	1.5%	4,283	1.4%	10%
Manassas	3,346	1.3%	3,684	1.2%	10%
Anne Arundel County	2,528	1.0%	2,768	0.9%	9%
Stafford County	2,422	0.9%	3,830	1.2%	58%
Howard County	1,999	0.8%	2,518	0.8%	26%
Frederick County	1,895	0.7%	3,246	1.0%	71%
Falls Church	1,558	0.6%	1,907	0.6%	22%
Manassas Park	1,214	0.5%	1,478	0.5%	22%
Spotsylvania County	1,062	0.4%	1,568	0.5%	48%
Charles County	994	0.4%	1,535	0.5%	54%
Jefferson County	521	0.2%	950	0.3%	82%
Fauquier County	351	0.1%	573	0.2%	63%
Calvert County	238	0.1%	318	0.1%	34%
City of Fredericksburg	234	0.1%	360	0.1%	54%
St. Mary's County	103	0.0%	300	0.1%	193%
King George County	31	0.0%	61	0.0%	94%
Total:	258,245		312,291		21%

MWCOG has defined a large number of "Activity Centers" in the Washington region, 27 of which lie in Fairfax County (including Fairfax City). These 27 locations account for over 82 percent of the 312,000 year 2025 work trip destinations in Fairfax County and City. For the purpose of this analysis, 16 of these activity centers were grouped into five larger activity centers that account for 69 percent of all

year 2025 work trip destinations. These five larger centers, and the MWCOG activity centers included in each, are:

- **Dulles Corridor:** Wiehle - Reston East, Reston Town Center, Herndon, Fairfax Innovation Center, Dulles East, Dulles South
- **Tysons Corner:** Tysons West, Tysons Central 7, Tysons Central 123, Tysons East
- **Merrifield:** Merrifield/Dunn Loring
- **Central Fairfax:** Fairfax Center, Fairfax City, George Mason University
- **Fort Belvoir:** Fort Belvoir, Fort Belvoir North Area

Table 3.4 and the figures in the following sections show the origins of 2025 work trips to these five large activity centers. In each figure, the TAZs comprising the large activity center are outlined in green. The maps show by color the numbers of trips from each TAZ located in Fairfax and Arlington Counties and in the cities of Fairfax, Falls Church, and Alexandria. The numbers of trips from each of the other neighboring jurisdictions are labeled on the maps.

Table 3.4 Origins of Work Trips to Fairfax County Activity Centers

Jurisdiction	Destination	Dulles Corridor		Tysons Corner		Merrifield		Central Fairfax		Fort Belvoir	
Fairfax County		38,802	53.3%	31,367	44.0%	13,102	50.1%	16,080	64.0%	11,970	49.6%
Fairfax City		757	1.0%	662	0.9%	453	1.7%	1,087	4.3%	144	0.6%
City of Falls Church		169	0.2%	663	0.9%	308	1.2%	104	0.4%	48	0.2%
Arlington County		1,018	1.4%	3,615	5.1%	1,378	5.3%	589	2.3%	613	2.5%
City of Alexandria		623	0.9%	1,849	2.6%	974	3.7%	506	2.0%	1,148	4.8%
Prince William County		7,471	10.3%	8,014	11.3%	3,390	13.0%	3,129	12.5%	5,870	24.3%
Manassas		1,182	1.6%	625	0.9%	276	1.1%	409	1.6%	221	0.9%
Manassas Park		477	0.7%	263	0.4%	116	0.4%	186	0.7%	91	0.4%
Loudoun County		16,046	22.1%	7,186	10.1%	1,467	5.6%	1,338	5.3%	340	1.4%
Montgomery County		1,801	2.5%	6,043	8.5%	1,400	5.4%	505	2.0%	463	1.9%
District of Columbia		607	0.8%	1,822	2.6%	530	2.0%	284	1.1%	407	1.7%
Prince George's County		774	1.1%	3,031	4.3%	888	3.4%	248	1.0%	730	3.0%
Other		3,021	4.2%	6,081	8.5%	1,869	7.1%	651	2.6%	2,069	8.6%
Grand Total		72,750		71,222		26,151		25,117		24,114	

Dulles Corridor

In 2025, the Dulles Corridor is projected to attract some 72,750 daily work trips, 39,559 of them (54.3%) from Fairfax County/City. Figure 3.25 shows that many of these originate from an area within about five miles of the northern, eastern and southern edges of the area. Some also come from the central part of the county outside the beltway. Few trips come from the eastern part of the county or from Falls Church, Arlington or Alexandria. The area attracts a substantial number of work trips from outside Fairfax County, including over 16,000 (22.1%) from Loudoun County, the largest Loudoun County share of the five activity centers. Another 9,100 (12.6%) are projected from Prince William County/Manassas, tying Tysons Corner for the largest share from that area.

Tysons Corner

Tysons Corner is projected to attract some 71,222 daily work trips, 32,030 of them (44.9%) from Fairfax County/City, the lowest Fairfax share of the five activity centers. Figure 3.26 shows that these originate from nearly all of the densely populated parts of the county, except for the Route 1 corridor in the southern part of the county. Of the five largest activity centers in the county, Tysons Corner appears to have the widest, most comprehensive reach for attracting work trips, attracting 55.1% from outside Fairfax County/City, including almost 9,000 from Prince William County/Manassas, over 7,000 from Loudoun County and 6,000 from Montgomery County.

Merrifield

Merrifield is projected to attract some 26,151 daily work trips, 13,555 of them (51.8%) from Fairfax County/City. Figure 3.27 shows that these would originate largely from the surrounding area, and from Centreville. The area is projected to attract about 3,700 (15.5%) from Prince William County/Manassas. Another 2,700 (10.2%) are projected from Arlington/Alexandria/Falls Church, the highest share of the five activity centers for the area encompassing those three jurisdictions.

Central Fairfax

The Central Fairfax area, which includes Fairfax City, is projected to attract some 25,117 daily work trips, 17,167 of them (68.3%) from Fairfax County/City, the highest Fairfax share of the five activity centers. Figure 3.28 shows that these would originate largely from the central east-west corridor along I-66 and Routes 29 and 50, including Centreville, Chantilly and Fairfax City. Workers also tend to come from Reston and Burke with few coming from the Route 1 corridor or from Falls Church, Arlington or Alexandria. The area does not attract as many as other areas from outside Fairfax County/City, with only 32% from outside, although a significant number, 3,700 (14.8%) are projected from Prince William County/Manassas.

Fort Belvoir

Fort Belvoir, including the North area which houses the National Geospatial–Intelligence Agency, is projected to attract some 24,114 daily work trips, 12,115 of them (50.2%) from Fairfax County. Figure 3.29 shows that these would originate largely from the surrounding areas in the South County, including Mount Vernon, Springfield and Burke. The area is projected to attract nearly 5,900 daily work trips from Prince William County, representing 24.3% of all trips, the highest share for Prince William County. Another 1,100 (4.8%) are projected from Alexandria, but few trips from other jurisdictions are projected.

