

2 Introduction

Developing a local hazard mitigation plan is simply one step in the comprehensive emergency management process. There are four generally accepted steps: preparedness, response, recovery, and mitigation. “Preparedness is undertaken before a disaster occurs, to build emergency management capacity. It focuses on the development of emergency operations plans and systems. Response takes place immediately before, during, and directly after a disaster. The purpose of response is to minimize personal injury and property damage through emergency functions such as warning, evacuation, search and rescue, and provision of shelter and medical services. Recovery begins immediately following a disaster with efforts to restore minimum services to the stricken area and continues with longer-term efforts to return the community to normal. Immediate recovery activities include assessing damage, clearing debris, and restoring food supplies, shelter, and utilities. Longer-term recovery activities include rebuilding and redeveloping the community and implementing mitigation programs.” (Emergency Management: Principles and Practices for Local Government, p. 132)

The Federal Emergency Management Association (FEMA) defines mitigation as “acting before a disaster strikes to prevent permanently the occurrence of the disaster or to reduce the effects of the disaster when it occurs. It is also used effectively after a disaster to reduce the risk of a repeat disaster.” The benefits of effective mitigation include the following:

- Saving lives and reducing injuries
- Preventing or reducing property damage
- Reducing economic losses
- Minimizing social dislocation and stress
- Minimizing agricultural losses
- Maintaining critical facilities in functioning order
- Protecting infrastructure from damage
- Protecting mental health
- Lessening legal liability of government and public officials
- Providing positive political consequences for government action

“Mitigation ultimately deals with four basic elements: hazard, risk, vulnerability, and disaster. Hazards are natural, technological, or civil threats to people, property, or the environment. Risk is the probability that a hazard will occur during a particular time period. Vulnerability is the susceptibility to injury or damage from hazard. Finally, a disaster is a hazard occurrence resulting in

significant injury or damage. A good mitigation strategy analyzes the hazards faced by the community, identifies their associated risks, and reduces vulnerability to hazards, thus mitigating the potential impact of a disaster.”
(Emergency Management: Principles and Practices for Local Government, p. 132)

To create a successful, complete mitigation strategy one must:

- Identify all local hazards including their characteristics; locations; probabilities of occurrence; and potential impact on people, property, and the environment.
- Analyze the probable risks of disaster occurrence and the vulnerability of people, property, and the environment to injury or damage. The analysis is based upon an inventory of structures and populations at risk, estimates of economic loss, studies of risk perception, and projections of mitigation costs and benefits.
- Prepare, recommend, and maintain a community mitigation strategy, including technical, political, policy, program, plan, budget, regulation, and education aspects.

Because of the potential to reduce risks from future hazard events, creating a Countywide mitigation strategy is an essential part of an integrated emergency management policy. The following plan represents Anne Arundel County’s efforts.

3 Purpose and Organization of the Plan

3.1 Purpose of the Plan

In the past, emergency management has focused primarily on responding after the fact to disasters. Recent changes in Federal policy resulting from escalating disaster costs and passage of the Disaster Mitigation Act of 2000 have given new impetus to hazard mitigation. The Disaster Mitigation Act of 2000 has challenged Anne Arundel County to put more emphasis on preventing damage before disaster strikes.

Throughout the four phases of emergency management – preparedness, response, recovery, and mitigation – there is some logical overlapping of concepts. This is especially true between hazard mitigation and emergency preparedness. Hazard mitigation is the effort to reduce or lessen the effects of the hazard, while emergency preparedness may be the mechanism for accomplishing the effort. However, hazard mitigation is the only phase of

emergency management that can break the cycle of damage, reconstruction, and repeated damage.

Mitigation is defined as a “sustained action that reduces or eliminates long-term risk to people and property from natural hazards and their effects.” This definition distinguishes actions that have a long-term impact from those that are more closely associated with preparedness for, immediate response to, and short-term recovery from a specific event. The intent is to focus on actions that produce repetitive benefits over time, not on those actions that might be considered emergency planning or emergency services.

The purpose of mitigation is twofold:

- To protect people and structures; and
- To minimize the costs of disaster response and recovery.

Hazard identification and risk assessment is the cornerstone of mitigation. The *Anne Arundel County Hazard Identification Vulnerability Analysis (HIVA)* provides detailed information on the hazards, risks, and vulnerability to natural and technological hazards in the County. The development of the *Anne Arundel County All Hazard Mitigation Plan* is based on hazards listed in the HIVA.

Hazard mitigation can be accomplished in a number of ways and can generally be broken down into the following strategies:

- **Alter the hazard.** The hazard can be altered to eliminate or reduce the frequency and intensity of its occurrence.
- **Avert the hazard.** Redirecting the impacts away from a vulnerable location can avert the hazard.
- **Adapt to the hazard.** By adapting to the hazard, development or redevelopment is less vulnerable.
- **Avoid the hazard.** The hazard can be avoided by keeping people away. Local ordinances may regulate the location and manner in which new construction occurs in relation to existing hazards.
- **Acquisition.** Acquisition is the public procurement and management of lands that are vulnerable to damage from hazards.
- **Relocation.** Relocation involves permanent evacuation of hazard-prone areas through movement of existing hazard-prone development and population to safer areas.

Whatever the strategy, mitigation measures must be evaluated in the context of myriad constraints: time, resources, geography, the level and nature of

development and vulnerability, and the attitudes and desires of the affected communities and property owners, to name a few. Choices must be realistic and attainable when these constraints are taken into account. Risk reduction measures for natural disasters must be compatible with risk reduction measures for technological hazards and vice versa.

Ultimately, this Plan will help the County sustain fewer losses and recover more quickly when faced with the next disaster. It is also intended to:

- Minimize disruption to the community following a disaster,
- Streamline the disaster recovery process by having pre-identified actions that can be taken to reduce or eliminate future damage,
- Capitalize on Federal funding that may become available after disasters occur,
- Ensure that the County maintains its eligibility for the full range of future Federal disaster relief. After November 1, 2004, FEMA requires that local governments and states have a FEMA-approved Hazard Mitigation Plan in place to be eligible for future Federal mitigation funding.

This Plan is an official policy document adopted by the County Council to guide future decisions relating to mitigation measures, protecting the residents, and guiding future development decisions. It is long-range and comprehensive; it is not site specific. As a Countywide plan, it applies directly to all of Anne Arundel County and indirectly to the City of Annapolis and major federal and state installations. The City's Comprehensive Plan governs Land use and development in Annapolis.

3.2 Organization of the Plan

This section, Section 3, of the plan provides background information. Section 4 outlines the planning process. It addresses how the Plan was prepared and who was involved in the planning process. Section 5 provides a profile of the County and describes the history, geography, population, economy, land use, and government. Section 6 identifies the twenty-seven natural and man-made hazards that the County will address with this Plan. Section 7 provides a series of mitigation goals and objectives for the Plan; goals are expressed in terms of policy statements and represent global visions while objectives are more specific, measurable, and define strategies or implementation steps to attain the identified goals. This section also outlines how the Plan will be adopted and maintained.

Section 8 contains hazard-specific plans for each of the hazards identified. These hazards appear in order of priority, based on potential loss of life, loss of

property, and other community concerns. For each hazard, the Plan presents a description of the hazard, a presentation of historical hazard events, the results of the vulnerability as well as a risk assessment process, and mitigation actions along with implementation plans. In addition, for each hazard, information is provided about the estimated costs and benefits of each proposed mitigation action, details about the organization responsible for overseeing implementation of the mitigation actions, an implementation schedule, and potential funding sources for the mitigation actions.

A series of Appendices provide supplemental information in support of this Plan.

- Appendix A contains a copy of the County resolution documenting the formal adoption of this plan.
- Appendix B identifies the Planning Team that helped construct the County's Plan.
- Appendix C provides hazard history documentation.
- Appendix D provides the complete Anne Arundel County Hazard Identification/ Vulnerability Assessment.
- Appendix E contains vulnerability and risk assessment worksheets that support the Hazard Identification/ Vulnerability Assessment.
- Appendix F identifies potential sources of Federal and state funding to support mitigation activities.
- Appendix G contains the Federal Disaster Mitigation Act 2000 language.
- Appendix H contains the Federal Register Notification of the Interim Final Rule that extends the deadline for submitting Hazard Mitigation Plans.
- Appendix I identifies where certain State and Federal requirements are addressed in the Plan.
- Appendix J compiles the public comment and response for the County.
- Appendix K contains a glossary of terms.
- Appendix L contains a list of acronyms.

