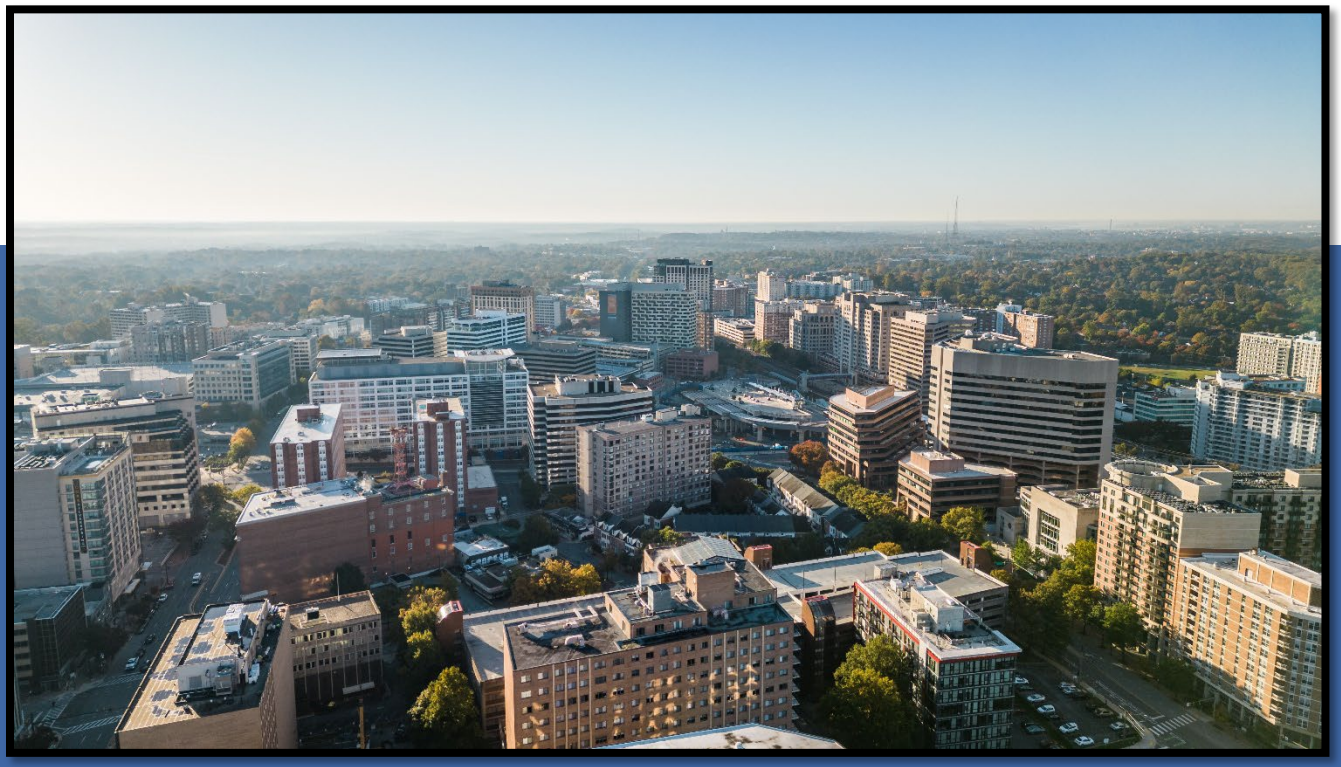
Montgomery Planning

Navigating Income Shifts in Montgomery County: Towards Shared Prosperity



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1. Economic Stagnation and Repositioning Montgomery County for Prosperity

Montgomery County's economy has been stagnating along several metrics throughout the first two decades of the 21st century. The county's median household income has not kept up with inflation since 2005.[1] Even prior to the COVID-19 pandemic, job growth had been sluggish. The third quarter 2023 Montgomery County Economic Indicators Briefing[2] noted that Montgomery County had the slowest growth rate in per capita personal income (PCPI) from 2004 to 2021 among 30 similarly-sized counties, barely keeping up with inflation.[3]

This trend is especially concerning because per capita income is a widely-used indicator of prosperity. For example, it is included in the United Nations Human Development Index[4] to compare the peoples' purchasing power across nations. PCPI is not the only indicator of prosperity, but Montgomery County's stagnation means that on average, peoples' quality of life has not been meaningfully improving and is being surpassed by other places.

This brief examines one of the potential trends that can underlie a stagnating PCPI—how changes in the population at different segments of the income distribution are affecting the overall level of prosperity in Montgomery County. To do this, we broadly divide Montgomery County's population into low-, middle-, and high-income segments (see Sections 2 and 3 for methodology), compute changes over time, and compare these changes to other counties and regions. We find the following five related trends:

1) Montgomery County's low-income population is growing more rapidly than its middle- and high-income populations, and more rapidly than most other large counties' low-income populations.
2) Montgomery County's middle-income population is disappearing.
3) Montgomery County's high-income population is growing, but very slowly compared to its own low-income population and compared to the high-income populations of its regional neighbors and other large counties across the U.S.
4) The Washington, DC region's trends are like Montgomery County's but less pronounced.
5) Montgomery County's income-based population shift is one of the most extreme among large counties in the U.S.

Taken together, these findings partially explain the county's stagnating PCPI and suggest opportunities for reversing the trend. Before discussing the detailed findings and potential policy implications, there are some important pieces of context to keep in mind about changing income dynamics.

First, while Montgomery County incomes are stagnating *on average*, the incomes of some groups and individuals may still be rising. The approach used in this brief cannot determine whether, for example, earnings for the top 10 percent of earners are changing at a different rate than those for the bottom 10 percent—trends which would also affect average prosperity.

The brief also does not address wealth, which is related—but not identical—to income, or social, emotional, and physical well-being of Montgomery County residents, which are also components of overall prosperity.

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[1] Using Consumer Price Index (CPI) from St. Louis Federal Reserve Economic Data. American Community Survey Median Household income for Montgomery County in 2005 (in 2022 dollars) was $123,110, and Median Household Income in 2022 was $118,323.

[2] https://montgomeryplanning.org/wp-content/uploads/2024/01/MoCoEconomicIndicatorsBriefingQ32023_010824_Final.pdf

[3] Using Consumer Price Index (CPI) from St. Louis Federal Reserve Economic Data. Bureau of Economic Analysis Per Capita Personal Income in 2004 (in 2021 dollars) was $87,902, and Per Capita Personal Income in 2021 was $92,741.

[4] https://hdr.undp.org/data-center/human-development-index#/indicies/HDI

Most importantly, this brief does not advocate for any income group over any other. Incomes do not reflect peoples' value as humans, and there is no ideal population composition that a community should target. That a significant portion of the population struggles to afford necessities like food, healthcare, and housing is a failure on the societal—not individual—level. The factors underlying these circumstances extend far beyond the scope of this research brief.

However, as growth becomes too unbalanced along the income distribution, it limits economic opportunity while threatening the balance of the local economic ecosystem and quality of life. Individuals and economies flourish when high-opportunity places make room for more people. Montgomery County has historically been a high-opportunity place. However, the county's current housing situation means that people at all income levels are being denied this opportunity as they leave for better housing options or avoid the county in the first place. These scarcity-induced circumstances lead to the kind of economic stagnation the county has seen over the last decade.

Additionally, it impacts daily life. Middle-income workers like teachers and police officers must look elsewhere for jobs and housing, which can worsen commuting patterns and threaten the quality of public services as some choose to leave the region altogether. As a county that relies significantly on income taxes to fund public services, a disproportionately low-income population could lead to reduced revenues and quality of services. Finally, the unequal growth of income groups in the county threatens diversity, which was emphasized as a consistent point of community pride in Thrive Montgomery 2050 feedback.

