

M E M O R A N D U M

June 20, 2019

TO: Planning, Housing, and Economic Development (PHED) Committee
FROM:  Pamela Dunn, Senior Legislative Analyst
SUBJECT: The Missing Middle Housing Study and Montgomery County Trends Report
PURPOSE: Receive briefing and discuss

Those expected for this worksession:

Casey Anderson, Chair, Planning Board
Gwen Wright, Director, Planning Department
Tanya Stern, Deputy Director, Planning Department
Caroline McCarthy, Chief, Research and Special Projects, Planning Department
Paul Mortensen, Senior Urban Designer, Director's Office, Planning Department
Pamela Zorich, Demographer, Planning Department
Lisa Govoni, Housing Specialist, Planning Department

Staff from the Montgomery County Planning Department will provide a briefing to the PHED Committee today on two projects completed within the past year: the Missing Middle Housing Study and a report on Montgomery County population, housing and employment trends since 1990.

The Missing Middle

Missing Middle housing is residential housing built at a density greater than that of single-family detached homes and less than that of mid-rise apartment buildings. Missing Middle housing types range from small lot bungalows and bungalow courts to duplexes, tri- and quadplexes, and from townhouses and stacked flats to small-scale apartment buildings.

The Missing Middle Housing Study summarizes research by the Planning Department and the work of a Developer Working Group regarding the history and typologies of Missing Middle housing. It also includes a review of other Missing Middle efforts nationally, the economic feasibility of Missing Middle, and ideas to promote the development of more of these typologies within the County. The Study is attached and can also be viewed at https://montgomeryplanning.org/wp-content/uploads/2018/09/MissingMiddleHousingStudy_9-2018.pdf.

Montgomery County Trends: A Look at People, Housing and Jobs Since 1990

In preparation to update the General Plan, the Planning Department's Research and Special Projects Division completed this report to document key changes in the County's demographics, housing and employment since the last update to the General Plan (the 1993 Refinement). The goal of this report is to provide a baseline of key trends and illustrate changes in these trends over the past 25 years. According to the report, this information will inform needs assessments and policy discussions during the General Plan update. The Report is attached and can also be viewed at https://montgomeryplanning.org/wp-content/uploads/2019/01/MP_TrendsReport_final.pdf.

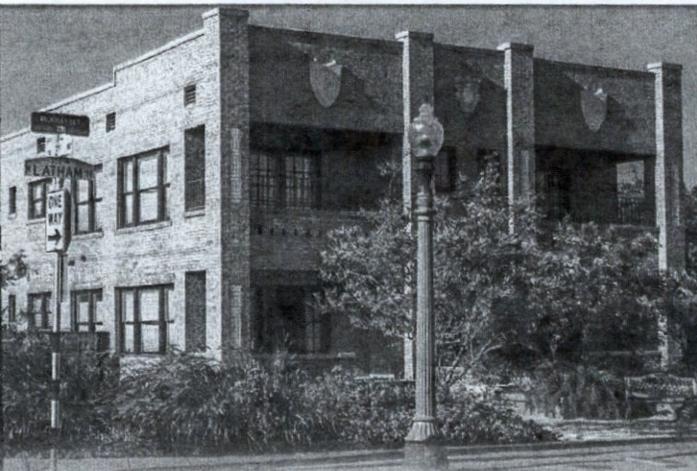
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Accessory Dwelling Unit



Fourplex



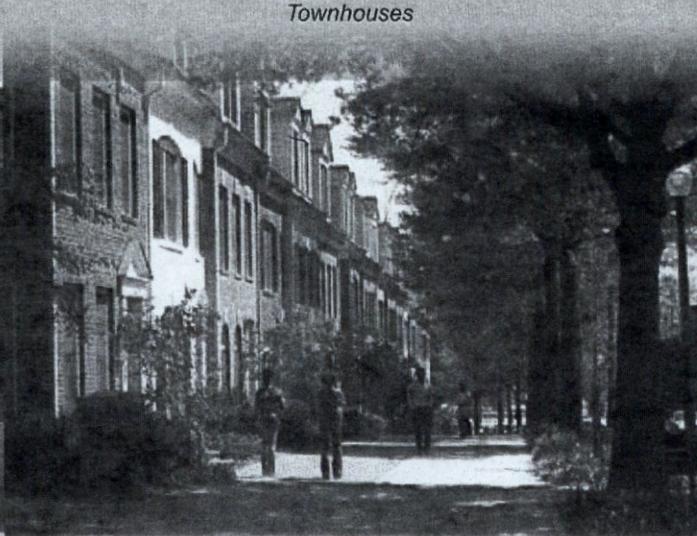
Courtyard Housing

THE MISSING MIDDLE HOUSING STUDY

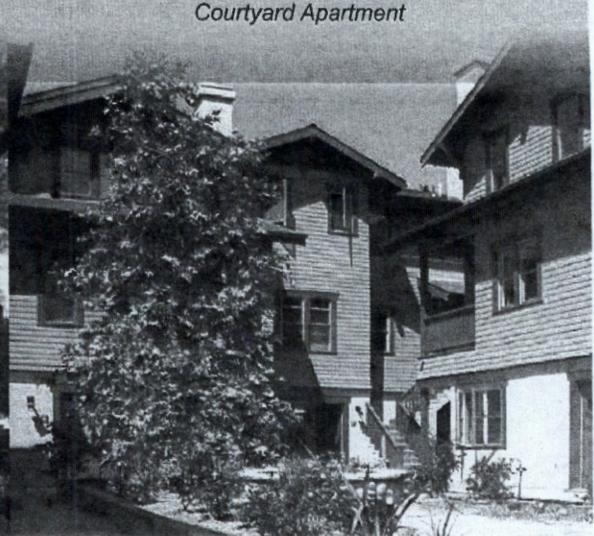
SEPTEMBER 2018



Bungalow Court



Townhouses



Courtyard Apartment



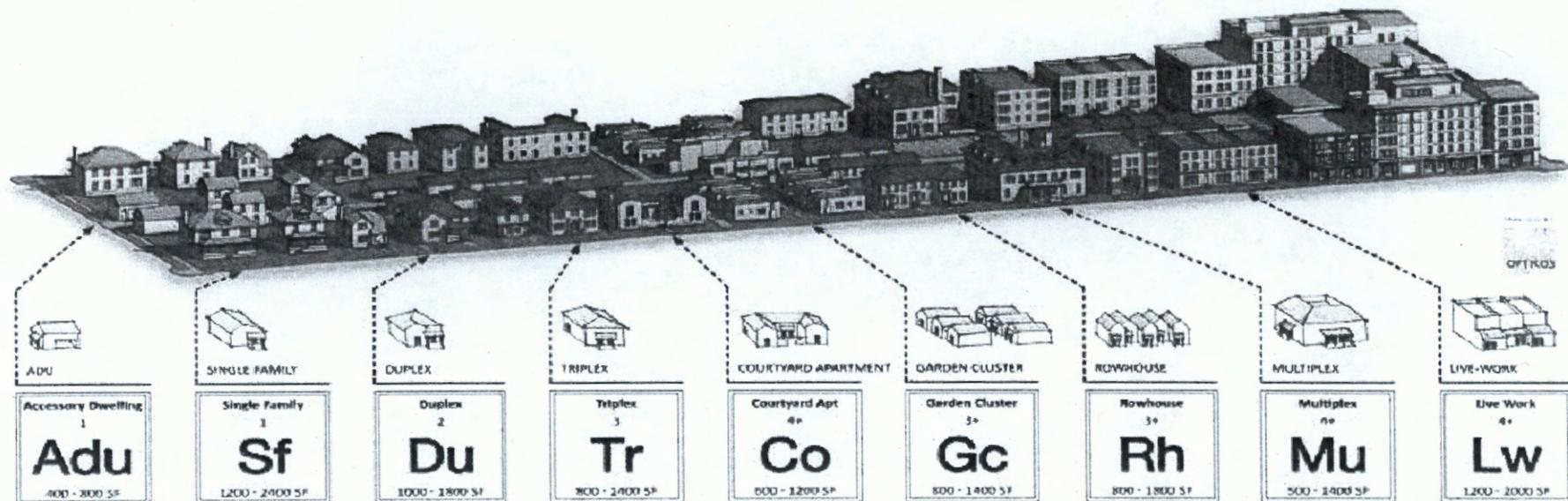


Diagram by Opticos Architects
Berkeley, CA

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*Bungalow Court
Seattle, WA*



*Accessory Dwelling Unit
Vancouver, BC*



*Duplex
Richmond, VA*

I. INTRODUCTION

Missing Middle housing is a residential typology spanning the range of densities between single-family detached homes and mid-rise to high-rise apartment buildings. Missing Middle housing types were common in the United States through the first half of the 20th century but have largely disappeared from development over the past 70 years. With current and future projected regional demographics and with an enormous need for more housing within Montgomery County, Missing Middle can provide needed additional housing options.

This report summarizes Planning Department research and the work of a Developer Working Group regarding the history and typologies of the Missing Middle housing, a review of other Missing Middle efforts within the country, the economic feasibility of Missing Middle and ideas for adjusting zoning and the development review process to encourage more of these typologies.

Missing Middle building types help create a moderate density that can support public transit, services and amenities within walking distance. Missing Middle represents housing types that fill an unmet need and has sparked a national conversation, spearheaded in large part by architect Daniel Parolek of Opticos Design in Berkeley, CA, and the Congress for New Urbanism (CNU).

The return of the Missing Middle is important today as a way to solve the housing problems in Montgomery County and many jurisdictions across the nation. Demand for homes is persistent and space for new dwellings is limited, forcing families to consider too many trade offs, such as paying higher housing costs or selecting homes in communities far from their employment. This problem is especially acute in our more walkable, densely populated suburban neighborhoods. Today, we have

limited land left for large developments. With an expected increase of 87,100 households in Montgomery County over the next 20 to 30 years, we must consider where and how to build so that our future neighbors, children and parents will be able to afford to live here.

There is not a single solution to this housing and affordability issue. Solving the problem must involve multiple housing types to meet the needs of existing and future demographics. This is a problem that cannot be solved with 200-unit, 5-story apartment buildings or 2,500 square-foot townhouses alone. Finding ways to fit new housing into existing areas while maintaining the desired character of Montgomery County neighborhoods will be a challenge for residents, planners and architects. Embracing the various types of Missing Middle housing is a way to meet that challenge.

Missing Middle housing types range from small lot bungalows and bungalow courts to duplexes, tri and quadplexes, and from townhouses and stacked flats, to small-scale apartment buildings. These diverse housing types can provide a way for communities to bridge between low and high densities and develop more character-rich, walkable neighborhoods that appeal to a broad range of residents.

Each of these types meets its own demographic need with its own financial pressures, from empty nesters to young families, individuals just joining the work force to the elderly and disabled residents who want to stay in a family neighborhood. Specifically, Missing Middle housing types benefit a wide range of potential homeowners and renters, including single-parent families, aging-in-community seniors, recent college graduates, couples entering the housing market and adults with disabilities.

METRICS AND CHARACTERISTICS

The differences in Missing Middle typologies can be measured and compared to their more prevailing counterparts to better understand the benefits of each type. A proposed range of types and their metrics and characteristics are illustrated in a chart on the following pages provided by the architectural consultant, Torti Gallas + Partners. The metrics include density, lot size and configuration, parking strategy, height, building dimension, unit type and unit size.

A particularly notable metric is density. Missing Middle housing can incrementally increase densities in order to increase unit supply in a land-constrained market. Density is the measurement that tells this story, and densities of three to 10 times that of a single-family detached house on a quarter acre lot are represented in the Missing Middle home alternatives illustrated in the chart.

Unit types and sizes are other key metrics. Creative design of one and two-bedroom units of comparably smaller square footage are key to meeting missing market demand and delivering the increased density cited above.

Because the Missing Middle housing typologies consist of multi-unit and clustered housing that are compatible in scale with single-family homes, this housing trend is gaining more traction across the country. Many cities and counties, including ours, are beginning to conduct studies to see how they can reinvigorate and expand the Missing Middle, and foster a wider range of housing choices.



*Courtyard Housing
Richmond, VA*



*Sixplex, Takoma Park, MD
Credit: Google Maps*



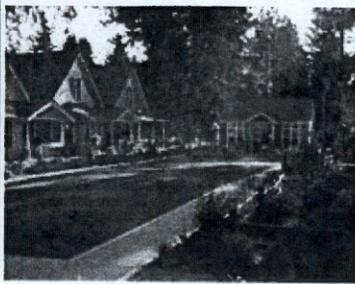
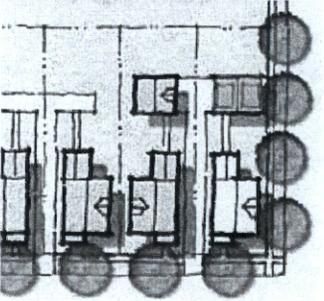
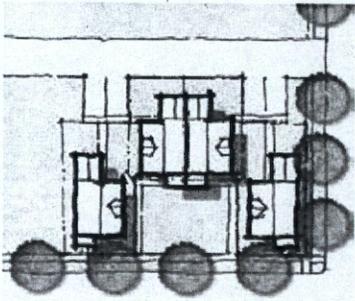
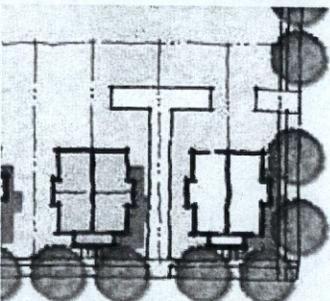
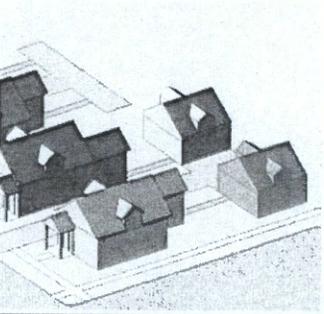
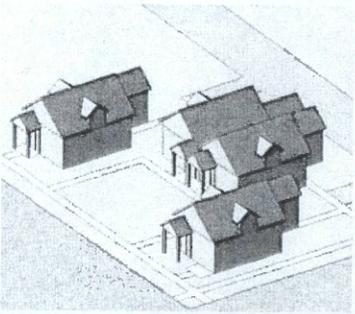
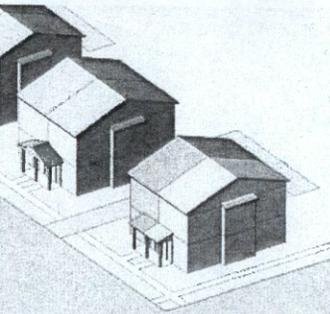
*Duplex - Cathedral Heights
Washington, DC*

HOUSING TYPOLOGIES

Missing Middle housing was the fundamental building type in pre-1940s neighborhoods that met the social and economic needs of a wide array of growing families. Missing Middle typologies are most likely present today on residential blocks in more historical and picturesque neighborhoods in our region, such as in Takoma Park, Chevy Chase, Kensington, Washington, DC, and Rockville. Combined together and with small or large single-family homes, Missing Middle building types create a moderate density that can support transit, as well as services and amenities within walking distance. These types make up some of the most popular up-and-coming communities in Norfolk, Denver, Cincinnati, Austin and San Francisco, and we even see new examples within Montgomery County at the recently built developments of King Farm and Kentlands where developers chose a wide variety of housing types.

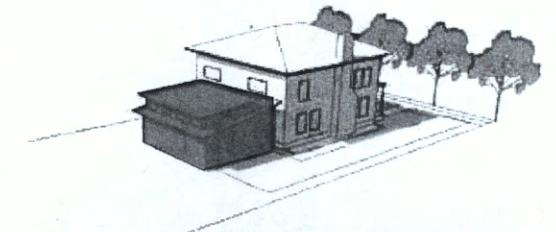
Both baby boomers and millennials “want something that the U.S. housing market is not currently providing: small, one-to-two-bedroom homes in walkable, transit-oriented, economically dynamic and job-rich neighborhoods.”

Chris Leinberger – Brookings Institution

	Accessory Dwelling Units	Bungalow Court	Duplex
IMAGE			
LOT CONFIGURATION			
AXONOMETRIC			
NET DENSITY	7-14 units/acre	15 units/acre	8-14 units/acre
PARKING TYPE	Shared Drive or Alley accessed Garage	Shared Drive or Alley accessed Garage	Shared Drive or Alley accessed Garage
MIN. LOT DIMENSIONS	30ft x 110ft	30ft x 64ft	24ft x 100ft
BUILDING HEIGHT	1 to 1-1/2 Story	1 to 1- 1/2 Story	2- Story
APPROX. UNIT SIZE TYPE	800 to 1,200 sqft 1-BR unit	650 to 1,075 sqft 2 to 3-BR unit	1,280 sqft 2 to 3- BR unit



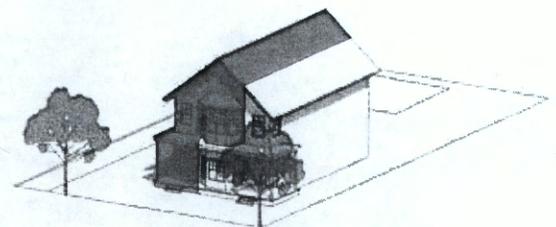
*Detached Accessory Dwelling Unit
Kentlands, MD*



Attached Accessory Dwelling Unit



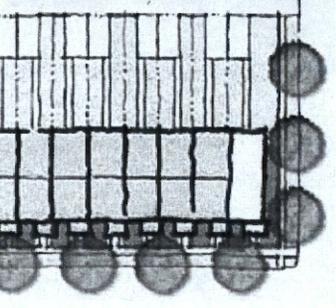
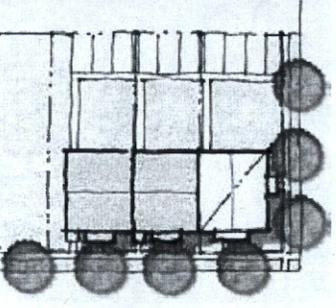
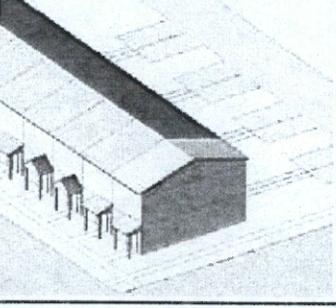
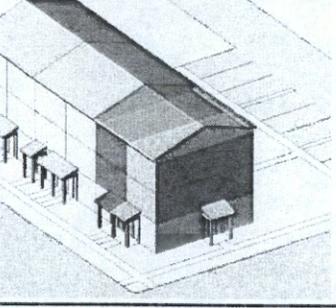
*Duplex - Side Units,
Washington, DC*



Duplex - Stacked Unit

Diagrams by Torti Gallas + Partners

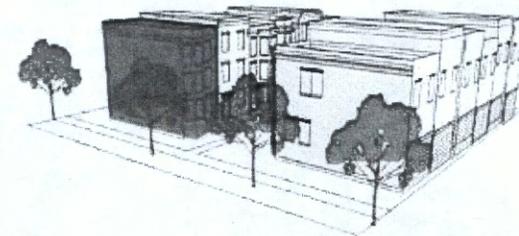


	Townhouse		Triplex/ Fourplex	
IMAGE				
LOT CONFIGURATION				
AXONOMETRIC				
NET DENSITY	7-14 units/acre		15 units/acre	
PARKING TYPE	Shared Drive or Alley accessed Garage		Shared Drive or Alley accessed Garage	
MIN. LOT DIMENSIONS	30ft x 110ft		30ft x 64ft	
BUILDING HEIGHT	1 to 1-1/2 Story		1 to 1- 1/2 Story	
APPROX. UNIT SIZE TYPE	800 to 1,200 sqft	1-BR unit	650 to 1,075 sqft	2 to 3-BR unit

Diagrams by Torti Gallas + Partners



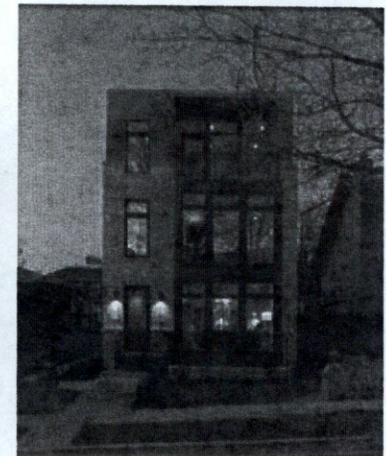
Street-front Townhouses
Silver Spring, MD

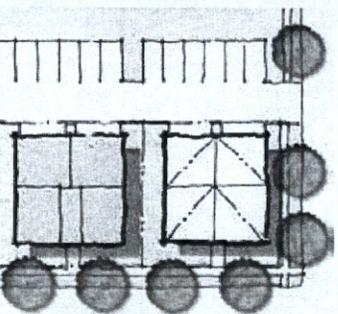
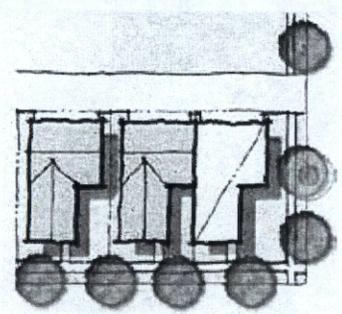
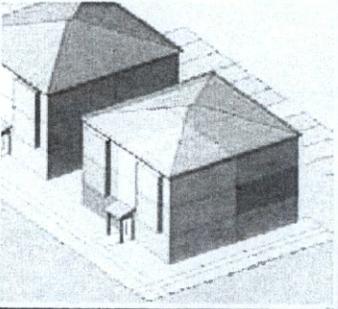
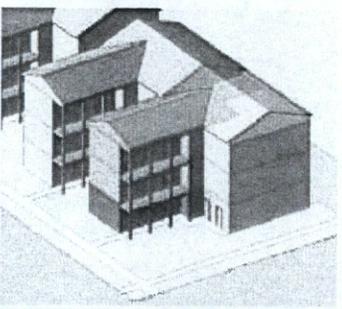


Mews-style Townhouse



Sixplex
Washington, DC



	Multiplex (5-12 units)	Courtyard Apartment
IMAGE		
LOT CONFIGURATION		
AXONOMETRIC		
NET DENSITY	36-70 units/acre	33 units/acre
PARKING TYPE	Alley accessed Garage	Alley accessed Parking
MIN. LOT DIMENSIONS	86ft x 92ft	72ft x 68ft
BUILDING HEIGHT	3- Story	2 to 3- Story
APPROX. UNIT SIZE TYPE	800 to 1,250 sqft (6) 2- BR unit; (3) 1-BR unit	1,100 sqft 2- BR unit; 1- BR unit

Diagrams by Torti Gallas + Partners



Twelve-plex, King Farm, MD
Credit: Google Maps



Courtyard Apartment, King Farm, MD
Credit: Zillow.com



Courtyard Apartment



CHALLENGES

There are clear challenges to the application and delivery of Missing Middle types. Otherwise, they would not be "missing" but rather far more common. Many of those challenges are economic, based on the costs of building, land and the regulatory process. Some obstacles are design-related, pertaining to parking, building and zoning codes. Still others are due to concerns about the impact of increased density on existing neighborhoods.

Each of these challenges are strong but not insurmountable. This report tries to highlight these challenges with the hope of furthering the discussion about what can be done to encourage more of the Missing Middle housing types to be built in Montgomery County.

The application of these housing types to our region mirrors the national conversation and takes on a flavor of its own. Townhomes are a common type of Missing Middle housing and are common in our region and marketplace. However, many townhomes have succumbed to some of the size pressures seen in the single-family detached marketplace. Townhouses in the region are often 2,500-plus square feet and, frequently, larger than 3,000 square feet. Smaller townhouses have a part to play as a Missing Middle solution, even in a region that already accepts the typology more generally.

The major impediment to Missing Middle infill housing is Euclidean zoning where land use and building typologies are segregated into different zones. In many places, it is illegal to build dense housing types, e.g. duplex, quads, stacked-flat, or accessory dwelling units in most residential zones. When Missing Middle flourished in the early 20th century, housing was more nuanced and incremental to the next level of density. The next increment of density from a single-family house was a duplex, a duplex to a small apartment building, a small apartment building to a larger apartment building and so on. Those in-between increments have vanished.

The mix of types within a neighborhood allowed variety to meet the needs of a family or a community rather than the specifics of an exclusionary zone. Buildings were designed and built to fit within the form of a neighborhood. Duplexes, quads and small apartment buildings

looked like large single-family homes. In a similar way, the best Missing Middle developments today occur in communities using form-based codes that stipulate the size, shape, placement and design elements of buildings. Form-based codes are regulations (not guidelines) adopted into city, town or county law that fosters predictable built results and a high quality public realm through the use of physical form as the principle organizing element, rather than separate uses and floor area ratios (FARs).

Development standards often require a minimum lot sizes (both in area and dimension), setbacks in the front, side, and rear yard, and lot coverage rules that preclude building small-lot, single-family homes or bungalow courts where dwellings are arranged around a shared common space.

Bungalow courts and mews houses may further face difficulty if zoning requires all lots to face a public right of way. And although it is rare, some properties may have deed restrictions or covenants that would prohibit Missing Middle typologies, even if they would otherwise be allowed by zoning and development codes.

Rezoning or seeking variances are options, but the time and cost involved in the process is prohibitive to all but the largest developers, leaving individual homeowners and small-scale developers behind and unable to provide infill housing in the market. This difficulty is explained in greater detail in the economic analysis portion of this report.

1950 - 44% of all households in US had kids under age 18.
2015 - 22% of all households in US have kids under age 18.

By 2030, 1 in 5 people in the US will be older than 65.

1950 - Average size of US home was 980 square feet.
2016 - Average size of US homes are 2,422 square feet.

MISSING MIDDLE FEATURES

Smaller buildings than conventional houses

Missing Middle housing types are generally smaller and more efficient than single-family homes. They typically have smaller footprints in width, depth and height than a single-family home that allow a range of Missing Middle types to be blended into a neighborhood without disrupting the residential character surrounding them. This infill is not only compatible with single-family homes but can encourage socioeconomically diverse households where young singles or couples can buy into the housing market, or empty-nesters can downsize while remaining in a neighborhood. Missing Middle housing types are often situated in a walkable context and they promote pedestrian activity. Buyers and renters of these housing types are often trading square footage for proximity to services and amenities.

Lower perceived density

With smaller footprints, Missing Middle types are usually mixed with a variety of building types in an individual block, so the perceived density of these types is usually quite low. Missing Middle housing does not look like dense, multi-family apartment buildings. However, one of the primary benefits of Missing Middle is that densities are often higher than 16 dwelling units per acre and support transit and neighborhood-serving main streets.

Smaller, well-designed units

The small size of Missing Middle housing units create a challenge in making them as comfortable, usable and well designed as possible. The ultimate unit size will depend on the context, but smaller-sized units can help developers keep their costs down and attract a different buyer and renter who is not currently being recognized in Montgomery County. The simple wood construction (Type V) also makes them an attractive alternative for developers to achieve good densities without the challenge of more complex construction types and their costs. This possible increase in density has the added potential of generating more market-rate affordability within these types.

Fewer off-street parking spaces

Minimum parking requirements often result in wasted space, which can add significantly to the cost of a project. Ideally, Missing Middle housing should be located close to walkable centers near transit

services. Transit corridors that transition from heavy traffic use back to quieter single-family neighborhoods are ideal. Because of this proximity, Missing Middle housing types should not provide more than one parking space per unit. Providing more off-street parking makes the types inefficient from the perspective of development potential or yield standpoint, dropping them below thresholds that support transit at 16 dwelling units/acre (du/acre). In addition, large, unattractive paved parking areas are incompatible with a residential building context.

Creation of community

Similar to characteristics seen in many Montgomery County townhouse developments, Missing Middle housing creates community through the integration of shared community spaces within the building types. Small plazas, courtyards, mews and larger shared spaces within these building types stimulate social interaction, promote safety and security, and create a sense of community for young and old alike. This social interaction is an important aspect of Missing Middle housing, particularly considering the growing national market of single-person households (nearly 30 percent of all households) and households without children (77 percent of households) that want to be part of a community.

Marketable

The built-up demand for smaller, alternative housing types, as well as shifting household demographics that should be spurring housing options other than what is being built in the county today are growing. Missing Middle housing types respond directly to this demand and provide an attractive alternative to the many renters and buyers who want to live in a walkable neighborhood but may not want or be able to afford a large townhouse, a condominium or an apartment.

58 percent of Americans prefer “a neighborhood with a mix of houses and stores and other businesses within an easy walk.”

National Association of Realtors Data

BENEFITS

Demographic and economic trends and pressures point to the relevance of Missing Middle types throughout the country. As family formation is delayed, the average family size declines, the baby boomers age and retire, and the millennial population grows, housing options that address those trends and pressures are required. Essentially, Missing Middle housing offers alternative options to meet demographic changes and promotes diversity in our communities.

Retirees and aging-in-place communities

Adults who have retired may want to downsize and reduce their expenses. Remaining in their neighborhoods near family, friends and familiar services is important for this demographic. Bungalow courts and accessory dwelling units are suitable alternatives for seniors in promoting supportive social networks, meeting income restrictions, and promoting more healthy, walkable alternatives.

A recent national housing study from Bethesda real estate consultant RCLCo reveals seniors and retirees with no children occupy 48 percent of single-family homes across the country. We might infer from this statistic that these empty nesters still enjoy the size and location of their homes. Or faced with a limited housing options, particularly in their neighborhoods, they can't find an attractive or affordable alternative to move to. The Missing Middle could offer a wider range of choices that might be more suitable for smaller families and empty nesters, thus increasing the supply of single-family homes for larger families.

Recent college graduates

With student loan debt on the rise, graduates are prioritizing paying those off with what could have been a down payment on a house. Townhouses, fourplexes, courtyard apartments are great options in providing house-like environments.

Single-parent families

Resources are often stretched thin for single-income households. A modest housing type like a fourplex or a duplex provides a single-family home at a more affordable price.

Young adults and couples

For first-time homeowners, starting a mortgage may require buying an inexpensive house with a small backyard. Smaller townhouses or duplexes are suitable for these buyers and their future plans to raise a young family.



Detached accessory dwelling units can provide housing for a recent college graduate or aging parents.



Bungalows around a courtyard creates community for both young and old.

NATIONAL PRECEDENTS

Current residential zoning codes in Montgomery County have limited housing typologies. Only single-family houses, large townhouses and multi-family apartments are being built. However, cities across the country are updating (or in some cases creating) zoning codes and requirements to spur the growth of Missing Middle housing. In some cases, the housing types are challenged by financial road blocks and require imaginative solutions to overcome them. Nonetheless, all precedents recognize that zoning codes and the regulation process must be updated to spur new growth of Missing Middle housing types.

Precedents of Missing Middle housing in American cities were studied to investigate their approaches to encouraging its development. Common procedures used to achieve these projects and address each housing type is by:

1. Formation of a developer focus group: A team comprising planners, architects, developers and builders collaborates to raise awareness of issues that discourage Missing Middle projects and discuss ways of solving them.
2. Documenting prototypes: Creating a catalogue of all possible Missing Middle housing types is significant to determine how they can be integrated into single-family neighborhoods. These types could be preferred so residents can easily envision a slight increase in density in their neighborhood without losing aesthetic quality or comparable massing. As a result, locals are likely to respond positively to the new development.
3. Site selection process: A form-based code approach is typically used to determine the increase of density and size as housing gets closer to the urban center. Guidance of the housing's shape and form in the code help to pave the way for an effortless integration.
4. Updating and rewriting zoning ordinances to accommodate Missing Middle housing and address parking and site-area requirements.

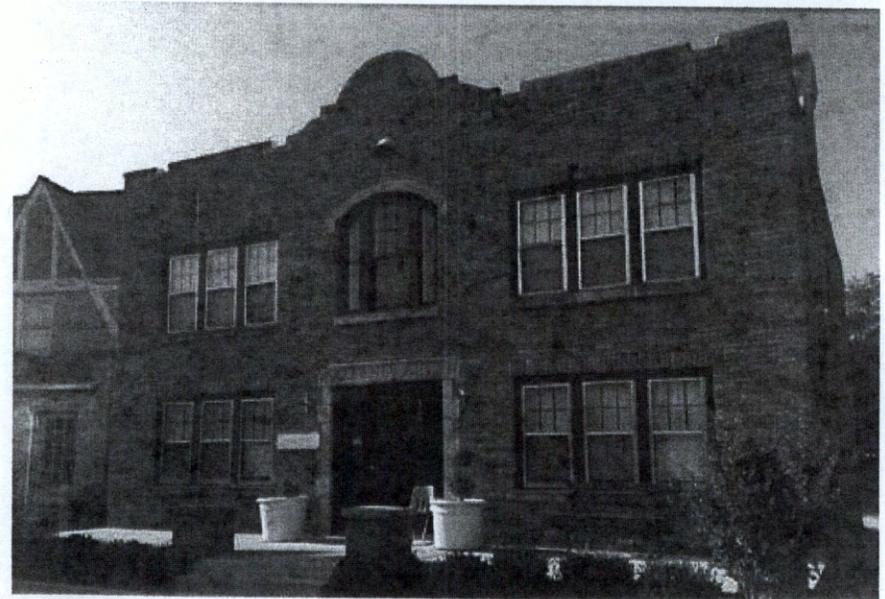
CASE STUDY: MINNEAPOLIS, MINNESOTA

Draft Comprehensive Plan:

- Allow up to fourplexes in single-family zones but no larger in mass than surrounding houses.
- Focus Missing Middle types around transit locations and corridors.
- Eliminate off-street parking minimums.

Accessory Units:

- Allow accessory dwelling units (ADUs) in all single-family houses and duplexes.
- Property owner must own both houses.
- Remove requirement that property owner must live on the property. This allows owner to rent both units.
- Exterior finishes of ADU must match the principal building.



Fourplex, St. Paul, MN

12

CASE STUDY: OLYMPIA, WASHINGTON

Overall Zoning and Regulation

- Create a citywide form-based code.
- Missing Middle housing targeted for single-family zones.
- Property owner does not need to live on property.
- Count on-street parking towards parking requirements.

Accessory Units:

- Allow ADUs outright in single-family zones.
- Locate within 300 feet of a corridor or transit location.

Cottage Housing:

- Maximum cottage sqft per story is 1,000 square feet.
- Increase cottage density bonus from 20% to 50%
- Maximum cottage size is 1,250 square feet.
- 1 parking space per unit required.
- Reduce sewer hook-up fee to 1 per lot rather than 1 per unit.

Courtyard Housing and/or Apartments:

- 12 units per court maximum.
- Allow 2-story courtyards in R6-12 zone.
- Allow 1-story courtyards in R4 zones 600 feet from transit.
- Must follow infill design guidelines.

Duplex:

- Allow in 4.8 single-family zone.
- Reduce minimum lot width from 80 feet to 40 feet.
- Single sewer line to building rather than unit.
- Additional bonus unit for transfer of development rights purchase.

Triplex/ Fourplex:

- Permitting triplexes and fourplexes within 300ft of transit corridors.

Questions they are investigating:

1. Are impact fees greater for cluster of houses rather than single-family house? (school, infrastructure fees)
2. Are general facility charges greater per size of house, townhouses, duplex or cottages? (roads, other)

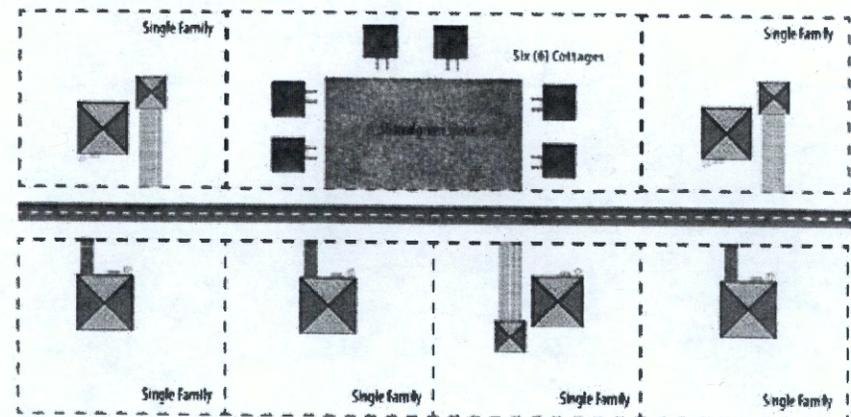


New Infill Duplex, Olympia, WA
Credit: Olympia City Council

Six Cottages (with 50% density bonus proposed)

Not allowed under Current Zoning Standards

Allowed under Proposed Zoning Standards



Infill project illustration showing 6 cottages with 50% density bonus in Olympia, WA.
Credit: Olympia City Council

CASE STUDY: SEATTLE, WASHINGTON

Overall Zoning & Regulation

- Form-based code eliminates setbacks but sets required open space, yard or planted areas in front, side or rear of the house.
- New residential small L=lot (RSL) zone designation within existing single-family zones allows cottages, attached townhouses, stacked housing and tandem housing.
- Low-rise 2 zone (LR2)— increase maximum height to encourage 3-4 story townhouses and apartments.
- Low-rise 3 zone (LR3)— expand zone along transit corridors to encourage multi-family, duplexes, micro-housing and the repurposing of single-family homes into small apartment buildings.
- New mandatory housing affordability (MHA) policy will ensure that upzone guarantees new multi-family development must include affordable housing.

Accessory Units:

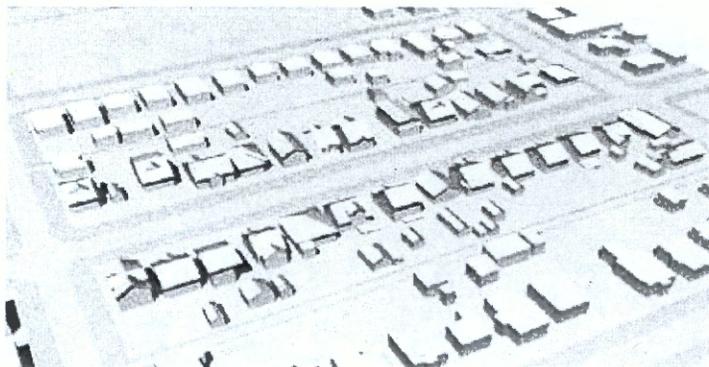
- A property can be allowed to have both attached and detached ADUs. Total size not to exceed allowed maximum square footage.
- Remove additional off-street parking requirements.
- Owner required to occupy site for 1 year only.
- Reduced square footage allowed for new replacement houses.



*Bungalow court, Seattle, WA
Credit: CAST Architecture*



*Courtyard housing
First Hill, Seattle, WA*



*Before RSL zoning
Credit: CAST Architecture*



*After RSL zoning
Credit: CAST Architecture*



CASE STUDY: PORTLAND, OREGON

Overall Zoning and Regulation

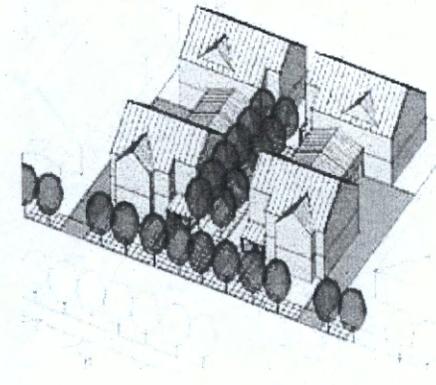
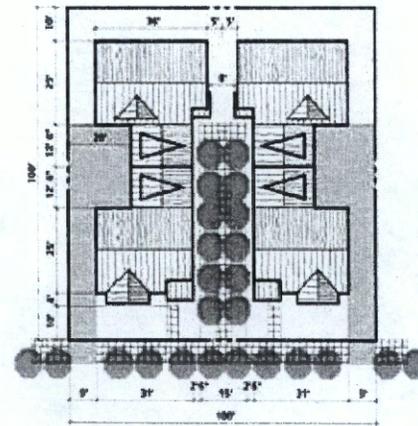
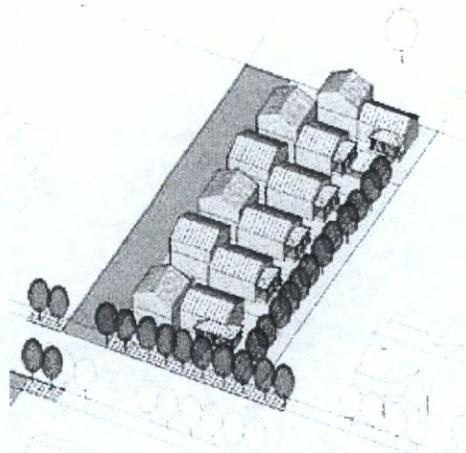
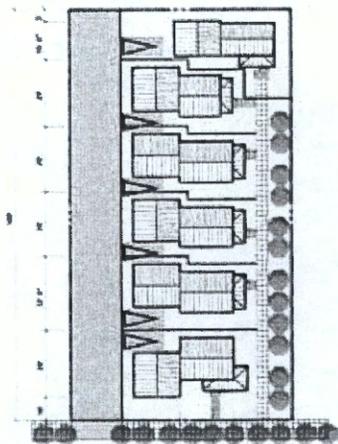
- Form-based code approach.
- Some strictly single-family housing zones (R-5) rezoned to R-2.5 allowing Missing Middle housing.
- Zoning along transit corridors changed to accommodate scale transition between single-family homes and multi-family housing.
- Guidelines/prototype catalogue identifies innovative site configurations to meet density, parking and design needs for each Missing Middle housing type. Prototype approved by city regulatory agencies and will ensure a speedy review process upon compliance by the owner/developer.
- Portland allows alternative house and lot configurations to solve medium-density infill in neighborhoods of single-family homes.

Accessory Units

- ADU can be 75 percent of principal building in size.
- Systems development charge (SDC), a fee to mitigate increased infrastructure costs, is waived temporarily to incentivize ADU development. Stimulated a 25-fold increase in ADU development in one year.
- 2 ADUs allowed per lot; 1 within principal building and 1 freestanding.
- Utility hook-up fees waived.



*New rear yard accessory dwelling unit
Portland, OR*



*Cottage Cluster
Credit: PortlandOregon.gov*



*Mirrored green
Credit: PortlandOregon.gov*

CASE STUDY: AUSTIN, TEXAS

CodeNext program adopted in Austin's 2012 Comprehensive Plan, which encourages Missing Middle housing types in several neighborhoods.

- Create form-based codes created for neighborhoods to encourage transit-oriented development along corridors and town centers.
- Loosen compatibility standards, which previously restricted most Missing Middle housing because of its size, architecture and density.
- Missing Middle projects of 2-10 units do not require site plan review if they include affordable or workforce housing components.
- If existing structure is preserved, then the floor area ratio (FAR) used for the ADU does not count toward the total FAR for the lot.
- Accessory dwelling units can be built at front, side or rear of a primary building.
- Parking reduction of .6 spaces per affordable unit.



*Duplex, Austin, TX
Credit: CodeNext*



*Townhouses, Austin, TX
Credit: Michael Hsu Office of Architecture*



Duplex, Austin, TX





*Fourplex sideyard building,
Bryan, TX*



*Fourplex mansion house
Stapleton - Denver, CO*



*Stacked duplex - townhouse over flat
Ellen Wilson Homes, Washington, DC*



*Side-by-side duplex
Seattle, WA*

③

II. ECONOMIC ANALYSIS

METHODOLOGY

The Missing Middle Study adopted a three-step approach to evaluating the architectural and economic feasibility of Missing Middle development within Montgomery County.

- Step One – Private Sector Focus Group
- Step Two – Architectural and Economic Case Study
- Step Three – Zoning Analysis

Step One: Private Sector Focus Group

A private sector focus group was conducted to not only identify, but also explore and analyze the various economic challenges associated with Missing Middle development. The focus groups took place between February and March 2018, at the Montgomery Planning Department and participants included local industry experts in the field of development, real estate/land-use law and real estate finance/economics.

The group sessions were audio-recorded and several members of the research and special projects team observed the discussions to take notes on key themes/findings. The two primary goals of the focus groups were information-gathering and topic exploration. Participants were encouraged to utilize their industry knowledge to think critically and “outside of the box” regarding costs and benefits of building more diversified housing types across the county.

Step Two: Architectural and Economic Case Study

A potential Missing Middle site within the county was selected by staff and analyzed for architectural and economic feasibility based on the information gathered in the private sector focus groups. Members of the Planning Department staff as well as local architects at Torti Gallas + Partners completed the analysis.

The site selected for the case study was a 2.62-acre parcel along Georgia Avenue in the Forest Glen/ Montgomery Hills (FG/MH) Sector Plan area. The case study site is located within 0.33 miles from the FG/MH metro station, and consists of an existing courtyard-style multi-family housing structure with approximately 75 dwelling units. The site is currently zoned R10 with an FAR 0.53, and its fair market

value is between \$6-8million. The front of the property faces a major transportation and retail corridor; both sides of the parcel align with similar parcels/property types, and the rear of the parcel abuts a single-family residential neighborhood. The multi-family residential structure is reaching the end of its useful life and would require significant masonry repairs if it were to remain as is.

There were three potential architectural and economic scenarios for redevelopment of the case study site. All three scenarios replaced the existing structure with new construction. The first development scenario replaced the existing structure with a large, mid-rise, high-density residential building similar to the structures surrounding many of the other Metro stations throughout the county. The second scenario included a mix of both mid-rise, high-density housing and various Missing Middle typologies. The third scenario included a wide variety of Missing Middle typologies with no mid-rise housing.

Step Three: Zoning Analysis

Once the private sector focus groups and the case study were completed, an intra-departmental zoning analysis was conducted to evaluate potential regulatory opportunities and recommendations. Certain residential zones, the townhouse zone and commercial residential neighborhood (CRN) zones were reviewed to determine whether reasonable modifications should be made to both the existing development review process and the zoning code to incentivize Missing Middle development.

