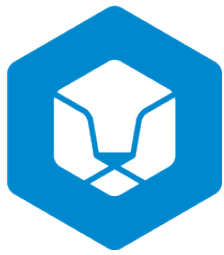




STATE
OF THE
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2021—————

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WHERE CAPITAL REGION WORKERS LIVE AND LABOR

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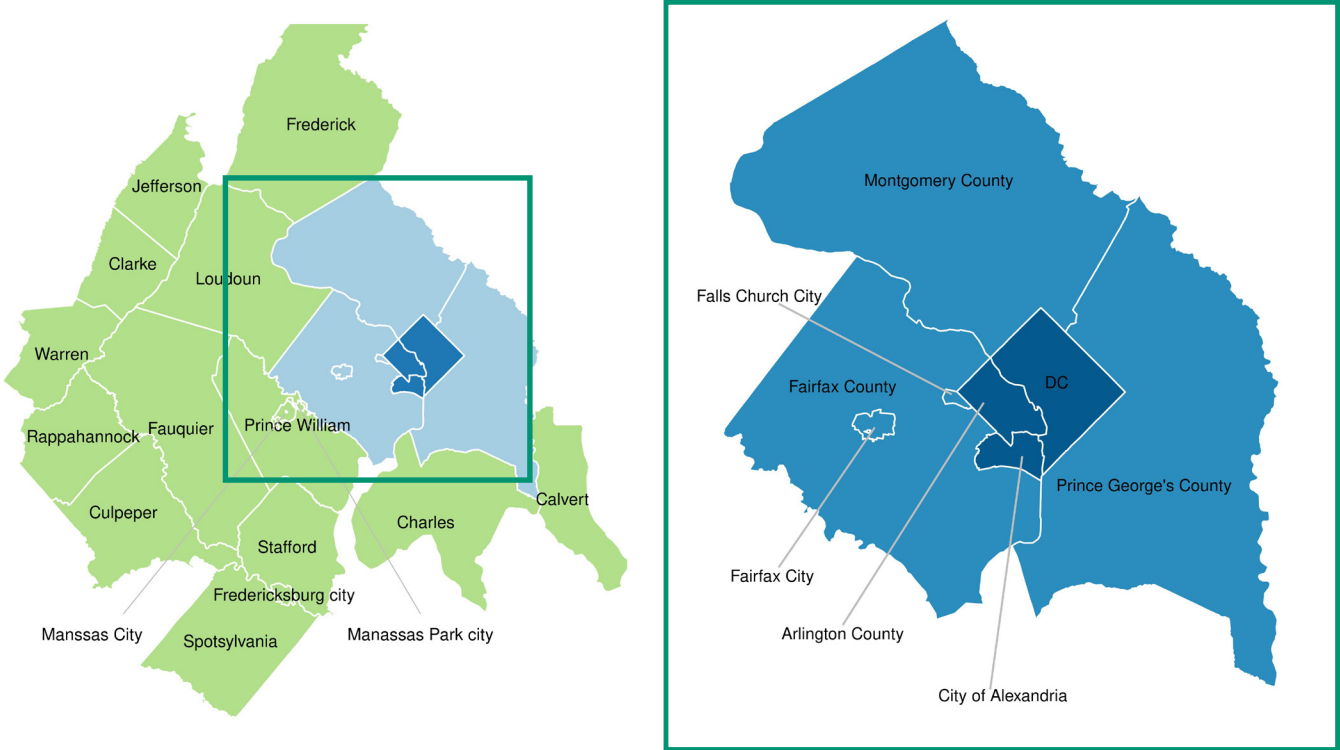
This report is a collaborative effort from researchers at the American Enterprise Institute, Brookings Institution, Fannie Mae, Georgetown University and the George Washington University. We are particularly grateful to the Trachtenberg School of Public Policy and Public Administration and the George Washington Institute for Public Policy for their support in reinvigorating the Center for Washington Area Studies over the past three years. The views reflected here are our own and do not reflect those of Fannie Mae or the Federal Housing Finance Administration. Any errors in this report are the sole responsibility of the report's authors.

STATE OF THE CAPITAL REGION 2021: WHERE WORKERS LIVE AND LABOR

In 2020, we experienced a year of unprecedented economic change as the pandemic reshaped work and home overnight. Cities and metropolitan regions are shaped by home, work, and our desire for proximity to jobs, amenities, friends, neighbors, and coworkers. The Capital Region's experience is also shaped by a broader economic restructuring that occurred over the past 20 years. In this year's State of the Capital Region report, we explore our metropolitan labor market, focusing on the industry mix, where jobs are located, and where workers live. We highlight the toll the recent pandemic has taken on the region's employment, particularly focusing on the leisure and hospitality sector and lower income workers.

We analyze jobs and workers by looking at the entire Capital Region, and by focusing on patterns across groups of jurisdictions. The metropolitan area includes the District of Columbia (the District), as well as counties in Maryland, Virginia, and West Virginia. Our analysis explores differences between urban, suburban, and exurban locations, as shown in Figure I.1. Urban jurisdictions are dark blue, suburban jurisdictions are light blue, and exurban jurisdictions are green.

Figure I.1: Urban, Suburban and Exurban Jurisdictions in the Capital Region



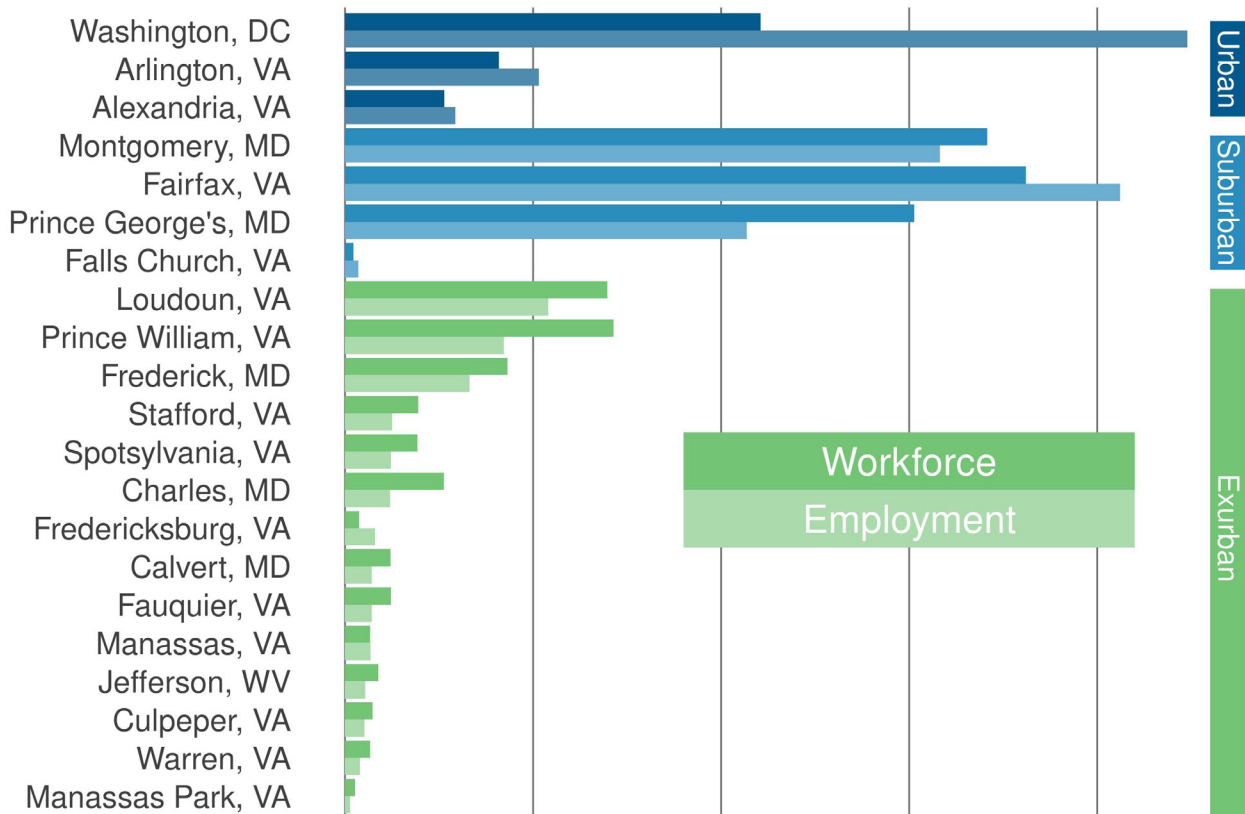
Source: Census Bureau, 2010 jurisdictional boundaries.

With those definitions in mind, Figure I.2 offers an overview of where workers live and work across the region. We show each jurisdiction’s share of the workforce and share of employment. We define a jurisdiction’s share of the workforce as the total number of workers living in a jurisdiction, divided by the total number of workers in the Capital Region. In contrast, a jurisdiction’s share of employment refers to the number of (pre-COVID) physical workers in that jurisdiction, again divided by the total number of physical workers in the Capital Region.

Not surprisingly, the four largest jurisdictions in the region by population—the District, Fairfax, Montgomery, and Prince George’s counties—account for the largest share of both jobs and workers. But the balance between jobs and workers varies across jurisdictions. In urban jurisdictions, there is a greater share of local employment than residential workforce. For example, the District has over 20 percent of the region’s employment, and just over ten percent of the region’s workforce. In contrast, suburban and exurban jurisdictions have a larger share of workforce than employment. Prince George’s County, for example, has around ten percent of the region’s jobs and 15 percent of the region’s workforce.

Figure I.2: The Majority of Jobs and Workers in the Region Are Concentrated in a Few Jurisdictions: The District Has the Highest Employment Share and Fairfax County the Highest Workforce Share

Share of employment and share of workforce



Source: LODES 7.5 2018 data. Data show the share of jobs (employment) and employed residents (workforce) by jurisdiction, relative to the entire Capital Region.

The rest of the report delves into where workers live and work in more detail. Chapter 1 explores the mix of industries present in the Capital Region. The region is best known as the seat of the federal government, and public sector jobs are a large share of the region's labor market. However, professional and business services overtook the public sector as the region's largest industry in the 1990s. This transformation occurred because the number of other jobs increased, not because the number of government jobs fell.

Next, we focus on job clusters in the region. Chapter 2 shows that central job locations predominate, particularly in the downtown parts of the District. Other large job clusters are along major transportation corridors, such as I-270 to the north and I-95 to the south towards Richmond. There is also considerable variation in the industry mix across job clusters. While professional and business services jobs are highly concentrated in downtown Washington, the central job cluster in the District has a more diverse industry mix than the large suburban job hubs.

Finally, Chapter 3 turns to where workers live, with a particular focus on low-income workers. We see that low-income workers live throughout the region, but comprise a larger share of the working population in the exurbs, the east side of the District, and Prince George's County. Notably, the share of low-income workers increases with distance to the city center, suggesting higher commuting burdens and limited public transportation options for these same workers.

Our report also sheds light on the recent effects of the COVID-19 pandemic. While no industry has been unscathed by the crisis, the leisure and hospitality sector has been markedly the hardest hit. As our chapters discuss in turn, the number of leisure and hospitality jobs remains far from pre-pandemic levels. Prior to the pandemic, leisure and hospitality workers were already more likely to be living in lower income neighborhoods.

Job location, clusters, and industry mix have important implications for where we live, our commuting costs, our housing expenses, and our ability to be economically resilient. Our earlier reports note that the Capital Region housing supply is growing most rapidly in the suburbs, yet in this report we show that many employers clearly value proximity to the city center. We have also documented rising income inequality in the region in the past, and we again see disparities in where lower income workers and those in the leisure and hospitality sector work and live. As we move towards recovery, policymakers must grapple with a pandemic that amplified and broadened these ongoing challenges faced by households and employers in the region.

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PART 1: WHERE WORKERS LIVE AND LABOR

CHAPTER 1: WHAT KINDS OF JOBS ARE IN THE CAPITAL REGION?

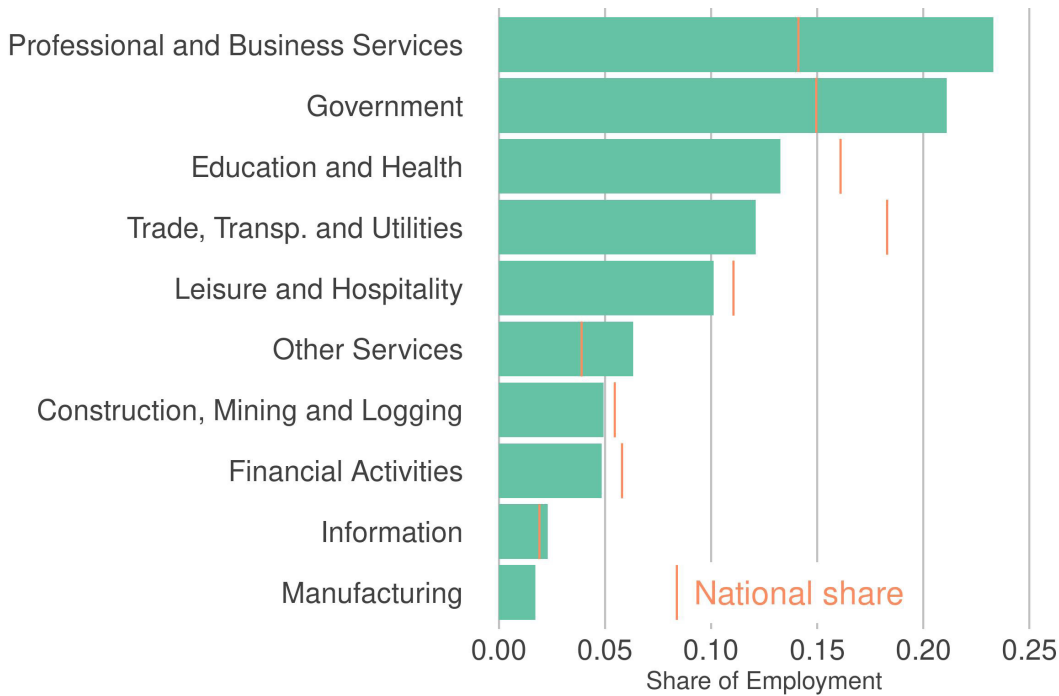
While the Capital Region is the seat of the federal government, federal employees do not dominate the region’s labor market. At the start of 2020, all government employment—federal, state, and local—accounted for only 21 percent of total regional employment, compared to 15 percent nationwide.

The Capital Region’s public sector employment share is large relative to the national average, but it is not the most disproportionately represented employment sector in the region. Figure 1.1 shows employment in different sectors as a share of total regional employment and compares it to national employment shares. The region’s dominant industry in both absolute and relative terms is the professional and business services industry. It employs 23 percent of all workers, well above the nationwide average of 14 percent. ‘Other services’ are overrepresented as well, at six percent instead of four percent nationally.¹

Among industries where the Capital Region’s share is lower than the national share, manufacturing and trade, transportation, and utilities stand out. The manufacturing industry, in particular, is almost entirely absent from the Capital Region. It employs less than two percent of the region’s workers, despite accounting for over eight percent of nationwide employment.

Figure 1.1: Capital Region Workers Are Disproportionately Employed in Government and Professional and Business Services

Share of workers by sector in the Capital Region, December 2020



Source: Bureau of Labor Statistics 2020. Current Employment Statistics: Employment, Hours and Earnings—National; and State and Area Employment, Hours and Earnings

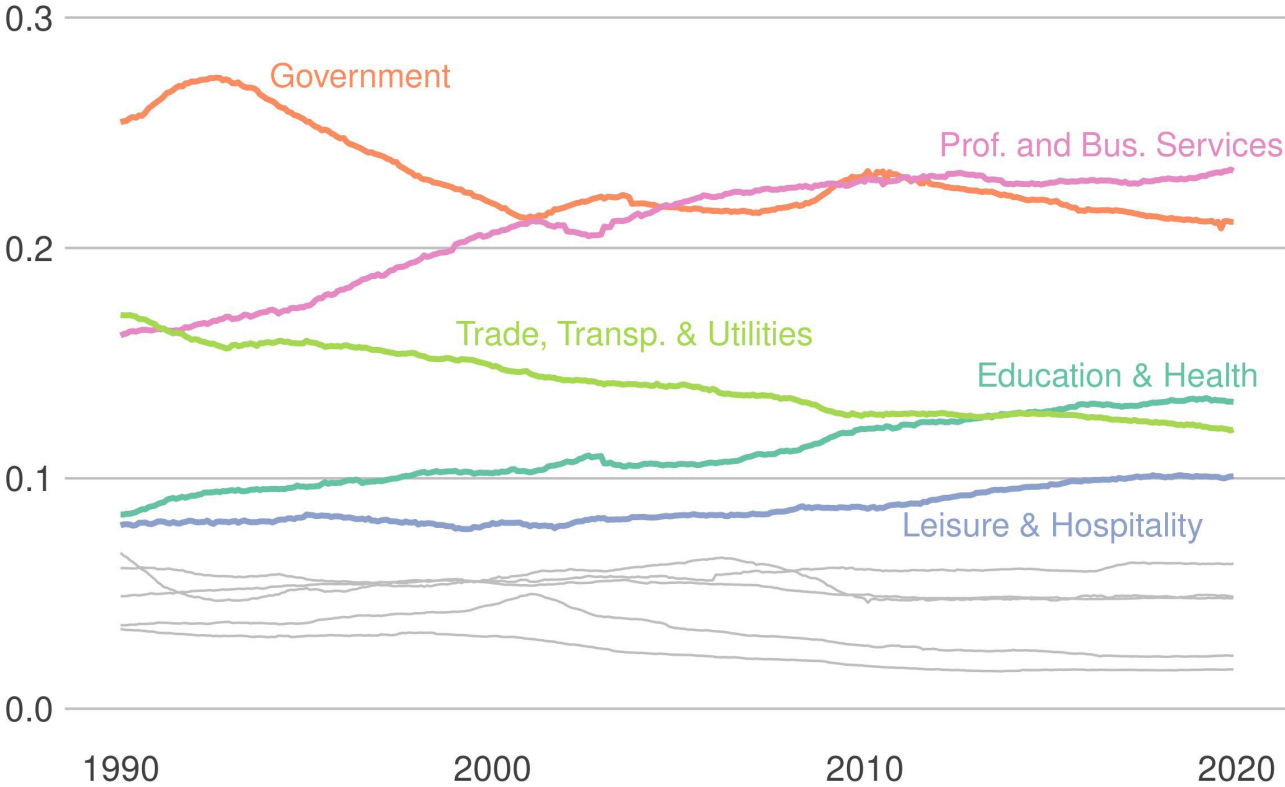
1 “Other Services” from the Bureau of Labor Statistics: “The Other Services (except Public Administration) sector comprises establishments engaged in providing services not specifically provided for elsewhere in the classification system. Establishments in this sector are primarily engaged in activities, such as equipment and machinery repairing, promoting or administering religious activities, grantmaking, advocacy, and providing drycleaning and laundry services, personal care services, death care services, pet care services, photofinishing services, temporary parking services, and dating services.” See <https://www.bls.gov/iag/tgs/iag81.htm>

The dominant role of professional and business services in the region is a recent, 21st-century phenomenon. As Figure 1.2 demonstrates, the public sector was the uncontested largest source of employment in the Capital Region until the turn of the century. In the early 1990s, it employed as many as 27 percent of all workers while professional and business services were home to just over 15 percent of the workforce.

The industrial composition of the regional labor market has evolved in a number of other ways over the past quarter century too. The trade, transportation, and utilities share of regional employment has gone down by four percentage points, from 16 to 12 percent. Education and health, as well as leisure and hospitality, have come to play a more important role in the Capital Region’s labor market. These two industries combined now account for about a quarter of total employment, an increase of almost ten percentage points in under thirty years.

Figure 1.2: Professional and Business Services Recently Became the Capital Region’s Largest Industry

Share of workers by industry in the Capital Region, 1990-2020

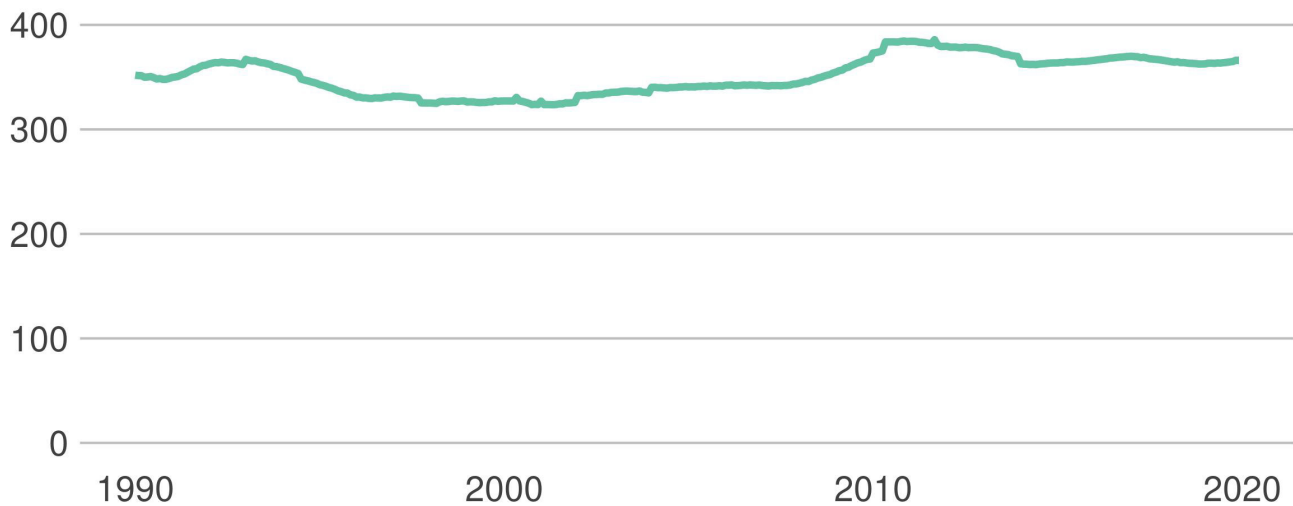


Bureau of Labor Statistics 1990-2020. Current Employment Statistics: Employment, Hours and Earnings—National; and State and Area Employment, Hours and Earnings. The five industries with the largest share of employment are in color; all remaining industries are in gray.

Public sector employment has declined as a share of total Capital Region employment, largely because the federal workforce has remained relatively stable as other industries have grown. As Figure 1.3 shows, the absolute number of federal government jobs in the region has fluctuated around 350,000 since the early 1990s. On the other hand, total employment across all other industries increased over this period, leading to the substantial decline in the share of federal government jobs.

Figure 1.3: The Absolute Number of Federal Government Jobs in the Capital Region Has Been Stable for Thirty Years

Federal government employees in 1000s, Capital Region



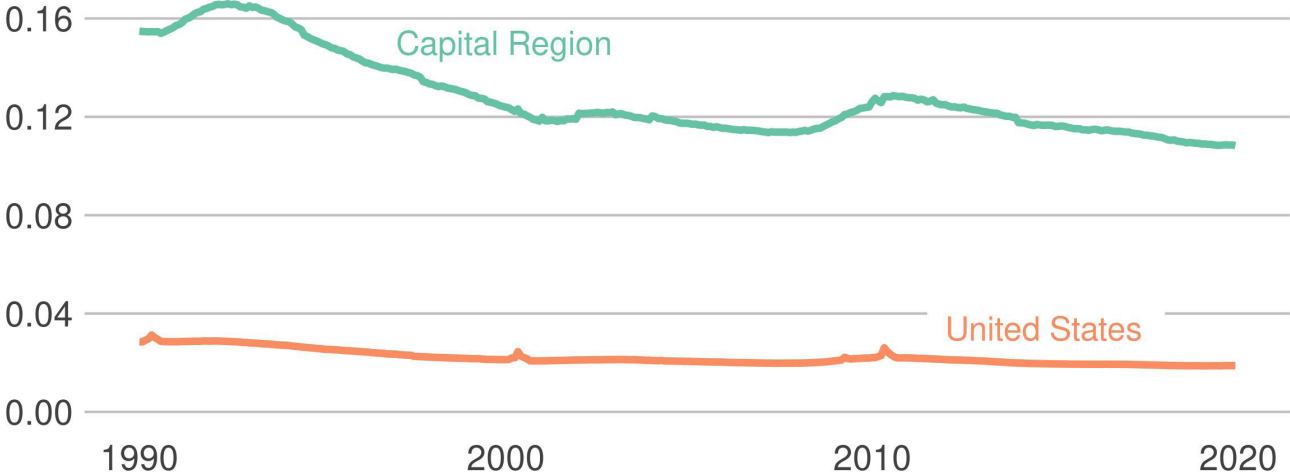
Source: Bureau of Labor Statistics 1990–2020. Current Employment Statistics: Employment, Hours and Earnings–National; and State and Area Employment, Hours and Earnings.

Figure 1.4 highlights this development. It shows a decline in the share of federal government jobs from more than 16 percent to around 11 percent. This five percentage point change accounts for the entire decline in regional federal employment. Nationwide, the share of employees employed by the federal government also declined.² The outsized role of federal employment in the Capital Region labor market makes these changes more important here.

The federal government has nevertheless remained more important to the region's economy than these numbers might suggest. In recent decades, some work that would previously have been carried out by public-sector workers has moved to the private sector. As a consequence, workers who work exclusively for the government are counted as private workers in the professional and business services sector. There are, for example, large private consulting companies that exclusively serve federal clients.

Figure 1.4: Federal Government Employment as a Share of Capital Region Jobs Has Declined Sharply Over the Past Thirty Years

Federal employment as a share of total employment, Capital Region and United States



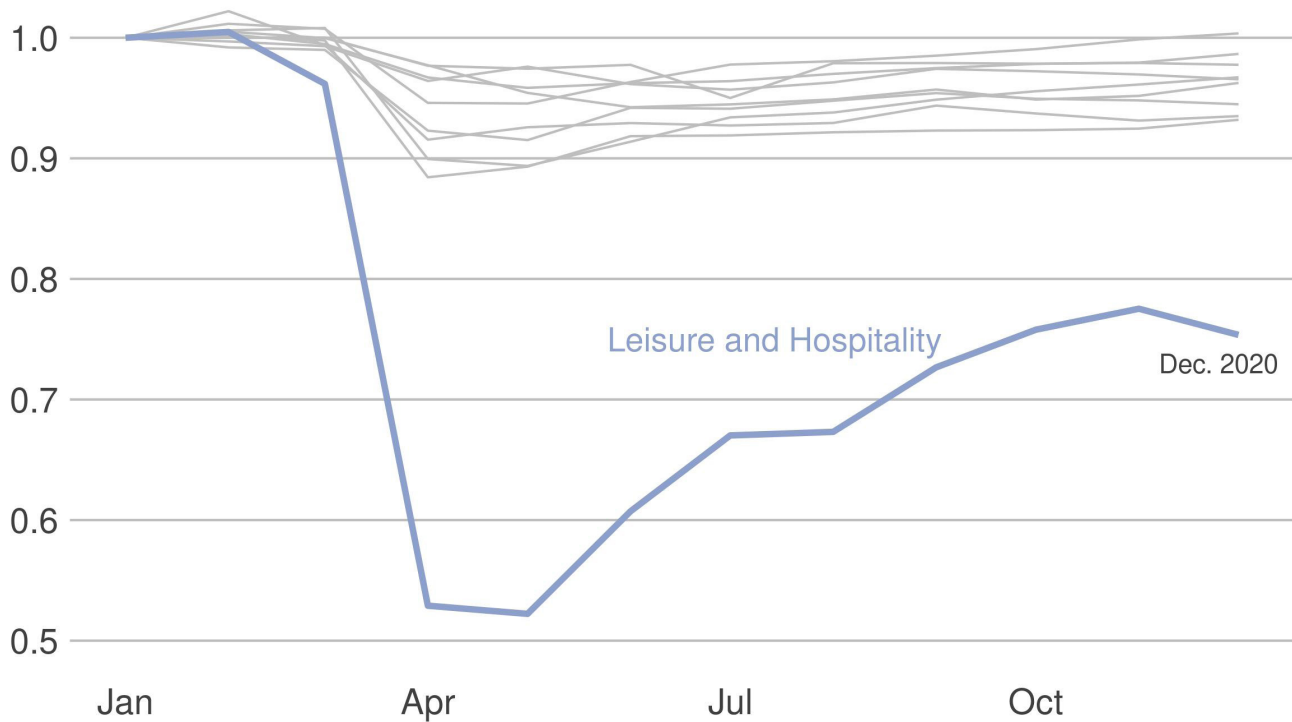
Source: Bureau of Labor Statistics 1990-2020. Current Employment Statistics: Employment, Hours and Earnings--National; and State and Area Employment, Hours and Earnings.