Figure 3.25 Origins of Work Trips to the Dulles Corridor

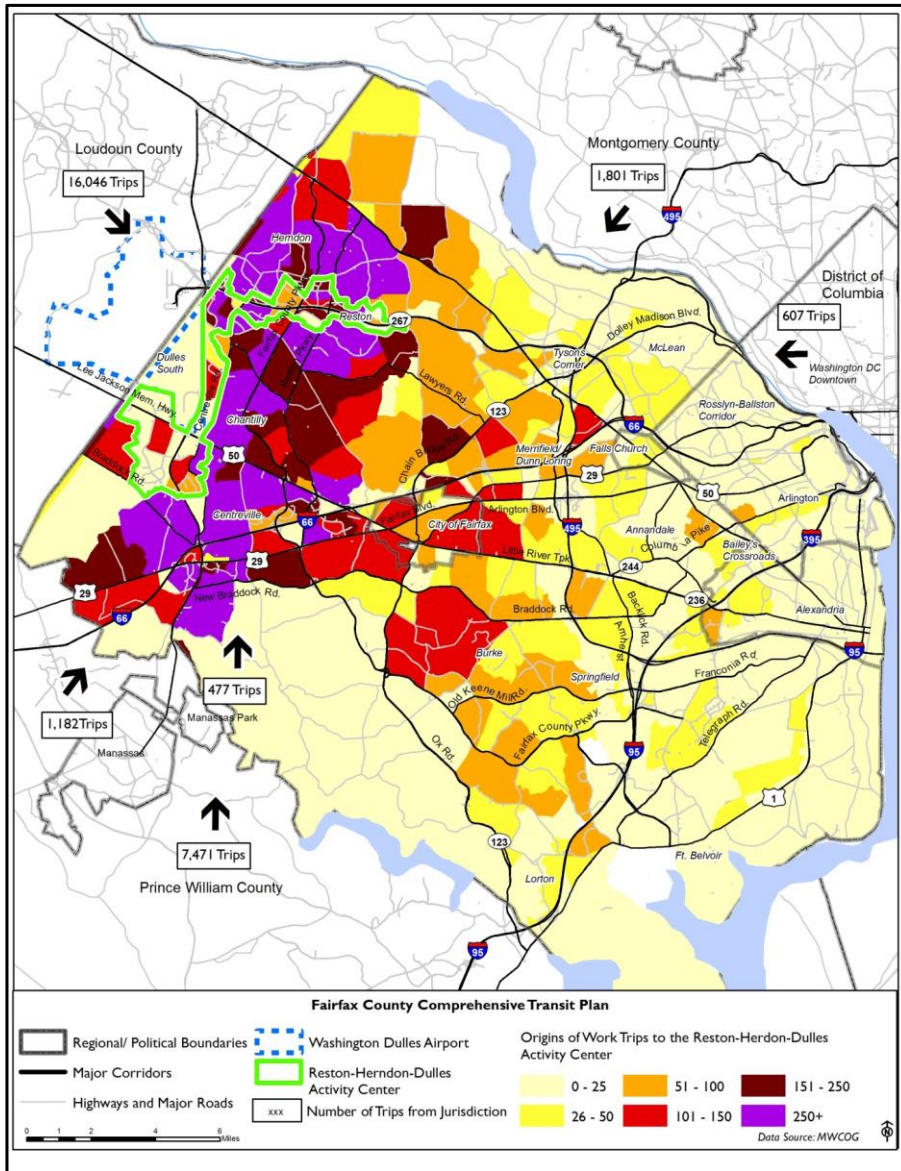


Figure 3.26 Origins of Work Trips to Tysons Corner

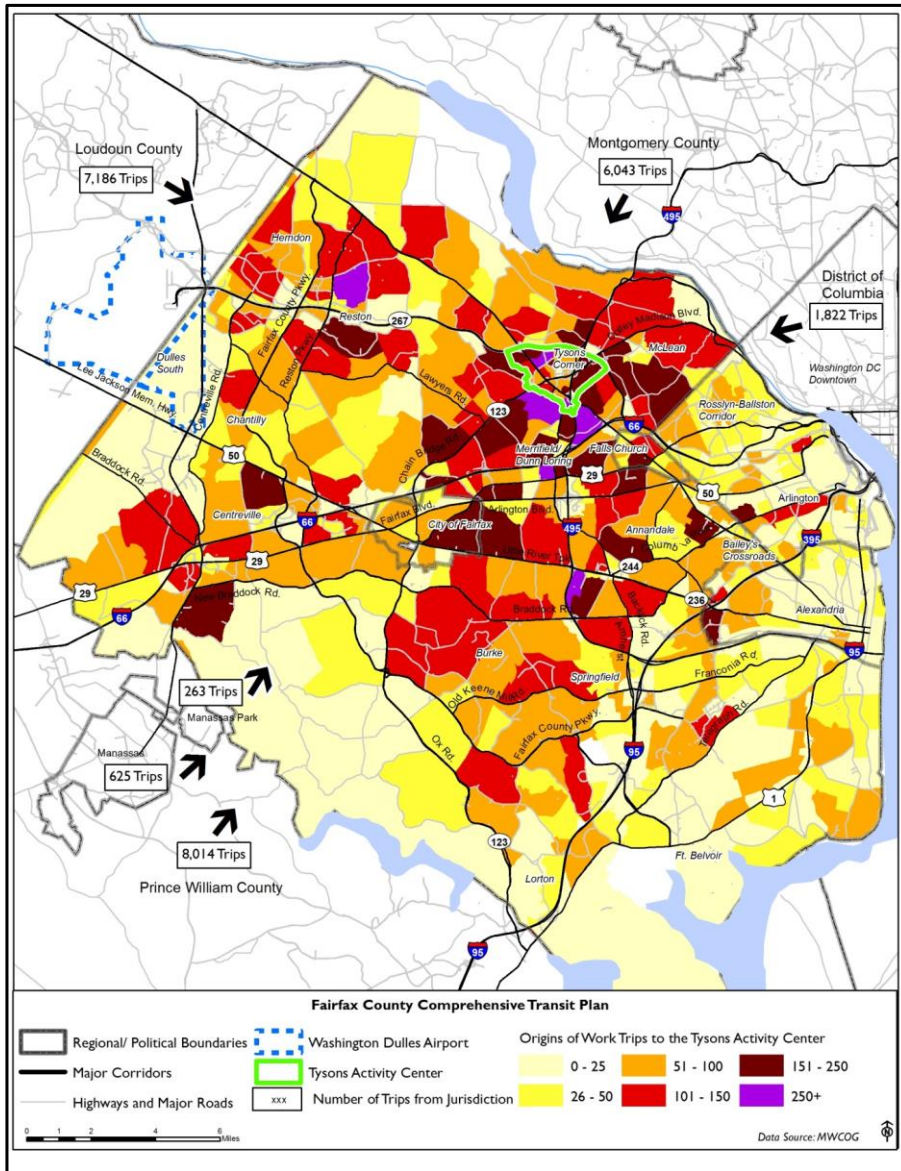