STEP ONE: FOCUS GROUPS AND DISCUSSION

The private sector focus group covered a wide-variety of topics associated with Missing Middle development; however, the following four key economic findings prevailed as the most influential in understanding the process of developing Missing Middle typologies throughout the county.

- Parcel size and market behavior
- Developer types & market conditions
- Development review process & zoning code
- Financial incentive programs

Finding One: The importance of parcel size & understanding the role of the market barbell

A real estate development proforma is a financial tool used to identify and evaluate the potential risks and returns associated with a prospective real estate development opportunity. The real estate proforma considers all facets of a project's revenue potential as well as its projected expenses over the duration of the investment's life span. It is designed in such a way that individual project variables can be manipulated to evaluate and control for project risks and returns. The development proforma is also designed to yield a set of measures that can be used to benchmark the prospective development within the context of a greater market or directly against alternative development opportunities.

Minimizing investment risks while simultaneously maximizing returns on investment is the key to creating a competitive real estate development proforma. If the perceived risks of a project are so high that they cannot be offset by the anticipated returns (or vice versa), the project is considered infeasible and the private sector is unlikely to pursue it. Furthermore, financial institutions and equity investors often base their lending or investment criteria on the projected risk-to-return proforma performance, meaning that they will either deny financing or will charge a much higher premium to finance projects with returns too low to justify projected risk.

Single-family home developments on smaller parcels tend to be low risk/low return investments. The perceived risk of building single-family homes is relatively low because the single-family development market is well established, the construction process is relatively predictable, and initial costs/investment requirements are lower than that of larger, more complicated development projects. That said, the revenue potential of a single-family home development is limited due to its single-use and small lot size.

Multi-family developments on large parcels or large single-family subdivisions tend to be high-risk/high-return investments. A high-density development is riskier because it is much more complicated to build than a single-family home; there are more opportunities for market forces to interfere with long-term revenue potential, and the initial investment required for a high-density development project is much higher than that of a single-family development project. That said, the potential gains from a high-density housing development project are significantly and exponentially higher than that of a single-family home.

As a result, developers will most often gravitate toward single-family home development projects on small parcels or multi-family development projects on large parcels as a means of either minimizing risks or maximizing gains in their proforma. This "barbell effect" is a major market driver and is the primary reason for why intermediately-sized housing projects or Missing Middle housing is pursued much less frequently than single-family or high-density development projects. Missing Middle housing is often just as risky as high-density development projects to build and maintain, yet these projects yield much lower returns over the long run, limiting the competitiveness of the Missing Middle proforma and/or making them altogether infeasible.

Finding Two: Taking into account both developer types and existing market conditions

The size and scope of a real estate developer's portfolio is dependent upon their resources or access to capital (also known as depth of the developer's capital stack). Smaller developers tend to finance projects using cash from friends and family or by applying for loans from local lenders. Larger developers tend to finance projects via high-equity investment partners and/or accessing alternative debt sources that are not available to the public or smaller developers.

Friends and family tend to not demand the same returns that high-equity investors require, allowing smaller developers the latitude to pursue projects with much lower revenue thresholds than larger developers. Local lenders, on the other hand, are traditionally much more risk-averse than alternative debt sources, allowing large developers to finance riskier projects that are out of reach for smaller developers. Due to the low returns and high risks often associated with Missing Middle development projects, both small and large developers have difficulty financing these types of projects given the above-mentioned limitations on their access to capital.

It is often easier for small developers to make the leap from developing single-family homes to developing Missing Middle housing than it is for high-density developers to downsize into Missing Middle projects because there are more opportunities for overcoming and controlling risk factors than there are for generating additional revenue potential.

Lastly, the Missing Middle housing market in Montgomery County is still very much in its infancy, and as is the case with any developing market, it takes time to build market momentum. The market's ability and willingness to pay for these housing types over alternative market substitutes (demand) remains uncertain. Additionally, the infrastructure or framework to build these housing types (supply) needs further support and development. As the number of successful Missing Middle developments grows, supply chains will become more efficient, and demand for these housing types will become more robust. Over time, this market growth should enhance overall project accessibility to developers of all sizes and scope by reducing existing barriers to market entry and exit.

Finding Three: Process matters: development review and zoning modifying the development review process

Developments that are new or atypical in the market area, projects with non-standard design characteristics, and/or projects that require a zoning variance under the existing code, such as many of the missing middle typologies, often entail a complicated and lengthy development review process (DRP). This process can take anywhere from six to 18 months and cost between 15 percent and 25 percent of total project costs.

As a project increases in size, the development costs increase according to the number of units added. Initially, this per-unit development cost is high; however, at a certain point, the per-unit cost begins to decrease like when a retailer buys items in bulk from a wholesaler.

As a result, many smaller developers have difficulty obtaining the necessary resources (including the competitive funding) required to offset the high initial per-unit development costs, and larger developers with deeper pockets and more experience navigating complex regulatory systems will almost always opt to build projects that are large enough to achieve the bulk per-unit development rate. If the development review process was streamlined in such a way that the difference in per-unit costs between projects of various sizes were minimized, both small and large developers would be incentivized to build Missing Middle typologies more often.

Creating more flexibility in the building code

The three most suitable primary zones for potential Missing Middle developments include, R60-R90 zones, townhouse zones, and CRN zones. Regardless of the zone, however, any developer seeking to develop a Missing Middle typology in the county is required to comply with a variety of design-related regulatory requirements. To lower the costs and risks associated with meeting these requirements, the participants in the group made three suggestions:

- Create more townhouse zones during the master planning process as these zones are the most flexible regarding approving the development of Missing Middle typologies.

- Create a new Missing Middle conditional use or optional method within the existing zoning code, particularly in the R60-R90 zones. This may be enough to spur more development of these typologies within the county.
- Create a Missing Middle overlay zone near public transit or along major transportation corridors that would allow either by right development of certain Missing Middle typologies and/or significantly streamline the regulatory process.

Furthermore, participants in the focus group identified the major Missing Middle regulatory sticking points or “economic/design deal-killers” in the existing zoning code:

- Parking requirements
- Building height limitations
- Structure setback requirements
- Lot coverage ratios

Generally, decreasing the parking requirements on a Missing Middle site due to its proximity to public transit would allow for higher density housing types on smaller lots, such as a duplex/triplex/live-work unit on a lot that could only traditionally park a single-family home. That said, lowering parking requirements may also have a negative impact on both price for those units and/or overall demand for Missing Middle typologies. Increasing the height restrictions in residential and townhouse zones as well as lowering the height limits in CRN zones would encourage the development of more creative and efficient Missing Middle typologies that are not currently feasible under the existing code but could reduce the opportunities for high-density and/or affordable housing in prime locations throughout the county.

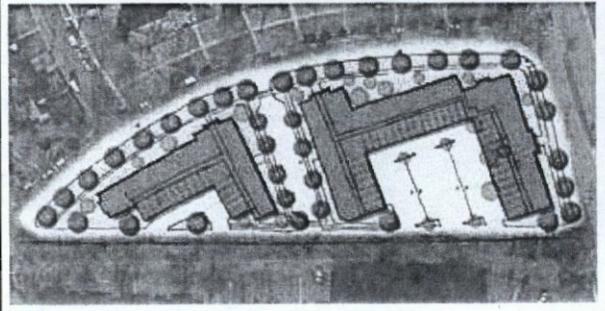
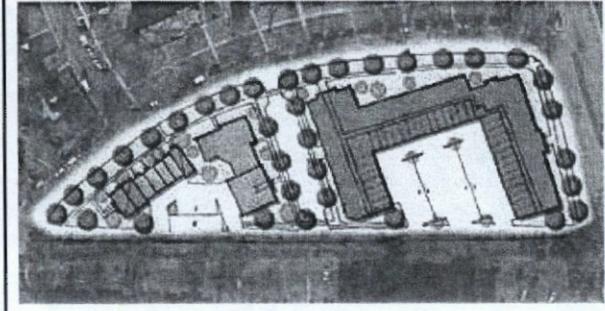
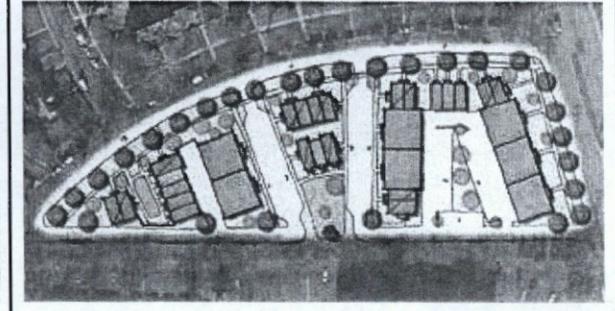
Lastly, removing setback requirements altogether or creating greater flexibility around lot coverage was also discussed in the focus group. Many Missing Middle housing types, particularly ones that include courtyards or other community amenities, are currently impossible or extremely difficult to achieve given the existing setback and lot coverage ratio requirements in residential, townhouse, or CRN zones. Changing setback and lot coverage requirements would allow for the development of more Missing Middle typologies but could also have a significant impact on the overall and/or intended character of an existing neighborhood.

Finding Four: Adding financial bells & whistles

Governments will sometimes use monetary or fiscal incentives to intervene in the private sector if they feel as though it is in the public’s best interest. For example, many local governments and the federal government offer tax credits or impact/connection fee waivers for sustainable development or the development of affordable housing. These incentives can come in the form of a one-time or ongoing benefit. Regardless of their frequency, however, these types of incentives have proven to be extremely effective in manipulating market behavior at every level. Due to increased construction costs associated with many Missing Middle typologies, as well as the longer-term limitations on revenue potential, it was suggested that further exploration of potential financial incentives such as impact fee waivers or tax credits was warranted if Montgomery County felt there was a public benefit to improving accessibility of Missing Middle housing in the county.

Recommendations pertaining to the specific design and impact of these potential programs was beyond the scope of this study and would need to be fully investigated prior to inception to ensure that the costs to the county do not outweigh the benefits. That said, there are many cities throughout the United States that have successfully instituted financial incentives to stimulate Missing Middle housing that could be used to project the potential impact on the Montgomery County market.

STEP TWO: CASE STUDY RESULTS AND DISCUSSION

Scenario One: High Density	Scenario Two: Mixed: High Density and Missing Middle	Scenario Three: Missing Middle Only																																										
																																												
<ul style="list-style-type: none"> • 210 Total Units, 78 DU/Acre • 133 total parking spaces • Rent: \$1,500/month • Development Costs: \$31M-\$40M (approximately \$42,000 per unit) • Rate of Return: 39.62% 	<ul style="list-style-type: none"> • 177 Total Units, 38 DU/Acre • 97 total parking spaces • 36 tuck-under parking spaces • 68 off-street parking spaces • Rent: \$1,200-\$1,400/month • Development Costs: \$29M-\$35M (approximately \$45,000 per unit) • Rate of Return: 24.34% 	<ul style="list-style-type: none"> • 102 Total Units, 28 DU/Acre • 43 total parking spaces • 60 off-street parking spaces • Rent: \$1,300-\$1,400/month • Development Costs: \$15M-\$20M (approximately \$43,000 per unit) • Rate of Return: 17.8% 																																										
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This property along a primary county corridor is between mid-rise multi-family buildings to the top and bottom of the plan, and single-family homes to the left. It is within 0.33 miles of a Metro station. Three scenarios were created to evaluate the economic viability of a total midrise development, a half mid-rise and half Missing Middle housing development, and a fully high-density, Missing Middle plan.

Scenario One: High-Density Multifamily

The high-density multi-family option would yield the highest number of total housing units and would thus yield the highest rate of return for the investor/developer. Scenario One also aligns well with the county's long-term goal of concentrating density near public transit. This 4-story wood-framed building would adjoin the streets with parking behind it. To achieve Scenario One, the site would require zoning modifications. Parking requirements would be at 0.5 space/unit. If the market was left to its own devices, the high-density scenario would be the most competitive option for a developer and, therefore, would be the most likely to occur naturally given existing conditions.



South-facing view of Scenario Three: Missing Middle only

Scenario Two: High- Density and Missing Middle

Scenario Two is a mix of high-density, mid-rise, multi-family housing adjacent to existing multi-family housing and lower-scale Missing Middle typologies facing the single-family blocks. This development creates a transition in scale and massing along the site between these two zones. It would result in 15 percent fewer units than the high-density option with slightly more parking at .6 parking spaces per unit. Rents in this option would vary and overall risk would be slightly higher due to the varied housing types; however, rate of return to the developer would still be relatively healthy at a little under 25 percent. To achieve Scenario Two, the site would require zoning modifications and parking requirements must be lowered per unit. The primary advantage of Scenario Two is that, architecturally, it achieves a more gradual transition from the higher density housing to the single-family neighborhood and market-wise, it offers a variety of housing typologies to meet the diverse community needs.

Scenario Three: Missing Middle Only

This development scenario that solely consists of Missing Middle housing would yield the fewest number of total units and would require the highest number of parking spaces at 0.9 spaces per unit. This development creates high-density yet achieves a logical transition in form and mass between the higher density apartments and the lower-density single-family lots. Rents would vary due to the diverse options of housing typologies, and although this option would be the cheapest to build, its projected returns would not be enough to achieve competitive financing given existing market conditions. To achieve Scenario Three from a regulatory perspective, the site would require zoning modifications and parking requirements must be lowered. Arguably, Scenario Three would be the most visually appealing and would provide the most diverse housing options to meet the diverse community needs. However, it is unlikely that the private sector would pursue this scenario on its own, even if extensive regulatory changes were to be made due to the site's proximity to Metro and the various other factors discussed in the private sector focus group.

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III. ZONING ANALYSIS

One of the major impediments to Missing Middle infill housing nationwide is Euclidean zoning, where land use and building typologies are segregated into different zones. These Euclidean zones are focused on producing the housing types that have become familiar: single family houses, townhouses, or multi-family complexes with little to no mixing of the types. Although Montgomery County has a number of more flexible zones that include form-based elements, the greatest amount of residentially zoned land in the county is zoned for single-family homes with no diversity of housing types.

From the Developer Working Group report, several ideas about zoning and zoning modifications were suggested; however, the group clearly suggested that if Montgomery County wants to encourage the greatest amount of Missing Middle type development, the county must address impediments to small developers, who are the group most likely to implement Missing Middle housing. This group's largest impediment is access to financial resources and time spent dealing with the regulatory process, which can add up to 25 percent of total project costs. Rezoning or seeking variances could allow Missing Middle developments in certain areas, but the time and cost involved in successfully navigating these processes is prohibitive to small-scale developers. The following actions were suggested by the Developer Working Group as potential ways Missing Middle developments could occur more easily:

- Increase Townhouse zoning through the master planning process;
- Create a new Missing Middle Conditional Use or Optional Method of Development within the existing zoning code;
- Create a Missing Middle Overlay zone near public transit or along major transportation corridors to streamline the regulatory process.

Based upon feedback from the Developer Working Group, research about efforts in other jurisdictions and a deep understanding of the Montgomery County Zoning Code, staff has analyzed various options for introducing Missing Middle housing opportunities.

Key to all of these strategies is a clear understanding of where it is most

appropriate to introduce this type of housing. The most ideal locations for Missing Middle housing typologies are at the following locations:

- Along major transportation corridors, where Missing Middle housing can serve as a transition between busy thoroughfares and neighborhoods on internal streets.
- At the edges of single-family residential neighborhoods adjacent to other more dense uses and building typologies, so as to provide a transition between land uses.
- Within a certain distance of transit and transportation alternatives such as bus, bus rapid transit, Metro and Purple Line light rail.
- A limited number of typologies within single-family neighborhoods, e.g. accessory dwelling units or duplexes.

The next challenge is to identify the appropriate zones for Missing Middle housing. Single family zones do not allow Missing Middle housing types. In the Townhouse zones, the maximum densities are close to the ideal; however, lot coverage and setback requirements can still make development difficult to achieve. The Commercial Residential Neighborhood (CRN) zone seems almost perfectly suited for Missing Middle; however, very little land in the county is currently zoned CRN. New zoning options will be needed. Because Missing Middle is a typology that will be primarily an infill effort, it is essential to assure compatibility with surrounding land uses and neighborhoods. For this reason, any zoning for Missing Middle should include a site plan requirement at a minimum and should, in all likelihood, include carefully constructed design standards – including locational criteria based on the priorities list in the paragraph above.

Applying a new zone or changing zones is typically done through the Master Plan and Sectional Map Amendment process and this is possible for Missing Middle housing, although it will mean a slower roll-out of the effort. Certain master plans that are currently being considered, such as the Veirs Mill Corridor Plan and the Forest Glen/Montgomery Hills Sector Plan, are introducing the potential for Missing Middle and are proposing zoning that may make some Missing Middle housing possible. In these plans, staff has explored the use of the Commercial

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Residential Neighborhood (CRN) zone and to a lesser extent, the Townhouse zones allow the most diverse array of housing typologies that are like Missing Middle housing. There is also the potential for doing a more comprehensive, county-wide functional plan for locating and zoning Missing Middle housing – although this would be a multi-year effort.

There are opportunities for introduction of limited Missing Middle housing through a zoning text amendment that would allow for an Optional Method of development in certain zones – including R-60, R-90, Townhouse zones and CRN. Staff has explored this alternative, but only at a very basic level and there would need to be further analysis. Specifically, the Optional Method would need to have very strict locational criteria and design standards and these elements have not been developed fully. However, some basic information on this option and the standards for an Optional Method of development is included in the charts below. The following table on the next page summarizes the recommendations for each zoning criteria for Missing Middle housing.



25
Accessory Dwelling Unit
Kentlands, MD



Fourplex
Bethesda, MD



Side-by-side duplex, Tacoma, WA
Torti Gallas + Partners

RESIDENTIAL (R60-R90)

Zoning Criteria	Residential (Primarily R60-R90)	Current Optional Method	General Recommendations for Successful Missing Middle Development	Notes comparing current zoning to standards for Missing Middle	Potential change to address limitations: MM Optional Method
DENSITY MEASURED IN NUMBER OF DWELLING UNITS/ ACRE	4.84-7.26 DU/Acre	5.90-8.86 DU/Acre For 15% MPDUs (ZTA 18-06 would allow: 6.29-9.44 DU/Acre for 20% MPDUs and 6.53-9.80 DU/Acre for 25% MPDUs)	Between 10-18 DU/Acre	Allows for higher densities when providing more affordable units. Cannot achieve the desired MM densities.	Between 8-12 DU/Acre
HOUSING TYPE PERMITTED	Detached House	Detached House Townhouse Duplex	No Restrictions on Structure Type	Allows for a greater diversity of housing types under optional method. Does not require a re-zoning process to achieve MM unit types under optional method. Perhaps community resistance to compatibility.	Detached House Townhouse Duplex
PARKING MINIMUM	2 spaces/unit, eligible for waiver	2 spaces/unit, eligible for waiver	1 space/DU and maintain eligibility to waive minimum	Waiver provision allows for lower parking requirement.	2 spaces/unit, 1 space/DU if within 1 mile of transit, eligible for waiver
BUILDING HEIGHTS	35'	40'	40'-50'	Allows minimum desired height under optional method.	40'-50'

Zoning Criteria	Residential (Primarily R60-R90)	Current Optional Method	General Recommendations for Successful Missing Middle Development	Notes comparing current zoning to standards for Missing Middle	Potential change to address limitations: MM Optional Method
LOT COVERAGE	30%-35%	50%-60% (Detached & Duplex) N/A for Townhouse	No restrictions. Require site plan approval.	Allows for flexibility to achieve increased densities under optional method. No minimum for townhouses.	No restrictions. Require site plan approval.
SETBACKS	<u>R-60</u> Front – 25' Rear – 20' Side – 8' <u>R-90</u> Front – 30' Rear – 5' Side – 8' Side Street – 15'	Depends on adjacent property/streets, but varies between 4' – 20', some set at site plan.	No restrictions. Require site plan approval.	Allows for flexibility to achieve increased densities under optional method. Optional method allows reduced setbacks.	No restrictions. Require site plan approval.

Note: MM Optional Method of Development would be tied to specific locations that would most benefit from this type of development.

TOWNHOUSE

Zoning Criteria	Townhouse	Current Optional Method	General Recommendations for Successful Missing Middle Development	Notes comparing current zoning to standards for Missing Middle	Potential change to address limitations: MM Optional Method
DENSITY MEASURED IN NUMBER OF DWELLING UNITS/ACRE	9.07-15.02 DU/Acre	11.07-18.32 DU/Acre For 15% MPDUs 11.79-19.53 DU/Acre For 20% MPDUs 12.25-20.28 DU/Acre For 25% MPDUs	Between 10-18 DU/Acre Depending on the Base Zone	Allows for higher densities when providing more affordable units. Requires provision of more MPDUs than minimum required – (15%) to achieve desired MM densities.	Between 9-15 DU/Acre
HOUSING TYPE PERMITTED	Detached House Townhouse Duplex	Detached House Townhouse Duplex	No Restrictions on Structure Type	Allows for diversity of housing types. Does not require a re-zoning process to achieve MM unit types. Perhaps community resistance to compatibility.	Detached House Townhouse Duplex
PARKING MINIMUM	2 spaces/unit, eligible for waiver	2 spaces/unit, eligible for waiver	1 space/DU and maintain eligibility to waive minimum	Waiver provision allows for lower parking requirement.	2 spaces/unit, 1 space/DU if within 1 mile of transit, eligible for waiver
BUILDING HEIGHTS	35'-40'	40'	40'-50'	Allows minimum desired height.	40'-50'
LOT COVERAGE	35%-50% (Detached & Duplex) N/A for Townhouse	60-75% For (Detached & Duplex) N/A for Townhouse	No restrictions. Require site plan approval.	Allows for flexibility to achieve increased densities especially under optional method. No minimum for townhouses.	No restrictions. Require site plan approval.
SETBACKS	Depends on adjacent property/streets, but varies between 4' – 20'	Depends on adjacent property/streets, but varies between 0' – 15'	No restrictions. Require site plan approval.	Allows for flexibility to achieve increased densities especially under optional method. Only modest set backs required-minimal restriction to design	No restrictions. Require site plan approval.



COMMERCIAL RESIDENTIAL NEIGHBORHOOD

Zoning Criteria	CRN (no optional method under CRN zoning)	General Recommendations for Successful Missing Middle Development	Notes comparing current zoning to standards for Missing Middle	Potential change to address limitations: MM Optional Method
DENSITY MEASURED IN FAR - CRN ZONE, STANDARD METHOD	0.00-1.5	Between 10-18 DU/Acre	Density set by the master plan process.	
HOUSING TYPE PERMITTED	No restriction	No Restrictions on Structure Type		
PARKING MINIMUM	2 space/DU 1 space/DU in PLD or reduced parking area (CRN zone within 1 mile of transit) and eligibility to waive minimum	1 space/DU and maintain eligibility to waive minimum	Parking flexible in areas near transit.	
BUILDING HEIGHTS	25'-65'	40'-50'	Can be zoned with appropriate/ optimal height.	
LOT COVERAGE	90% (Detached, Duplex & Townhouse) No Restriction on other structure types	No restrictions. Require site plan approval.	Very minimal limitation for detached, duplex and townhouse building types.	No restriction. Require site plan approval.
SETBACKS	Depends on adjacent property/ streets, but varies between 0' - 15'	No restrictions. Require site plan approval.	Very minimal limitation based on adjacent uses and zoning.	No Restriction. Require site plan approval.

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IV. CONCLUSION

Quality housing and a variety of housing types are essential to economic competitiveness and growth. Encouraging development of the Missing Middle is certainly a tool to attract, maximize and retain residents in Montgomery County.

Existing market conditions and regulatory barriers are currently interfering with the natural growth of the Missing Middle housing market in Montgomery County. The demand for these housing types is very strong yet remains undeveloped, and potential suppliers do not have enough economic incentives to consistently pursue these types of projects. If the county was to decide that increasing Missing Middle housing development was a priority, a variety of regulatory and other policy-related changes could be enacted to stimulate the development community to build more of these types of housing.

The primary challenge to constructing Missing Middle is the existing zoning options and the density/mix of building types that is allowed. There are a variety of approaches, both short and long term that can be employed to address these zoning challenges. However, Missing Middle housing is infill housing and compatibility is very important. It is essential that zoning strategies take this into account and include strict locational criteria and design standards.

Given these challenges, there is not one alternative or solution that will promote a large influx of Missing Middle housing development within the county. However, several short-term and longer-term ideas are worth further analysis and discussion. Here are a few of these ideas:

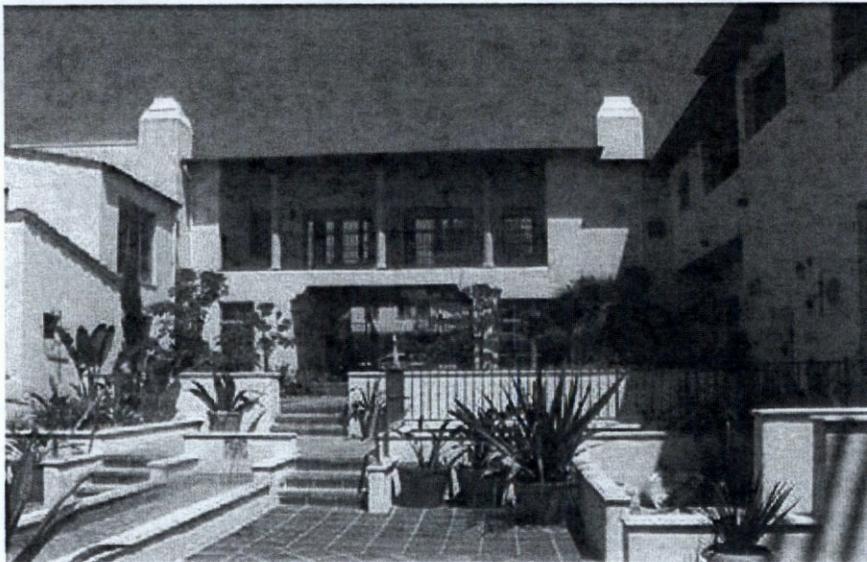
1. Create, through a zoning text amendment, a Missing Middle Optional Method of Development in a number of the most appropriate zoning categories, which would have clear locational criteria and design standards, including site plan review.
2. Evaluate the ability to use floating zones to create Missing Middle housing. Modify prerequisites for certain floating zones in specific locations or create a Missing Middle Floating Zone.
3. Encourage rezoning to CRN in appropriate areas of the county through the master planning process.
4. Consider a Missing Middle Housing Functional Master Plan for the County that would identify all the ideal locations for Missing Middle housing typologies and result in a sectional map amendment that would rezone appropriate areas.
5. With the county's support, create a request for proposals (RFP) or a developer/architect competition to design and construct Missing Middle housing typologies on a county-owned site. This pilot project can then be used to promote Missing Middle typology development as a viable housing alternative throughout the county.
6. Create a staff/consultant group that can evaluate and suggest potential financial incentives, such as tax credit programs and fee waivers that encourage Missing Middle typologies.



*Hill Court, Sacramento, CA (80 du/acre)
Credit: Google Earth*



*Faulklands Chase Courtyard Apartments
Silver Spring, MD*



*Meridian Court, Pasadena, CA
Moule and Polyzoides - Architects*



*Englenook Cottage Homes
Ross Chapin - Architect*

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Montgomery Planning

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

RESEARCH + SPECIAL PROJECTS

A DIVISION OF THE MONTGOMERY COUNTY PLANNING DEPARTMENT



Montgomery County Trends

A Look at People, Housing and Jobs Since 1990

JANUARY 2019

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Executive Summary

The Montgomery County General Plan is the long-term planning guide that establishes an overall vision and set of values about how the county should grow over decades. This guidance is carried out through master plans, zoning, infrastructure projects, private development and other mechanisms.

The General Plan was first adopted in 1964 and last refined in 1993. In preparation to update the General Plan in 2019, the Montgomery Planning Department's Research and Special Projects Division completed this report to document key changes to the county's demographics, housing stock and employment sector, primarily since the 1993 refinement. The goal of this report is to provide a baseline of key trends over time to highlight how the county has changed over the past 25 plus years. This information will inform needs assessments and policy discussions during the General Plan update.

POPULATION

Montgomery County's population grew 38 percent from 765,476 to 1,058,810 people between 1990 and 2017. This growth was driven primarily by births to residents and increasing international migration. Rates of domestic out-migration to other parts of the United States generally exceeded in-migration. Montgomery County has retained its status as the second largest county in the Washington, D.C. region and the 42nd largest county in the United States.

Population growth was concentrated inside Interstate-495 (Capital Beltway) and along major transit and transportation corridors. While still positive, the rate of growth is much slower than in the 1960s and 1980s.

The age distribution of the county's population is changing as well.

The aging of the large cohort of the baby boom generation, ages 26 to 44 in 1990, is driving up the median age of the residents from 33.9 years in 1990

to 39 years in 2016. The aging baby boomers are expected to increase the county's 65-plus population from 10 percent of the total population (77,500 residents) in 1990 to 19 percent (218,000 people) in 2030 when all the baby boomers will be over the age of 65.

The county has grown increasingly diverse with people of color comprising more than 56 percent of the total population in 2016. The Hispanic population was the fastest growing subgroup in Montgomery County between 1990 and 2016, growing by 258 percent to 199,402 people (19.1 percent of total population). The Asian population followed, growing by 153 percent to 154,243 people (14.8 percent of total), and the African American population grew by 108 percent to 185,442 people (17.8 percent of total). The county's increasing diversity is reflected in more U.S. Census tracts having significant concentrations of different racial and ethnic groups.

International migration has been a significant driver behind the growing diversity in the county, with the population of foreign-born residents at 33 percent of the population in 2016 versus 19 percent in 1990. The proportion of foreign-born residents is the highest in the region. By 2045, the proportion of people of color in the county is expected to be 73 percent.

Montgomery County continues to be one of the most highly educated counties in the United States and this characteristic correlates to relatively high incomes. Fifty-nine percent of county residents hold at least a bachelor's degree, compared to 50 percent regionally. With a median income of just under \$100,000 in 2016, Montgomery County is the 15th wealthiest county in the country and 5th wealthiest in the region. Incomes do vary greatly across subpopulations and places in the county, with the highest household incomes concentrated in communities on the west side. However, income growth has remained stagnant over the past decades. The 2016 median income of \$99,763 is not statistically different from the inflation adjusted 1989 value.

The composition of household types has changed slightly since the 1990s, but dramatically since the 1960s. The county had 373,346 households in 2016, up 32 percent (91,118) from 1990. Overall trends reflect the growing senior population and delay in family formation by millennials. Non-family households were the most predominant household type at 30 percent in 1990 and in 2016. The percentage of households with children under 18 declined from 28 percent in 1990 to 25 percent in 2016. In contrast, 60 percent of households had children under the age of 18 in 1960. The percentage of households headed by a single parent increased from 6 to 8 percent between 1990 and 2016. The average household size increased to 2.77 from 2.65 in 1990.

HOUSING

The number of housing units in Montgomery County increased by 32 percent from 295,723 to 390,563 units between 1990 and 2016.

This figure is lower than the 50 percent increase in housing supply in the Washington, D.C. region over the same period. Most of this growth took place in the 1990s and 2000s, with average annual growth rates exceeding 1 percent. In contrast, the average annual growth rate was only 0.7 percent from 2010 to 2016. Nearly one third of the growth in new units was in multifamily developments with 50-plus units. The total number of units in these types of buildings increased from 30,537 units to 60,458 units countywide between 1990 and 2016.

The number of renters grew significantly as a result of the changing mix of housing units and household types in Montgomery County. In 1990, only 32.1 percent of households (90,595) were renters. By 2016, this figure increased to 35.3 percent of households (131,791 renter households). This trend is reflective of the change in housing unit types with the growth in multifamily units. The number of units in multifamily buildings increased by 49.4 percent from 89,451 to 133,605 between 1990 and 2016. In contrast, the number of single-family units (including townhouses) increased only 25.3 percent from 204,408 to 256,132 during the same period.

Trends also show a dramatically lower rate of homeownership among younger households. The overall homeownership rate of 64.7 percent in 2016 was 3.2 percentage points lower than the overall rate in 1990 (67.9

percent). The home ownership rate among households under age 35 declined dramatically from 45 percent in 1990 to 28 percent in 2016. Only one age cohort – households aged 75 and older experienced an increase in homeownership rates during this period, going from 65 percent to 74 percent. This trend suggests that older households are aging in place longer and younger households lack means and opportunity to purchase housing in the county.

The single-family housing market in Montgomery County has maintained consistent strength since the 1990s, even with the 2008 financial crisis. Average sale values for both attached and detached homes have seen significant increases countywide. The average value of both single-family detached and single-family attached homes increased by nearly 40 percent since 1997, even after adjusting for inflation. Much of the growth in average sale value for both attached and detached units took place between 1997 and 2005. In 2017, the average sale value of a detached single-family home was \$675,594 and the average sale value of an attached single-family home (townhouse) was \$339,331. The Montgomery County market still strongly favors detached single-family homes as well as homes down-county with efficient transit connectivity. A strong single-family residential market is also underscored by a decline in the average number of days properties remain on the market, particularly in homes located closer to the urban ring or public transit.

Limited down county development opportunities and high demand for single-family units proximate to transit, amenities, and the highest rated schools has resulted in significant teardown activity in some single-family neighborhoods, but very limited replacement of multifamily units. Since 1990, the county has issued nearly 4,400 demolition permits for single-family detached homes, an average of 150 teardowns a year. This activity has been largely concentrated in Bethesda (51 percent of permits). Comparatively, there has been limited redevelopment of multifamily facilities with only six demolitions during the same period. Single-family teardowns resulted in a one-to-one unit replacement, whereas multifamily teardowns have resulted in a net gain of 1,028 units (756 units torn down, 1,784 units created) and commitments of 404 dedicated affordable units through the county's Moderately Priced Dwelling Unit program.

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EMPLOYMENT

Montgomery County had nearly 600,000 residents in the labor force in 2016, 31 percent more than the 451,053 in the labor force in 1990. The labor force includes all residents who work, regardless of the location of their jobs. The working age population (defined as people between ages 16 and 65) grew by 29 percent the same period, suggesting people are staying in the labor force longer past age 65.

Two industries—education, health and social services, and professional, scientific and management services—employed the largest number of residents in both 1990 and 2016. Combined, these sectors employed 141,466 residents in 1990 and 242,132 in 2016. Their combined share as a percentage of overall employment increased from 33 percent in 1990 to 43 percent in 2016. In contrast, the percentage of residents employed by the federal government declined from 15 to 13 percent, although the number of federal workers grew slightly from 65,506 in 1990 to 73,587 in 2016. The federal government remains an important component of employment in the county through direct federal workers and workers employed at government contracting firms. Contractors are included under professional, scientific and management services.

Commuting data further highlight Montgomery County's strong employment base, showing that 62 percent of residents also worked in the county in 2016. This rate has increased slightly since 1990 when the figure was 58 percent. While the majority of residents still travel to and from work in a personal vehicle, the percentage of driving commuters declined slightly from 68 percent in 1990 to 65 percent in 2016. Other means of transportation, including transit and walking to work, have increased slightly, as has the percentage of residents who work from home, which increased from 4 percent to 6 percent. Carpooling experienced a significant decrease as a mode of commuting, declining from 13 percent to 9 percent.

Montgomery County continues to be a major employment base with 460,000 jobs in the county in 2016 compared to 380,000 in 1990, a 21 percent increase.¹ The share of county jobs in the private sector has remained at about 81 percent. The share of county jobs in the federal government changed from 11 percent of jobs in 1990 to 10 percent in 2016. The healthcare and social assistance industry has experienced the most growth, going from 29,209 jobs in 1990 to 61,662 jobs in 2016 (111 percent increase). Its share was 9.5 percent in 1990 but 16.5 percent in 2016.

The other industry experiencing significant growth is the professional, scientific and management services industry, which grew by 35 percent since 1990, or nearly 17,000 jobs. Its share was 17 percent in 2016. The biggest declines were experienced by the construction industry, which decreased by more than 4,000 jobs, from 9 percent of all jobs in 1990 to only 6 percent in 2016. Additionally, overall employment growth in Montgomery County lagged that of nearby Fairfax County, Virginia, which grew by nearly 60 percent between 1990 and 2016, driven heavily by U.S. Department of Defense spending and the technology sector.

¹ The U.S. Department of Labor Quarterly Census of Employment and Wages (QCEW) excludes people who are self-employed.

Introduction

The Montgomery County General Plan is the long-term planning document that establishes an overall vision and set of values about how the county should grow over a period of decades. This guidance is then implemented through master plans, zoning, infrastructure projects, private development and other mechanisms. The General Plan was first adopted in 1964, updated in 1969, and last refined in 1993.

The Montgomery County Planning Department is beginning an update to the General Plan in 2019. The General Plan will address questions like: What kind of place do we want to be in Montgomery County? What kind of infrastructure and amenities such as schools, parks and transportation improvements should be pursued in the future? The General Plan tells us how different parts of the county, whether low-density or high-density, should be developed. As a long-range planning tool, the General Plan also can articulate other key priorities for Montgomery County's future, including: the need to advance equity for all residents throughout the county; the importance of economic growth to maintain the desired quality of life; the design and integration of a multi-modal transportation network; the protection of environmental resources and adaptation to the impacts of climate change.

To help frame this work, Montgomery Planning's Research and Special Projects Division conducted this study of trends in the county between 1990 and 2016, asking the question: **How has the county's population, housing, and employment changed since the last General Plan refinement?**

Demand from these three factors is a main driver of growth and land use changes in the county. Analyzing what has happened over a 25-plus year time period establishes a baseline understanding of major changes and current conditions. This information will inform needs assessments and policy discussions during the General Plan update.

The analysis in this report is divided into three sections:

- **DEMOGRAPHIC TRENDS** covers changes to population, racial and ethnic diversity, age structure, educational attainment, household income, and household types, and includes U.S.- Census-tract-level maps. This section compares characteristics of the population in 1990 with characteristics today to highlight the greatest areas of change.
- **HOUSING TRENDS** covers changes to the number, types, and ages of residential units, data about renters and owners, and affordable housing. This section describes changes to the housing market and residential development patterns.
- **EMPLOYMENT TRENDS** covers trends in jobs held by county residents by industry, their labor force participation and their commuting choices; and the number and types of jobs located in the county by industry. This section illustrates changes to the employment base for residents and all workers employed in Montgomery County.

Each section includes a summary at the beginning with the key takeaways from the section. Future work will focus on analyses of transportation, land use changes, and other issues relevant to the General Plan.



Population Trends

SUMMARY

- With over one million people, Montgomery County has settled into a slower growth phase befitting a mature, developed county as dwindling supplies of developable land and transportation capacity no longer sustained rapid growth.
- The key drivers of the county's growth—natural increase and international migration – not only increase population but are also major influencers of demographic change in addition to the inevitable aging of residents.
- Over half of the county's residents were people of color for the first time in 2010. The proportion of people of color is projected to steadily increase from 55 percent in 2015 to 73 percent in 2045, according to state forecasts.
- Montgomery County has a large and diverse foreign-born population (344,645) speaking a variety of languages and varying English-speaking proficiencies. In 2016, one-third of the county's residents are foreign-born, the highest concentration in the Washington, D.C. region.
- The age 65-plus population is expected to double from 120,000 in 2010 to 244,000 by 2040, increasing from 12 percent to 21 percent of the total population.
- Montgomery County retains its ranking among the wealthiest counties in the nation, while its median income varies by subpopulations such as age groups, race and Hispanic origin, nativity, and tenure.
- Over the decades, Montgomery County shifted from predominately married-couples-with-children households to a broader mix of household types including single parent, couples with no children under 18, singles, and unrelated cohabitation.
- The county experienced an uptick in the average number of people per household starting in 1990, reversing declines in household size from a baby boom-induced high point in 1960.

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POPULATION GROWTH

Populous county

Montgomery County's total population was 1,058,810 in July 2017. The size of the county's population ranked second behind Fairfax County, Virginia in the Washington, D.C. region, and placed 42nd in population compared to all counties in the nation.

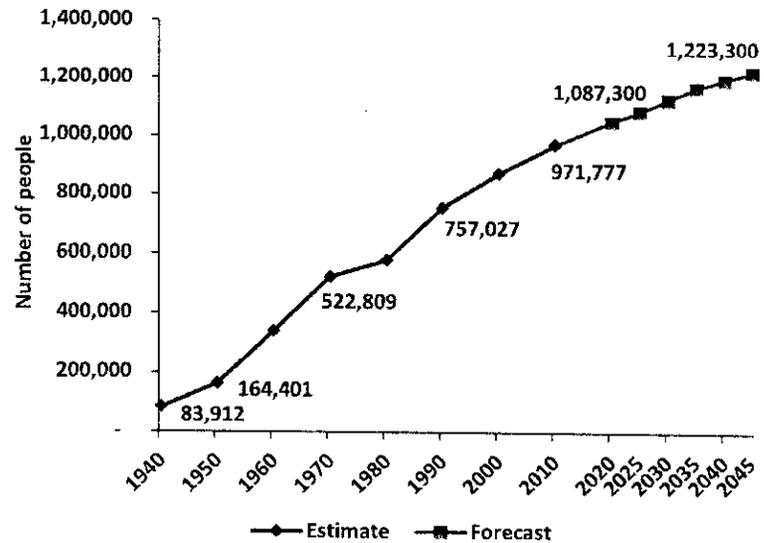
Montgomery County, the most populous county in Maryland since 1990, crossed a demographic milestone of over one million residents in 2012. It is one of only two counties in the region—Fairfax being the other—and part of less than 2 percent of all counties across the nation with a million-plus population. Over the next 30 years, no other jurisdiction in the Washington, D.C. region is expected to break the one-million mark. Additionally, Montgomery County, as a mature, developed jurisdiction, will never again experience the rapid rate of growth following World War II (Figure 1).

Slower growth of a mature, developed county

Montgomery County's growing population is largely attributed to the population's natural increase with the number of births exceeding deaths, as well as gains from international migration. Between 1990 and 2017, Montgomery County gained 293,334 people, an increase of 38 percent. Over this span of 27 years, the county's growth accounted for almost one-quarter of the population increase across Maryland and 15 percent of the regional growth. Three years of the highest annual population gains since 1990 occurred post-recession between 2009 and 2011 with record increases ranging from 16,265 to 17,186 residents. This is the first time during this period that net gains in domestic migration—when more people from other parts of the United States moved into Montgomery County than residents moved out—contributed to increased population. Other years, substantial levels of international migration countered domestic out-migration of residents, resulting in migratory population gains.

Forecasted gain of 200,000 people from 2015 to 2045

Figure 1. Population Estimates and Forecast, 1940-2045



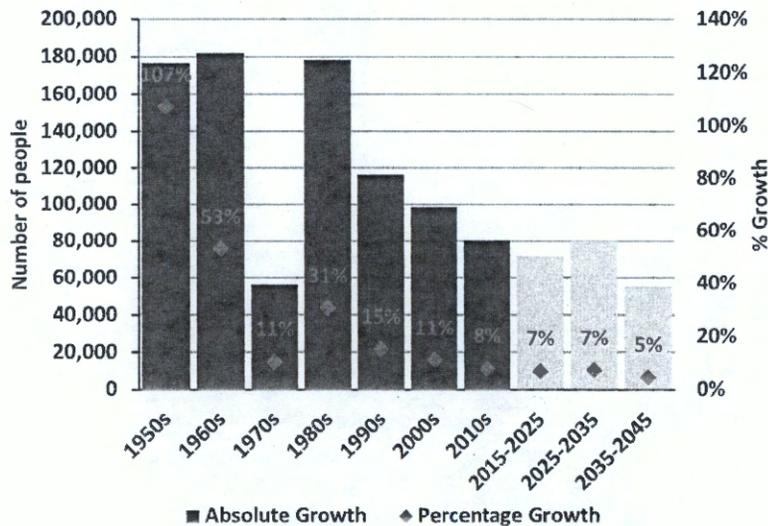
Source: 1940-2010 Census, U.S. Census Bureau; Washington Council of Governments Cooperative Forecast Round 9.1, Research and Special Projects.

Montgomery County's slower pace of growth typical of a populous and developed county is documented in Figure 2. The county's population growth was high during the 1950s gaining 176,500 people (up 107 percent), peaking in the 1960s at 182,000 (53 percent gain), and in the 1980s adding 178,000 (31 percent) residents. The 1990s marked more modest population growth with a 15 percent increase, half the rate of the 1980s, followed by slower growth in the 2000s of 11 percent, adding fewer than 100,000 residents that decade. After 2010, with annual growth rates under 1 percent, Montgomery County entered a slower growth phase typical of populous, more developed counties responding to diminishing resources of developable land and transportation capacity needed to sustain rapid growth.

The county's annual growth rate of .74 percent since 2010 is projected to slow even further over the next 30 years, dropping to an annual gain of .48 percent between 2035 and 2045. Population is forecasted to grow from just over one million people in 2015 to 1.2 million by 2045. This is an increase of about 208,000 people, or a 21 percent gain over 30 years. In the near term, the county is forecasted to gain 72,000 people, a 7 percent increase, at a rate of 20 people per day to reach 1,087,000 people in 2025. 2

Forecasted annual growth rate slows to less than 1 percent over next 30 years

Figure 2. Absolute and Percentage Population Growth, 1950-2045



Source: 1950-2010 Census, U.S Census Bureau; 2015-2045 Council of Governments Cooperative Forecast, Round 9.1, Research & Special Projects.