² This decline in federal employment's national share holds true even when we look at the country as a whole without the Capital Region.

Turning from these long-term developments to our current moment, Figure 1.5 depicts the impact of the COVID-19 crisis on regional employment by industry. While jobs were destroyed across the Capital Region’s economy, the impact of the crisis was felt most harshly in the leisure and hospitality sector. This sector, which represented ten percent of all regional employment prior to the pandemic, has had to face stringent public-health restrictions as well as intense consumer concerns about in-person interactions throughout the crisis.

Figure 1.5: The COVID-19 Crisis Dramatically Reduced Employment in the Capital Region’s Leisure and Hospitality Industry

Industry employment as a share relative to January 2020



Source: Bureau of Labor Statistics 2020. Current Employment Statistics: Employment, Hours and Earnings–National; and State and Area Employment, Hours and Earnings.

As a result, at the nadir of the labor market crisis, April and May of 2020, employment in the leisure and hospitality sector was only just above half of what it had been at the start of the year. Now, roughly one year into the crisis, employment in this sector is at three-quarters of its January 2020 level.

Despite a significant recovery during the summer and fall, by December 2020 only one sector—construction—had returned to its January 2020 employment. As the region works to return to normalcy, its labor market still faces a long road to full recovery.

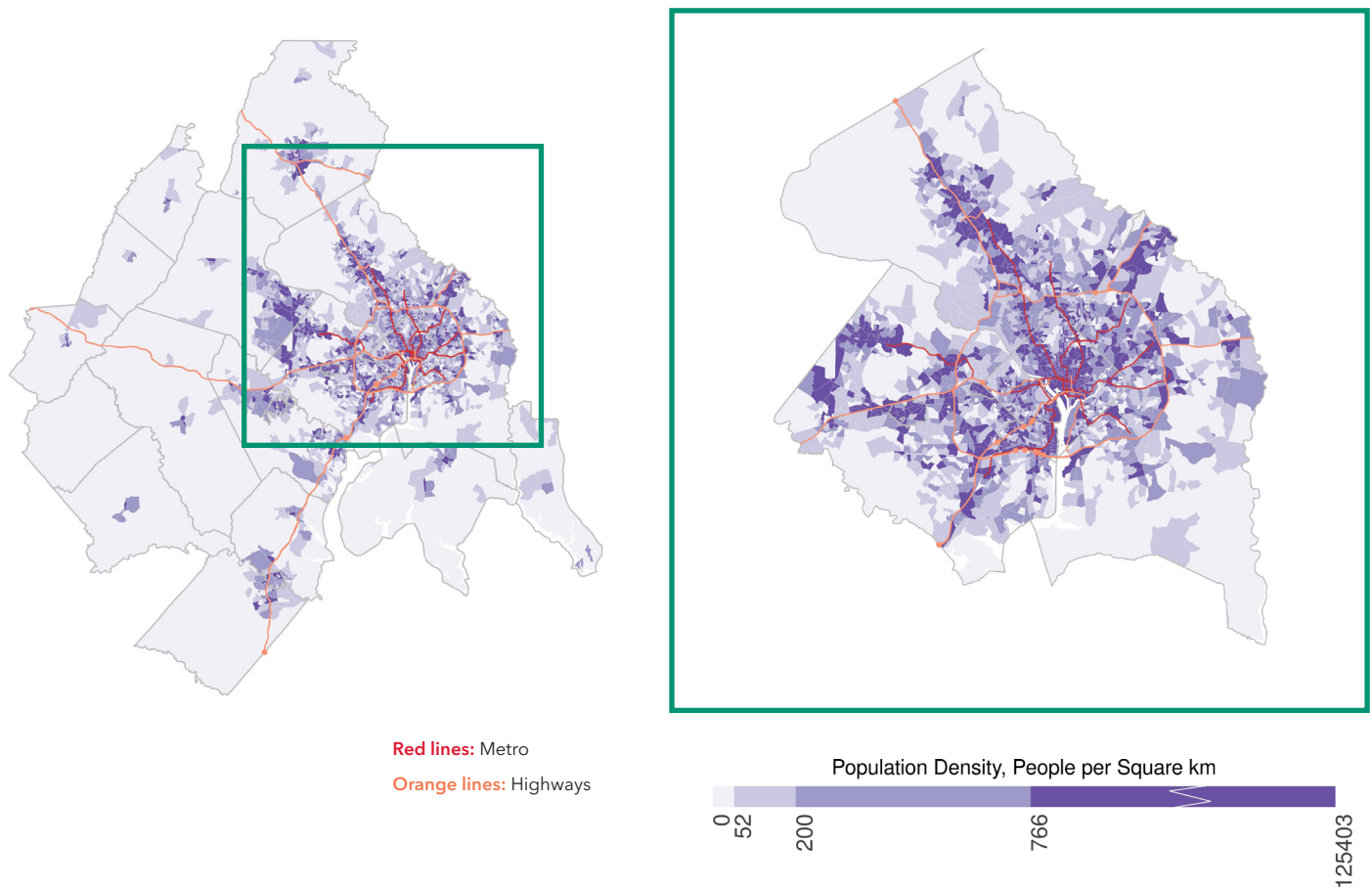
CHAPTER 2: WHERE ARE JOB CLUSTERS IN THE CAPITAL REGION?

We are not only interested in the number of jobs in the region, but also where those jobs are located. The spatial pattern of employment in the Capital Region reflects historic development patterns: District neighborhoods near the White House continue to be the largest employment cluster in the Capital Region, with secondary clusters along main transportation corridors in the suburbs. The industry composition of these job clusters varies considerably.

As Figure 2.1 shows, the District’s Central Business District (CBD) and areas nearby are very job rich. Outside of the District, job clusters map closely onto major transportation corridors: northwest along route 355/I-270 through Montgomery County, west along Route 7 and I-66 through Arlington, Fairfax, and Loudoun counties, and south along I-95 through Prince William and Stafford counties. For employers, choosing a central location allows them to draw customers and workers from throughout the Capital Region. Locating along highways and Metrorail corridors also makes businesses more accessible, even at a greater distance from the CBD.

Figure 2.1 : Jobs Cluster Near the CBD and Along Suburban Transportation Corridors

Jobs per square kilometer in the Capital Region, by census block group

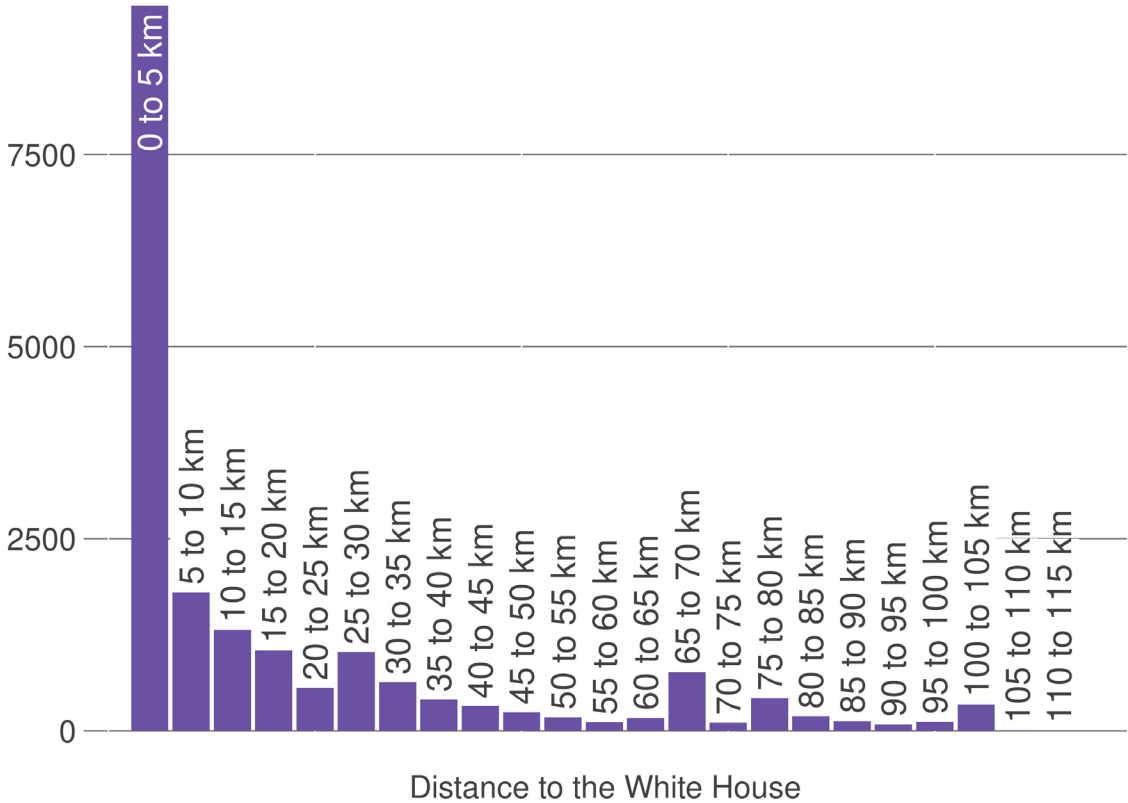


Source: LODS v. 7.5 2018. Neighborhoods in this figure are census block groups.

The high degree of job centralization in the Capital Region makes it an outlier compared with much of the U.S. For decades, employment in most metropolitan areas has been [shifting away](#) from downtown. In the Capital Region, as the top panel of Figure 2.2 shows, neighborhoods within five kilometers from the White House have by far the highest density of jobs, more than 9,000 jobs per square kilometer. Neighborhoods in the next closest ring, between five and ten kilometers from the White House, have roughly one-fifth of the job density. Proximity to the White House offers a number of advantages to both firms and workers (at least prior to COVID-19): easy access to public transportation for consumers and workers, proximity to other businesses, and nearby amenities. Offsetting these advantages, office and retail rents downtown are expensive and traffic congestion is high.

Figure 2.2: Job Concentration Is Highest Near the Central Business District

Total employment per square kilometer, by distance from the White House

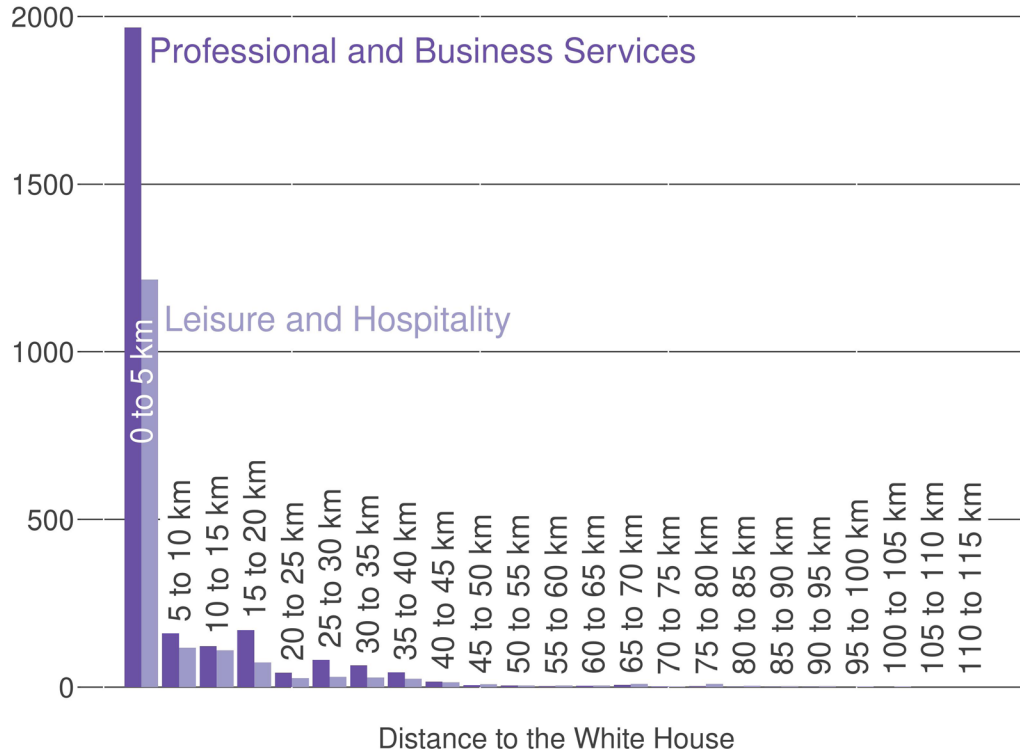


Source: LODES v. 7.5 2018.

This taste for proximity to the Central Business District differs across industry, leading to varied spatial patterns. Figure 2.3 shows that professional and business services are highly concentrated near the White House, while leisure and hospitality jobs are more evenly distributed across the Capital Region.

Figure 2.3: Job Concentration Is Highest Near the CBD, and Varies by Industry

Total employment per square kilometer, by distance from the White House

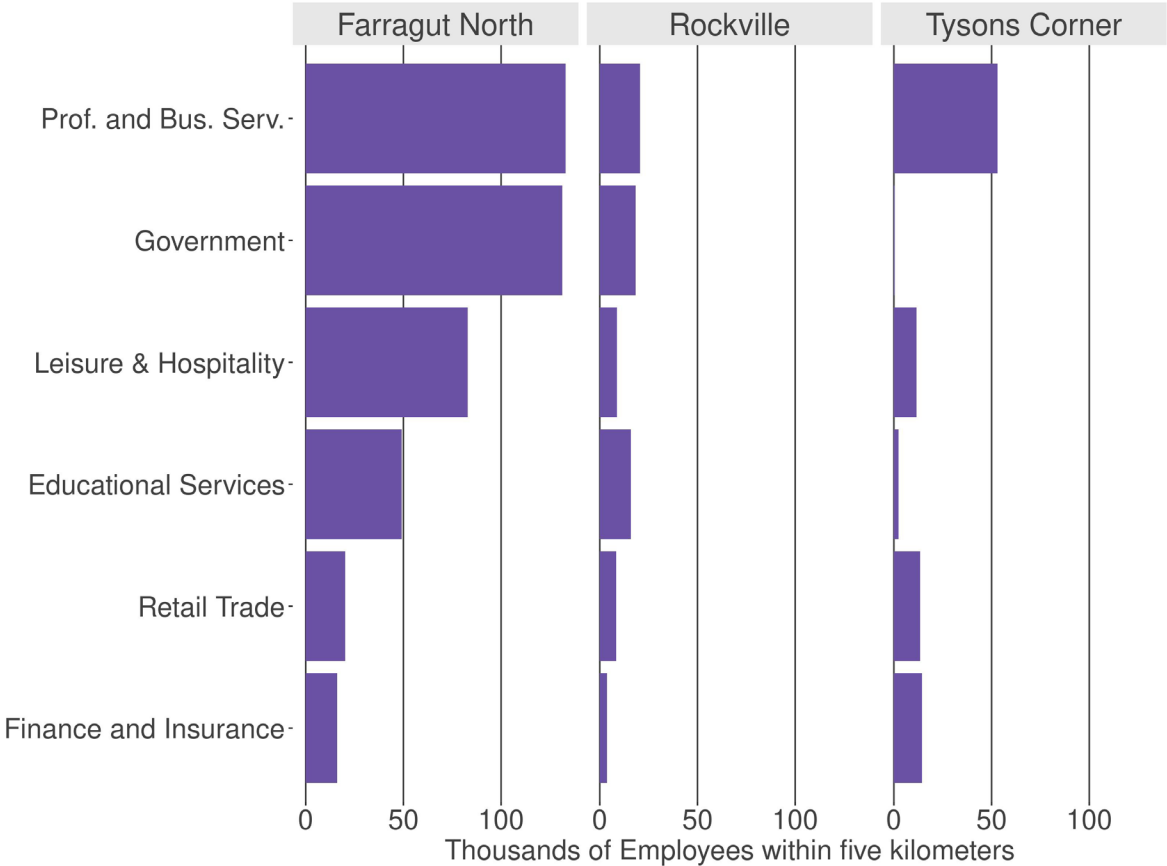


Source: LODES v. 7.5 2018.

Focusing on how location patterns vary across industries, Figure 2.4 shows the breakdown of jobs for three major job clusters: Farragut North in the CBD, Rockville (Montgomery County, Maryland), and Tysons Corner (Fairfax County, Virginia). While professional and business services account for the largest number of jobs in all three centers, the overall mix varies considerably. Farragut North has quite a diverse job mix, including a substantial number of jobs in leisure and hospitality and educational services, with smaller clusters of retail, government, and finance. Rockville, which is located about 15 miles northwest of the CBD in the I-270 corridor, has the most evenly balanced job mix across these six industries. Employment in Tysons Corner, roughly 12 miles west of the CBD, is most heavily concentrated in professional and business services, and has the smallest number of government jobs.

Figure 2.4: Within Job Clusters, Industry Mix Varies by Place

Thousands of employees within five kilometers of job centers, selected industries



Source: LODES v. 7.5 2018

Knowing where jobs are located throughout the region, as well as the spatial patterns by industry, is important for understanding the economic opportunities available to residents of the Capital Region. Further, job locations impact a variety of policy decisions, including the demand for additional housing, transportation investments, and other allocations of public and private resources. The variation in industry composition also has implications for telework patterns and the job opportunities for workers with different skills and education, as we discuss in Chapter 3.

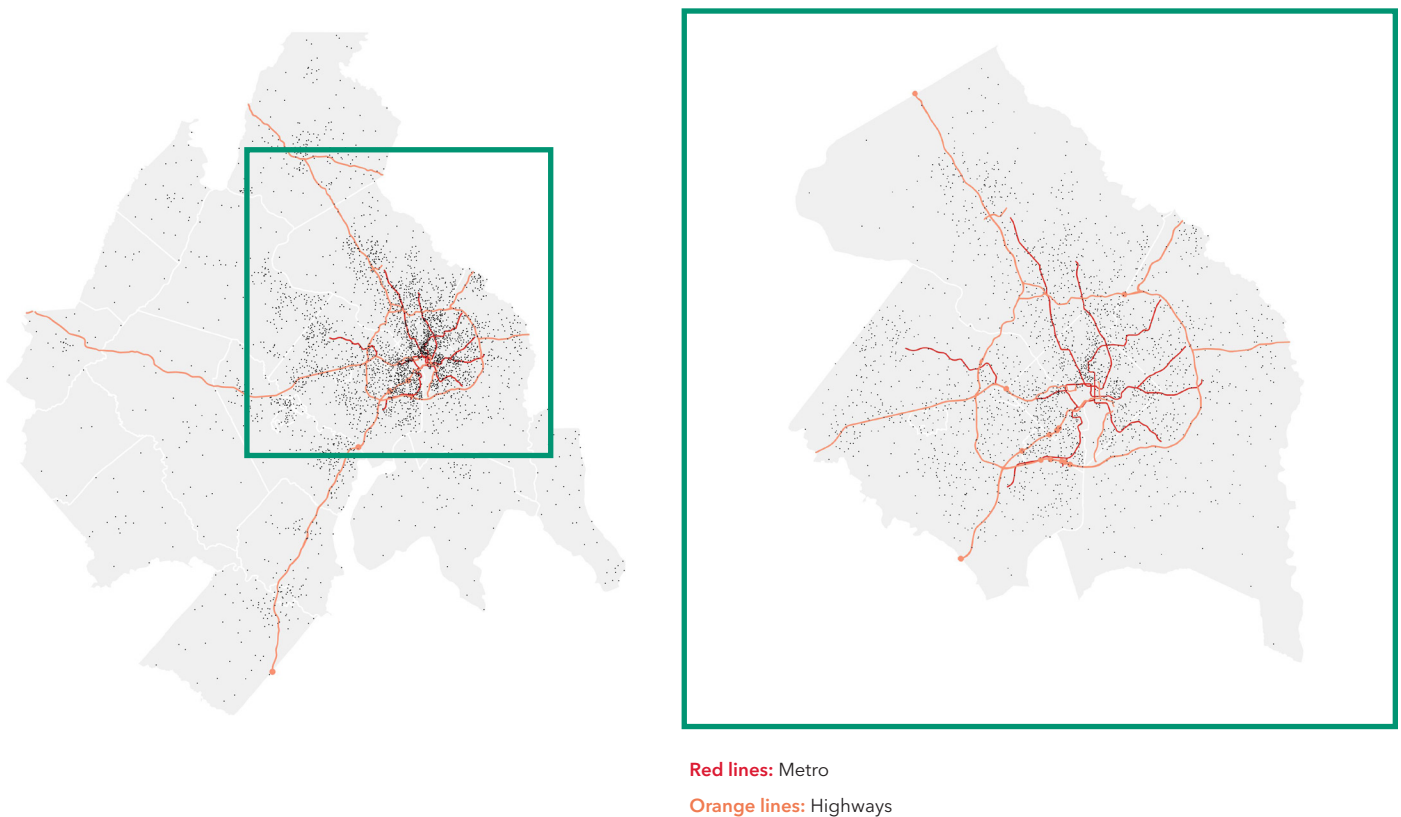
CHAPTER 3: WHERE DO WORKERS LIVE IN THE CAPITAL REGION?

While the previous chapters investigate changes in the composition and number of jobs in the region, as well as the geographic location of those jobs, this chapter analyzes the residential location of workers. We pay extra attention to the geographic location of low-wage workers, defined as those earning less than \$3,333 a month, and workers in the leisure and hospitality industries.³

Understanding the residential geography of low-wage workers matters because it points to broader patterns of inequality in the region. These workers typically have the fewest resources available to commute to their jobs, and the least purchasing power to make choices in the housing market. Identifying the concentration of low-wage workers in a neighborhood will also help policymakers identify the communities hit hardest by the pandemic.

Figure 3.1: Low-Wage Workers Live in All Parts of the Capital Region

Each dot represents 1,000 low-wage workers



Source: LODES v. 7.5 2018. Low wage means workers who earn less than \$3,333 dollars per month.

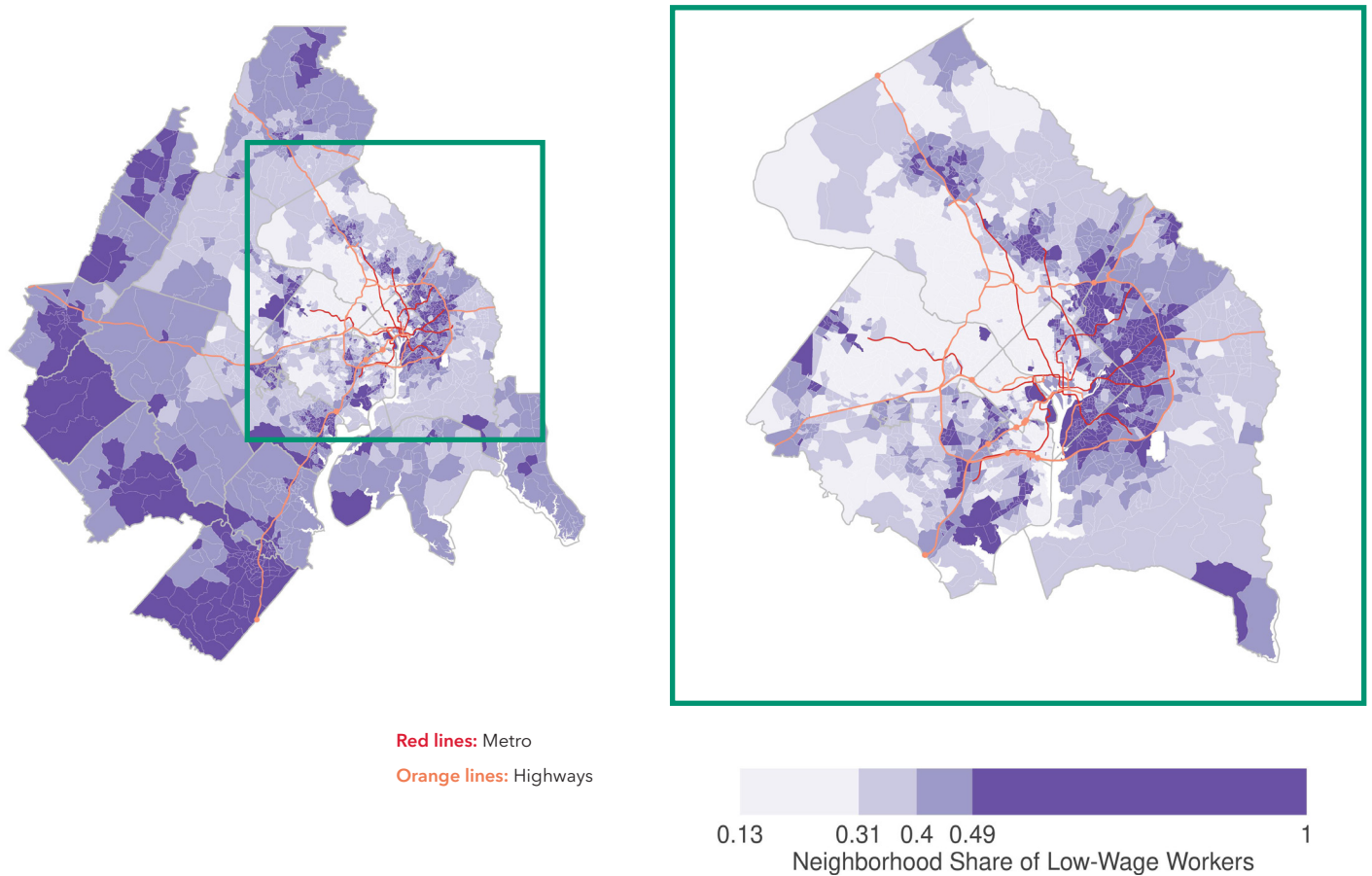
Low-wage workers are distributed widely across the Capital Region. In Figure 3.1 we approximate the residential location of low-wage workers with a dot for every 1,000 workers.