4 The Planning Process

4.1 Preparation

This Hazard Mitigation Plan was prepared by Anne Arundel County's Office of Emergency Management (OEM). It was developed in accordance with the provisions of the Disaster Mitigation Act of 2000 (Public Law 106-390), the Pre-Disaster Mitigation Grant Program, 44 Code of Federal Regulations Part 206, and the planning standards adopted by the Maryland Department of Emergency

Management. The hazard mitigation planning process for Anne Arundel County is shown in Figure 4-1.

4.2 Partners

The Anne Arundel County planning team assisted in the development of this Plan. This committee was composed of representatives of many County departments. A list of members is included in Appendix B. The team met several times, on an as-needed basis, between December 2003 and August 2004. In addition, members were consulted and contributed on an individual basis.

Figure 4-1. Mitigation Planning Process



4.3 The Hazard Mitigation Planning Process

4.3.1 Establish an Open Public Process

From the start, the County developed a strategy that provided ample opportunity for all sectors of the community to become involved in the process or comment on the final product. This process helped ensure that a comprehensive and Countywide community approach was taken in developing this document.

After a draft was completed, copies were distributed to the Cabinet, the County Executive, and the County Council for review and comment. Moreover, copies were distributed to the contiguous counties of Calvert, Prince Georges, Howard, Baltimore, Queen Annes and the cities of Annapolis and Baltimore for review and

comment. Simultaneously, a copy was submitted to the Maryland Emergency Management Agency (MEMA) for review and comment. The city of Annapolis, MEMA, and numerous County personnel provided feedback that was incorporated into the Plan.

During the month of November, 2004 seven well-publicized public meeting was held. At these meetings, copies of the draft Plan were distributed, the Plan was explained, and questions were answered. In addition, copies of the Plan were placed in libraries around the County for residents to examine. Additionally, a copy of the Plan was placed on the County Web site. Finally, the Plan was discussed at the County Local Emergency Planning Committee (LEPC) meetings. In all cases, comment was sought, and concerns addressed (see Appendix J).

4.3.2 Identify Hazards

The Office of Emergency Management completed the Hazard Vulnerability Assessment in June, 2004. Twenty-seven hazards that potentially affect Anne Arundel County were identified based upon a review of historical records, national data sources, existing plans and reports, and discussions with local, regional, state, Federal and national experts (see Appendix C).

The hazards were profiled based on the severity of impact, frequency of occurrence, seasonal patterns, warning time, cascading potential, and existing warning systems. Population, critical facilities, infrastructure and lifelines, hazardous materials facilities, and commercial facilities at potential risk were all considered during profiling activities.

4.3.3 Assess Risks

The characteristics and potential consequences of each hazard were assessed to determine how much of the County could be affected and the impacts on community assets (see Appendix D). Using Geographical Information System (GIS) applications, geographic features and key facilities (fire, police, and emergency medical services stations, hospitals), shelters, fuel points, communications towers, emergency operations centers, hazardous materials (HAZMAT) facilities, infrastructure, and lifelines were identified.

A "Vulnerability and Risk Assessment Worksheet" was completed that included information about each hazard (see Appendix E).

Maps were generated that summarize the vulnerability for each hazard. Potential dollar losses for each hazard that could be mapped were estimated using the Federal Emergency Management Agency's Hazards U.S. Multi-Hazards Model (HAZUS-MH) and other HAZUS-like modeling techniques. The HAZUS model and HAZUS-like modeling techniques examined the impact of various hazards on the built environment, including on the general building stock (including

residential (i.e., housing), commercial, industrial, etc.); critical facilities; lifelines; and infrastructure.

The County used a weighted survey tool to solicit feedback from a cross-section of County employees to determine the impacts a hazard might have on the environment, local government functions, health and welfare, and quality of life. This produced a framework to analyze the risk to the County's economy, government functions, environment, health and welfare, and quality of life. The results of the survey combined with historical data were depicted in a matrix with four categories: 1) low probability, low impact; 2) low probability, high impact; 3) high probability, low impact; and 4) high probability, high impact.

The analysis used in this planning process addresses the potential impacts of natural and man-made hazards by evaluating hazards using a common, systematic framework. This risk assessment framework was used to provide a factual basis for development of actions to mitigate the identified hazards. It was also used to prioritize hazards and develop appropriate mitigation actions to reduce future losses for the identified hazards.

4.3.4 Develop Mitigation Strategies

Mitigation goals and objectives were formulated with the intent to reduce or eliminate the long-term risk to human life and property from each hazard. An action plan was developed that identifies future mitigation actions, estimates costs, defines benefits, identifies the responsible organization(s), provides an implementation schedule, relates to the mitigation objectives, establishes priorities, and identifies potential funding sources each action.

Meetings were held with officials representing various County Offices and Departments to solicit input in developing mitigation goals, objectives, actions, and implementation plans. In addition, discussions will be held with the appropriate County Office and Department representatives to ensure that this Hazard Mitigation Action Plan is built upon, and integrated into, the County's Comprehensive Planning processes. County Departments participating in the development of mitigation strategies included: the County Executives Office, the Department of Central Services, the Department of Cultural and Environmental Resources, the Office of Emergency Management, the Fire Department, the Department of Health and the Environment, the Office of Information Technology, the Neighborhood Planning and Zoning Department, the Department of Human Services, the Police Department, the Department of Public Works, Anne Arundel County Public Schools, the Anne Arundel County

Cooperative Extension Service, and the Anne Arundel County Soil Conservation District.

Potential Federal and State funding sources to help implement the proposed actions were gathered (see Appendix F). This information includes the name of the program, funding source, purpose of the program, types of assistance, eligible projects, conditions on the funding, types of hazards covered, matching requirements, and application deadlines (while some deadlines may have passed, these represent grants that may be funded in the future and provide a guide for further research).

4.3.5 Implement the Plan and Monitor Progress

Finally, Anne Arundel County has established a process to ensure that this Plan is implemented and remains an active and relevant document.

5 Anne Arundel County Profile

5.1 History

The area that would become Anne Arundel County has a long history of human habitation. Prehistoric peoples were drawn to the area by its abundant animal and plant life, and its access to fresh water and the Chesapeake Bay. Native Americans are known to have lived in Anne Arundel County as far back as 11,000 B. C. Beginning about 12,000 years ago, Native Americans quarried material for making high quality stone tools and projectile points from the Magothy Quartzite Quarry near Pasadena. This quarry may have spawned a vast and long-lived trading network among native peoples.

In addition, Native Americans found the 533 miles of shoreline offered an excellent location for seasonal harvesting of oysters and fish from the Bay. Evidence of this activity, dating mainly from 500 A. D. to 1400 A. D., is found in numerous oyster shell middens found along the Bay and its tributaries.

The area's geographical position, within a larger regional system of migratory and trade routes, created the first trails and footpaths which later became the early transportation routes of the County's European settlers. By the time of the first European settlement however, native Algonquin tribes had virtually abandoned the present day area of the County due to raids by the warlike Susquahannocks from the north.

In 1649, Protestant Governor William Stone approached a group of Virginia Puritans and offered them land and guaranteed freedoms in the colony of Maryland. Several hundred of these settlers subsequently arrived at the mouth of the Severn River and established a settlement they called "Providence" or "Severn" in present-day Anne Arundel County. Their dispersed hamlet was centered on the north shore of the Severn River, but by the 1660s it had shifted to Acton's Cove across the river at the present site of Annapolis.

By 1650, enough settlers had moved into the area to warrant designation as a county, which was interchangeably known as Providence or Anne Arundel in its early years. Although London Town served as the original seat of County government, Providence quickly became the population center of the county and the colony. In 1695, the governor moved the capital of Maryland from St. Mary's to Ann Arundell Town, later renamed "Annapolis" in honor of Princess Anne, daughter of Queen Mary. Annapolis remained the capital and seat of government when statehood was achieved on April 28, 1788.

European settlements throughout the Chesapeake colonies relied upon tobacco as their main cash crop. The soils and climate were favorable, but tobacco had several limitations that proved important in the history of the County. Due to the labor-intensive nature of the crop, farmers were forced to rely on slaves and indentured servants. To meet these labor requirements, a 1664 law sanctioned slavery. Because crop rotation was not practiced during this time period, fertile soils were rapidly depleted; this affected the quality and quantity of the harvest. Although many marginal farmers were forced to relocate, the population of the County tripled between 1700 and 1750 from 4,100 to 12,520.

After the Revolutionary War, Baltimore City's harbor greatly increased the economic importance of the city. Concurrently, because of its proximity to Baltimore City, the economy of northern Anne Arundel County began to change from agrarian to industrial.

Iron ore outcrops, timber, and water resources promoted the rise of an iron smelting industry early in the 18th century. Puddling furnaces and roughing mills for converting pig iron into bars operated until wood and iron ore were depleted. Many of the local furnaces ceased to exist afterwards.