Figure 3.27 Origins of Work Trips to Merrifield

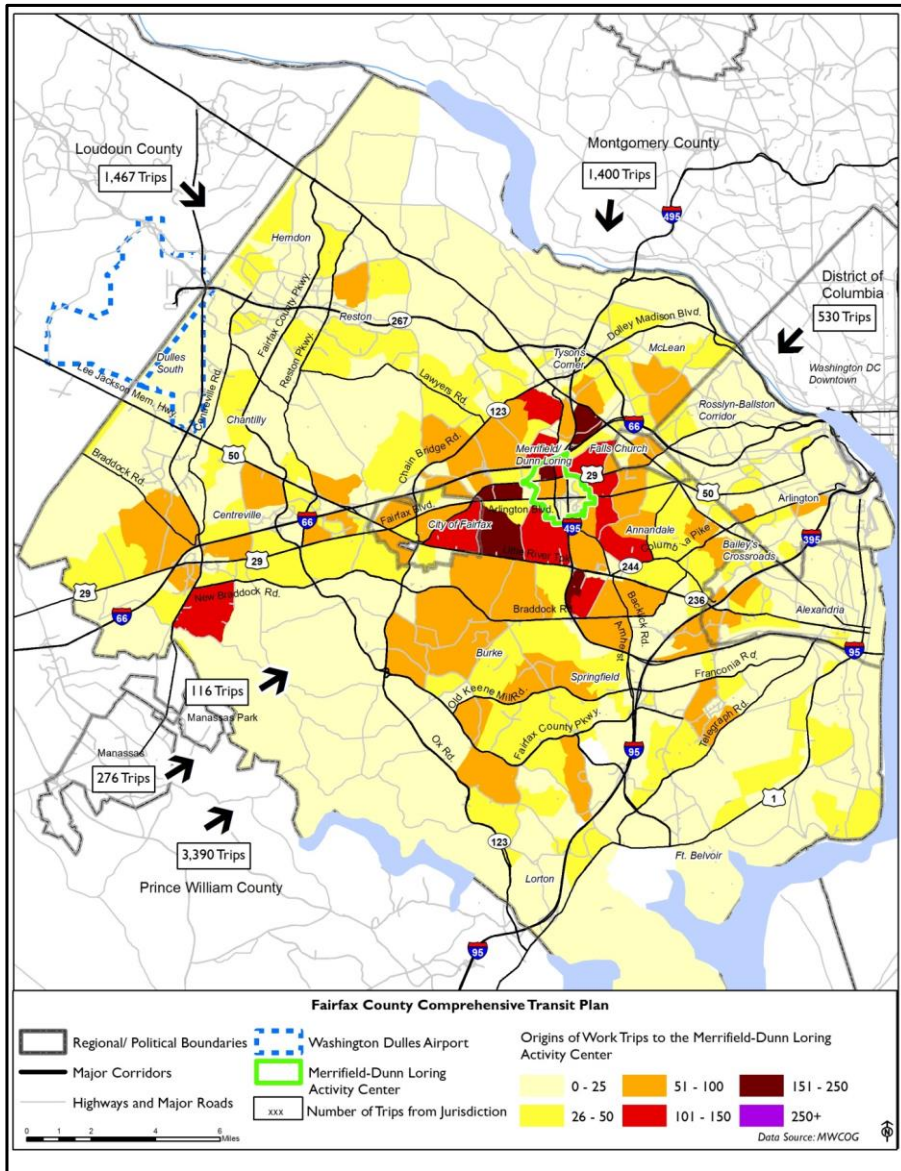


Figure 3.28 Origins of Work Trips to Central Fairfax

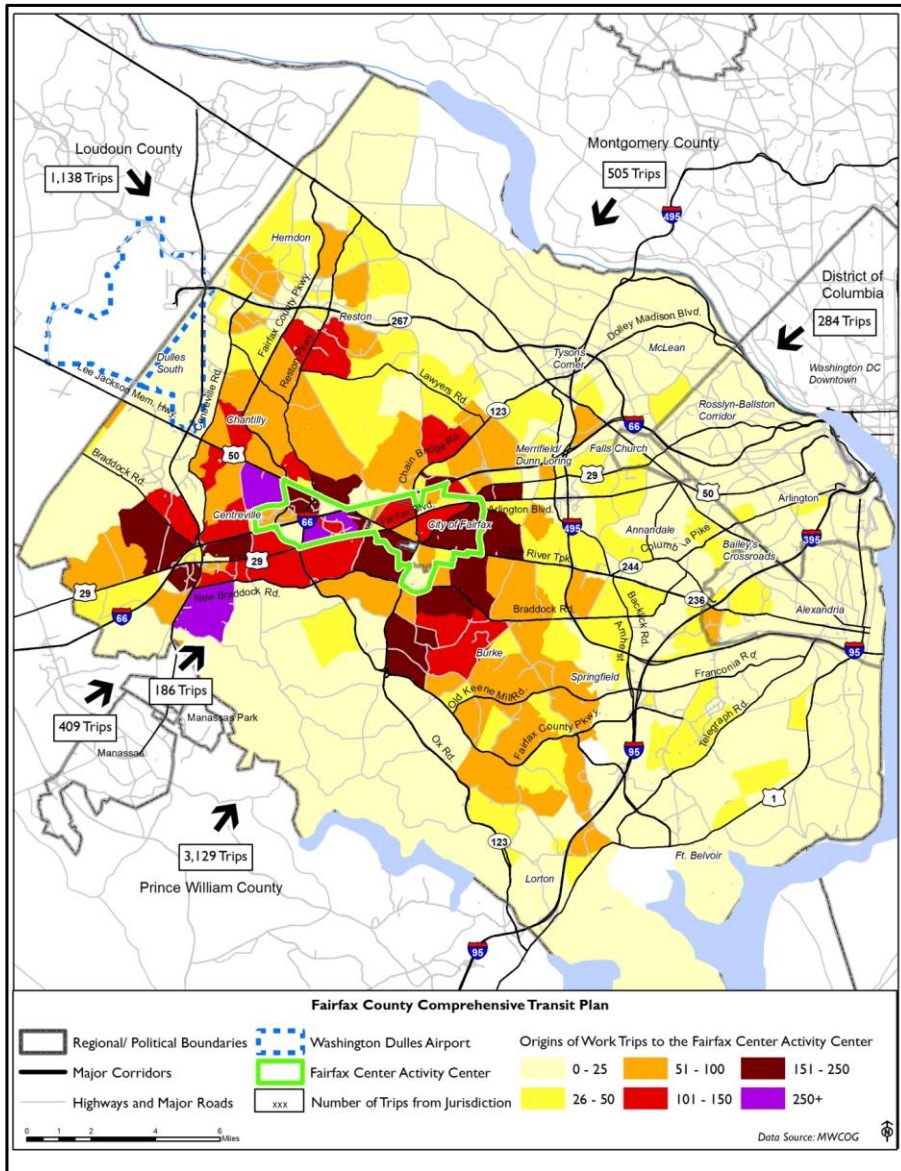
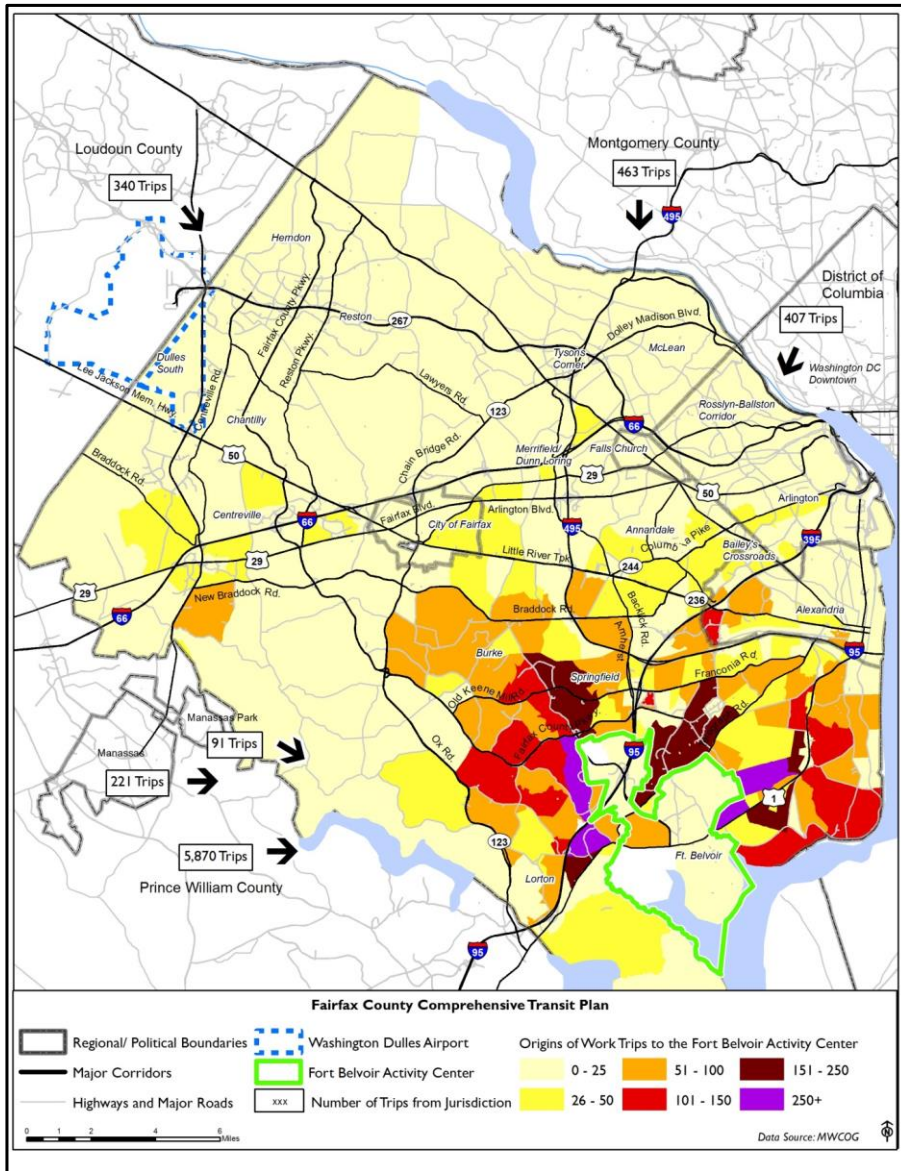