While the trend of increasing poverty and stagnating overall prosperity is concerning, it presents Montgomery County with a unique opportunity. If the county continues to grow, it can avoid the trap of becoming a zero-sum system; a growing "pie" ensures that no groups must compete for the last slice. Montgomery County—along with others like it—needs to expand its middle-income group most urgently and the best way to do this is by expanding the housing "pie." Kickstarting this expansion will require innovative housing solutions for which Montgomery County can be a leader.

2. About the data

This analysis uses the American Community Survey (ACS) variable "ratio of income to poverty level"[5] to compare incomes while accounting for differences in household sizes. Considering household size allows us to account for the difference in spending power between, for example, a single person with an annual income of $100,000 and a family of four with the same income.

The ratio of income to poverty level variable treats each household's income and size as a multiple of the federal poverty level, which also depends on family size. Table 1 shows the federal poverty levels based on household size and the cutoffs for each multiple of the poverty level measured in the variable.

[5] Census Reporter, Table B17002: Ratio of Income to Poverty Level; https://censusreporter.org/tables/B17002/; accessed 12/4/2023.

TABLE 1: UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES FEDERAL POVERTY GUIDELINES 2022[6]

Persons in family/household	Poverty	2 times poverty	3 times poverty	4 times poverty	5 times poverty
1	$13,590	$27,180	$40,770	$54,360	$67,950
2	$18,310	$36,620	$54,930	$73,240	$91,550
3	$23,030	$46,060	$69,090	$92,120	$115,150
4	$27,750	$55,500	$83,250	$111,000	$138,750
5	$32,470	$64,940	$97,410	$129,880	$162,350
6	$37,190	$74,380	$111,570	$148,760	$185,950
7	$41,910	$83,820	$125,730	$167,640	$209,550
8	$46,630	$93,260	$139,890	$186,520	$233,150

A household's poverty status depends on the number of people in the household and the number of earners and their wages. Therefore it is a more accurate indicator of economic status than income levels, which do not take factors on household size and earners into account.

3. Income category groups

To make the analysis clearer and more concise, we divided the population into low-, middle-, and high-income groups, based on the ratio of income to poverty level statistic (see Table 2). There is no universal standard for defining which income levels fit into which groups, and ranges of incomes in different categories can vary geographically based on differences in costs of living. We used Montgomery County's Department of Housing and Community Affairs (DHCA) rent and income limits for 2022 as guidelines for the category groupings.[7]

- **Low-Income:** All categories under three times the poverty level. Under three times the poverty level roughly corresponds to 60% of Montgomery County's Area Median Income (AMI), which is about $10,000 less than the maximum level of income (for a family of four) that DHCA considers low-income and therefore eligible for many of its programs.
- **Middle-income:** Three to 5 times the poverty level, which tops out at $138,749, or just under Montgomery County's AMI of $142,300 for a family of four.
- **High-income:** Any income equivalent to five times the poverty level or greater.

This classification scheme is limited because "five times the poverty level or above" is the highest level of disaggregation provided by the ACS for this statistic, even though it is almost equivalent to Montgomery County's AMI—literally the county's middle-income level. Thus, capping the middle-income group at five times the poverty level captures half of the county's actual middle-income group. A full representation would require disaggregation at higher income levels so that the upper limit of the middle-income classification would be higher—six or seven times the poverty level, for example. Families in this range likely have experiences and population dynamics that are more like those just below AMI than those that are far above it.

[6] Federal Register, Vol. 87, No. 14, Friday January 21, 2022, p. 3316; https://aspe.hhs.gov/sites/default/files/documents/175e430d7dd4b1622d7245bc8664b3c2/HHS-Poverty-Guidelines-Fed-Register-2022.pdf, accessed 12/4/2023.

[7] Montgomery County Department of Housing and Community Affairs – 2022 Rent and Income Limits: https://montgomerycountymd.gov/DHCA/Resources/Files/housing/multifamily/compliance/rent_income_limits_current.pdf, accessed 12/4/2023.

TABLE 2: INCOME CATEGORIES BASED ON RATIO OF INCOME TO POVERTY LEVEL, 2022

Income Group	Ratio of income to poverty level	Income range (family of 4)
Low-income	Under 3 times	$0 - $83,249
Middle-income	3 to 4.99 times	$83,250 - $138,749
High-income	5 times and above	$138,750 and above

While this analysis does not examine occupations directly, Table 3 offers an idea of an average person's or family's place relative to the poverty guidelines for a few essential occupations assuming a household with one wage-earner and either two or four total members.

TABLE 3: AVERAGE ANNUAL PAY AND POVERTY STATUS FOR CRITICAL OCCUPATIONS IN THE DC METROPOLITAN AREA, 2022

Occupation	Average Annual Pay	Study Income Group	
		Family of 2	Family of 4
Child, Family, and School Social Workers	$72,330	Middle	Low
Community Health Workers	$53,800	Low	Low
Elementary School Teachers	$82,720	Middle	Low
Registered Nurses	$92,800	High	Middle
Firefighters	$63,960	Middle	Low
Police and Sheriff's Patrol Officers	$77,480	Middle	Low
Restaurant Cooks	$37,450	Low	Low
Carpenters	$58,760	Middle	Low

Data: Bureau of Labor Statistics

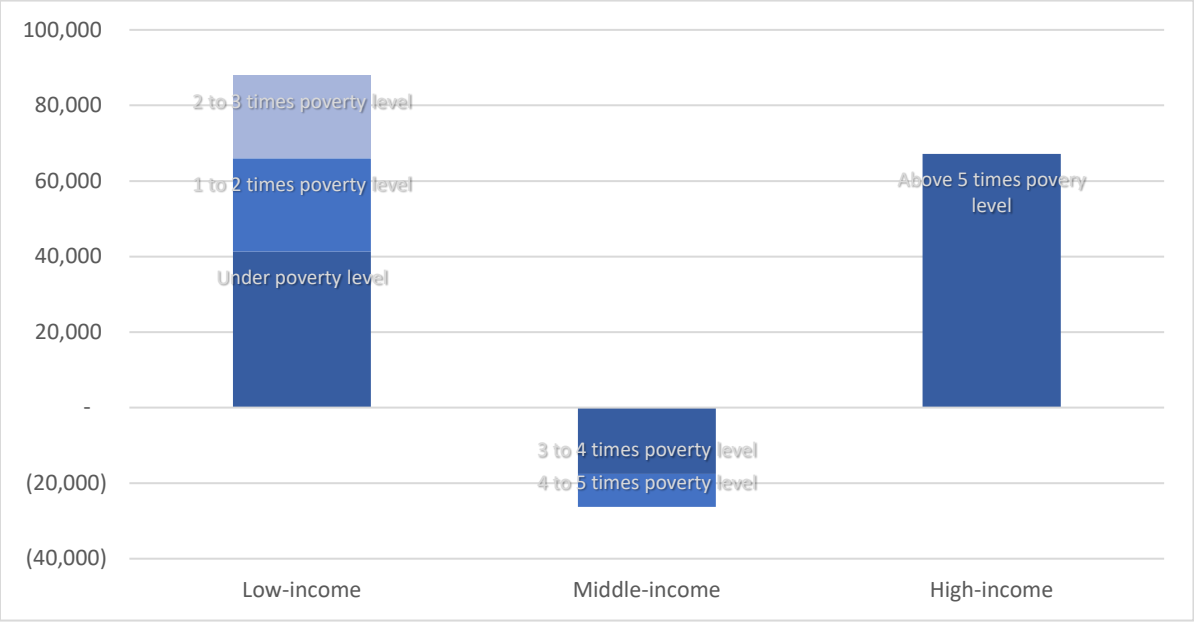
Using these tables, we can create an illustrative example of a two-earner household: the combined income of a community health worker and an elementary school teacher is on average about $136,500 per year. With two children present (four total people), this family would fall between four and five times the poverty level and would be considered middle-income under this study's definition.