Subcounty population growth

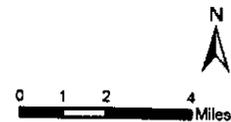
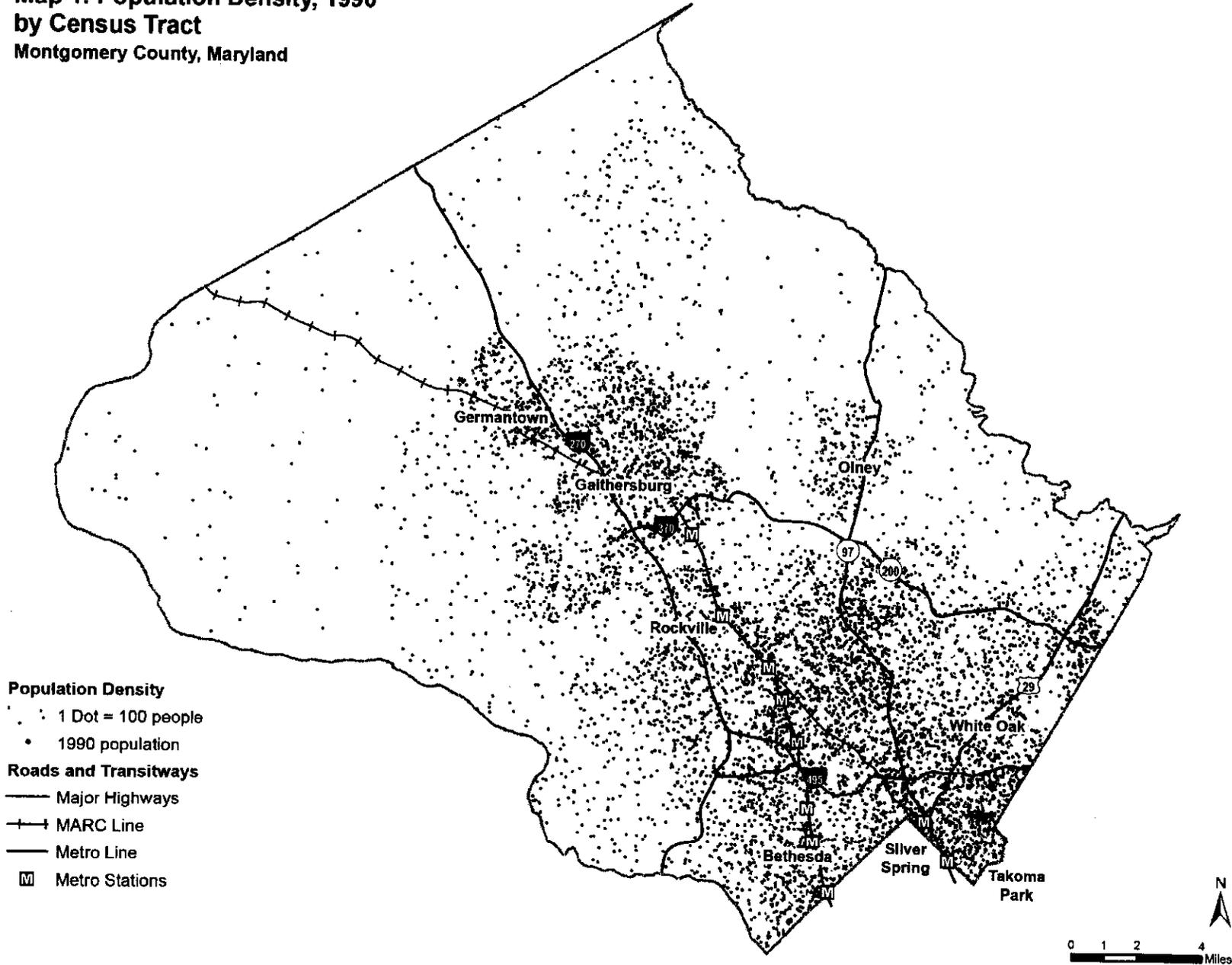
The county's total population density at the U.S. Census tract level is shown in Map 1 for 1990 and in Map 2 for 2016. In 1990, the population was concentrated inside the I-495 Beltway and along the major transportation corridors, I-270, MD-97 (Georgia Avenue), and US-27 (Colesville Road). The areas with the highest population densities include Takoma Park, Silver Spring, Bethesda, Germantown, Gaithersburg, Rockville, and Aspen Hill (Map 1).

The population density map for 2016 documents the same, well-established concentrations noted in 1990 becoming denser. The low-density areas, characterized by the outer ring of the Agricultural Reserve established in 1980 and the large-lot residential zoning, remain consistent over time.

2 Washington Council of Governments Population Forecast, Round 9.1, 2017.

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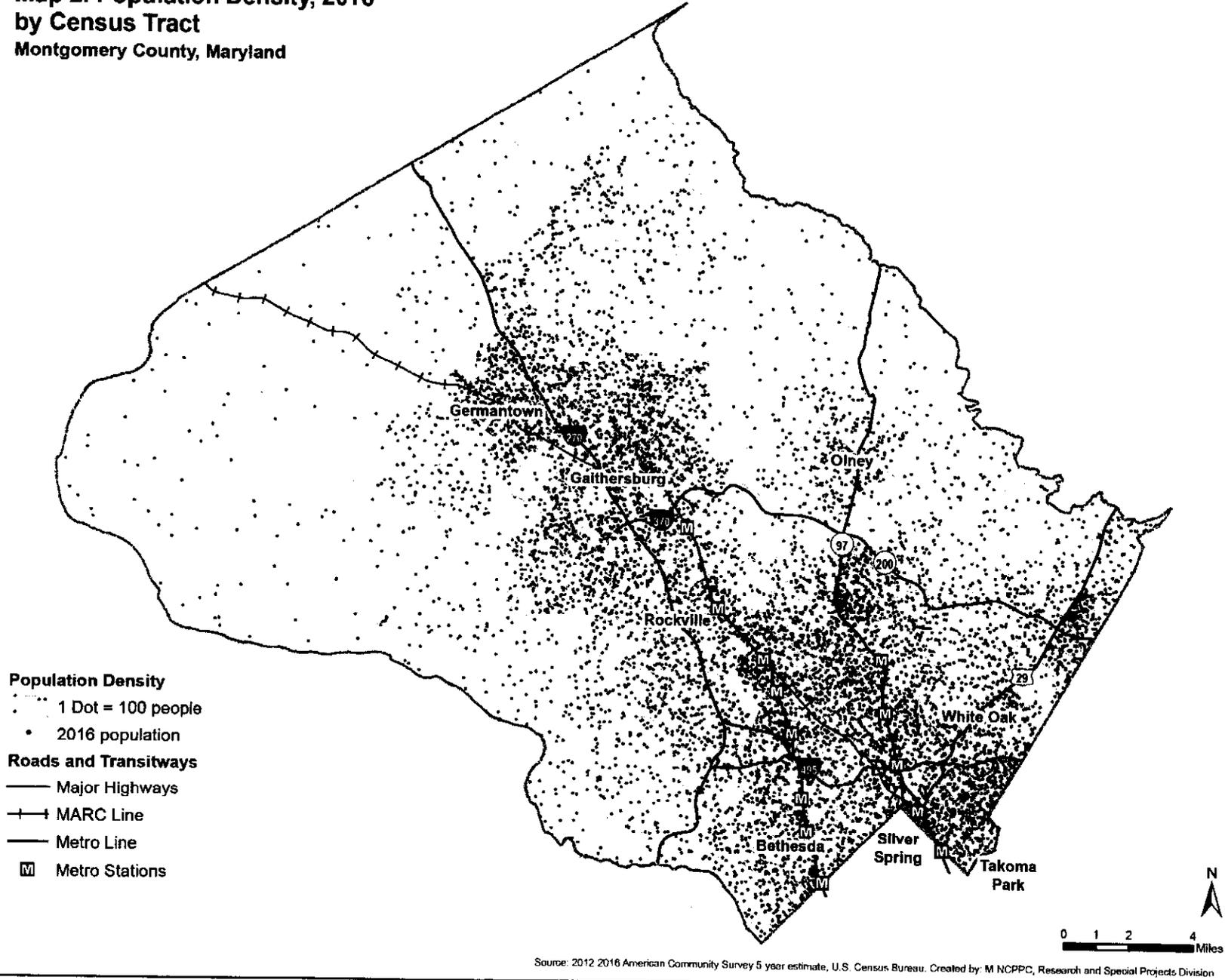
**Map 1. Population Density, 1990
by Census Tract
Montgomery County, Maryland**



Source: 1990 Census, U.S. Census Bureau. Created by: MNCPPC, Research and Special Projects Division

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**Map 2. Population Density, 2016
by Census Tract
Montgomery County, Maryland**

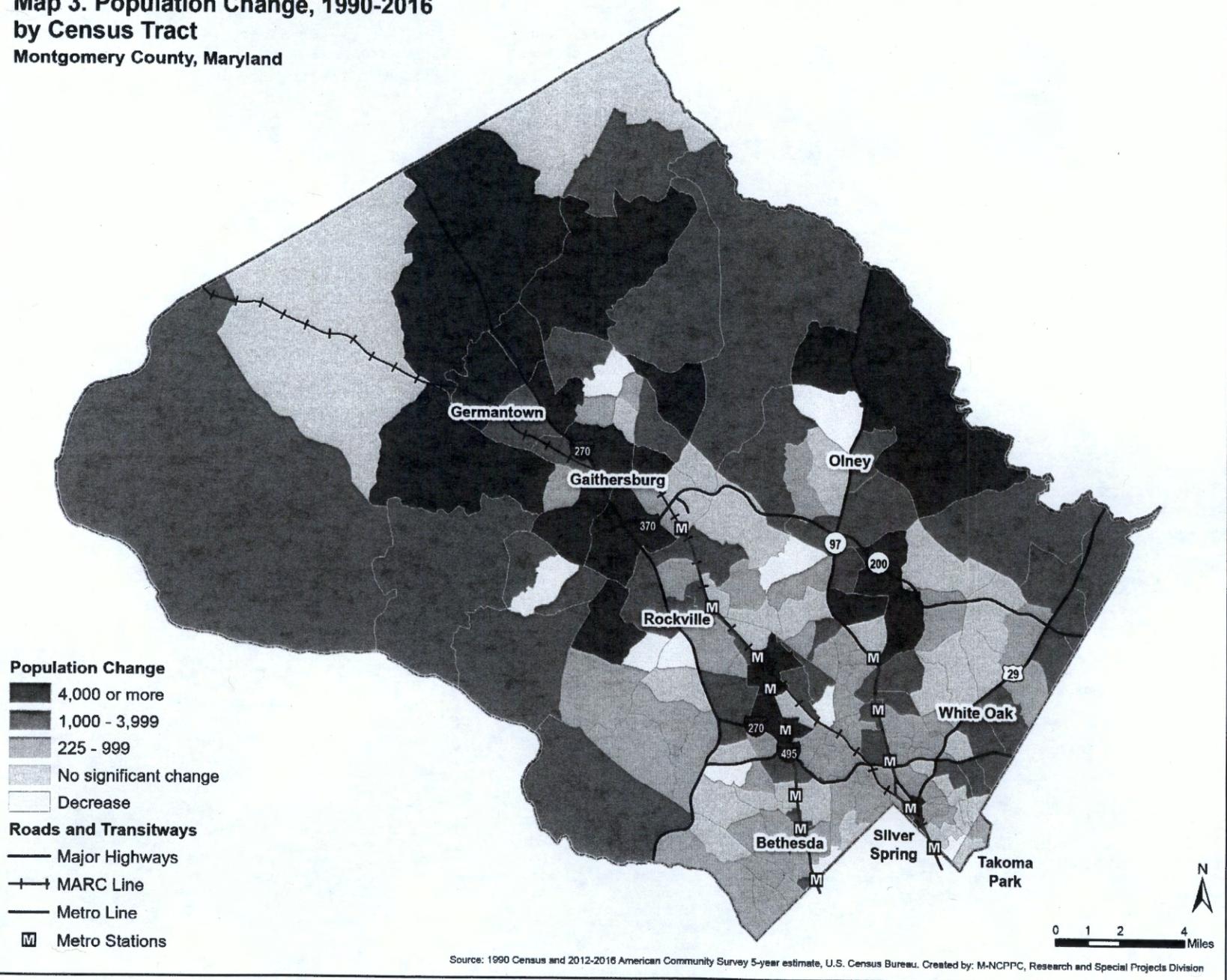


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The county gained about 287,000 people between 1990 and 2016. Map 3 shows where the change in total population occurred during this period at the U.S. Census tract level. The highest growth areas with population gains exceeding 4,000 people include Germantown and Clarksburg stretching northward, the Gaithersburg vicinity, and tracts near the Metro stations located outside the I-495 Beltway constructed after 1984. High-growth areas in the eastern part of the county include downtown Silver Spring near the Metro station, the vicinity of Leisure World senior housing development, and north of Olney towards Howard County. Decreased population reported in a few tracts is mainly attributed to alterations to boundaries defining tracts, which reduced the number of households counted in 2016.

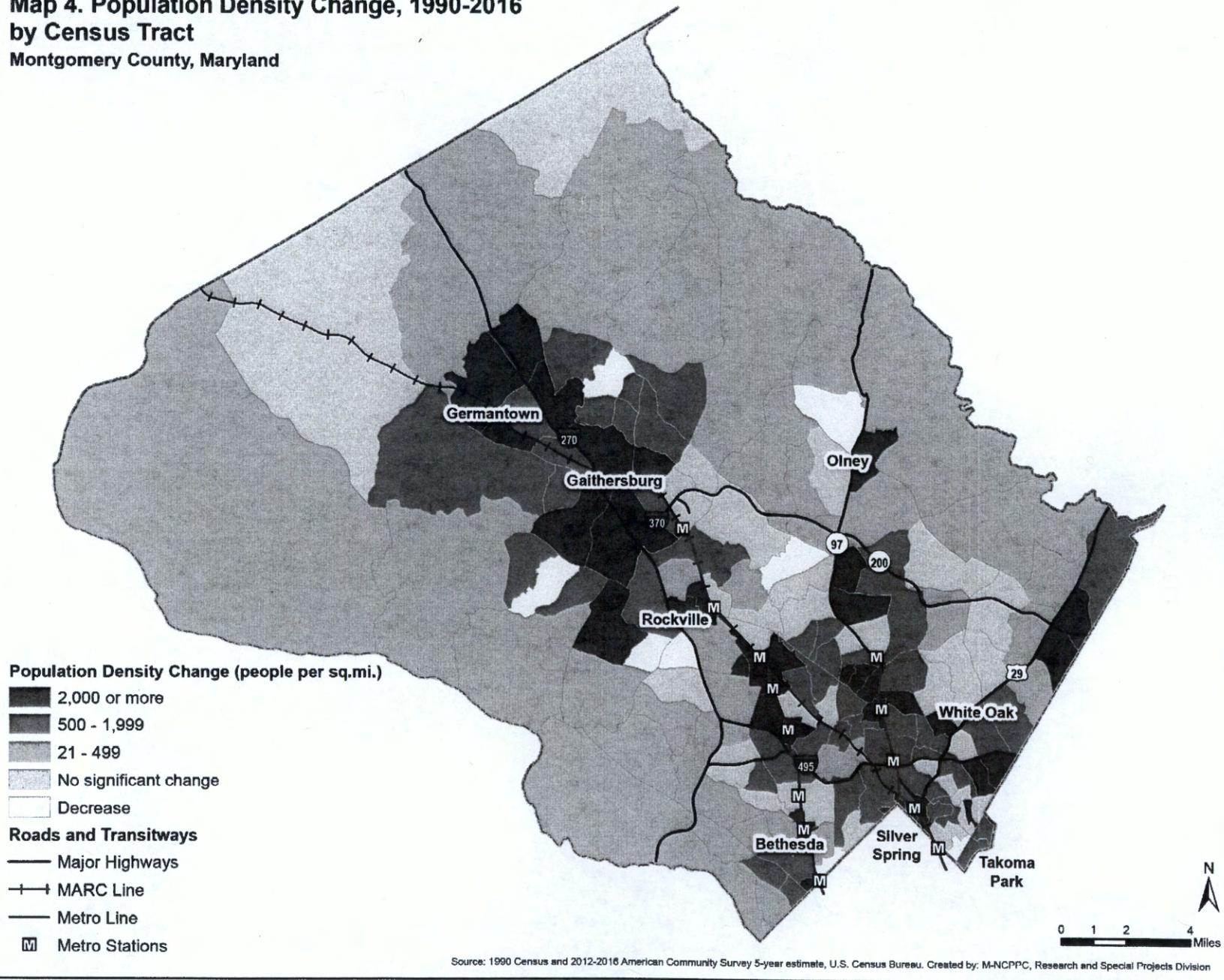
The change in total population density between 1990 and 2016 is presented in Map 4. Most U.S. Census tracts outside of the Agricultural Reserve increased in population density during this period, with the larger increases occurring along the main transportation corridors I-270, MD-97, and US-29. In addition, most tracts around Metro stations had increases of 2,500 or more people per square mile. The localized patterns of increased population density bears witness to the original and updated General Plans' growth concepts of creating new higher-density development along the I-270 corridor as well as maintaining wedges of low-density residential development and open space between the corridors.

**Map 3. Population Change, 1990-2016
by Census Tract
Montgomery County, Maryland**



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**Map 4. Population Density Change, 1990-2016
by Census Tract**
Montgomery County, Maryland



Foreign immigration typically offsets domestic out-migration, adding population and diversity

The movement of people in and out of Montgomery County is a potent driver of population growth and its flow is instrumental to increasing diversity. The consistent net influx of people from abroad counters the usual net domestic out-migration, when more residents move out of the county than people move in. Between 1990 and 2017, people moving into Montgomery County from abroad contributed an annual net gain of 8,700 people, offsetting the average net domestic migration loss of 5,400 people per year relocating within the Washington, D.C. region or elsewhere in the United States. During this 27-year span, international migration gains, tempered by domestic out-migration, netted 90,000 new residents contributing to the county's population growth. Moreover, foreign immigration, a significant source of cultural diversity, augmented the increasing diversity of Montgomery County residents.

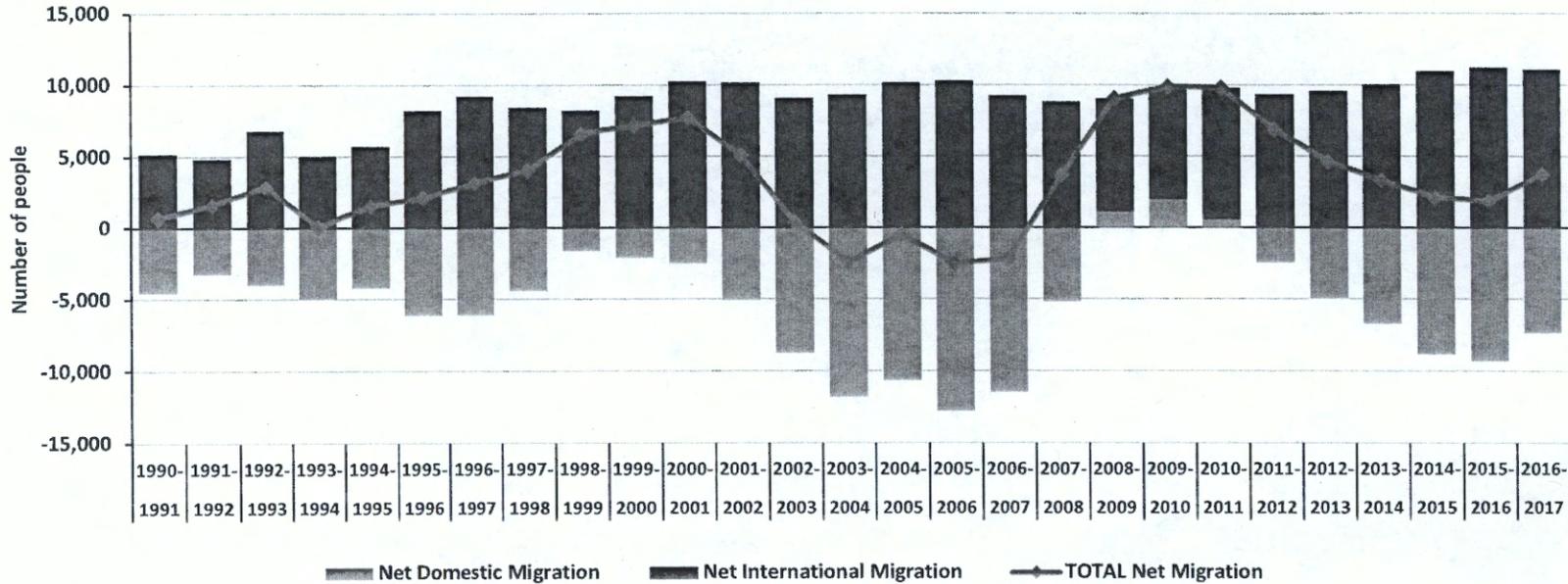
The swings in domestic migration during the 2000s illustrate the effect of the national and regional economies on migration levels in Montgomery County. Typically, domestic out-migration occurs during a good economy when there are more job and housing upgrade opportunities elsewhere. Before the Great Recession, from 2003 to 2007, the county averaged an annual net domestic migration loss of 11,700 people (Figure 3). When the recession started nationwide and locally, people delayed moving due to the difficulty in selling a home after the housing bubble burst, and the lack of job prospects elsewhere. For the first time in 20 years, more people moved into the county from other parts of the United States than residents left from 2008 to 2010. The improving national and regional economies offering jobs and housing reversed three years of domestic migratory gains. Starting in 2011, the county's net domestic out-migration increased, peaking in 2015 with the largest outflow of 8,265 people in 8 years.

After dipping during the Great Recession, international migration into the county set a record net gain of 11,181 foreign immigrants in 2015. Montgomery County, with the draw of its large, established foreign-born population base, economic opportunities, and welcoming social and political environments, is expected to continue to attract immigrants at levels contingent on world and national politics and regional and global economic cycles. Nationally, the U.S. Census Bureau's population projection assumes a flat level and slight decline in the overall rate of net international migration for 2020 to 2060.³

³ "Demographic Turning Points for the United States: Population Projections for 2020 to 2060," Vespa, Armstrong, and Medina, *Current Population Reports*, P25-114, U.S. Census Bureau, March 2018.

Domestic migration, typically a net annual loss of residents, usually determines the amount of total population migration gains

Figure 3. Population Migration, 1990-2017



Source: 1990-2017 Population Estimates Program, U.S. Census Bureau.

Births drive population growth and diversity

Births, more than double the number of deaths since 1990, is a major component of the county's population growth (Figure 4). Natural increase, defined as births minus deaths, is the predominant factor driving Montgomery County's population growth, accounting for almost three-quarters of the county's 282,900 population gain between 1990 and 2016. The average natural increase of 7,900 people per year is more than double the average annual population gains of 3,300 from total migration spanning 1990 to 2016.

The number of births occurring in 1990 (12,773) and 2016 (13,066) differ by only 300 births, masking the notable decline in Montgomery County's birth rates, respectively, from 16.7 to 12.5 births per 1,000 people. During that period, the national birth rate followed the same downward trend from 16.7 to 12.2 births per 1,000 people.

After peaking at 13,800 births in 2007 at the onset of the recession, births in the county declined by six percent over six years of slow economic recovery until the first upturn to 13,214 births in 2014 (Figure 4). Between 2007 and 2016, the number of births per 1,000 people dropped from 14.9 to 12.5, the

lowest rate since 1979 at 12.2, but not matching the record low of 11 births per 1,000 people during the recession of 1975.

Women of the millennial generation, typically defined as those born between 1981 and 1997, are delaying childbirth in Montgomery County, as in the rest of the country.⁴ Birth rates for local women ages 25 to 34 – typically, the age range with the highest rates – continued dropping to new lows since 2007, while birth rates for older women have fluctuated upwards. Births per 1,000 women ages 30 to 34 dropped from 149 births in 2007 to 128 births in 2016. Similarly, birth rates for women ages 25 to 29 declined from 131 to 85 births per 1,000 women of this age between 2007 and 2016. This drop converged on the birth rate for women 35 to 39 that slightly increased from 82 to 86 births from 2007 to 2016.

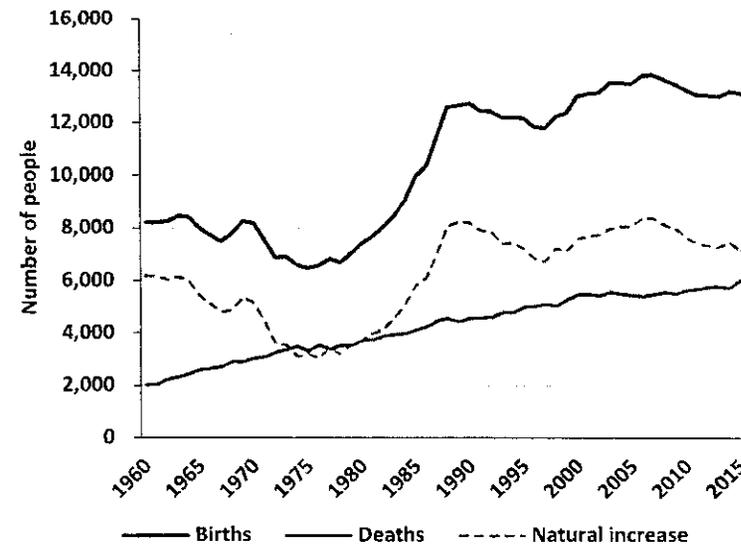
The number of births is expected to gradually increase as fewer young women postpone motherhood, and the forecasted number of women of child-bearing age increases over the next 20 years. The forecasted number of births in 2025 is roughly 13,600, a 4 percent increase over births in 2016 coinciding with the anticipated 11,400 additional females of child-bearing age between 2015 and 2025, a 5 percent increase.

In addition to contributing to the population's growth, births change the racial and ethnic composition of Montgomery County. In 1990, the combined percentages of Hispanic, African-American, and Asian births in the county totaled 40 percent, rising to 66 percent of all births in 2016. During this period of increasingly diverse in-migration and births, the county's women of color population increased from 31 percent in 1990 to 61 percent in 2016. General fertility rates of women in the county vary by maternal race and Hispanic origin. Hispanic women had the highest birth rate at 83 births per 1,000 Hispanic women ages 15 to 49, compared to 64 for African-American women, and 56 for non-Hispanic white women in 2016. As the population of people of color is forecasted to grow by 52 percent in the next

30 years, the number of Hispanic, African-American, and Asian babies are expected to increase as well.⁵

Births continue to outpace deaths, resulting in population growth

Figure 4. Natural Increase: Births and Deaths, 1960-2016



Source: Vital Statistics Administration, Maryland Department of Health.

4 Births: Provisional data for 2017. Vital Statistics Rapid Release; no 4. Hyattsville, MD, National Center for Health Statistics, May 2018.

5 Age, Sex, and Race Forecasts, Maryland Department of Planning, August 2017.

RACIAL AND ETHNIC DIVERSITY

Racial diversity, hallmark of change

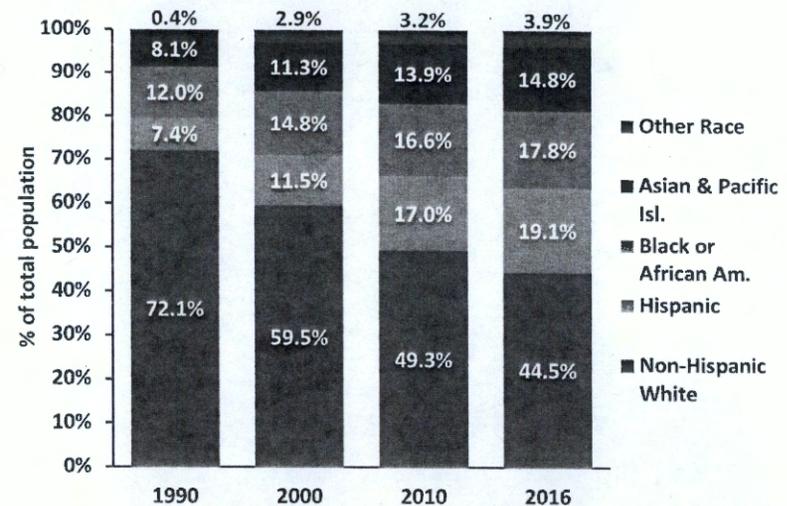
In 2016, people of color comprised 55.5 percent of the total population making Montgomery County more diverse than the nation (38.9 percent) and Maryland (48.6 percent)⁶. While similar in the level of diversity compared to the Washington, D.C. region (54.2 percent), the county has more equal percentage distribution among the different racial and ethnic groups.

Increasing racial and ethnic diversity outpaced the county's overall population growth since the 1990s, steadily increasing the percentage of people of color in the total population (Figure 5). Between 1990 and 2016, the people of color population added 370,823 people compared to gains of 286,836 in the total population at a rate of nine new people of color residents for every seven new people. By 2010, the percent share of the county's largest racial group, non-Hispanic whites, dropped below half, 49.3 percent, creating a plurality among racial and ethnic groups where no single group was a majority.

The Hispanic population more than tripled in size since 1990, reaching 199,402 people or 19.1 percent of the county's population in 2016. Hispanics, the fastest growing group over the past 26 years, became the largest minority group in 2010 surpassing the number of African Americans in the county. The Hispanic population increased across most of the county. Since 1990, areas gaining at least 1,500 people of Hispanic origin in a U.S. Census tract include Clarksburg and Germantown vicinities, Gaithersburg, mid-county areas of Aspen Hill, Glenmont, and Layhill, and downcounty in Silver Spring and Hillandale (Map 5).

Racial and ethnic diversity steadily increases over the past three decades

Figure 5. Population by Race and Hispanic Origin, 1990-2016



Source: 1990-2010 Census; 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

Between 1990 and 2016, the African-American population increased from 89,184 to 185,442 residents, raising its percentage of the county's population from 12.0 percent in 1990 to 17.8 percent in 2016. Most of the increase in the African-American population occurred in the north and eastern parts of the county. The largest increase of black or African-American residents at the tract level occurred in Clarksburg, Germantown, Gaithersburg, and Montgomery Village, along the Howard County border including Ashton-Sandy Spring and Brookeville vicinity, and areas bordering Prince George's County from Hillandale, Fairland to Burtonsville (Map 5).

⁶ People of color includes a broad base of people self-identifying as Hispanic or Latino origin, African American or black, Asian, Native Hawaiian and other Pacific Islanders, American Indian and Alaskan Native, some other race, or multi-racial.

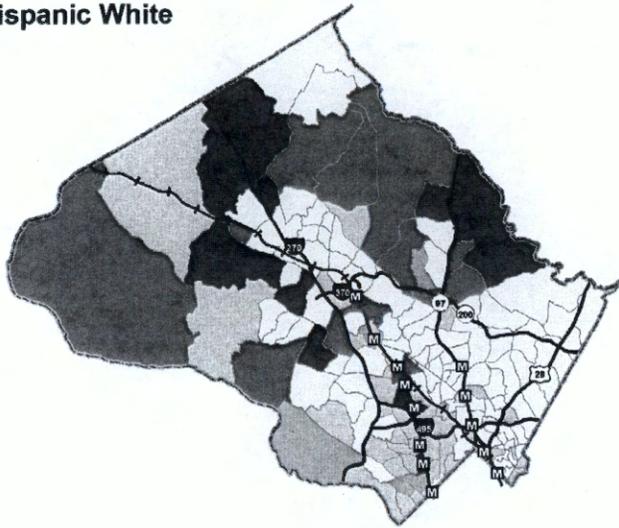
The percentage of Asians increased from 8.1 percent to 14.8 percent, gaining 93,271 people over 26 years to reach 154,243 in 2016. Growth in the Asian population since 1990 occurred west of I-270, from Gaithersburg north to Frederick County, along the Metro Red Line outside the I-495 Beltway, and north of MD-200 (Intercountry Connector) toward Howard County. U.S. Census tracts gaining at least 1,500 Asian residents between 1990 and 2016 include Travilah, Rockville, west Germantown, and the Clarksburg vicinity (Map 5).

As the number of people of color steadily increased, the non-Hispanic, white population dropped from 548,453 in 1990 to 464,466 in 2016, a 15.3 percent decrease. The decrease occurred in U.S. Census tracts along I-270 including Germantown, Gaithersburg, and Rockville, and easterly across mid-county to the Prince George's County border. Gains in the non-Hispanic white population occurred in a few places such as north from Clarksburg, west of Germantown, and northeasterly from Olney to Howard County (Map 5).

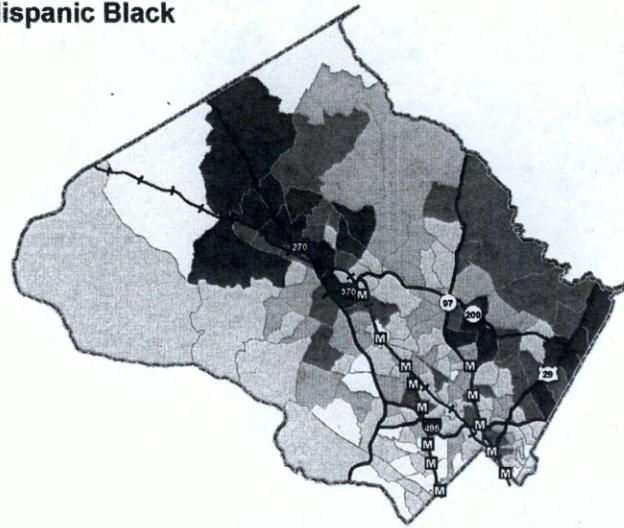
The dramatic change in Montgomery County's racial and ethnic composition is well illustrated in Map 6 and Map 7 depicting the predominant racial or ethnic group in 1990 and 2016 at the U.S. Census tract level. In 1990, almost all tracts in Montgomery County were predominantly white comprising 70 percent or more of the population in each tract, or majority white with concentrations ranging from 50 percent to 70 percent. Tracts where no one race or Hispanic group held more than half the population – i.e., no one group was predominant – were located inside the I-495 Beltway in parts of North Chevy Chase and Silver Spring, and in the Hillandale and White Oak areas (Map 6).

With the increased diversity across the county by 2016, there was a broader array of racial and Hispanic concentrations with fewer predominant and majority white tracts. Predominant and majority black or African-American tracts emerged along the Prince George's County border and majority Hispanic tracts in Aspen Hill, Wheaton, Glenmont, and Silver Spring. Evidence of diversity is seen in the increased number of tracts with no group comprising more than half the tract's population. A broad area of tracts with no predominant race or Hispanic group extends south from the Frederick County border encompassing Clarksburg, Germantown, Gaithersburg, parts of Rockville, and across the mid-county to the Prince George's County border. Takoma Park joined the areas inside the Beltway that were already diverse in 1990 (Map 7).

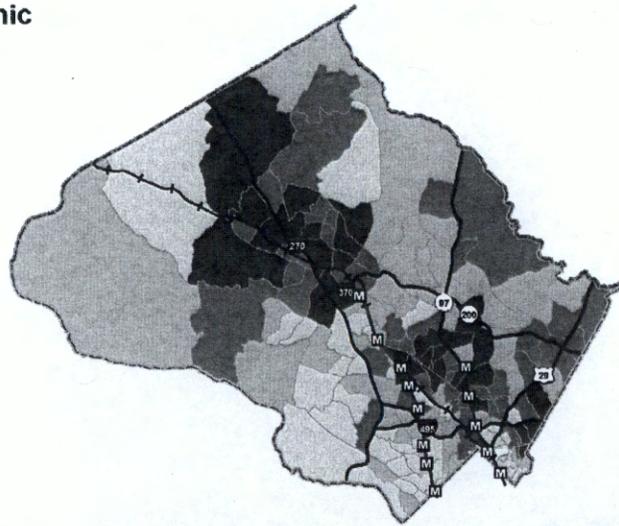
Non-Hispanic White



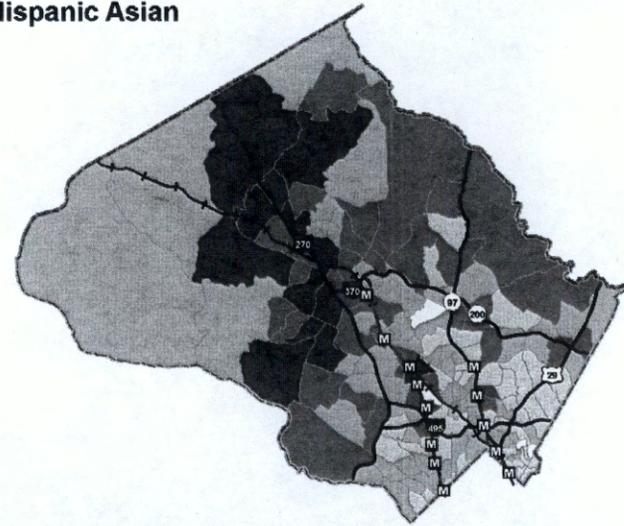
Non-Hispanic Black



Hispanic

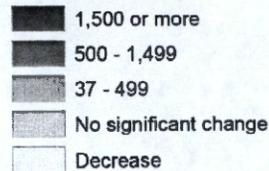


Non-Hispanic Asian

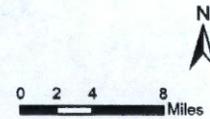
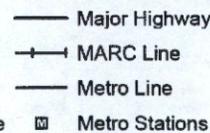


Map 5. Change In Population per Racial or Ethnic Group, 1990-2016 by Census Tract
Montgomery County, Maryland

Population Change



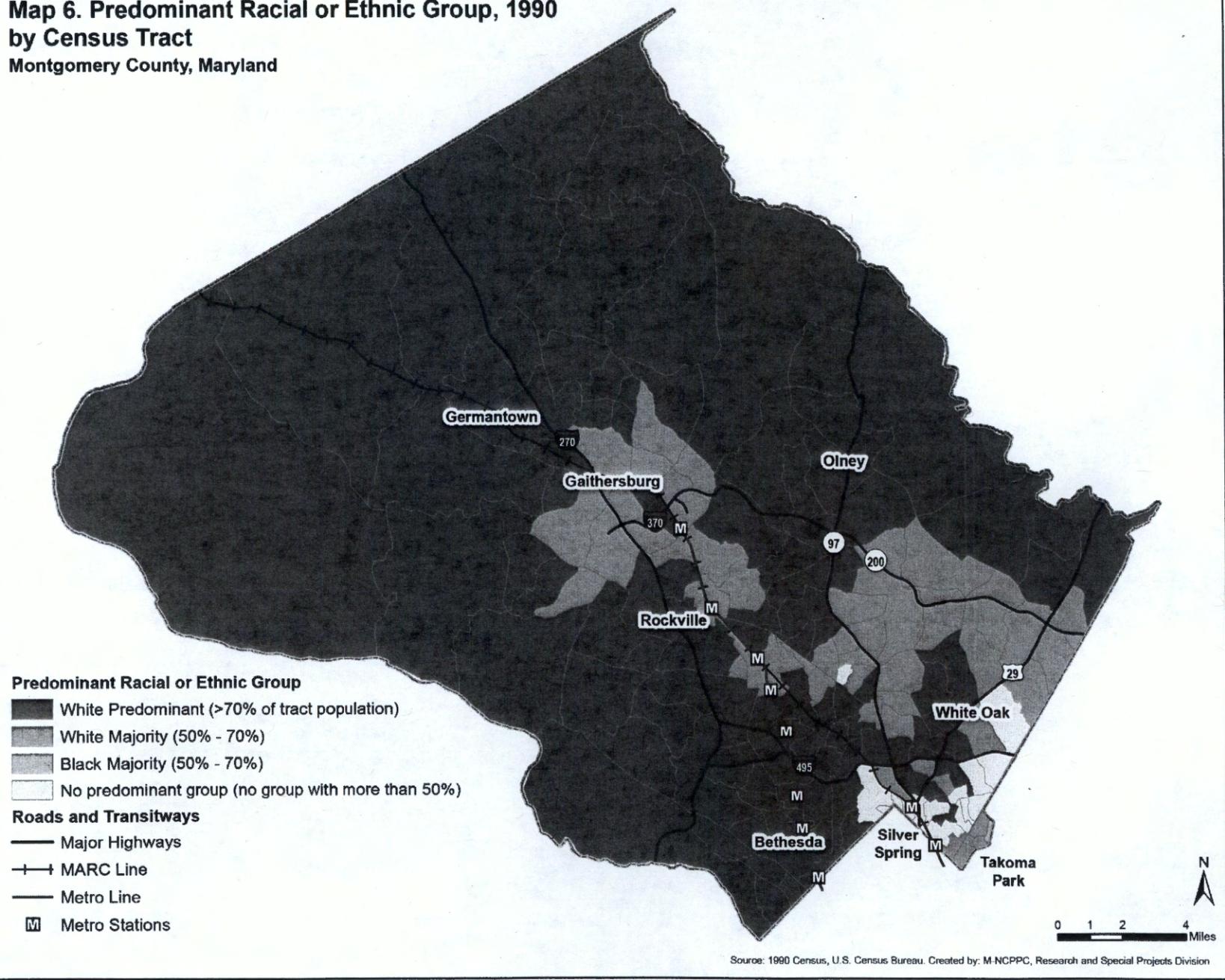
Roads and Transitways



Source: 1990 Census and 2012-2016 American Community Survey 5-year estimate, U.S. Census Bureau. Created by: M-NCPFC, Research and Special Projects Division

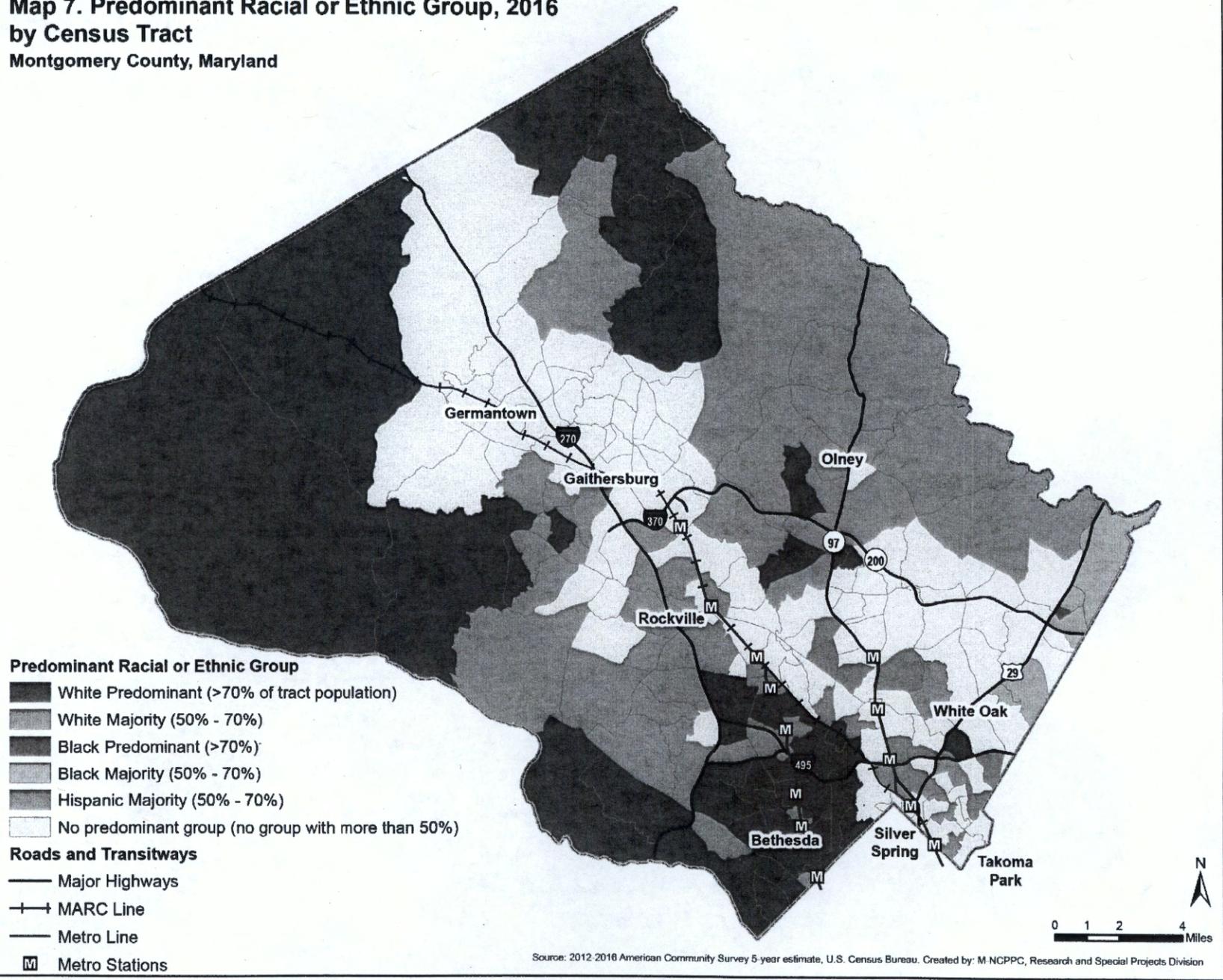
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**Map 6. Predominant Racial or Ethnic Group, 1990
by Census Tract**
Montgomery County, Maryland



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**Map 7. Predominant Racial or Ethnic Group, 2016
by Census Tract**
Montgomery County, Maryland



Populous and widely diverse foreign-born residents

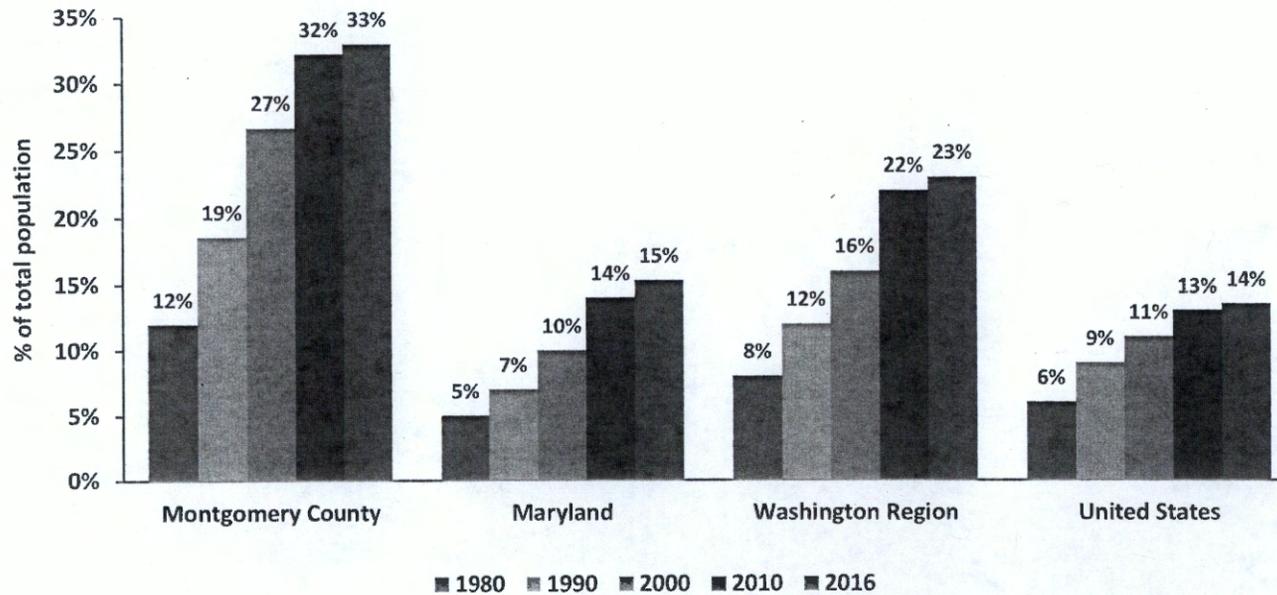
Montgomery County has a history of attracting people from other countries, and this trend is a major component of its population growth, and moreover, its increasing diversity. Figure 6 illustrates the concentration of foreign-born residents steadily increasing from 12 percent of the population in 1980, to 19 percent in 1990, to 33 percent, or 344,645 people, in 2016. A higher concentration of foreign-born residents lives in the county than any other local jurisdiction. The rate exceeds the Washington, D.C. region's (23 percent) and is more than double the rates for Maryland (15 percent) and the United States (14 percent). Montgomery County is home to almost 40

percent of Maryland's foreign-born population and one-quarter of all the foreign-born people in the Washington, D.C. area in 2016.