Figure 3.29 Origins of Work Trips to Fort Belvoir



3.4.3.3.5.3. Origins of Work Trips to Destinations Outside of Fairfax County

In 2025, almost exactly half of the over 327,000 Fairfax County work trips are projected to be to destinations outside Fairfax County or Fairfax City. Of this half, 83 percent (138,000) are projected to be to Washington DC, Arlington or Alexandria.

MWCOG has defined 12 activity centers in Arlington and six in Alexandria. For the purpose of this analysis, 12 of these were grouped into two larger activity centers that account for 78 percent of all year 2025 work trip destinations of Fairfax County residents traveling to those two jurisdictions. These two larger centers, and the MWCOG activity centers included in each, are:

- **Ballston-Rosslyn:** Ballston, Virginia Square, Clarendon, Courthouse, Rosslyn
- **Pentagon-Crystal City-Alexandria:** Pentagon, Pentagon City, Crystal City, Potomac Yard, Braddock Road Metro Area, King Street / Old Town, Carlyle / Eisenhower East

The maps in the following sections show the origins of 2025 work trips to these two activity centers, plus the entire District of Columbia. Again, the TAZs comprising each large activity center are outlined in green. For these maps, only origins from Fairfax County and Fairfax City are shown.

Ballston-Rosslyn

The Ballston-Rosslyn corridor in Arlington County is projected to attract some 24,650 daily work trips from Fairfax County and Fairfax City in 2025. Figure 3.30 shows that these would originate mostly from the eastern part of the county, inside Route 123 and particularly inside the beltway, and from the I-66 corridor. Some workers would also tend to come from Reston.

Pentagon-Crystal City-Alexandria

The Pentagon-Crystal City-Alexandria area in Arlington and Alexandria is projected to attract some 29,218 daily work trips from Fairfax County and Fairfax City. Figure 3.31 shows that these would again originate mostly from the eastern part of the county, especially the South County in Springfield and along the Route 1 corridor. Like the other Arlington corridor, some trips are also projected from Centreville, but fewer from Reston.

District of Columbia

The District of Columbia, as a whole, is projected to attract more Fairfax County workers than any other neighboring jurisdiction. Because it is slightly more distant than the activity centers in Arlington and Alexandria, the origins of work trips to any part of the District (not just the core area) were analyzed. The District is projected to attract 68,635 daily work trips from Fairfax County and Fairfax City in 2025. Figure 3.32 illustrates that Fairfax residents from all over the County work in the District. The maps shows a slight tendency for more trips from the south, west and central parts of the County to the District and somewhat less from the north.