Visit the project's github repository for replicable R scripts used to generate the dataset.

4. Patterns of income change in Montgomery County

Within these three income categories, the fastest growing segment of the county is the low-income group. Of this group, those living below the poverty line increased the most, more than doubling between 2005 and 2022. The high-income group is also growing, but not as fast as the low-income group. In contrast to the growth of these two groups, Montgomery County lost over 26,000 middle-income residents over this period (Figure 1).

FIGURE 1: CHANGE IN POPULATION BY RATIO OF INCOME TO POVERTY LEVEL IN MONTGOMERY COUNTY, 2005 - 2022

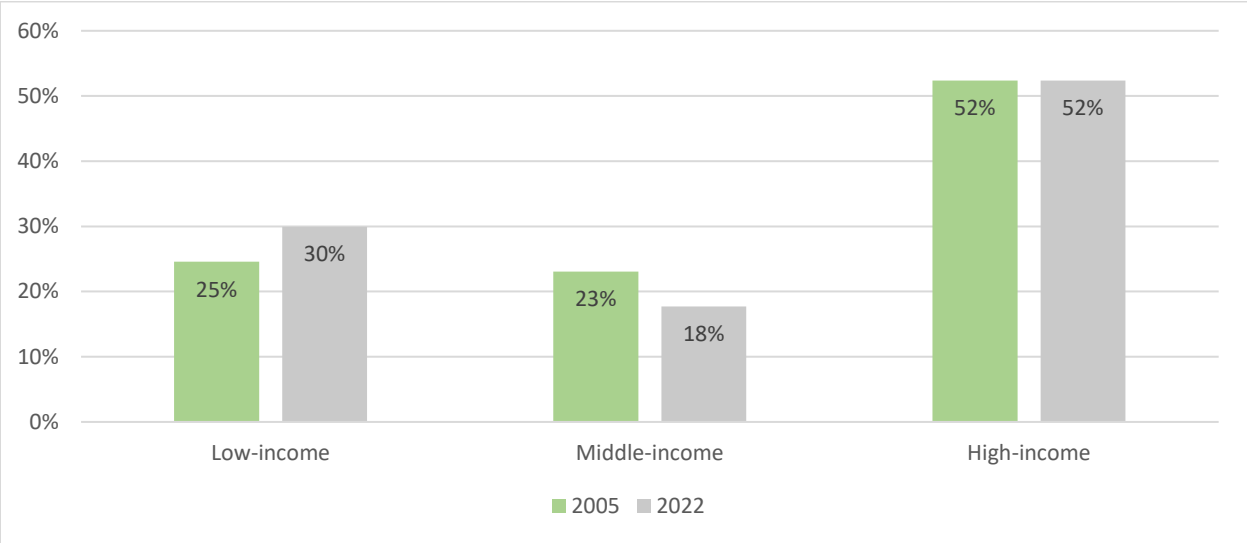


Data: 2005 and 2022 1-year ACS estimates

These shifts have altered the socioeconomic composition of Montgomery County and are part of the reason for stagnation of the county's median household and per capita personal income. Even though the county added high-income residents, the faster increase of low-income residents and the loss of middle-income residents lengthened the distribution at the low end, pulling both the median and average down. The "under poverty" group grew the most rapidly of all the low-income groups.

While the county had roughly equal shares of low- and middle-income residents in 2005 (25% and 23% respectively), the low-income group increased its share by five percentage points while the middle-income group lost five percentage points. The high-income group's share did not change (Figure 2).

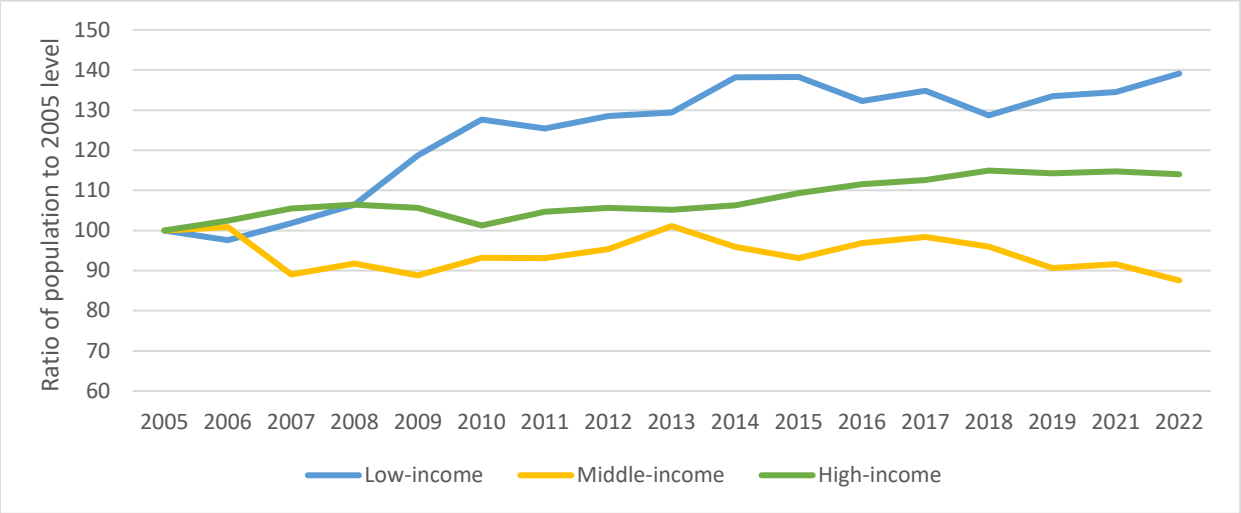
FIGURE 2: SHARE OF MONTGOMERY COUNTY POPULATION IN EACH INCOME GROUP IN 2005 AND 2022



Data: 2005 and 2022 1-year ACS estimates

Figure 3 shows the three groups' trajectories as they diverged from year to year over this period. It indexes the populations of each group each year to the 2005 population by setting it to a value of "100" for each group and showing how each subsequent year's population compares to the original value. While there were some points of convergence, the most recent trend suggests continued stagnation for the high-income group while the low-income and middle-income groups diverge farther apart relative to their 2005 values.

FIGURE 3: CHANGE IN POPULATION OF INCOME GROUP THROUGH 2022 INDEXED TO 2005 LEVEL

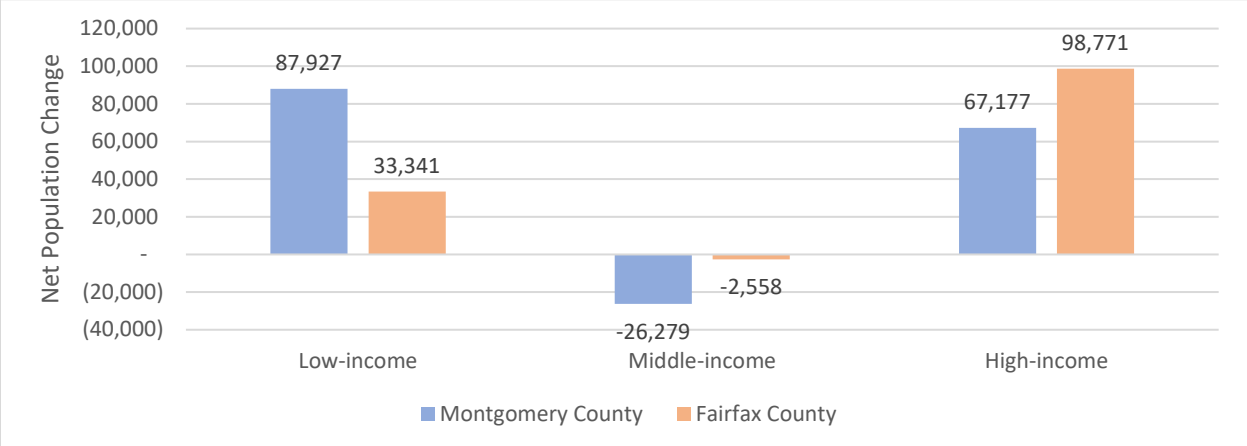


Data: 1-year ACS estimates; data for 2020 is not available due to inconsistencies in the survey that year.