Most of the Montgomery County's foreign-born residents come from two regions in the world, Asia and Latin America, with equal shares at 37 percent each in 2016 (Figure 7). The top 10 countries of origin listed in Table 1 have been consistent since 2010 with only minor shifts in ranking. Of the 100 or so places of birth reported in 2016, the largest immigrant group is from El Salvador, about 48,000 people or 14 percent of all foreign-born residents. The other two countries with more than 24,000 people are China & India, with 8 percent and 7 percent, respectively, of all foreign-born residents.

Steadily increasing foreign-born residents contributes to County's growth

Figure 6. Foreign-Born Percentage of Population by Jurisdiction, 1980-2016

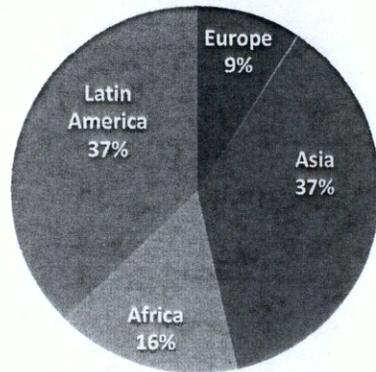


Source: 1998-2010 Census, 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

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Most foreign-born residents are from Latin America or Asia

Figure 7. Residents' Region of Birth



Source: 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

The great diversity in places of birth is apparent as most countries of origin are each less than 1 percent of the county's foreign-born population. Other than El Salvador, China, and India, there are not many predominant groups across Montgomery County.

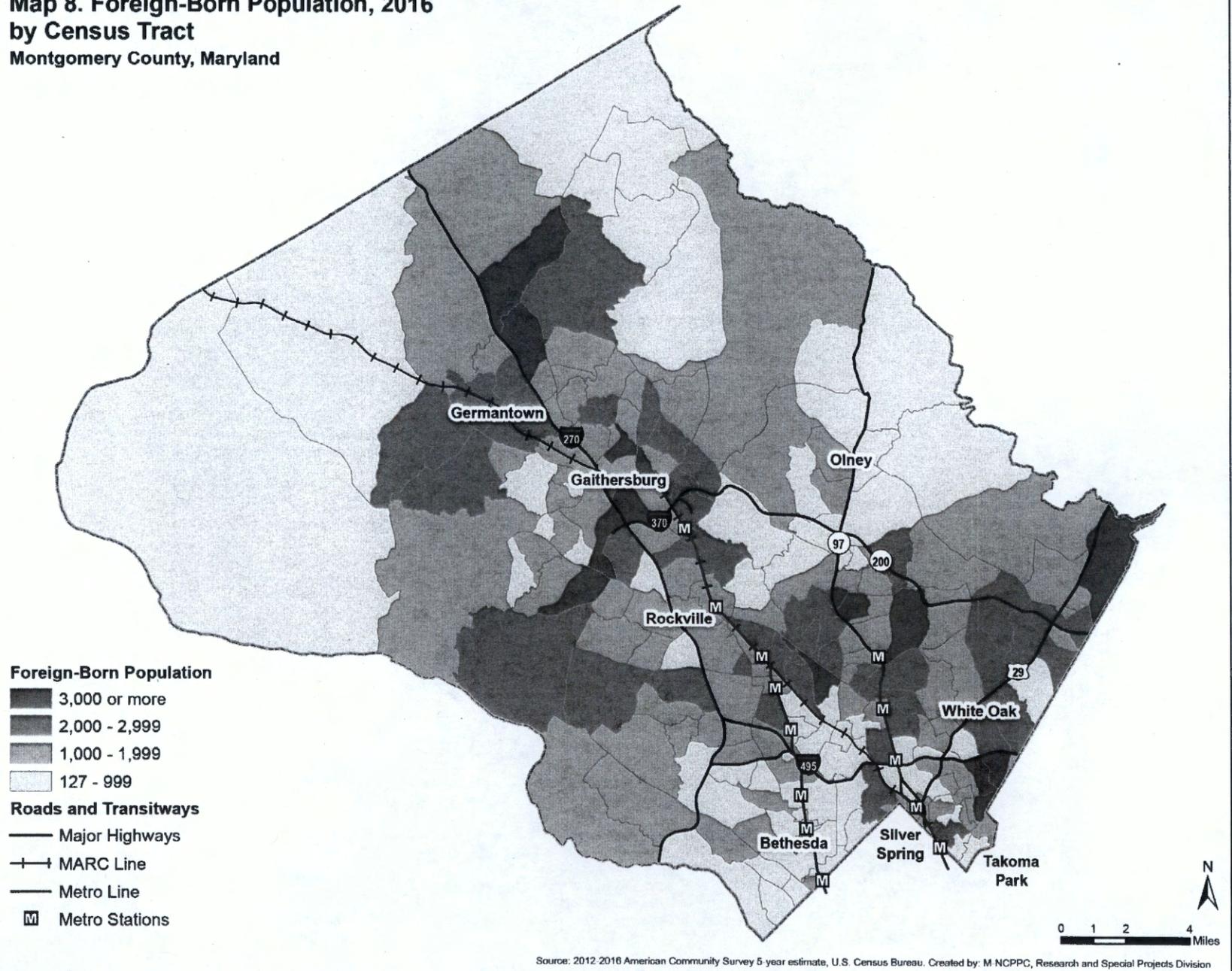
Table 1. Largest Foreign-Born Populations, 2016

COUNTRY	POPULATION	% OF FOREIGN-BORN
El Salvador	47,792	13.9%
China	28,243	8.2%
India	24,306	7.1%
Korea	15,185	4.4%
Ethiopia	15,139	4.4%
Vietnam	12,384	3.6%
Honduras	11,234	3.3%
Peru	10,229	3.0%
Iran	7,947	2.3%
Guatemala	7,564	2.2%

Source: 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

Foreign-born residents are dispersed throughout the county as shown in Map 8. The highest concentrations of foreign-born residents, 3,000 or more in a tract, are found in parts of Clarksburg, Gaithersburg, North Potomac, Glenmont, Silver Spring, and Burtonsville.

**Map 8. Foreign-Born Population, 2016
by Census Tract
Montgomery County, Maryland**



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Continued growth in diversity

Over half of Montgomery County's population were people of color for the first time in 2010, more than three decades before people of color becomes the majority across America in 2045 according to the projections by the United States Census Bureau.⁷

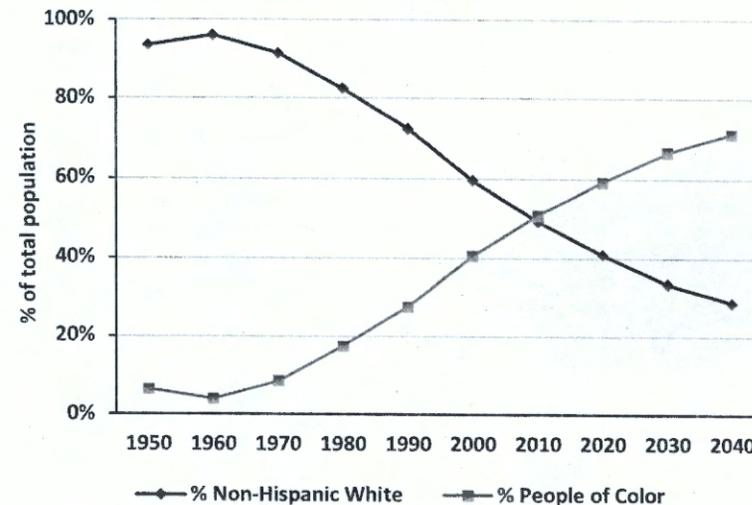
Near- and long-term trends of increasing racial and ethnic diversity in Montgomery County are expected to continue, assuming sustained migration patterns of racially and ethnically diverse populations moving into the county and additional births of people of color. Continuing levels of residents moving into the county from abroad –the net international migration averages nearly 10,000 new residents per year since 2010 –is expected within the parameters of regional and global economies and world and national politics. The origin of the county's foreign-born residents is widely diverse with 37 percent each from Latin America and Asia in 2016. The revolving door of people moving in and out of Montgomery County increases the mix of people. New residents moving into the county were more diverse than people leaving; 57 percent of new residents were African American, Hispanic, and Asian, and less than half of those moving out were people of color in 2016.

Natural population increase and the composition of births and deaths contributes to Montgomery County's changing racial and ethnic make-up. Increasing diversity over the decades is partly attributed to the rising share of Hispanic, African-American and Asian babies, which are now the majority of babies being born (66 percent in 2016). This trend reflects increases in the number of child-bearing age, women of color, and the varying birth rates associated with maternal race and Hispanic origin that are higher than birth rates of non-Hispanic, white women. The number of babies of people of color is expected to continue increasing commensurate with the forecasted growth of Hispanic, African-American, and Asian women. The share of people of color in the county will also shift upwards as elderly residents, the majority non-Hispanic white (69 percent), move from the county or die.

The Maryland Department of Planning produces a 30-year forecast of Montgomery County's non-Hispanic white population (Figure 8).⁸ Over a 10-year span, the county's people of color population is projected to grow by 21 percent, rising to 63 percent of the total population by 2025. Between 2015 and 2045, the people of color population is forecasted to increase by 52 percent and make up 73 percent of the county's population.

Share of people of color population is expected to keep growing

Figure 8. Population Racial Change, 1950-2040



Source: 1950-2010 Census, U.S. Census Bureau; 2010-2040 Racial Forecast, Maryland Department of Planning.

⁷ "Demographic Turning Points for the United States: Population Projections for 2020 to 2060" U.S. Census Bureau, March 2018.

⁸ *Ibid.*

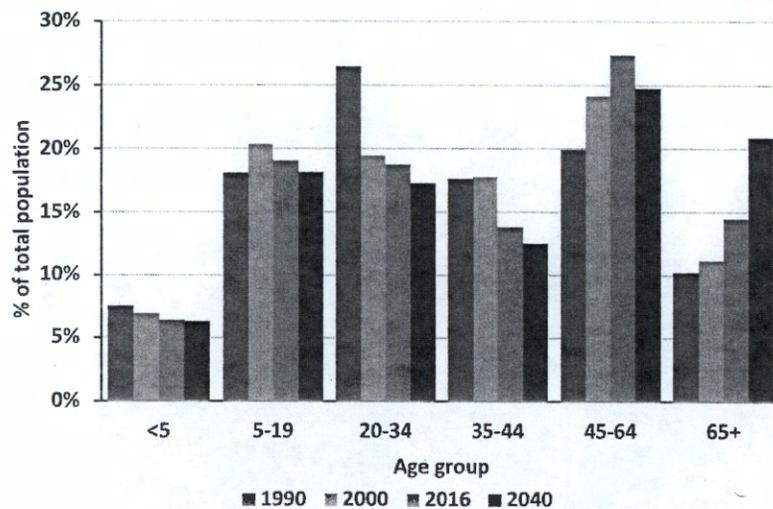
POPULATION AGE STRUCTURE

Age distribution

The age distribution of Montgomery County residents, shown in Figure 9, noticeably shifted between 1990 and 2016 as the dominant baby boom generation, ages 26 to 44 in 1990, are now 52 to 70 in 2016. The median age of residents rose from 33.9 years in 1990 to 39 years in 2016 as the baby boomers matured.

Forecasted decline in share of peak wage-earners, 45 to 64, and increase of older adults age 65+

Figure 9. Percentage of Population by Age Group



Source: 1990-2000 Census; 2016 American Community Survey, 1-year estimates, U.S. Census Bureau; Age Forecast, Maryland Department of Planning (2017).

Almost one-quarter of a million children under age 18 live in Montgomery County, making up 23 percent of the population. The county gained about 66,000 children, up 27 percent since 1990. The forecasted share of children in 2040 is expected to remain under one-quarter of the population.

About one out of five residents (191,171 people) is a young adult age 20 to 34 in 2016. The aging of baby boomers explains the percentage drop in the share of young adults, 20 to 34, from 26.5 percent in 1990 to 18.8 percent in 2016 with the forecasted decline slowing to 17.3 percent by 2040. This is the only age group decreasing in number (by 4,225 young adults), down 2.1 percent in 2016. Young adults are the most mobile age group, typically renters, some starting families, and they are the core of the county's new residents.

Montgomery County continues to attract adults ages 35 to 44 increasing by 7.3 percent since 1990 to 143,552 in 2016. At the same time, the baby boomers aged out of this cohort, driving down the percent of 35- to 44-year-olds from 17.7 percent of the county's population in 1990 to 13.8 percent in 2016. Adults in this age group typically have embarked on a career path, and the majority are families with young children possibly considering a move to accommodate a growing family.

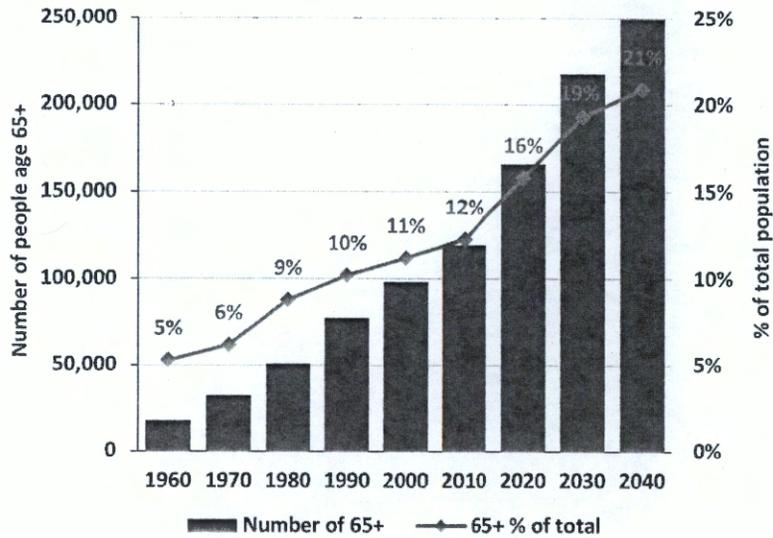
In 2016, 285,806 residents ages 45 to 64 comprised 27.4 percent of the population. Between 1990 and 2016, the 45 to 64 age group, considered prime wage-earners, gained almost 135,000 people, up 89 percent as baby boomers, 52 to 70 in 2016, aged into this cohort. As boomers advance to the next older adult cohort, the forecasted 45 to 64 age group drops to 24.8 percent by 2040.

In 2016, 151,609 people, about 1 out of 7 residents, is age 65 or older. Aging baby boomers boosted the rising share of the senior population from 10.2 percent in 1990 to 14.5 percent in 2016, thereby, almost doubling the number of older adults. The most dramatic change in the county's age structure is driven by the aging of the baby boomers as this group ages through life-cycle events to the brink of retirement. The leading edge of the boomer generation turned 65 in 2011 and by 2030, all will be 65 and older. The aging boomers will drive growth in the county's 65-plus population from about 120,000 residents, or 12 percent of the population, in 2010 to 19 percent in 2030 – a 82 percent increase over 20 years. By 2040 the number of

seniors is expected to double from 2010 (Figure 10). Not only will one out of five residents be 65 or older in 2040, the diminishing cohort of boomers will be frail elderly, ages 76 to 94 years old.

Aging baby boomers drive rise in older adult population

Figure 10. Age 65+ Population, 1960-2040



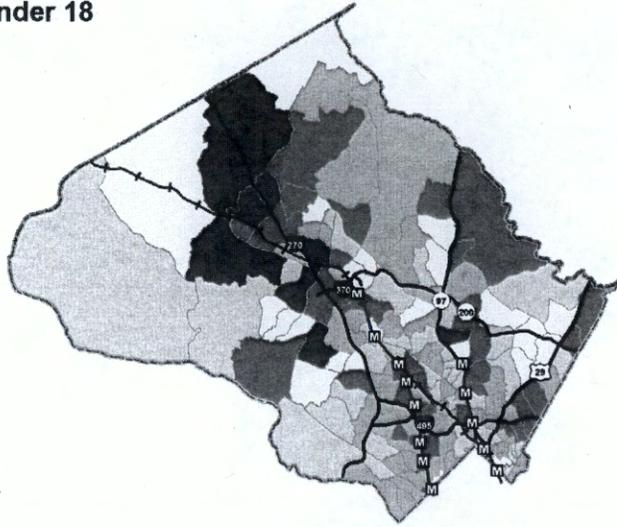
Source: 1960-2010 Census, U.S. Census Bureau; Population Forecast, Maryland Department of Planning (2017).

Localized changes in age groups between 1990 and 2016 are depicted in a series of U.S. Census tract level maps (Map 9). While gains in the number of children were common across most tracts, the greatest increase occurred near Clarksburg and Germantown and select tracts in Travilah and Aspen Hill. The map shows a scattering of tracts where the number of children decreased between 1990 and 2016.

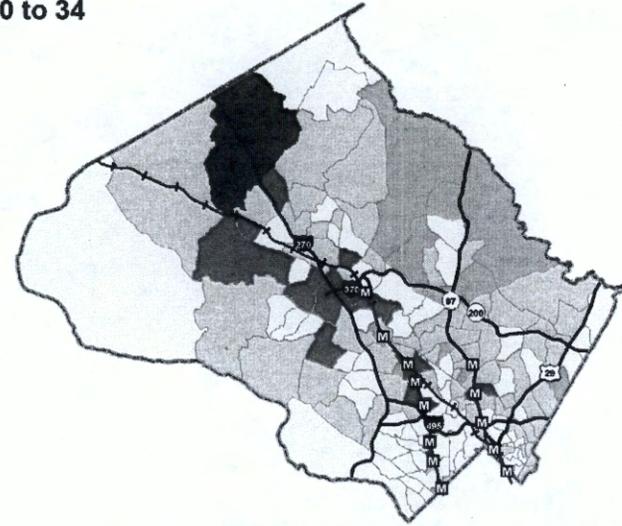
Since 1990, gains in the number of young adults, ages 20 to 34, are concentrated in Clarksburg, Germantown, and Gaithersburg, and south along the Metro Red Line to the Medical Center station. By 2016, the large baby boomer cohort aged into the 35 to 64 age bracket and this shift is reflected in tracts noted for a decreased number of 20- to 34-year-olds.

The predominance of baby boomers is seen throughout the county and the gains at the tract level represent boomers aging in place more so than new residents ages 35 to 64. As the leading edge of the boomer cohort turned 70 in 2016, increases in the 65 and older age group occurred across most tracts in the county with the growth noted in Germantown, Gaithersburg, and Potomac and in areas with large, older adult housing communities such as Leisure World and Riderwood.

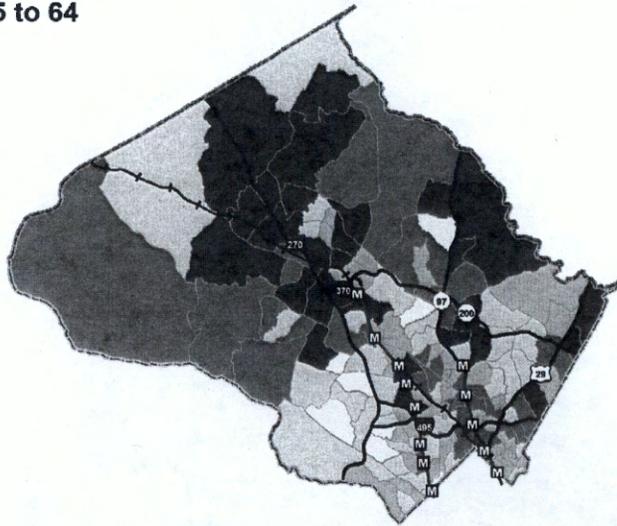
Age Under 18



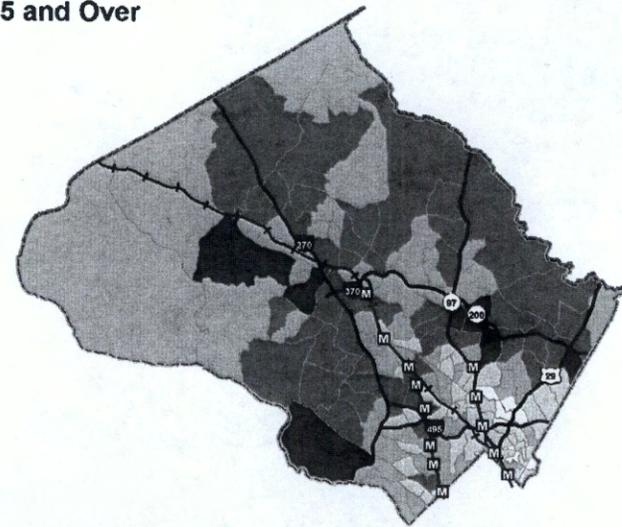
Age 20 to 34



Age 35 to 64

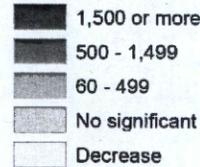


Age 65 and Over

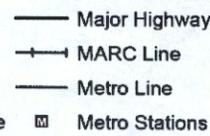


**Map 9. Change In Population
per Age Group, 1990-2016
by Census Tract
Montgomery County, Maryland**

Population Change



Roads and Transitways



Source: 1990 Census and 2012-2016 American Community Survey 5-year estimate, U.S. Census Bureau. Created by: M-NCPPC, Research and Special Projects Division

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EDUCATIONAL ATTAINMENT

Well-educated residents

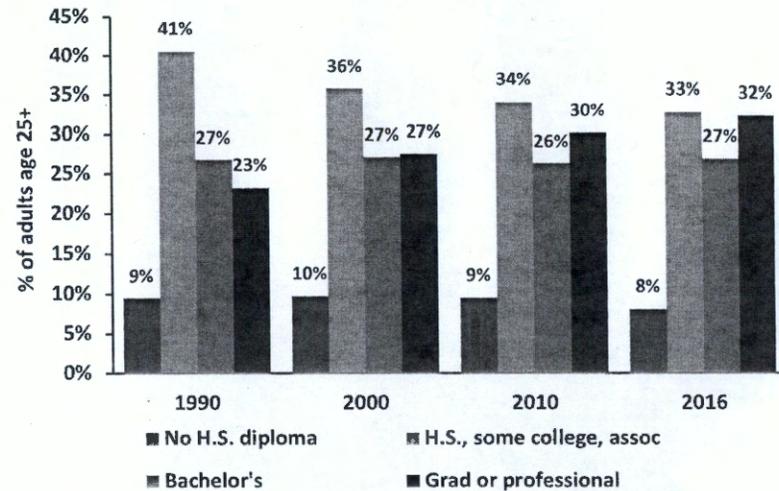
Montgomery County is noted for its high concentration of well-educated residents where 59 percent of adults age 25 and older earned at least a bachelor's degree, compared to 50 percent in the Washington, D.C. region, and 31 percent nationally in 2016. Almost one-third of adults hold a master's, doctorate or professional degree, ranking Montgomery County 5th among all counties in the nation. The national top five concentrations of advanced degrees in 2016 are all located in the Washington, D.C. region: Arlington (40%, 69,022), Alexandria (34%, 39,441), Washington, D.C. (33%, 157,778) and Howard (33%, 69,983). The absolute number of Montgomery County residents with advanced degrees, 231,258 adults, by far, exceeds the number of people with the same education residing in each of these highly concentrated local jurisdictions.

The high level of educational attainment in the county underpins the majority (56 percent) of employed residents working in management, business, and science occupations associated with the many mid- and upper-level technology and federal government jobs located in the county and region.

Within Montgomery County, concentrated areas of adults with advanced degrees generally correspond to areas characterized by high median incomes. The areas with the highest concentrations of advanced degrees, i.e., tracts with at least 1,500 adults with graduate or professional degrees, are found along the Potomac River stretching from the Washington, D.C. border westward to Travilah bounded by I-270 to the east. (Map 10).

Increasing share of well-educated residents with advanced degrees

Figure 11. Educational Attainment of Adults Age 25+ by Year

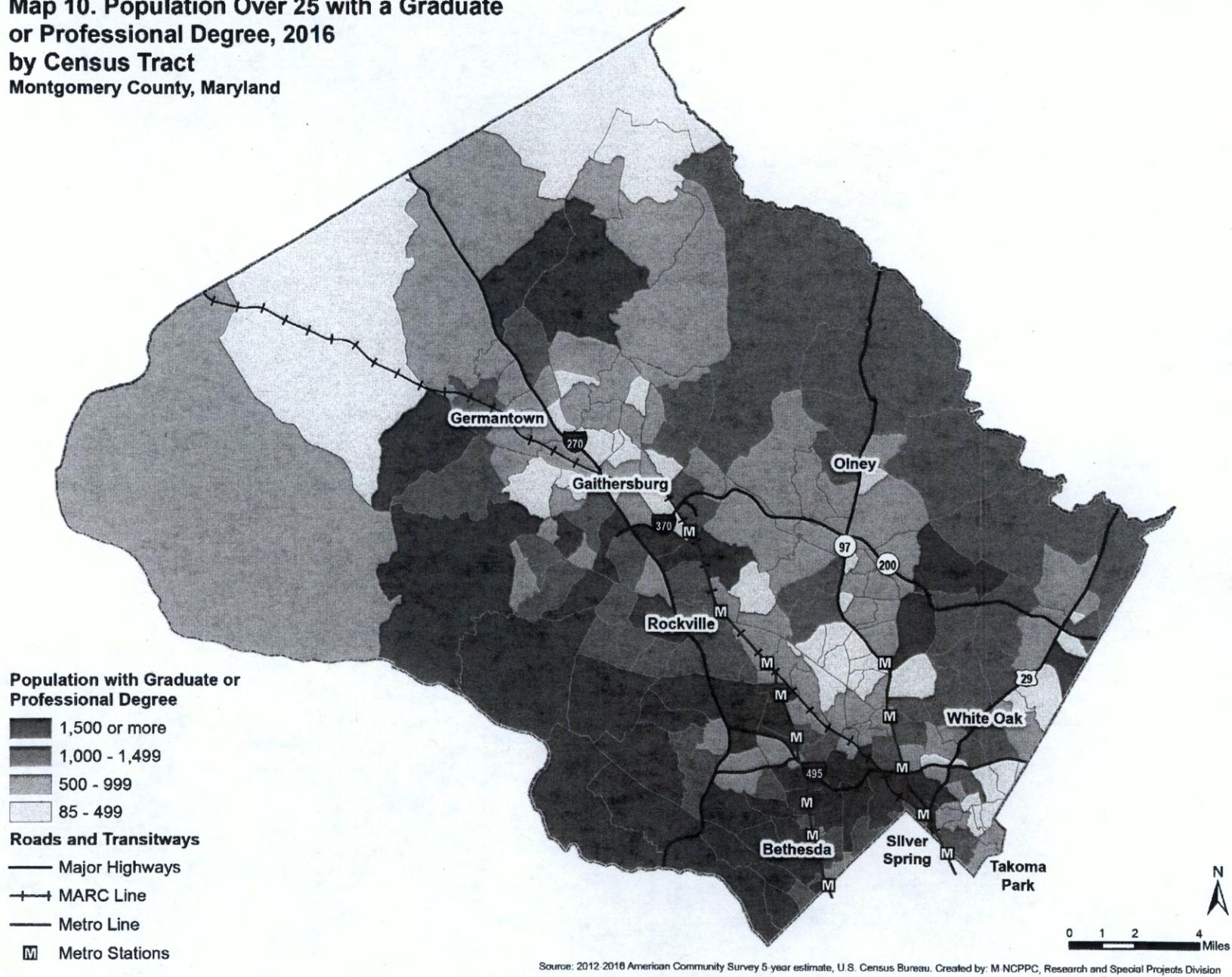


Source: 1990-2010 Census, 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

Today's high level of educational attainment in Montgomery County expanded from a solid base in 1990. Residents with a master's, a doctorate or a professional degree increased from 23 percent in 1990 to 32 percent in 2016, as the concentration of adults with high school or associate degrees or some college courses declined from 41 percent in 1990 to 33 percent in 2016 (Figure 11). Over the same period, the percentage of advanced degrees across the nation modestly increased from 7 percent in 1990 to 12 percent in 2016, and the Washington, D.C. region posted gains from 17 percent in 1990 to 25 percent in 2016.

Various factors contributed to increases in educational attainment since 1990 including changes in the job market requiring at least a bachelor's degree, more educated younger generations replacing an older generation having fewer educational opportunities, and women earning more degrees than previously.

**Map 10. Population Over 25 with a Graduate or Professional Degree, 2016
by Census Tract**
Montgomery County, Maryland



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HOUSEHOLD INCOME

Wealthy, but stagnant median income

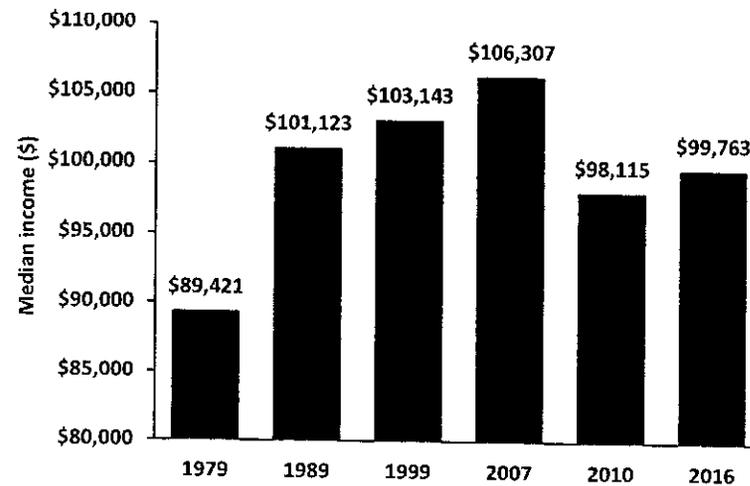
A median household income of just under \$100,000 in 2016 places Montgomery County 17th among counties across the nation and ranks 5th in the Washington, D.C. area. Montgomery County has the highest median household income of all the 364 other counties where people of color are the majority of the population. The county's median household income is about \$20,000 higher than Maryland's \$78,945, which leads all states buoyed by the high incomes of Howard and Montgomery counties.

Montgomery County's median household income of \$99,763 in 2016 is not statistically different from the inflation adjusted 1989 median at \$101,123.⁹ In contrast, the median household income in the Washington, D.C. region starting at a lower, inflation-adjusted dollar point at \$87,651 in 1989 increased by 9.3 percent to \$95,843 in 2016. The nation posted modest 2.5 percent gains from \$56,192 in 1989 to \$57,617 in 2016.

Benchmarking income to 1989 and 2016 masks the upward income trend in the county from 1989 until peaking before the Great Recession at \$106,307 in 2007 (Figure 12). Median household income, stagnant since 2010, has not recovered from the 2007 to 2009 recession, and remains below its adjusted 1999 median at \$103,143.

County's median household income has not recovered from recession

Figure 12. Median Household Income in 2016 Dollars, 1979-2016



Source: 1980-2000 U.S. Census, 2007, 2010, and 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

While there are many competing, economic factors making it unclear how long household income will remain stagnant in Montgomery County, the influences of population migration and the aging population also affect the length of recovery. On the positive side, Montgomery County attracts well-educated, new residents with earning potential. New residents are highly educated (32 percent with advanced degrees) and they are joining an established concentration of well-educated adults. In 2016, 3 out of 5 adults age 25 and older in the county had at least a bachelor's degree and 32 percent held advanced degrees. A segment of new residents brings wealth into the county as a higher percentage of people with household incomes

⁹ In constant 2016 dollars, the \$1,360 difference between 1989 and 2016 median income is within the 2016 American Community Survey's reported margin of error of plus or minus \$1,787.

of \$100,000 or more moved into the county than left (44 and 38 percent, respectively). A slightly higher percentage of people leave the county with household incomes below \$34,000, 18 percent, compared to the 15 percent of people who move in.

The county's aging population may assert downward pressure on household incomes. Over the next 15 years, the majority of the baby boom generation, ages 51 to 69 in 2015, will transition from prime wage earners to leaving the workforce and likely lower retirement income. In 2016, the average retirement income at \$47,756 was one-third of the county's average income. The percentage of prime wage earners, 45 to 64 years old, is forecasted to drop from 28 percent of all residents in 2015 to 25 percent in 2030. All the baby boomers by 2030 will be between ages 66 to 84, thereby driving the increase in this age group from 12 percent in 2015 to 17 percent in 2030. With the movement of the baby boomers out of the workforce, the worker to senior dependency ratio changes from 4.8 in 2015 to 3.2 in 2030.

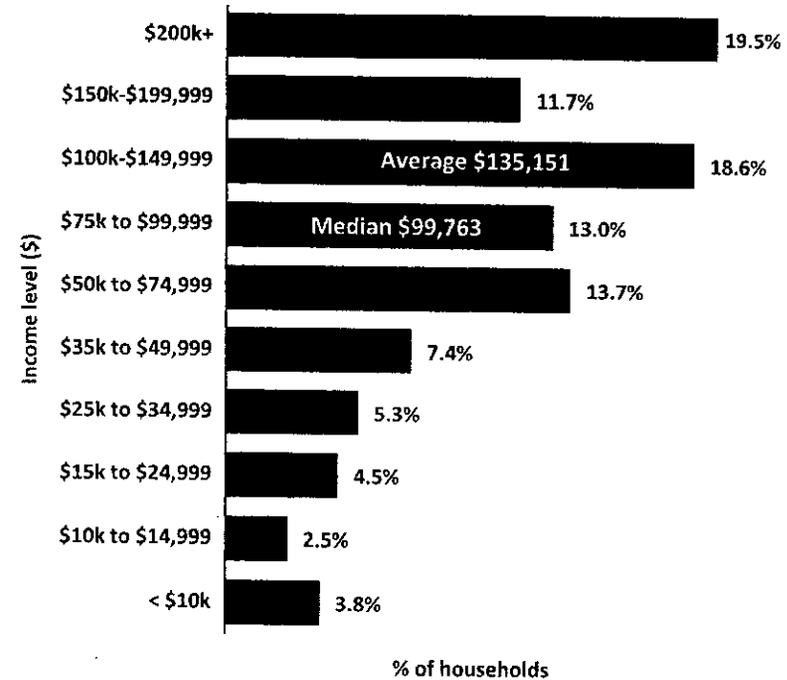
Gains in high-income households raise average income

In contrast to the median household income of \$99,763, the average household income of \$135,151 is higher due to one in five of the county's households with incomes of \$200,000 or more pulling up the average (Figure 13). Over 87,000 households in Montgomery County (24 percent of all households) had incomes less than \$50,000 in 2016.

The map depicting the county's 2016 average household income by U.S. Census tracts shows the highest incomes, \$250,000 or more, concentrated along the Potomac River extending southernly from Trivilah, Potomac, to Bethesda-Chevy Chase (Map 11). Another cluster of high incomes, ranging from \$150,000 to \$249,999, lie west of I-270 including Poolesville, Darnestown, North Potomac, and North Bethesda, and in the northeast including Goshen, Upper Rock Creek Park, and Olney toward Howard County. The strong correlation between high incomes and educational attainment is apparent when comparing the maps of advanced degrees (Map 10) with income (Map 11) where the concentration of households with high average income coincides with residents with advanced degrees.

1 in 5 households have incomes of \$200,000 or more

Figure 13. Distribution of Household Income by Income Level, 2016



Source: 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

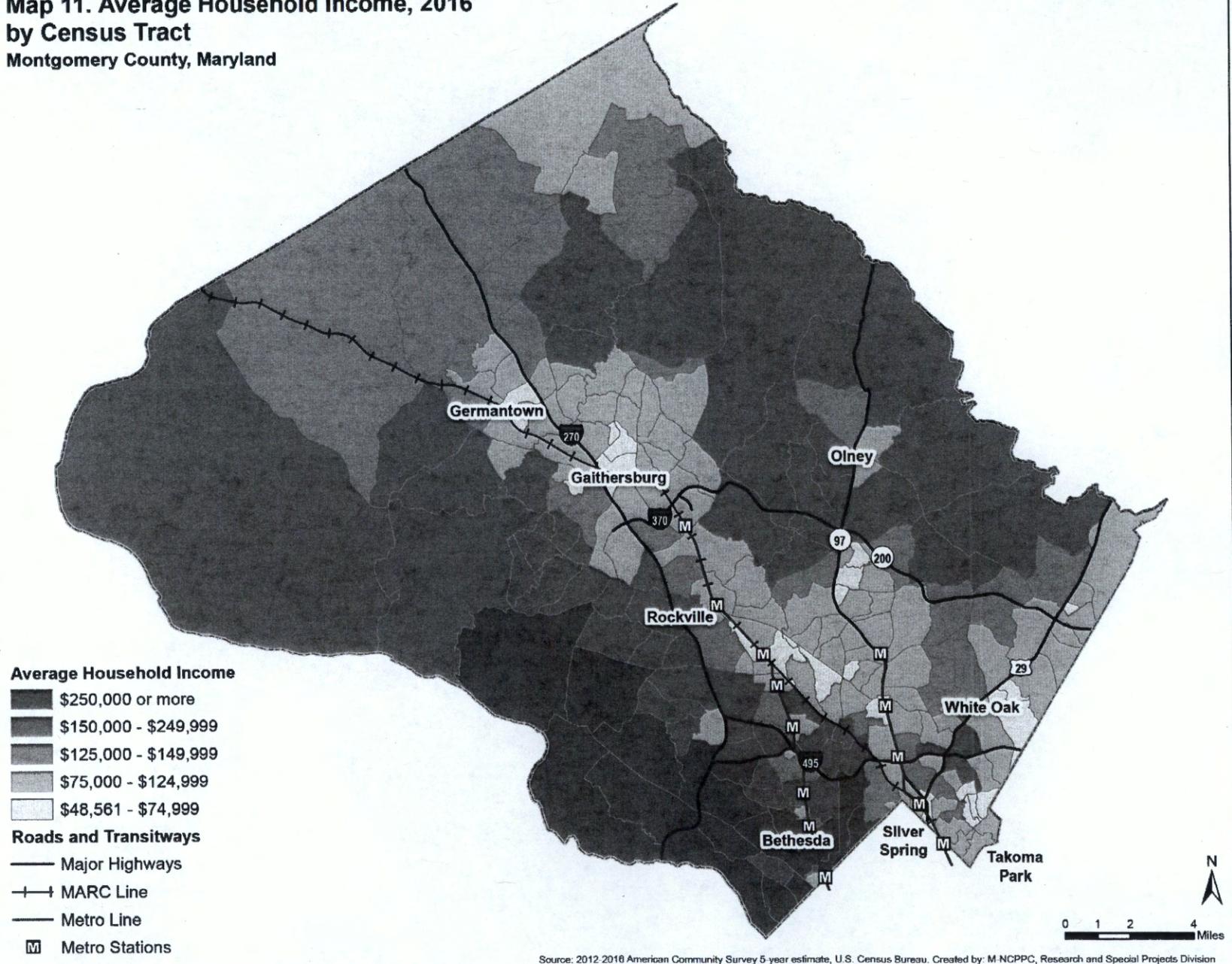
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Areas with household income below \$125,000 are along I-270 from Germantown south to Gaithersburg, and Rockville, and easterly from Aspen Hill to the border of Prince George's County, and inside the I-495 Beltway including Silver Spring and Takoma Park. The tracts with lower average incomes are typically in areas offering multi-family housing attracting typically younger, single-earner households, and reflects areas with relatively affordable housing options.

Unlike the county's stagnant median income, its average income gained \$8,000 from the inflation adjusted \$127,144 in 1989, increasing by 6.3 percent. The county did not achieve the level of average income gains from 1989 to 2016 compared to the Washington, D.C. area, up 16 percent adding about \$17,000 to reach \$123,171 in 2016, and the nation's average income increased 13.2 percent to \$81,346.

Average income in most tracts did not significantly change between 1989 and 2016 after adjusting for inflation (Map 12). Some tracts experienced a loss of income since 1989 including moderate income areas in Germantown, Gaithersburg, Kemp Mill and White Oak. Also, a few high-income tracts in Potomac and Olney reported losses between 1989 and 2016. Tracts reporting average incomes increasing by \$50,000 or more are concentrated inside I-495 Beltway in parts of Bethesda, Brookmont, and Cabin John and in Silver Spring near Four Corners.

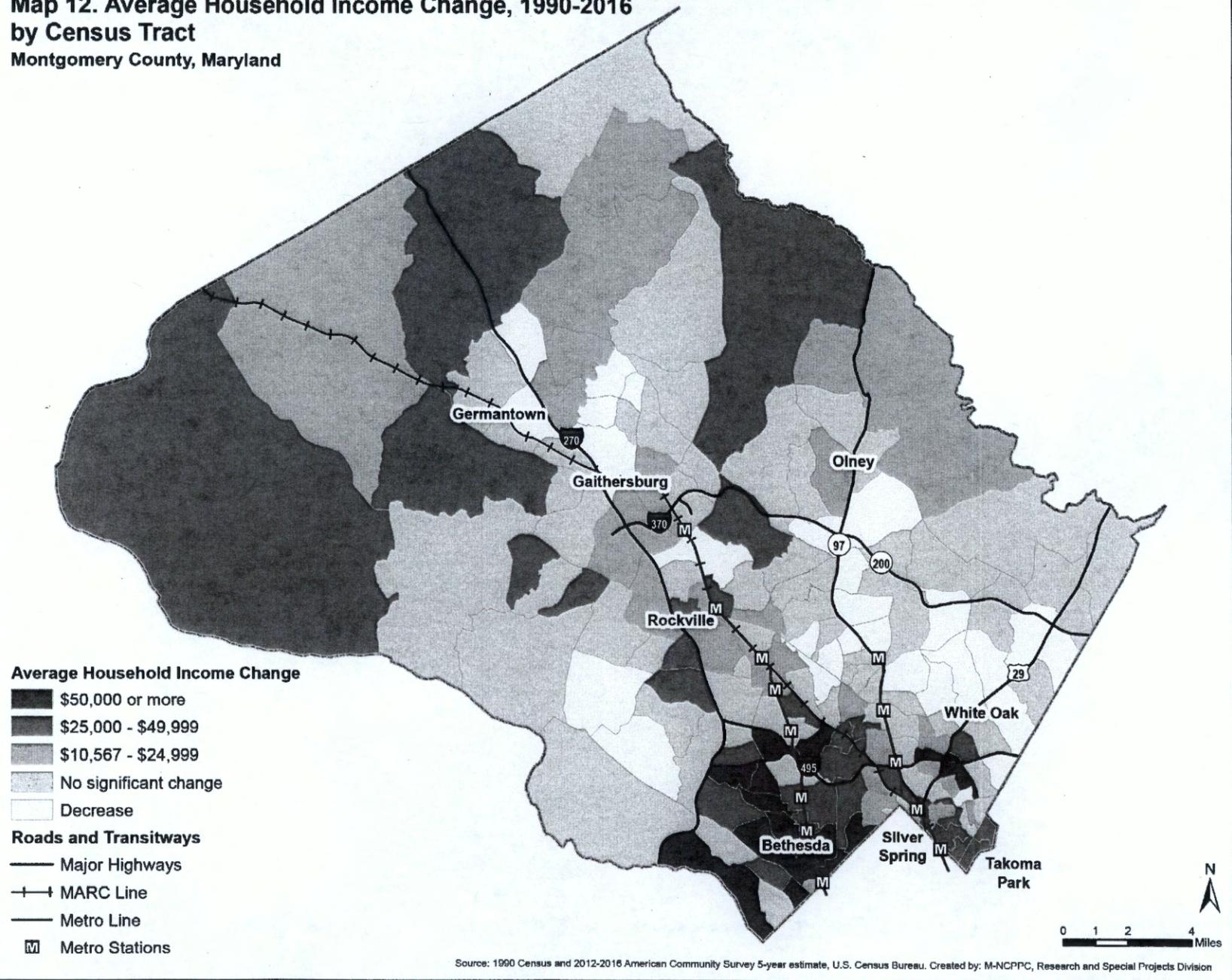
**Map 11. Average Household Income, 2016
by Census Tract
Montgomery County, Maryland**



Source: 2012-2016 American Community Survey 5 year estimate, U.S. Census Bureau. Created by: M NCPPC, Research and Special Projects Division

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**Map 12. Average Household Income Change, 1990-2016
by Census Tract**
Montgomery County, Maryland



Household income varies across subpopulations

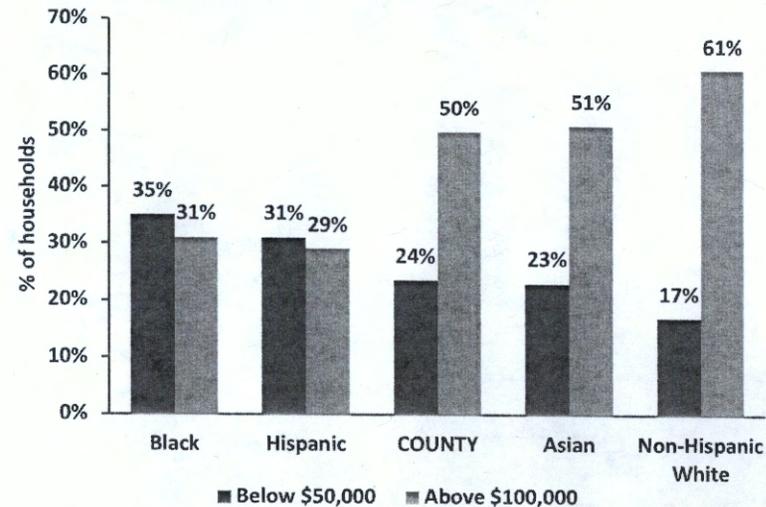
While Montgomery County's average income per capita increased between 1989 and 2016 by an inflation-adjusted 3.8 percent to \$49,655, not all underlying population subgroups experienced gains, and, moreover, different segments are more affluent than others. The median income of families, one of the county's largest subgroups at 70 percent of all households, is \$120,827. That is twice as high as the non-family median of \$60,089 in 2016. Family households typically have two wage earners, perhaps older adults in established careers, while 85 percent of non-families are one-person households, usually young adults starting careers or older retirees. Between 1989 and 2016, median family income gained over \$4,900, a 4.3 percent increase, as non-family income dropped almost \$7,000, a 10.4 percent loss. Similarly, the median income of owner-occupied households (65 percent of all households) grew by 6.5 percent to \$128,614 in 2016. During this time, the median income of rented households fell 2.1 percent to \$62,268, half the income of owners in 2016 (Table 2).