Like the population of the region in general, these workers are concentrated in the central urban core within the Beltway. The density of low-wage workers is highest in the District and the nearby suburban counties. Although the density of workers declines as we move from the center of the region, there are pockets of low-wage workers throughout the region, largely clustered around major transportation corridors.

³ To be precise, the data we use here counts the number of jobs with earnings under \$3,333 per month, not the number of workers. The wage threshold is defined by the Census. We do not and cannot account for the number of workers who may have more than one job in our analysis.

Figure 3.2: Low-Wage Workers Comprise a Large Share of Workers in Neighborhoods East of the District and the Exurbs

Neighborhoods, shaded in proportion to their share of low-wage workers

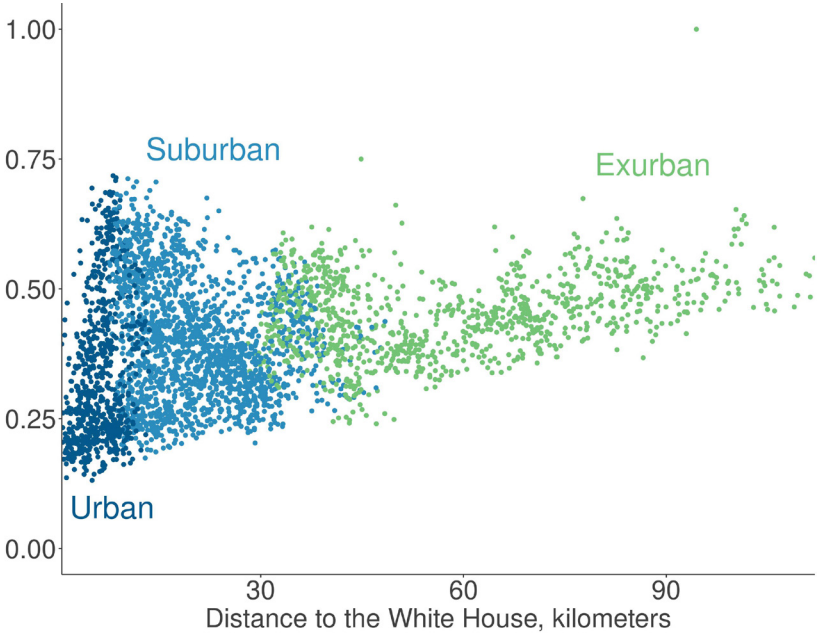


Source: LODES v. 7.5 2018. The share of low-wage workers in a neighborhood is the number of workers who earn less than \$3,333 per month in that neighborhood, divided by the total number of workers in that neighborhood. Neighborhoods are census block groups.

While low-wage workers live throughout the region, they are more concentrated in some places than others. To show this, Figure 3.2 maps low-wage workers as a share of all neighborhood workers (defined by census block group). These maps identify where low-wage workers are overrepresented. Although these workers are concentrated near the central city, as we saw in Figure 3.1, Figure 3.2 shows that they comprise a large share of residents in many of the exurban neighborhoods in the region. Additionally, numerous neighborhoods with high shares of low-wage workers are located east of the District and throughout Prince George’s County.

Figure 3.3: The Share of Low-Wage Workers in a Neighborhood Increases as Distance to the Central City Grows

Neighborhood share of low-wage workers, by distance to the White House in kilometers



Source: LODES v. 7.5 2018.

Figure 3.3 examines whether low-wage workers are more likely to live near the center of the region. It shows the share of low-wage residents in a neighborhood versus the distance of each neighborhood to the White House. Each dot identifies a single neighborhood, color-coded as urban, suburban, or exurban.

Notably, neighborhoods close to the White House—those in the District and nearby urban and suburban jurisdictions—include some neighborhoods with the highest share of low-wage workers and others with the lowest share of those workers in the entire region. But as distance from the central city grows, the proportion of low-income workers starts increasing consistently. Especially for exurban neighborhoods, the share of low-income workers increases as the distance from the central city increases.

These long distances create challenges, especially for low-income workers. Workers in these neighborhoods face long commutes and limited transportation options to travel from home to work.

Figure 3.4: Lower-Income Neighborhoods Are Home to a Higher Share of Workers in the Leisure and Hospitality Industry

The share of leisure and hospitality workers residing in a neighborhood versus neighborhood median income



Source: LODES v. 7.5 2018, and American Community Survey 2014-2018. These figures omit two neighborhoods with shares of leisure and hospitality workforce greater than 0.25. For all neighborhoods with median income greater than \$250,000, the census reports \$250,000.

As we show in Chapter 1, workers in the leisure and hospitality industry were among the hardest hit by the recent COVID-19 pandemic. When travel halted during the pandemic and restaurants were forced to shut down or operate at limited capacity, demand for in-person services decreased, and workers in this industry had the largest increase in unemployment.

We show the relationship between the share of leisure and hospitality industry workers in a neighborhood and the neighborhood's median income in Figure 3.4. Workers in the leisure and hospitality industry tend to live in lower wage neighborhoods. This is true regardless of whether workers live in urban, suburban, or exurban areas. This suggests that low-wage workers live in places where their neighborhood cannot buffer the shock of the pandemic.

Conclusion: How Will Covid Impact These Patterns?

The Capital Region's patterns of residential and workforce locations were determined by pre-pandemic social and economic forces. Will the patterns we have documented remain when the pandemic eases?

We have no crystal ball, but offer three big ideas looking forward.

1. Pain in leisure and hospitality may linger

In Chapter 1, we showed that job loss was particularly in the leisure and hospitality industry. Given the severity of the job loss, and potential continuing concerns about group gatherings, we do not expect a rapid recovery in this sector. This means a continuing income hit for workers who have lost their jobs in this sector and may struggle to move to other sectors. We know from Chapter 3 that these workers are more likely to live in low-income areas, so policymakers should expect continued pain in these neighborhoods.

The job loss in leisure and hospitality also has implications for land use. Land that is currently used for hotels or restaurants may face increased demand for conversion to other uses. Cities have hard choices ahead about whether to approve these conversions. Is this land better put to residential use, possibly lowering high housing prices? Or, if this land will be in demand for hotels or restaurants in the not-too-distant future, will conversions now put hospitality and the municipal taxes revenues associated with it permanently out of reach?

2. Don't count out downtowns

As we showed in last year's report, those with jobs most able to telework pre-pandemic were strikingly much more likely to live in denser urban areas—despite the fact that their job might allow them to live farther away, likely in a cheaper house. When the pandemic finally winds down, will these workers want to stay in their homes in the denser parts of the Capital Region? While we expect dense urban areas to face headwinds for some time, people's pre-pandemic preferences for the types of things that only these areas offer—such as a variety of restaurants, or a choice of entertainment—should drive some resurgence.

3. Cultural institutions and government may continue to serve as anchors

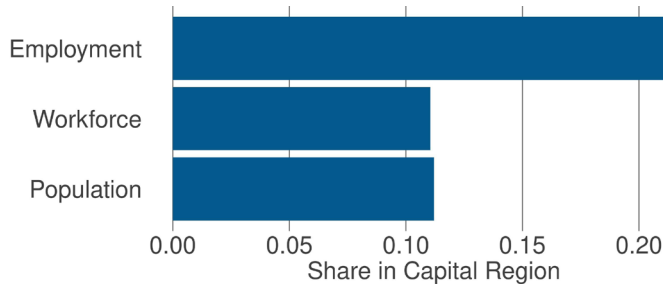
Across the Capital Region, cultural institutions including museums, theaters, houses of worship, and governments often locate in the same dense clusters where we show employment clusters in Chapter 2. These cultural institutions are often less directly tied to market forces in their location choices. For example, while the Smithsonian may be facing pandemic-related financial challenges, we do not expect it to move. The continued presence of cultural institutions may encourage jobs and people to return to dense central areas.

PART II: WORKFORCE AND EMPLOYMENT IN THE CAPITAL REGION



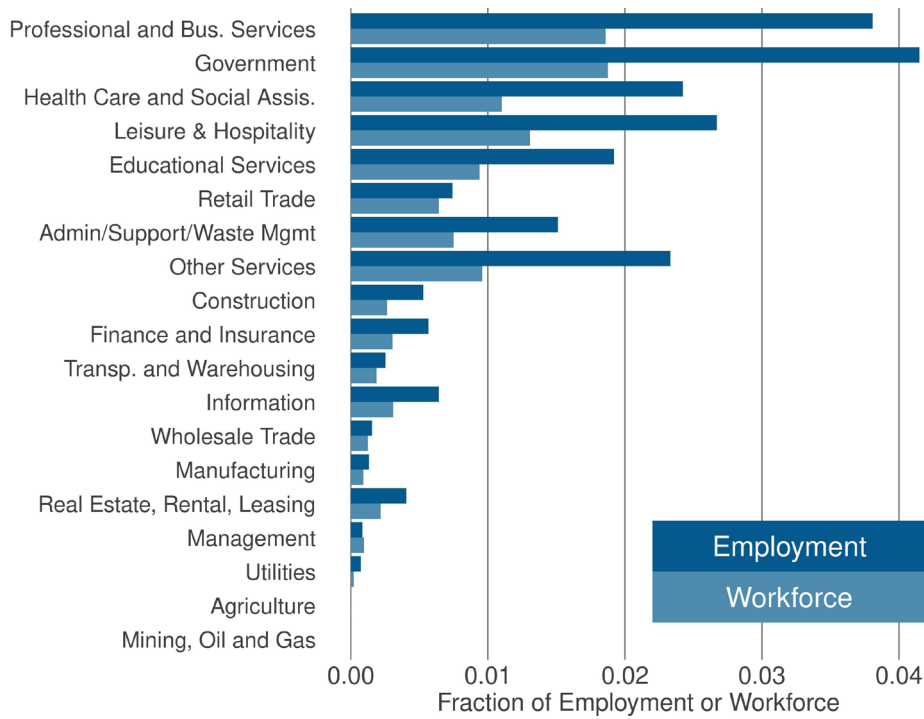
DISTRICT OF COLUMBIA

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

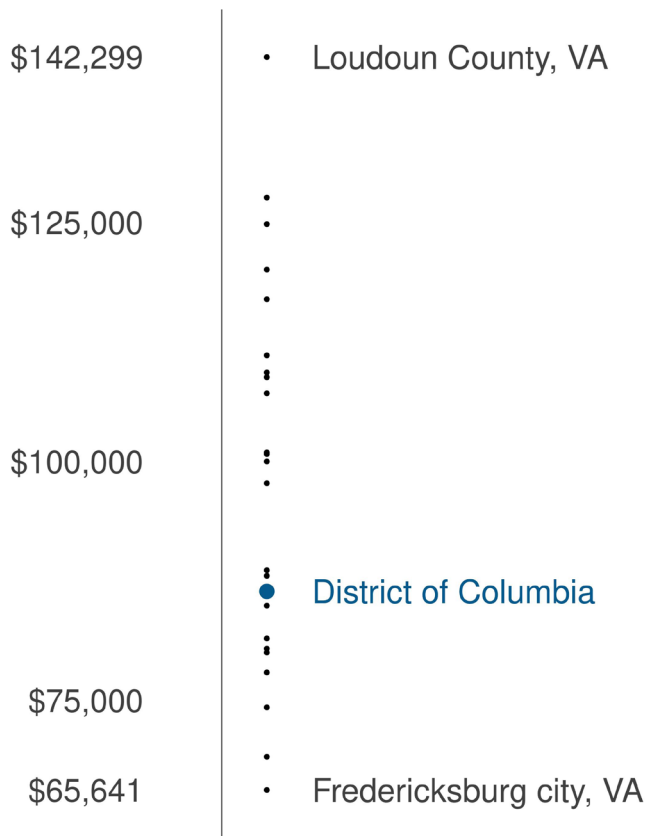


Source: LODES v. 7.5, 2018 data..

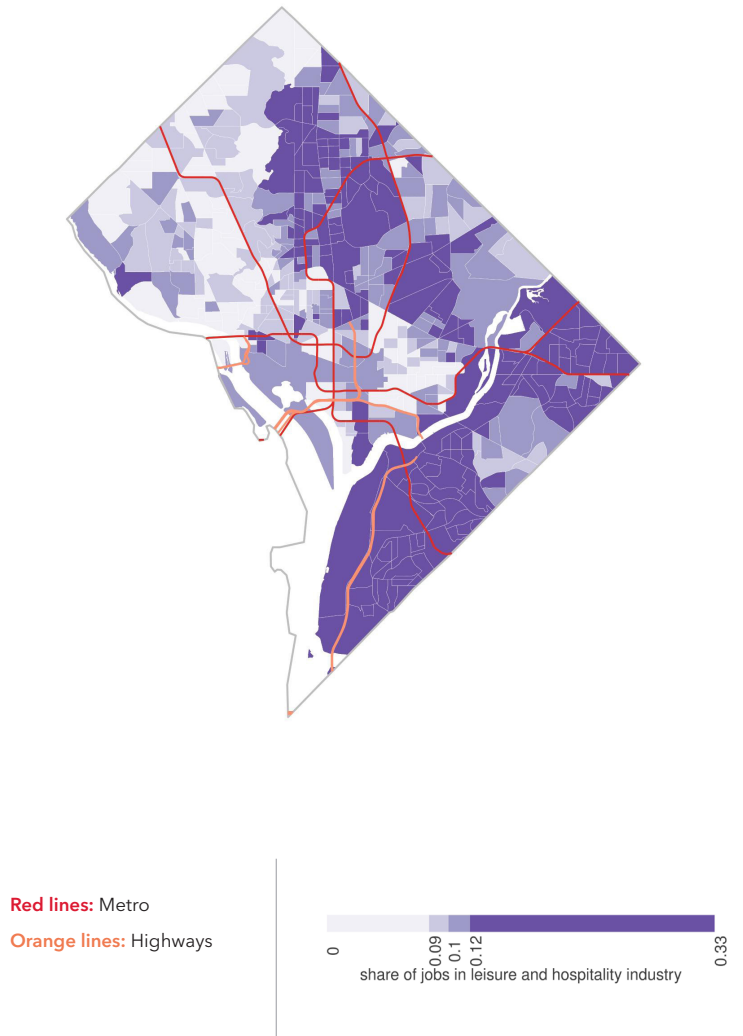


DISTRICT OF COLUMBIA

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Source: American Community Survey, 5-year data, 2015-2019.

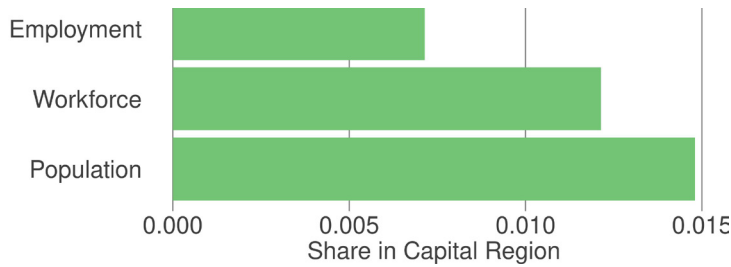
Source: LODES version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



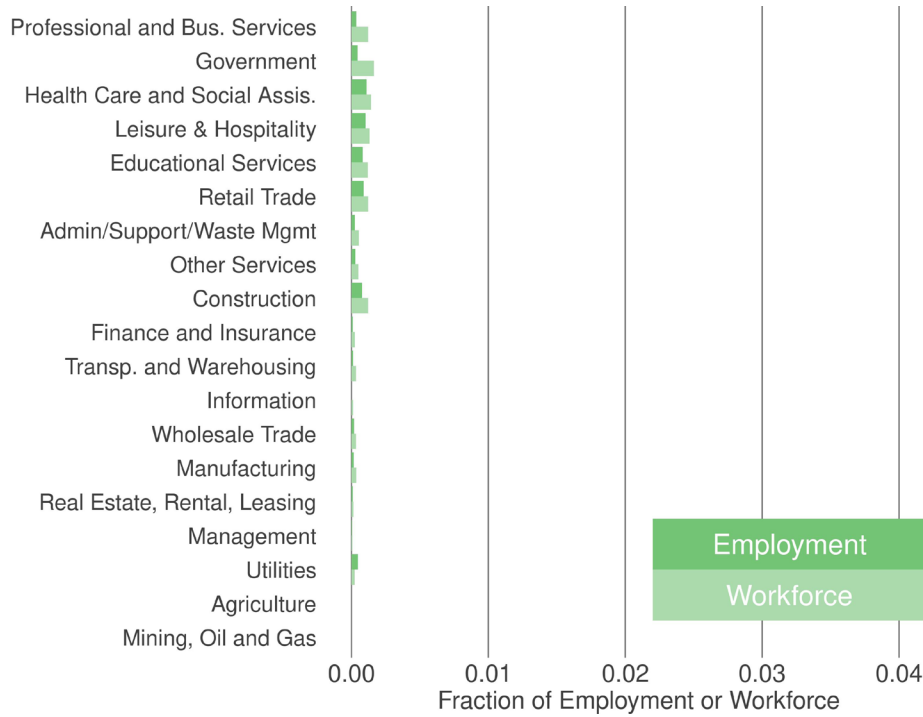
CALVERT COUNTY, MD

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

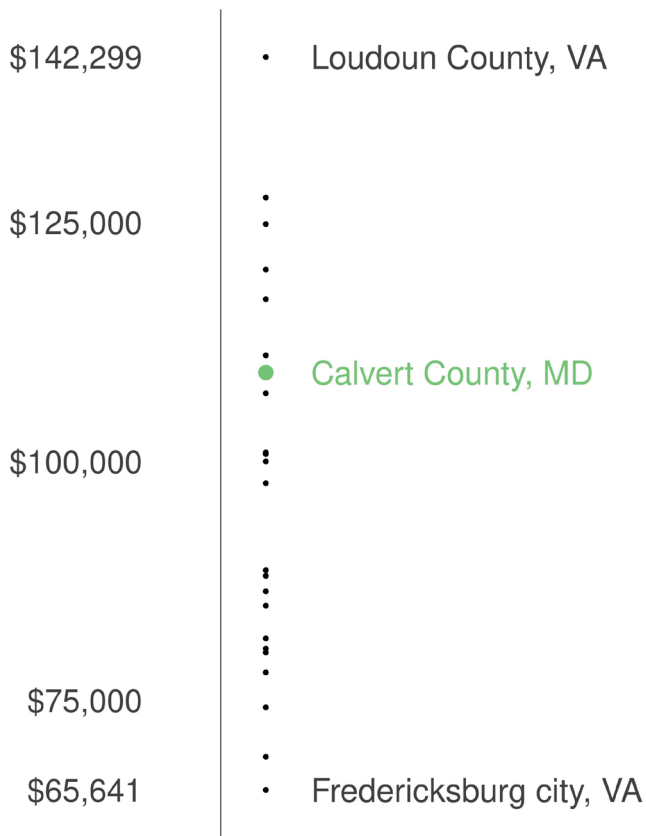


Source: LODES v. 7.5, 2018 data..

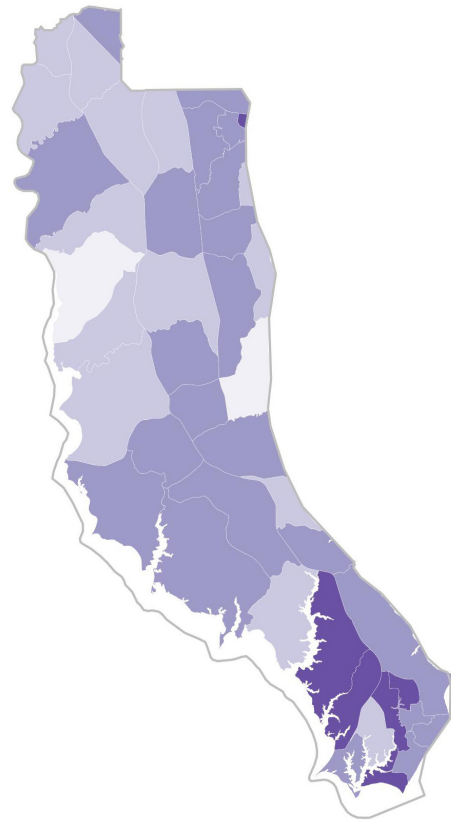


CALVERT COUNTY, MD

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Red lines: Metro
Orange lines: Highways



Source: American Community Survey, 5-year data, 2015-2019.

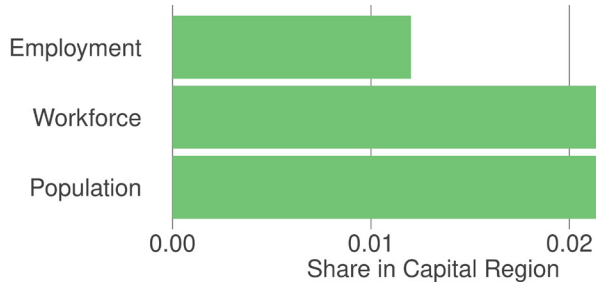
Source: LODES version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



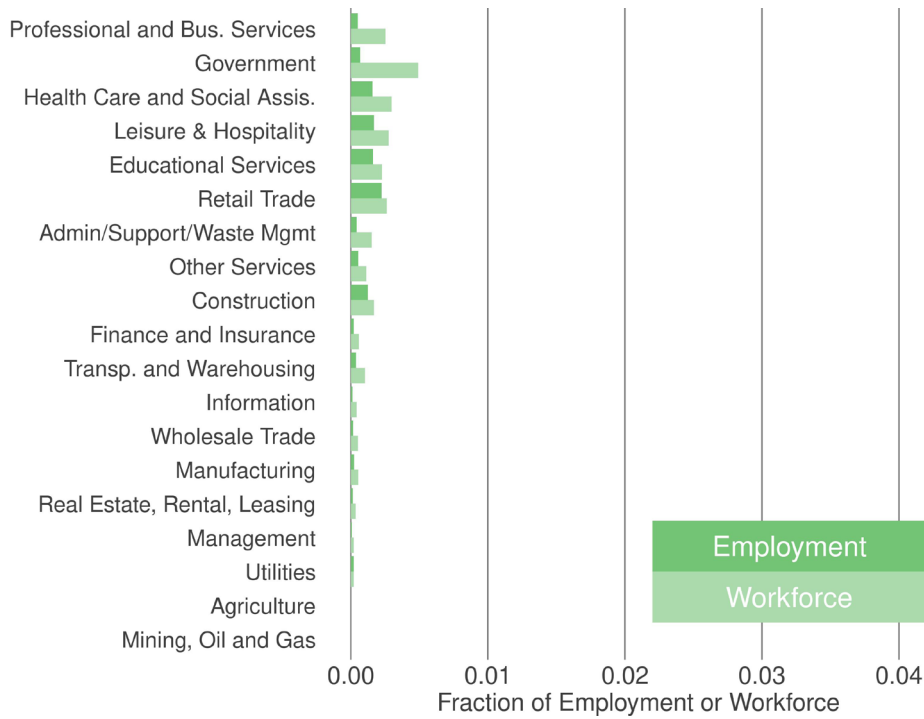
CHARLES COUNTY, MD

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

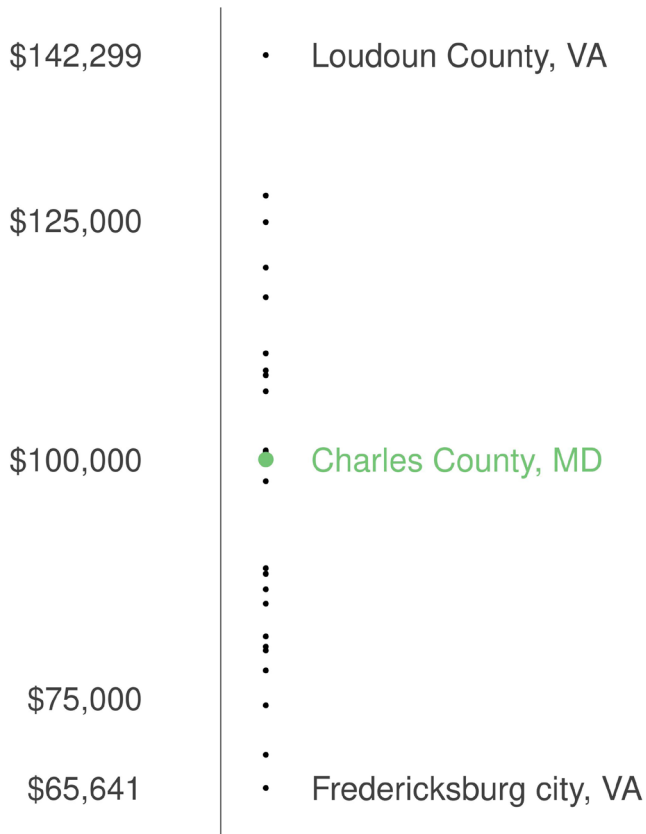


Source: LODES v. 7.5, 2018 data..

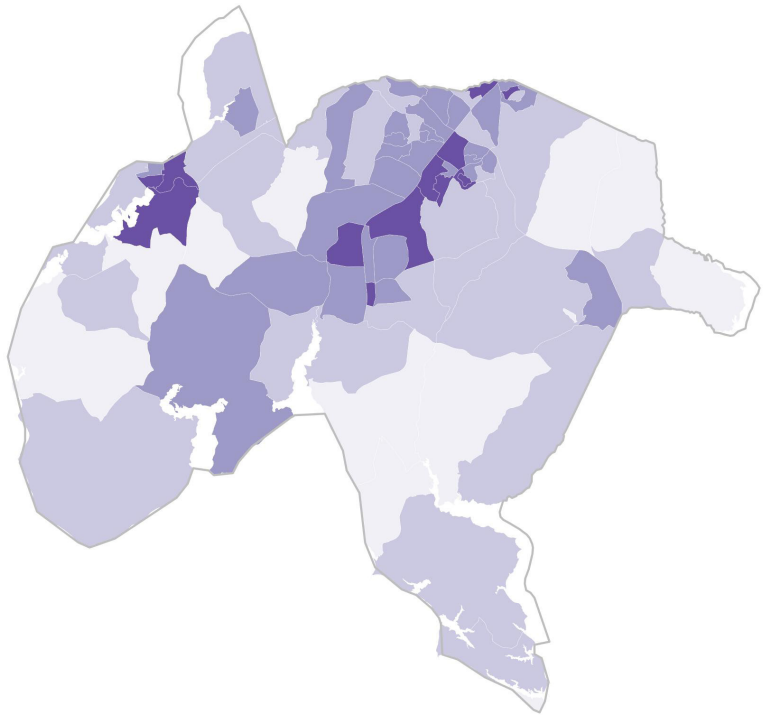


CHARLES COUNTY, MD

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Red lines: Metro
Orange lines: Highways



Source: American Community Survey, 5-year data, 2015-2019.