5. Intra-regional income change comparison for the Washington, DC region

Within the Washington, DC region, patterns of income polarization vary. Fairfax County, VA—Montgomery's most demographically comparable neighbor—has seen changes that are similar in direction Montgomery County's but different in magnitude. Fairfax County's loss of middle-income population was more modest than Montgomery County's; it lost only about 2,500 middle-income people overall, while Montgomery County lost over 26,000. Fairfax also gained significantly more high-income people and significantly fewer low-income people than Montgomery County (Figure 4).

FIGURE 4: CHANGE IN POPULATION BY RATIO OF INCOME TO POVERTY LEVEL IN MONTGOMERY AND FAIRFAX COUNTIES, 2005 - 2002



Data: 2005 and 2022 1-year ACS estimates

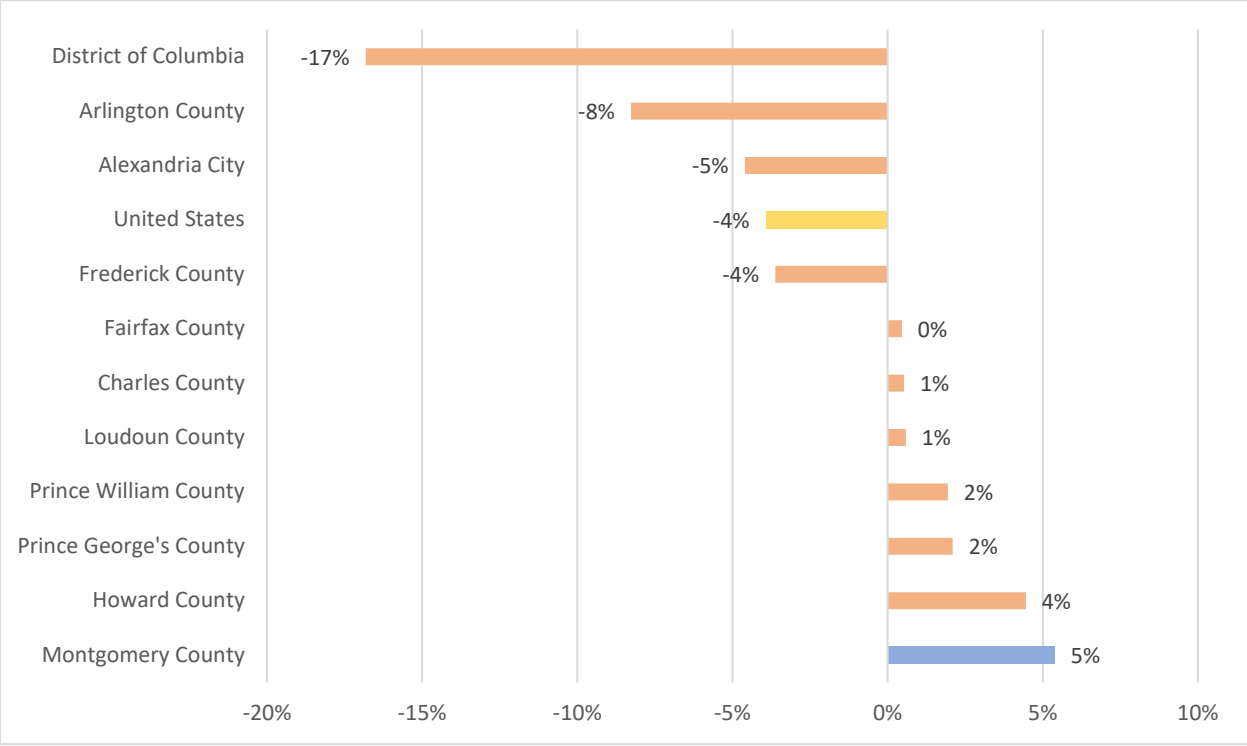
Expanding the analysis to the 11 largest jurisdictions in the region[8] highlights the growing regional geographic polarization of incomes. Figures 5 through 7 show the changes in shares of each group in each jurisdiction so that they can be compared despite their differences in size.

First, Montgomery County had the largest increase in share of low-income people (5.4 percentage points), and the second-largest decrease in middle-income share (also 5.4 percentage points). It also had the largest absolute increases and decreases of both groups of any of the other jurisdictions. Montgomery County lost over 26,000 middle-income residents, while the county that had the next largest losses in middle-income residents, Howard County, lost just over 4,500. Montgomery County also gained almost 88,000 low-income residents, while Prince George's County gained the second most at just under 55,000 (Figure 5).

In contrast, Washington, DC and Arlington saw the largest losses of low-income residents, while they were also the fastest to gain—along with Alexandria—high-income residents (Figure 7). Although Montgomery County did experience a net gain of high-income residents, this group's share of the total population remained flat because the growth in people below three times the poverty level outpaced it. Loudoun County gained almost twice as many high-income residents (just over 122,000) as Montgomery County gained (just over 67,000).

All 11 jurisdictions analyzed in the region saw declines in their shares of middle-income residents. However, Montgomery County lost this group at a faster rate than all but one of its neighbors (Figure 6).

