

## **Montgomery County**

### **Highlights of the Round 7.0 Cooperative Forecast**

#### Introduction

The Montgomery County Department of Park and Planning (Park and Planning) prepares the official employment, population, and household forecasts for the County. These forecasts are prepared as part of a cooperative effort with other member jurisdictions of the Metropolitan Washington Council of Governments (COG). The other member jurisdictions prepare similar forecasts. The combined jurisdictional forecasts become the Cooperative Forecast for the Metropolitan Washington Region. Since the inception of this process in 1975, major rounds of Cooperative Forecasts have been prepared every three to five years; Round 7.0, completed in 2005, is the latest forecast. Between rounds, yearly adjustments may be made by the member jurisdictions.

The City of Rockville is a participant in the COG Cooperative forecasting process. Park and Planning coordinates with the City of Rockville as needed and their forecasts are included in the Montgomery County forecasts. Park and Planning also coordinates with the City of Gaithersburg as needed. We receive monthly listings of their building permit activity and add their new development projects to the County's development pipeline.

The countywide forecasts are extensions of historical trends. The historical figures for households and population are from the U. S. Census of Population. The employment series is from the Maryland Department of Labor, Licensing, and Regulation's (DLLR) ES-202 Program with self-employment added. These historical trends are projected and modified based on the Park and Planning Department's best judgment on the forces that will affect housing, population, and employment in the future. The forecasts represent average growth over 5-year periods and do not attempt to forecast cyclical variations. Employment forecasts "drive" other forecasts. A slower rate of job growth will encourage formation of fewer new households and attract fewer in-migrants.

The forecasts of total at-place employment, total households, and total population are prepared using a top-down method. Countywide forecasts are established first. The county forecasts are then used as control totals for the forecasts by traffic analysis zone. Forecasts of employment type (office, retail, industrial, and other) and forecasts of household type (single-family and multi-family) are developed bottom-up at the traffic analysis zone level.

The forecasts are compatible with the planned transportation network (highway, transit, and demand management). The short and mid-range forecasts (2000-2020) are constrained by zoning restrictions as defined by master plans. The land uses allowed by the zoning have been tested in conjunction with planned transportation facilities and found to be compatible at approved levels of service for transportation. To provide sufficient housing, and therefore workers, beyond 2020 to meet the Round 7.0

employment forecast, it is necessary to anticipate that areas within the County will be re-planned and rezoned to provide for the needed additional housing.

Our forecast is one of moderate growth with positive factors continuing to outweigh negative factors throughout the forecast period. Economically as well as physically, Montgomery County sits between the almost fully developed core and the less developed outer ring. The forecast therefore reflects a maturing county, one that has already experienced a significant amount of the development that will ultimately occur. The forecast also acknowledges that substantial development and redevelopment capacity remain, which will continue to attract new employment opportunities and provide a variety of housing choices for workers and their families.

### Montgomery County Round 7.0 Cooperative Forecasts

Year	Population	% Change	Households	% Change	Employment	% Change	Jobs/Household
2000	873,341		324,565		474,300		1.46
5-year change	68,659	7.9%	22,435	6.9%	25,700	5.4%	
2005	942,000		347,000		500,000		1.44
5-year change	58,000	6.2%	23,000	6.6%	45,000	9.0%	
2010	1,000,000		370,000		545,000		1.47
5-year change	40,000	4.0%	20,000	5.4%	35,000	6.4%	
2015	1,040,000		390,000		580,000		1.49
5-year change	37,100	3.6%	17,900	4.6%	35,000	6.0%	
2020	1,077,100		407,900		615,000		1.51
5-year change	38,200	3.5%	16,900	4.1%	30,000	4.9%	
2025	1,115,300		424,800		645,000		1.52
5-year change	40,500	3.6%	16,500	3.9%	25,000	3.9%	
2030	1,155,800		441,300		670,000		1.52

Source: Montgomery County Department of Park and Planning, Research and Technology Center.

### Employment Forecast

Forecasts of jobs in Montgomery County project into the future a long historical data series extending back to 1959. This series is based on the Maryland Department of Labor, Licensing, and Regulation's (DLLR) ES-202 Program coverage of private sector wage and salary employment.