Within a century, the area had become a regional transportation center for delivering goods. In addition to water transportation, a road system was developed soon after settlement in the late 17th century, becoming more complex

by the early 18th century. The routes of several early colonial roads continue to be used to this day. For instance, Crain Highway (Route 3) follows the path of an important colonial roadway stretching from Philadelphia to Williamsburg; Annapolis Road (Route 175) connected Annapolis with Frederick and beyond; and Generals Highway (Route 178) stretched from Annapolis to Baltimore.

In 1840 the Annapolis & Elkridge Railroad was completed, linking northern Anne Arundel County to the Baltimore & Ohio Railroad. The advent of the railroad in the County was crucial to its development as many crossroad villages or small railroad station communities sprung up. These nodes of development frequently included stores, post offices, blacksmith shops, schools, and a handful of residences. By 1868 the Baltimore & Potomac (B & P) Railroad connected Baltimore and Washington, D. C. This line was later absorbed by the Pennsylvania Railroad and is presently used by Amtrak. In 1887 the Annapolis and Baltimore Short Line Railroad (renamed the Baltimore and Annapolis Short Line Railroad in 1894 and the Washington, Baltimore and Annapolis Railroad in the early 20th century) was constructed. It formed a 22-mile link between Baltimore and Annapolis; it was the most direct route between the two cities and quickly superseded the longer Annapolis and Elkridge Railroad line. Today this line serves as a popular hiking-biking trail.

The reliance on tobacco as the major cash crop was lessening throughout the County during the nineteenth century, but it took the socioeconomic changes brought on by the Civil War to finally force local farmers to diversify. Maryland's Fourth Constitution adopted on November 1, 1864 freed the remaining slaves throughout the State. As this labor source disappeared, farmers in the southern portion of the county increasingly shifted to crops such as corn, wheat, hay, and fruit though tobacco was, and is, still grown. Seafood and associated industries such as shucking houses also became significant factors in the economy of that area. Farmers in the northern portion of the County discovered that the prevalent sandy soils were ideal for truck farming. Eastern European families living in Baltimore were transported to the farms to harvest the fruits and vegetables. Initially, Baltimore was the primary market, but over time Anne Arundel County peas, beans, strawberries and cantaloupes became famous throughout the eastern seaboard. Canning and fertilizer plants were opened in northern Anne Arundel County in support of the truck farming.

Through the efforts of the Secretary of the Navy George Bancroft, the Naval School was established without Congressional funding at a 10-acre Army post named Fort Severn in Annapolis, Maryland, on October 10, 1845. In 1850 the

Naval School became the United States Naval Academy. A new curriculum went into effect requiring midshipmen to study at the Academy for four years and to train aboard ships each summer. That format remains the basis of the curriculum to this day. As the U.S. Navy grew over the years, the Academy expanded. The campus of 10 acres increased to 338. The original student body of 50 midshipmen grew to a brigade size of 4,000. Modern granite buildings replaced the old wooden structures of Fort Severn.

By the late 1800s, steamboats plied the Chesapeake Bay, transporting produce, oysters, crabs, and fish to commercial markets and passengers to recreational opportunities. The numerous steamship lines provided another important means of transporting people and commercial goods to and from Baltimore and elsewhere. These steamers continued to provide service until after the Great Depression.

In the late 1880's, recreation became a major business throughout the County with the opening of numerous summer resorts along the Chesapeake Bay. These resorts, for bathing and relaxation, became popular destinations with hotels, picnic pavilions, and amusement parks. Readily available rail and steamboat access from Baltimore and Washington brought visitors to the area's resorts.

In 1893, Major Charles R. Douglass, the son of abolitionist Frederick Douglass, established Highland Beach as an exclusive resort for African Americans. Many prominent African Americans, including Booker T. Washington, Paul Laurence Dunbar and Mary Church Terrell, either visited or owned homes in the community.

In 1899, the U. S. Revenue Cutter Service built a station for the repair of lifeboats at Arundel Cove on Curtis Creek. The Cutter Service became the U. S. Coast Guard in 1915 and its facility on Curtis Creek was expanded to include shipbuilding and a repair yard. Known as the U. S. Coast Guard Yard, Curtis Bay, it was a leader in wooden ship production prior to World War II. During the war, the facility converted to steel vessel construction. Due to its significant role in maritime and military history, the Yard was listed in the National Register of Historic Places in 1983.

Increased industrialization in the County began during World War II and the national movement towards suburban living that followed the war caused significant changes to occur in Anne Arundel County. Major employers such as

National Plastics Corporation (now Nevamar) and Westinghouse relocated to the County.

Fort George Meade was established during World War I to train troops for battle in France, but was greatly expanded during World War II. The influence of this land use on western Anne Arundel County was further expanded in the 1950s with the establishment of the National Security Agency on a portion of Fort Meade's property.

The growing predominance of the automobile in the early 20th century brought significant impacts to the County. In 1941, the State Roads Commission purchased a privately owned ferry service, and shifted its western terminal from King George Street in Annapolis to Sandy Point. Increased post-World War II development brought excessive traffic congestion for those individuals trying to reach the Eastern Shore. In 1949, construction of the Chesapeake Bay Bridge was begun. It was completed in 1952, officially opening to the public for a toll of \$1.40.

Using the local Log Inn Road, the state expanded this route into a multi-lane highway, known as John Hanson Highway, or Route 50. Today, this area serves as a major transportation crossroads for the region, a factor that has made it a magnet for commercial, economic, and residential development. Completed in 1954, the Baltimore Washington Parkway was designed as a defense highway and alternative commuter route. Today it remains a scenic corridor between Washington D. C. and Baltimore; however, it also serves the purpose intended by its planners in providing access to government installations and residential communities of commuters along its route. The area's strategic location generated the need for another major highway project in the mid-20th century: the Baltimore beltway and the Harbor Tunnel Thruway (Route 895), completed in the 1970s. Interstate 97 was the product of the Baltimore-Annapolis Transportation Study (BATS) that started in 1978. Although several corridors were studied, a westerly corridor was chosen because it served both local and interregional traffic.

In the 1940s, the Baltimore Aviation Commission selected northern Anne Arundel County as the site for a new metropolitan airport. The Commission obtained 3,200 acres of farmland just south of Linthicum. In 1947 construction began for the Friendship International Airport. The name was changed to Baltimore Washington International (BWI) Airport in 1973. As BWI Airport has grown, the surrounding region has become a magnet for business and industry.

Because of the County’s location adjacent to the Chesapeake Bay, it has developed over time into an enclave of development and commercial activities. Commercial seafood harvesting, recreational fishing and recreational boating provide a host of economic opportunities. The traditional watermen of the area are slowly disappearing because of a general decline in the water quality and available seafood in the Chesapeake Bay. However, the area is thriving economically as the loss of traditional watermen is being offset by a dramatic increase in sport fishing and recreational motor and sail boating activities. In addition, numerous world-class boat yards and sailing centers draw visitors from a wide area. The population of the County tripled in the decades between 1940 and 1960 from 68,375 to 206,634 with approximately 70% of the population living north of the South River.

Anne Arundel County continues to attract business and new residents because of its central location between Baltimore and Washington, its superior transportation networks, and the natural beauty and recreational opportunities its 533 miles of shoreline offer.

5.2 Geography

Anne Arundel County is located on the western shore of the Chesapeake Bay. The County’s 533 miles of shoreline constitute more coastline than any other part of Maryland. According to the U.S. Census Bureau, the County has a total area of 588 square miles. Of that, 416 square mile is land and 172 square miles is water.

The elevation of the County ranges from sea level in the eastern portion of the County to 317 feet in the western portions of the County. Over thousands of years, a series of peninsulas fanning out from the higher elevations in the west has been formed due to deposition from numerous creeks and rivers.

5.3 Population Overview

Census 2000 results illustrate that Anne Arundel County, with a population of 489,656, is the 5th largest jurisdiction in the state of Maryland. Between 1990 and 2000, the County gained 62,417 residents.