Median household income in the county varies by race and Hispanic origin. Non-Hispanic white households have the highest median income among the groups at \$122,291, followed by Asian households at \$101,830 in 2016 (Table 2). The median incomes of non-Hispanic, white and Asian households both exceed the countywide median; the medians are 23 percent and 2 percent, respectively, above the countywide median of \$99,763. The median income of Hispanic households is \$70,100, 30 percent below the county estimate. African-American household income at \$69,313 is \$30,450, or 31 percent, below the county's median.

In 2016, 61 percent of non-Hispanic white households and 51 percent of Asian households have incomes over \$100,000 (Figure 14). An estimated 35 percent of African-American and 31 percent of Hispanic households have incomes less than \$50,000 compared to 24 percent countywide. African-American (31 percent) and Hispanic (29 percent) households are almost half as likely to have incomes above \$100,000 than non-Hispanic whites.

African American and Hispanic households are more likely to have incomes under \$50,000 than above \$100,000

Figure 14. Incomes below \$50,000 or above \$100,000 by Race and Hispanic Origin of Householder



Source: 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

Non-Hispanic white households also notched the greatest income gains between 1989 and 2016 as its median income increased by 12.4 percent, gaining over \$13,400 adjusted for inflation. Asian households were the only other racial group outpacing the stagnant countywide median with its median income up 6.4 percent and gaining \$6,134 in 2016 dollars. African-American households experienced the largest drop since 1989, with median income down 5.5 percent, a loss of \$4,043 by 2016. The median income of Hispanic households adjusted for inflation also declined, dropping 3.1 percent, down \$2,219 between 1989 and 2016 (Table 2).

Table 2. Median and Average Income for Selected Subpopulations, 2016

	1989 (2016\$)	2016	MARGIN OF ERROR	CHANGE	% CHANGE
MEDIAN INCOME					
All households	\$101,123	\$99,763	+/- \$1,787	-\$1,360	-1.3%
TYPE OF HOUSEHOLD:					
Family	\$115,891	\$120,827	+/- \$2,224	\$4,936	4.3%
Non-Family*	\$67,044	\$60,089	+/- \$3,822	-\$6,955	-10.4%
TENURE:					
Owner-occupied	\$120,815	\$128,614	+/- \$3,755	\$7,799	6.5%
Renter-occupied	\$63,625	\$62,268	+/- \$2,905	-\$1,357	-2.1%
RACE AND HISPANIC ORIGIN:					
Non-Hispanic White	\$108,842	\$122,291	+/- \$3,433	\$13,449	12.4%
Hispanic	\$72,319	\$70,100	+/- \$4,411	-\$2,219	-3.1%
Black or African American	\$73,356	\$69,313	+/- \$3,319	-\$4,043	-5.5%
Asian	\$95,696	\$101,830	+/- \$8,018	\$6,134	6.4%
AVERAGE INCOME					
All households	\$127,144	\$135,151	+/- \$2,387	\$8,007	6.3%
TYPE OF HOUSEHOLD:					
Family	\$144,387	\$157,802	+/- \$3,386	\$13,415	9.3%
Non-Family*	\$80,173	\$77,658	+/- \$3,255	-\$2,515	-3.1%
Per capita income	\$47,844	\$49,655	+/- \$835	\$1,811	3.8%

* Non-family households consist of people who live alone or who share the residence with unrelated individuals.

Source: 1990 U.S. Census, 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

HOUSEHOLD TYPES

Evolving household types outpace married couples with children

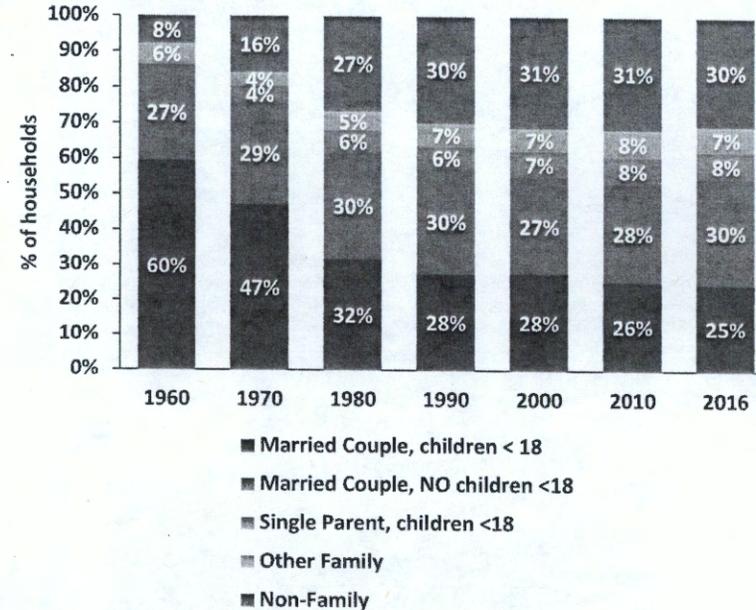
Over many decades, the types of family and non-family households in Montgomery County shifted, reflecting societal changes, broader housing choices, and an aging population. The 1950s traditional family of husband, housewife, and several children is no longer the household norm as family formation became more varied. The county's share of married couple households with children under 18 dropped dramatically from 60 percent of all households in 1960 to 25 percent in 2016 (Figure 15). Between 1990 and 2016, the decline slowed; married couples with children under 18 dropped from 28 percent to 25 percent of all households. Since 1990, the number of married couples with no children under 18 increased at a faster rate than couples with children under 18. Households with married couples with no children under 18 increased by 32 percent, gaining 27,200 households compared to the addition of 14,800 families of married couples with children, an increase of 19 percent. By 2016, 111,941 married-couple households with no children under 18 (30 percent of all households) outnumbered 92,907 married couples with children under 18 (25 percent of all households).

Aging within families explains some of this shift in married-couple households. As children become adults, parents become “empty nesters” with all the children gone or they house adult children. These households, now with no children or with adult children living with them, fall into the next category: married couples with no young children, bumping up this group's percentage share. Also, young married couples following the millennial generation's trend to delay parenthood contribute to this group.

Coinciding with the drop in the traditional family type comes a rise in the shares of single parent and “other family”¹⁰ types. Both family types have doubled since 1970 comprising 8 percent and 7 percent, respectively, of the county's population in 2016. Since 1990, the number of single-parent households with children under 18 increased by 11,900, a 72 percent jump, to 28,500 families in 2016.

Current share of married couples with children under 18 decreased to less than half of the 1960 levels

Figure 15. Household Types



Source: 1960-2010 Census, 2016 American Community Survey, 1-year estimates, U.S Census Bureau.

¹⁰ “Other family” includes a person with no spouse present maintaining a household with other family members; single-parent households are reported separately.

Growth in non-family household types

In 2016, there are 113,139 non-family households, which includes singles, young and old, and unrelated individuals living together, in Montgomery County. The percentage of non-family households increased from 8 percent of all households in 1960 (7,200) to 30 percent in 1990 (84,000), and subsequently plateaued at 30 percent through 2016. This rapid increase of non-family households coincided with the addition of multi-family units, a housing type that appeals to singles and other non-family households, to the county's housing stock, broadening the choice of housing.

In 2000, non-family households, with over 100,000 households and 31 percent of all households, became the most common household type compared to families with or without young children. Since 2000, non-family households remain the leading type of households, capturing over one-third of all household growth between 2000 and 2016. Given that most of the new housing in the development pipeline is multi-family units for the next 10 years and the current rental housing market trend for smaller units, studio and one bedroom, it is possible the share of non-family household types may slightly increase, and it will undoubtedly increase in number by 2025.

AVERAGE HOUSEHOLD SIZE

Uptick in average household size after declining for decades

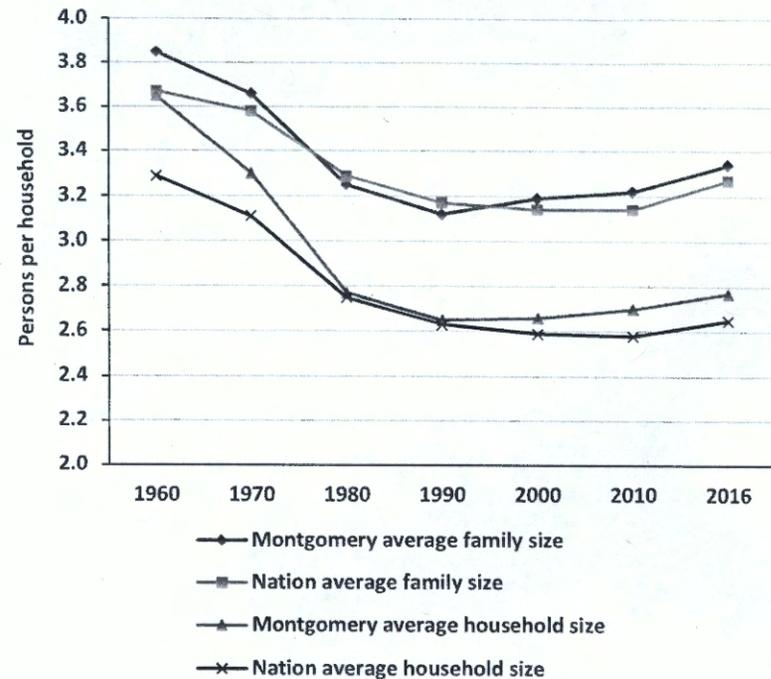
The average household size in Montgomery County at 2.77 persons in 2016 steadily increased from 2.65 persons per household in 1990. The increase in the average household size since 1990 is predominantly driven by higher levels of international immigration, the tendency for immigrants to live in larger households, and increasing racial diversity and its associated higher birth rates. Prior to 1990, the county's average household size declined by one person from its peak of 3.65 persons in 1960. This decline across three decades is attributed to the end of the post-World War II baby boom, and the growing number of typically smaller sized households such as single-parent non-family households.

Since 1990, the average size of families increased from 3.12 to 3.34 persons per family in 2016, reversing the downward trend from the high of 3.85 in 1960, which can be attributed to the post-war baby boom. With families comprising about 70 percent of the county's households from 1990 to 2016, an increase in family size in this large cohort raises the overall average household size.

For decades, Montgomery County's average household size has been consistently higher than the national average. In 1960, the county's average was 3.65 persons per household compared to 3.29 nationwide. In 1990, local and national trends diverged, as the average household size began increasing in Montgomery County, while the average for the United States continued to decline from 1960 until its first increase in 2011. By 2016, the county's 2.77 persons per household remained above the nation's average of 2.65 persons. The average size of families in the county at 3.34 is slightly higher than the national average family size of 3.27 persons per family in 2016.

Average sizes of households and families increased since 1990

Figure 16. Average Household and Family Size by Year, 1980-2016



Source: 1960-2010 Census, 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

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Housing Trends

SUMMARY

- Montgomery County had 390,600 housing units in 2016, 95,000 more units (32 percent increase) than in 1990. Most of this growth took place during the 1990s and 2000s, with average annual growth rates exceeding 1 percent. In contrast, from 2010 to 2016, the average annual growth rate has only been 0.7 percent. Multi-family housing developments with 10 or more units experienced the highest growth, increasing from 69,314 units in 1990 to 107,663 in 2016.
- The number of renter households, up 46 percent since 1990, grew at a faster pace than owner households, which gained 26 percent. Of the 91,000 households added between 1990 and 2016, 45 percent were renters.
- Homeownership rates of all age groups, except for those age 65 and older, declined between 1990 and 2016, with the younger adult households (under age 35) hit the hardest with ownership rates plummeting from 46 percent to 28.4 percent.
- Average sale prices for both attached and detached homes in the county have remained strong and have increased significantly since the 1990s. However, most of the growth in average sale prices occurred prior to the real estate crash in 2007.
- Demand for owner-occupied units continues to strongly favor detached homes as well as homes that are closer to the urban ring, walkable to community amenities, and homes with strong transportation connectivity.
- Rental rates have risen, vacancies have dropped, and absorption rates have remained consistently high over the last 30 years.
- Demand for rental units strongly favors urban locations with strong public transit connectivity.
- The percentage of households in the county that are spending at least 35 percent of their income on housing costs has continued to grow since 1990, with growth particularly acute among renters.
- Fulfilling the housing needs of low (50% AMI) to very low (30%) income populations remains a challenge in the county, as this segment has grown. Producing housing at those income levels tends to be the most expensive.

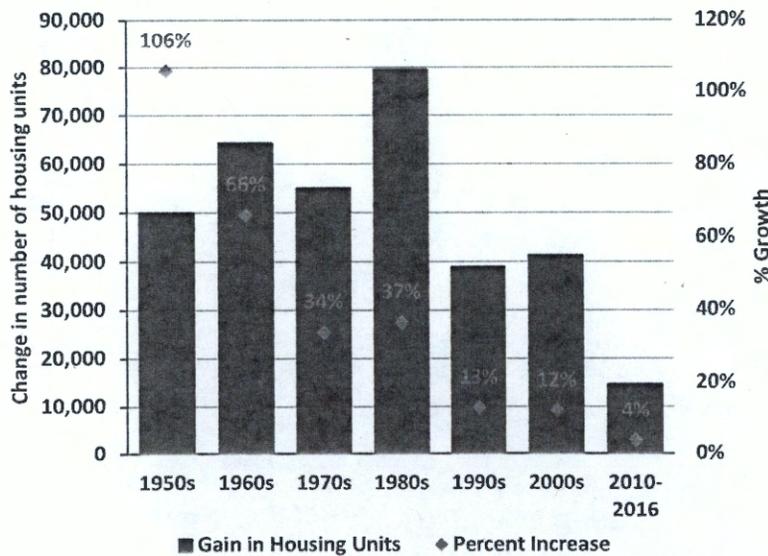
HOUSING CHARACTERISTICS

Slowing pace of new housing development

In 2016, the county had approximately 390,600 housing units, an increase of 95,000 more units (32 percent) over the 1990 total of 295,723. This figure is lower than the 50 percent increase in housing supply in the Washington, D.C. region over the same period. As illustrated in Figure 17, housing growth per decade on a percentage basis was also significantly lower since 1990 than in the earlier decades.

Pace of housing production slows

Figure 17. Housing Units and Percentage Growth



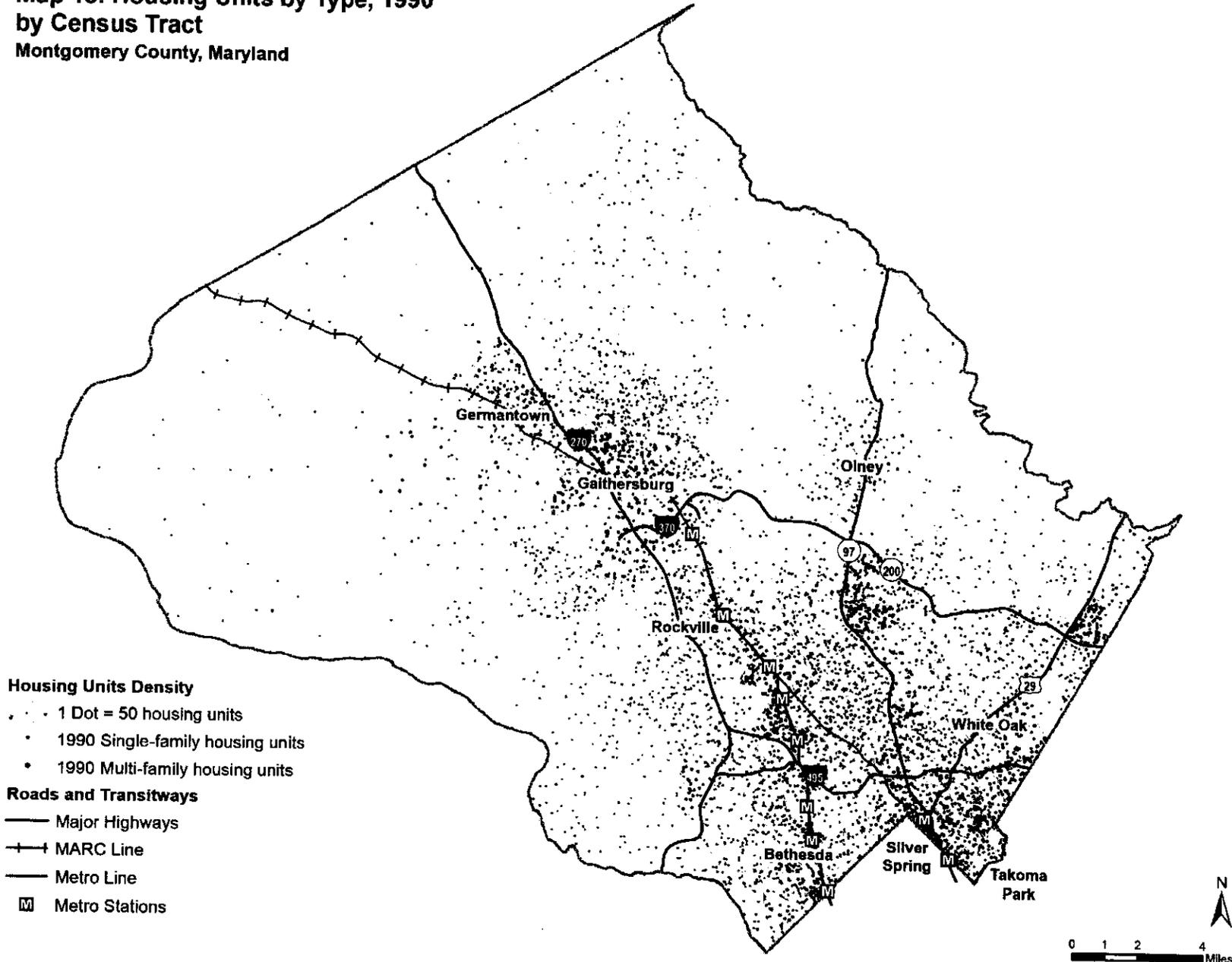
Source: 1950-2010 Census, 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

Six years into this decade, the addition of 14,700 new units since 2010 is not on pace to match the gains of 38,900 units in the 1990s or the front-loaded delivery of 41,300 units in the 2000s. The annual housing growth rate at 0.7 percent from 2010 to 2016 is well below the rates of 1.3 percent during the 1990s and 1.2 percent in the 2000s. A variety of factors drive this trend, such as impacts from the recession, decline in federal spending, and decline in developable land.

Subcounty housing growth

Map 13 and Map 14 show the density distribution of single- and multi-family housing units across the county in 1990 and 2016 respectively, based on U.S. Census data. The development of new multi-family units continued the pattern of being located near the county's major road corridors and additional growth is shown near the Metro Red Line stations.

**Map 13. Housing Units by Type, 1990
by Census Tract
Montgomery County, Maryland**

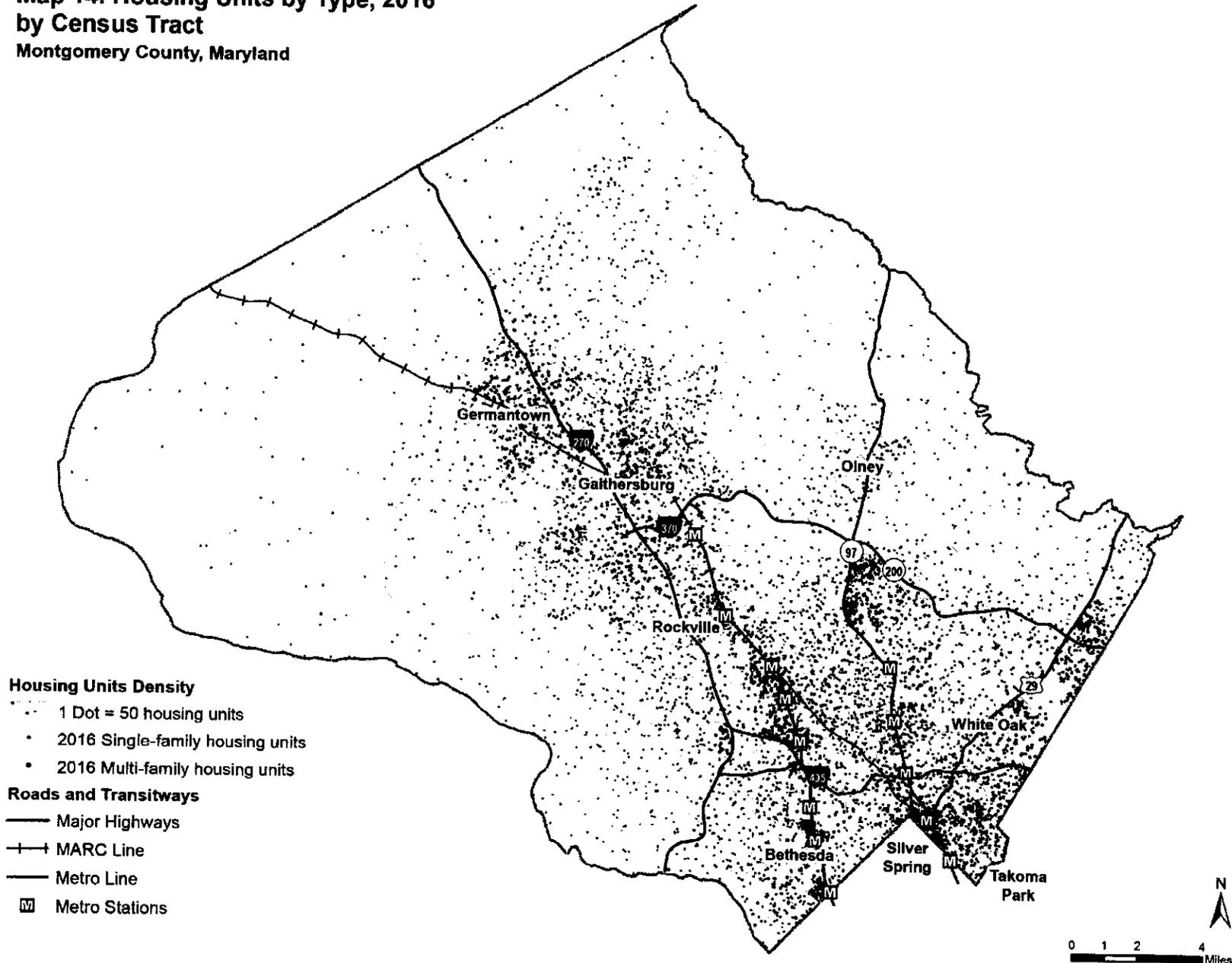


Source: 1990 Census, U.S. Census Bureau. Created by: M NCPPC, Research and Special Projects Division



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**Map 14. Housing Units by Type, 2016
by Census Tract**
Montgomery County, Maryland



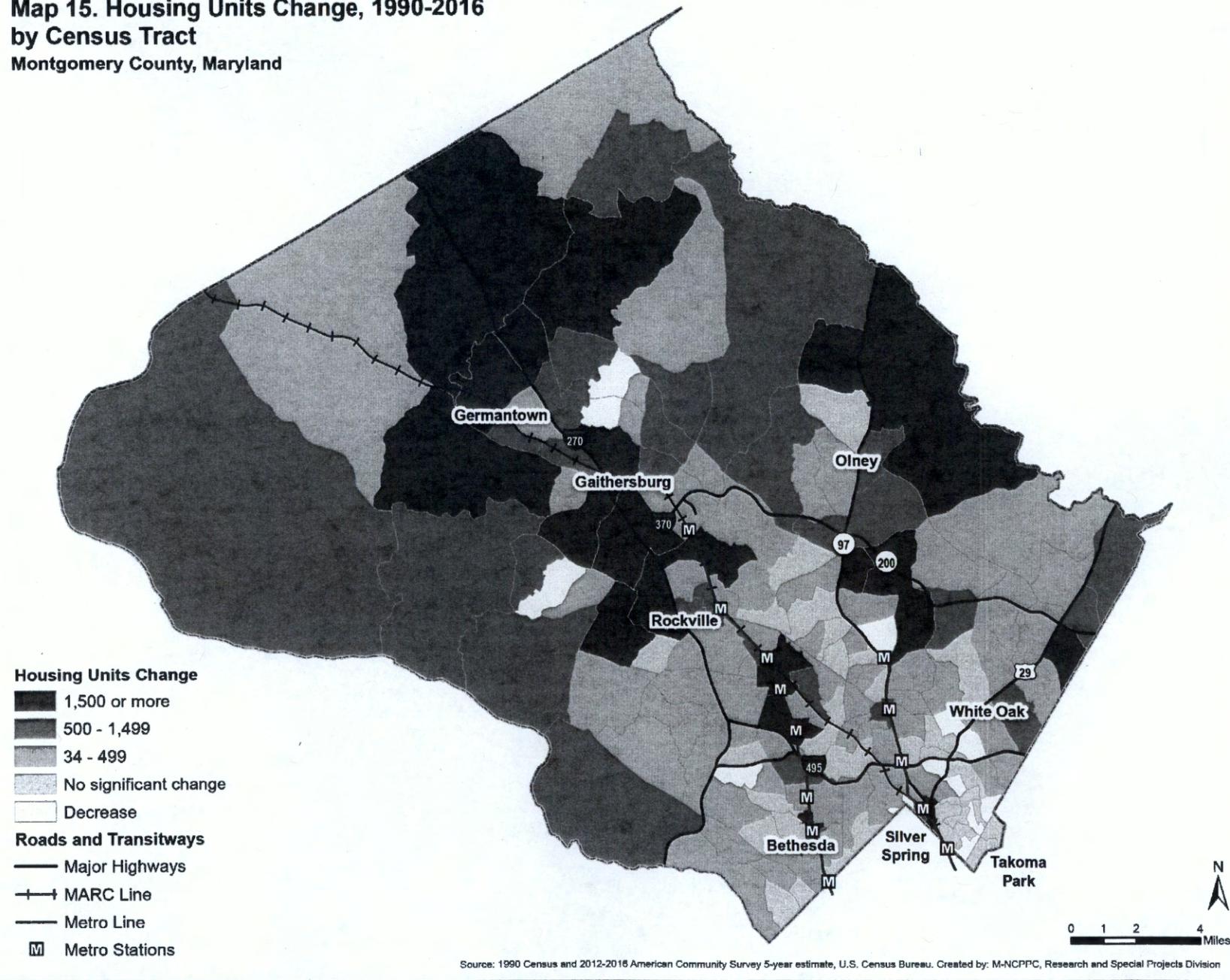
Source: 2012-2016 American Community Survey 5-year estimate, U.S. Census Bureau. Created by: M.NCPC, Research and Special Projects Division

Map 15 shows the change in total housing units from 1990 to 2016. In general, most U.S. Census tracts across the county experienced an increase in housing units between both years¹¹. Areas like Clarksburg, Derwood, White Flint, and Silver Spring experienced the highest growth, adding more than 1,500 units per tract. The map also shows that most tracts around the Metro Red Line added at least 500 new units between 1990 and 2016, except for Shady Grove and Glenmont.

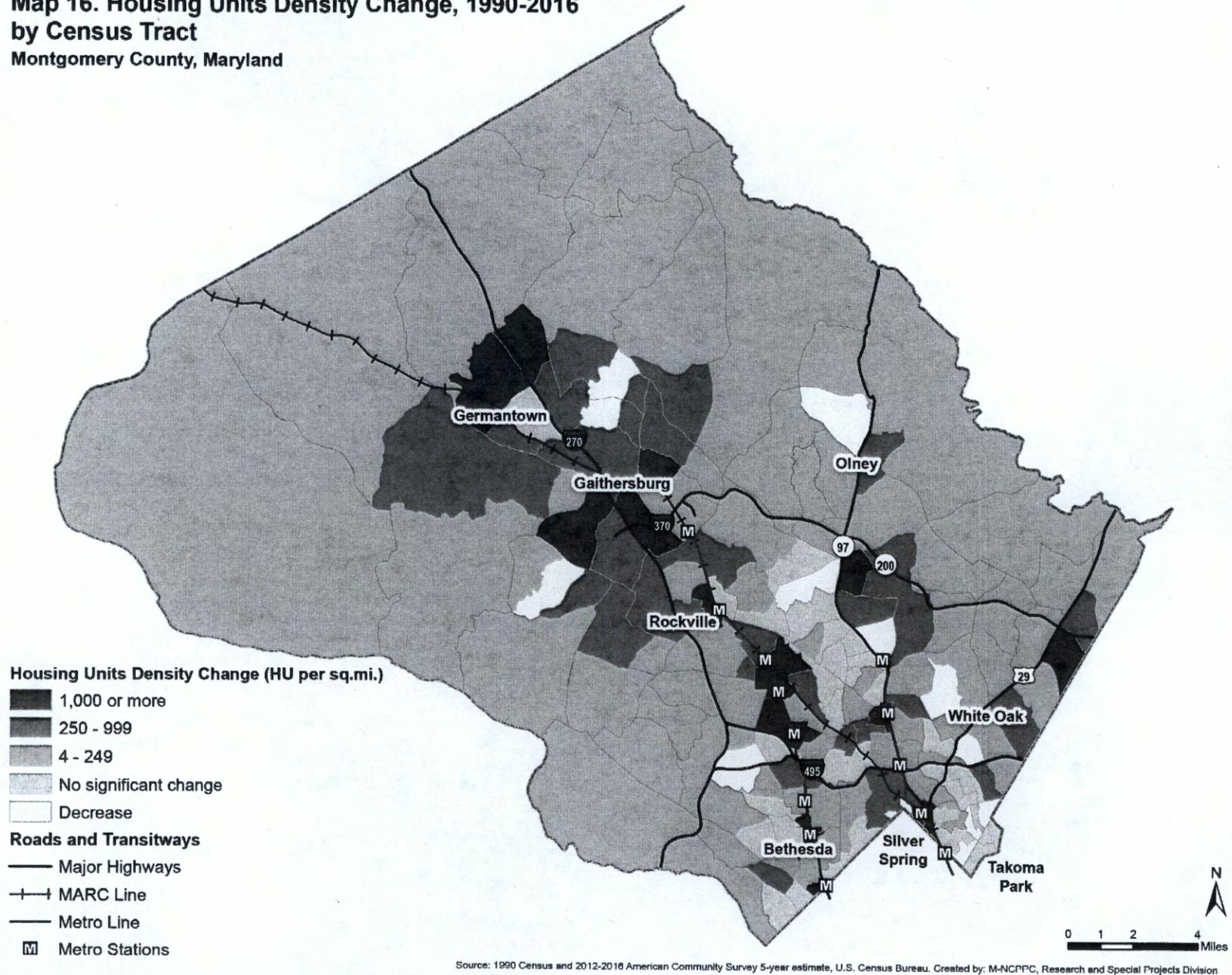
Map 16 shows the change in housing unit density. It tells a slightly different, but related, story to the change in housing units. It shows that the I-270 and the Metro Line corridors experienced the highest increase in density between 1990 and 2016 (areas around Germantown, Gaithersburg, Rockville, and Metro Stops), whereas the rest of the county had lower increases in density.

¹¹ Certain tracts in the Takoma Park, Silver Spring, and White Oak areas presented a decrease in housing units due to two factors: 1) boundary changes in some of these tracts meant that unit counts differed between the two comparison years and 2) during this period some properties in Takoma Park converted from multi-family to single-family properties, resulting in a decline in the number of dwelling units.

**Map 15. Housing Units Change, 1990-2016
by Census Tract
Montgomery County, Maryland**



**Map 16. Housing Units Density Change, 1990-2016
by Census Tract
Montgomery County, Maryland**



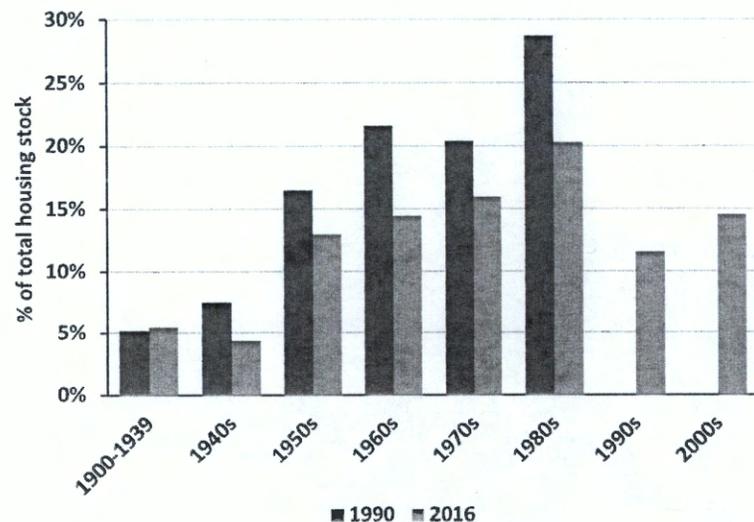
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Age of housing stock

Figure 18 compares the age distribution of the housing stock in 1990 and 2016. In 1990, 50 percent of the housing stock was 21 years of age or older and in 2016, 50 percent of the housing stock was 37 years of age or older. In 1990, 28.7 percent of units had been built within the previous decade versus 14.6 percent between 2000 to 2016. This data illustrates that a greater percentage of the housing stock in 1990 was newer than in 2016.

Increasing age of housing stock

Figure 18. Age of Housing Units by Year Built

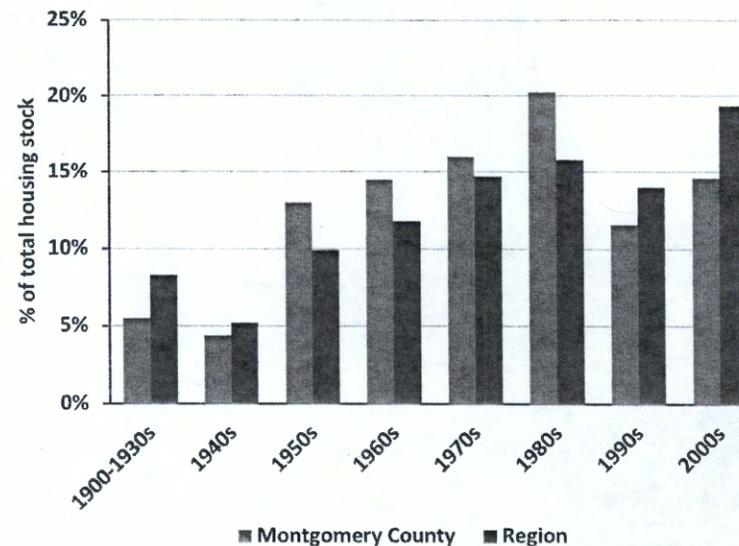


Sources: 1990 U.S. Census; 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

Additionally, Montgomery County homes are slightly older than homes in the rest of the region. Just over 73 percent of Montgomery County homes were built prior to 1990 compared to 66 percent regionally (Figure 19).

County housing stock slightly older than homes in rest of region

Figure 19. Housing Units by Year Built



Sources: 1990 U.S. Census; 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

Housing structure type

According to the U.S. Census, single-family detached homes continue to be the most prevalent housing type throughout the county (Table 3). However, the share of single-family detached homes as a percentage of all units decreased 5 percentage points between 1990 and 2016, while the share of multi-family units increased by 4 percentage points. The highest growth in structure type between 1990 and 2016 was in multi-family housing with 10 or more units which increased from 69,314 units in 1990 to 107,663 in 2016 (Figure 20).

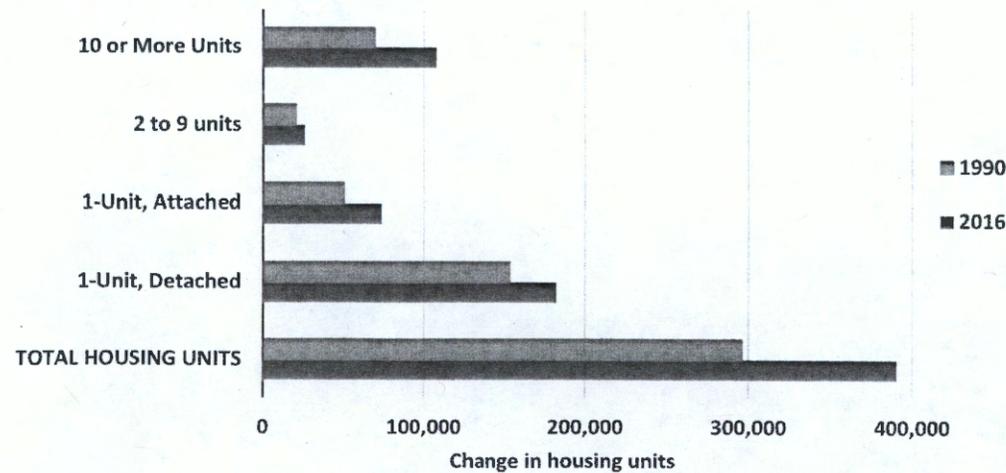
Table 3. Housing Stock by Structure Type

STRUCTURE TYPE	1990	% DIST.	2016	% DIST.	UNIT CHANGE	% CHANGE
TOTAL HOUSING UNITS	295,723	100.0%	390,563	100.0%	94,840	32.1%
SINGLE-FAMILY	204,408	69.1%	256,132	65.6%	51,724	25.3%
1-unit, detached	153,872	52.0%	182,333	46.7%	28,461	18.5%
1-unit, attached	50,536	17.1%	73,799	18.9%	23,263	46.0%
MULTI-FAMILY	89,451	30.2%	133,605	34.2%	44,154	49.4%
2 units	840	0.3%	2,094	0.5%	1,254	149.3%
3 or 4 units	3,628	1.2%	4,081	1.0%	453	12.5%
5 to 9 units	15,669	5.3%	19,767	5.1%	4,098	26.2%
10 to 19 units	29,730	10.1%	36,284	9.3%	6,554	22.0%
20 to 49 units	9,047	3.1%	10,921	2.8%	1,874	20.7%
50 or more units	30,537	10.3%	60,458	15.5%	29,921	98.0%
OTHER	1,864	0.6%	826	0.2%	(1,038)	-55.7%

Sources: 1990 U.S. Census; 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

Highest growth in housing type was Multi-Family buildings with 50+ units

Figure 20. Change in Housing Structure Type



Sources: 1990 U.S. Census; 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

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Housing unit demolitions

Limited downcounty development opportunities and the high demand for housing locations near public transit, amenities, and the highest-rated public schools has resulted in significant teardown activity in some single-family neighborhoods. The teardowns are a one to one unit replacement, so there is no overall loss of housing units, although the new units are larger and more expensive than the older units.

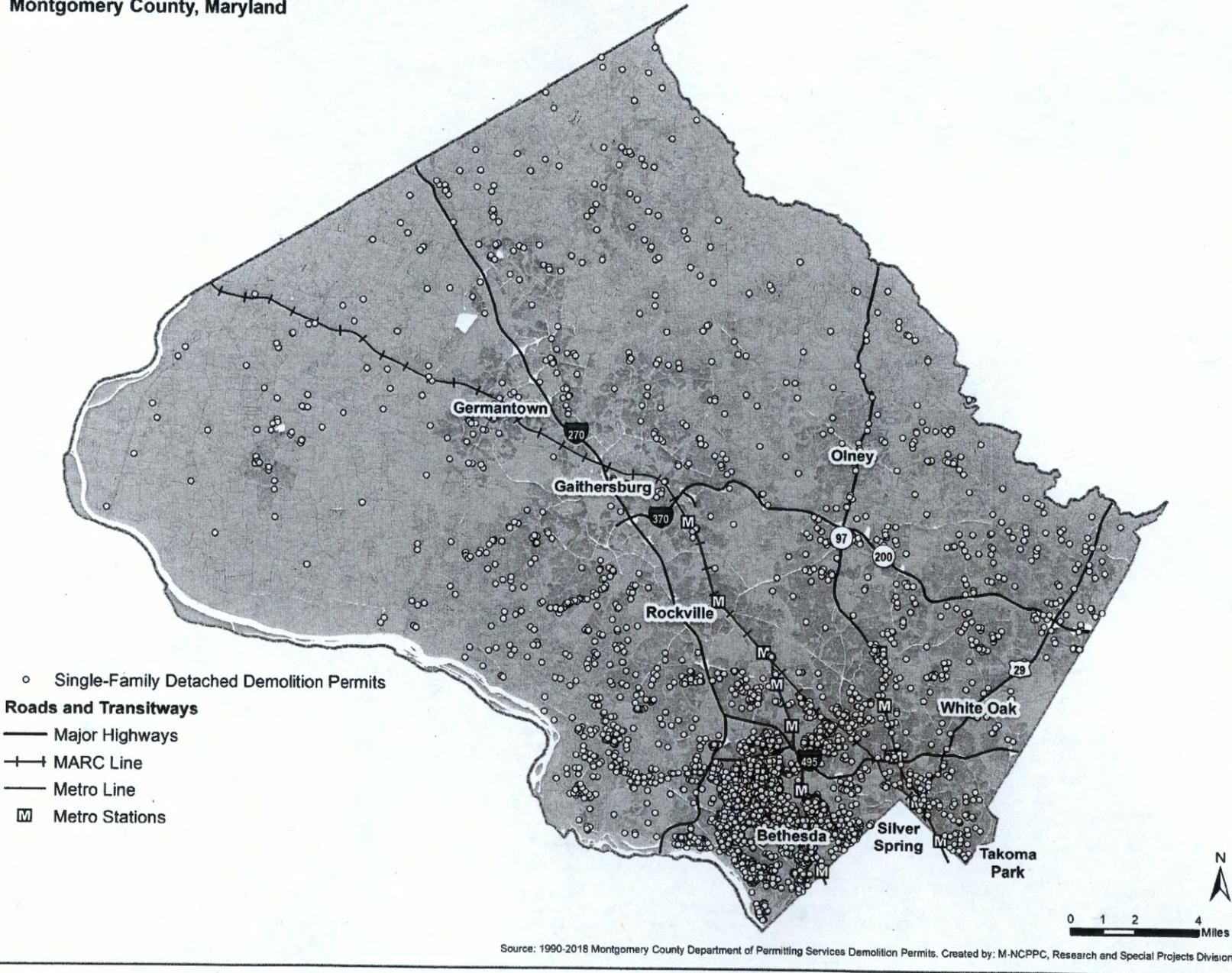
An analysis of demolition permits from the Montgomery County Department of Permitting Services shows that since 1990, there have been nearly 4,400 demolition permits issued for single-family detached homes. The county averages over 150 teardowns of single-family detached units a year, peaking in 2006 at 276 permits. As shown in Map 17, this pattern is largely concentrated in downcounty, as more than half of the demolition permits (51 percent) were issued in Bethesda, followed by Silver Spring (8 percent), Chevy Chase (8 percent), Potomac (6 percent) and Rockville (6 percent).