The forecast extension of the historical series into the future is based on interpretation of long-term growth trends. The long-term pattern is that Montgomery County's employment base has matured from a bedroom community in the 1950s to a major suburban employment center beginning in the 1980s and into the future. As this maturing has occurred, our annual rate employment growth as a percent of existing employment has tended to decline. Future job growth in the County will exhibit a continuation of these declines as it is constrained by limited resources of land, labor force, and infrastructure capacity. There will also be increasing competition from other jurisdictions in the Baltimore-Washington area, particularly the next tier of counties as their economies mature into employment centers. We expect Montgomery County's share of regional employment to decline during the forecast period because of our declining job growth and more rapid growth in the next tier of counties.

Our forecasts start with the long-term growth trend and reduce it to account for constraints. At the present time there is adequate land zoned for job use to accommodate the long-term growth rate for well over a decade. The land constraint comes mainly in the form of greater difficulty in developing and limited choice of large prime parcels. The easiest to develop green field pieces are largely developed leaving smaller parcels with more constraints or pieces that need assembly or redevelopment. All of these factors constrain job site development through higher costs.

Infrastructure capacity constraints are mainly in the form of limitations on transportation capacity. The supply of land for residential development is more constrained than the supply of land for jobs. This shifts some of the burden of job growth onto transportation.

There are currently about 102,000 jobs in the pipeline of approved development. This would accommodate forecast growth for about the next 13 years. Two significant proposed projects are not in the pipeline. A technology park in the Calverton area has the potential for over 2,000 jobs and a bioscience and technology park adjacent to the Montgomery College campus in Germantown has the potential for 3,000 to 4,000 jobs.

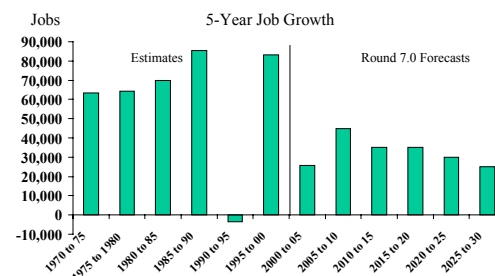
The slowing growth of the labor force is a constraint on growth through much of the nation. As the baby boomers, born from 1946-1964, reach retirement age over the next thirty years a large cohort will leave the workforce. Areas like Montgomery County with high levels of foreign immigration will have moderate growth in their labor forces compared to declines in other areas.

Montgomery County has a critical mass of federal agencies that attract private companies specializing in supporting the needs of these agencies. Since the downsizing of federal government employment, the federal government is purchasing more services from the private sector. Dr. Stephen S. Fuller, a George Mason University expert on the federal government's impact on the Washington Area, estimates that for every \$1 billion in federal procurement 8,000 jobs are created. Montgomery County's federal procurement spending consistently ranks within the top ten of all jurisdictions in the nation. The Departments of Health and Human Services and Defense are the source of over half the procurement spending in the County. The National Institutes of Health (NIH), the National Oceanic and Atmospheric Administration (NOAA) and the National Institute of Standards and Technology (NIST) attract many guest researchers and contractors from outside the area. About 25 percent of NOAA's jobs are filled by contract workers. Other agencies like the Food and Drug Administration, which is consolidating in Montgomery County, and the Department of Energy also create many spin-off jobs. This is especially true in the County's biotechnology industry.

The last two decades began with recessions, but the County's economy responded differently in each decade. In the 1980s, the recession was brief and recovery rapid. Between 1981 and 1982 the County lost 5,700 jobs, but the next year jobs increased by 9,700. What followed was the County's four strongest years of job growth from 1983 to

1987 when job growth averaged 22,600 jobs per year. The peak was 27,900 jobs during 1984. In the 1990s, the recession hit deeper and recovery was slow. During 1990, the County lost 19,400 jobs. During the next five years, the economy was relatively flat. Job losses (in 1991) or job gains were less than half a percent in four of the five years. The only bright spot was an increase of 13,900 jobs (3.1 percent) in 1994. The County's economy finally broke the recession adding 27,100 jobs during 1996, a 5.8 percent increase the highest job growth since the peak year of 1984. Between 1996 and 2000 job growth has been between 3 to 4 percent per year.