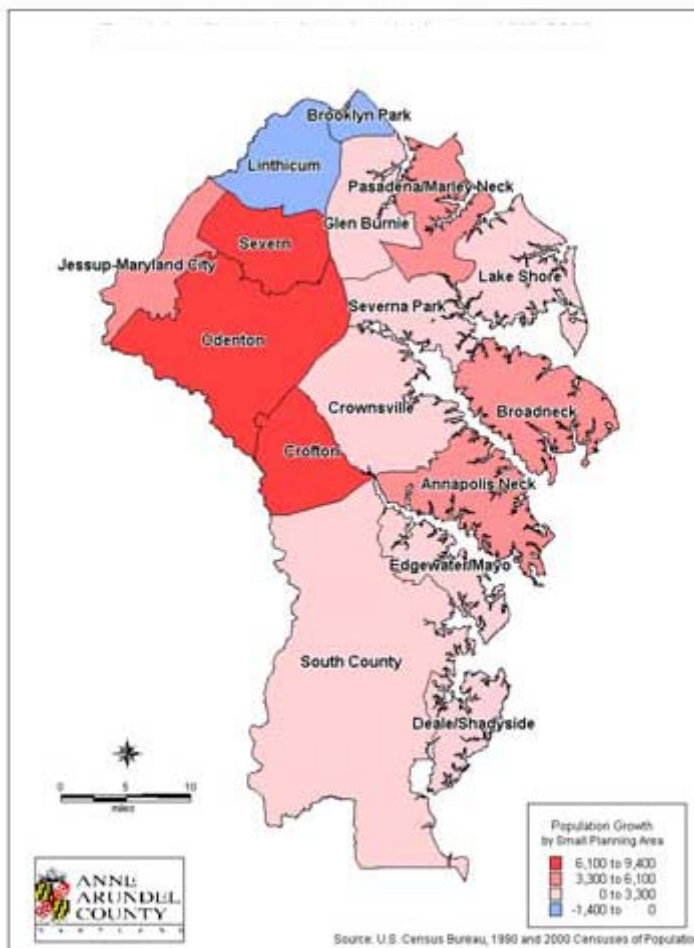
Table 5-1. Population

Jurisdiction	1990	2000	Growth
Anne Arundel County	427,239	489,656	62,417
Source: U.S. Census Bureau, 2000 Census of Population			

A boom in housing construction and jobs contributed to the population increase in the County. In Anne Arundel County, 32,225 new housing units were authorized for construction between 1990 and 1999. This correlated to a growth of 28,725 jobs between 1994 and 1999.

Population growth has not been evenly distributed however. As Figure 5-1 shows, the largest increases are concentrated in the western part of the County. The population concentration and growth meanwhile raises concerns over new development and land use patterns in the County. Areas that have experienced population growth or high concentration of population face challenges to the adequacy of public services for transportation and schools, conservation of neighborhoods, and preservation of open spaces and farmlands.

Figure 5-1 Population Growth by Area



5.4 Demographic Data

Because the overwhelming majority (98 percent) of the total population in Anne Arundel County identified themselves as one race, insight on race changes may be obtained by comparing race data between 1990 and 2000 censuses (see Table 5-2).

White Population. In Anne Arundel County, white population accounts for 81.2 percent (or 397,789) of the County's total population. From 1990 to 2000, this group increased by 31,836, which amounts to 51 percent of the County's total population growth.

Table 5-2 Population by Race and Ethnicity, 1990-2000, Anne Arundel County

Categories for Race and Ethnicity	1990 Total	% Share of County Total	2000 Total	% Share of County Total	1990-2000	
					Change	% Change
White*	365,953	85.66%	397,789	81.24%	31,836	8.70%
Non-White*	61,286	14.34%	83,582	17.07%	22,296	36.38%
Black/African American	50,525	11.83%	66,428	13.57%	15,903	31.48%
Asian/Pacific Islander	7,675	1.80%	11,535	2.36%	3,860	50.29%
Native American	1,292	0.30%	1,455	0.30%	163	12.62%
Other race	1,794	0.42%	4,164	0.85%	2,370	132.11%
Two or more races	----	----	8,255	1.69%	----	----
Hispanic Origin**	6,705	1.57%	12,902	2.63%	6,197	92.42%
County Total	427,239	-----	489,656	-----	62,417	14.61%

Source: U.S. Census Bureau, 1990 and 2000 Censuses of Population.

*: For Census 2000, these categories include people who chose one race.

**: People of Hispanic origin can be of any race.

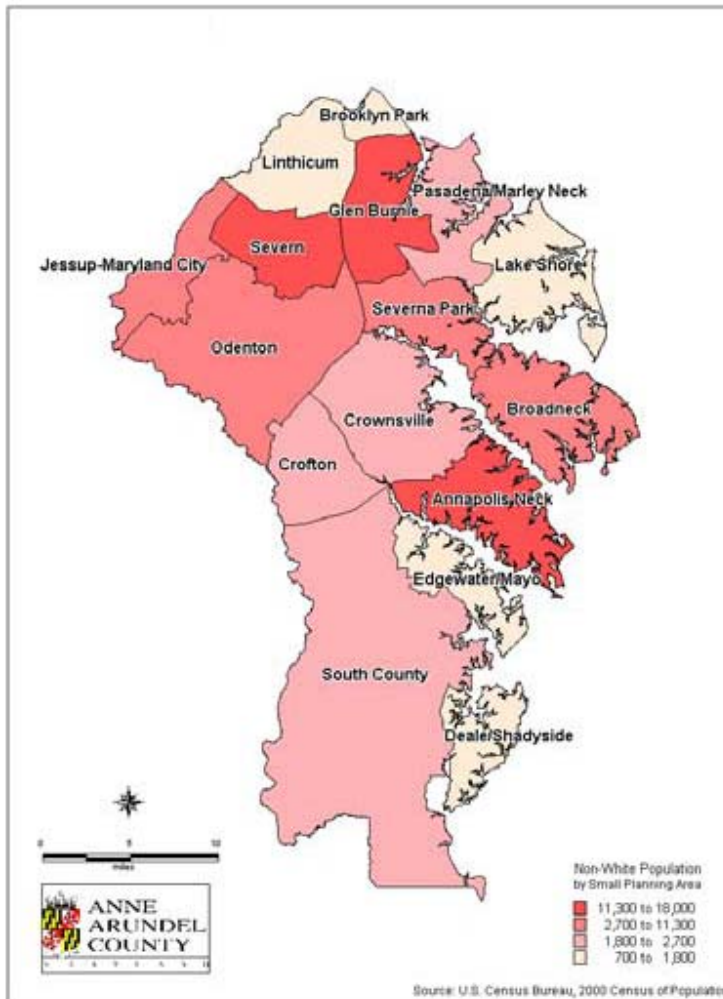
Non-White Population. Census results show that Anne Arundel County reflects demographic trends in the nation, state of Maryland, and Baltimore region. This means the County is becoming more racially and ethnically diverse. In 2000, the County's non-white population accounted for 17.1 percent of the County's total population, as compared to 14.3 percent in 1990 (see Table 5-2). From 1990 to 2000, non-white population grew by 22,296, resulting in a total non-white population in the County of 83,582. Figure 5-2 illustrates the non-white population distribution in the County.

Black or African American. The County's black or African American population is 66,428, or 13.6 percent of the County's total population and 79.5 percent of the County's non-white population.

Asian, Native Hawaiian, or Other Pacific Islander. In Anne Arundel County, there are about 11,535 Asians, Native Hawaiians, or other Pacific Islanders, who comprise of 2.4 percent of the County's total population.

American Indian or Alaska Native. Anne Arundel County has 1,455 American Indians and/or Alaska Natives.

Figure 5-2 Non White Population Distribution in Anne Arundel County

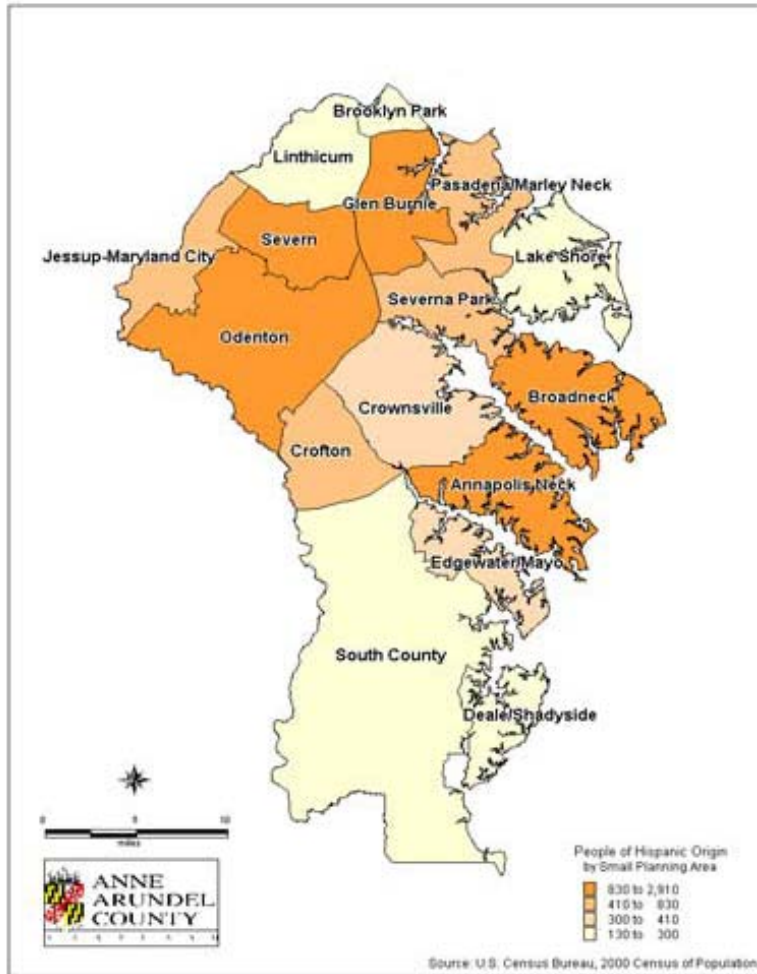


People of Multi-Races. About 8,255 people in Anne Arundel County identified themselves as two or more races in Census 2000.