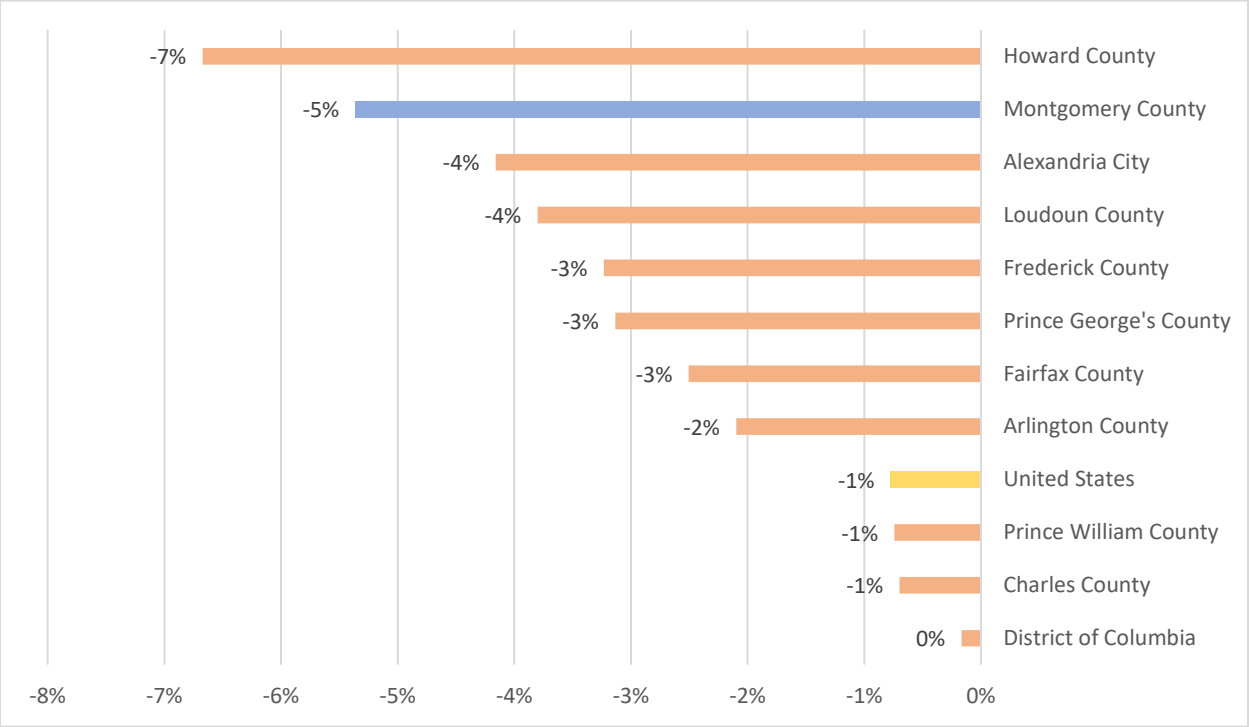
FIGURE 5: CHANGE IN SHARE OF LOW-INCOME POPULATION, 2005-2022



Data: 2005 and 2022 1-year ACS estimates

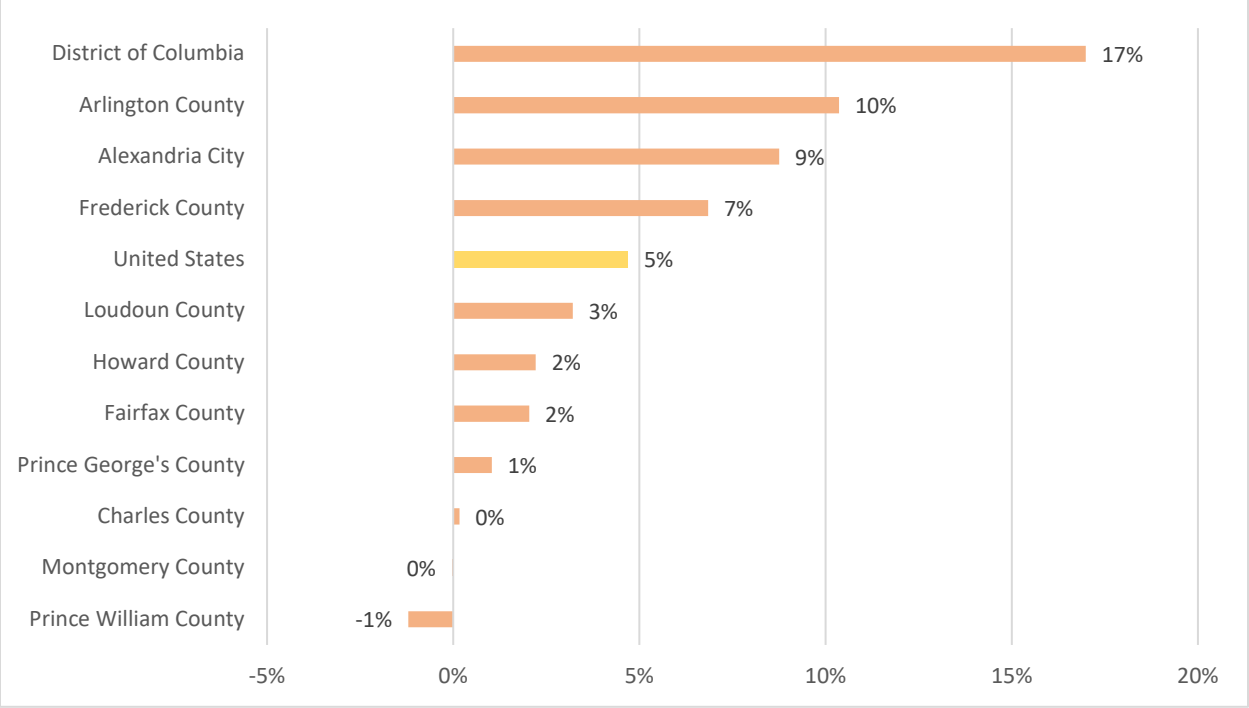
[8] Includes the ten largest jurisdictions in the Washington-Arlington-Alexandria DC-VA-MD-WV metropolitan statistical area and Howard County, which is in the neighboring Baltimore-Columbia-Towson MD metropolitan statistical area. See Appendix A for map.

FIGURE 6: CHANGE IN SHARE OF MIDDLE-INCOME POPULATION, 2005-2022



Data: 2005 and 2022 1-year ACS estimates

FIGURE 7: CHANGE IN SHARE OF HIGH-INCOME POPULATION, 2005-2022



Data: 2005 and 2022 1-year ACS estimates

Even the places with the largest growth in middle-income population—Loudoun and Prince William counties (over 53,000 combined)—saw these gains eclipsed by gains in the other income groups above and below, so the share of middle-income people in these counties still shrank. This pattern suggests that middle-income people are forced to the farthest edges of the region or leaving altogether in search of more affordable living.

6. Changing income dynamics in other counties and regions across the United States: How does Montgomery County measure up?

This brief has so far examined Montgomery County's income dynamics compared to the other large jurisdictions within the Washington, DC region. Now we zoom out to other counties across the nation to approximate the extent to which Montgomery County's income dynamics are influenced by or independent of intra-regional dynamics. That is, to what extent is declining prosperity a regional problem or a Montgomery County-specific problem?

To summarize the findings, Montgomery County's relative decline in prosperity is likely associated with both regional and internal factors, but factors unique to Montgomery County are likely stronger.

Many other large regions have outpaced the Washington, DC region in overall prosperity. The third quarter 2023 Montgomery County Economic Indicators Briefing showed that the DC region's per capita personal income grew at the slowest pace of the 15 largest US metropolitan regions from 2024 to 2021 (see Appendix B for recreated table). The DC region ranked among the top five of the 15 largest regions in net change, percent change, and change in share of low-income residents. Depending on the statistic, the DC region is in the bottom half to bottom third in increases in middle- and high-income populations. In this sense, Montgomery County's shift is part of a region-wide shift towards a larger low-income share of the population.

However, as the second-largest jurisdiction by population in the DC region, Montgomery County may be disproportionately influencing the region-wide shift. Determining with certainty which force is greater—Montgomery County's or the region's—is beyond the scope of this brief. But because Montgomery County's increase in low-income share is the most extreme in the region and because it has outpaced the largest jurisdiction in the region, Fairfax County, VA, it is likely that Montgomery is driving this trend in the region more than it is being carried along by regional forces.

Examining Montgomery County's trends relative to other counties across the nation offers additional perspective on the severity of Montgomery's trends and their influence on the region. In this national context—the 50 largest counties in the U.S. in 2005—Montgomery County's trends also stand out. Since there are 50 counties in this comparison, only Montgomery County's ranks are reported in the main text of this brief. The full tables of the 50 counties with metrics and rankings in net change, percent change, and change in share are in Appendix C.

Looking just at net changes (i.e. not adjusted for population size) Montgomery, which was the 40th largest county by population in 2005, saw the 9th largest net increase in low-income population through 2022. This low-income population increase was larger than that of many counties with much larger overall populations, including Miami-Dade County, FL, Dallas County, TX, Philadelphia County, PA, and the counties that make up four of the five New York City boroughs. Its net change rankings in middle- and high-income populations were more consistent with its size (40th and 36th respectively).