Montgomery County's Employment Forecast Shows a More Moderate and Declining Growth from 2005 to 2030

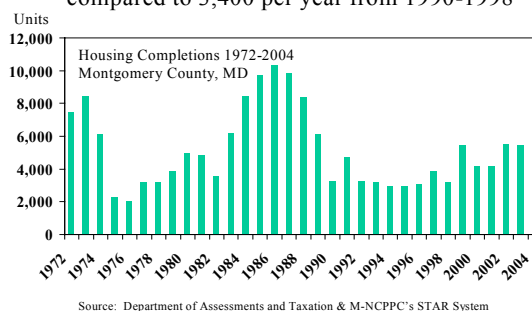


Since 2000, job growth has slowed. Between 2000 and 2005, job growth is expected to be about 25,700, a 5.4 percent increase. Excluding the 1990 to 1995 recession years when the County lost jobs, this would be the County's lowest 5-year job growth since 1965 to 1970. Between 2005 and 2010, the County's job growth is expected to rebound to 45,000, a 9 percent increase. After 2010, a more moderate and slightly declining job growth is expected through 2030. Between 2000 and 2030 the County's jobs are expected to increase by 41 percent going from 474,300 jobs in 2000 to 670,000 jobs in 2030.

### Household Forecast

During the 1990s, construction of new housing in Montgomery County had fallen to its lowest level since the late 1970s. The County's slow recovery from the recession of the early 1990s stifled housing production. Housing completions during the 1990s averaged only 3,600 units per year. Housing production exceeded 4,000 units in only two years, 1991 (4,722 units) and 1999 (5,464 units). In both years, multi-family production rivaled that of the 1980s boom years, 2,994 multi-family units in 1991 and 2,210 multi-family units in 1999.

Since 1999, Montgomery County has been averaging 4,800 housing completions a year, compared to 3,400 per year from 1990-1998

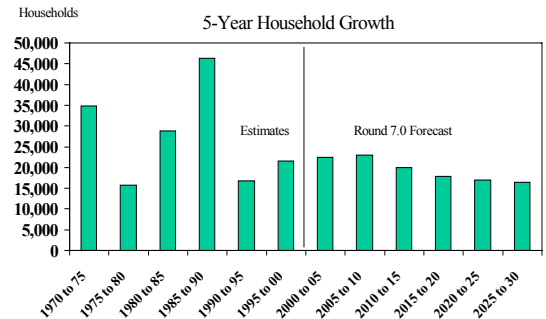


Source: Department of Assessments and Taxation & M-NCPPC's STAR System

Housing completions since 1999 remain relatively strong compared to the 1990s. Between 2000 and 2004, housing completions varied from about 4,200 units to almost 5,500 units per year. There are about 28,000 housing units in the pipeline of approved development, about 6 years of production at the current rate of construction.

Round 7.0 forecasts that our maturing County will never again experience the housing boom of the 1980s. The forecast has an increase of about 4,400 households (occupied housing units) per year from 2000 to 2015. About 4,700 housing units per year were built between 2000 and 2004. After 2015, as the County becomes more mature and land for development becomes more scarce, household growth drops to about 3,600 households per year between 2015 and 2020, and then drops further to 3,300 households per year between 2020 and 2030. Because the housing industry is highly sensitive to market conditions, substantial variations in yearly production totals from the forecast are possible. The household forecast does not attempt to predict these peaks and valleys.

### Montgomery County Will Never Again Experience the Household Growth of the 1980s



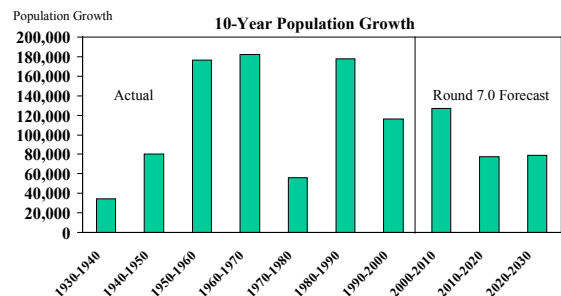
The household growth forecast for the next 25 years (94,300 households) cannot be attained without changes in master plans and zoning. Current estimates of the County's remaining residential capacity indicate that there is enough capacity to accommodate the forecast to 2020 and perhaps a few years beyond.