People of Hispanic Origin. The number of people of Hispanic origin, including both white and non-white, is 12,902, an increase of 6,197 individuals from 1990 to 2000. People of Hispanic origin amounted to 2.6 percent of the County's total

population. Figure 5-3 illustrates the distribution of Hispanic population in the County.

Figure 5-3 Hispanic Population Distribution in Anne Arundel County



Median Age. The median age of people in Anne Arundel County has increased from 25.4 years old in 1970 to 36.0 in 2000 (Table 5-3).

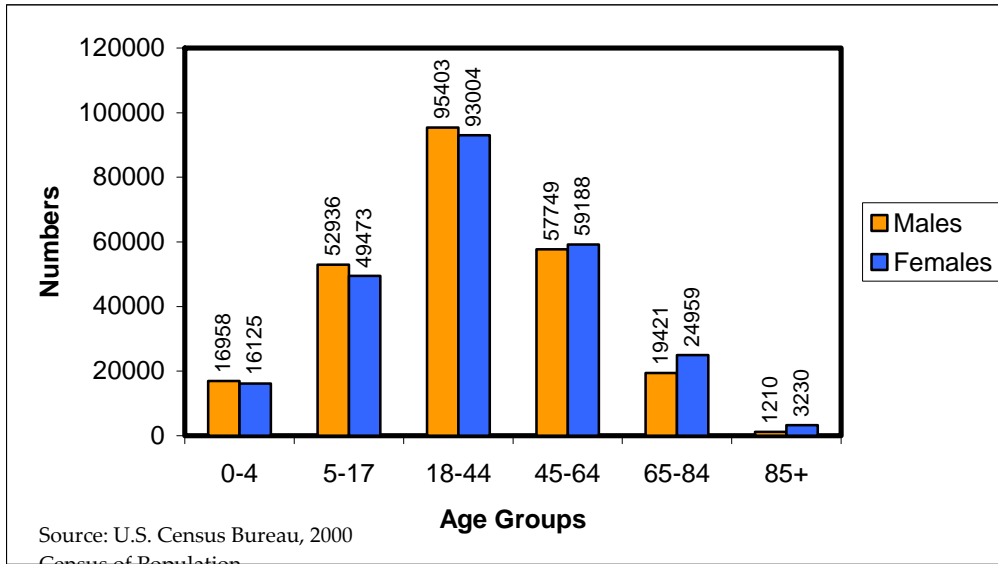
Table 5-3 Median Age, 1970-2000 Anne Arundel County

1970	1980	1990	2000
25.4	29.3	33.9	36.0

Source: U.S. Census Bureau, 1970, 1980, 1990, and 2000 Censuses of Population.

Gender. Among 489,656 citizens in Anne Arundel County, there are 243,677 males and 245,979 females. Figure 5-4 shows the distribution of gender by age groups. The median age is 36.9 for females and 35.1 for males.

Figure 5-4. Population by Gender, Anne Arundel County



Age Groups. Anne Arundel County has 33,083 preschoolers, amounting to 7% of the County’s total population (see Figure 5-5).

In Anne Arundel County, the number of school age children (5 to 17 years old) is 90,553, or 18.5% of the County’s total population (see Figure 5-5). Figure 5-6, illustrates where school age children reside in the County.

Figure 5-4 Age Distribution, Anne Arundel County

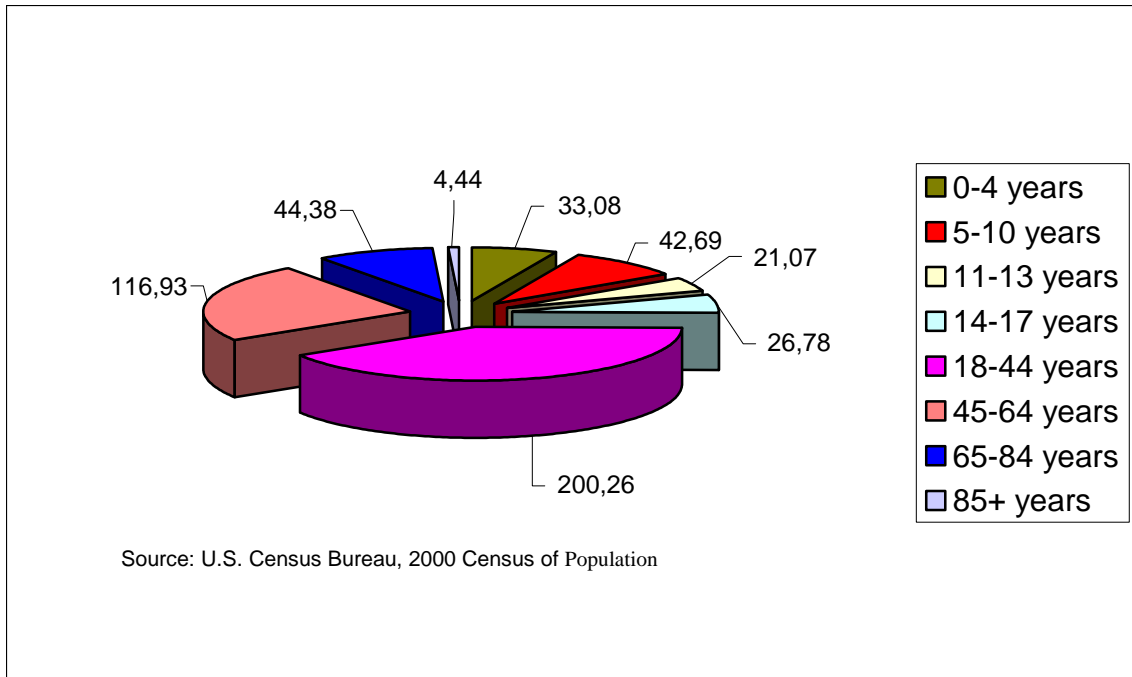
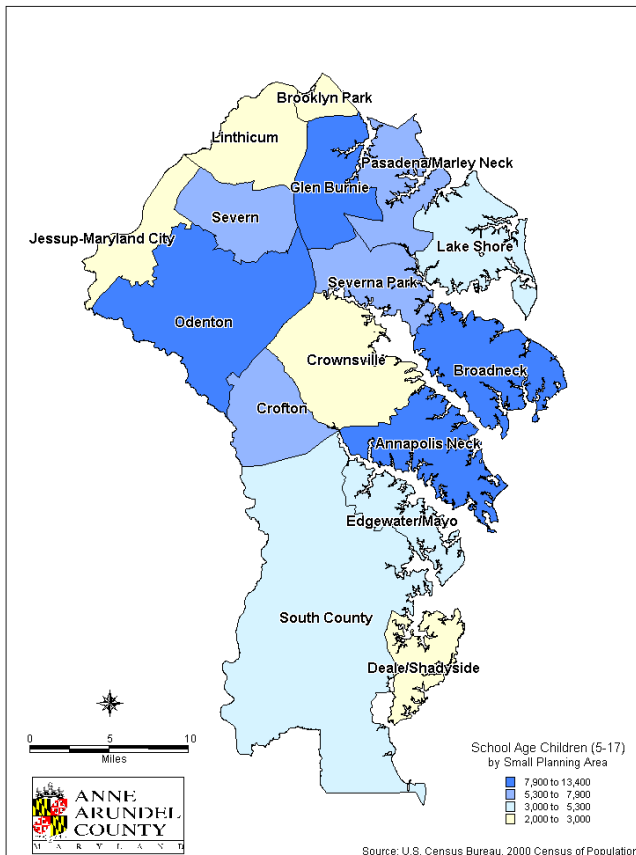