Comparatively, redevelopment of multi-family facilities in Montgomery County has been much more limited. Since 1990 there have been only been six instances of demolition and redevelopment of existing multi-family facilities. Two of the redevelopment projects (The Bonifant and Chevy Chase Lake) were public-private partnerships with the county that significantly increased total unit and affordable housing unit counts. Chevy Chase Lake

previously had 62 units and was redeveloped to have 262 units, including 90 affordable units. The Bonifant had 31 units and was redeveloped to include 149 total units, of which 139 are affordable. The other three projects include The Blairs, which increased its unit count from 266 to 507 and provided 80 percent of its required MPDUs in an existing building that provided more family-sized bedroom units than would otherwise be required. The other three projects were Glenmont Metro Centre (increased unit count from 306 to 477), the Cameron in downtown Silver Spring, which increased the unit count from 79 to 325 units and the Lauren in Bethesda (increased unit count to 64 from 12). These three projects created over 100 income-restricted units within the MPDU program.

The redevelopment of multi-family properties has resulted in a net gain of 1,028 new units (756 units torn down and 1,784 units added). Redevelopment created 404 units that are permanently affordable under the County's MPDU program.

Map 17. Demolition Permits of Single-Family Units, 1990-2018
 Montgomery County, Maryland



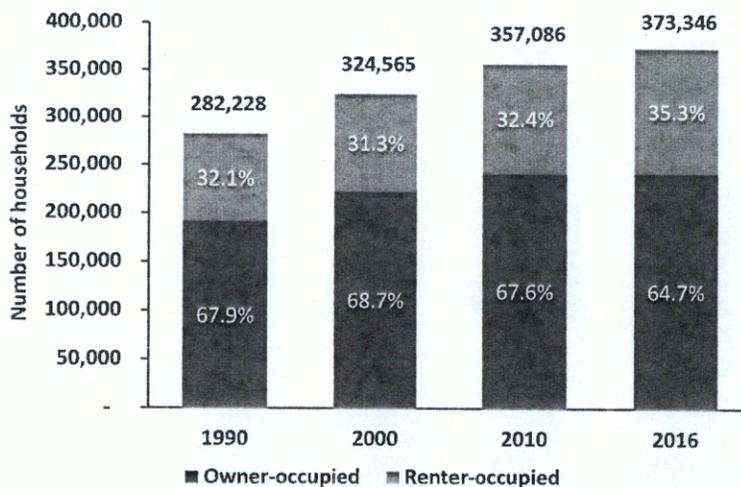
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Increasing numbers of renters relative to homeowners

Of the 91,000 households added to the county between 1990 and 2016, 45 percent (41,132 households) were renters. As a result, the proportion of renters increased from 32.1 percent in 1990 to 35.3 percent in 2016. The trend is largely due to the impacts of the Great Recession and market conditions that have been more favorable to the development of new rental housing. After increasing slightly between 1990 and 2000, the overall homeownership rate declined from 67.9 percent in 1990 to 64.7 percent in 2016.

Overall household growth, primarily driven by renters

Figure 21. Owner and Renter Households, 1990-2016



Source: 1990-2010 Census, 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

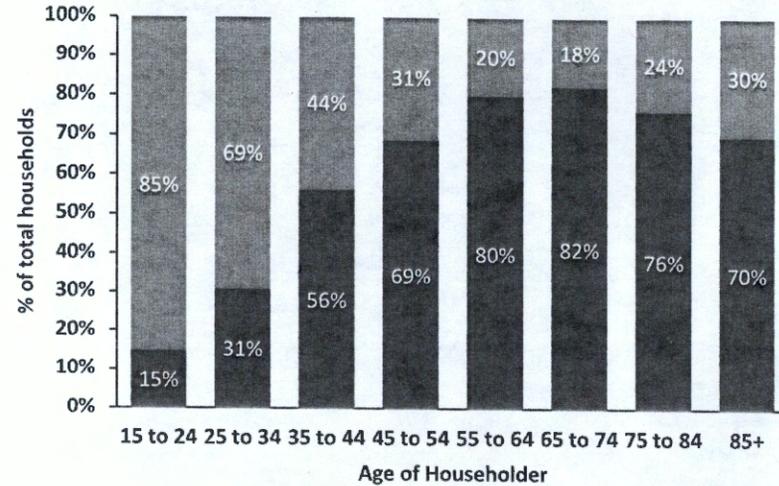
Homeownership related to householder age

Homeownership rates vary by age of the householder reflecting life stages, notably, family formation, prime wage-earning years, and retirement and changes over time relative to whether one owns or rents a home. A householder under 35 years old is less likely to own a home than someone age 65 or older.

Figure 22 illustrates the relationship of the householder's age and tenure choices in 2016. Homeownership rates rise as younger adults, ages 25 to 34 (31 percent) seek to settle more permanently in place or begin to form families, and householders age 35 to 44 (56 percent) have school-age children. The homeownership rates continue to increase to 80 percent among householders in their peak wage-earning years between the ages of 45 and 64. Homeownership rates peak at 82 percent coinciding with the typical retirement ages of 65 to 74. Homeowner rates start declining as those 75 and older cash out home equity and look to senior rental housing and various forms of assisted living.

Tenure choice related to age of householder

Figure 22. Tenure by Age of Householder, 2016



Source: 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

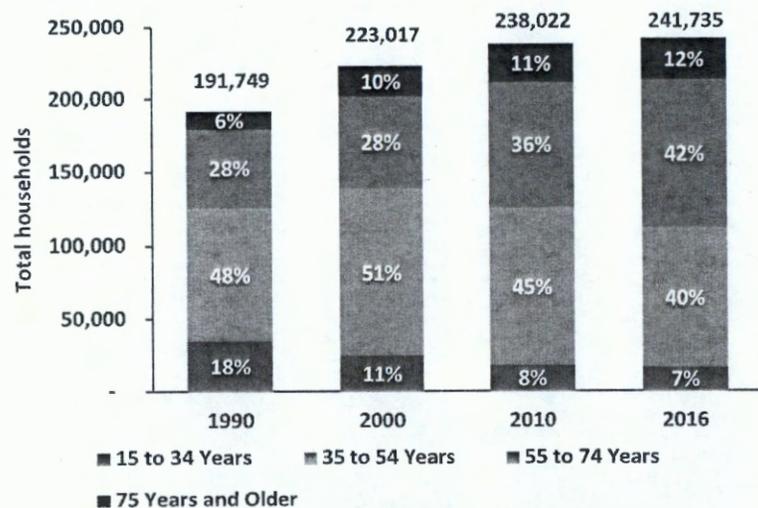


Homeowners are progressively older as baby boomers age

The largest age group of homeowners, 100,900 householders age 55 to 74, resided in 42 percent of the 241,735 owner-occupied households in 2016 (Figure 23). Since 2000, the share and number of older adult owners has steadily increased as the baby boom generation's large cohort aged into the 55 to 74 bracket by 2016.

Older householders gain increasing share of homeownership

Figure 23. Percentage of Owner-Occupied Households by Age of Homeowner, 1990-2016



Source: 1990-2010 Census, 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

After baby boomers aged out of young adulthood by 2000, Montgomery County lost households headed by young adults under 35 in terms of both absolute number and as a share of the total households. The number of young householders dropped from 75,700 in 1990 to 58,200 in 2016 (down 23 percent), while the percentage share of householders under 35 dropped from 27 percent to 16 percent of all households.

As the overall number of households headed by young adults declined, the share of homeowners under 35 also quickly decreased, dropping from 18 percent of homeowners in 1990 to 7 percent in 2016 (from 34,903 to 16,542 residents). Although householders under 35 are typically renters, the drop in homeownership rates of young adults was notable from 46.1 percent in 1990 to 28.4 percent of young householders. The recent drop in young adult homeownership, both in numbers and in shares, is associated with the millennial generation, ages 20 to 35 in 2016. Millennials, characterized as drawn to urbanization and walkability, adopted different housing preferences from previous decades and chose not to own a home or lacked affordable urban purchasing options. This generation's choice of living arrangements is intertwined with the recently coined life stage of "emerging adulthood" describing millennials' penchant for postponing traditional adult milestones such as marriage and parenthood typically associated with homeownership.

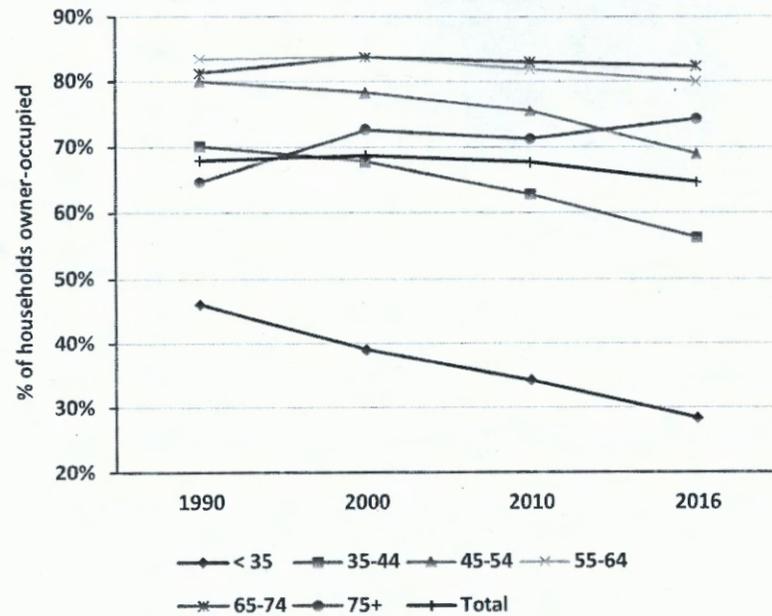
Homeownership declined across most age groups

Homeownership rates of all age groups, except for those over age 65, have declined between 1990 and 2016. Ownership rates of younger adult householders plummeted from 46.0 percent to 28.4 percent (Figure 24). Rates for homeowners ages 35 to 44 dropped from 70.1 percent to 56.2 percent, and for those ages 45 to 54, ownership decreased from 79.9 percent in 1990 to 68.9 percent in 2016.

Two notable homeownership trends related to householder age appeared between 1990 and 2016. The county witnessed a dramatic drop in homeownership among the youngest householders under 35, and older adults at least 75 years of age, were becoming more likely to choose ownership over renting.

Homeownership declined across most age groups

Figure 24. Homeownership Rates by Age of Householder, 1990-2016



Source: 1990-2010 Census, 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

The incidence of homeownership among householders under 35 dramatically changed from almost equal shares of owners and renters in 1990 to slightly over a quarter of young adult households occupied by owners in 2016. Since 1990, the number of homeowners under 35 dropped precipitously from 34,900 to 16,500, as its share of the county's owner-occupied households fell from 18.2 percent to 6.4 percent in 2016. This decrease in young adult owners corresponded with an overall loss of householders under 35 from 75,700 to 58,200 households between 1990 and 2016, causing shares to decline from 27 percent to 16 percent of all households.

Older householders age 75 and up are delaying the transition from owning to renting and the associated rising rates of homeownership are compounded by the increasing concentrations of senior householders. The number of householders age 75 and older more than doubled between 1990 and 2016 climbing from 18,700 to 38,800 householders, an increase from 6.6 percent to 10.4 percent of all households. This increase occurred independently before the anticipated increase from the large cohort of baby boomers turning 75 in 2021. Almost three-quarters (74.3 percent) of the householders 75 and older owned their home in 2016, a significant gain from 64.7 percent in 1990. Older householders are not shifting as quickly from owning to renting and may own their homes further into their senior years than previous generations, but eventually they will find it difficult to maintain their current home and look for other options, including rental options. Older adults are more likely to move after a significant event, such as an illness, death of a spouse, or declining health. The unanswered questions are when they will move and what housing options will be available.

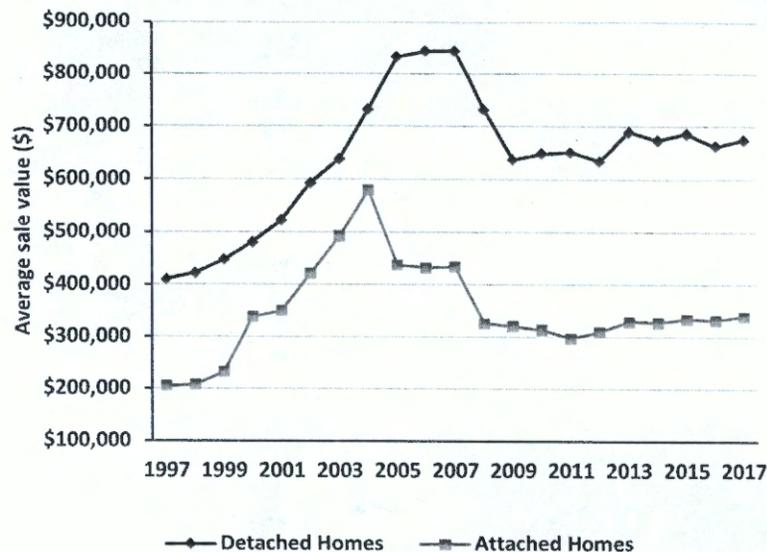
MARKET CONDITIONS AND HOUSING COSTS

Home values have increased significantly

Even with the homeownership rate falling and growth in the number of homeowner households flattening in recent years, home prices have still increased dramatically since 1990. According to MRIS-Smart Charts data, the average sale value of a detached home in Montgomery County increased by approximately \$264,900 from \$410,707 in 1997 to \$675,594 in 2017 after adjustments for inflation. The average sale value of an attached home (townhouse) increased by approximately \$133,700 from \$205,662 in 1997 to \$339,331 in 2017, after adjustments for inflation (Figure 25). Much of the growth in average sale value for both attached and detached units took place between 1997 and 2005, and the highest annual average sale value of both housing types peaked just before the 2008 financial crisis (Figure 25).

Home values strong and steady, especially for detached homes

Figure 25. Average Sale Value, 1997-2017 (2017 dollars)



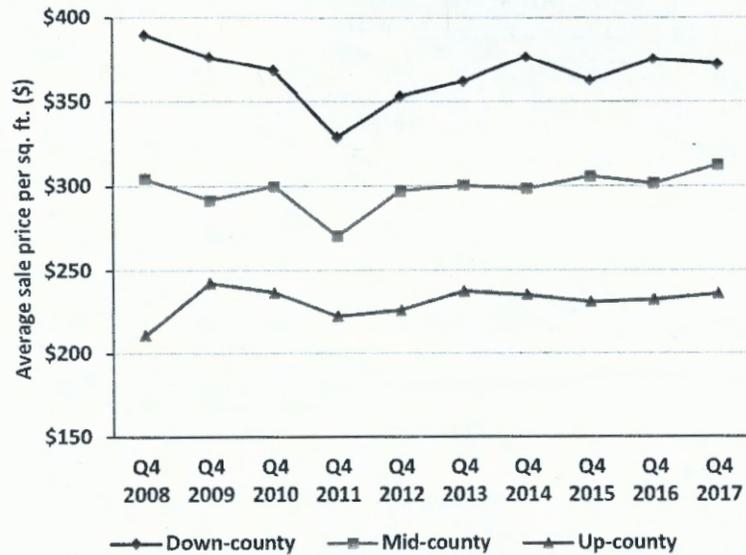
Source: MRIS-SmartCharts Data, 1997-2017.

A closer look at price per square foot relative to a property's proximity to Washington, D.C. reveals that owner-occupied properties closer to Washington, D.C. remain consistently more competitive than properties further away¹² (Figure 26).

¹² Geographies are not all inclusive, and were selected based on MRIS-SmartCharts market areas to more clearly highlight key trends. Upcounty includes: Barnesville, Brookville, Clarksburg, Damascus, Germantown, Olney, & Potomac. Midcounty includes: Gaithersburg, Kensington, Rockville, and Grosvenor. Downcounty includes: Bethesda, Chevy Chase/Friendship Heights, Silver Spring, and Takoma Park.

Home values higher near Washington, D.C.

Figure 26. Average Sale Price per Square Foot, 2008-2017 (2017 Dollars)

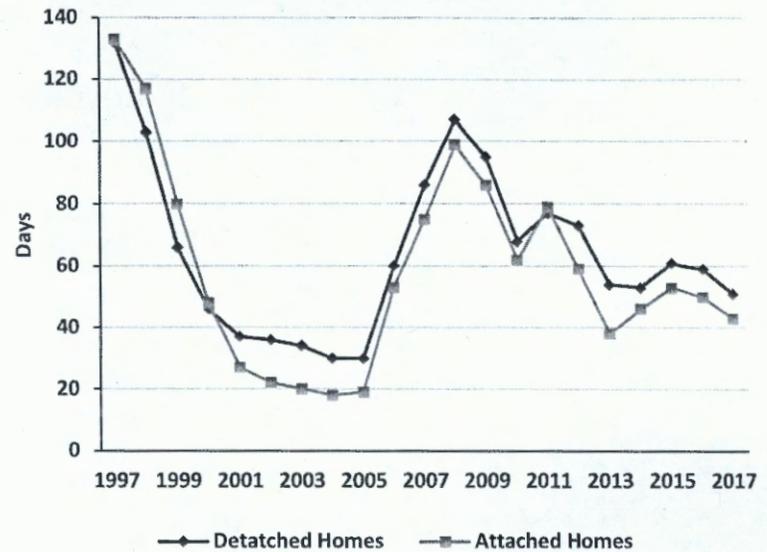


Source: MRIS-SmartCharts Data, 1997-2017.

Average days on market was similar across all housing types and locations. The noticeable trend was that the market was the tightest (with the lowest number of days on the market) in 2005 with a low average of 18 days for attached homes and 30 days for detached homes. Recently, the market has hovered around an average of 40 days for attached homes and 50 for detached homes (Figure 27).

Detached and attached homes sell at same pace

Figure 27. Average Days on Market Before Sale by Housing Type, 1997-2017



Source: MRIS-SmartCharts Data, 1997-2017.

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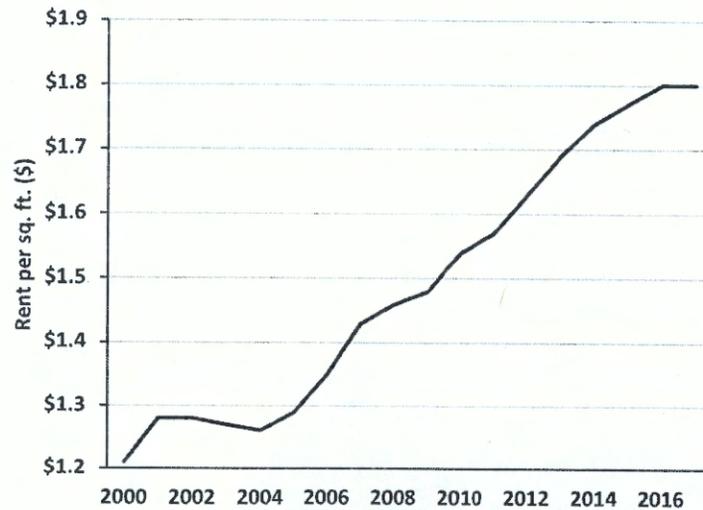
MULTI-FAMILY RENTAL MARKET

Earlier data showed the significant increase in the number of renter households relative to homeowners. Even with the increase in new development, rents have still increased significantly.

With asking rents per square foot having increased nearly 50 percent since 2000, even adjusting for inflation (Figure 28), access to affordable rental housing throughout the county is a growing concern, particularly for lower-income households.

Asking rents grow by 50 percent since 2000

Figure 28. Asking Rent per Square Feet, 2000-2017 (2017 Dollars)

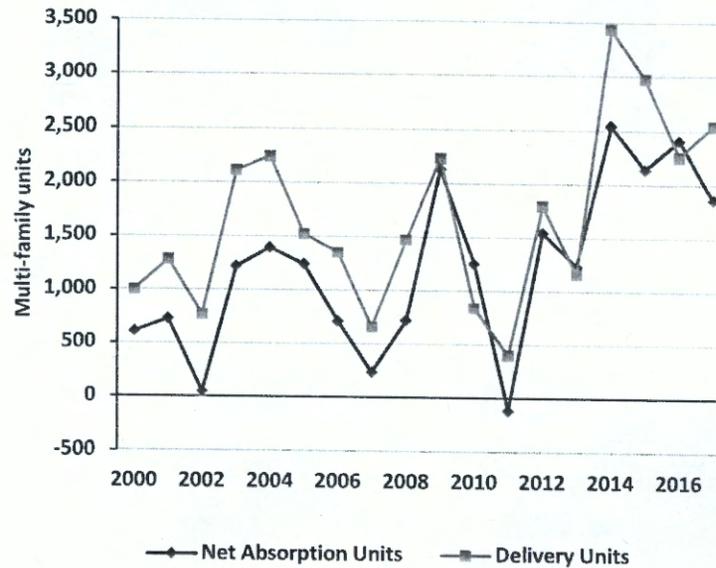


Source: CoStar Analytics, 2018.

The difference between the number of new rental units delivered to the market and the number of new units absorbed (or leased) has been closely aligned since 2000 (Figure 29). This trend illustrates the ongoing demand for rental units, which is backed up by the significant increase in rents.

Multi-Family new supply meets new demand

Figure 29. Multi-Family Units Deliveries and Net Absorption, 2000-2017

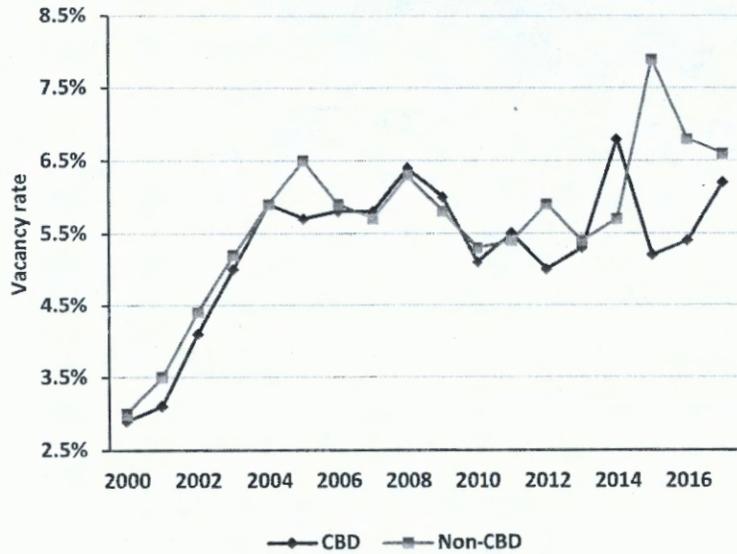


Source: CoStar Analytics, 2018.

Regardless of whether a property is in a central business district (CBD) area or non-CBD area, multi-family vacancy rates have remained relatively healthy and stable since 2003 (Figure 30). That said, asking rent per square foot in the county's CBD areas remains more competitive than in non-CBD areas (Figure 31).

No difference between vacancy rates in CBD vs. Non-CBD

Figure 30. Multi-Family Units Vacancy Rates, 2000-2017

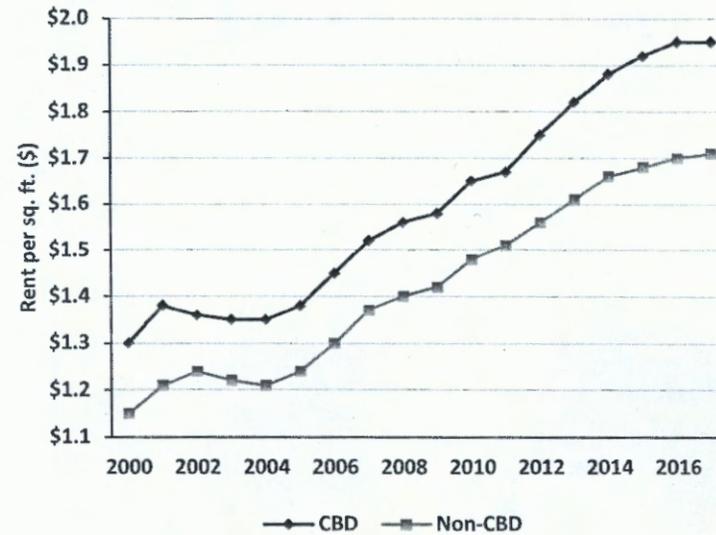


Source: CoStar Analytics, 2018.

Asking rents steadily increasing since 2000

Asking rent in CBDs consistently higher than Non-CBDs

Figure 31. Multi-Family Asking Rent per Square Foot (2017 Dollars)



Source: CoStar Analytics, 2018.

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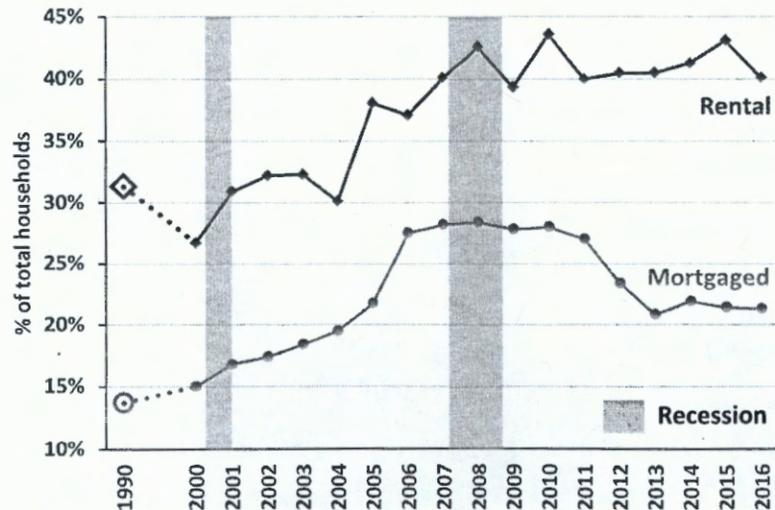
AFFORDABLE HOUSING

Increase in housing cost burden

Since 1990, the percentage of households in Montgomery County that are spending at least 35 percent of their income on housing costs (or cost-burdened, as defined by HUD) has continued to grow. The cost of housing has historically been more of a burden to renters than to homeowners – since rental households typically have a lower median income – but cost-burdened renters has grown at a faster rate than cost-burdened homeowners, reaching 40.1 percent in 2016 (Figure 32).

The percentage of households spending at least 35 percent of income on housing costs has continued to grow since 1990

Figure 32. Share of Households Spending at least 35 Percent on Housing Costs, 1990-2016



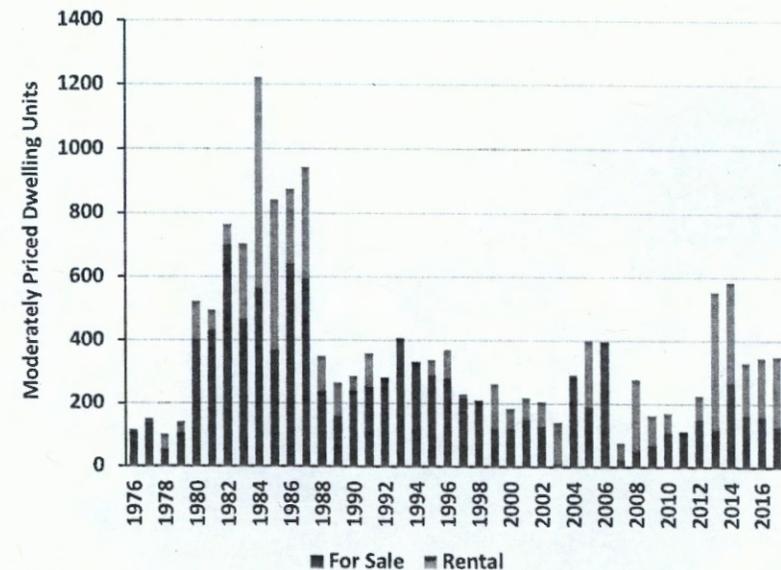
Source: 1990 Decennial Census, 2000 U.S. Decennial Census, 2002-2016 American Community Survey, 1-year estimates. Data prior to 2000 represented only for 1990 and not intervening years.

Affordable housing inventory

MPDUs and tax credit housing comprise the vast majority of committed, affordable rental stock in the county. The program has averaged the creation of 189 for-sale and rental MPDU units per year since 1990. While the program has created more for-sale MPDUs in total in the post-recession years, the number of rental MPDUs has increased and often surpassed the number of for-sale MPDUs created (Figure 33).

The number of rental MPDUs are increasingly exceeding for-sale MPDUs created

Figure 33. Moderately Priced Dwelling Units (MPDU) Production, 1976-2017

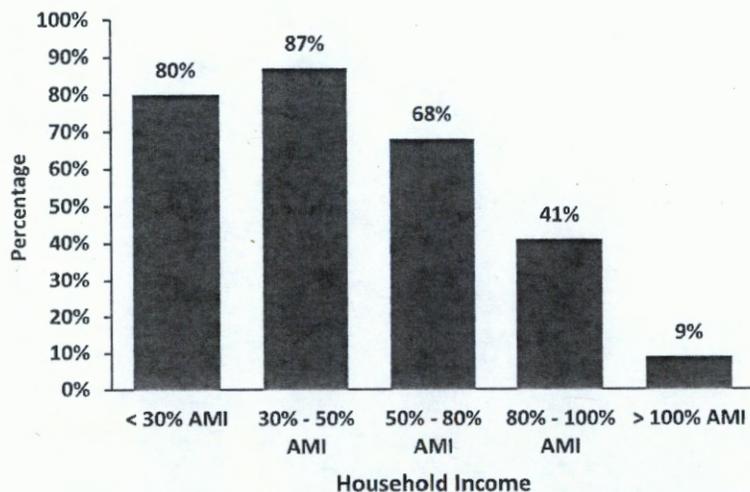


Source: Montgomery County Department of Housing and Community Affairs, 2018.

Reaching the low- (50 percent AMI) to very low- (30 percent AMI) income population remains a challenge in this county as these populations have grown faster than the supply of housing affordable to them. MPDUs – the most reliable source of affordable housing production – are often out of reach for them, and often Low Income Housing Tax Credit (LIHTC) projects do not include a large share of low- to very low-income units, due to their expense. Presently, housing cost burden has been most acute at the lower end of the income spectrum, as shown in Figure 34.

Housing cost burden highest on lower-income households

Figure 34. Percentage of Cost-Burdened Renter Households by Affordability Threshold



Source: M-NCPPC Rental Housing Study, Montgomery County, MD. 2017; American Community Survey, 2008-2012.



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Employment Trends

SUMMARY

- The overall aging of the county's population has led to a higher "dependency ratio," which measures the relative number of dependent or nonworking-age persons compared to working-age persons.
- Montgomery County residents made up a labor force of nearly 600,000 in 2016, working across the region. The county's civilian employed workforce has grown from about 450,000 people in 1990 to nearly 590,000 in 2016.
- Education, health, and social services, as well as professional, scientific, management, administrative, and waste management services remain top employment industries for county residents.
- The largest employment industries for jobs located in the county have remained the same since 1990, though their growth rates have not. Health care and social assistance employment has grown most quickly.
- The number of county jobs in the private sector grew by 22 percent while those in the federal government sector grew by 13 percent since 1990.
- The private sector accounts for around 81 percent of total jobs located in Montgomery County.
- Although public sector employment represents a significant share of jobs in the county, its share of all county jobs has not been expanding.
- Among private sector county employers, those in the health care and social assistance industry have grown the most in terms of the number of local jobs.
- With the exception of the professional, scientific, and technical services industry, where average annual pay grew by almost 2 percent per year, real wages for jobs located in the county did not improve appreciably between 1990 and 2016.
- Despite a largely office-based workforce, the demand for office space has dramatically decreased since the 1990s, resulting in a significant supply surplus of large office buildings.
- The demand for smaller and more flexible mixed-use office space located within walking distance of public transit, retail, and other amenities is on the rise.
- Despite sharp increases in e-commerce and a marked shift in millennial tastes and preferences, the county's retail real estate market has enjoyed steady growth since the 1990s.

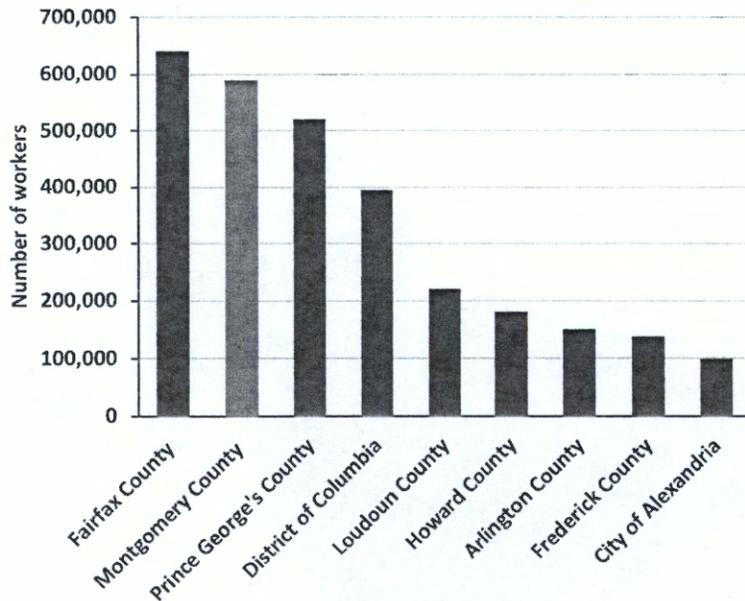
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RESIDENT EMPLOYMENT

Resident employment refers to jobs held by residents of Montgomery County, irrespective of where the job is located. Montgomery County residents are a core component of the regional labor force comprised of nearly 600,000 people in 2016. The only neighboring jurisdiction with a larger resident labor force is Fairfax County, Virginia. Note that the labor force refers to all people working or looking for work, including military service members. As of 2016, there were an estimated 27,900 unemployed civilians.

Montgomery County ranks second in the region in terms of labor force size

Figure 35. Labor Regional Forces, 2016

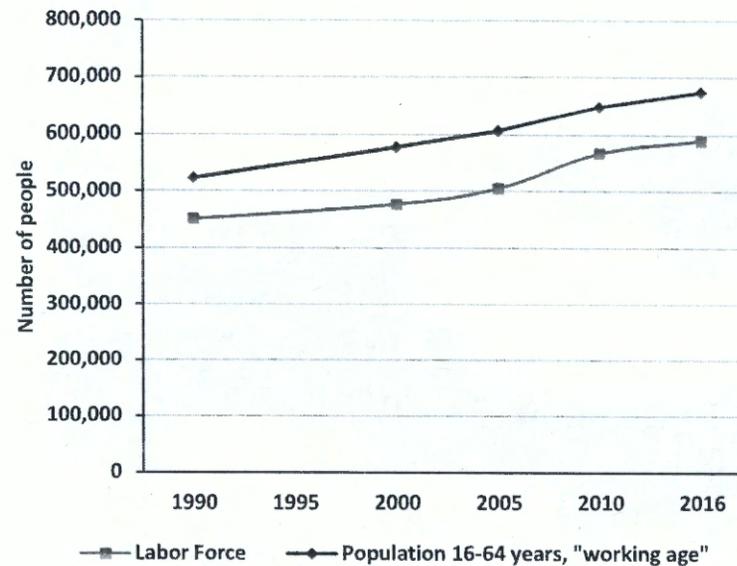


Sources: U.S. Census 2016 American Community Survey 1-Year Estimates, Table DP03—SELECTED ECONOMIC CHARACTERISTICS for Montgomery County, MD.

As seen in Figure 36, labor force growth was somewhat faster overall than the growth of the working-age population, defined as people between the ages of 16 and 65. Today there are 31 percent more people in the labor force, but 29 percent more working-age people in the county than in 1990.

The labor force grew more than the working-age population

Figure 36. Working-Age Population and Workers, 1990-2016

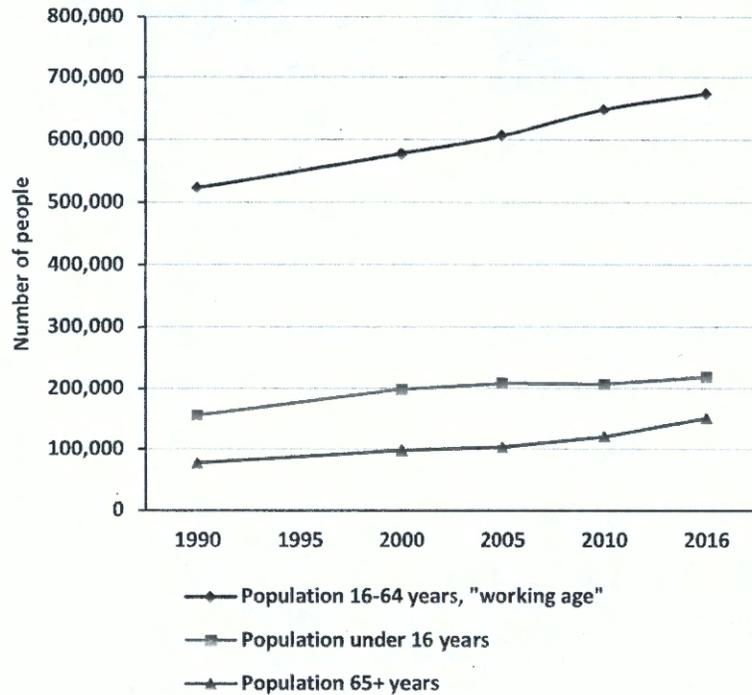


Sources: U.S. Census 1990 Selected Social, Labor Force and Employment Characteristics for Montgomery County, MD; U.S. Census, 2000-2016 American Community Survey 1-Year Estimates, Table DP03—SELECTED ECONOMIC CHARACTERISTICS for Montgomery County, MD.

Although both the population and labor force are growing, the county's aging population has led to a higher "dependency ratio" over time, defined as the number of nonworking-age persons per 100 working-age persons.

Dependent populations have increased relative to the working-age population

Figure 37. Dependent and Working-Age Populations, 1990-2016



Sources: U.S. Census 1990 Selected Social, Labor Force and Employment Characteristics for Montgomery County, MD; U.S. Census, 2000-2016 American Community Survey 1-Year Estimates, Table DP03—SELECTED ECONOMIC CHARACTERISTICS for Montgomery County, MD.

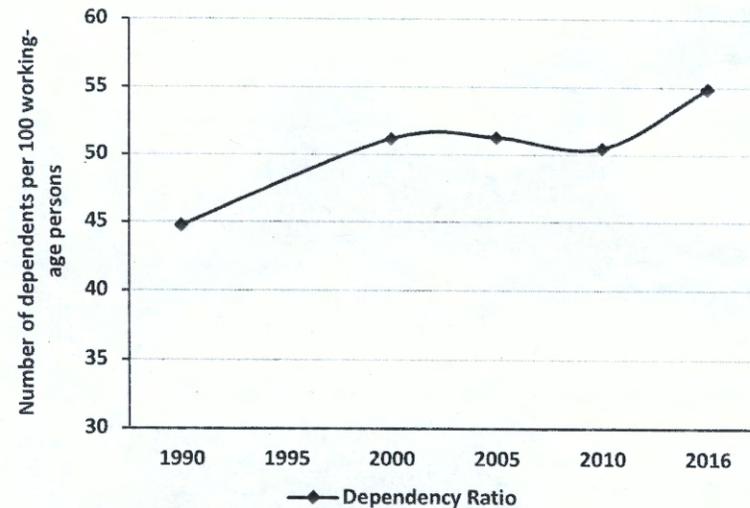
By 2016, there were 55 presumed dependents for every potential 100 workers. In 1990, there were 45 presumed dependents for every 100 potential workers. Despite that many people who work do so beyond the age of 65, this dependency ratio nevertheless reveals changes underway in the age structure of the county population.

The trend of a rising dependency ratio could have economic implications such as shifts in consumption toward health and leisure-related goods and services, for example. It could also foretell reduced economic growth, unless productivity gains compensate for relatively fewer workers in the future.

As the baby boomer generation ages out of the workforce but remains in the county, this ratio will continue to climb unless migration into the county results in larger numbers of working-age people. Changes in the ratio over time thus far are shown in Figure 38.

The ratio of dependents to work-age people has been rising

Figure 38. Dependency Ratio, 1990-2016



Sources: U.S. Census 1990 Selected Social, Labor Force and Employment Characteristics for Montgomery County, MD; U.S. Census, 2000-2016 American Community Survey 1-Year Estimates, Table DP03—SELECTED ECONOMIC CHARACTERISTICS for Montgomery County, MD.

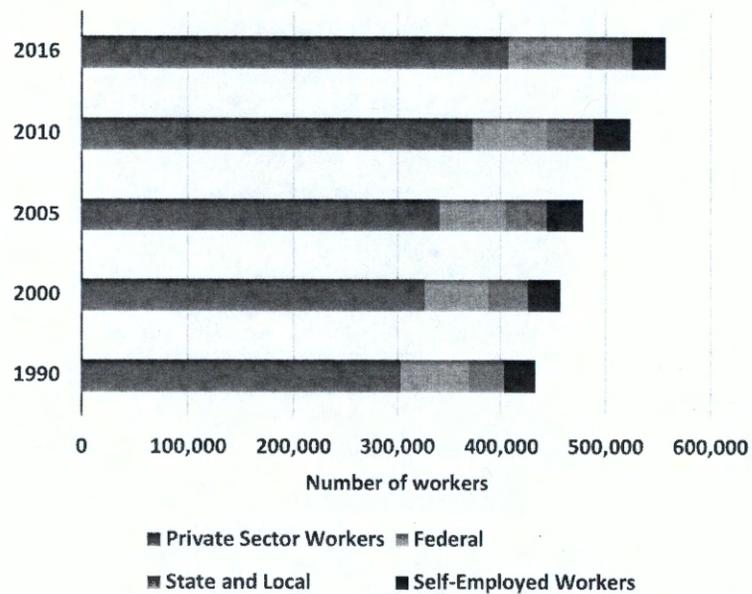
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Labor force participation

The distribution of resident workers by sector has remained consistent since 1990.

The private sector remains the predominant sector for residents

Figure 39. Resident Workers by Sector, 1990-2016



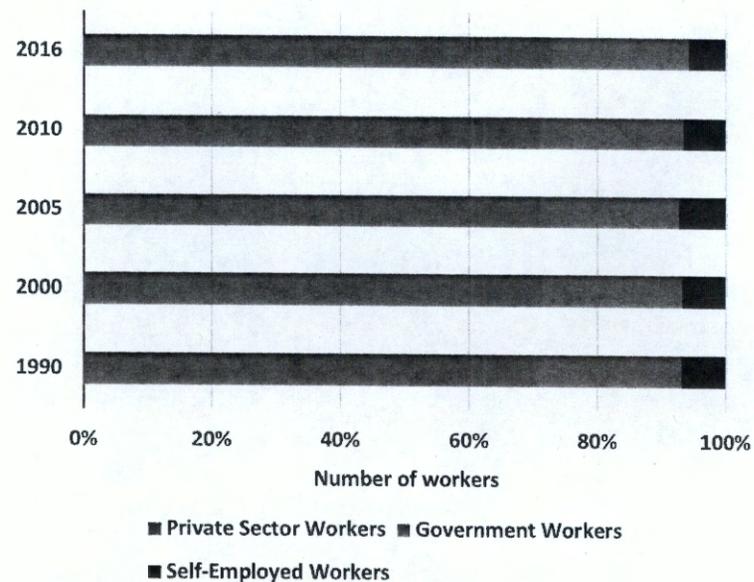
Sources: U.S. Census 1990 Selected Social, Labor Force and Employment Characteristics for Montgomery County, MD; U.S. Census, 2000-2016 American Community Survey 1-Year Estimates, Table DP03—SELECTED ECONOMIC CHARACTERISTICS for Montgomery County, MD.

As the county's civilian employed workforce has grown from about 450,000 people in 1990 to nearly 590,000 in 2016, the percentage of resident workers in the private sector has hovered near 70 percent. The share of residents working in the federal government sector has remained between 13 and 15 percent, and the share of residents working in the state and local government sectors has consistently been 8 percent. Figure 39 shows the number

of working residents by sector while Figure 40 shows the percentage of resident workers by sector. Note that the number of workers is not the same as the number of people in the labor force (recall that some labor force members are either unemployed or are armed services force members not counted in the sector breakdowns).

The proportions of private and public sector workers have stayed constant

Figure 40. Percentage of Resident Workers by Sector, 1990-2016



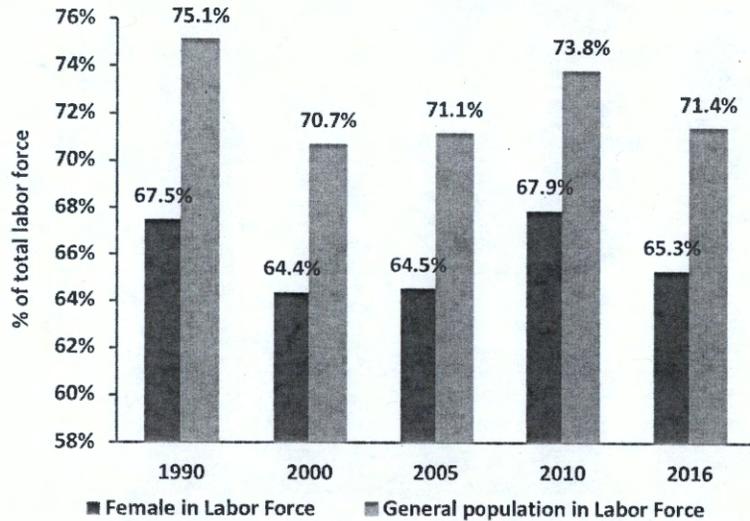
Sources: U.S. Census 1990 Selected Social, Labor Force and Employment Characteristics for Montgomery County, MD; U.S. Census, 2000-2016 American Community Survey 1-Year Estimates, Table DP03—SELECTED ECONOMIC CHARACTERISTICS for Montgomery County, MD.

Women's participation in the labor force in the county has not changed significantly, but decreased by two percent between 1990 and 2016, from 67 to 65 percent. For the overall population, labor force participation for those aged 16 and older decreased from 75 percent in 1990 to 71 percent in 2016.