### Population Forecast

Montgomery County's population began to grow rapidly after WWII. Population growth was highest in the 1950s, 1960s, and 1980s. The County's population increased by more than 175,000 in each of those decades, population growth peaked at almost 182,000 in the 1960s. Population growth in the 1990s was more moderate, 116,300, but this was the largest increase for any jurisdiction in Maryland.

The Round 7.0 forecast has the County's population growth increasing during this decade compared to the 1990s. This increase is related to housing production that is already outpacing the 1990s and this increase in housing production is expected to continue through the end of the decade. In the 2000s, a population growth of almost 127,000 is forecast, a 14.5 percent increase; in the 2010s, a growth of about 77,000 is forecast, a 7.7 percent increase; and in the 2020s, a growth of 78,000 is forecast, a 7.3 percent increase.

### Population Growth Will Continue to Decline



The main components of future population growth will continue to be the natural increase in population (births exceeding deaths) and foreign immigration.

After peaking in 1990, the County's births declined through 1997. Since 1998 births began increasing, reaching an all time high of 13,546 in 2004. The forecast assumes births slightly increasing from current levels through the end of the forecast period. The County's female population 15 to 44 years of age is expected to continue to increase through 2030. More women of childbearing age will result in more births.

Foreign immigration will continue to be a major factor in the County's population growth and increasing births. The Census Bureau estimates that over 43,000 foreign immigrants moved to Montgomery County since April 1, 2000, 47 percent of all foreign immigration to Maryland during this period. Because U.S. immigration policy favors family reunification (immigrants go where immigrants are), our forecast assumes continued foreign immigration to the county at current levels. But immigration could moderate because of the war on terrorism, if this occurs, population growth could be lower than forecast. Many of the immigrants are from countries with higher fertility rates than the U.S. contributing to the County's higher births.

Three factors are expected to moderate future population growth.

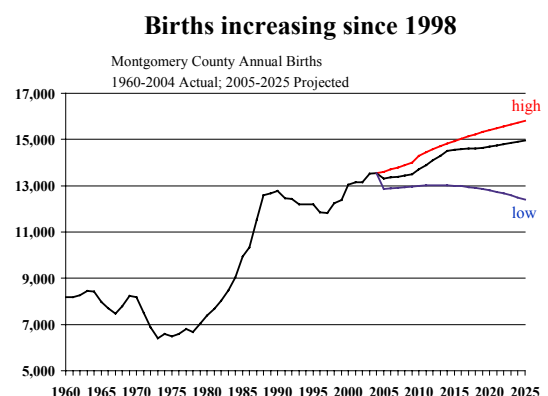
1. About 80 percent of the County's household growth beyond 2015 is expected to be living in multi-family housing which historically has smaller average household sizes than single-family detached or attached housing.
2. The forecast assumes the County's net losses in domestic migration that occurred during the 1990s will continue in the future.
3. As a maturing jurisdiction Montgomery faces diminishing resources that can sustain rapid growth such as available land and transportation capacity.

## Supporting Information

### Births

Montgomery County births reached an all time high of 13,546 in 2004! Births are continuing at record levels, even though Montgomery County had experienced a gradual decline from the peak of its second baby boom.

For Montgomery County, this upward trend from the "baby bust" of the 1970s has not been a "boomlet," but a full fledged boom – as the number of births reached levels 50 percent greater than the highest peaks of the post World War II baby boom. This boom peaked at 12,773 births in 1990 and then gradually declined to 11,812 in 1997. Since 1997, the County's births have increased. There were 12,251 births in 1998, up about 4 percent over 1997. In 1999, births leveled off a bit, but still increased by 1 percent,



reaching 12,369. During 2000, the County's births increased by 686, almost 6 percent over 1999 reaching at the time an all time high of 13,055 (during the same period, births in both Maryland and the U. S. increased by 3 percent). Births have continued to increase every year.

The County's births by maternal race and Hispanic origin reflect its increasingly diverse population. In 2004, 44 percent of the County's births were white non-Hispanic, 21 percent were Hispanic (who can be of any race), 20 percent were African American, and 14 percent were Asian. In 1990, the County's births were 66 percent white non-Hispanic, 16 percent African American, 10 percent Hispanic, and 3 percent Asian. In 2004, Montgomery County accounted for 43 percent of the State's Asian births and 38 percent of the State's Hispanic births.