Figure 3.30 Fairfax County Workers Traveling to Ballston-Rosslyn

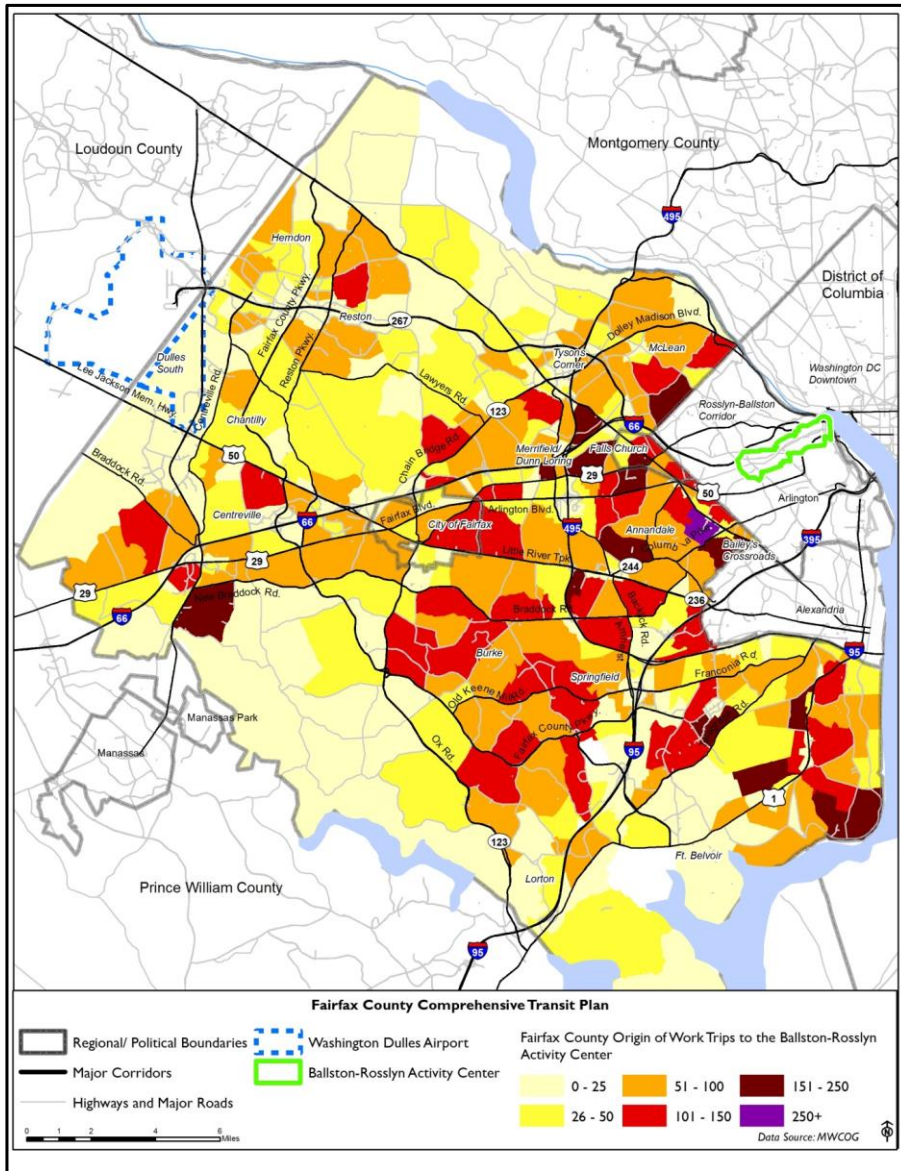


Figure 3.31 Fairfax County Workers Traveling to Pentagon-Crystal City-Alexandria

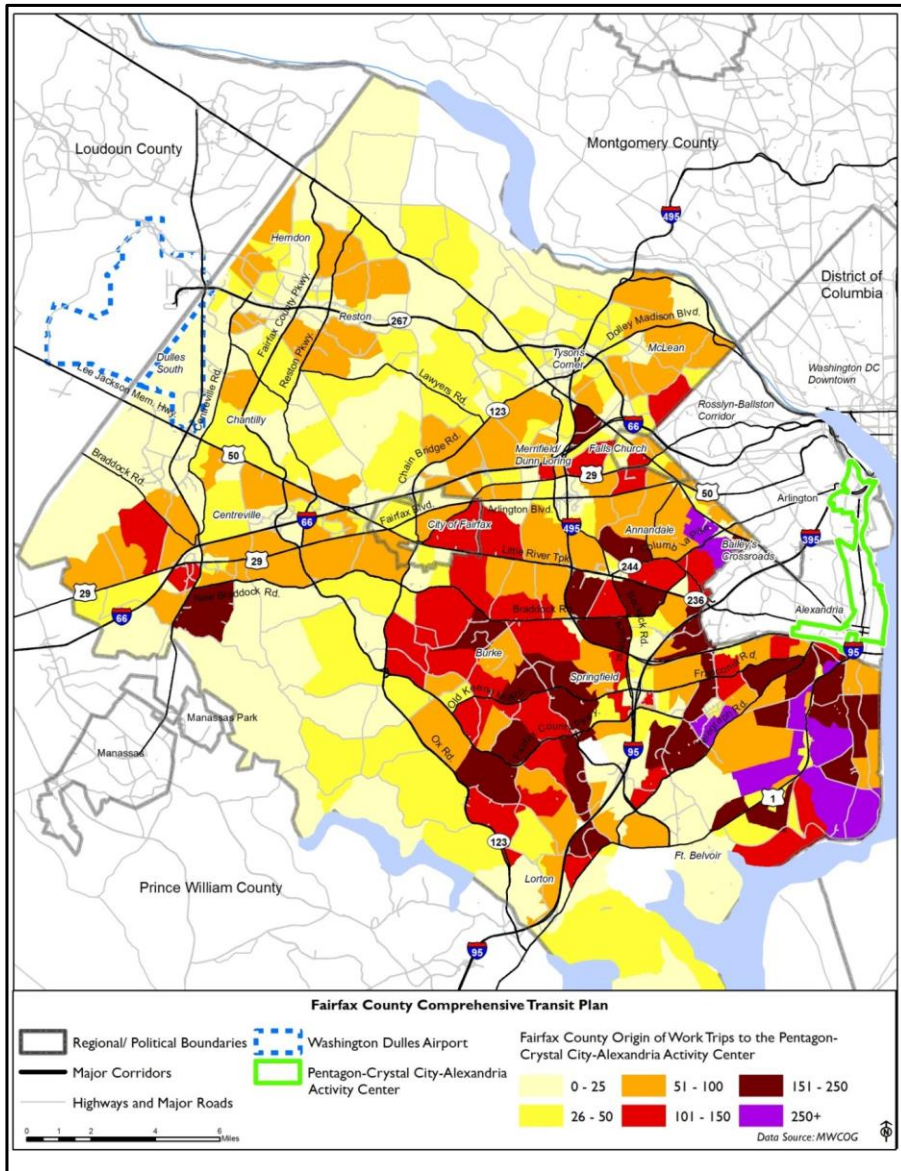
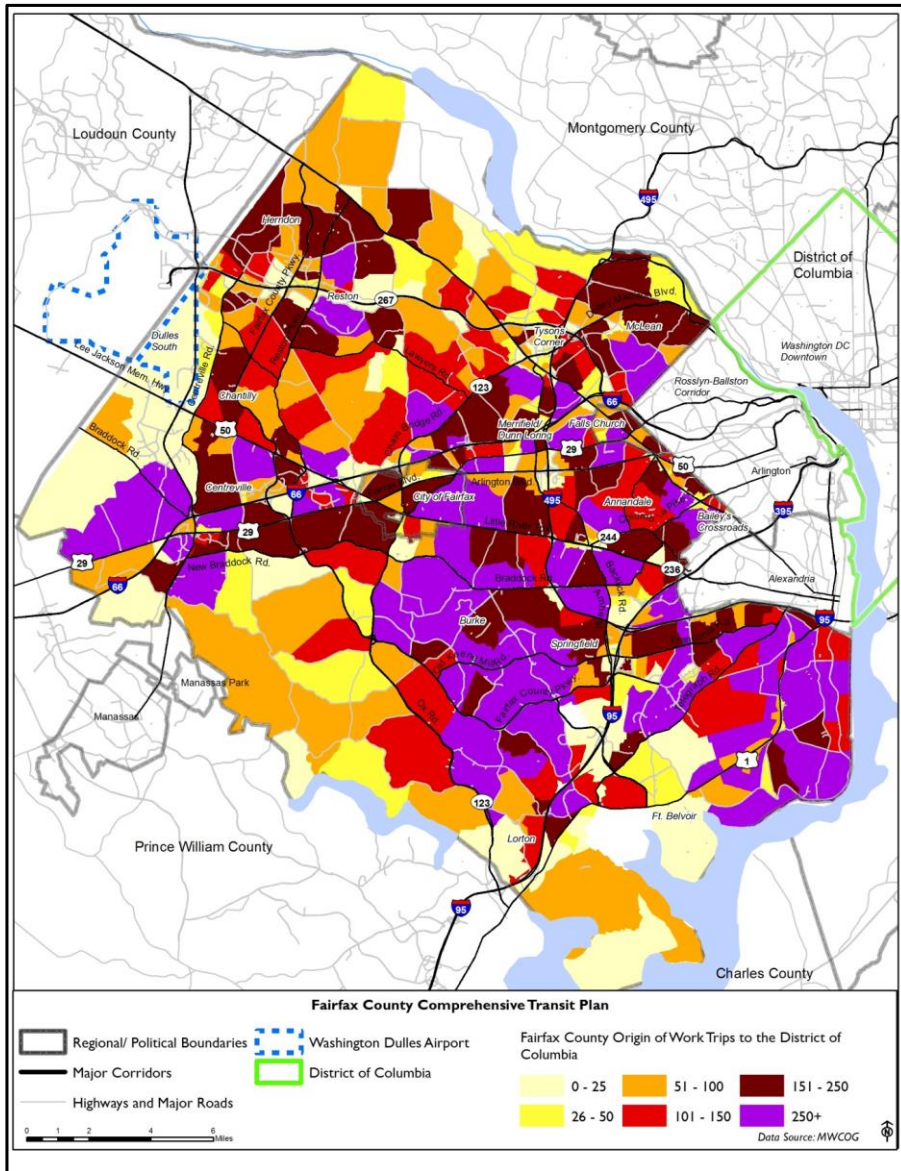


Figure 3.32 Fairfax County Workers Traveling to the District of Columbia



3-73.6 Transit Environment

Fairfax County provides a locally owned and controlled fixed-route bus transit system called Fairfax Connector (Connector). In addition to Fairfax Connector, the Washington Metropolitan Area Transit Authority (WMATA) also provides bus service in Fairfax County through Metrobus. Metrobus service is regionally focused, providing service across county lines, while Connector service is non-regional in nature and operates largely within the County boundaries. The County initiated the Fairfax Connector in September 1985 as a County-sponsored, cost-effective alternative to the provision of non-regional fixed-route/fixed-schedule bus service by WMATA, and significant expansion of the system has occurred since then.

The Fairfax Connector system consists of 84 routes that provide over 650,000 revenue hours annually, representing 55 percent of the total bus service in the County. On an average weekday, the system carries nearly 40,000 passengers on its 270 buses. Fairfax Connector provides service on local routes that are focused on providing connectivity within and between activity centers, express routes focused on long trips delivering commuters directly to high-employment areas and Metrorail, and circulator routes that provide connections within activity centers. The service, including the hiring and training of drivers and the maintenance of vehicles, is operated under contract with a private firm.