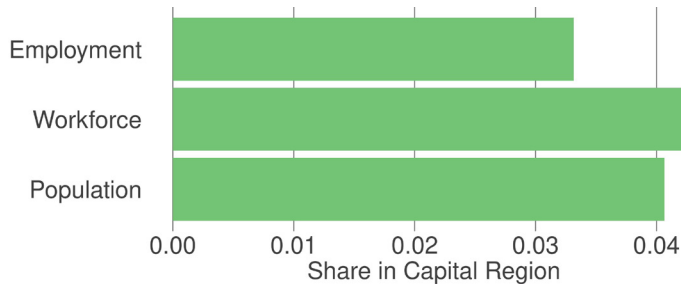
Source: LODS version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



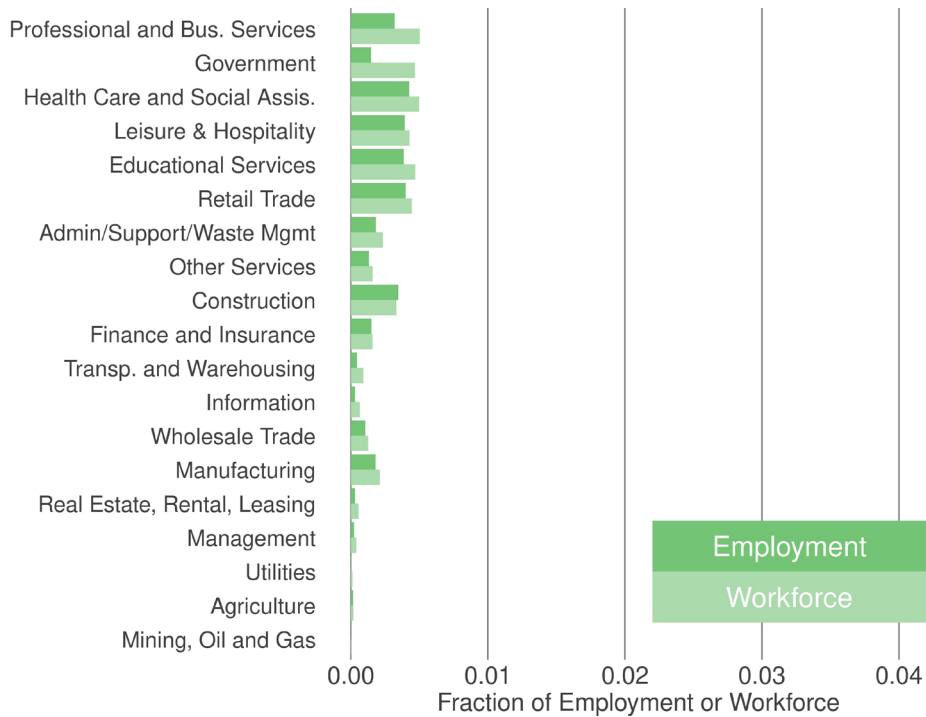
FREDERICK COUNTY, MD

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

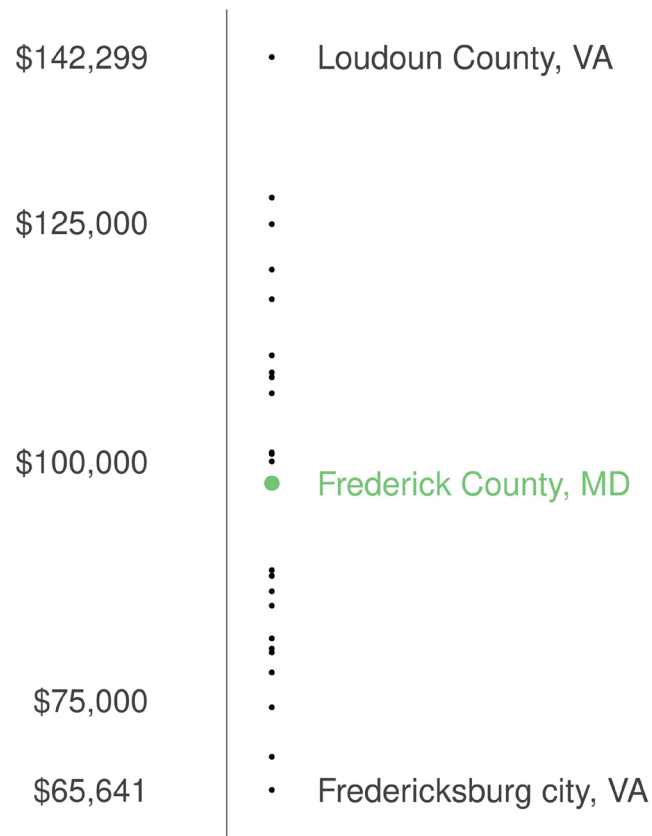


Source: LODES v. 7.5, 2018 data..

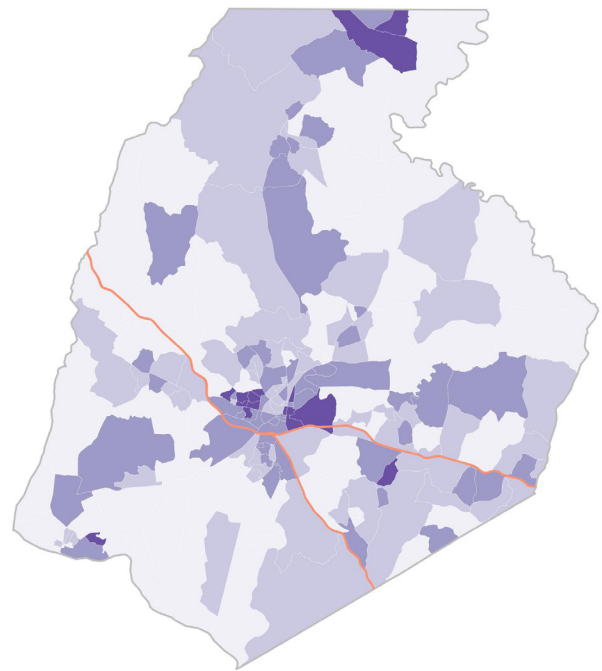


FREDERICK COUNTY, MD

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Red lines: Metro
Orange lines: Highways



Source: American Community Survey, 5-year data, 2015-2019.

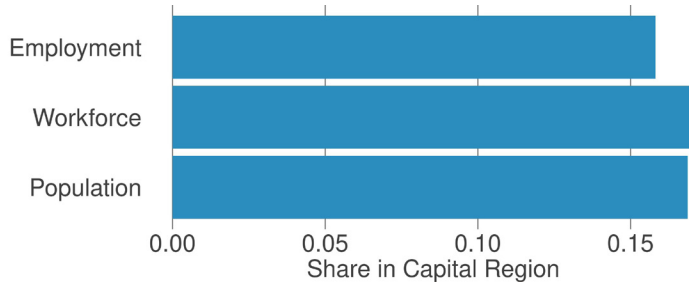
Source: LODES version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



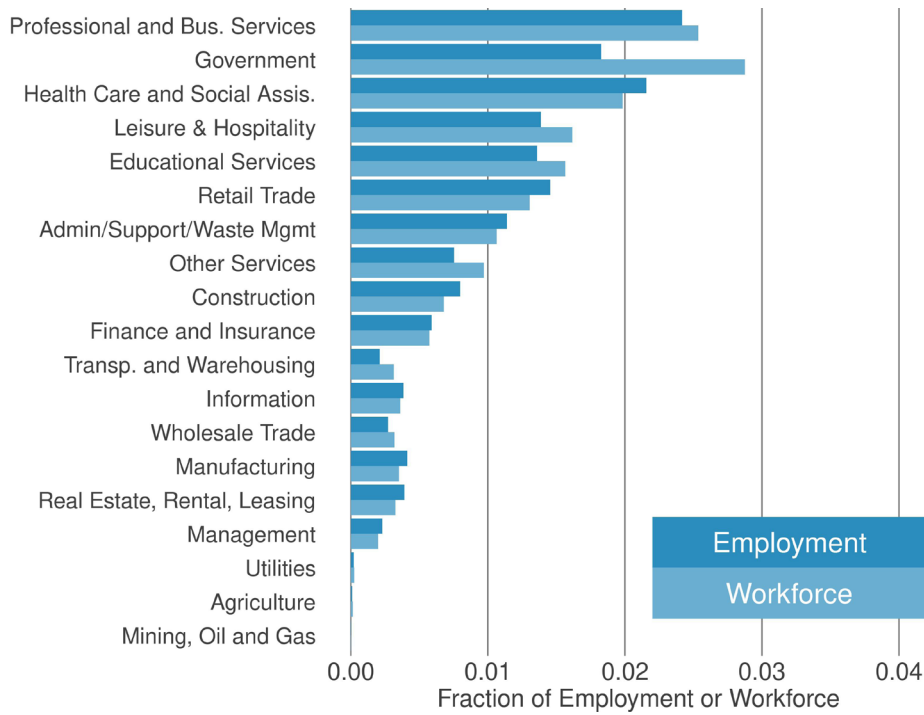
MONTGOMERY COUNTY, MD

Population, Workforce and Employment

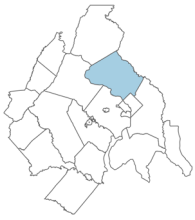


Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

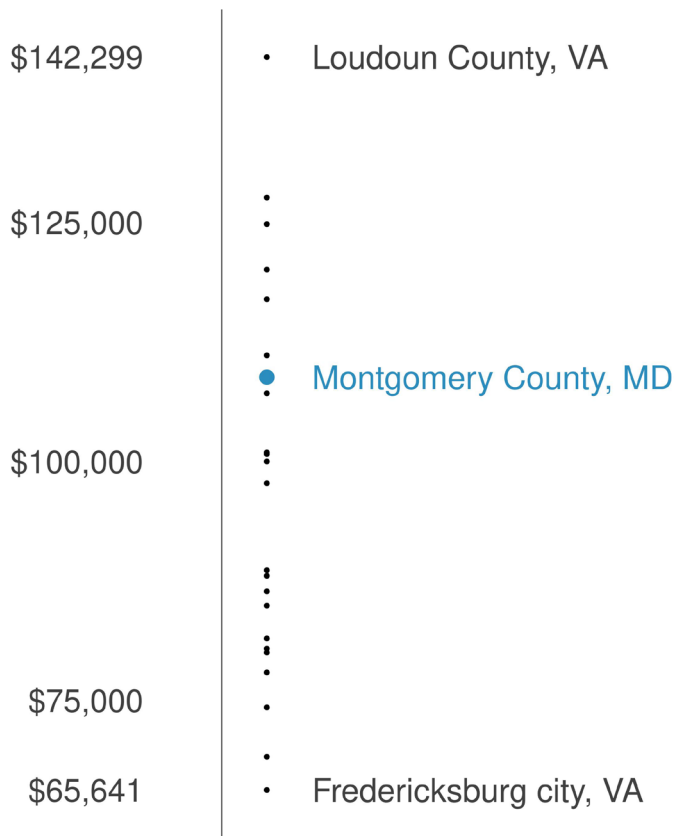


Source: LODES v. 7.5, 2018 data..

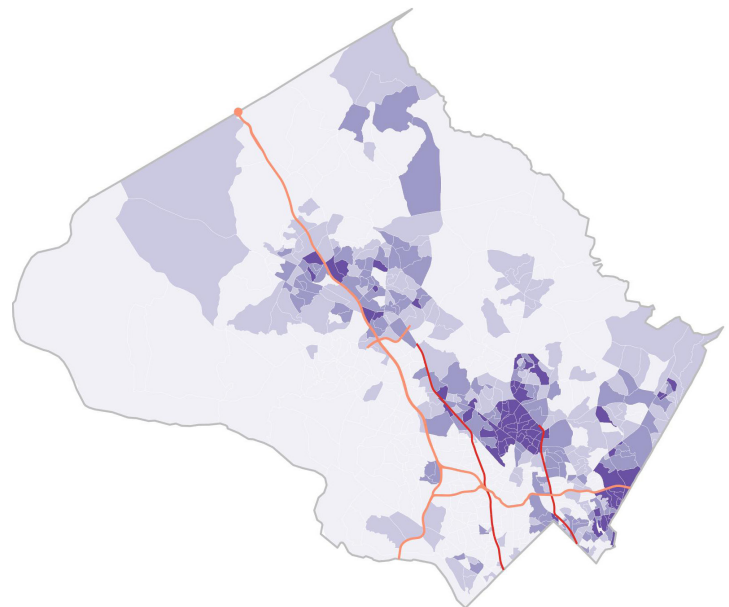


MONTGOMERY COUNTY, MD

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Red lines: Metro
Orange lines: Highways



Source: American Community Survey, 5-year data, 2015-2019.

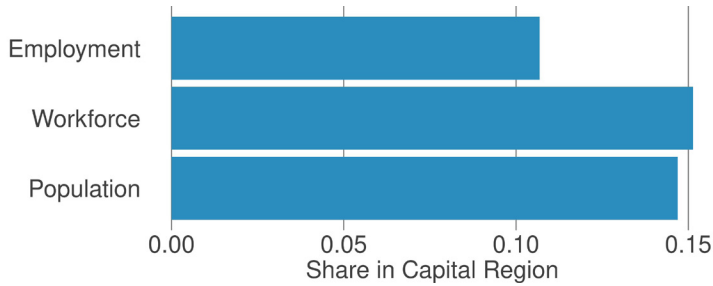
Source: LODS version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



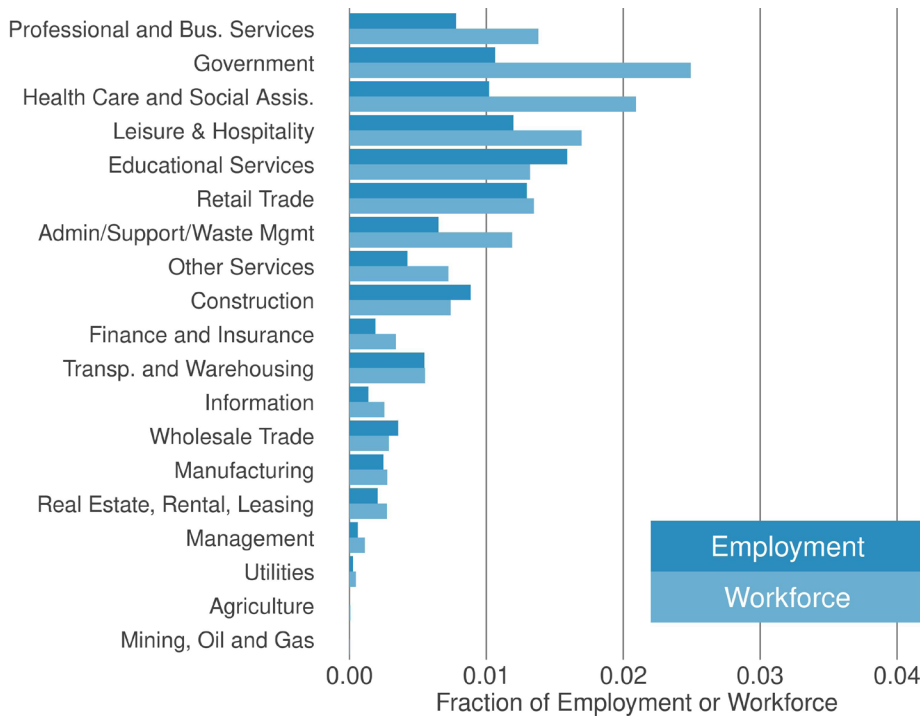
PRINCE GEORGE'S COUNTY, MD

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

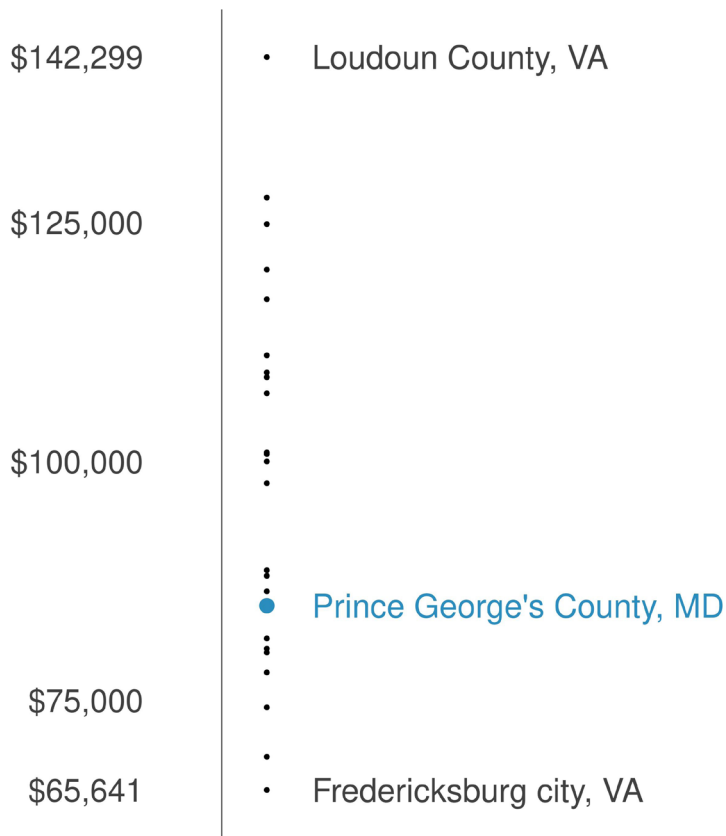


Source: LODES v. 7.5, 2018 data..

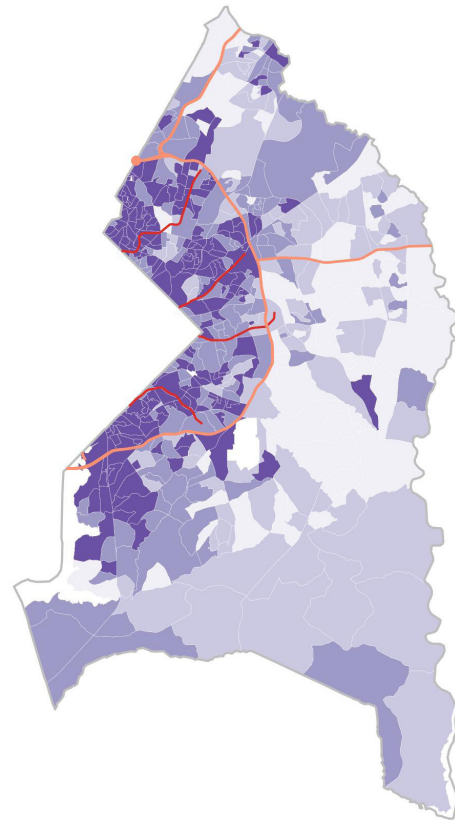


PRINCE GEORGE'S COUNTY, MD

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Red lines: Metro
Orange lines: Highways



Source: American Community Survey, 5-year data, 2015-2019.

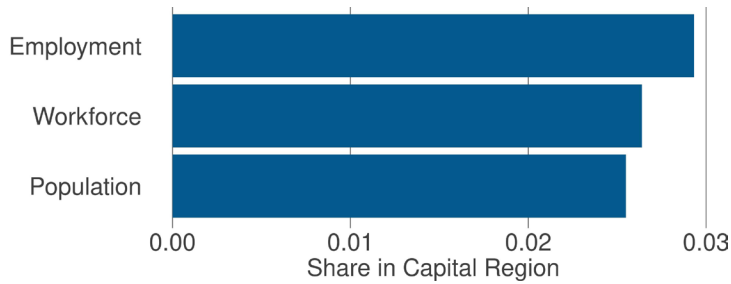
Source: LODES version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



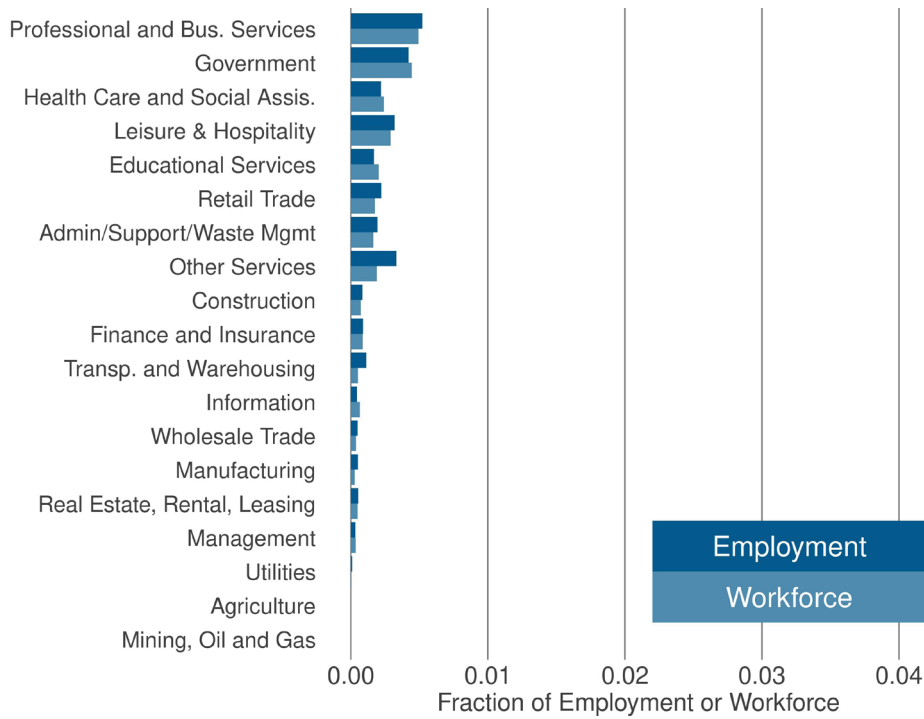
ALEXANDRIA CITY, VA

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce



Source: LODES v. 7.5, 2018 data..

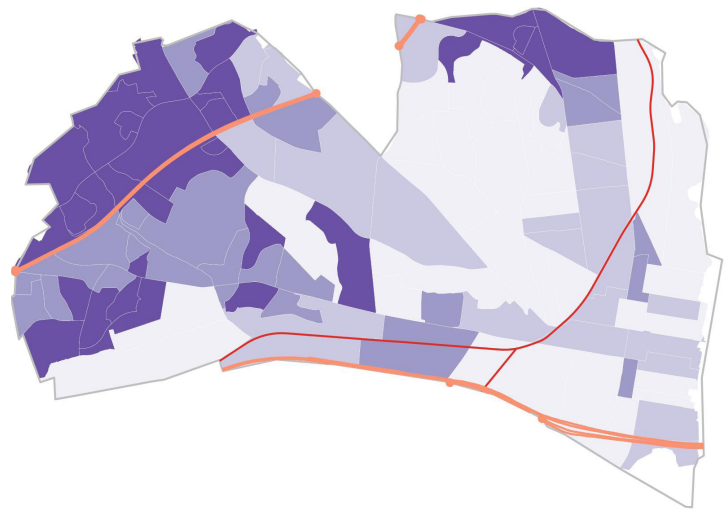


ALEXANDRIA CITY, VA

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Red lines: Metro
Orange lines: Highways



Source: American Community Survey, 5-year data, 2015-2019.

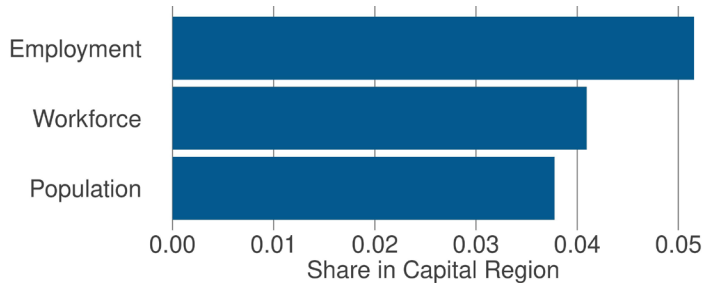
Source: LODS version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



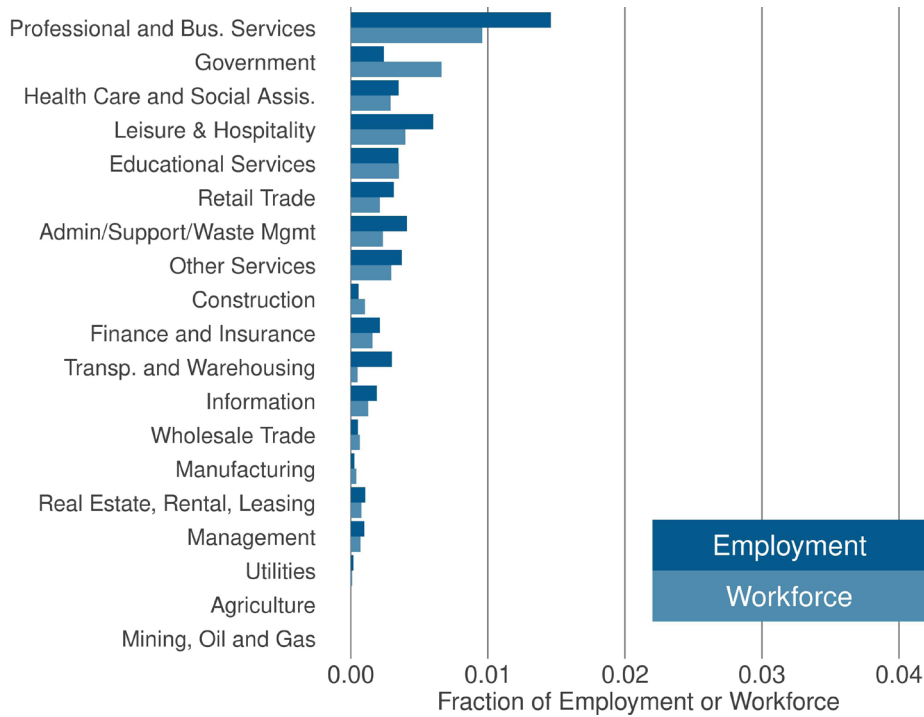
ARLINGTON COUNTY, VA

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

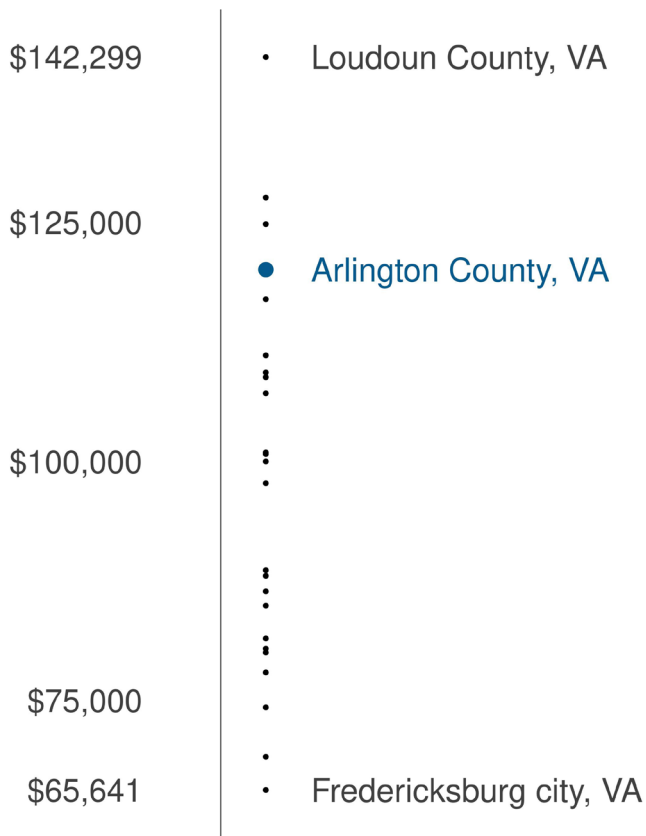


Source: LODES v. 7.5, 2018 data..