Nationally, the recent past trend has been unfavorable for increased births because of the aging of baby boom women into their 40s. Now the number of women of childbearing age (15 to 44 years) is increasing and an increasing number of these women are from countries with higher fertility rates than the U.S., mainly Latin American countries and the Asian continent. In 1998, U.S. births increased for the first time since 1990 and U.S. births continued to increase in 1999 and 2000. The U.S. Census Bureau's latest population projections report for the U.S. has births increasing for the foreseeable future.

The Park and Planning Department is forecasting increasing births for the County through 2030. The same factors causing increasing births nationally are occurring in Montgomery County. According to Census Bureau estimates, all the County's population growth during the 1990s was due to increases in the Hispanic and non-white populations. These population groups have higher fertility rates than the white non-Hispanic population. Almost half of Maryland's Hispanic population lives in Montgomery County, and Hispanic women have the highest fertility rates of any group. The Hispanic and non-white populations, especially Asians, are expected to continue to grow and make up an increasing portion of the County's future population. Recent immigrants are evidence of this; 35 percent of the County's immigrants come from Asia and 30 percent from Latin America. The Park and Planning Department's Demographic Model is forecasting increases in the female population of childbearing age every decade through 2030. The largest increases are projected between 2020 and 2030.

### **Montgomery County as a Gateway into the Region**

Montgomery County is a major "gateway" into the State of Maryland for migrants from other states and for immigrants from the rest of the world. Individuals and families are continually attracted to Montgomery County because of its large employment base, its quality of life, and its growing immigrant population base.

The Montgomery County gateway works in two directions. After first having migrated to Montgomery County, some workers move to other Maryland jurisdictions for jobs, or because of housing preferences, costs, or other life style reasons (it should be noted that when County residents move, it is more likely to be to other areas within the County than to destinations outside the County). Research shows that these population

movements are continuous. The “net” movements of population, called “net migration” are highest during periods of the highest economic growth and are lowest during recessionary or low growth periods when “net out migration” sometimes occurs.

### Domestic Migration

Domestic migration flows can be broken into two basic components: **interstate migration**, movement from and to other areas of the U. S., and **intrastate migration**, movement within Maryland itself. One source of domestic migration data is the Internal Revenue Service (IRS). The IRS migration data is prepared by the Maryland Department of Planning. It is based on assigning individual tax returns to counties over consecutive years and would include most, but not all, individuals who move. The number of exemptions requested on the tax returns is used to estimate the number of people who have moved.

IRS migration data for Montgomery County from 1980 through 2000 shows a tale of two decades. During the 1980s, Montgomery County’s net domestic migration gain was 45,500. During the 1990s, the County had a net migration loss of 39,700. The 1980s were marked by a period of high net gains in interstate migration, especially during the boom years of the last half of the decade, and low net losses in intrastate migration. In the 1990s, the County’s net interstate migration flow has turned from a high net in-flow during the 1980s to a low net out-flow during the 1990s, and the low net intrastate losses during the 1980s have increased sharply during the 1990s.

Montgomery County’s Net Domestic Migration Flows 1980 – 2003

	<i>1980-1985</i>	<i>1985-1990</i>	<i>1990-1995</i>	<i>1995-2000</i>	<i>2000-2003</i>
<i>Net Interstate Migrants (In-Out)</i>	<i>17,150</i>	<i>31,956</i>	<i>775</i>	<i>-4,877</i>	<i>5,068</i>
<i>Net Intrastate Migrants (In-Out)</i>	<i>2,474</i>	<i>-6,071</i>	<i>-21,692</i>	<i>-13,935</i>	<i>-20,284</i>
<i>Total Net Migration</i>	<i>19,624</i>	<i>25,885</i>	<i>-20,917</i>	<i>-18,812</i>	<i>-15,216</i>

If high net migration coincides with high economic growth, Montgomery County will not likely see net interstate migration at the level of the 1980s again. Future job growth is not expected to match job growth of the 1980s. The County gained 70,000 jobs from 1980 to 1985 and added another 85,000 jobs from 1985 to 1990. The largest forecast five-year job growth is 45,000 jobs from 2005 to 2010. Forecast job growth drops to 35,000 from 2010 to 2015 and 2015 to 2020, then drops to 30,000 from 2020 to 2025, and job growth drops to 25,000 from 2025 to 2030.