Metrobus' Fairfax County service provides the major connections for Fairfax County residents into the District of Columbia and other Virginia jurisdictions to the east of Fairfax County. Metrobus' Fairfax County service radiates from downtown DC to points northwest, west and southwest. Metrobus' Fairfax County service consists of 36 lines that at least partially serve the County. These lines provide over 500,000 revenue hours of service annually, representing 45 percent of the total bus service in the County. On an average weekday, Metrobus lines serving Fairfax County carry nearly 55,000 passengers on 289 peak buses.

3-7-1-3.6.1. Existing Conditions

The existing route network (as of the opening of the Metrorail Silver Line in the summer of 2014) is overlaid on the map of current population density in Figure 3.33. The map shows that the existing route network connects to virtually all of the block groups in the County with densities greater than 2,500 persons per square mile. However, the map only reflects where service exists at some time and does not compare the frequency of service or service span to population density. A more detailed analysis of the quality of service relative to total population, and population of specific subgroups, will be undertaken later in the development of the Comprehensive Transit Plan. Figure 3.34, Figure 3.35, Figure 3.36, and Figure 3.37 compare bus service coverage to the current density of older adults, persons in poverty, non-white persons and the LEP population, respectively.

3-7-2-3.6.2. Projected Conditions

Figure 3.38 overlays the same existing bus network on year 2025 population density estimates. This map also shows that the existing route network connects to virtually all of the block groups in the County with projected densities greater than 2,500 persons per square mile. Again, a more detailed analysis of the quality of service relative to total population, and population of specific subgroups, will be undertaken. Figure 3.39 overlays current bus service on 2025 employment projections. All of the major activity centers in the County currently have bus service. Detailed analyses of the coverage, frequency and span of service to each activity center will be conducted later in the development of the Comprehensive Transit Plan.