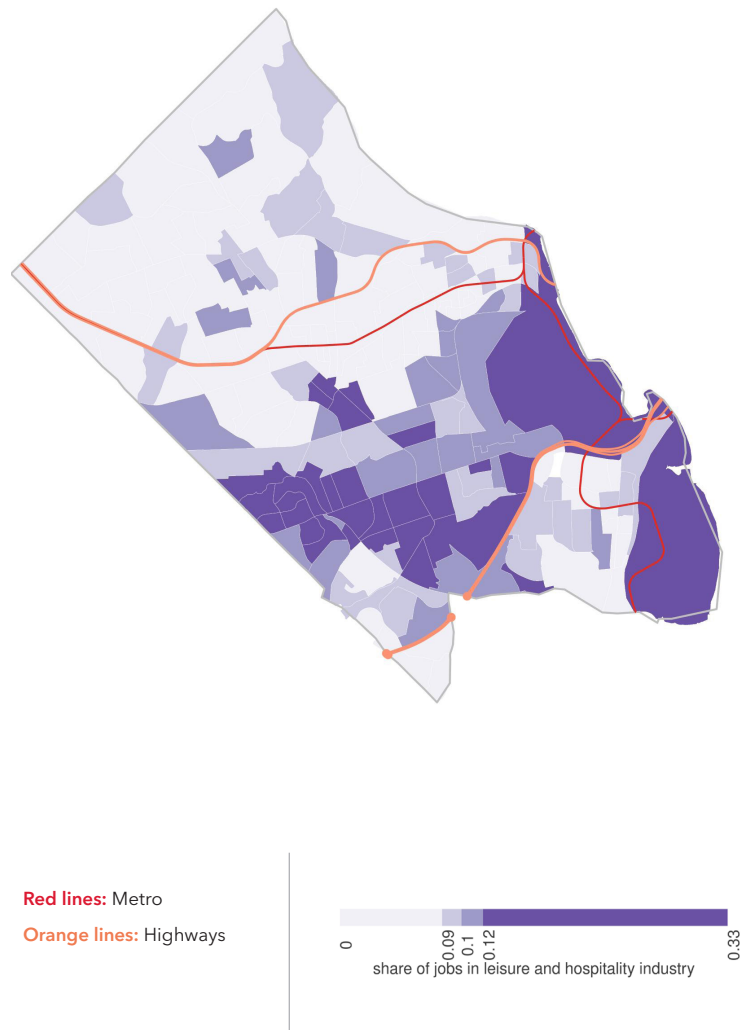


ARLINGTON COUNTY, VA

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Source: American Community Survey, 5-year data, 2015-2019.

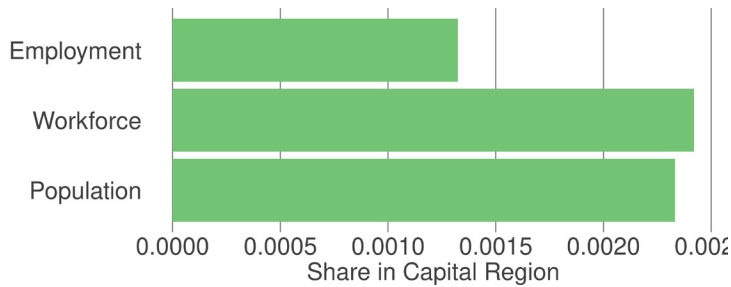
Source: LODS version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



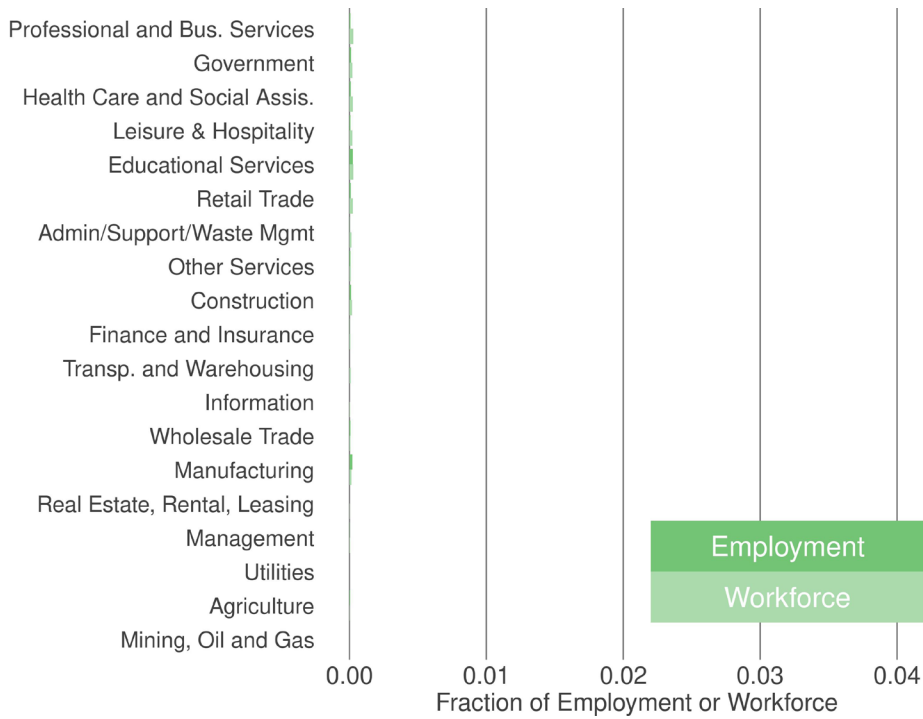
CLARKE COUNTY, VA

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

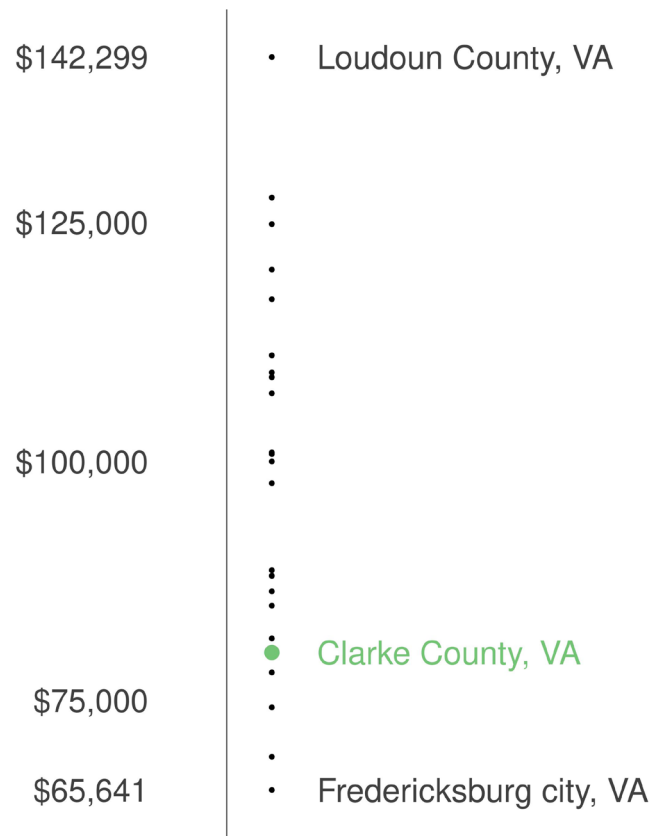


Source: LODES v. 7.5, 2018 data..

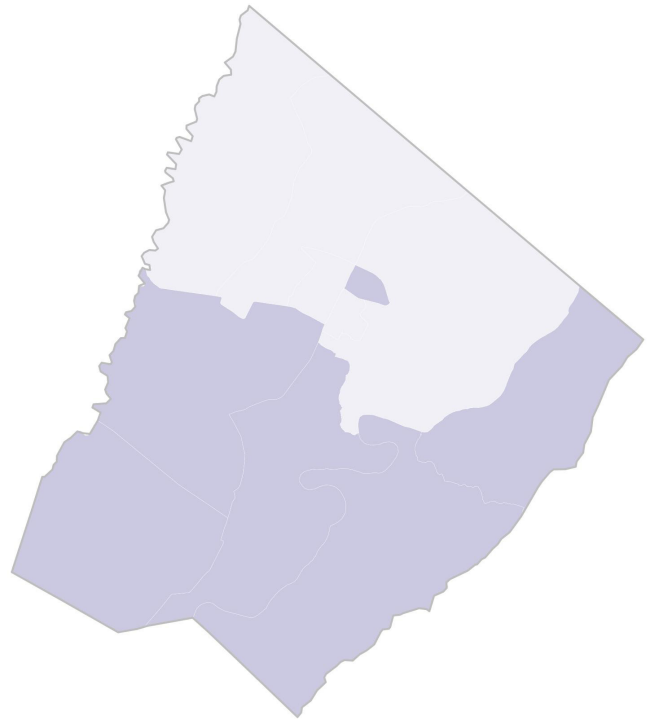


CLARKE COUNTY, VA

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Red lines: Metro
Orange lines: Highways



Source: American Community Survey, 5-year data, 2015-2019.

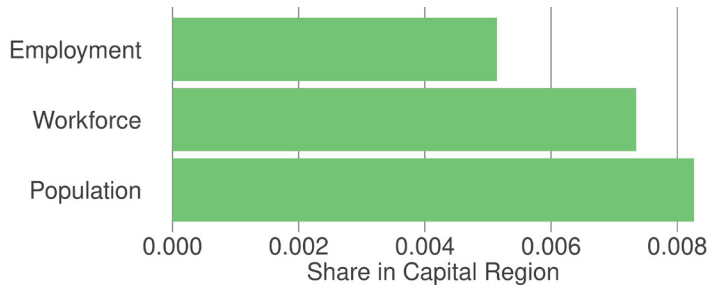
Source: LODES version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



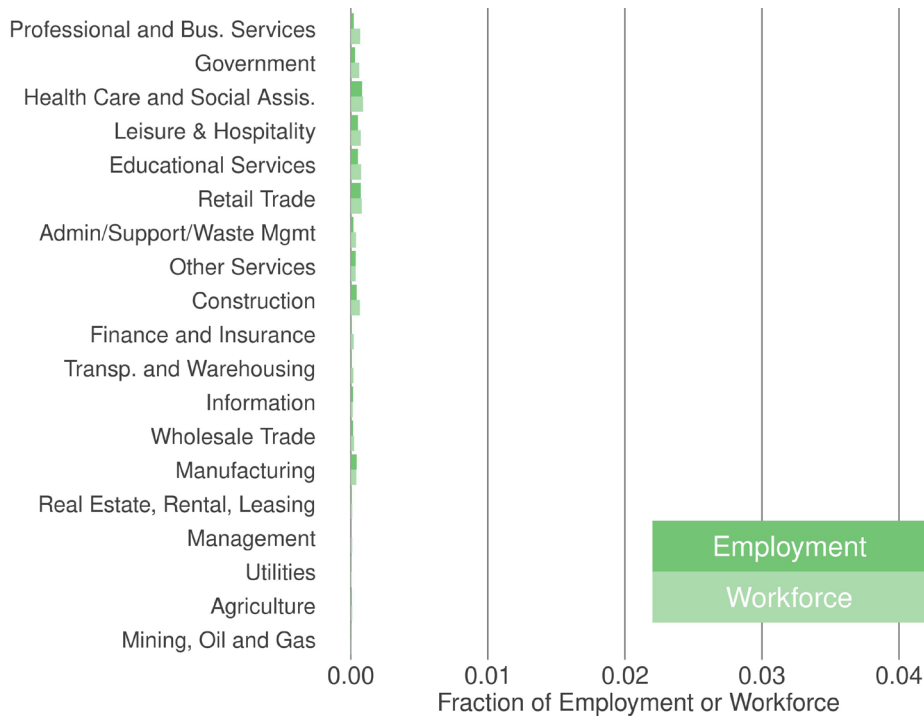
CULPEPER COUNTY, VA

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

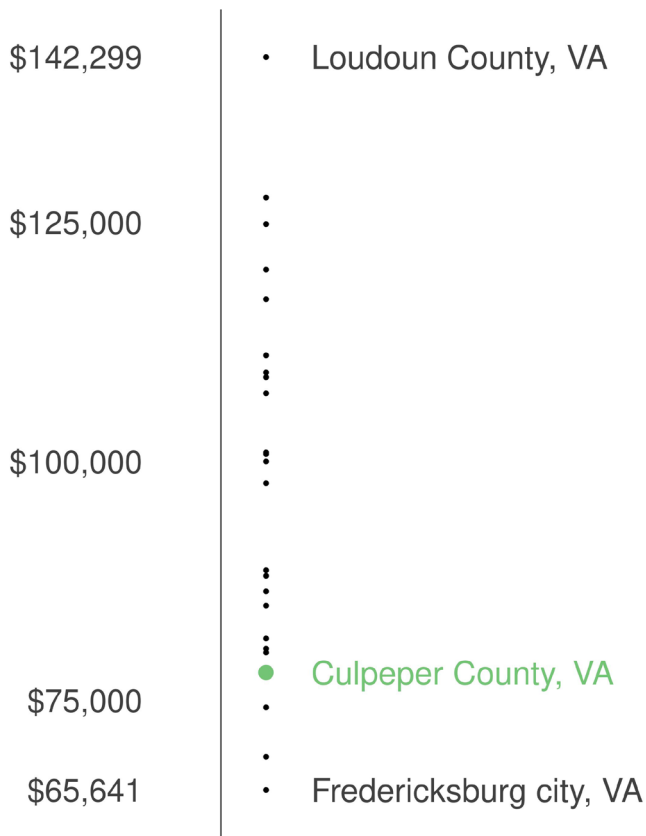


Source: LODES v. 7.5, 2018 data..



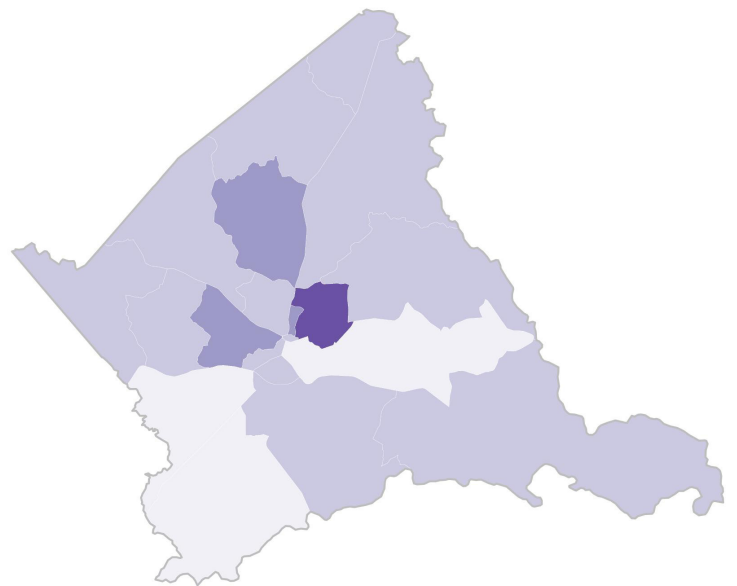
CULPEPER COUNTY, VA

Median Income by Jurisdiction



Source: American Community Survey, 5-year data, 2015-2019.

Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Red lines: Metro
Orange lines: Highways



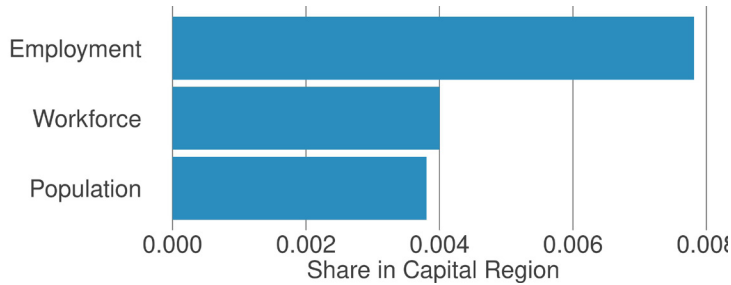
Source: LODS version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



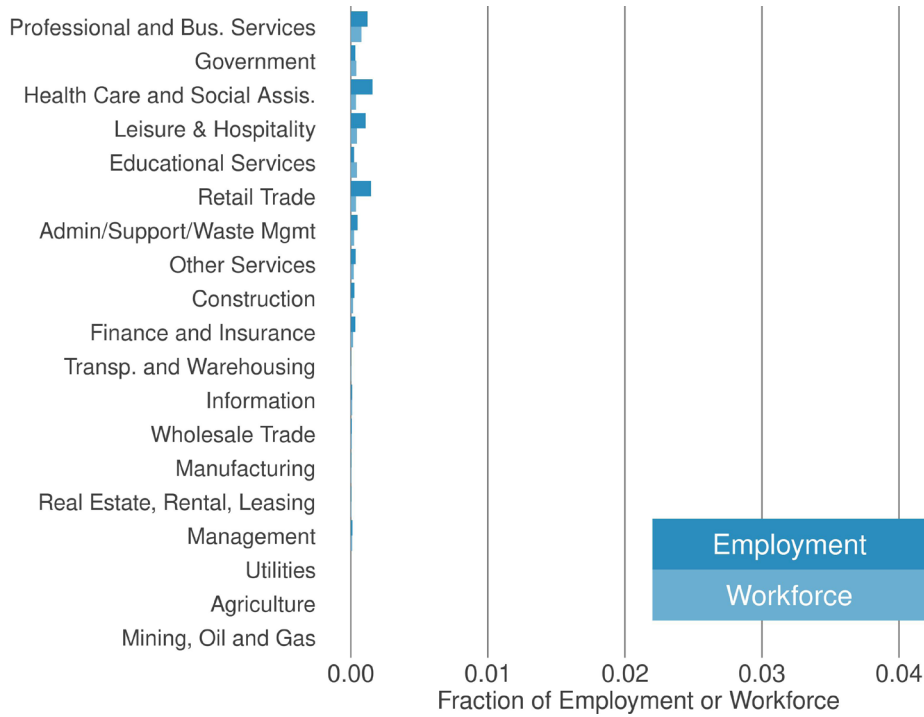
FAIRFAX CITY, VA

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

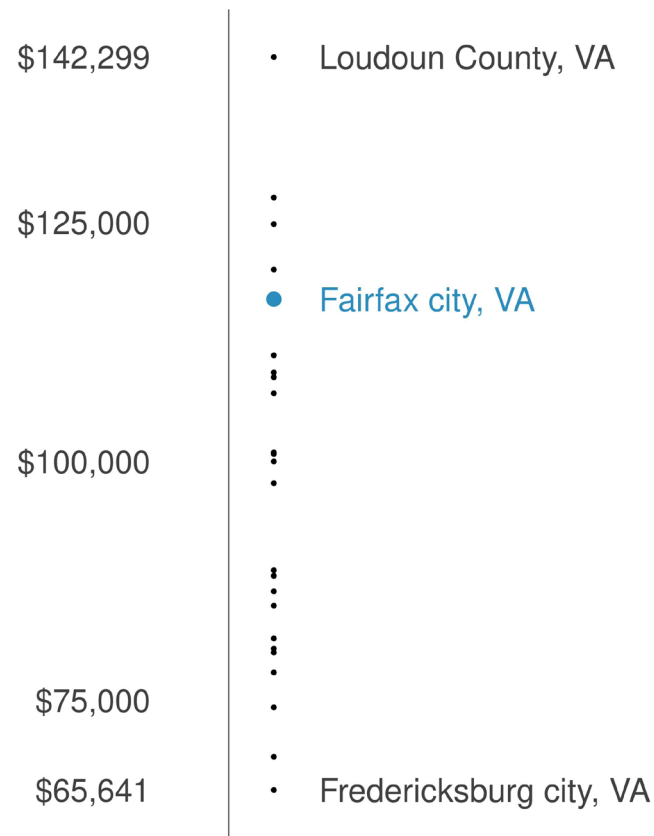


Source: LODES v. 7.5, 2018 data..



FAIRFAX CITY, VA

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Red lines: Metro
Orange lines: Highways



Source: American Community Survey, 5-year data, 2015-2019.

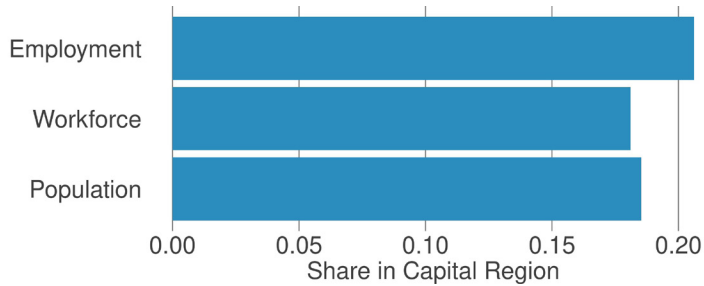
Source: LODS version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



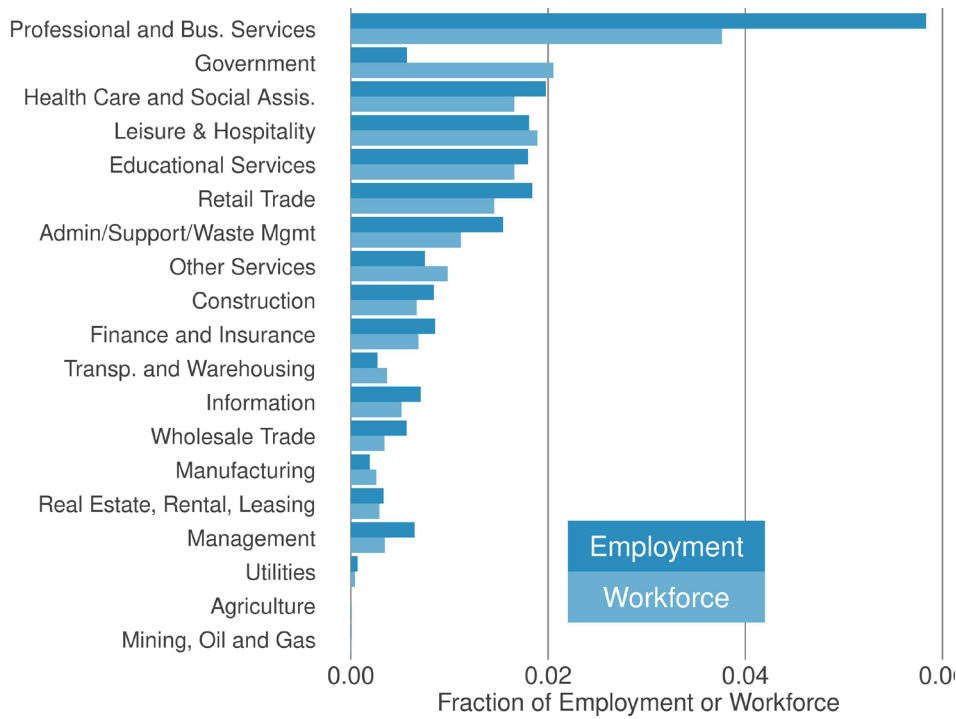
FAIRFAX COUNTY, VA

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

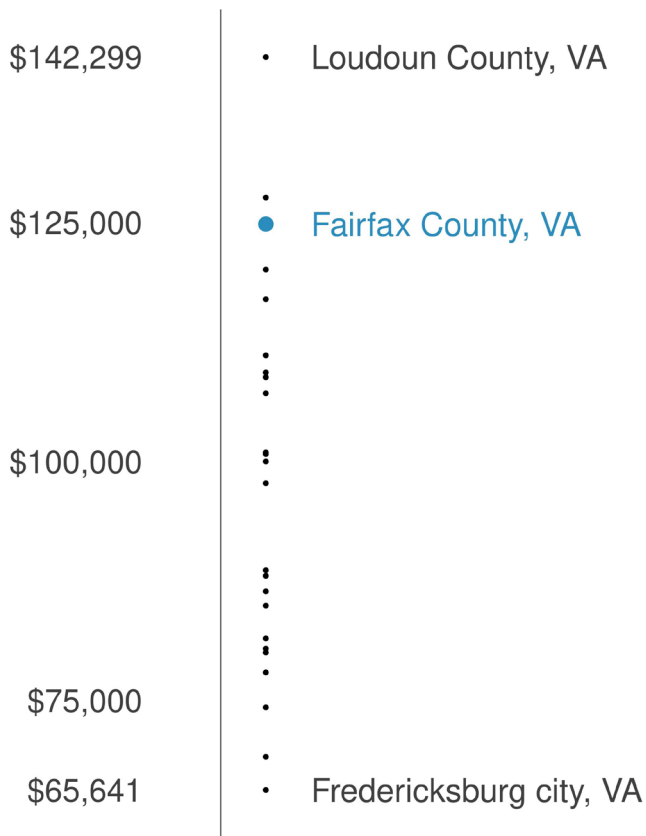


Source: LODES v. 7.5, 2018 data..

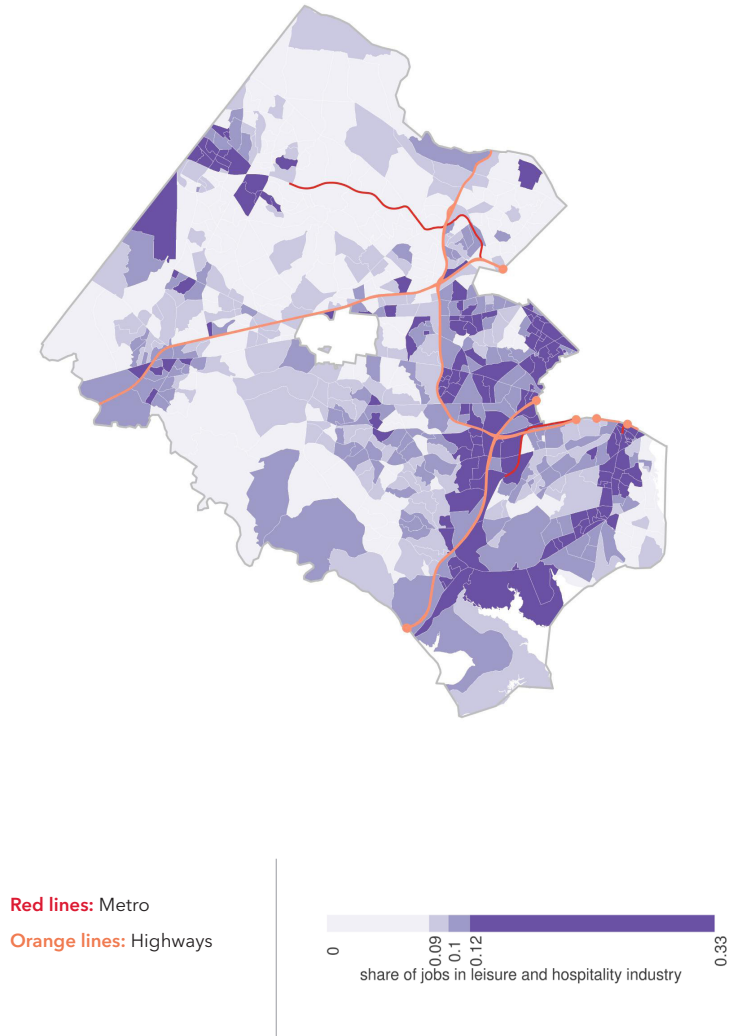


FAIRFAX COUNTY, VA

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Source: American Community Survey, 5-year data, 2015-2019.