Looking only at net migration masks the amount of movement in and out of the County. IRS data shows that between 1980 and 2000 about 847,000 people moved into Montgomery County, an average of 212,000 people every five years. Most of these in-movers, 70 percent, come from outside Maryland and about 35 percent of the interstate in-movers are from the District of Columbia (21 percent) or Virginia (14 percent).

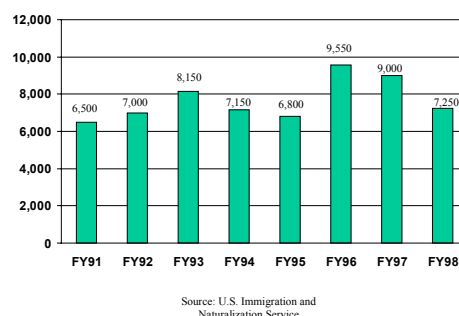


Another source of data on the volume of in-movers is the Planning Department's Census Update Survey (CUS) that asks people where they lived five years ago. The latest CUS was conducted in 2003. Results indicate that about 174,000 people or 19 percent of the County's 2003 population did not live here in 1998. About 106,000 or 61 percent of these in-movers came from outside Maryland, the District of Columbia, or Northern Virginia. The remainder of the in-movers are rather evenly distributed between the District of Columbia (11%), Prince George's County (10%), elsewhere in Maryland (10%), and Northern Virginia (8%).

### Foreign Immigration

Immigration data from the U.S. Census Bureau and the Immigration and Naturalization Service (INS) shows that immigration from abroad was a major component of Montgomery County's population growth during the 1990s. According to Census Bureau estimates, from April 1, 1990 to July 1, 1999, 63,267 persons immigrated from outside the U.S. to Montgomery County. That is 48 percent of all foreign immigration into Maryland during that period. The County's only in-state rival as an international "gateway" for immigrants is neighboring Prince George's County, which attracted 29,705 immigrants during the same period, less than half of Montgomery County's total. The saying "immigrants go where immigrants are" seems to be holding true. In 1990, 45 percent of the State's foreign-born population lived in Montgomery County. By 2000, the County's foreign-born population reached almost 233,000, a 29 percent increase since 1990, and the County has maintained 45 percent State's foreign-born population.

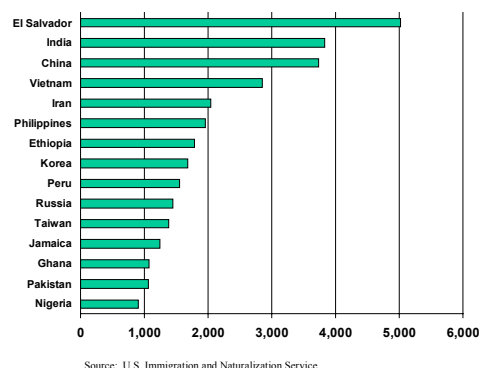
**High Levels of Immigration Continue**  
(Legal Immigration in Montgomery County)



The Census Bureau estimates that between 2000 and 2004 an additional 43,000 immigrants moved to Montgomery County. Immigrants accounted for 89 percent of the County's population growth in this period.

These recent immigrants are an extremely diverse group. INS data shows that recent immigrants (federal fiscal years 1992 through 1998) came to the County from 191 countries; 76 of these countries provided 100 or more immigrants. El Salvador contributed the greatest number of immigrants but only accounted for 9.1 percent of total immigration, followed by India with 7.0 percent and China with 6.8 percent. Most recent immigrants come from Asia, 35 percent; followed by the

**Top 15 Countries of Origin for Legal Immigrants to Montgomery County, FY 1992-1998**



Americas, 32 percent; Africa, 15 percent; Europe, 12 percent; and the Middle East 6 percent.

Immigrants are attracted to Montgomery County because of its economic vitality, and in 1990, they accounted for 19 percent of the County's population. By 2000, immigrants made up 27 percent of the County's population ranking second in the COG Region to Arlington County's 28 percent.