TABLE 4: MONTGOMERY COUNTY RANK AMONG 50 LARGEST COUNTIES IN NET CHANGE OF INCOME-BASED POPULATION GROUPS, 2005 - 2022

	Total Population 2005	Population group net change, 2005-2022		
		Low-income	Middle-income	High-income
Rank	40	9	40	36

Data: 2005 and 2022 1-year ACS estimates

However, in terms of percent change, which is conditional on the initial size of the population in question, Montgomery County ranks 46th out of the 50 largest counties in middle-income change, reflecting is substantial net loss in this group compared to other large counties. Its percent change in low-income population growth ranked 2nd overall, and its percent change in high-income growth ranked in the bottom 3rd, at 38th.

TABLE 5: MONTGOMERY COUNTY RANK AMONG 50 LARGEST COUNTIES IN PERCENT CHANGE OF INCOME-BASED POPULATION GROUPS, 2005 - 2022

	Total Population 2005	Population group percent change, 2005-2022		
		Low-income	Middle-income	High-income
Rank	40	2	46	38

Data: 2005 and 2022 1-year ACS estimates

Looking at all these changes together highlights Montgomery County's extreme compositional shifts in income relative to other counties. Montgomery County increased its share of low-income residents faster than any of the 50 largest counties in the U.S. It also had the third largest decrease in share of middle-income residents and third slowest increase in high-income residents, ranking 48th among the 50 large counties in both metrics.

TABLE 6: MONTGOMERY COUNTY RANK AMONG 50 LARGEST COUNTIES IN CHANGE IN SHARE OF INCOME-BASED POPULATION GROUPS, 2005 - 2022

	Total Population 2005	Population group change in share, 2005-2022		
		Low-income	Middle-income	High-income
Rank	40	1	48	48

Data: 2005 and 2022 1-year ACS estimates

7. Summary: Repositioning Montgomery County for prosperity through housing abundance

This research brief has highlighted a significant shift in population along income lines in Montgomery County. The county is rapidly adding low-income residents while losing middle-income residents and adding high-income residents very slowly. As a result, much of the county's and region's new population growth is concentrated at the low end of the income distribution, leading to a population polarized along income lines and risking declining diversity and quality of life. While this trend characterizes the entire Washington, DC region, as well as some other counties across the nation, Montgomery County is experiencing an especially intense version of it.

This pattern suggests that high and middle-income people and families are increasingly moving away from or not considering migrating to Montgomery County or the Washington, DC region in favor of other counties and regions.

The most effective way to reverse this trend is to make room for more people at all income levels, because there is no such thing as "too many people" in any income group. Welcoming low-income residents becomes unsustainable ***only*** when its rate of increase far outpaces those elsewhere along the income distribution—that is when middle- and high-income increases don't keep pace. While the metropolitan Washington, DC region must contend with this problem cooperatively, Montgomery County has an opportunity to be a leader by pioneering housing strategies that make room for everyone.

This is why **the main actionable takeaway for Montgomery County from this research is to build more market-rate infill housing**. While the housing shortage isn't the only cause for this hollowing out of the region's middle class and increasing concentration of poverty in some areas, it is a major one. It also limits economic growth by preventing people from seeking opportunity, limiting the labor supply, and preventing companies from relocating to or expanding in the county. Increasing housing production—especially infill housing—is Montgomery County's best opportunity to prevent this prosperity-suppressing chain of events and to regain its competitiveness as a place to build a career and grow a family.

In some ways, Montgomery County is not alone. It is in a similar position to many other counties that contain or are adjacent to large East Coast cities. The suburbs of Boston, New York, Philadelphia, and Washington, DC saw major expansions at different periods over the 20th and even 19th centuries. They can no longer compete with today's rapidly growing counties in the Southern and Western U.S. like Texas, Arizona, Florida, and North Carolina as these "sunbelt" regions continue the traditional practice of building single-family tract housing on inexpensive land. These places will reach their geographical, ecological, and fiscal limits eventually, just as East Coast regions did decades ago.

By adopting infill middle-housing reforms such as allowing more units in single-family zones and reducing minimum lot sizes, Montgomery County can use its existing land most efficiently and provide housing options that compete in price and size with single-family homes in other regions. These market-rate homes will not be affordable to everyone, but they will be affordable to many more people than the county's current aging housing stock can accommodate.

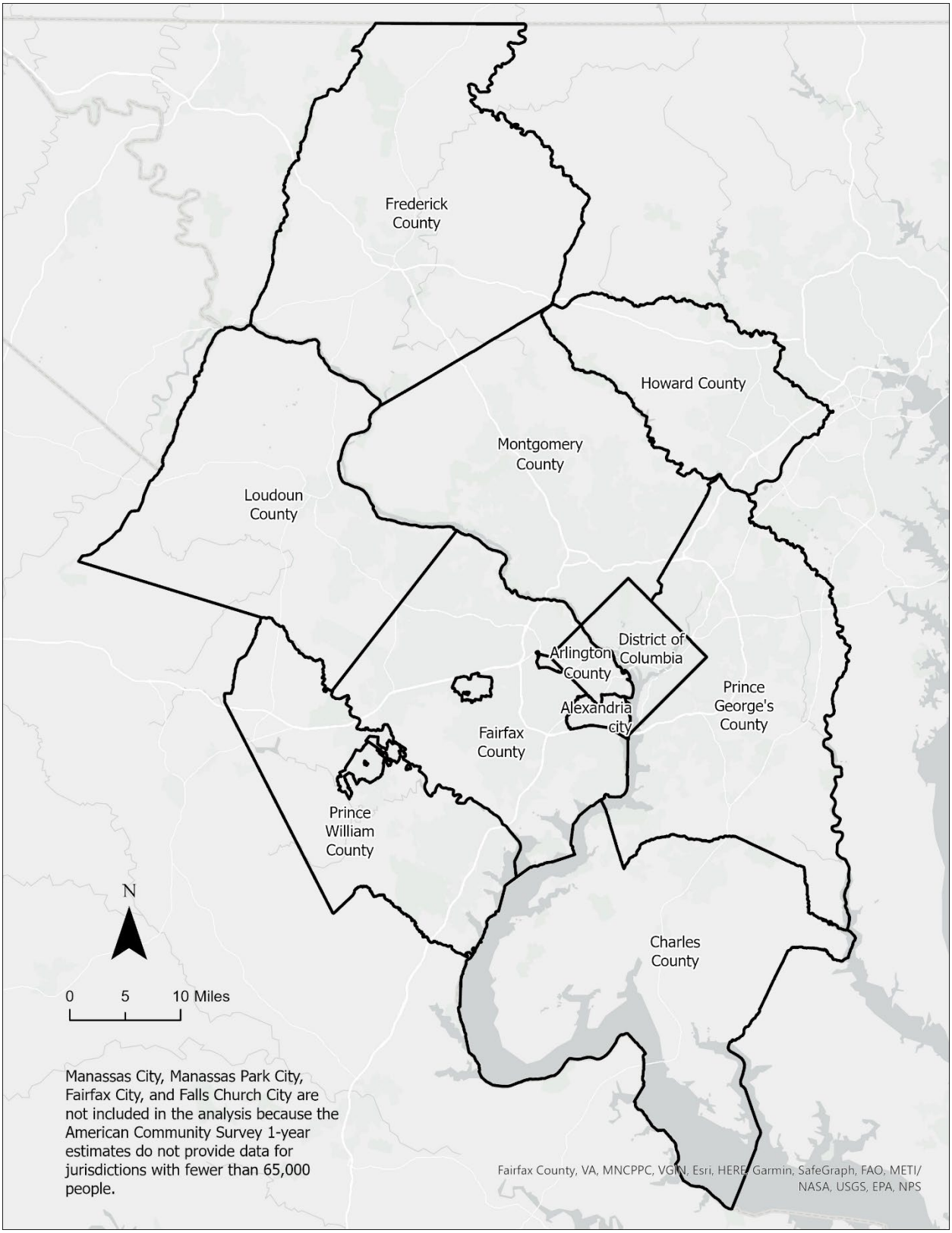
This infill strategy can also combat displacement and poverty concentration. The Neighborhood Change analysis (see Appendix D) shows that most neighborhoods undergoing rapid demographic change in Montgomery County are either becoming wealthier and more exclusive or poorer and more isolated. The study also suggests that one of the main ways to avoid these trajectories—to grow inclusively—is to add housing so that people with a wider variety of incomes can become part of the region.