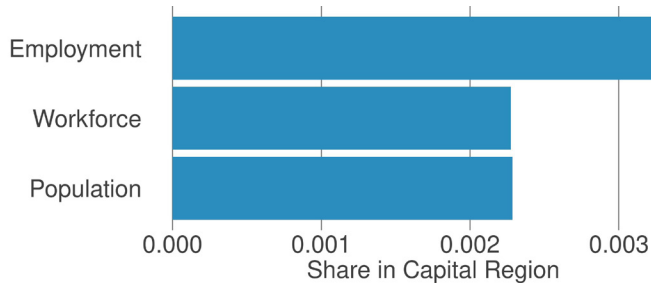
Source: LODS version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



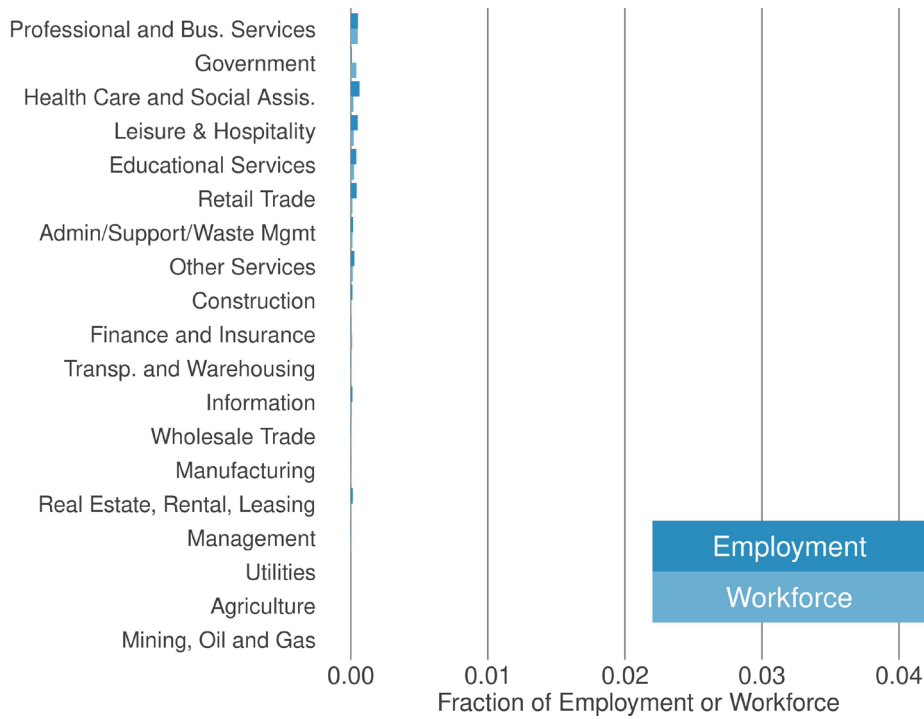
FALLS CHURCH CITY, VA

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

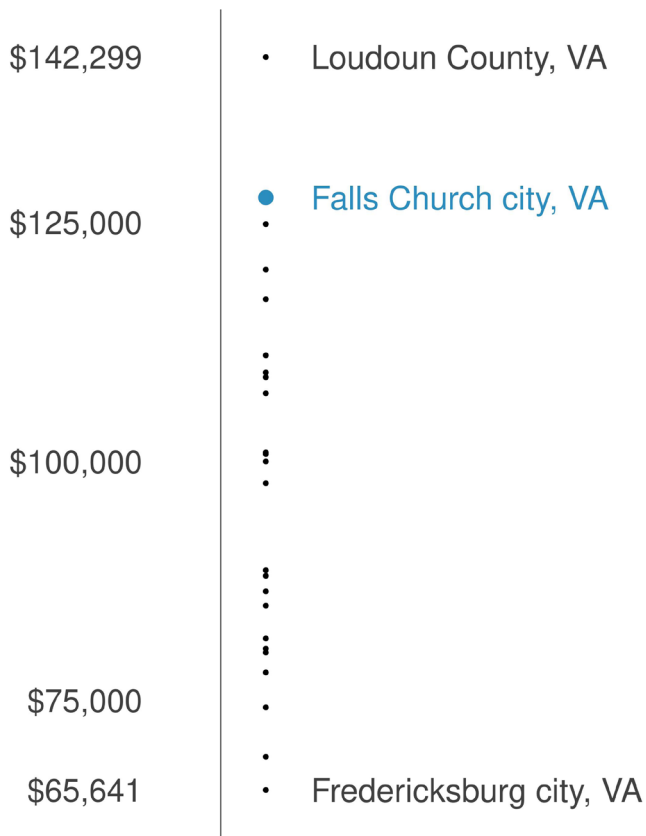


Source: LODES v. 7.5, 2018 data..

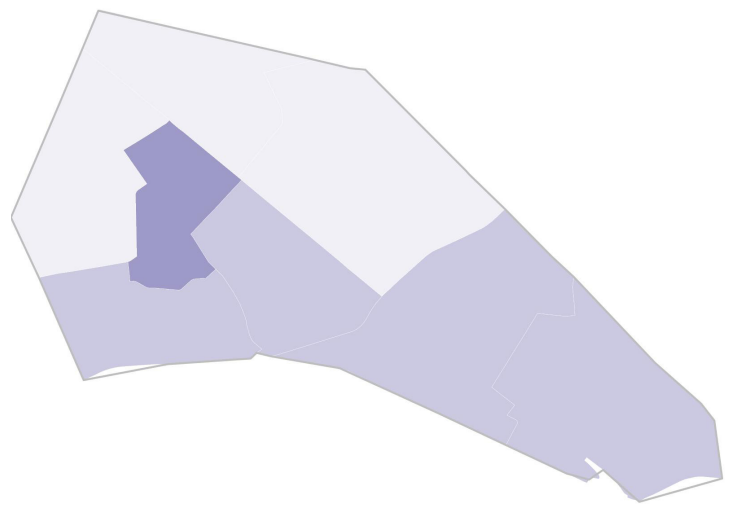


FALLS CHURCH CITY, VA

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Red lines: Metro
Orange lines: Highways



Source: American Community Survey, 5-year data, 2015-2019.

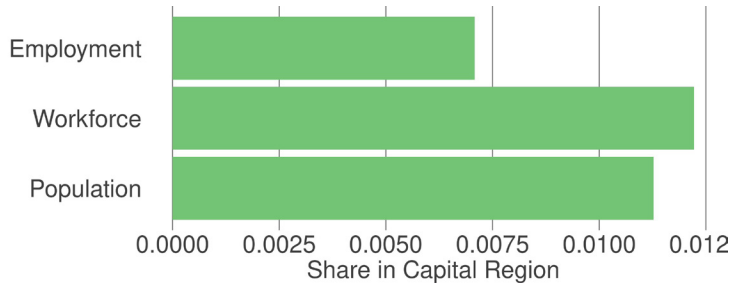
Source: LODS version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



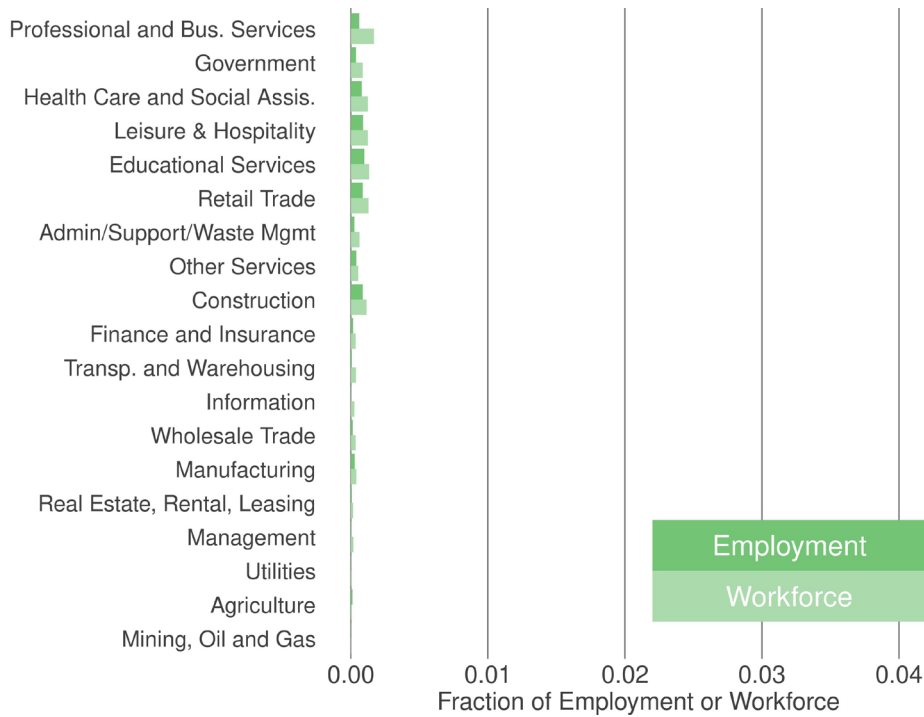
FAUQUIER COUNTY, VA

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

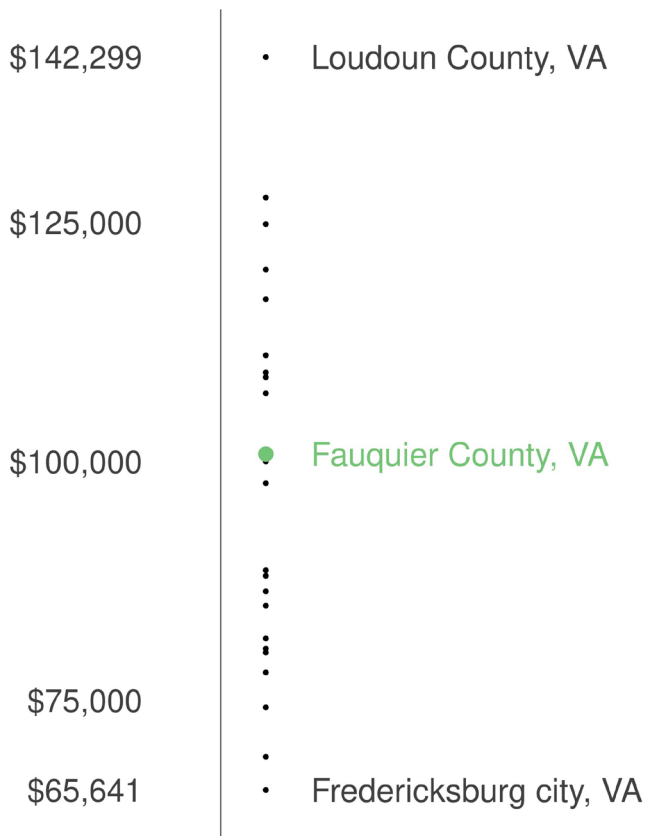


Source: LODES v. 7.5, 2018 data..

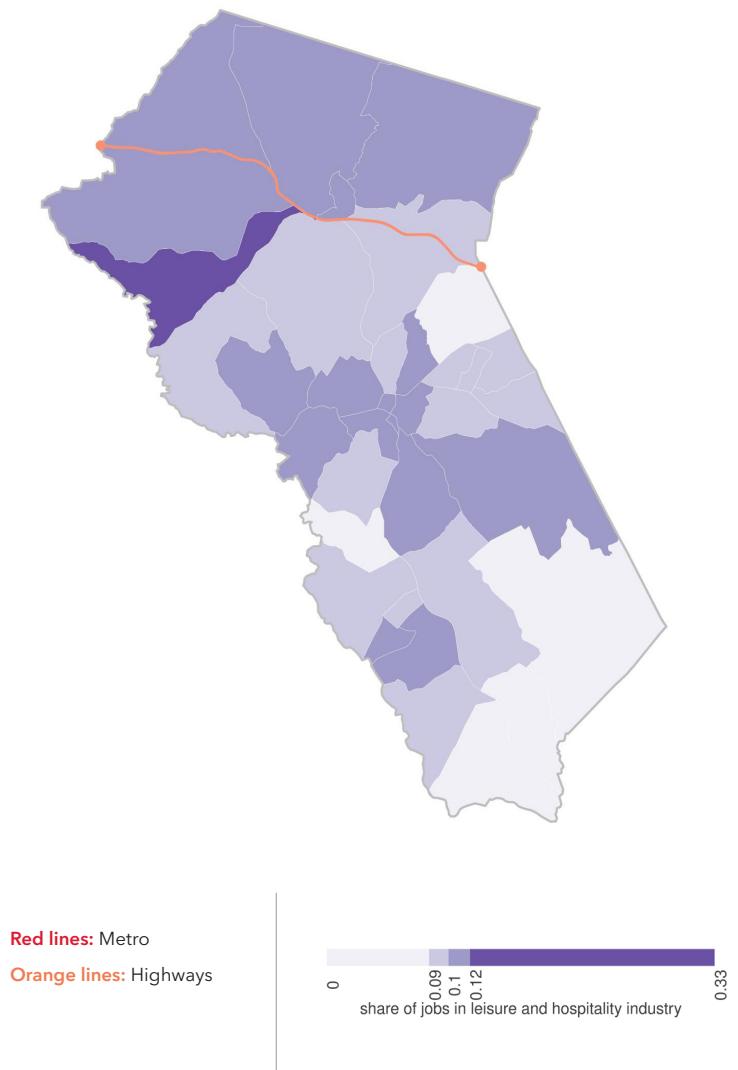


FAUQUIER COUNTY, VA

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Source: American Community Survey, 5-year data, 2015-2019.

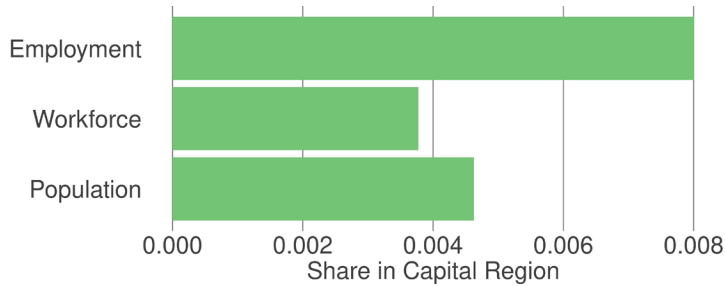
Source: LODES version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



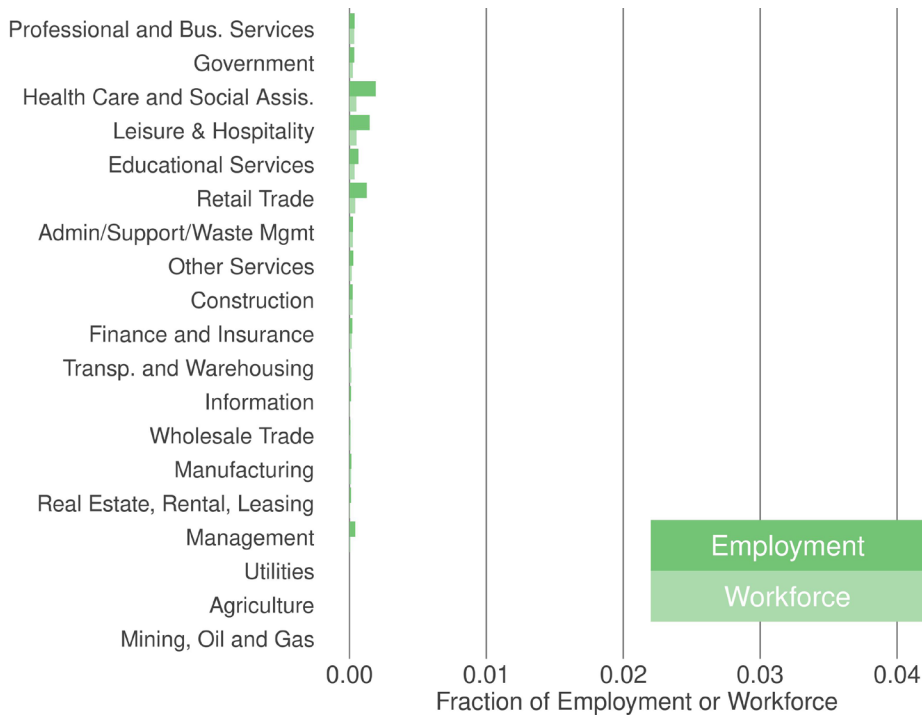
FREDERICKSBURG CITY, VA

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

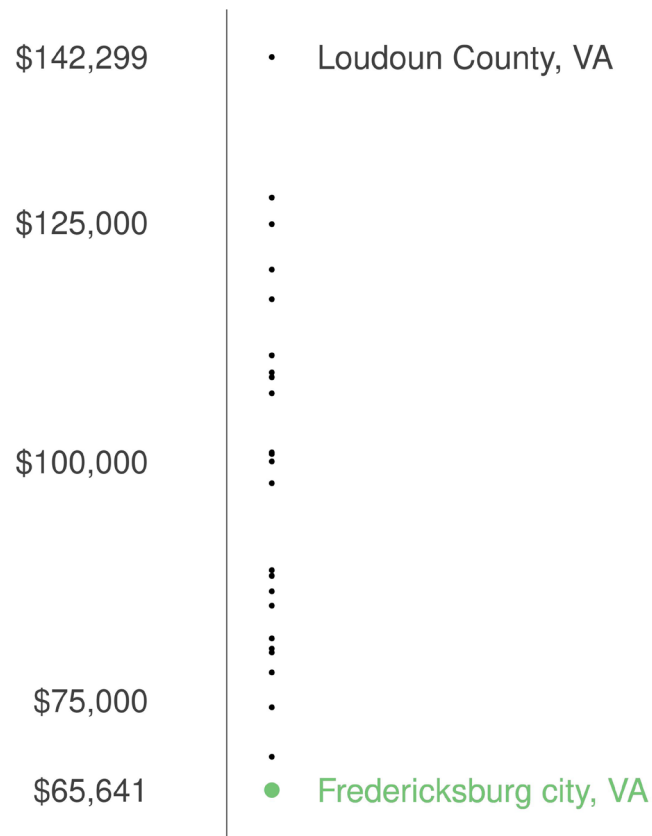


Source: LODES v. 7.5, 2018 data..

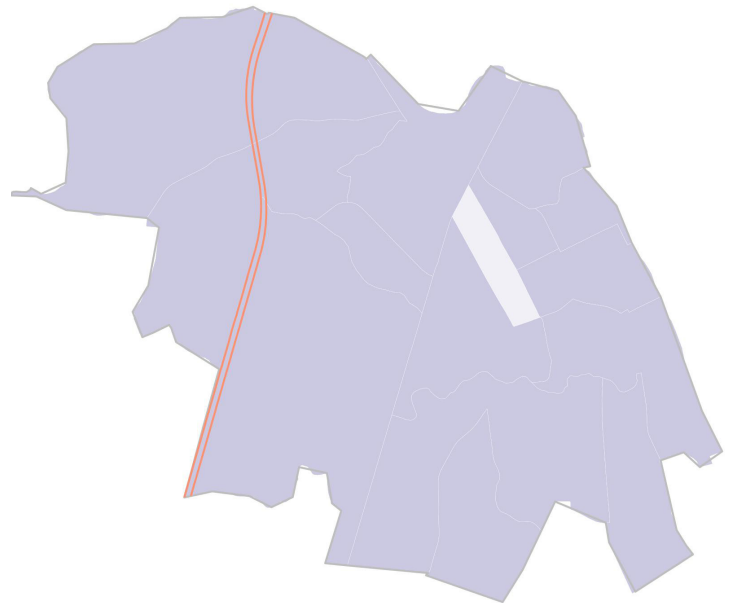


FREDERICKSBURG CITY, VA

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Red lines: Metro
Orange lines: Highways



Source: American Community Survey, 5-year data, 2015-2019.

Source: LODES version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



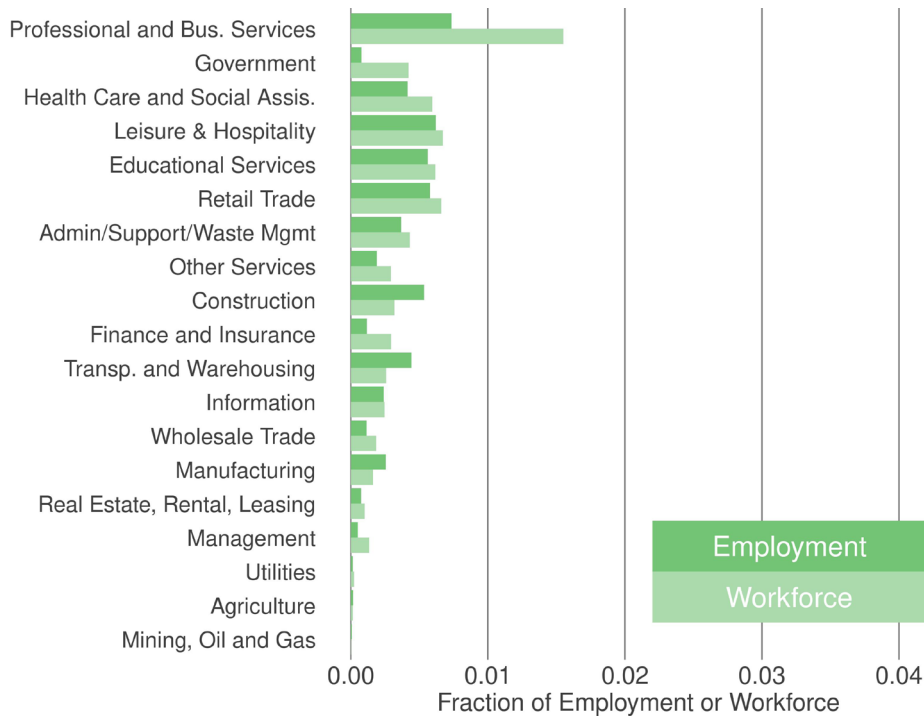
LOUDOUN COUNTY, VA

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

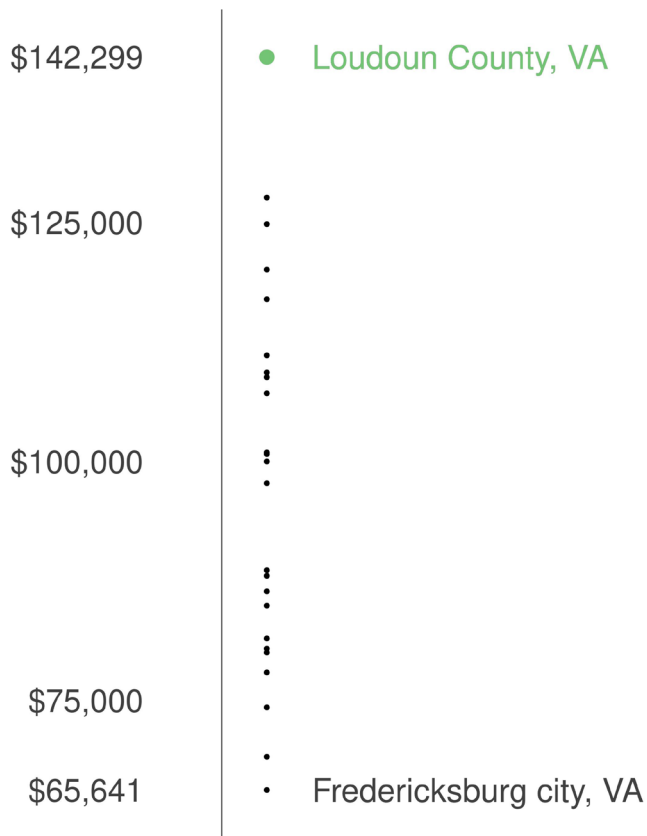


Source: LODES v. 7.5, 2018 data..

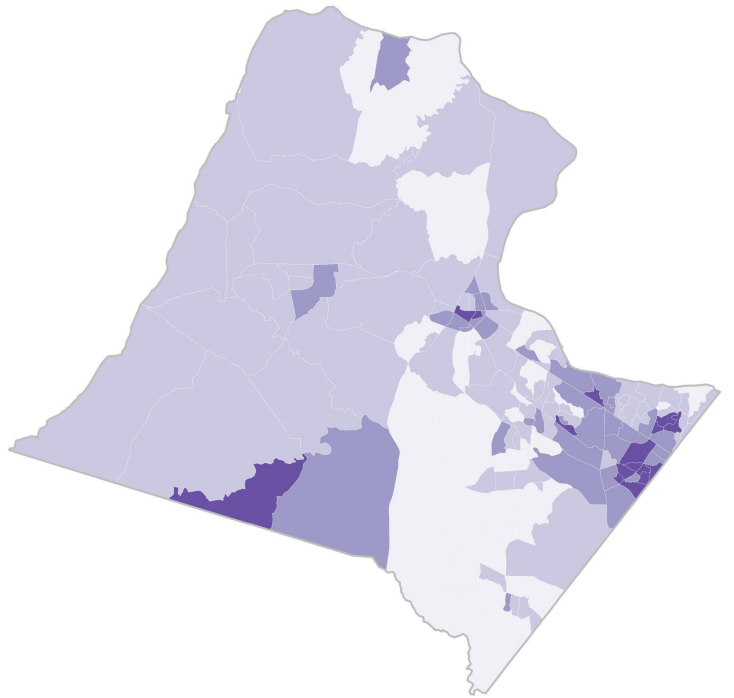


LOUDOUN COUNTY, VA

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Red lines: Metro
Orange lines: Highways



Source: American Community Survey, 5-year data, 2015-2019.