Both overall and female labor force participation by county residents decreased in the early 2000s but had grown by 2010, possibly due to household income needs stemming from the 2008 recession.

Women’s labor force participation has not fluctuated significantly

Figure 41. Women’s Labor Force Participation, 1990-2016



Sources: U.S. Census 1990 Selected Social, Labor Force and Employment Characteristics for Montgomery County, MD; U.S. Census, 2000-2016 American Community Survey 1-Year Estimates, Table DP03—SELECTED ECONOMIC CHARACTERISTICS for Montgomery County, MD.

Industries and occupations

Education, health, and social services are the top employment sectors for county residents, followed by professional, scientific, management, administrative, and waste management services¹³, both of which were also the fastest growing industries between 1990 and 2016 (over 5 percent growth). These top two industries employed over 40 percent of working residents in 2016, or 30 percent more residents than the next largest industry, public administration. Together, the top three industries represented nearly 55 percent of all resident jobs in 2016.

In 1990, the top two industries were still educational, health, and social services as well as professional, scientific, management, administrative, and waste management services, but they employed a smaller share of county residents: 17 percent and 16 percent respectively, totaling 33 percent. The third-largest industry was retail trade rather than public administration. The retail industry has since declined from employing 14 percent to 8 percent of county residents and has fallen in rank to fifth largest.

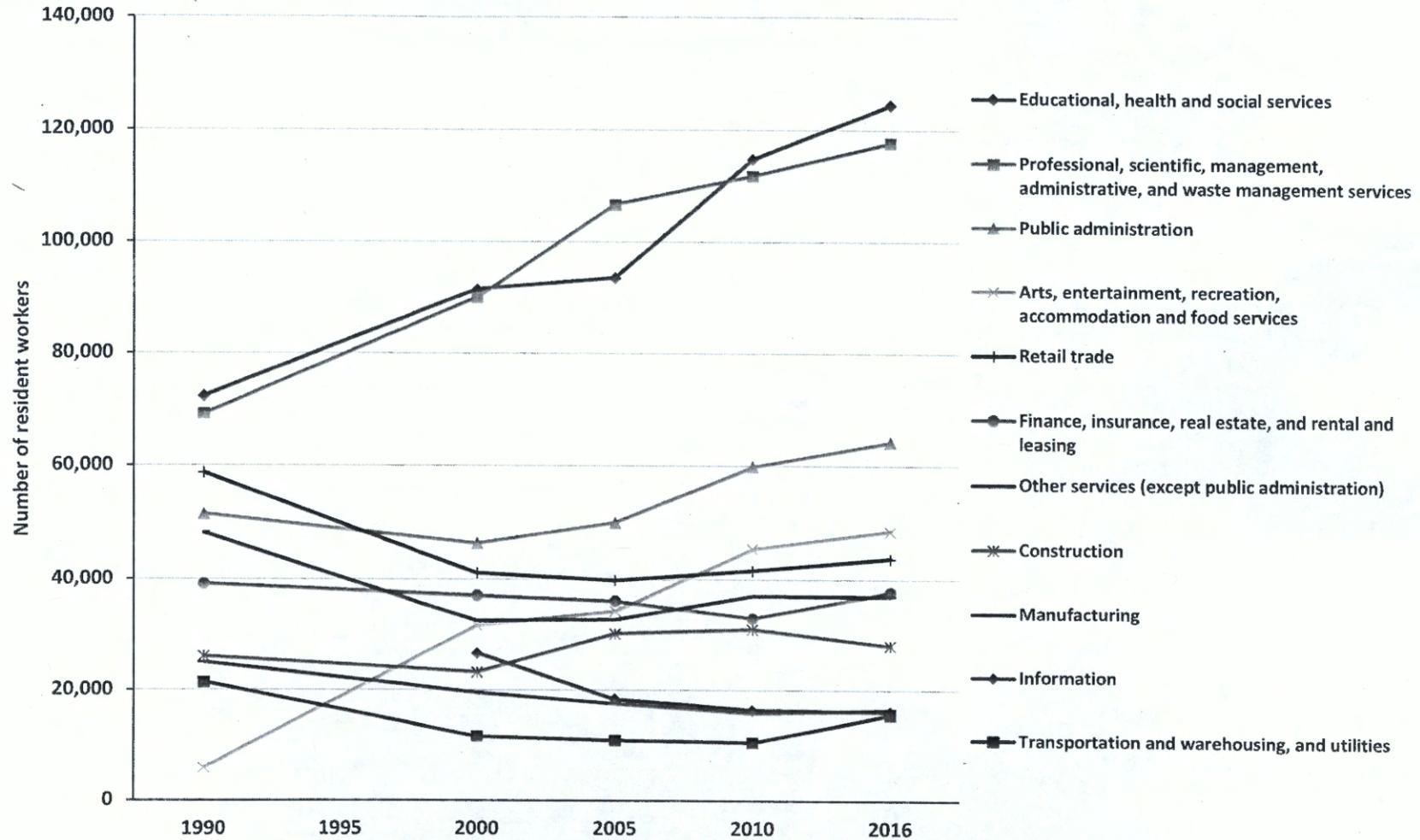
Educational, health, and social services as a share of employment grew by six percentage points between 1990 and 2016, while professional, scientific, management, administrative, and waste management services grew by five percentage points. Most other industries lost ground in terms of their share of resident employment.

13 Professional, scientific, and technical services include: legal advice and representation; accounting, bookkeeping, and payroll services; architectural, engineering, and specialized design services; computer services; consulting services; research services; advertising services; photographic services; translation and interpretation services; veterinary services; and other professional, scientific, and technical services. This sector excludes establishments primarily engaged in providing a range of day-to-day office administrative services, such as financial planning, billing and recordkeeping, personnel, and physical distribution and logistics. Administrative and waste management services include: office administration, hiring and placing of personnel, document preparation and similar clerical services, solicitation, collection, security and surveillance services, cleaning, and waste disposal services.

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Education, health, and social services are outpacing other industries in total employment

Figure 42. Resident Employment by Industry, 1990-2016



Sources: U.S. Census 1990 Selected Social, Labor Force and Employment Characteristics for Montgomery County, MD; U.S. Census, 2000-2016 American Community Survey 1-Year Estimates, Table DP03—SELECTED ECONOMIC CHARACTERISTICS for Montgomery County, MD.

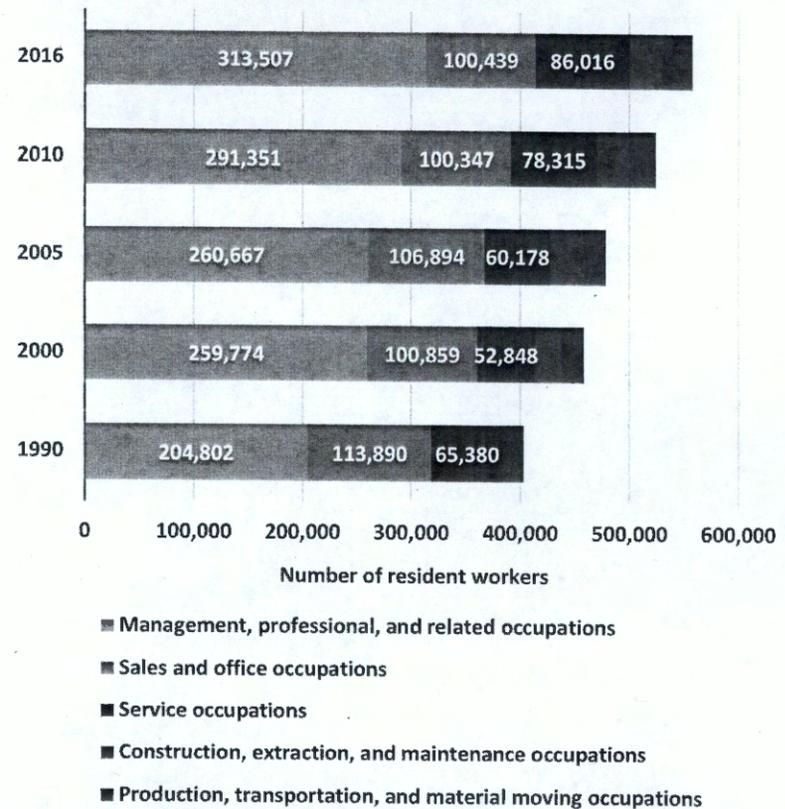
The industries shown in Figure 42 encompass a range of occupation types, which indicate the nature of the work or primary duties being performed in any given industry.

Seen in Figure 43, county residents overwhelmingly work in jobs categorized as management, professional, and related occupations, in addition to sales and office occupations. Least represented among county workers are construction, extraction, and maintenance occupations, and production, transportation, and material moving occupations.

Since 1990, the share of residents performing jobs characterized as management, professional and related occupations has grown the most by far, by nine percentage points. The share of residents in jobs characterized as sales and office occupations has declined the most, by more than eight percentage points. Figure 43 shows changes in occupations over time. Figure 44 shows the same breakdown in terms of the share of all resident workers.

Management, professional, and related occupations outnumber all other types combined

Figure 43. Number of Resident Workers by Occupation Type¹⁴, 1990-2016



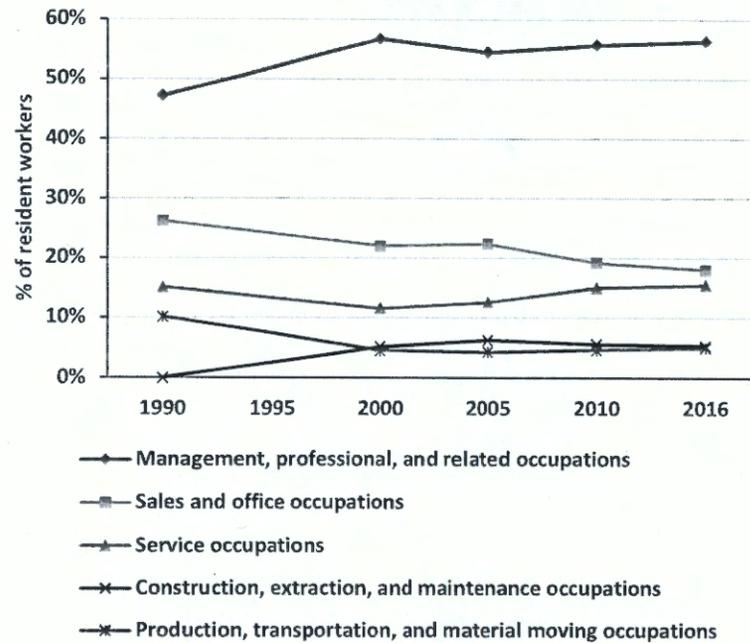
Sources: U.S. Census 1990 Selected Social, Labor Force and Employment Characteristics for Montgomery County, MD; U.S. Census, 2000-2016 American Community Survey 1-Year Estimates, Table DP03—SELECTED ECONOMIC CHARACTERISTICS for Montgomery County, MD.

¹⁴ Note that between 1990 and 2000 occupation categorization methods changed so that construction, extraction, and maintenance occupations formed a distinct category and were no longer distributed across other categories.

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Management, professional, and related occupations account for the largest percentage of employed residents

Figure 44. Occupation Types as a Percentage of Resident Workers, 1990-2016



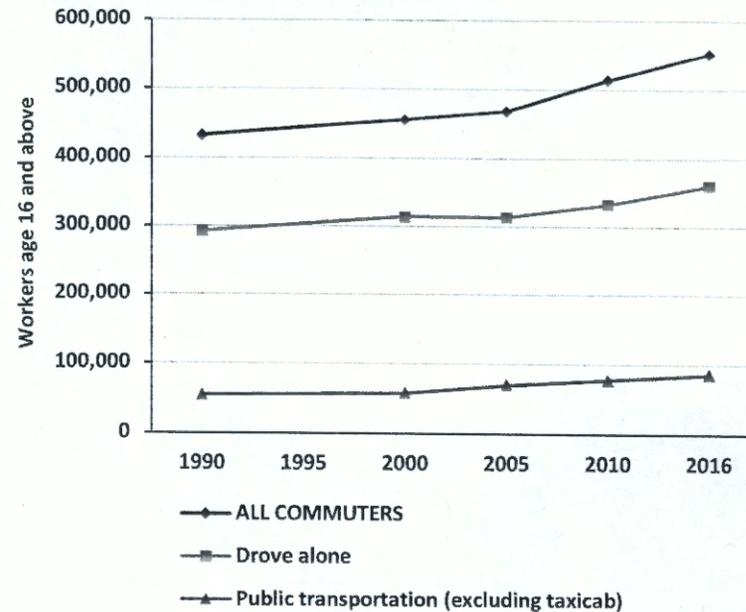
Sources: U.S. Census 1990 Selected Social, Labor Force and Employment Characteristics for Montgomery County, MD; U.S. Census, 2000-2016 American Community Survey 1-Year Estimates, Table DP03—SELECTED ECONOMIC CHARACTERISTICS for Montgomery County, MD.

Commuting

Driving alone remains the predominant commute mode for working county residents, with more than 65 percent of commuters choosing to drive alone. Public transportation is the second most popular mode choice, but still accounted for only 16 percent of commutes in 2016. Figure 45 shows the number of single-occupancy vehicle commuters and transit riders relative to the total number of commuters between 1990 and 2016.

Driving far surpasses use of public transportation for commutes

Figure 45. Top Commute Modes, 1990-2016



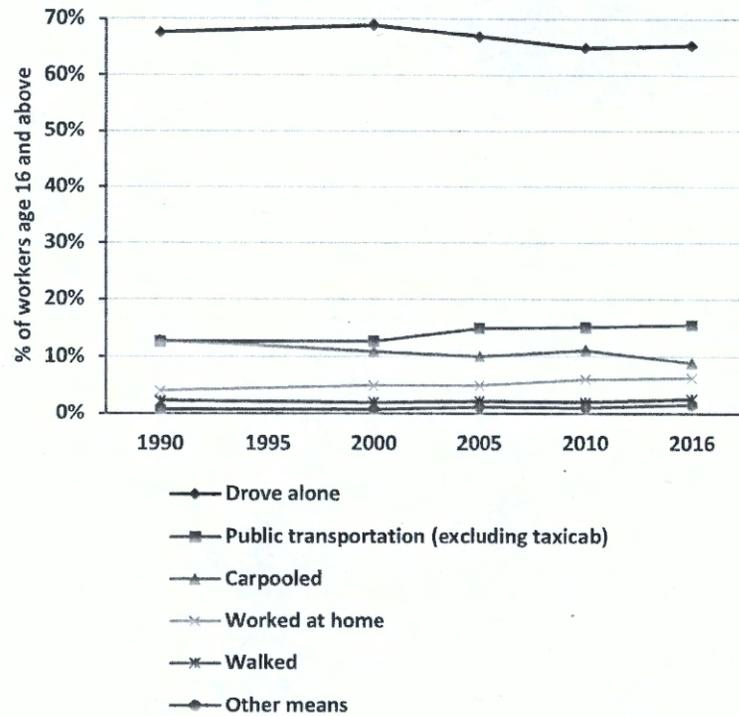
Sources: U.S. Census 1990 Selected Social, Labor Force and Employment Characteristics for Montgomery County, MD; U.S. Census, 2000-2016 American Community Survey 1-Year Estimates, Table DP03—SELECTED ECONOMIC CHARACTERISTICS for Montgomery County, MD.

Although more commuters are using public transportation to get to work in 2016 than in 2000 or 1990, the overall share of commuters using transit has increased only slightly, from 13 to 16 percent since 1990. The share of those who drive to work alone decreased from 68 to 65 percent since 1990.

Figure 46 shows the percentages of county resident commuters over time, according to their mode of transportation. Despite the slight decline in driving alone, it continues to surpass all other modes in popularity by almost 50 percentage points.

Public transit is the second most popular mode, but still far from most popular

Figure 46. All Commute Modes, 1990-2016



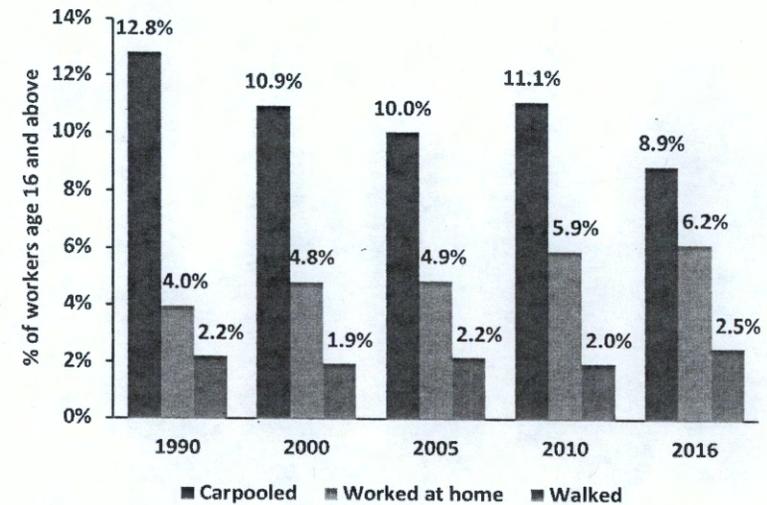
Sources: U.S. Census 1990 Selected Social, Labor Force and Employment Characteristics for Montgomery County, MD; U.S. Census, 2000-2016 American Community Survey 1-Year Estimates, Table DP03—SELECTED ECONOMIC CHARACTERISTICS for Montgomery County, MD.

Among the least utilized modes of transportation for commuting, carpooling has declined, while walking and working from home have increased. Working from home has increased most significantly since 1990, by nearly 100 percent, from about 17,000 workers to more than 34,000 workers. This growth is perhaps due to changes in federal telework policies. In addition,

walking increased 48 percent, from 9,500 workers to nearly 14,000. Figure 47 shows the shares of commuters using the least utilized commute modes from 1990 to 2016. Although both walking and working from home have grown substantially, they still represent relatively small shares of overall commuting.

Carpooling has decreased while working from home has increased

Figure 47. Least Utilized Commute Modes, 1990-2016



Sources: U.S. Census 1990 Selected Social, Labor Force and Employment Characteristics for Montgomery County, MD; U.S. Census, 2000-2016 American Community Survey 1-Year Estimates, Table DP03—SELECTED ECONOMIC CHARACTERISTICS for Montgomery County, MD.

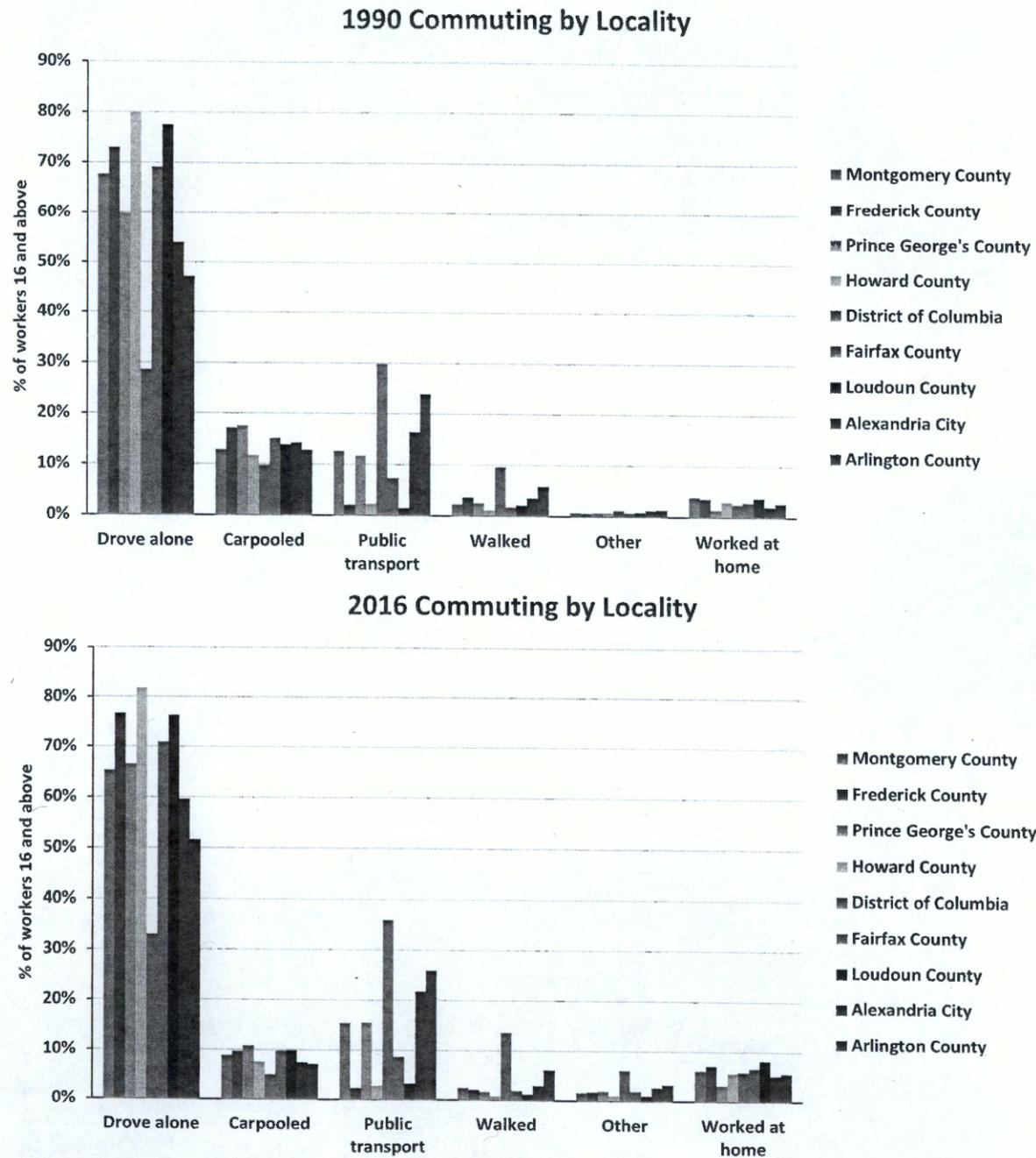
Regionally, commuting alone by car continues to be the most utilized mode of transportation in every locality except Washington, D.C., where public transportation is more popular than driving alone.

As seen in Figure 48, changes in commute mode across the region generally include surges in home-based work, carpooling declines, public transport increases, and increases in driving alone.

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Changes in commuting have varied across the region by locality

Figure 48. Commute Mode by Locality, 1990 and 2016



Sources: U.S. Census 1990 Selected Social, Labor Force and Employment Characteristics for Montgomery County, MD; U.S. Census, 2000-2016 American Community Survey 1-Year Estimates, Table DP03—SELECTED ECONOMIC CHARACTERISTICS.

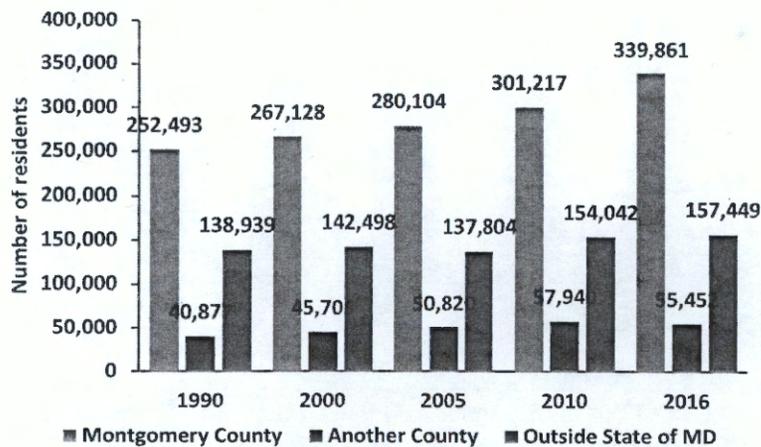
Alexandria and Washington, D.C. saw the largest gains in commuters using public transportation. Washington, D.C. had by far the largest growth in the share of commuters walking to work, four percentage points. Loudoun County had the greatest increase in home-based work, which could be due to growth in home-based small businesses there. Prince George's County had the largest percentage point gain in the share of commuters driving alone.

With population and workforce growth, there were over 87,000 more residents who both live and work inside of Montgomery County in 2016 than in 1990, as well as 18,500 additional county residents who commute outside of Maryland for work.

Despite the increase in the number of residents however, the distribution of commuters by place of work has not changed substantially since 1990. The gross numbers of commuters by their place of work is seen in Figure 49.

The number of residents who live and work within the county has increased the most, relative to residents who work outside the county

Figure 49. Number of Residents by Place of Work, 1990-2016

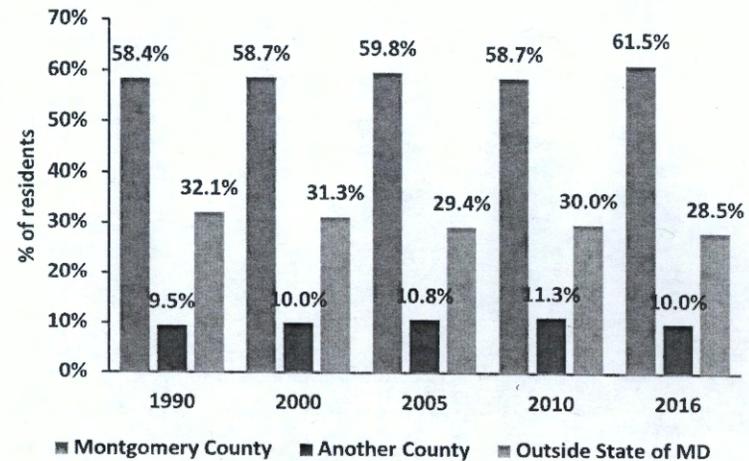


Sources: U.S. Census 1990 Selected Social, Labor Force and Employment Characteristics for Montgomery County, MD; U.S. Census, 2000-2016 American Community Survey 1-Year Estimates, Table DP03—SELECTED ECONOMIC CHARACTERISTICS for Montgomery County, MD.

The share of those commuting within Montgomery County remained near 60 percent. The share of those commuting outside of Maryland, to Washington, D.C. and elsewhere, hovered near 30 percent. Those commuting between Montgomery County and another county within Maryland remained at 10 percent. Figure 50 shows these percentages of commuters by their place of work over time.

Most residents live and work inside Montgomery County

Figure 50. Percentage of Residents by Locality, 1990-2016



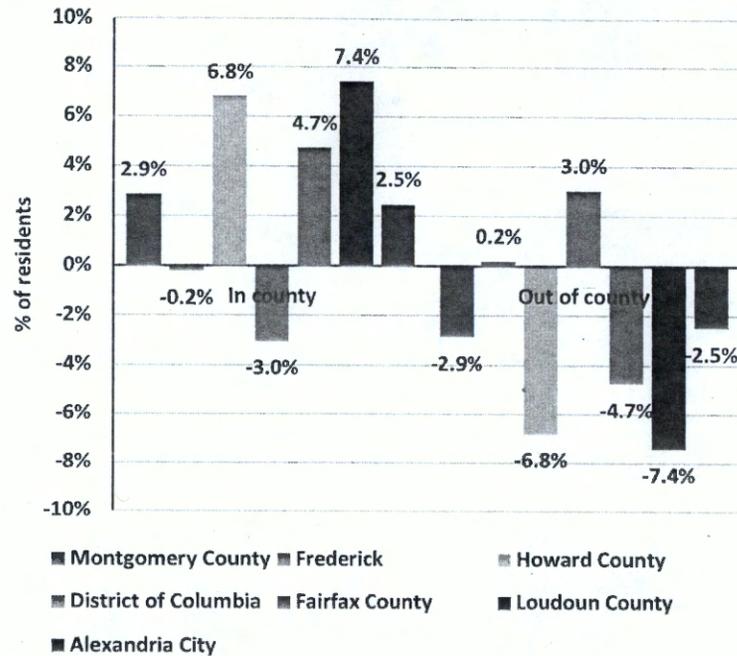
Sources: U.S. Census 1990 Selected Social, Labor Force and Employment Characteristics for Montgomery County, MD; U.S. Census, 2000-2016 American Community Survey 1-Year Estimates, Table DP03—SELECTED ECONOMIC CHARACTERISTICS for Montgomery County, MD.

Regionally, the workplace locations of commuters vary considerably by jurisdiction, as seen in Figure 51. While Frederick County and Washington, D.C. have experienced declines in the share of residents working inside their localities, most have seen growth in the percentages of residents who both live and work in the same locality. Loudoun and Howard counties saw the greatest growth (7 points) in local commuters, followed by Fairfax County (5 points). Montgomery County experienced a 3 percentage point increase in local commuters. Prince George's and Arlington Counties experienced no change and are excluded from the figure.

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Only Frederick County and Washington, D.C. saw a decrease in the share of residents who work inside their jurisdictions

Figure 51. 1990-2016 Place of Work Changes by Locality

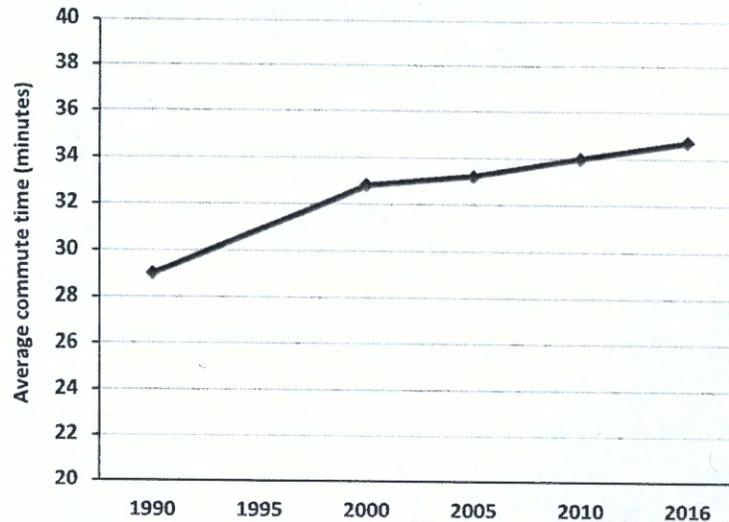


Sources: U.S. Census 1990 Selected Social, Labor Force and Employment Characteristics for Montgomery County, MD; U.S. Census, 2000-2016 American Community Survey 1-Year Estimates, Table DP03—SELECTED ECONOMIC CHARACTERISTICS.

While there are more residents commuting to work within the county as opposed to crossing jurisdictions, average commute times for workers have been rising. The average travel time for county residents from 1990 to 2016 can be seen in Figure 52. While the average commute time was 29 minutes in 1990, it rose consistently to nearly 35 minutes by 2016.

Average commute time has risen consistently since 1990

Figure 52. Average Commute Time for Montgomery County Residents (minutes), 1990-2016



Sources: U.S. Census 1990 Selected Social, Labor Force and Employment Characteristics for Montgomery County, MD; U.S. Census, 2000-2016 American Community Survey 1-Year Estimates, Table DP03—SELECTED ECONOMIC CHARACTERISTICS for Montgomery County, MD.

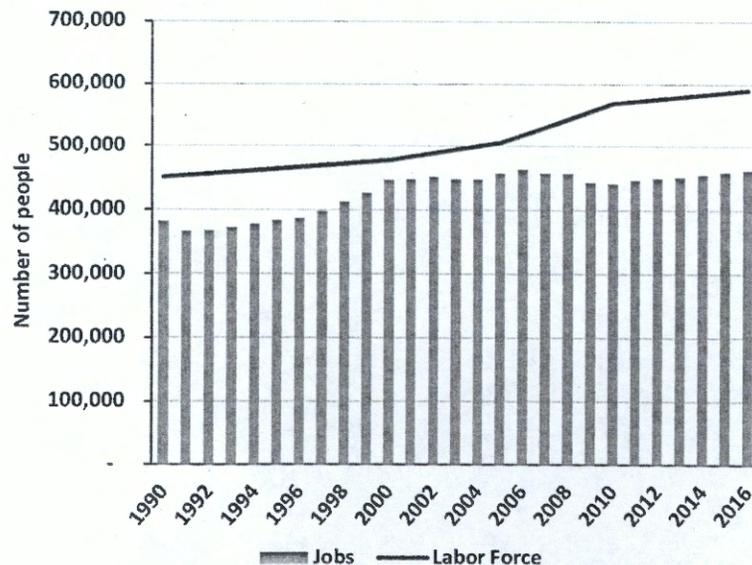
JOBS LOCATED IN MONTGOMERY COUNTY

This section discusses trends in the number and types of jobs located in Montgomery County, referred to as “at-place employment.” The data source, the Quarterly Census of Employment and Wages, excludes sole proprietors/people who are self-employed and some categories of active duty military personnel.

There are more than 460,000 jobs across the private, federal and local government sectors in the county, which is a 21 percent increase since 1990. While the current number of county jobs is just shy of the pre-recession peak in 2006, it has been climbing slowly but steadily since 2010.

The county labor force has grown faster than the number of county jobs

Figure 53. Jobs and Labor Force, 1990-2016



Sources: U.S. Census 1990 Selected Social, Labor Force and Employment Characteristics for Montgomery County, MD; U.S. Census, 2000-2016 American Community Survey 1-Year Estimates, Table DP03—SELECTED ECONOMIC CHARACTERISTICS for Montgomery County, MD.

Jobs by sector

In 2016, there were 374,000 private sector jobs, 48,000 federal government jobs, and 40,500 local government jobs in the county, maintaining the county’s long-time overall composition of private and public sector employment.

The breakdown of county jobs by sector has remained relatively constant from 1990 to 2016, with the private sector accounting for around 81 percent of jobs. The federal government has accounted for 9 to 12 percent of all county jobs while local government has accounted for 8 to 9 percent.

Growth in the number of jobs since 1990 has differed by sector, with local government experiencing the largest percentage increase of 35 percent or 10,400 jobs. The private sector grew by 22 percent, more than 66,500 jobs, while the federal government sector grew by 13 percent or 5,400 jobs.

Although the private sector appears to far exceed the federal sector in terms of local jobs, private industry in the county and across the region is heavily influenced by federal spending, including federal payroll and procurement expenditures. Following the 2008 recession and then the Budget Control Act of 2011 and “Sequester,” the Washington region lost 12,800 federal jobs from 2010-2016 and federal procurement spending declined by \$8 billion, or 9.8 percent, which has suppressed area economic growth.¹⁵

15 Fuller, Stephen S. Stephen S. Fuller Institute for Research on the Washington Region’s Economic Future at Schar School of Policy and Government, George Mason University. (2017). *The Washington Region’s Declining Economic Brand*.

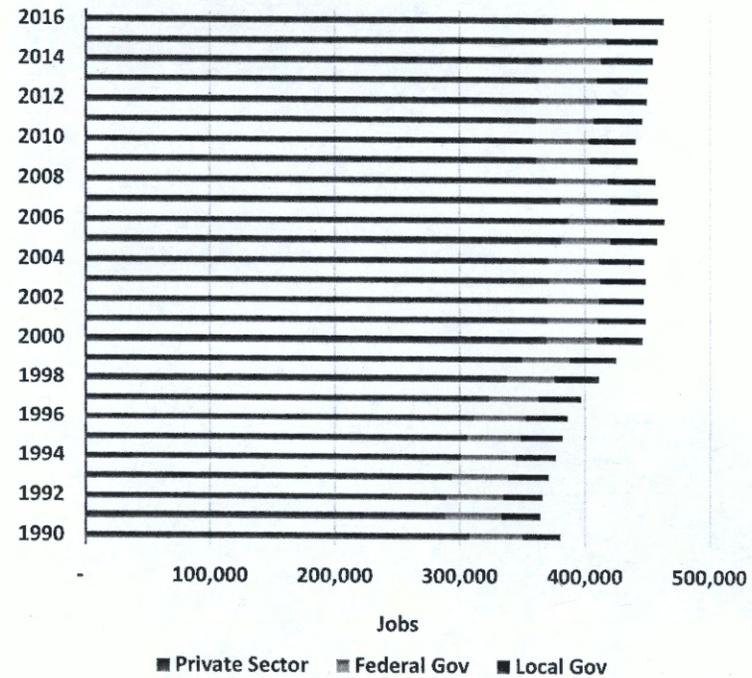
(M)

Economic growth in Montgomery County is often compared to economic growth in Fairfax County, Virginia. From 1990 to 2016, total employment in Fairfax grew by nearly 60 percent.¹⁶ This overall increase was driven by a 63 percent increase in private sector employment (318,441 jobs to 520,635 jobs), a 28 percent increase in federal employment (18,819 to 24,125 jobs) and a 43 percent increase in local government employment (34,959 to 49,985 jobs).

Fairfax County's growth has likely been driven by U.S. Department of Defense spending, which increased the concentration of federal employment in the county as well as facilitated private sector expansion through contracting. While Montgomery County has twice the number of federal employees as Fairfax County, they work in industries that have not generated the same degree of spinoff activity as industries engaged by defense spending. A recent Pew Charitable Trusts analysis found that per capita Department of Defense contracting expenditures was nearly twice as large in Virginia as in Maryland.¹⁷

The private sector accounts for around 80% of county jobs

Figure 54. Number of Jobs by Sector, 1990-2016



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment & Wages, 1990-2016, accessed via Maryland Department of Labor, Licensing and Regulation.

¹⁶ U.S. Bureau of Labor Statistics, Quarterly Census of Employment & Wages, 1990-2016.

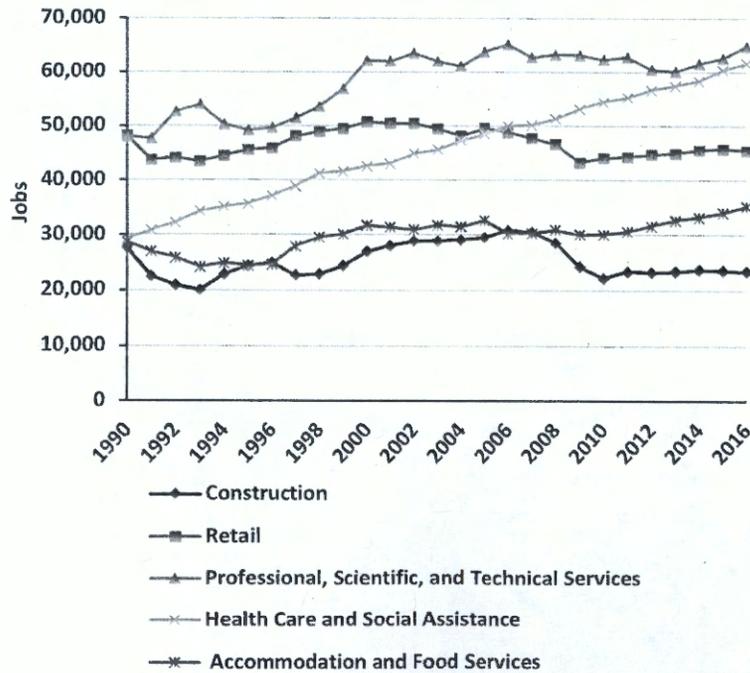
¹⁷ "Wide Variation in Federal Defense Spending From State to State," The Pew Charitable Trusts, April 9, 2018.

Jobs by industry within Montgomery County

The county's top industries have remained the same since 1990, though their growth rates have not. While professional, scientific and technical services¹³ remain an important growth industry, health care and social assistance employment has grown most quickly. The top 5 industries account for 50 percent of all county jobs.

Professional, scientific, and technical services remains the largest sector

Figure 55. Number of Jobs in County in Top 5 Industries, 1990-2016

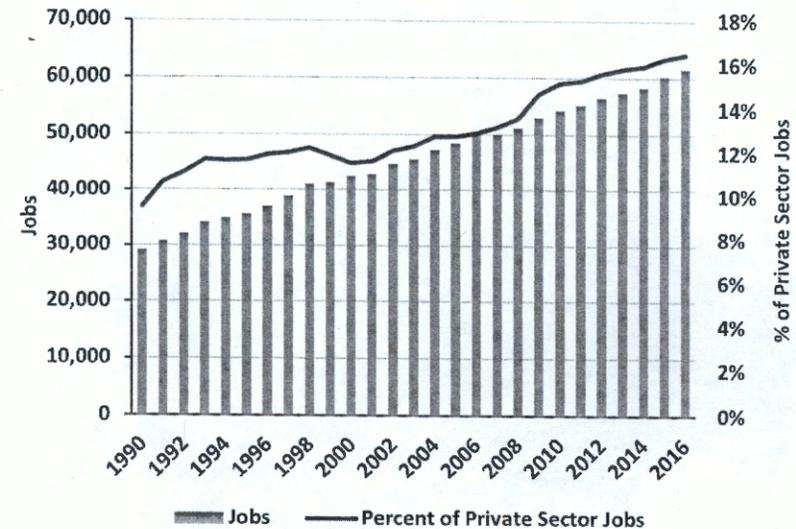


Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment & Wages, 1990-2016, accessed via Maryland Department of Labor, Licensing and Regulation.

The health care and social assistance industry in the county expanded by 111 percent between 1990 and 2016. Although it made up 9.5 percent of the county's jobs in 1990, its share was 16.5 percent in 2016.

The Health Care sector created around 30,000 jobs from 1990 to 2016

Figure 56. Health Care & Social Assistance Jobs in the County, 1990-2016



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment & Wages, 1990-2016, accessed via Maryland Department of Labor, Licensing and Regulation.

In contrast to the health care and social assistance sector, the retail industry in the county has experienced an overall decline. In 1990, 16 percent of all private sector jobs in the county were in retail. Retail's share of county jobs had decreased and plateaued to around 12 percent by 2016.

(13)

The number of retail jobs, however, grew steadily from its second-lowest point of 44,000 in 1991, to nearly 51,000 in 2000. The number then decreased in 2006 before steeply declining during the recession, to its lowest point of 43,000 in 2009. Overall, the number of retail jobs declined by 6 percent from 1990 to 2016 and stood at 45,000 in 2016.

The Retail industry is declining overall but has had a steady recovery since the 2008 recession

Figure 57. Retail Jobs in the County, 1990-2016

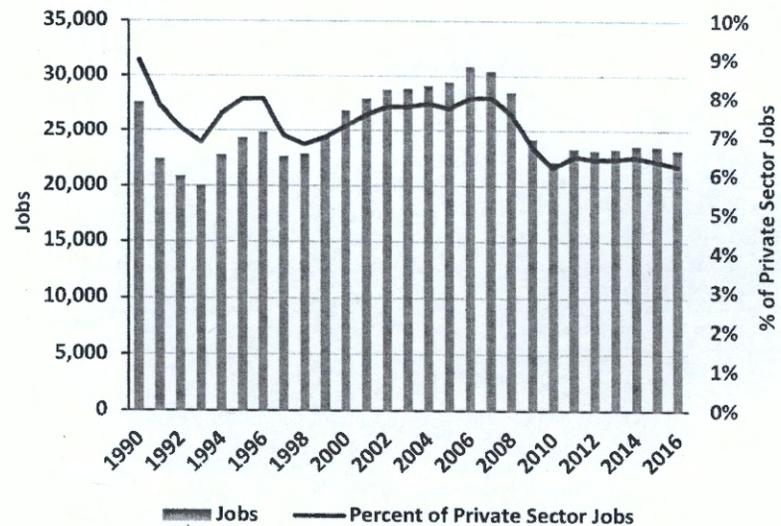


Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment & Wages, 1990-2016, accessed via Maryland Department of Labor, Licensing and Regulation.

Another declining industry in terms of its share of county jobs is the construction industry. The industry's share of private sector jobs was at its highest in 1990, at 9 percent. It has since declined to 6 percent. The number of jobs decreased overall by 15 percent from 1990 to 2016. The sharpest decline occurred from 2006 to 2016, when the number of jobs dropped by nearly 25 percent from its 2006 peak¹⁸.

The Construction industry is small and has declined since 1990

Figure 58. Construction Jobs in the County, 1990-2016



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment & Wages, 1990-2016, accessed via Maryland Department of Labor, Licensing and Regulation.

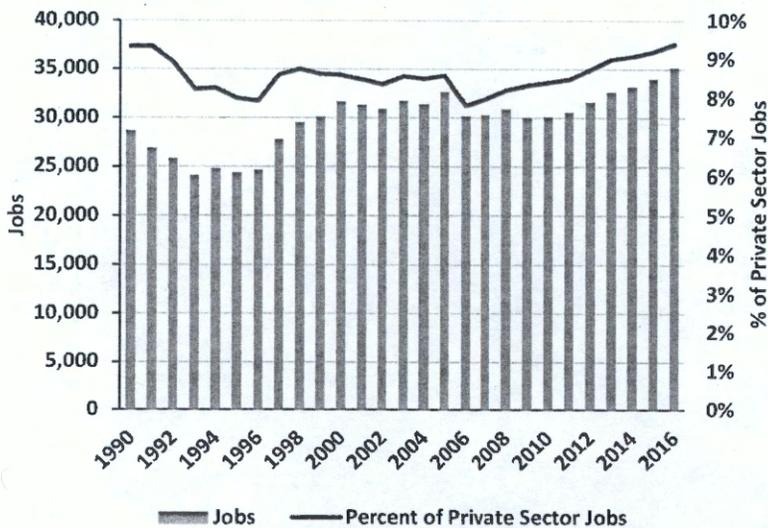
18 Construction firms located in Montgomery County include large national firms such as Clark Construction and Miller & Long Concrete Construction, which are headquartered in Bethesda.

Other key industries in the county, including accommodation and food services and professional, scientific, and technical services, have roughly maintained their shares of local jobs.

While accommodations and food services has been growing since 2006, it declined in the early 1990s and experienced fluctuations in the 2000s, leaving its overall share of employment the same in 2016 as it was in 1990. The industry netted more than 6,000 jobs from 1990 to 2016, an increase of 23 percent.