Creating more market-rate infill housing is also compatible with a continued focus on affordable housing development. Montgomery County has been recognized as among the most aggressive and successful builders of public affordable housing not only in the region, but in the nation. It has also been identified as one of the nation's top springboards for economic mobility. The county's increasing low-income population, many of whom live in these affordable units, should be seen as a success. But those who use this affordable housing as a springboard to economic mobility must leave the county altogether when they choose to upgrade. The current shortage of market-rate housing means that it is impossible to both climb the income ladder and remain in Montgomery County.

Other jurisdictions also must follow Montgomery County's lead to accommodate more low-income residents. Montgomery and Prince George's counties accounted for 59% of these 11 jurisdictions' net gains in low-income residents, which is not an equitable or sustainable pattern.

While Montgomery County can only control its own approach to housing, it can work cooperatively with neighboring jurisdictions to provide holistic housing solutions. The entire region needs more housing for middle-class residents, and those jurisdictions closest to the center must proactively provide alternatives to single-family homes on the edges of the region. Arlington County's recent missing-middle zoning initiative provides a blueprint for this effort.

APPENDIX A: JURISDICTIONS IN ANALYSIS



APPENDIX B: PER CAPITA PERSONAL INCOME FOR 15 LARGEST METRO AREAS (BY PER CAPITA INCOME IN 2004) FROM 2004 TO 2021 (IN 2021 DOLLARS), IN ORDER OF GROWTH RATE

Metro Regions	2004		2021		Change 2004 to 2021		
	Per Capita Personal Income*	Rank	Per Capita Personal Income*	Rank	Change in Rank of PC Pers Inc	Annualized Growth Rate	Rank of Growth Rate Among Top 15 Metros
San Francisco-Oakland-Berkeley, CA	52,029	1	123,711	1	0	8.1%	1
Seattle-Tacoma-Bellevue, WA	42,984	5	89,274	3	2	3.9%	2
Los Angeles-Long Beach-Anaheim, CA	36,797	11	75,821	6	5	5.9%	3
Boston-Cambridge-Newton, MA-NH	46,173	3	92,290	2	1	5.4%	4
Miami-Fort Lauderdale-Pompano Beach, FL	37,113	9	73,522	7	2	6.3%	5
New York-Newark-Jersey City, NY-NJ-PA	44,354	4	85,136	4	0	4.3%	6
Dallas-Fort Worth-Arlington, TX	35,286	14	66,727	11	3	4.6%	7
Chicago-Naperville-Elgin, IL-IN-WI	39,129	8	71,992	9	-1	4.9%	8
Phoenix-Mesa-Chandler, AZ	32,501	15	58,308	15	0	5.8%	9
Houston-The Woodlands-Sugar Land, TX	36,284	12	64,837	12	0	4.2%	10
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	40,594	7	72,379	8	-1	6.2%	11
Minneapolis-St. Paul-Bloomington, MN-WI	41,652	6	71,912	10	-4	4.6%	12
Atlanta-Sandy Springs-Alpharetta, GA	37,002	10	63,219	13	-3	4.1%	13
Detroit-Warren-Dearborn, MI	36,003	13	60,965	14	-1	5.2%	14
Washington-Arlington-Alexandria, DC-VA-MD-WV	48,833	2	80,822	5	-3	4.7%	15

Data: Bureau of Economic Analysis Personal Income by state and metro area.
*In current (non-inflation adjusted) dollars

APPENDIX C: Net Changes, Percent Changes, and Changes in Share of low-, middle-, and high-income populations of 50 largest counties, 2005 to 2022 (Top 50 counties based on 2005 population)

Appendix C1: Net change in low-, middle-, and high-income populations in 50 largest counties, 2005 – 2022, in order of low-income net change

County	Low-Income		Middle-Income		High-Income	
	Net Change	Rank Net Change	Net Change	Rank Net Change	Net Change	Rank Net Change
Harris County, TX	460,749	1	307,177	1	337,010	5
Clark County, NV	338,892	2	142,421	6	144,125	22
Bexar County, TX	217,233	3	161,508	3	163,036	18
Tarrant County, TX	200,160	4	112,813	7	217,444	11
Riverside County, CA	199,728	5	151,343	5	192,223	12
Maricopa County, AZ	175,584	6	287,921	2	449,190	3
Orange County, FL	152,707	7	87,343	12	171,008	15
Hillsborough County, FL	149,376	8	79,523	13	147,617	19
Montgomery County, MD	87,927	9	-26,279	40	67,177	36
Franklin County, OH	80,842	10	36,866	16	111,132	29
Broward County, FL	79,056	11	32,605	18	66,582	38
Palm Beach County, FL	77,097	12	43,367	14	128,156	26
Sacramento County, CA	62,334	13	26,936	19	146,553	20
San Bernardino County, CA	41,973	14	102,762	10	100,837	30
Dallas County, TX	39,894	15	109,847	9	164,428	17
Fairfax County, VA	33,341	16	-2,558	29	98,771	31
Oakland County, MI	30,827	17	3,191	27	26,720	44
Pima County, AZ	30,366	18	34,889	17	67,167	37
Miami-Dade County, FL	25,503	19	111,865	8	173,170	14
DuPage County, IL	24,817	20	-52,612	47	23,558	45
Contra Costa County, CA	20,284	21	-6,105	32	129,786	25
Hennepin County, MN	18,771	22	-10,039	34	140,993	23
Suffolk County, NY	17,109	23	-35,053	42	74,836	35
Bergen County, NJ	9,483	24	-12,162	36	55,944	40
Middlesex County, MA	5,767	25	-31,362	41	186,833	13
Honolulu County, HI	4,970	26	7,979	24	80,386	34
Shelby County, TN	4,093	27	2,626	28	8,542	48
Westchester County, NY	3,379	28	15,252	23	35,659	42
Bronx County, NY	2,120	29	20,733	22	31,045	43
St. Louis County, MO	1,927	30	-11,379	35	-5,641	49
Fulton County, GA	-4,341	31	22,831	21	146,131	21
Milwaukee County, WI	-9,932	32	4,817	26	14,201	47
Erie County, NY	-12,496	33	-3,987	30	47,426	41
King County, WA	-15,122	34	5,045	25	495,203	2
Philadelphia County, PA	-21,366	35	26,364	20	112,344	28
Pinellas County, FL	-22,233	36	-4,437	31	66,510	39
Nassau County, NY	-23,789	37	-50,101	46	130,797	24
Salt Lake County, UT	-27,765	38	101,940	11	166,169	16
Orange County, CA	-30,387	39	-20,660	38	228,668	9
Alameda County, CA	-32,795	40	-53,790	48	270,076	8
San Diego County, CA	-38,657	41	37,820	15	364,052	4
Queens County, NY	-58,913	42	-24,426	39	126,834	27
NY County, NY	-60,335	43	-9,888	33	88,757	33
Cuyahoga County, OH	-73,081	44	-38,808	45	23,266	46
Santa Clara County, CA	-76,463	45	-37,981	44	285,622	6
Allegheny County, PA	-79,633	46	-13,264	37	97,153	32
Wayne County, MI	-93,989	47	-71,849	49	-55,662	50
Kings County, NY	-126,155	48	-36,820	43	283,664	7
Cook County, IL	-303,187	49	-85,833	50	228,274	10
Los Angeles County, CA	-806,478	50	155,564	4	505,478	1