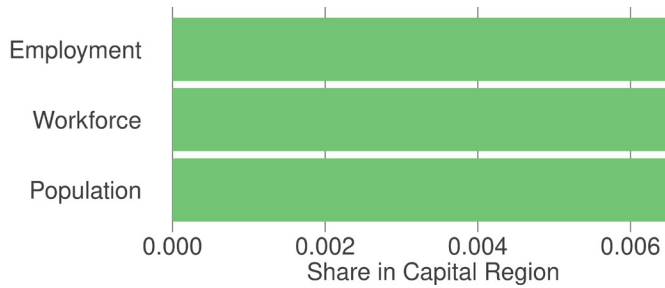
Source: LODES version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



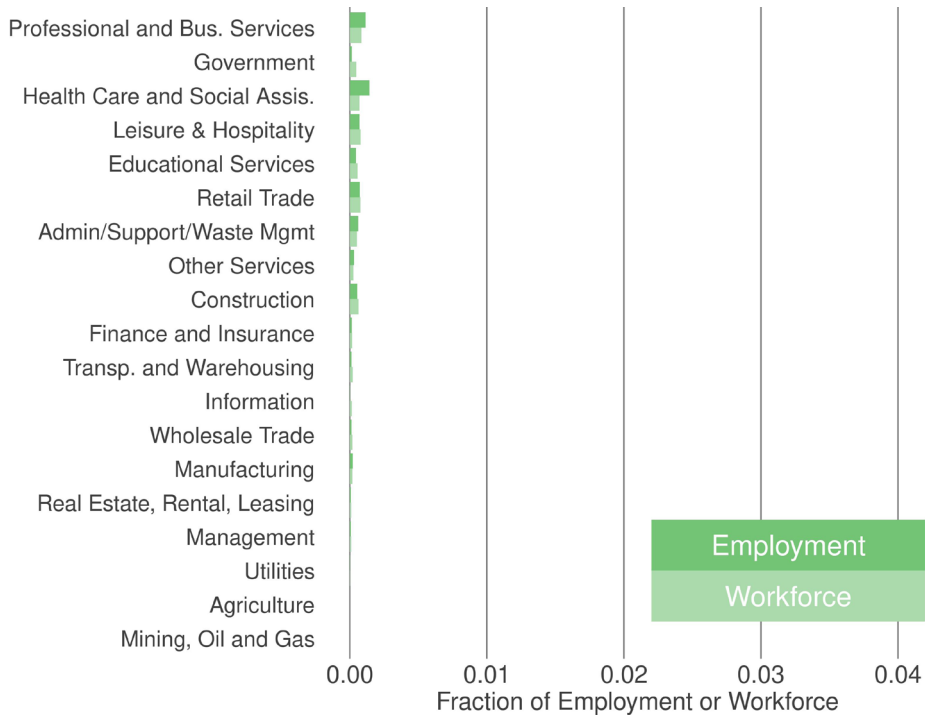
MANASSAS CITY, VA

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

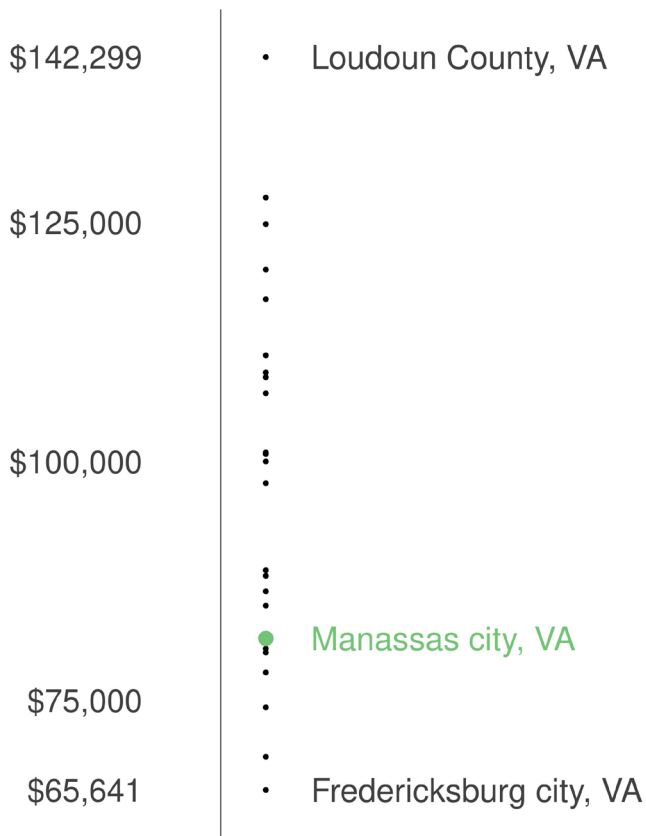


Source: LODES v. 7.5, 2018 data..



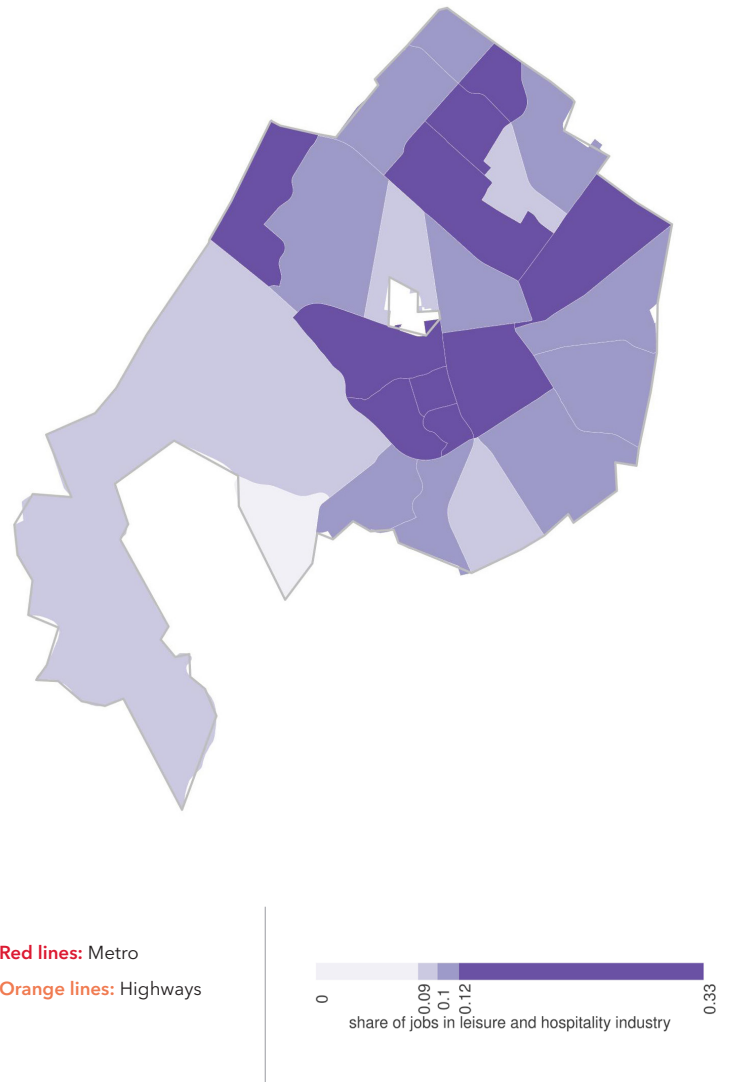
MANASSAS CITY, VA

Median Income by Jurisdiction



Source: American Community Survey, 5-year data, 2015-2019.

Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Source: LODES version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



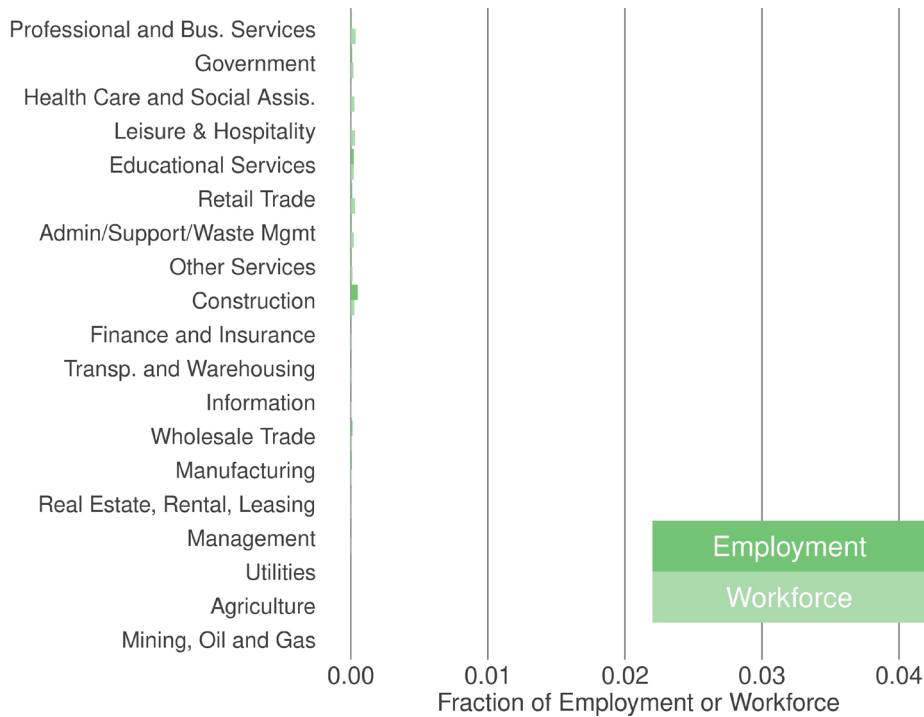
MANASSAS PARK CITY, VA

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

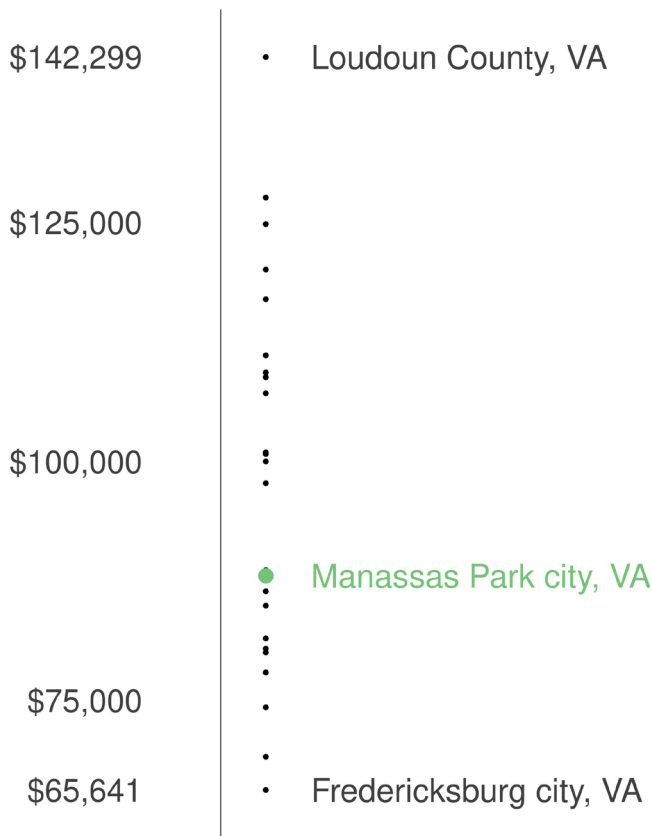


Source: LODES v. 7.5, 2018 data..

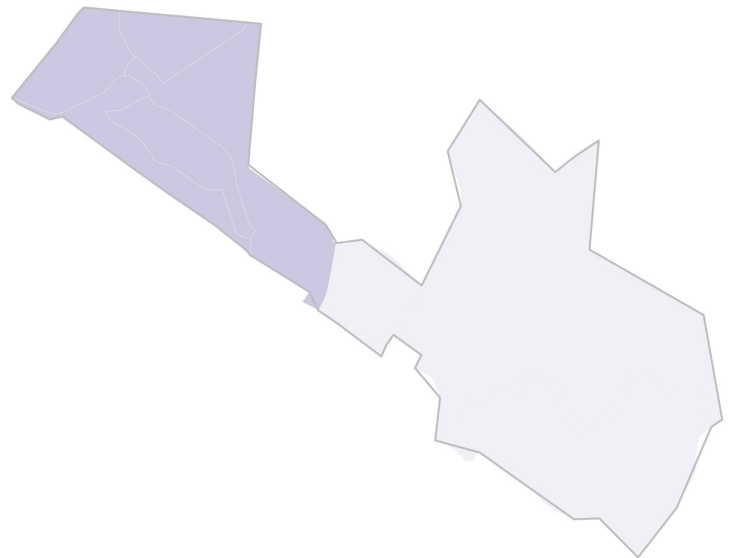


MANASSAS PARK CITY, VA

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Red lines: Metro
Orange lines: Highways



Source: American Community Survey, 5-year data, 2015-2019.

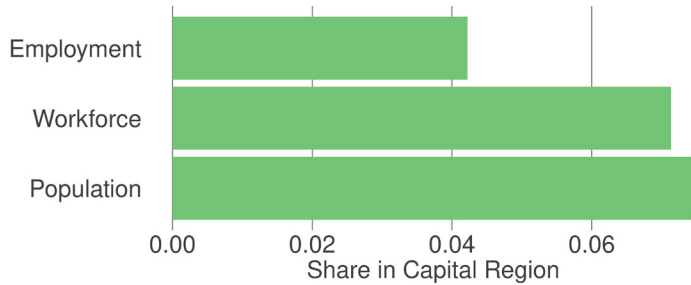
Source: LODS version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



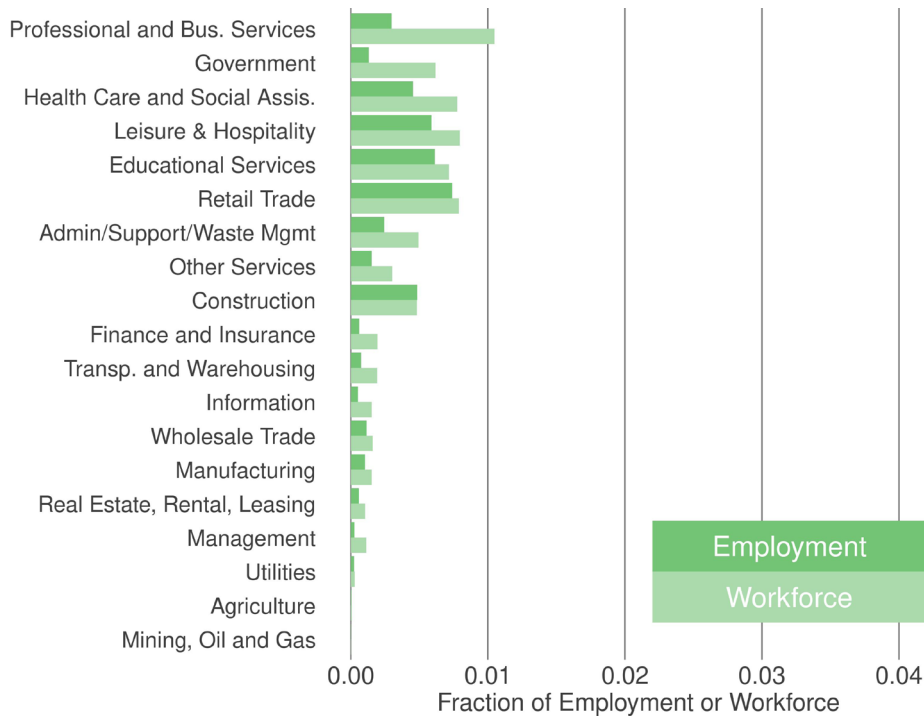
PRINCE WILLIAM COUNTY, VA

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce



Source: LODES v. 7.5, 2018 data..

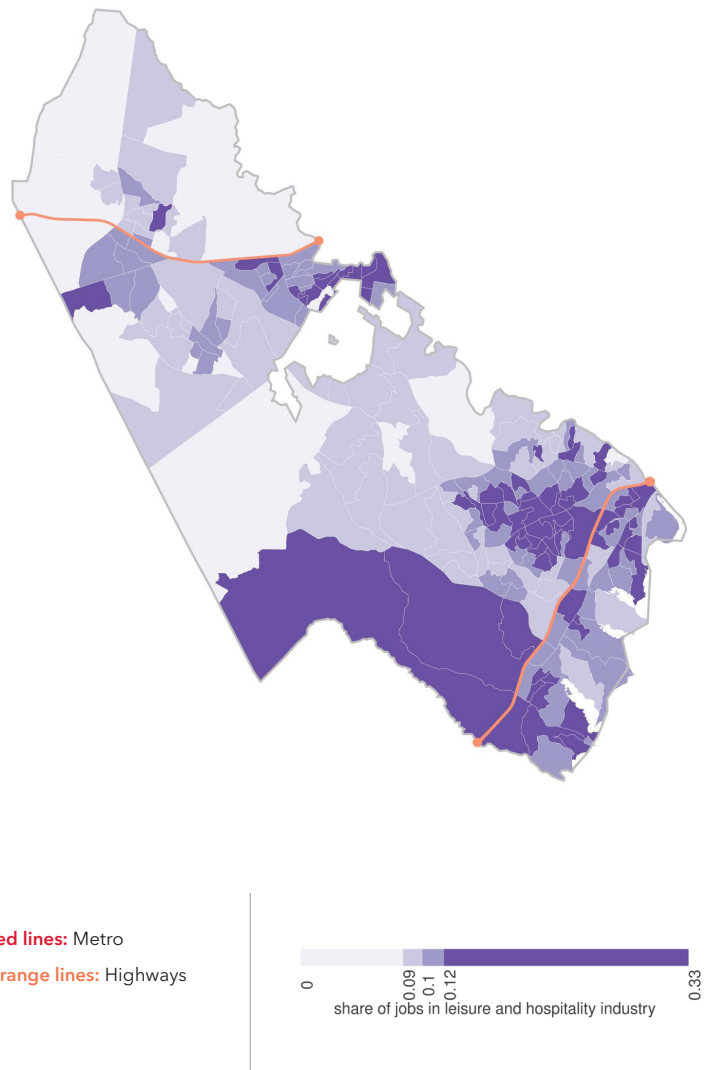


PRINCE WILLIAM COUNTY, VA

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Source: American Community Survey, 5-year data, 2015-2019.

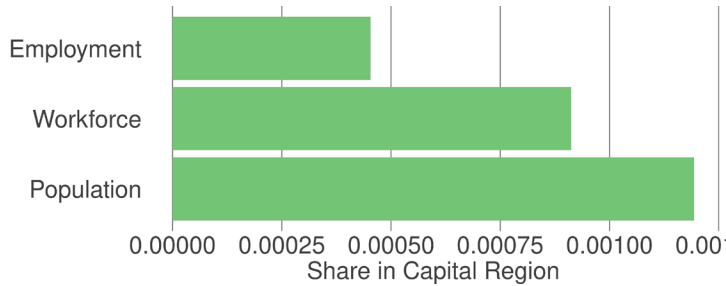
Source: LODES version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



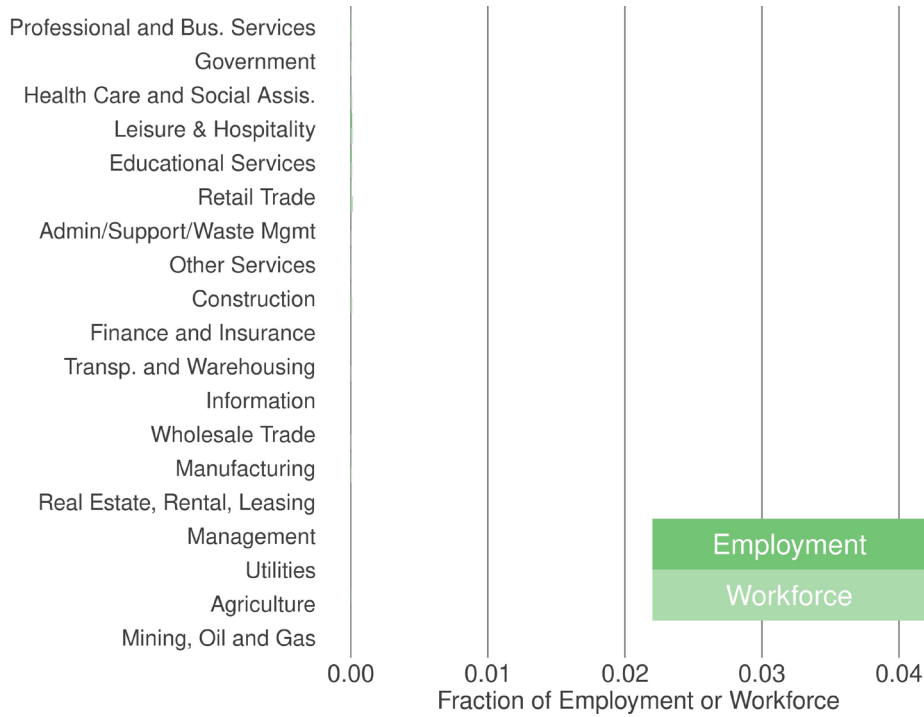
RAPPAHANNOCK COUNTY, VA

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

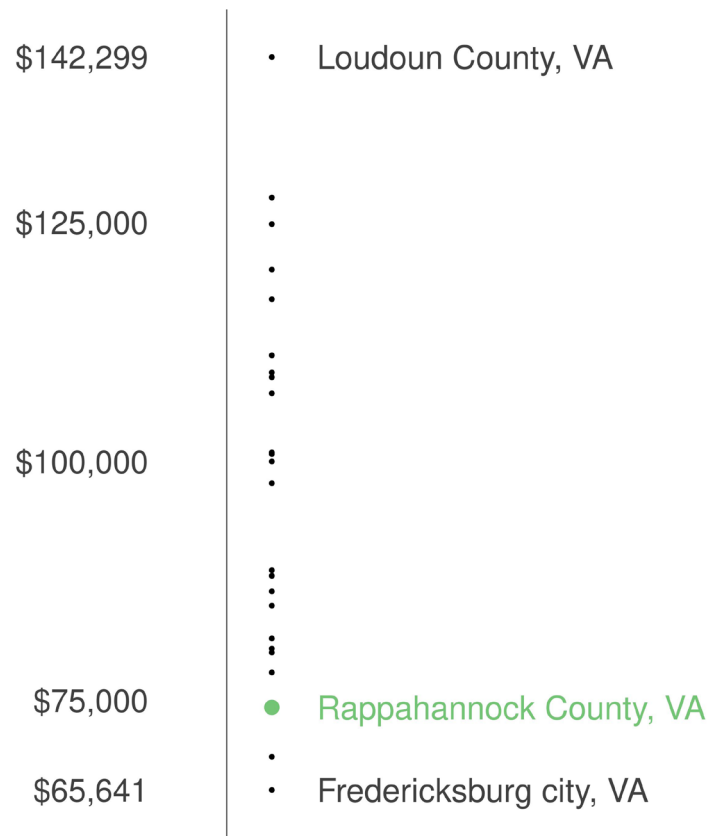


Source: LODES v. 7.5, 2018 data..

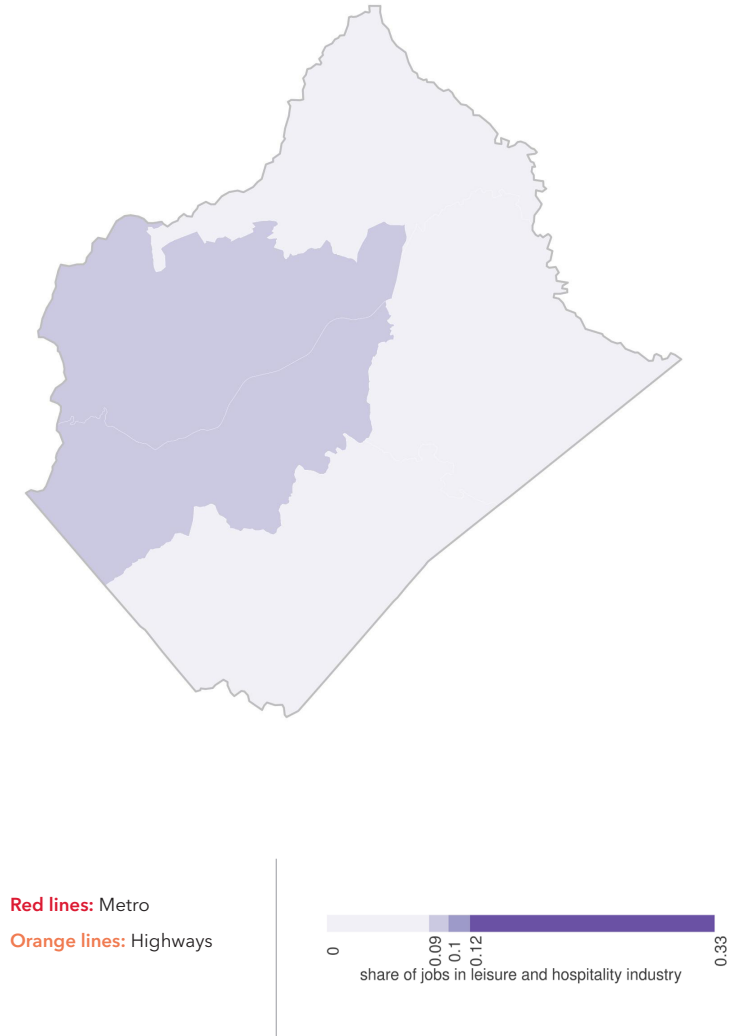


RAPPAHANNOCK COUNTY, VA

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Source: American Community Survey, 5-year data, 2015-2019.

Source: LODES version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



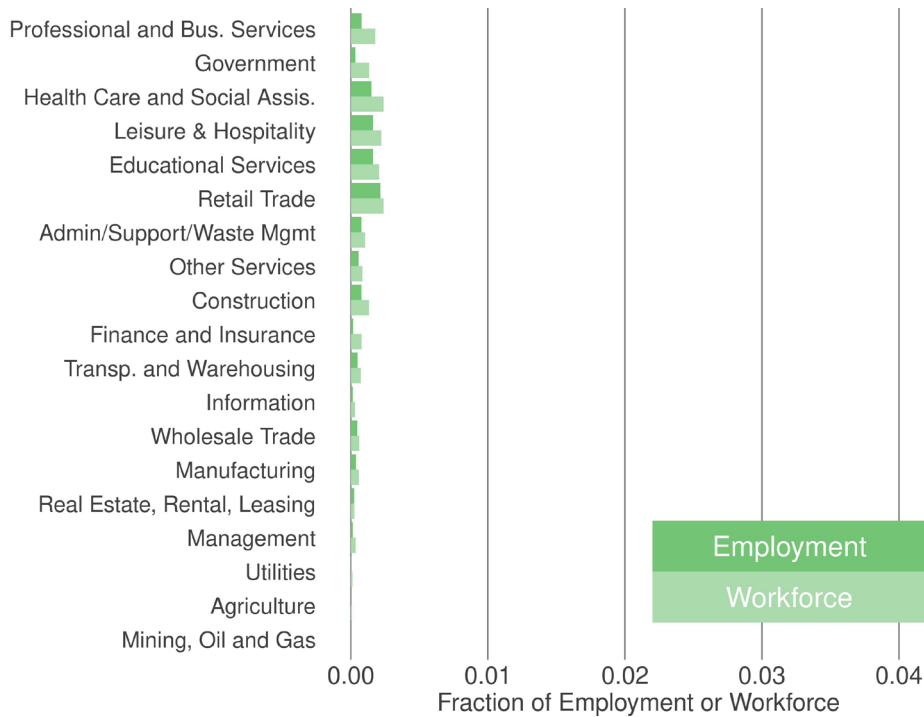
SPOTSYLVANIA COUNTY, VA

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

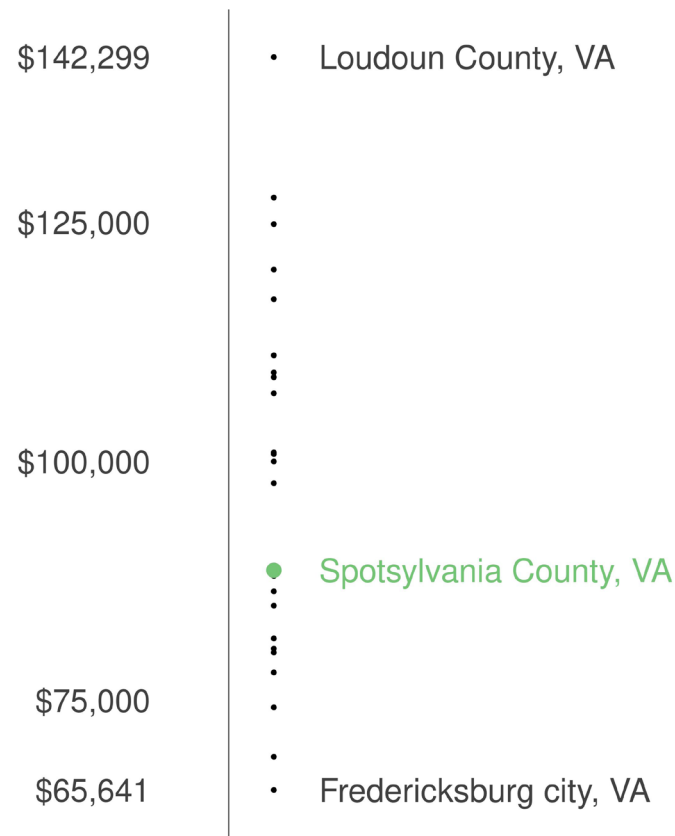


Source: LODES v. 7.5, 2018 data..