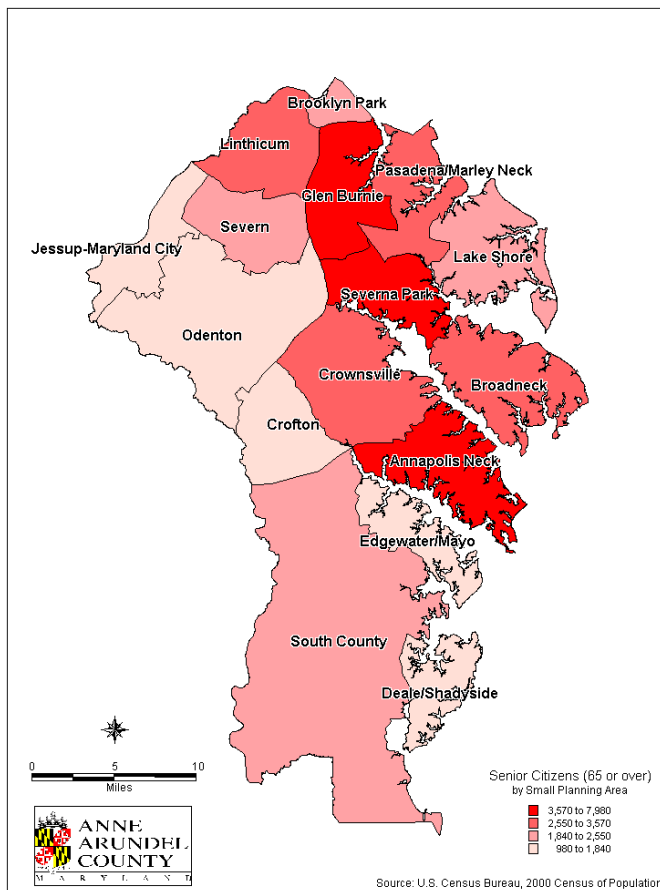
Figure 5-5 Preschooler Population Distribution, Anne Arundel County



Career and household formers refer to people in age groups 18-44 and 45-64. These two age groups include baby boomers. In Anne Arundel County, the 18-44 age group has 200,263 people or 41% of the County's total population (see Figure 5-5). The 45-64 age group accounts for 24% (or 116,937 in number) of the County's total population (see Figure 5-5).

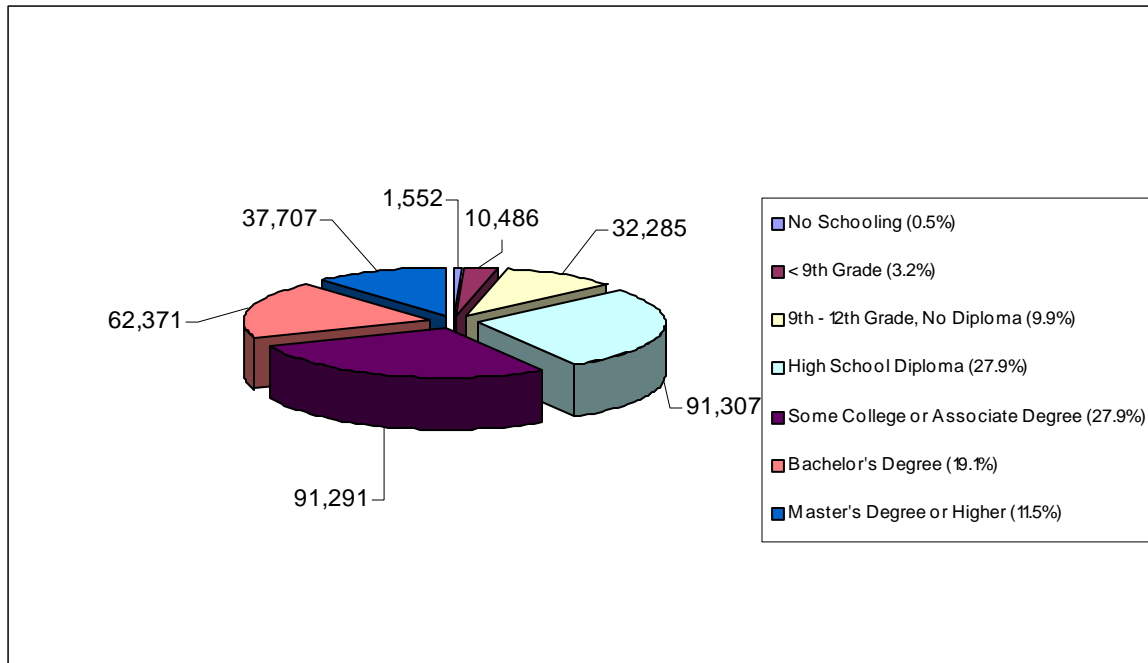
Anne Arundel County has 48,820 senior citizens (see Figure 5-5). See Figure 5-7, which illustrates where senior citizens reside in the County.

Figure 5-6 Senior Citizen Population Distribution, Anne Arundel County



Education. The 2000 Census indicated that of 326,999 residents who were 25 years old and over, 86.5 percent (or 282,676) had high school diplomas (including equivalency) or higher education. Anne Arundel County ranked 3rd in the state for the number of individuals who had received a Bachelor's or higher degrees. Census results showed there were 100,078 people 25 years old and over who had obtained Bachelor's or higher degrees. This represented 30.6 percent of the County's population 25 years old and over (see Figure 5-8).

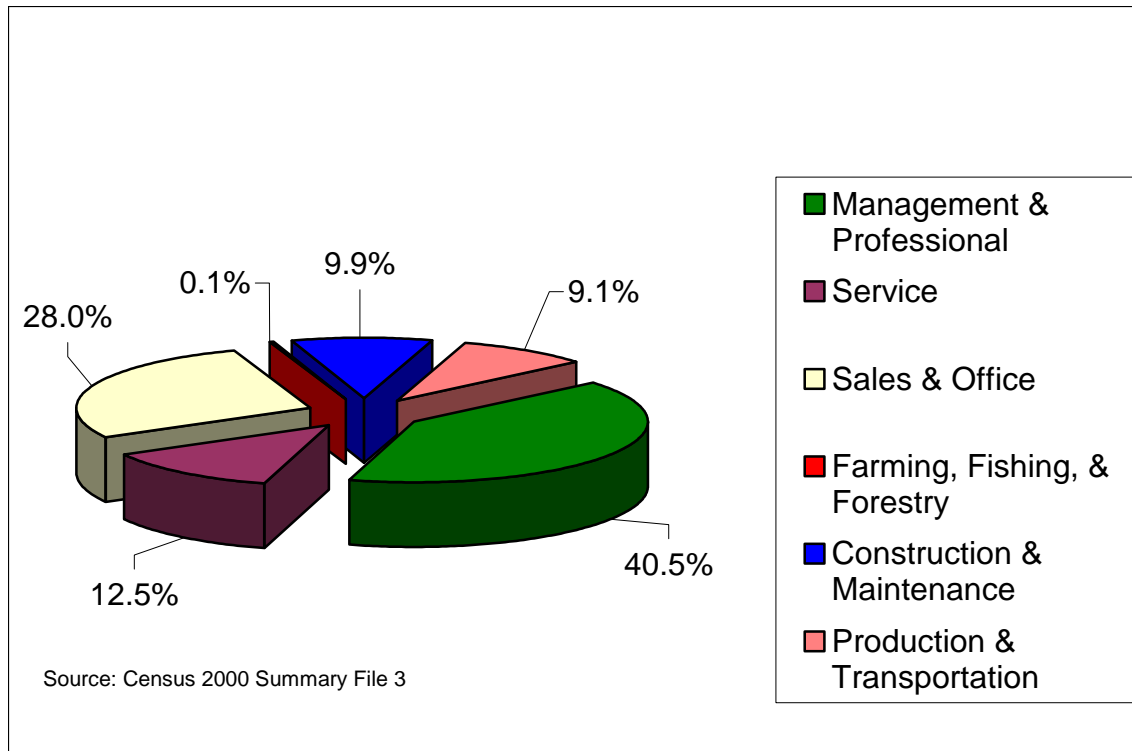
Figure 5-7. Educational Attainment for Population 25 Years & Older, 2000



Employment. Census 2000 compiles and tabulates data for six major categories for occupation: management and professional; services; sales and office support; farming, fishing, and forestry; construction and maintenance; and production and transportation. The civilian labor force consists of population 16 years old and over who is classified as employed or unemployed. Excluded from the employed are people whose only activity consists of work around the house or unpaid volunteer work for religious, charitable, and similar organizations. Also people on active duty in the United States Armed Forces are excluded.