Figure 3.33 Fairfax County Population Density and Current Bus Routes

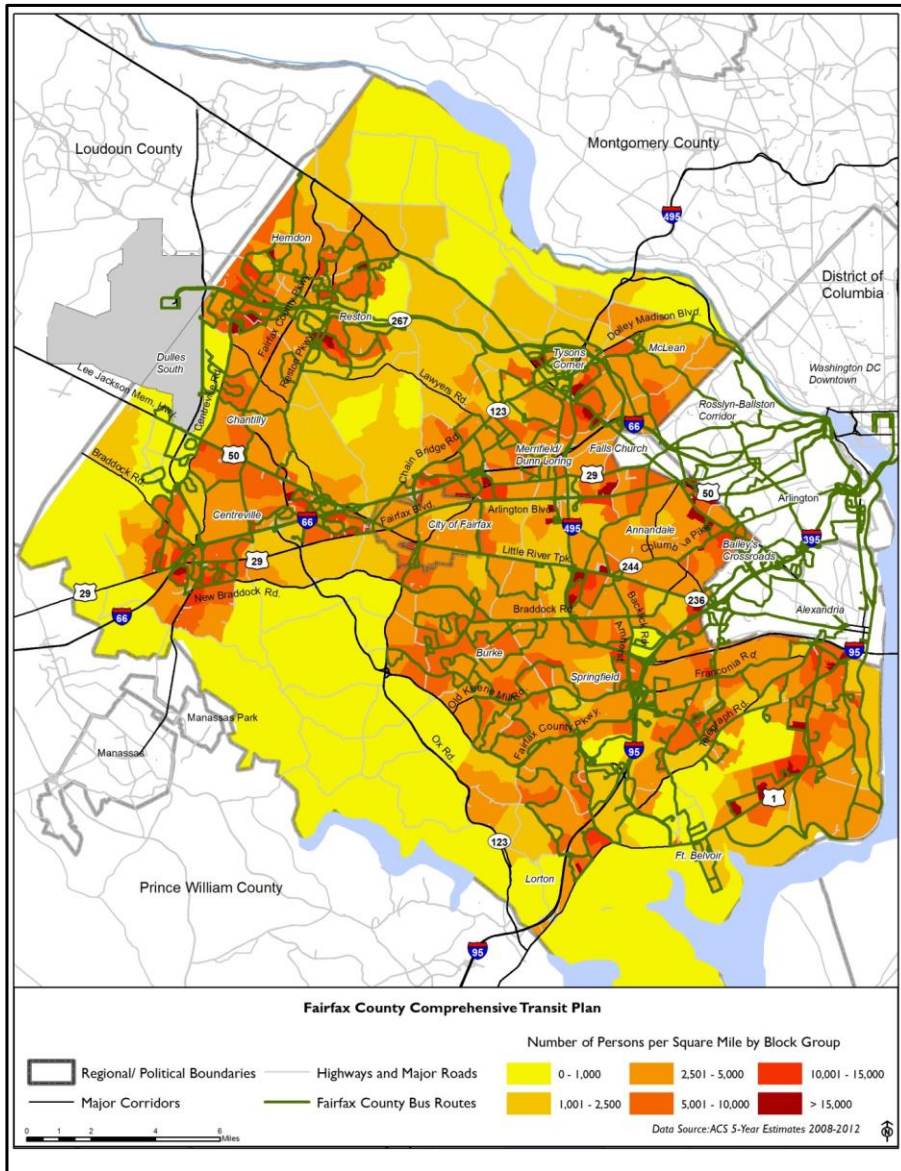


Figure 3.34 Fairfax County Density of Older Adults (65+) and Current Bus Routes

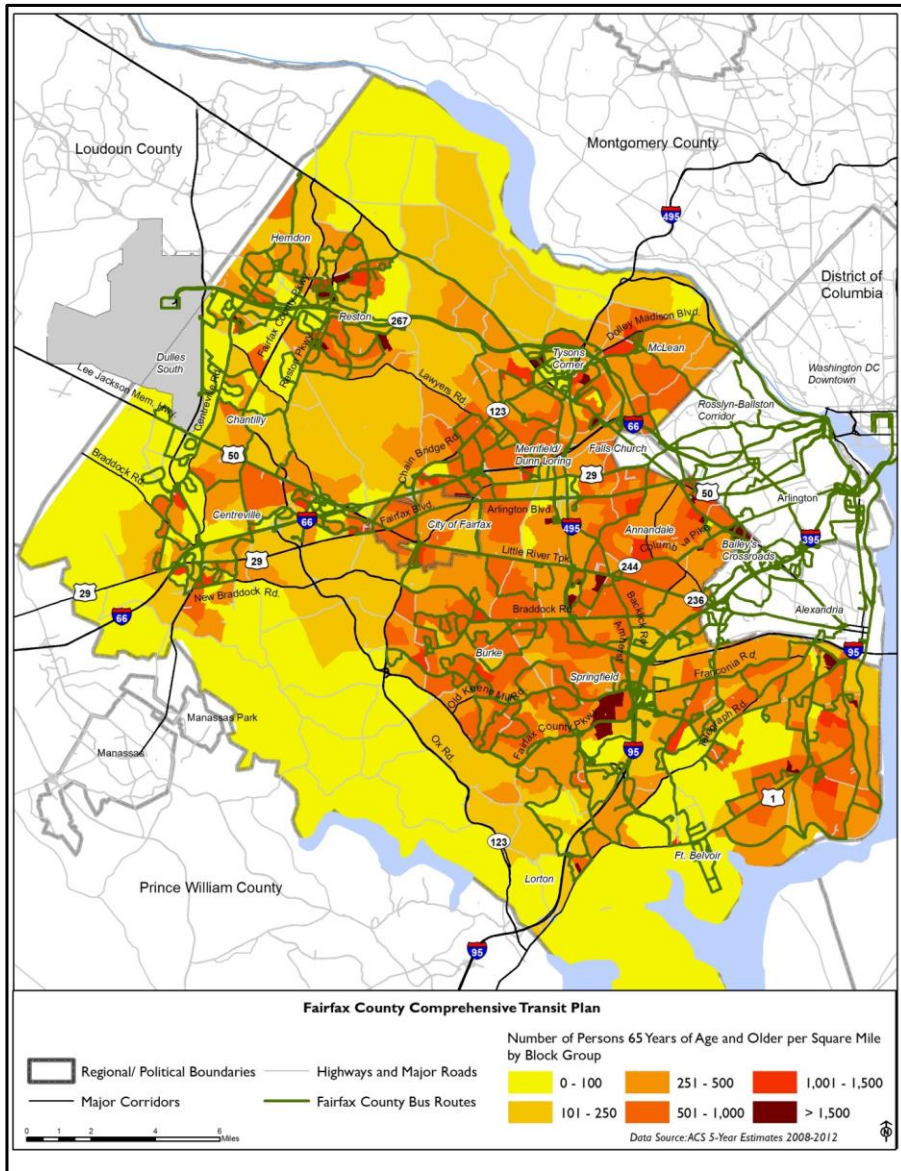


Figure 3.35 Fairfax County Density of Persons in Poverty and Current Bus Routes

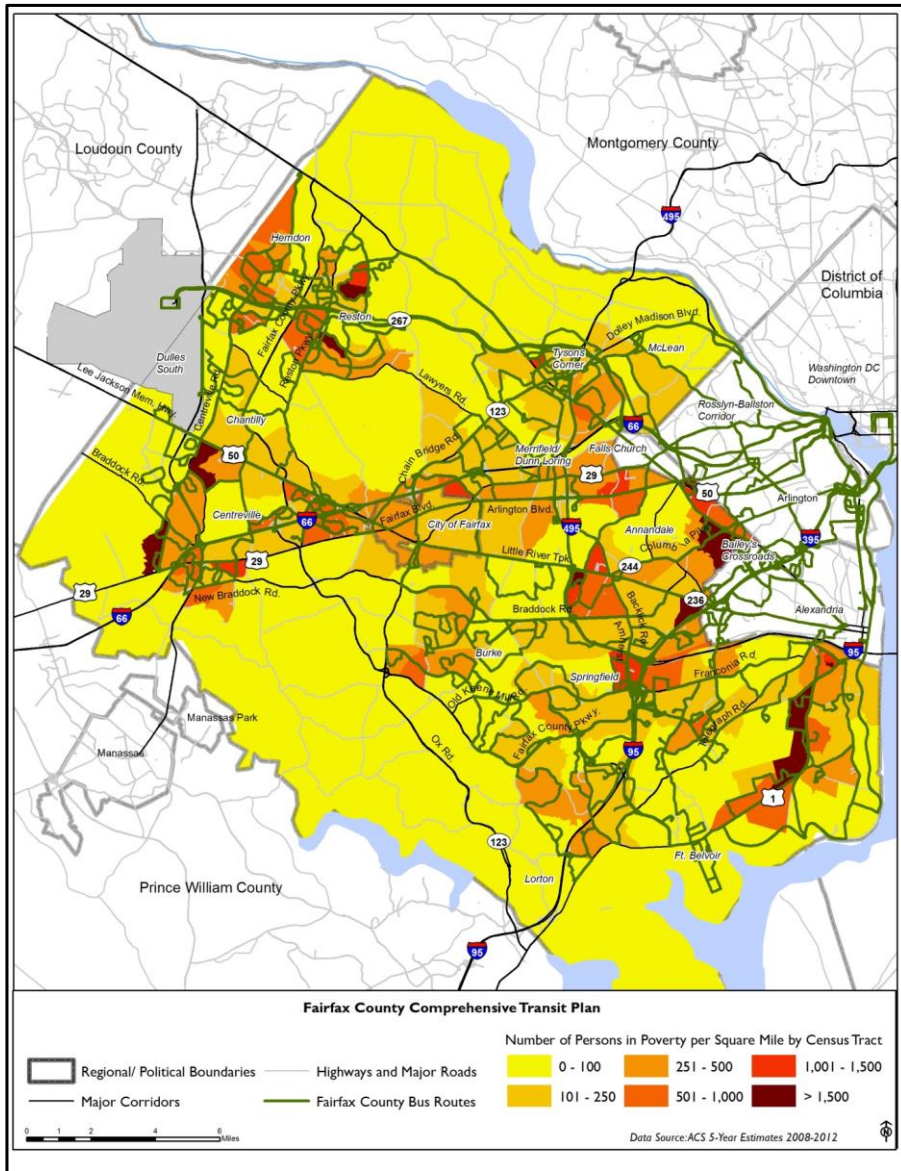