Data: 2005 and 2022 1-year ACS estimates

Appendix C2: Percent change in low-, middle-, and high-income populations in 50 largest counties, 2005 – 2022, in order of low-income percent change

County	Low-Income		Middle-Income		High-Income	
	% Change	Rank % Change	% Change	Rank % Change	% Change	Rank % Change
Clark County, NV	41%	1	32%	6	35%	20
Montgomery County, MD	39%	2	-12%	46	14%	38
Orange County, FL	29%	3	36%	4	77%	2
Hillsborough County, FL	27%	4	30%	8	51%	6
Tarrant County, TX	26%	5	28%	9	50%	7
Bexar County, TX	26%	6	49%	1	52%	5
Harris County, TX	23%	7	42%	2	38%	17
Riverside County, CA	21%	8	31%	7	41%	12
Franklin County, OH	16%	9	14%	15	39%	16
Fairfax County, VA	15%	10	-1%	29	17%	36
Palm Beach County, FL	14%	11	15%	14	34%	22
DuPage County, IL	10%	12	-20%	50	6%	46
Maricopa County, AZ	10%	13	33%	5	47%	10
Sacramento County, CA	10%	14	8%	21	41%	13
Broward County, FL	10%	15	7%	22	14%	39
Oakland County, MI	8%	16	1%	28	5%	47
Contra Costa County, CA	6%	17	-3%	32	29%	25
Pima County, AZ	6%	18	16%	13	34%	21
Hennepin County, MN	5%	19	-3%	34	35%	19
Suffolk County, NY	4%	20	-9%	42	11%	42
San Bernardino County, CA	4%	21	24%	10	25%	29
Bergen County, NJ	4%	22	-6%	39	13%	41
Dallas County, TX	3%	23	23%	11	33%	23
Miami-Dade County, FL	2%	24	22%	12	39%	15
Honolulu County, HI	1%	25	3%	24	29%	27
Middlesex County, MA	1%	26	-9%	43	28%	28
Westchester County, NY	1%	27	9%	18	8%	43
Shelby County, TN	1%	28	1%	26	4%	48
St. Louis County, MO	1%	29	-4%	37	-2%	49
Bronx County, NY	0%	30	9%	19	19%	35
Fulton County, GA	-1%	31	13%	16	46%	11
Milwaukee County, WI	-2%	32	2%	25	8%	44
King County, WA	-2%	33	1%	27	72%	3
Philadelphia County, PA	-2%	34	9%	17	50%	8
Orange County, CA	-3%	35	-3%	33	21%	31
Erie County, NY	-3%	36	-2%	30	21%	33
San Diego County, CA	-3%	37	6%	23	40%	14
Pinellas County, FL	-5%	38	-2%	31	29%	26
Queens County, NY	-5%	39	-4%	38	23%	30
Salt Lake County, UT	-6%	40	40%	3	79%	1
Alameda County, CA	-6%	41	-16%	49	50%	9
Nassau County, NY	-7%	42	-14%	47	21%	34
Kings County, NY	-9%	43	-7%	41	59%	4
Wayne County, MI	-9%	44	-16%	48	-12%	50
NY County, NY	-9%	45	-4%	35	14%	40
Cuyahoga County, OH	-11%	46	-12%	45	7%	45
Cook County, IL	-12%	47	-7%	40	16%	37
Santa Clara County, CA	-14%	48	-11%	44	37%	18
Allegheny County, PA	-15%	49	-4%	36	30%	24
Los Angeles County, CA	-15%	50	8%	20	21%	32

Data: 2005 and 2022 1-year ACS estimates

Appendix C3: Changes in shares of low-, middle-, and high-income populations in 50 largest counties, in order of low-income share change

County	Low-Income		Middle-Income		High-Income	
	Change in Share	Rank Change in Share	Change in Share	Rank Change in Share	Change in Share	Rank Change in Share
Montgomery County, MD	5%	1	-5%	48	0%	48
DuPage County, IL	3%	2	-6%	49	3%	35
Wayne County, MI	1%	3	-1%	27	0%	49
Clark County, NV	1%	4	-1%	22	0%	50
Oakland County, MI	1%	5	-1%	23	0%	46
St. Louis County, MO	1%	6	-1%	17	0%	47
Fairfax County, VA	0%	7	-3%	39	2%	39
Suffolk County, NY	0%	8	-3%	41	3%	33
Broward County, FL	0%	9	-1%	16	1%	43
Shelby County, TN	0%	10	0%	15	1%	45
Bergen County, NJ	-1%	11	-3%	40	3%	34
Westchester County, NY	-1%	12	1%	10	1%	44
Milwaukee County, WI	-2%	13	0%	12	1%	42
Franklin County, OH	-2%	14	-2%	34	4%	26
Contra Costa County, CA	-2%	15	-4%	42	6%	14
Cuyahoga County, OH	-2%	16	-1%	29	4%	28
Palm Beach County, FL	-2%	17	-1%	26	4%	30
Tarrant County, TX	-2%	18	-1%	24	3%	31
Hillsborough County, FL	-3%	19	-1%	18	3%	32
Bronx County, NY	-3%	20	1%	9	2%	40
Middlesex County, MA	-3%	21	-4%	45	7%	10
Nassau County, NY	-3%	22	-5%	46	8%	9
Riverside County, CA	-3%	23	1%	11	2%	37
Erie County, NY	-3%	24	-1%	30	4%	25
Hennepin County, MN	-3%	25	-4%	44	7%	11
Sacramento County, CA	-3%	26	-2%	37	5%	19
Harris County, TX	-3%	27	2%	5	1%	41
Honolulu County, HI	-3%	28	-2%	36	5%	21
Orange County, CA	-3%	29	-2%	35	5%	18
Queens County, NY	-4%	30	-2%	33	5%	22
Pima County, AZ	-4%	31	0%	13	4%	27
San Bernardino County, CA	-4%	32	2%	2	2%	38
Pinellas County, FL	-4%	33	-2%	32	6%	13
NY County, NY	-4%	34	-1%	19	5%	20
Bexar County, TX	-4%	35	2%	3	2%	36
Cook County, IL	-4%	36	-1%	21	5%	17
Orange County, FL	-5%	37	-1%	20	6%	15
Dallas County, TX	-5%	38	2%	6	4%	29
Maricopa County, AZ	-6%	39	1%	8	5%	23
Miami-Dade County, FL	-6%	40	2%	7	4%	24
Philadelphia County, PA	-6%	41	0%	14	6%	12
San Diego County, CA	-6%	42	-1%	31	8%	8
Alameda County, CA	-6%	43	-6%	50	12%	2
Allegheny County, PA	-7%	44	-1%	28	8%	7
Santa Clara County, CA	-7%	45	-4%	43	11%	3
Fulton County, GA	-7%	46	-1%	25	8%	6
Los Angeles County, CA	-8%	47	2%	4	6%	16
Kings County, NY	-8%	48	-2%	38	10%	4
King County, WA	-8%	49	-5%	47	14%	1
Salt Lake County, UT	-13%	50	3%	1	10%	5

Data: 2005 and 2022 1-year ACS estimates

APPENDIX D: MAP OF NEIGHBORHOOD CHANGE IN THE WASHINGTON DC REGION STUDY

Access the full study and interactive map here.