In Anne Arundel County, the management and professional category contains the greatest percent of employed civilians 16 years and older. Figure 5-9 portrays the six major categories of occupation for the County. According to the Census, the management and professional occupations include business and financial operations; computer; architecture and engineering; physical and social science; community and social services; legal, education, and library; arts, entertainment, sports, and media; and health care. About 40 percent of employed civilian residents in Anne Arundel County performed jobs in the management and professional fields.

Figure 5-8. Occupations for Employed Civilians, 16 Years and Older, 2000



The second major occupation in Anne Arundel County was sales and office support, which in 2000 was held by about 28 percent of the County’s employed civilian population.

Employment Status. In Anne Arundel County, there were 258,331 residents who were 16 years old and over in the labor force. Between 1990 and 2000, the civilian labor force grew by 26,710 (see Table 5-4). Over the same time period, jobs in Anne Arundel County grew from 251,600 in 1990 to 297,000 in 2000, accounting for 45,400 (see Table 5-4).

Table 5-4. Civilian Labor Force

	1990	2000	1990-2000
Total Population 16 Years and Older	333,403	379,394	45,991
Total Civilian Labor Force	231,621	258,331	26,710
Labor Force Participation Rate	69.47%	68.09%	-1.38%

Source: Census 1990 Summary Tape File 3 & Census 2000 Summary File 3

Among the 258,331 individuals in the civilian labor force, 250,250 were employed in various occupations. Therefore, the unemployment rate in Anne Arundel County was 3.13 percent, as shown in Table 5-5.

Table 5-5. Unemployment Rate

Population 25 Years and Over	Civilian Labor Force	Employed Civilians	Unemployed Civilians	Unemployment Rate
379,394	258,331	250,254	8,077	3.13%
Source: Census 2000 Summary File 3				

Households. In Anne Arundel County, there were 489,656 people, of whom 473,666 resided in 178,670 households. In comparison to the 1990 census, there were 411,893 people (of a total 427,239) living in 149,114 households in the County (see Table 5-6). Despite increases in both household population and households, the average household size in the County decreased over the decade, from 2.76 in 1990 to 2.65 in 2000. This reduction in the County’s household size reflected the national trend.

Table 5-6. Number of Households, 1990-2000

	Households	Population in Households	Population	Average Household
Census 1990	149,114	411,893	427,239	2.76
Census 2000	178,670	473,666	489,656	2.65
Source: U.S. Census Bureau, Census 1990 and Census 2000.				

Total Housing Units. Census 2000 data show that there are 186,937 housing units in the County. Between 1990 and 2000, the County’s housing inventory increased by 29,743 units or 18.92% (see Table 5-7).

Occupied Housing Units. In Anne Arundel County, about 178,670 housing units (or 95.58% of total 186,937 units) are occupied-units. Between 1990 and 2000, the County’s occupied-housing units grew by 29,556.

Home Ownership. Census 2000 housing data show that among the County’s 178,670 occupied units, about three-fourths (or 134,921 units) are owner-occupied. The County’s owner-occupied units grew by 26,272 from 1990 to 2000, amounting to 88.89% of the overall growth in occupied housing units in the county (see Table 5-7).

Table 5-7. Housing Unit Changes 1990-2000

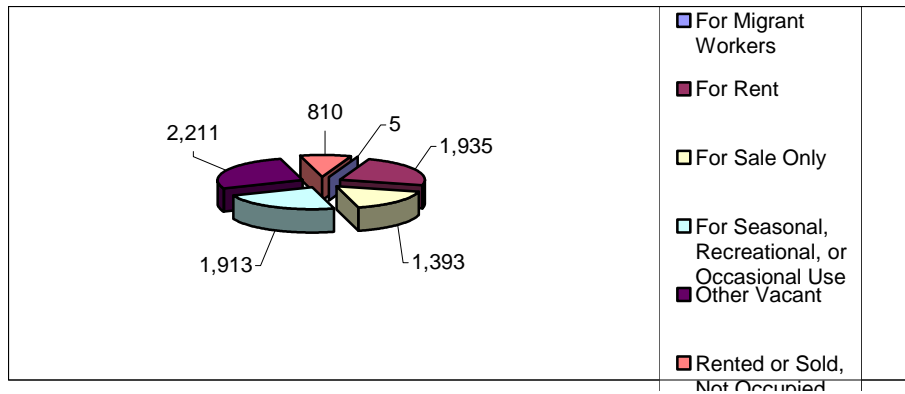
	Housing Units		1990-2000	
	1990	2000	Actual Change	Percent Change
Total Housing Units	157,194	186,937	29,743	18.92%
Owner-Occupied Housing Units	108,649	134,921	26,272	24.18%
Renter-Occupied Housing Units	40,465	43,749	3,284	8.12%
Vacant Housing Units	8,080	8,267	187	2.31%
Source: U.S. Census Bureau, 1990 Summary Tape File 1 and 2000 Summary File 1.				

Renter-Occupied Units. In 2000, the County had 43,749 renter-occupied units. From 1990 to 2000, the housing inventory for renter units grew by 3,284 (see Table 5-7).

Vacancy. In 1990, 8,080 units (or 5.14% of the total units) in the housing inventory were vacant; by 2000, there were 8,267 vacant units (or 4.42% of total housing units) (see Table 5-7).

Figure 5-10 illustrates the make-up of the county's vacant housing units. Among 8,267 vacant units, about 1,913 units (or 23%) are for seasonal, recreational, or occasional uses. Housing units that are rented or sold but not occupied account for 10% of all the vacant units. Units for rent and for sale together contribute to 40% of the vacant units.

Figure 5-9. Vacant Housing Units by Market Classification



5.5 Climate

Anne Arundel County’s climate is generally moderate. It varies in the summer from mild to hot, and in the winter is typically moderate. The average annual temperature is 55.2 degrees Fahrenheit. High temperatures occur in July, the warmest month, averaging in the mid to upper 80’s. Low temperatures tend to occur in January, the coldest month, averaging in the low to mid 20’s (see Table 5-8).

Table 5-8. Climate Data

Month	Normal Maximum Temperature	Normal Minimum Temperature	Normal Temperature	Normal Monthly Precipitation
January	41.8	23.8	32.8	3.49
February	45.0	25.1	35.1	2.95
March	54.3	32.8	43.6	4.17
April	65.1	42.1	53.6	3.34
May	74.8	52.3	63.6	4.42
June	83.2	61.6	72.4	3.56
July	87.7	67.3	77.5	3.98
August	85.3	65.8	75.6	4.04
September	78.0	58.5	68.3	4.25
October	66.9	46.3	56.6	3.56
November	55.7	36.2	46.0	3.33
December	46.8	28.6	37.7	3.69
Annual	65.4	45.0	55.2	44.78

Normals are calculated using data collected from 1971-2000.

Source: Maryland State Climatologist Office for Anne Arundel MSP

The County averages 224 days of freeze-free weather annually. Median snowfall for the County amounts to 14.9 inches per year. As Figure 5-11 shows, the County averages 10 days per year with at least one inch of snowfall. The average annual rainfall for the County is 44.78 inches (see Table 5-8).

Anne Arundel County’s growing season averages 204 days (see Table 5-9), roughly running from April 7th through October 28.

Figure 5-10. Annual Mean Number of Days with Snowfall

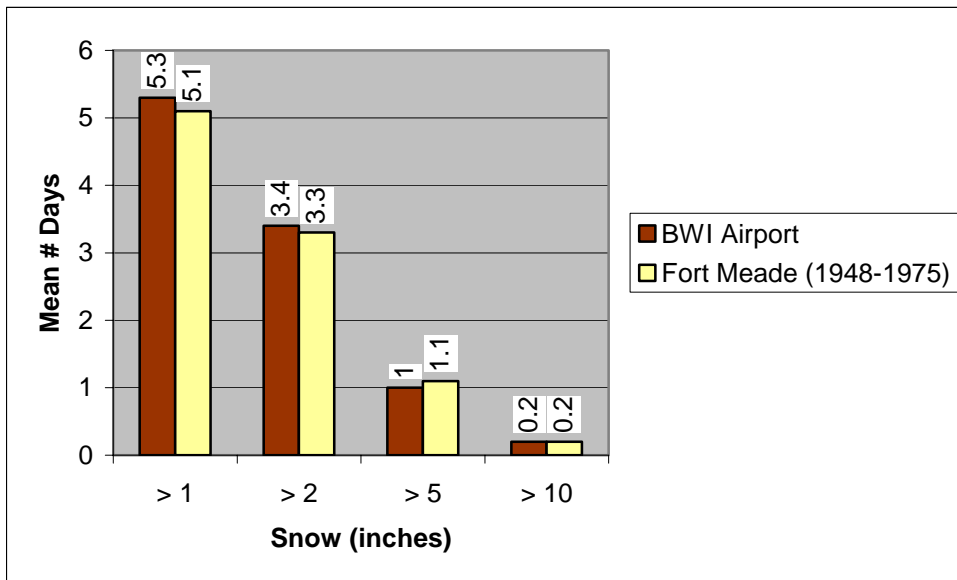


Table 5-9. Growing Season

	Average Number of Days	Average Date of First Occurrence	Average Date of Last Occurrence
Minimum Temperature Less Than or Equal to 32 Degrees	91	October 28	April 7
Maximum Temperature Less Than or Equal to 32 Degrees	9	December 23	February 14
Maximum Temperature Greater Than or Equal to 90 Degrees	32	May 27	September 10
*Growing Season	204	N/A	N/A
*The growing season is defined as the number of days between the last 32-degree temperature in the spring and first in the fall. Source: Maryland State Climatologist Office for Anne Arundel MSP			