Figure 3.36 Fairfax County Density of Non-White Persons and Current Bus Routes

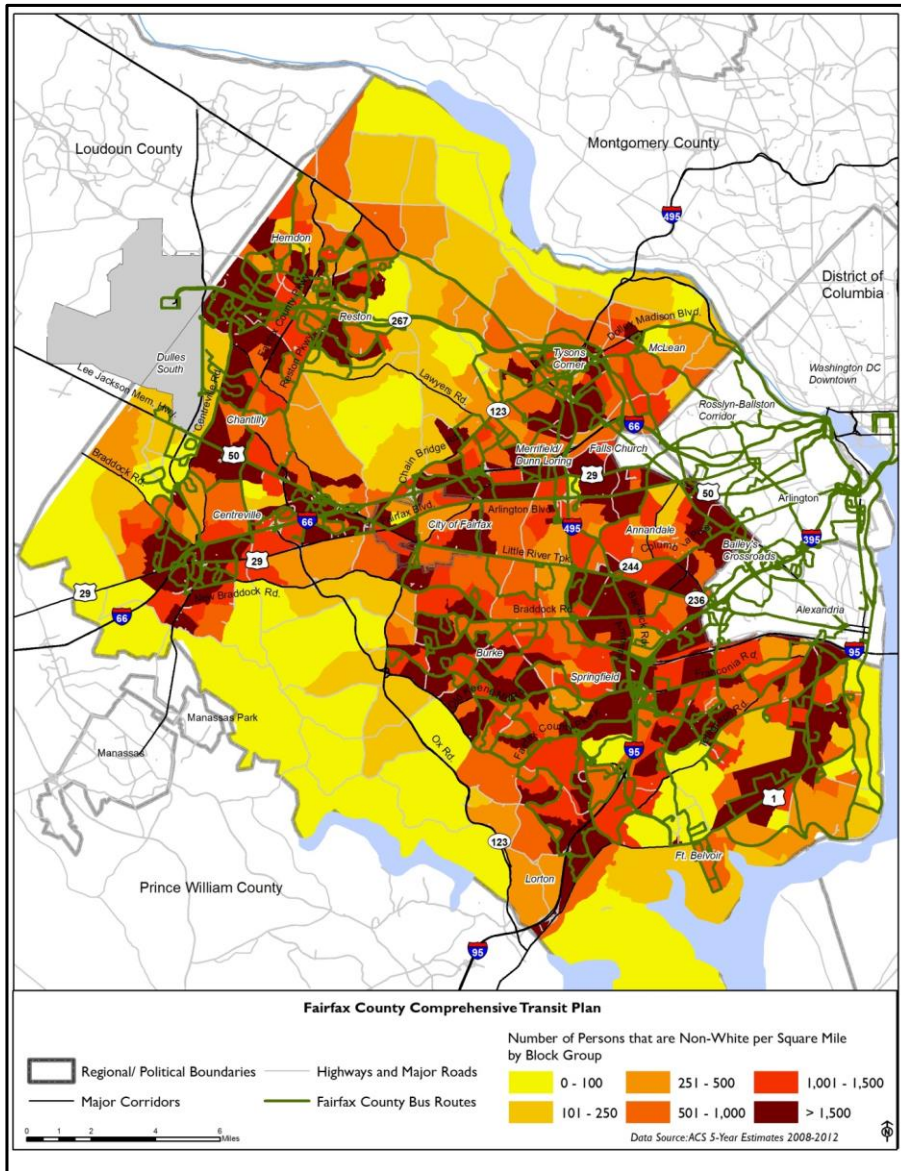


Figure 3.37 Fairfax County Density of LEP Persons and Current Bus Routes

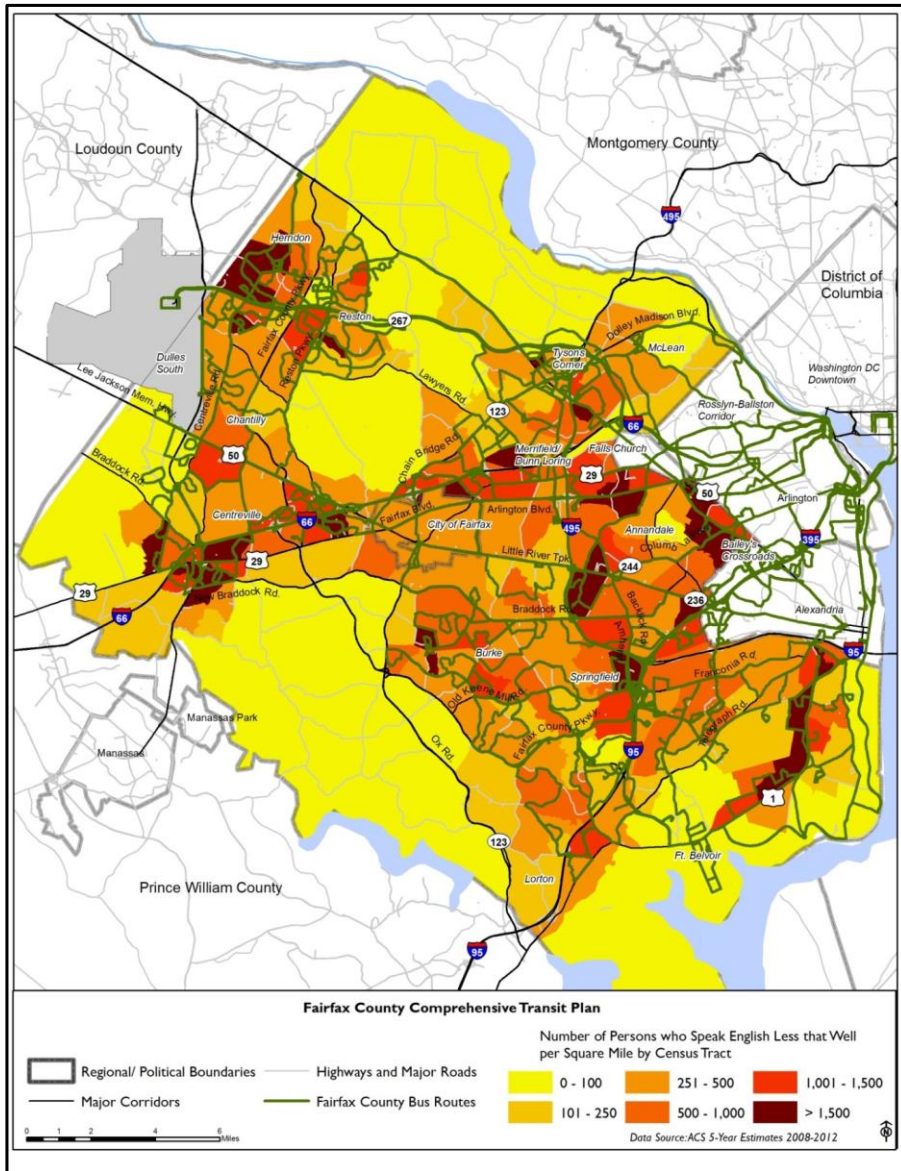


Figure 3.38 Projected Population Density (2025) and Current Bus Routes

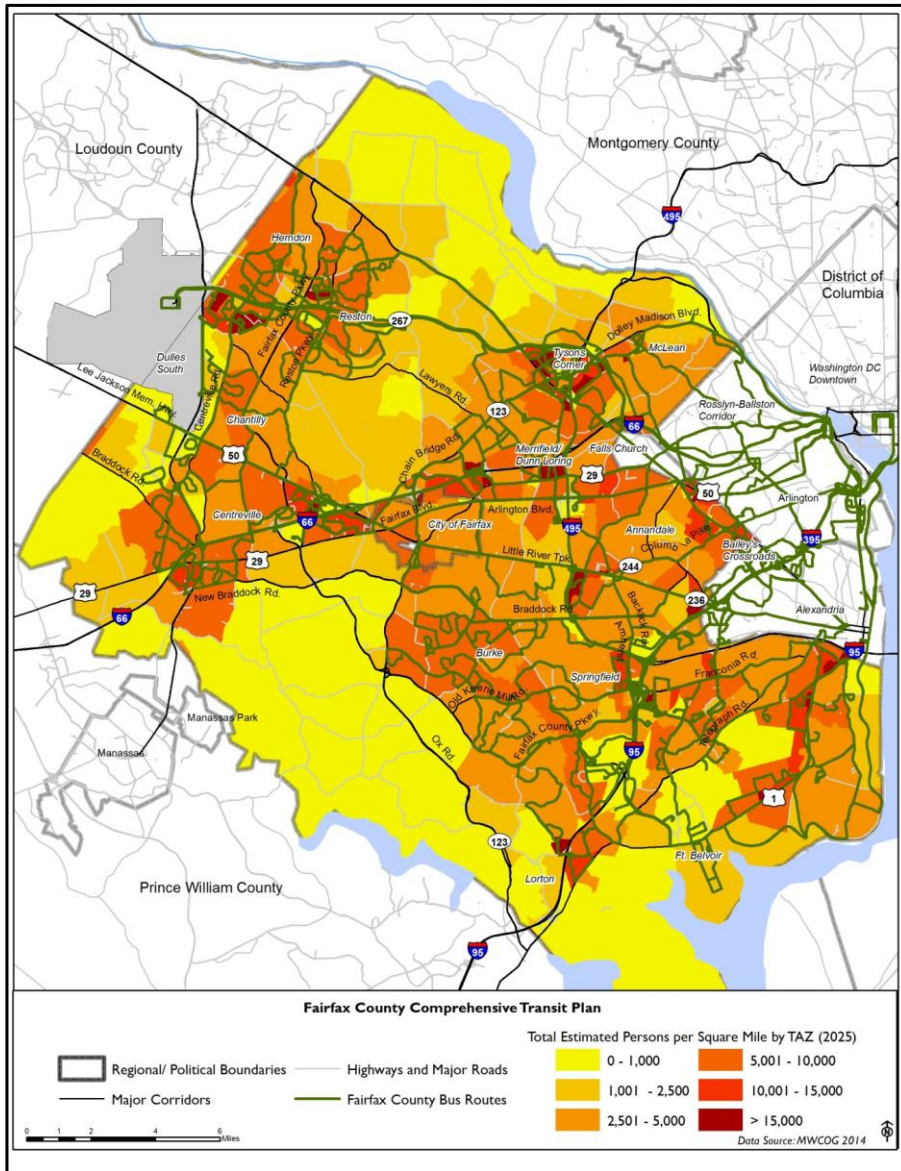


Figure 3.39 Projected Employment Density (2025) and Current Bus Routes