Nationally, the Census Bureau is projecting immigration through 2020 to be similar to immigration during the 1990s. The Urban Institute projects that, under current immigration law, about 70 million post-1990 immigrants and their offspring will be added to the U.S. population by 2040, accounting for almost two-thirds of the net population growth during this period. Based on these projections, the foreign born population will account for about 14 percent of the nation's population by 2040 (up from about 9 percent today) and by 2040, more than one in four U.S. residents is projected to be either an immigrant or the child of an immigrant.<sup>1</sup>

## **Labor Force**

Labor force is defined as the people 16 years of age or older, who are working full time or part time, or if unemployed, are currently looking for work.

Since the 1950s and 1960s, the biggest change in the local and national labor force has been the increased participation of females. In 1950, about one-third of all women 16 years of age and older were employed. By 1990, nationally over half the women over 15 years of age were working, and in Montgomery County the figure was higher with nearly two-thirds of women 15 years or older employed. Although most of the increase in female participation in the labor force has been realized, female participation rates are expected to increase slightly in the future.

The Research and Technology Center offers three basic conclusions about the County's future labor force trends:

- The relative balance between jobs and labor force will continue, but after 2010 there will be a widening gap between jobs and labor force with jobs exceeding labor force.
- The number of mature workers will increase more than the number of young workers.
- Immigrants will continue to be an essential source of labor in all categories and will partially mitigate the jobs/labor force gap.

The County's jobs and labor force will continue to be in relative balance for the next 10 years. After 2010, there will be a widening gap between jobs and labor force with jobs exceeding the available labor force because the number of jobs created will exceed the

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<sup>1</sup> Michael Fix and Jeffery S. Passel; Immigration and Immigrants: Setting the Record Straight; 1994; Washington DC: The Urban Institute.

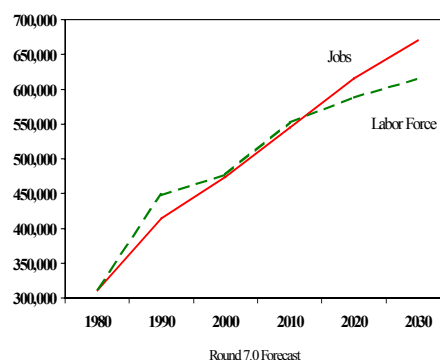
number of County residents joining the labor force. Between 2010 and 2020 job growth is expected to nearly double labor force growth and between 2020 and 2030 job growth is expected to more than double labor force growth. This gap will have to be made up by increased in-commuting of workers from surrounding jurisdictions. This trend reflects the County's growing status as a maturing county and a job center.

The jobs/labor force gap is exacerbated by long-term demographic trends, principally the aging of the baby boom and baby bust generations. Nationally, the 30 to 44-age cohort is expected to loose population between 2000 and 2010 and then is expected to increase, but it is not expected to approach 2000 levels until 2020. In Montgomery County, the labor force population in the 30 to 44 age cohort is expected to decrease by 2,700 between 2000 and 2010, then increase by almost 8,000 between 2010 to 2020, and increase by 13,000 between 2020 and 2030.

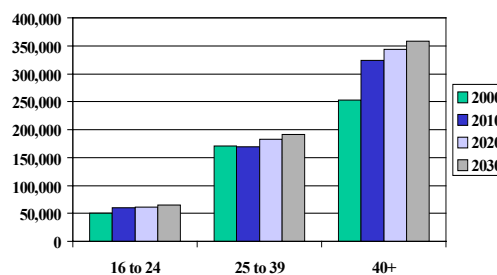
About 53 percent of Montgomery County's labor force is 40 years of age or older. This percentage is expected to increase to 58 percent by 2010 and remain at 58 percent through 2030. Today there are almost 253,000 people 40 years and above in the labor force. The number of "mature workers" is expected to increase to about 358,000 by 2030. Today there are about 50,000 young workers age 16 to 24 in the labor force, almost 11 percent of the total labor force. This percentage is expected to remain constant though out the forecast period. The labor force numbers about 170,000 in the 25 to 39 age group, about 36 percent of today's labor force. By 2010, this age group's percentage of the total labor force will drop to about 31 percent and remain at about 31 percent through 2030.