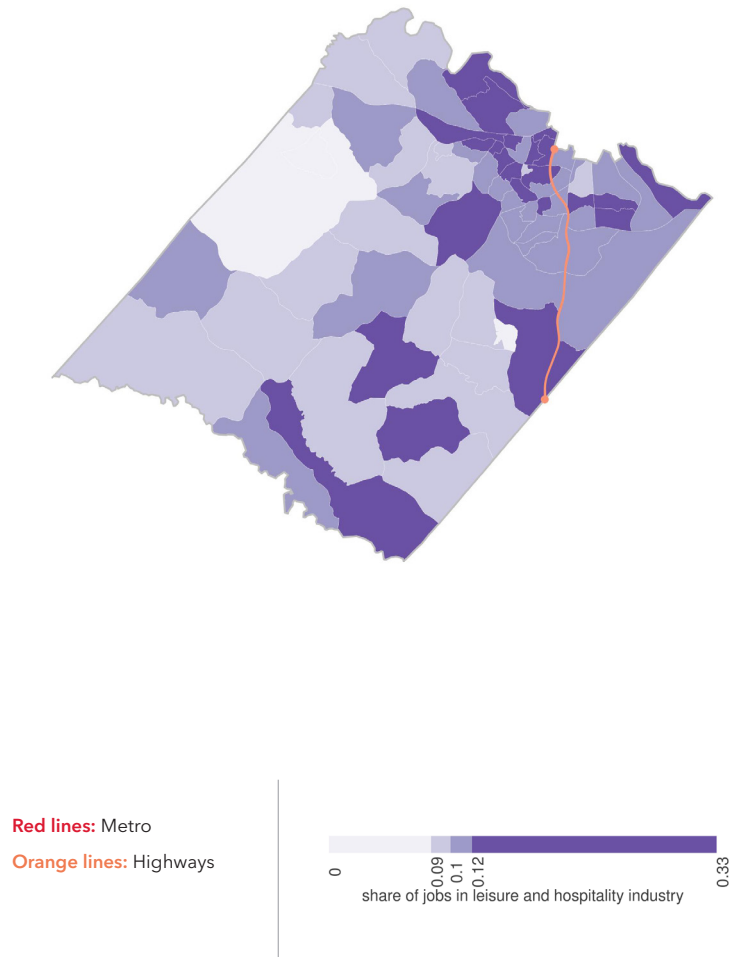
SPOTSYLVANIA COUNTY, VA

Median Income by Jurisdiction



Source: American Community Survey, 5-year data, 2015-2019.

Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



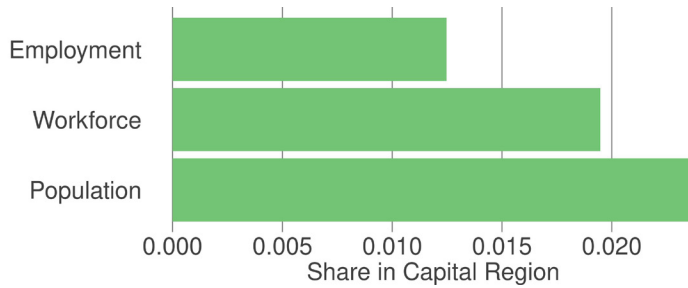
Source: LODS version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



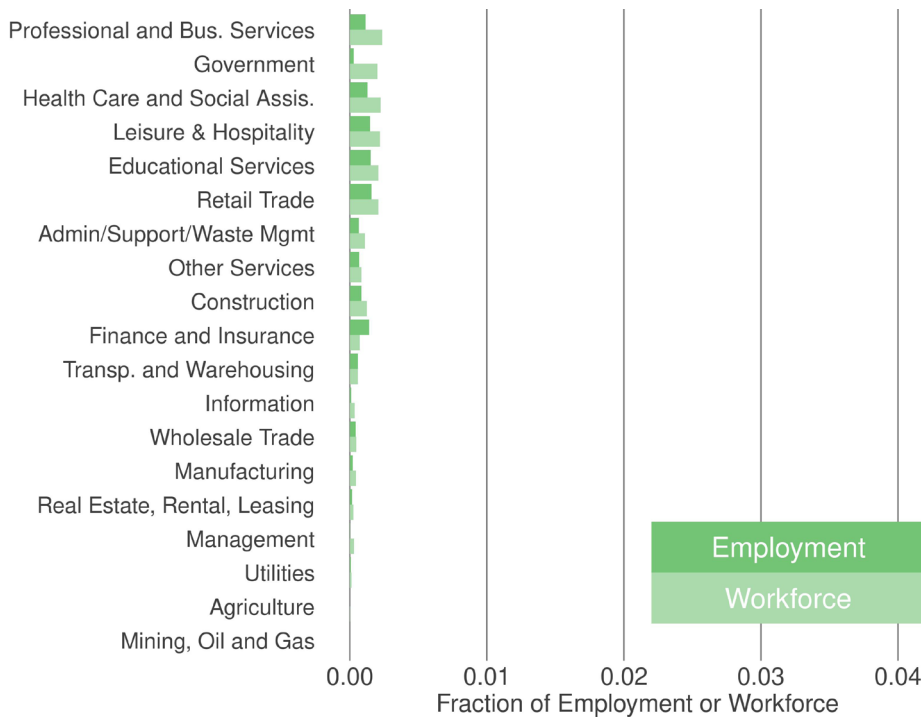
STAFFORD COUNTY, VA

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

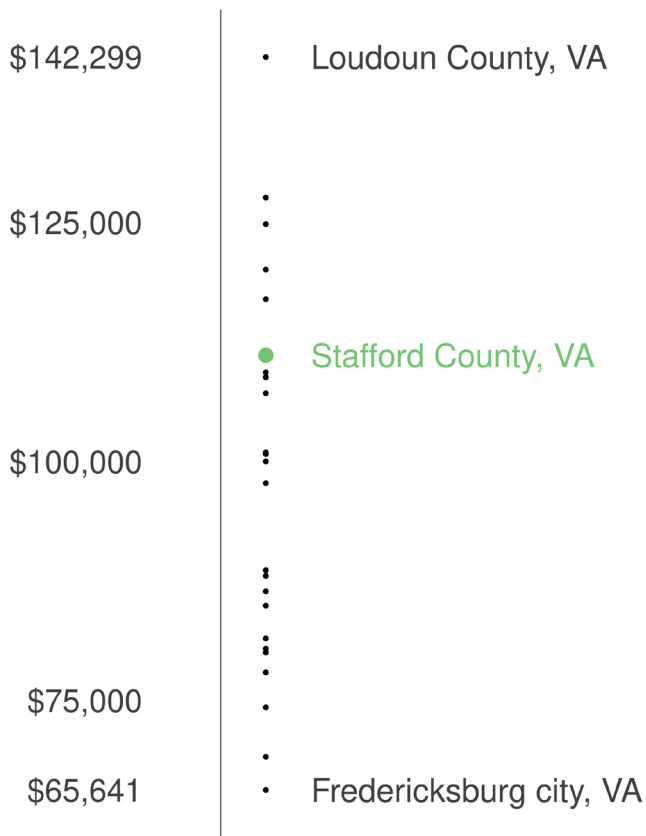


Source: LODES v. 7.5, 2018 data..

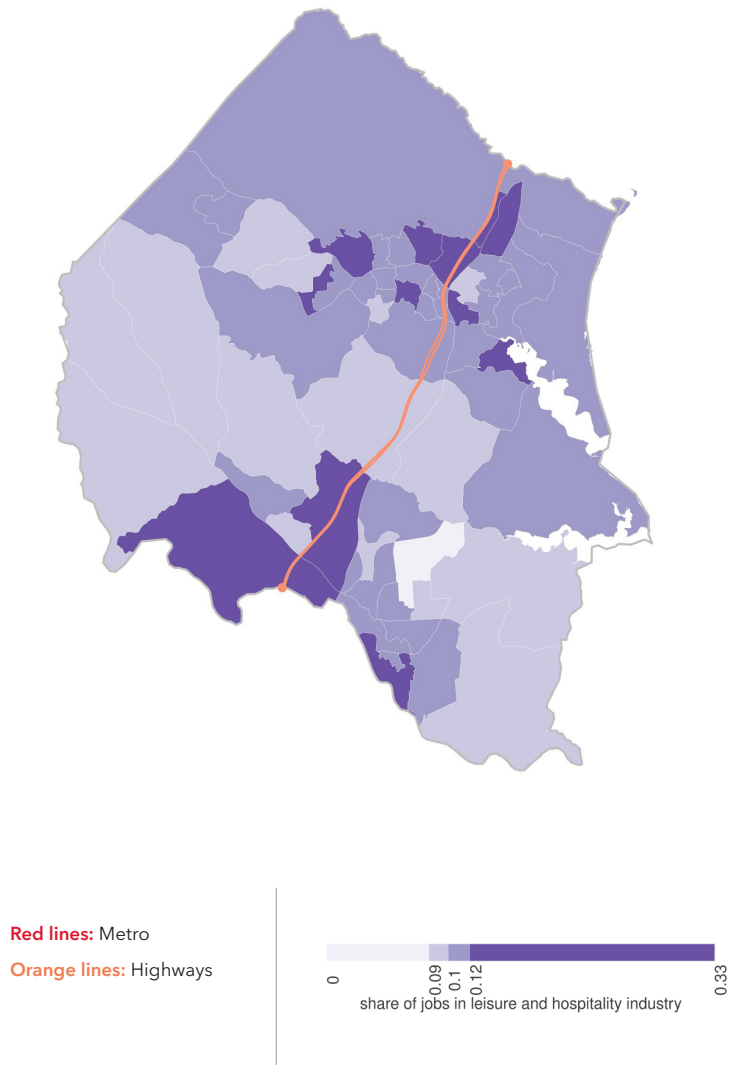


STAFFORD COUNTY, VA

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Source: American Community Survey, 5-year data, 2015-2019.

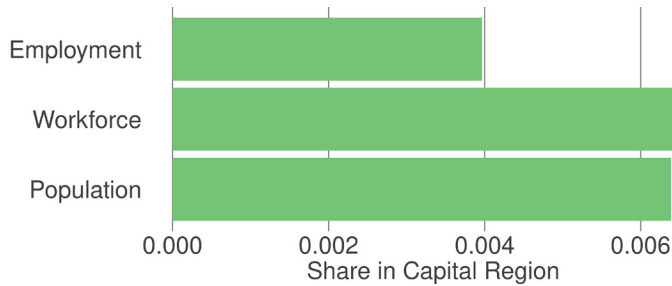
Source: LODS version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



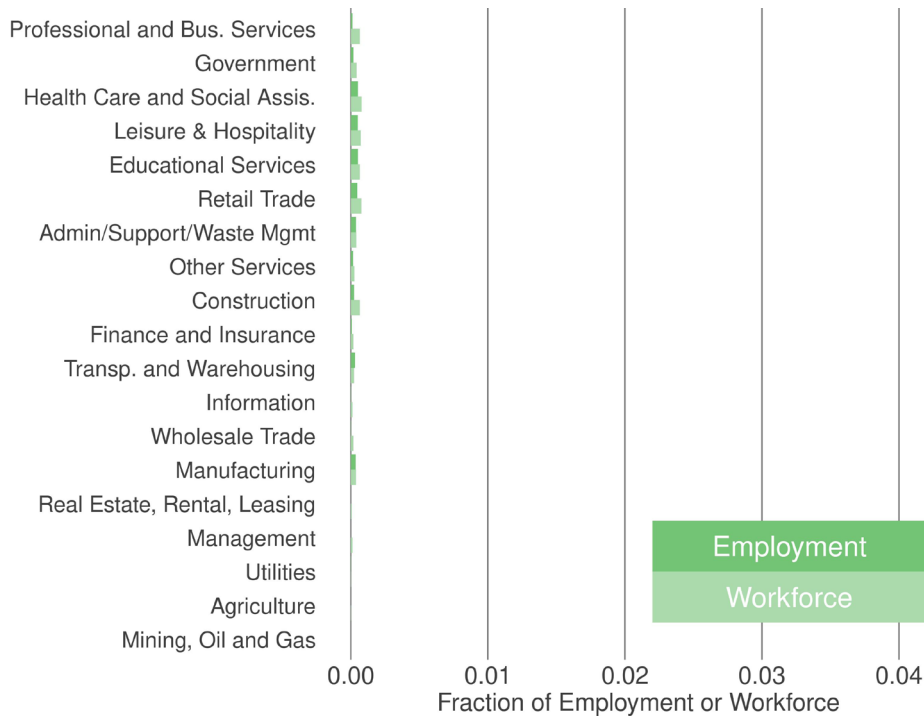
WARREN COUNTY, VA

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

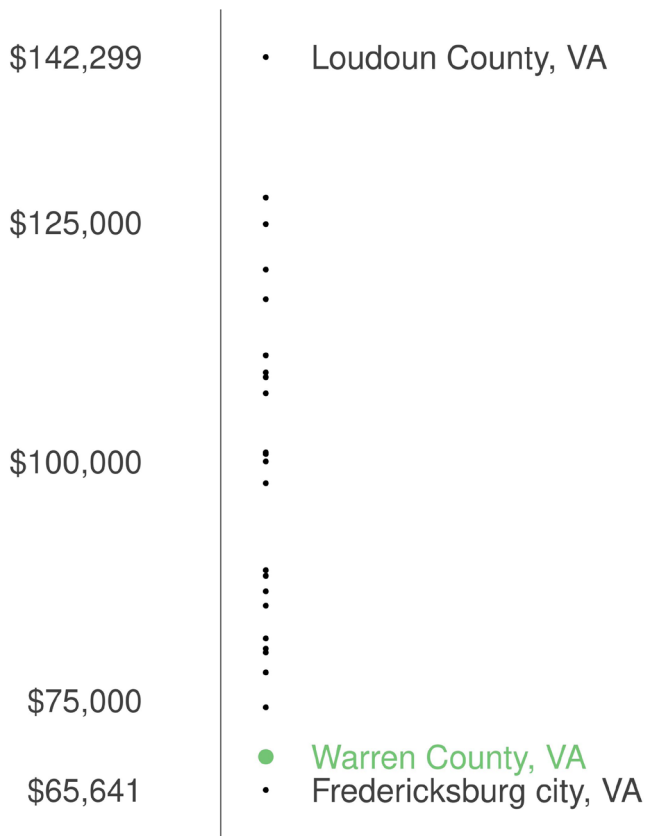


Source: LODES v. 7.5, 2018 data..

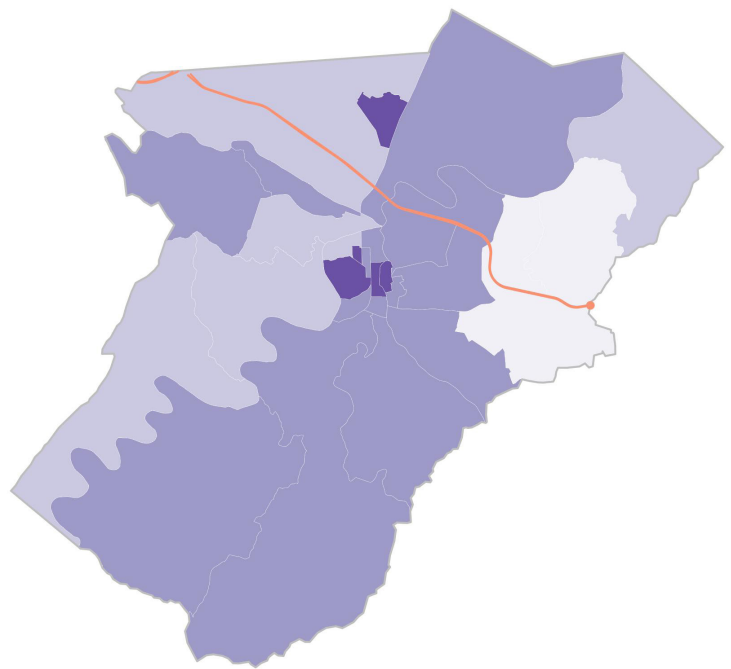


WARREN COUNTY, VA

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Red lines: Metro
Orange lines: Highways



Source: American Community Survey, 5-year data, 2015-2019.

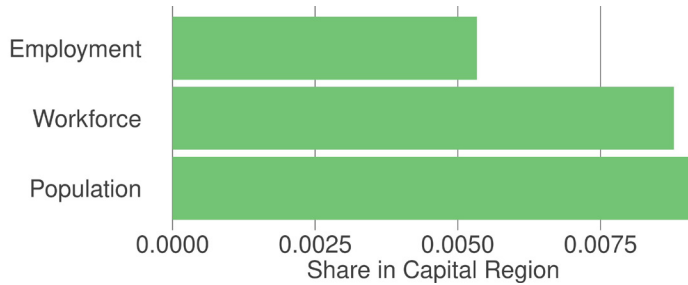
Source: LODES version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.



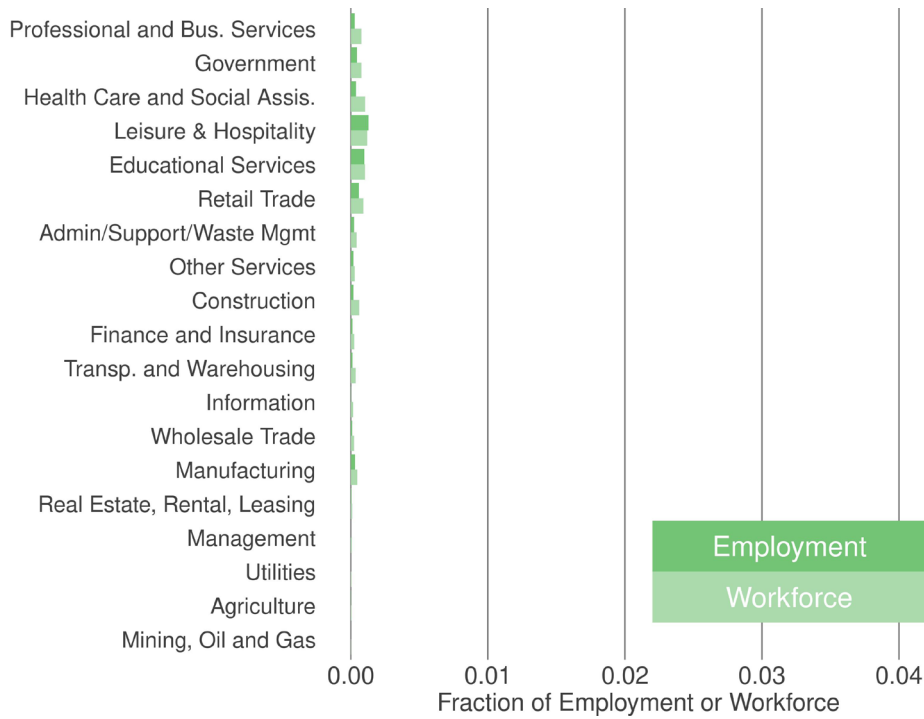
JEFFERSON COUNTY, WV

Population, Workforce and Employment



Source: Workers from LODES v. 7.5, 2018 data; population from American Community Survey, 2015-2019.

Fraction of Workers by Industry, Employment and Workforce

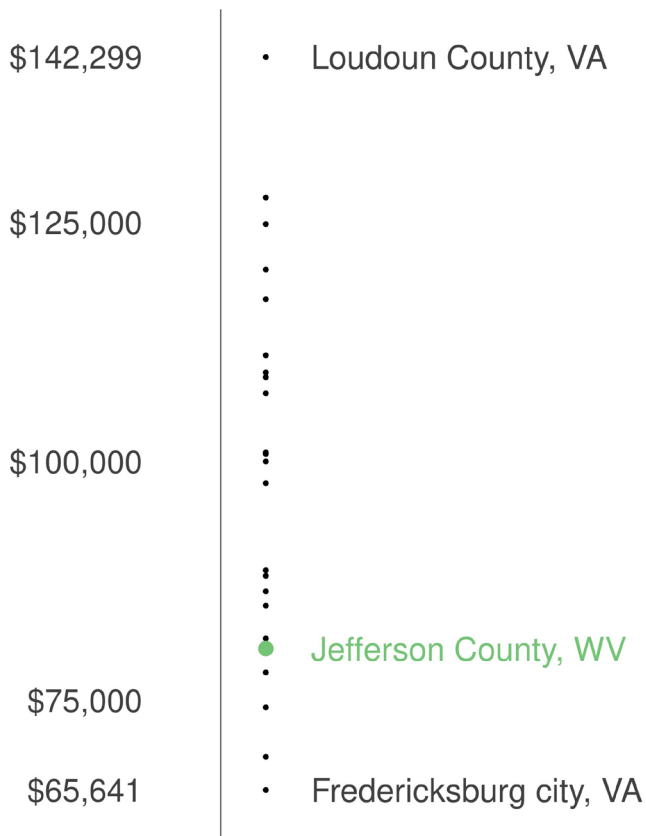


Source: LODES v. 7.5, 2018 data..

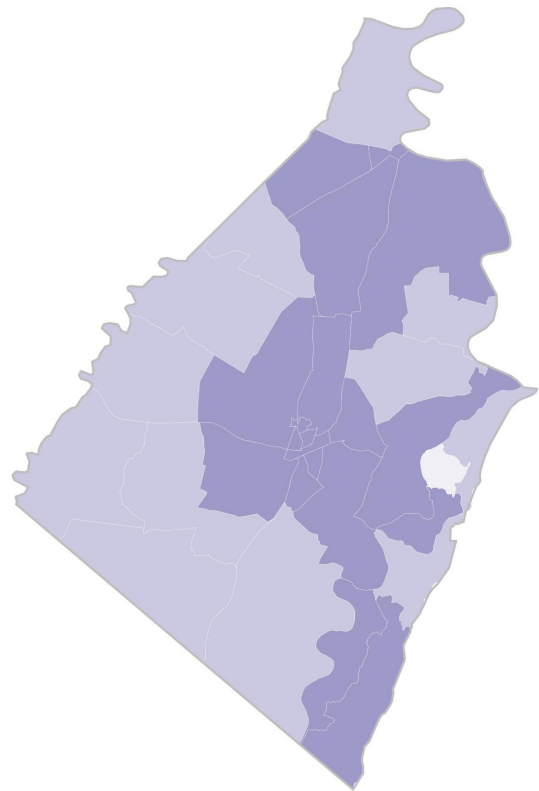


JEFFERSON COUNTY, WV

Median Income by Jurisdiction



Fraction of Workers Employed in Leisure and Hospitality, by Neighborhood



Red lines: Metro
Orange lines: Highways



Source: American Community Survey, 5-year data, 2015-2019.

Source: LODES version 7.5, 2018.

Note: Zip codes are "zip code tabulation areas" defined by the Census. The number of zip codes in the legend may not look like the number depicted in the map because some zip codes are lines or points and are not visible on the map.

PART III: SOURCES AND METHODS

DATA

A. MAP FILES

County boundaries

US Census Bureau, 2014. 2010 Census county boundaries. Downloaded cb_2017_us_county_500k.zip 2/28/2014 from https://www.census.gov/geo/maps-data/data/cbf/cbf_counties.html

Metro map

Copyright 2017. National Capital Region Transportation Planning Board Downloaded Metro__Lines.zip from http://rtdc-mwcog.opendata.arcgis.com/datasets/0d90d7b18c644657ba7646149b72e2d1_1

Highway map

US Census Bureau, 2017 TIGER/Line® Shapefiles: Roads Downloaded tl_2017_us_primaryroads.zip from <https://www.census.gov/cgi-bin/geo/shapefiles/index.php?year=2017&layergroup=Roads>

B. DATA FILES

Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics (LODES)

These data report the number of workers by block group for 2018, and contain data on industry and income. We use all non-federal workers and add in the federal worker data.

U.S. Census Bureau. (2021). LEHD Origin-Destination Employment Statistics Data (2002–2018) [computer file]. Washington, DC: U.S. Census Bureau, Longitudinal-Employer Household Dynamics Program [distributor], accessed on November 2020 at <https://lehd.ces.census.gov/data/#lodes>. LODES 7.5 [version].

Current Employment Statistics (CES)

We use the State and Area Employment, Hours and Earnings report, which reports monthly data on employment and earnings by industry for the DC Metropolitan area. These data are produced by the Bureau of Labor Statistics.

See full documentation here: <https://download.bls.gov/pub/time.series/sm/sm.txt>

We also use the national version of these statistics, called Employment, Hours and Earnings–National. See full documentation here: <https://download.bls.gov/pub/time.series/ce/ce.txt>

American Community Survey (ACS)

We use data from the 2015–2019 American Community Survey to measure county and neighborhood median income.

County data

Census Bureau's [2014–2018] American Community Survey [5]-year estimates.

<https://api.census.gov/data/2019/acs/>

Census Boundaries

We use TIGER/Line Shapefiles from the Census, based on 2010 Census boundaries. Files available at <https://www.census.gov/geographies/mapping-files/time-series/geo/tiger-line-file>.

DATA NOTES

A. MAP FILES

We use “jurisdiction” throughout to refer to counties or, in Virginia, independent cities.

We use “neighborhood” to refer to census block groups. All maps show data by census block group.

the 1990s, the number of people with a mental health problem has increased in the UK (Mental Health Act 1983, 1990).

There is a growing awareness of the need to improve the lives of people with mental health problems. The Department of Health (1999) has set out a vision for the future of mental health care in the UK. This vision is based on the following principles:

- People with mental health problems should be treated as individuals, with their own needs and wishes.
- People with mental health problems should be given the opportunity to participate in decisions about their care and treatment.
- People with mental health problems should be given the opportunity to live in their own homes and communities.
- People with mental health problems should be given the opportunity to work and to contribute to society.

The Department of Health (1999) has also set out a number of key objectives for the future of mental health care in the UK. These objectives are:

- To reduce the number of people with mental health problems who are admitted to hospital.
- To improve the quality of care and treatment for people with mental health problems.
- To improve the support and services available to people with mental health problems.
- To improve the lives of people with mental health problems.

The Department of Health (1999) has also set out a number of key actions for the future of mental health care in the UK. These actions are:

- To develop a national strategy for mental health care.
- To improve the quality of care and treatment for people with mental health problems.
- To improve the support and services available to people with mental health problems.
- To improve the lives of people with mental health problems.

The Department of Health (1999) has also set out a number of key challenges for the future of mental health care in the UK. These challenges are:

- To reduce the number of people with mental health problems who are admitted to hospital.
- To improve the quality of care and treatment for people with mental health problems.
- To improve the support and services available to people with mental health problems.
- To improve the lives of people with mental health problems.

The Department of Health (1999) has also set out a number of key messages for the future of mental health care in the UK. These messages are:

- People with mental health problems should be treated as individuals, with their own needs and wishes.
- People with mental health problems should be given the opportunity to participate in decisions about their care and treatment.
- People with mental health problems should be given the opportunity to live in their own homes and communities.
- People with mental health problems should be given the opportunity to work and to contribute to society.

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2021