Accommodation and Food Services jobs have kept pace with overall employment growth

Figure 59. Accommodation & Food Service Jobs in the County, 1990-2016

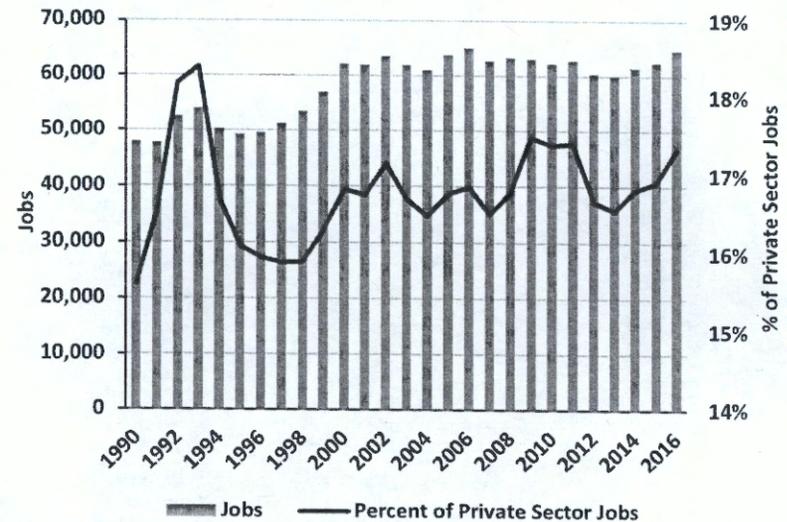


Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment & Wages, 1990-2016, accessed via Maryland Department of Labor, Licensing and Regulation.

The professional, scientific, and technical services industry consistently had more jobs in the county than any other industry from 1991 to 2016. In 2016, there were nearly 65,000 county-based jobs in the industry. Its share of total county private sector employment has been an average of 17 percent. Despite cyclical changes in its share of employment, this industry's number of jobs has grown by 35 percent since 1990, or nearly 17,000 jobs.

The Professional, Scientific and Technical Services sector has employed the largest share of people since 1991

Figure 60. Professional, Scientific, & Technical Service Jobs in the County, 1990-2016



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment & Wages, 1990-2016, accessed via Maryland Department of Labor, Licensing and Regulation.

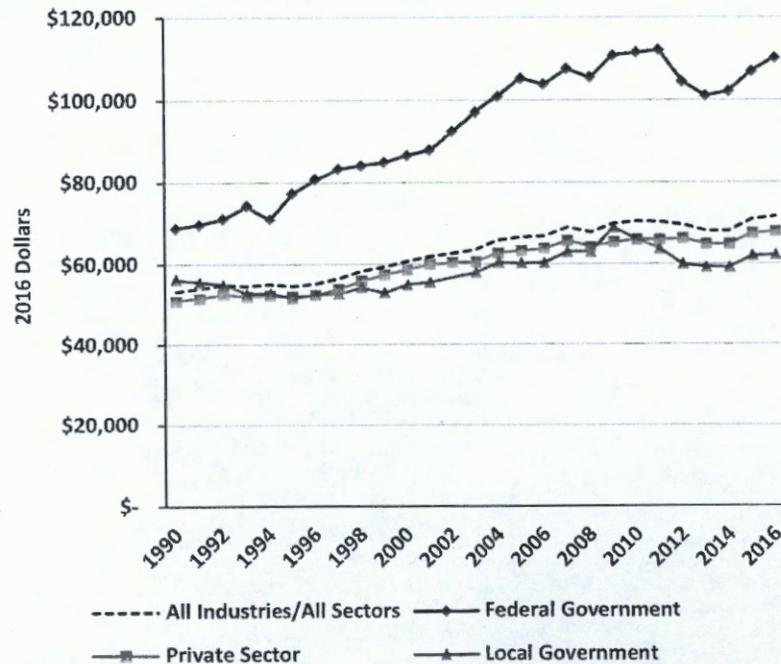
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Wages by sector and industry

Average annual pay (inflation-adjusted to 2016 dollars) among county jobs remains highest in the federal government sector, which has also seen the most growth in pay over time, almost 2 percent per year. Local government jobs had the smallest pay gains—less than \$6,000 since 1990, or about one-third of 1 percent per year, with pay actually decreasing for 12 of the 26 years examined. Private sector pay grew by an average of 1.33 percent per year. In 2016, average annual pay among jobs located in the county was approximately \$110,000 in federal sector, \$68,000 in the private sector, and \$62,000 in the local government sector.

Average annual pay for county jobs is highest among federal sector jobs

Figure 61. Average Annual Pay for County Jobs, 1990-2016

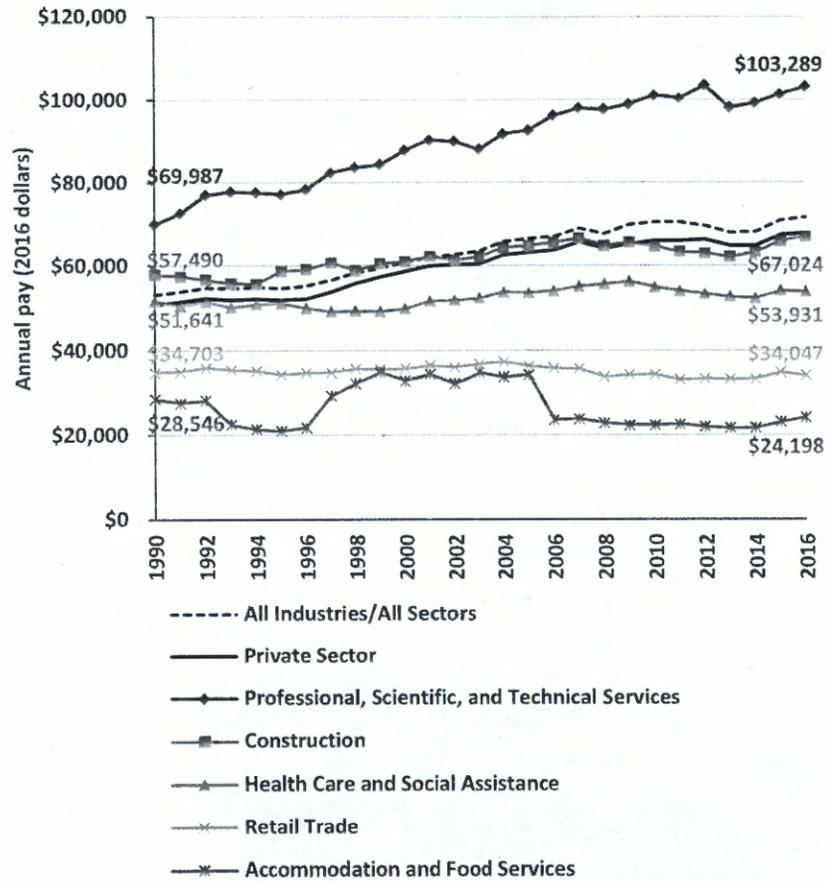


Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment & Wages, 1990-2016, accessed via Maryland Department of Labor, Licensing and Regulation.

Across industries, average annual pay for county private sector jobs have been relatively stagnate in most of the county's largest industries. With the exception of professional, scientific, and technical services, where average annual pay grew by almost 2 percent per year, real wages for jobs located in the county did not improve appreciably between 1990 and 2016. Small gains were seen in the construction industry, where pay grew by an average of half a percent per year. Pay in the remaining industries, seen in Figure 62, saw extremely small gains or declines over time. The average annual pay for each industry in 2016 is labeled on the far right in the figure.

Average annual pay has grown the most in professional, scientific, and technical services

Figure 62. Average Annual Pay for County Jobs in Top 5 Largest Private Sector Industries, 1990-2016



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment & Wages, 1990-2016, accessed via Maryland Department of Labor, Licensing and Regulation.

(11)

COMMERCIAL REAL ESTATE MARKET

Changes in employment have driven trends in commercial real estate, which consists of three primary market sectors—office market, retail, and industrial/logistics.

Montgomery County’s **office market sector** includes any property used to maintain or occupy professional or business offices, including: entire buildings, designated floors, parts of floors, and office parks. Office properties are further broken down into three classes of buildings, Class A, B, and C. Class A office space is considered the most functionally modern and generally commands the most competitive rental rates of the three classes, while Class B and C buildings respectively tend to be older, less efficient, and command lower rents due to their less-desirable market-based characteristics.

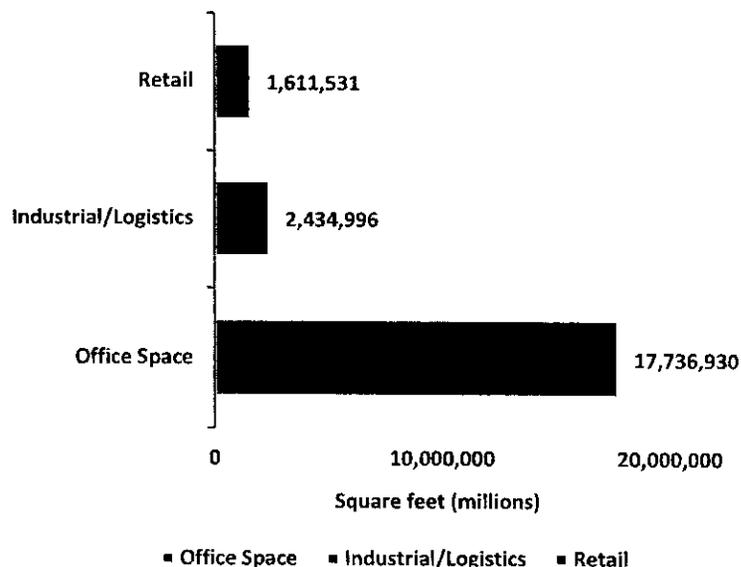
The county’s **retail market sector** refers to properties used exclusively for the marketing and sale of consumer goods and services. For the purposes of this study, the retail market does not include businesses that are subletting space, online retailers, individuals who operate businesses out of their homes, or mobile retailers such as food trucks, pop-up shops, etc. Similar to the office market sector, retail space is also sometimes broken down into three building classes based on condition with Class A space being the most functionally modern and market competitive followed by Class B and then by Class C.

Lastly, the county’s **industrial/logistics market sector** includes all properties used for the purposes of production, manufacturing, or distribution of goods and/or services, such as shipment centers or factories.

As seen in Figure 63, the total square footage of commercial inventory (office, retail, and industrial/logistics’ space combined) in Montgomery County has grown by nearly 22 million square feet since the early 1990s. Office space grew from just under 55 million square feet to 72.7 million square feet, industrial space grew from just over 12.5 million square feet to nearly 15 million square feet, and retail space grew from 38.5 million square feet to just over 40 million square feet.

Office space grew the most since the 1990s

Figure 63. Commercial Space Growth, 1990-2017 (million square feet)

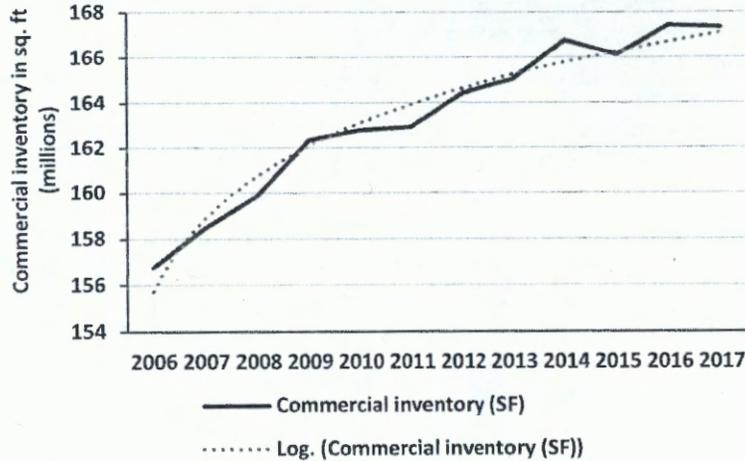


Source: CoStar Analytics, 2018.

A closer look at the total commercial growth over the last 10 years reveals that while the county continues to experience growth in its commercial real estate sector, the average rate of growth from year to year appears to be losing momentum (Figure 64). The solid blue line in Figure 64 represents the actual growth in inventory (measured in total square feet) since 2006, the earliest year for which this data is available, while the dotted curve represents the annual rate or pace of growth.

Commercial sector growth remains positive but is slowing down

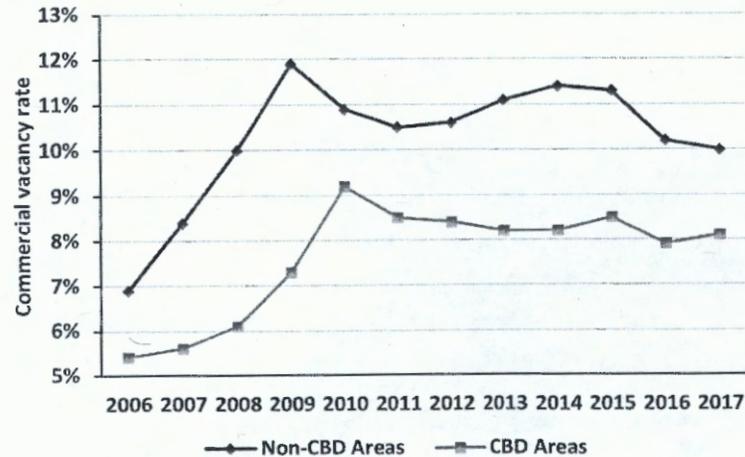
Figure 64. Total Commercial Inventory Growth, 2006-2017



Source: CoStar Analytics, 2018.

Vacancy rates consistently lower in CBDs

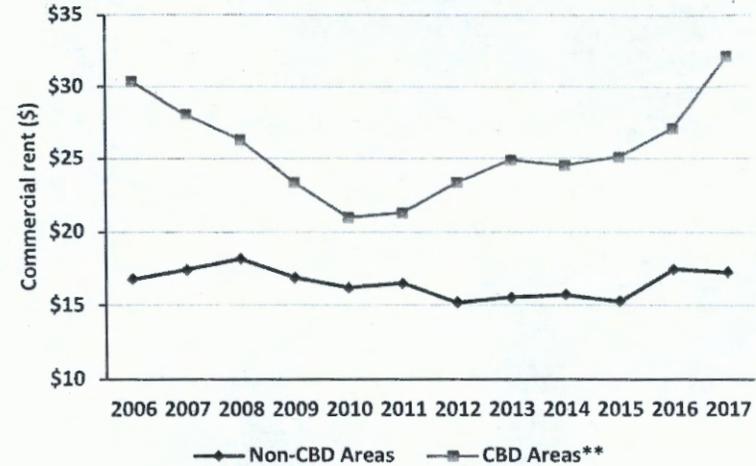
Figure 65. Commercial Vacancy Rate, 2006-2017



Source: CoStar Analytics, 2018.

Rental rates consistently higher in CBDs

Figure 66. Commercial Rent by Submarket Cluster



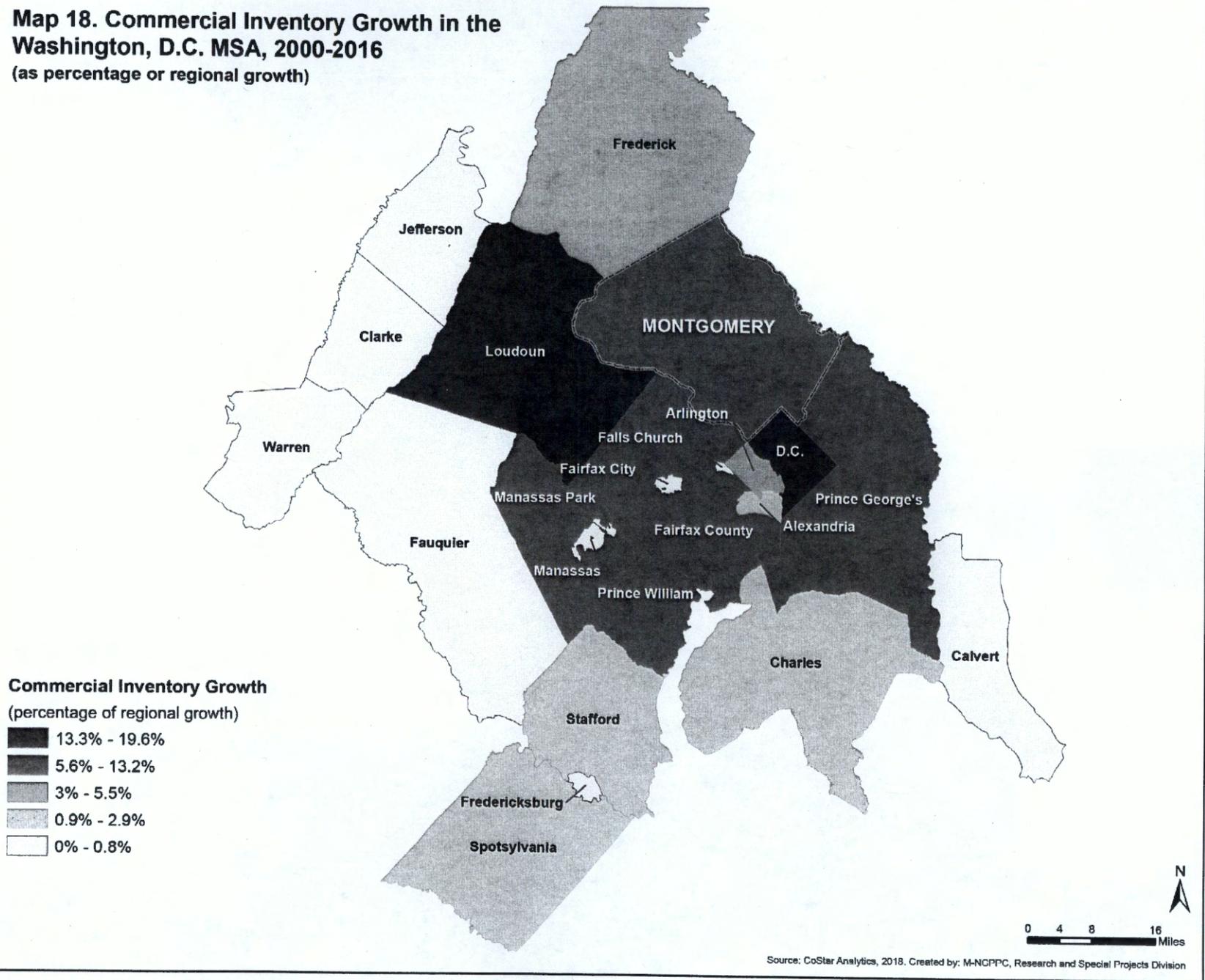
Source: CoStar Analytics, 2018.

Commercial activity in the central business districts (CBD areas) defined by the county versus non-CBD areas over the past decade reveals that commercial vacancy rates in CBD areas remain consistently lower than vacancy rates in non-CBD areas (Figure 65). CBD areas include: Bethesda, Chevy Chase/Friendship Heights, Silver Spring, and Wheaton. In addition to having lower vacancy rates, commercial rents demanded in the CBD areas remain more competitive than those of non-CBD areas (Figure 66).

Regionally, Washington D.C. and Loudoun County took the lead in overall commercial growth since 2006 with Loudoun County's commercial inventory growing a whopping 45.3 percent. As seen on Map 18, however, Montgomery County's commercial growth over the past decade remained healthy and consistent relative to two adjacent counties, Fairfax and Prince George's, whose commercial growth only slightly outpaced commercial growth in Montgomery County.

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Map 18. Commercial Inventory Growth in the Washington, D.C. MSA, 2000-2016
 (as percentage of regional growth)



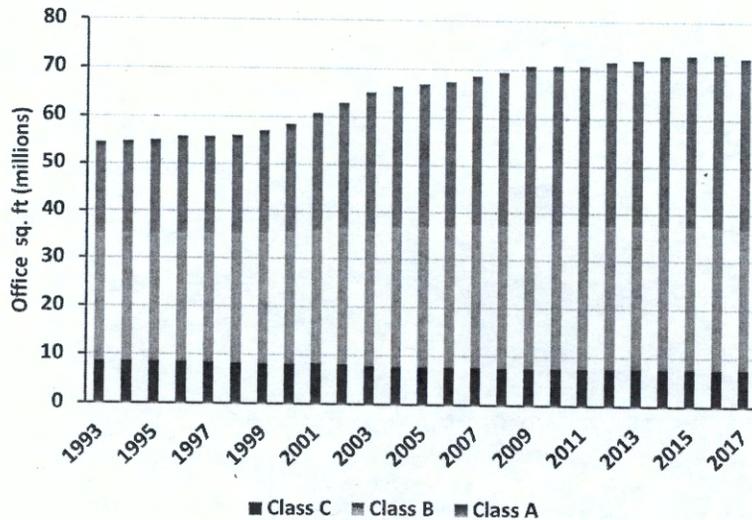
Office market

Most of the office space in Montgomery County exists along the I-270 corridor (Map 19).

The office market in Montgomery County has experienced relatively steady growth over the past 24 years with the lion's share of that growth, nearly 90 percent, consisting of Class A office space (Figure 67).

Class A space grew the most since 1990s

Figure 67. Office Space by Class, 1993-2017



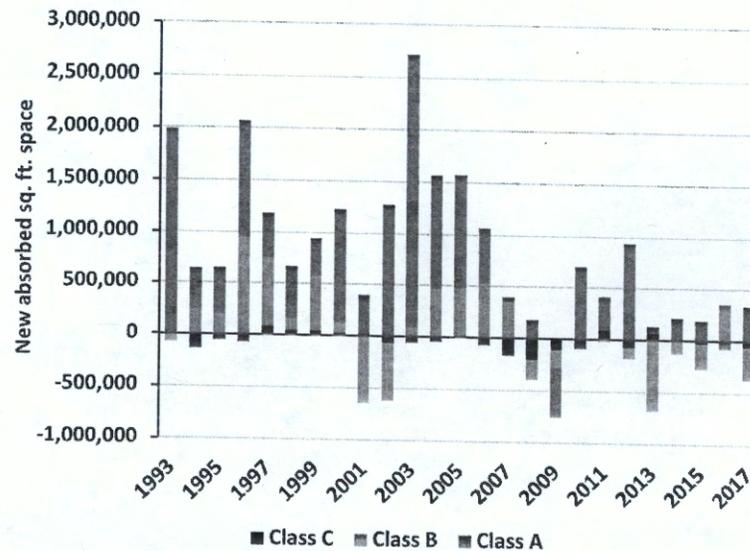
Source: CoStar Analytics, 2018.

Net absorption rates, as seen in Figure 68, measure the portion of newly introduced space successfully leased or “absorbed” into the market within a given time frame. Positive or high absorption rates indicate that the newly constructed, rehabilitated, or recently vacated spaces that became available during a given period were leased relatively quickly. Negative or low

absorption rates refer to a situation where the majority of new or rehabilitated spaces were not leased and or remained vacant during a given period. Class A office space in Montgomery County has experienced consistently positive net absorption rates since the early 1990s, while Class B and C spaces have either been absorbed at lower rates than Class A space or have experienced negative net absorption (Figure 68).

Class A office out-performs Class B & C in net absorption

Figure 68. Net Absorption by Class, 1993-2017

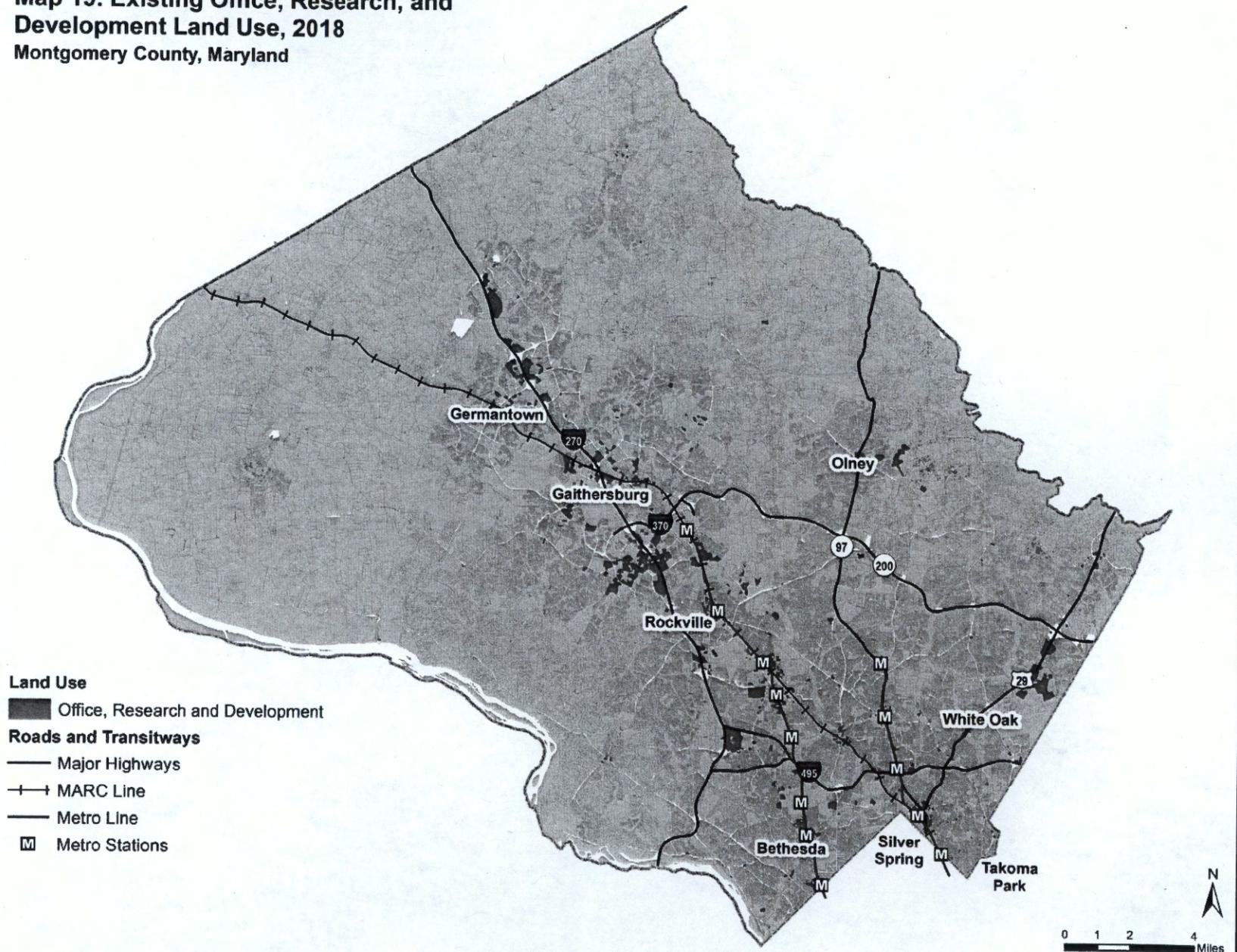


Source: CoStar Analytics, 2018.

At the time of the 1993 General Plan Refinement, the office market was extremely strong, and office development was expected to continue flourishing along major transit corridors. However, as demonstrated by the elevated vacancy rates in Figure 69, changes in market conditions throughout the 1990s and early 2000s have led to significant decreases in demand for office space throughout the county.

(21)

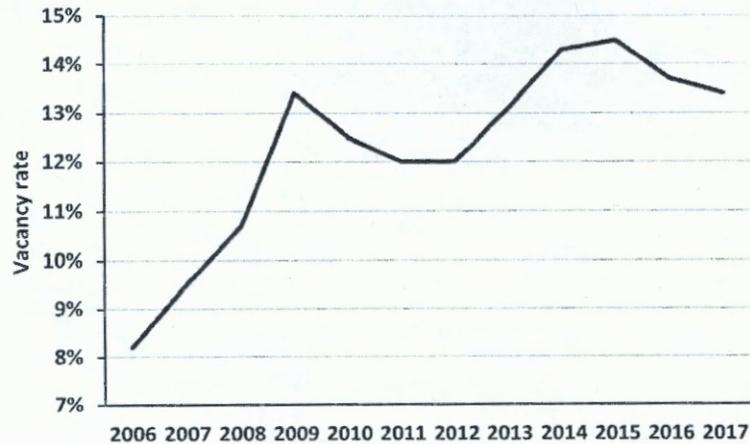
Map 19. Existing Office, Research, and Development Land Use, 2018
 Montgomery County, Maryland



Source: Maryland State Department of Assessment and Taxation, 2018. Created by: M-NCPPC, Research and Special Projects Division

Demand for office space decreasing

Figure 69. Office Vacancy Rates, 2006-2017



Source: CoStar Analytics, 2018.

According to the 2015 Office Market Assessment (OMA) published by the Montgomery County Planning Department's Research and Special Projects Division, approximately 14 percent or 11 million square feet of the existing office spaces and campus-like office parks throughout the county are currently vacant. The OMA attributed notable market declines in office demand to the following factors:

- Montgomery County was hard hit by cuts in federal spending and leasing in the early 2000s, which has drastically reduced the demand for office space.
- Most jobs created since 2010 have been in retail, restaurants, and medical facilities rather than in offices.
- Office tenants everywhere are reducing their square footage via new technologies, more efficient workspace designs, and practices such as telecommuting, hoteling, and benching.

- Montgomery County office centers located in mixed-use developments with quality amenities, a sense of place, and good transit connectivity are best positioned to compete.
- Office developments without convenient transit or highway access are attracting fewer tenants.
- Future office development is likely to occur at a slower pace and concentrate in prime locations.

Overall, the county's demand for office space has declined significantly since the 1990s. High vacancies, an extensive existing supply surplus, and increasing demand for smaller, more flexible mixed-use workspaces near public transit and walkable amenities suggest that the office market, as it existed in the 1990s, is not likely to rebound anytime in the foreseeable future. Adaptive re-use and/or implementing alternative redevelopment strategies have been identified as potential solutions to breathing life back into these obsolete spaces.

Retail market

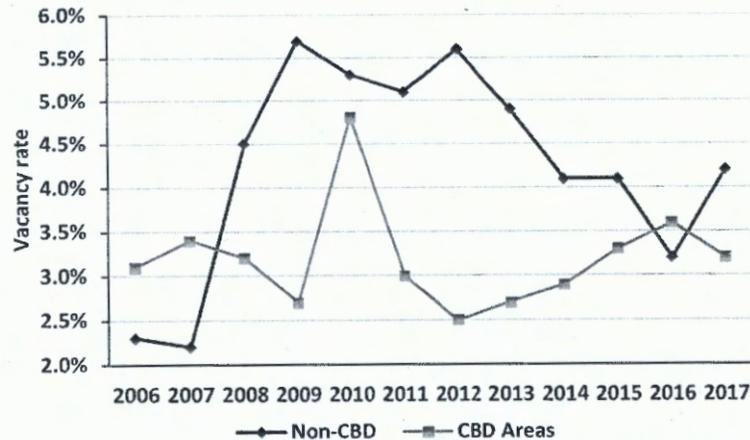
The retail market across Montgomery County has remained relatively strong and stable since the early 1990s. According to a recently published retail trends study (RTS) completed by the Montgomery County Planning Department's Research and Special Projects Division, Montgomery County has over 24 million square feet of existing retail, and of that 24 million square feet, 76 percent is either Class A or Class B and over 88 percent is general merchandise, apparel, furniture, and other (GAFO) or neighborhood goods and services (NG&S). As was the case in the 1990s, the most prevalent shopping center type in Montgomery County continues to be the grocery-anchored neighborhood center followed closely by inline retail, and then by the regional shopping mall.

The majority of the county's existing retail is found near major roadway intersections; downtown areas such as Bethesda, Friendship Heights, Silver Spring and Wheaton; the Rockville Pike corridor, and nodes along the I-270 corridor in Rockville, Gaithersburg, Germantown, and Clarksburg with the new outlets (Map 20). Proximity to public transportation and/or downtown centers, as well as convenient motor vehicle/commuting access continue to be primary factors determining overall retail competitiveness.

Retail vacancy rates in the county's central business districts (CBD areas) such as downtown Bethesda, Chevy Chase/Friendship Heights, downtown Silver Spring, and Wheaton are generally lower than those of the rest of the county (Figure 70). The two exceptions to this trend were between the years 2006 and 2007 as well as in the year 2016. There does not appear to be an obvious explanation for these exceptions, and the difference between the two vacancy rates during these periods was less than 1 percent, making these anomalies statistically negligible.

CBD vacancies lower than non-CBD areas

Figure 70. Retail Vacancy Rates, 2006-2017



Source: CoStar Analytics, 2018.

Overall vacancy rates do not capture businesses that are subletting space, online retailers, individuals who operate businesses out of their homes, or mobile retailers such as food trucks, pop-up shops, etc. as they are difficult to measure. Over the last 30 years, there has been an uptick in these alternative retail types in the county, so it will be important to capture and consider the role these types of retailers play in the county's market moving forward.

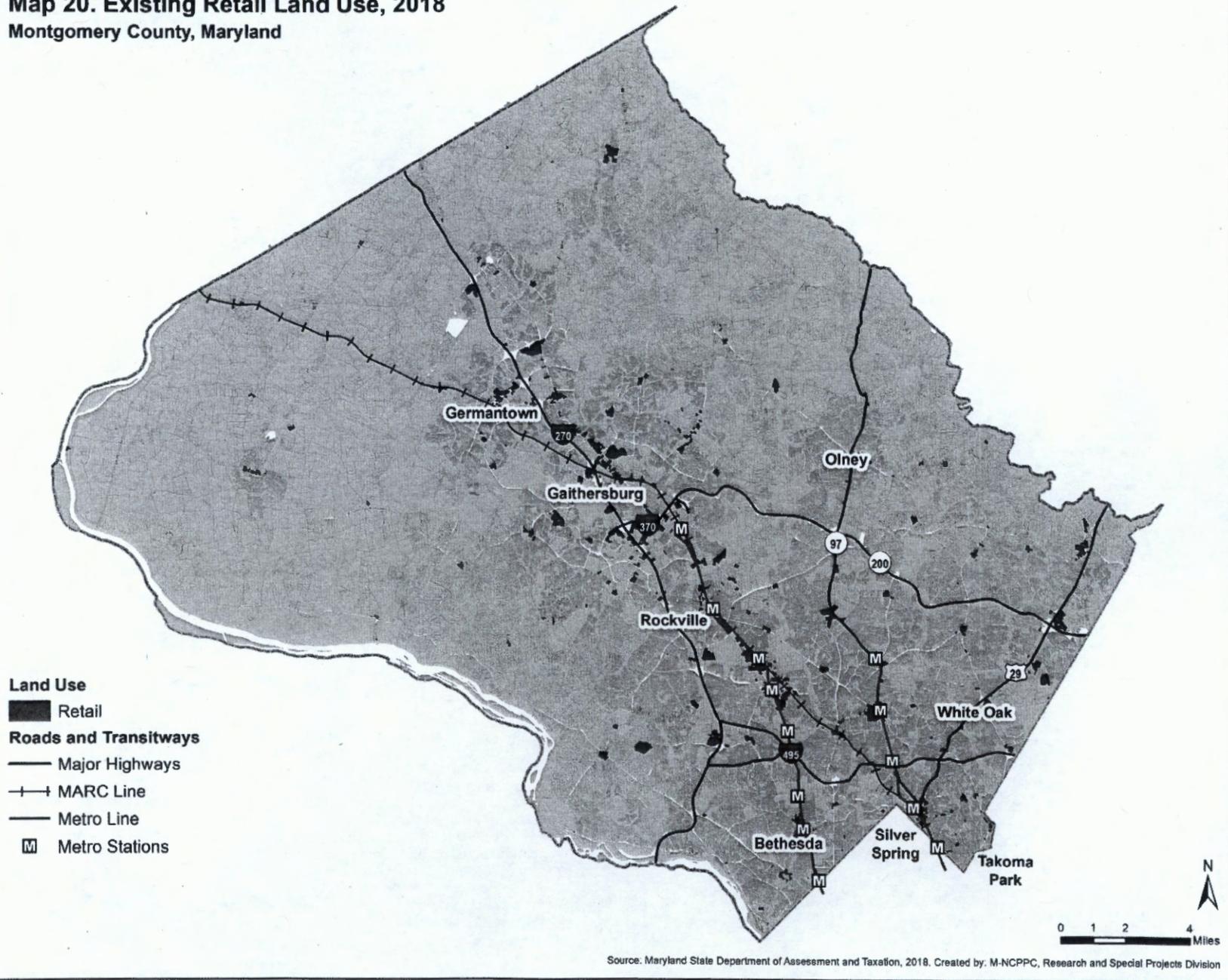
To remain competitive over the next quarter century, Montgomery County and its retailers will need to develop new and creative ways of adapting to changes in market conditions. For example, the role of e-commerce in determining the future of in-store retail should not be underestimated. The growth of online shopping has driven many leading brick and mortar retailers out of business. Conversely, online-based retailers have started experimenting with creating unconventional/nuanced customer-centric in-store experiences to distinguish themselves from online substitutes.

Furthermore, regional malls and other shopping centers have started replacing traditional retail anchors such as big box stores with alternative goods and services vendors that are more likely to attract new, as well as maintain, existing in-store consumers.

Lastly, as the county's population continues to grow and diversify, the retail trend study also underscored the need to protect international retail, particularly in downtown Wheaton, Georgia Avenue in downtown Silver Spring, Twinbrook, Long Branch and East Germantown. The study stated that these international retail clusters are at risk due to rental increases stemming from redevelopment, lack of adequate investment, and communication concerns related to non-English speaking business owners.

In summary, not much has changed since the 1990s regarding the competitiveness of the county's retail market, the location of existing retailers, and/or the likelihood of future retail development in the county. That said, retailer types, mixes, uses and tenant demands for physical space are changing. For the county's retail sector to remain competitive on a local, national, or online scale, the county's retailers and policymakers alike will need to find new and creative ways of adapting to the changing retail climate.

Map 20. Existing Retail Land Use, 2018
Montgomery County, Maryland



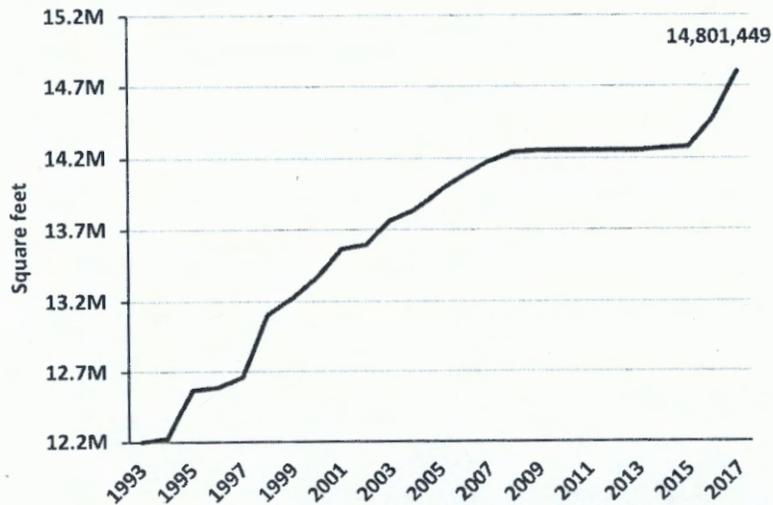
125

Industrial/Logistics market

Overall, countywide industrial inventory measured in square footage has increased 21 percent since 1993 (Figure 71). Like most domestic markets, Montgomery County experienced relatively stable growth in this sector throughout the 1990s and early 2000s with a tapering and levelling off after the real estate crash in 2007. A recent resurgence in industrial/logistical growth within the county starting in 2015 can be primarily attributed to the addition of several large self-storage facilities throughout the county.

Industrial/Logistics' Space on the rise

Figure 71. Industrial Inventory

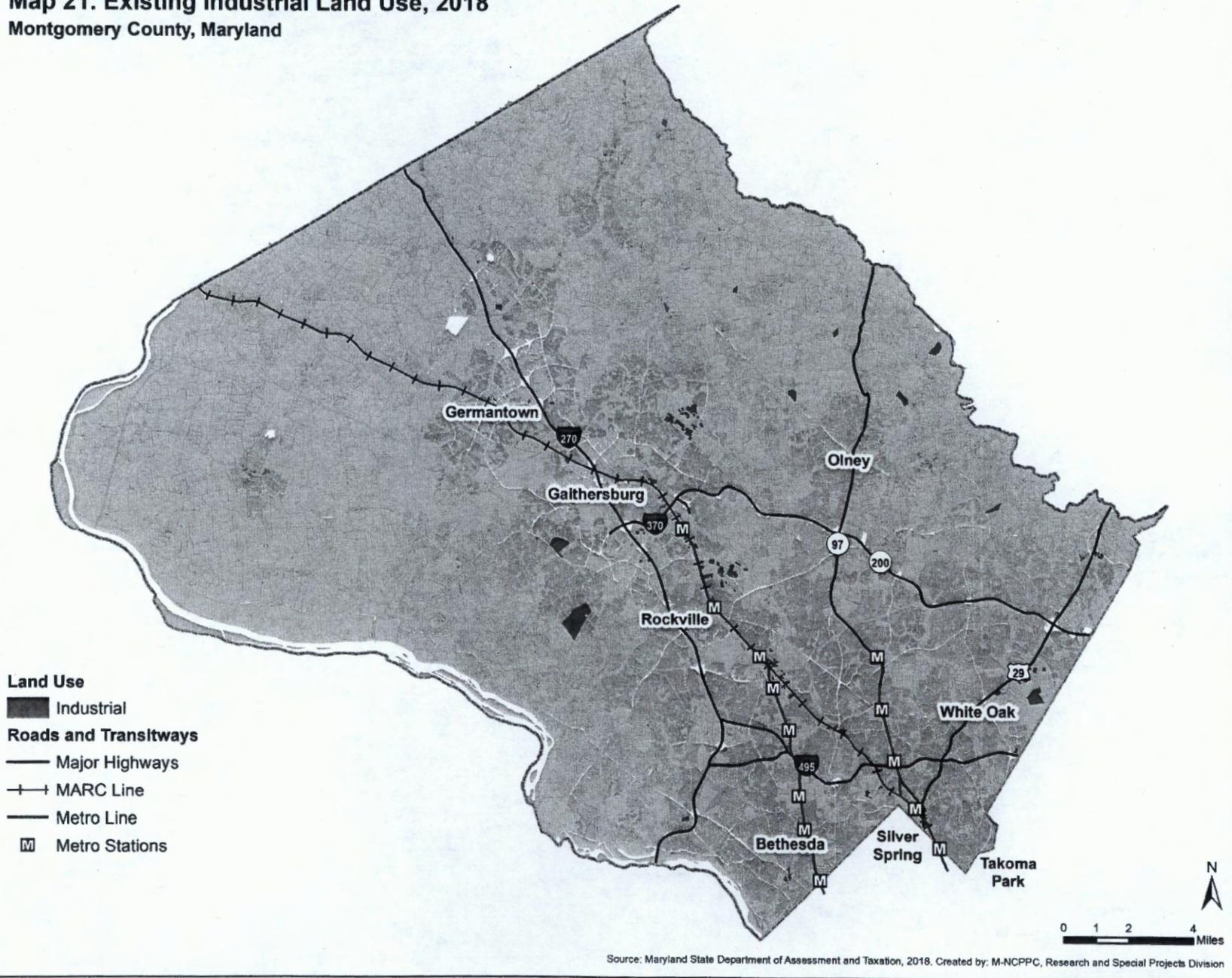


Source: CoStar Analytics, 2018.

Data sources do not differentiate between Montgomery County's industrial market (properties geared toward manufacturing and production) and its logistics Market (properties geared toward distribution). This distinction, however, is becoming increasingly important, particularly due to the rise of e-commerce. Global demand for logistics facilities is increasing exponentially in many industrial trade areas (ITAs) while the global demand for industrial facilities has started to decrease due to corporate consolidation and improvements in technology.

Industrial properties tend to require larger land areas as well as specialized zoning to accommodate their unique land-use needs. Suitable industrial plots have become scarce due to the county's dwindling undeveloped land supply. As a result, the value of these properties has increased significantly, driving industrial development out of the county. Redevelopment, co-location, or the re-use of existing Class B and C office space for industrial use is a potential solution to this anticipated market gap; however, retrofitting a former office building into a logistics center is no easy task and will require significant regulatory support that does not currently exist.

Map 21. Existing Industrial Land Use, 2018
Montgomery County, Maryland



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Conclusions

The analysis of demographic, housing, and employment trends since the last General Plan Refinement uncovers a number of themes that are important to consider as we update the General Plan:

- The county has become increasingly diverse due to births and foreign in-migration. The ethnic and cultural landscape is quite different from what it was in 1990. As a result, the needs and desires of a changing population may be different than what they were 27 years ago.
- The housing stock has also become increasingly diverse with the growth of multi-family units and an increase in the number of renters, due to both lifestyle choice and affordability challenges.
- The growing senior population changes the needs for services and increases the ratio of people not in the labor force to people in the labor force. It also creates workforce questions – where will new workers come from and does the county have housing available to meet their needs?
- The distribution of employment between the private and public sectors in the county has not changed since the 1990s. The county is both a major federal employment hub and a strong private sector employment center. Within the private sector, the fastest growth has been in educational, health, and social services and professional, management, and scientific services. Wage growth has been fastest in federal jobs and somewhat stagnant in other sectors. As a result, overall income growth in the county has been stagnant.
- The county is approaching a mature stage of development, with limited opportunities for greenfield development and a resulting shift in focus to infill commercial and residential development.

This report did not consider analyses of land use, transportation, or the environment. Those topics will be analyzed in more depth in future work as part of the Plan update.

The General Plan Update will provide Montgomery County a critical vehicle to consider and address these changing trends in the county over the coming decades and ensure land-use planning policy aligns with and supports the needs and aspirations of residents, businesses and others who live and work in Montgomery County.

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