The gap between jobs and labor is partially mitigated by immigration, and the Research and Technology Center expects the County's high levels of immigration to continue. Immigration trends are shaped primarily by two factors: federal policies and past immigration. Assuming federal policies do not change, immigrants tend to locate in areas that have already welcomed substantial numbers of immigrants in the past. Montgomery County has been successful in attracting immigrants from many different countries

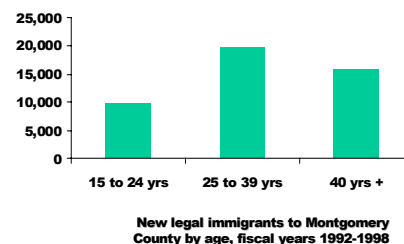
Gap Between Jobs and Labor Force  
Projected to Widen After 2010



Over Half the County's Labor Force  
Is 40 Years or Older



Gap mitigated by immigrants  
On average, immigrants are younger than the resident population



and this will continue. Apart from sheer numbers alone (between April 1, 2000 and July 1, 2004, 43,000 immigrants moved into the County), immigrants are, on average, younger than the resident population. Immigrants therefore help mitigate the aging of the labor force that would occur if the county would rely on the resident labor force alone. Nationally, the Urban Institute projects that under current immigration law, immigrants will account for about one-third of the country's labor force growth in the 1990s and during the first decade of the 21<sup>st</sup> century (Fix and Passel, 1994).

Immigrants bring a variety of skills to the County's labor force. They provided a labor pool for almost all occupations, and many are well educated. On average, Montgomery County's foreign-born residents are more likely than native-born residents to have a Ph.D. (10 percent to 6 percent).

### Average Household Size

In the top-down jurisdictional forecasts, Park and Planning does not forecast average household size to develop the household or population forecasts. Instead average household size is used as a reasonableness check on the forecasts.

To forecast group quarters population, we use the same ratio of group quarters population to total population in the Maryland Department of Planning's (MDP) latest forecasts. For Round 7.0, the same ratio as Round 6.4A is used. The resulting group quarters population is rounded to the nearest hundred. The group quarters population is subtracted from the total population to give the population living in households.

In 2000, the County's average household size was 2.66 persons-per-household, a slight increase over the average household size of 2.65 in 1990. Park and Planning's 2003 Census Update Survey reports the average household size increasing to 2.70. The Round 7.0 Forecast has the County's average household size decreasing slightly from 2005 through 2030. This seems reasonable considering that the aging of the baby boomers and the increasing percentage of multi-family households will result in smaller average household sizes, but the increases in minority and foreign-born populations who tend to have larger households will mitigate the decline in average household size.

Montgomery County Round 7.0 Cooperative Forecast Population, Households, and Average Household Size							
	2000	2005	2010	2015	2020	2025	2030
Total Population	873,341	942,000	1,000,000	1,040,000	1,077,100	1,115,300	1,155,800
Household Population	863,910	931,000	987,500	1,026,400	1,062,200	1,098,400	1,136,000
Group Quarters Population	9,431	11,000	12,500	13,600	14,900	16,900	19,800
Households	324,600	347,000	370,000	390,000	407,900	424,800	441,300
Average Household Size	2.66	2.68	2.67	2.63	2.60	2.59	2.57

### Estimating Number of Employees in a Building

Park and Planning uses the following square feet per employee ratios to estimate the employment capacity of non-residential buildings.

50	fast food restaurants	400	office - medical
150	restaurants - not fast food	400	retail
210	hospitals	450	auto repair
225	office - down county	450	industrial or warehouse (not mini-warehouses)
250	office - remainder of county	500	other
350	R & D or flex space	1300	hotels

Information on office vacancy is obtained from the CoStar Group. The amount of vacant office space is tabulated by traffic analysis zone. The amount of vacant space is converted to potential employment capacity using the office factors above. The employment capacity of vacant office space is then subtracted from the office employment estimate for the current year and added to the office pipeline as a source for potential new jobs.

### Tracking Development

Park and Planning receives building permit information from the Cities of Gaithersburg and Rockville and from the County's Department of Permitting Services.

Park and Planning mainly tracks completions. Residential and non-residential completions lists by tax account number are received quarterly from the Montgomery County Office of the State of Maryland Department of Assessments and Taxation. The information includes: housing units completed, non-residential gross floor area completed, land use code, and premise address. These records are geocoded to traffic analysis zones.