5.6 Economy

Anne Arundel County is situated in the high-tech corridor between Baltimore and Washington, D.C., the fourth largest market in the country. The County's economy is grounded in Internet-based services, high technology telecommunications, and distribution and technical support services. Key private sector employers include: Allegis Group, ARINC, Computer Sciences Corporation, and Northrop Grumman. Table 5-10 outlines the top 10 government employers in the County. Table 5-11 outlines the top 10 private sector employers in the County.

Table 5-10. Government Employers

Government Employers	Number of Employees	Product or Service
National Security Agency	25,000	Federal intelligence, computer chip manufacturing, telecommunications
Ft. George G. Meade	11,042	Department of Defense intelligence training
Anne Arundel County Public Schools	10,500	County public education K-12
State of Maryland	9,396	State government services
Anne Arundel County	3,800	Local government services
U.S. Naval Academy	2,472	Federal naval education facility
U.S. Coast Guard Yard & Tenant Command	1,200	U.S. Coast yard, industrial supply, logistics and operational support
City of Annapolis Government	560	City government services
Defense Security Services	550	Department of Defense investigations
Defense Information School	300	Training center for Department of Defense public relations and journalism specialists
Source: Anne Arundel County Economic Development Corporation		

Table 5-11. Private Sector Employers

Private Sector Employers	Number of Employees	Product or Service
Northrop Grumman ES3/Oceanic	7,100	Headquarters, defense electronics and telecommunications
Southwest Airlines	2,200	Airline, East coast flight center
Anne Arundel Health System	2,000	Hospital and medical services network
Computer Sciences Corp.	1,829	Information technology services
North Arundel Health System	1,700	Hospital and medical services network
ARINC	1,500	Headquarters, aircraft and avionics telecommunication systems
Anne Arundel Community College	1,100	Public two-year college with certification and degree programs
Constellation Energy Group	1,000	Energy company & public utility (BGE)
Allegis Group	1,006	IT and engineering placement firm
Verizon Communications MD	844	Telecommunication services
Source: Anne Arundel County Economic Development Corporation		

The County tends to be fairly affluent. Median household income for Anne Arundel County is \$75,932 (see Table 5-12) while per capita income is \$28,304. These figures compare favorably to national statistics where the current median household income is \$42,409 (U.S. Census Bureau, 11/24/2003).

Table 5-12. Income

Type	Amount
Median Household Income	\$75,932
Average Household Income	\$76,796
Per Capita Personal Income	\$28,304
Source: Anne Arundel County Economic Development Corporation	

Residents and visitors of the County spent over seven billion dollars on retail goods (see Table 5-13) such as food, furnishings, automobiles, and electronics.

Table 5-13. Retail Sales

Type	Amount (000's)
Total Retail Sales	\$7,031,869
Food	\$1,132,603
Eating and Drinking Places	\$672,470
General Merchandise	\$931,254
Furniture/Furnishings, Electronics and Appliances	\$424,220
Automotive	\$1,700,608

Source: Sales and Marketing Management, Survey of Buying Power 2001, on Greater Washington Initiative (<http://www.greaterwashington.org>)

The County has five institutions of higher learning where 43,567 students attend class (see Table 5-14) and influence the local economy.

Table 5-14. Higher Education Institutions

Institution	Attendance
Anne Arundel Community College	12,169
St. John's College	516
Strayer University*	11,086
United State Naval Academy	4,123
University of Maryland University College*	15,673

*Enrollment figures are for entire college or university

Source: GWI Analysis of National Center for Education Statistics on Greater Washington Initiative (<http://www.greaterwashington.org>)

5.7 Land Use (and Development Trends)

Recognizing the unique character of Anne Arundel County's different communities, the 1997 General Development Plan divided the County into 16 small planning areas (See Figure 5-12) and recommended that a separate, more detailed land-use plan be completed for each. These small area plans serve as a guide for future land use, zoning, transportation improvements, open space and other capital improvements and identify opportunities for commercial revitalization and, where appropriate, mixed-use development

Figure 5-11. Anne Arundel County Small Planning Areas



5.7.1 Annapolis Neck.

Table 5-15. Existing Land Use for the Annapolis Neck Small Planning Area (based on 1995 coverage)

Land Use Category	Acreage	Percentage of Total
Commercial (Retail & Office)	610 acres	6.1 %
Industrial	90 acres	0.9 %
Open Space and Natural Areas	870 acres	8.7 %
Recreation and Parks	650 acres	6.5 %
Single Family Residential	4,420 acres	44.1 %
Townhouse and Multifamily Residential	400 acres	4.0 %
Transportation/Utility & Government/Institutional	1,110 acres	11.1 %
Vacant and Agricultural	1,880 acres	18.7 %
Total	10,030 acres	100 %
Source: Annapolis Neck Small Area Plan		

Future land use in the Annapolis Neck small area plan includes:

- Maintain the southern portion of the area as rural,
- Concentrate new development and redevelopment in nine identified activity centers,
- Maintain appropriate residential densities to support transit and use land most efficiently,
- Improve the design of new and redevelopment projects,
- Encourage a more pedestrian scale of development,
- Provide additional open spaces for passive and active recreation.

5.7.2 Broadneck.

Table 5-16. Existing Land Use for the Broadneck Small Planning Area (based on 1995 coverage)

Land Use Category	Acreage	Percentage of Total
Agriculture	1,280 acres	8.0 %
Commercial	224 acres	1.4 %
Government/Institutional	1,550 acres	9.6 %
Industrial	101 acres	0.6 %
Open Space and Natural Areas	780 acres	4.8 %
Recreation and Parks	1,070 acres	6.6 %
Single Family Residential	7,800 acres	48.5 %
Townhouse and Multifamily Residential	424 acres	2.6 %
Transportation/Utility	664 acres	4.1 %
Vacant	2,200 acres	13.7 %
Total	16,100 acres	100.0 %

Source: Broadneck Small Planning Area

Future land use in the Broadneck small area plan includes:

- Maintain balanced land uses and zoning that emphasizes green space and maintains or increases housing values,
- Encourage clustering of housing in new developments and maintenance of forested buffers,
- Require new developments to have public areas, dedicated open space, and active recreational facilities,
- Apply smart growth principles to vacant parcels of land and utilize parcels with infrastructure while preserving forested buffers, stream beds, and other environmentally sensitive areas,
- Retain existing rural and low-density land use and zoning designations for currently undeveloped areas without planned sewer service.

5.7.3 Brooklyn Park.

Table 5-17. Existing Land Use for the Brooklyn Park Small Planning Area (based on 1995 coverage)

Land Use Category	Acreage	Percentage of Total
Commercial (Retail & Office)	129 acres	4.8 %
Government/Institutional	216 acres	8.0 %
Industrial	356 acres	13.3 %
Open Space and Natural Areas	105 acres	3.9 %
Recreation and Parks	74 acres	2.8 %
Single Family Residential	997 acres	37.2 %
Townhouse and Multifamily Residential	125 acres	4.7 %
Transportation/Utility	345 acres	12.9 %
Vacant and Agricultural	331 acres	12.4 %
Total	2,678 acres	100.0 %

Source: Brooklyn Park Small Area Plan

Future land use in the Brooklyn Park small area plan includes:

- Initiate redevelopment projects in the area’s most deteriorated neighborhoods,
- Institute reinvestment and creative homebuyer programs to increase the rate of home ownership,
- Encourage mixed-use development,
- Maintain and expand recreational opportunities for all ages to include active and passive activities,
- Foster a network of proactive community associations that work closely with one another and with local planners and officials.

5.7.4 BWI/Linthicum.

Table 5-18. Existing Land Use for the BWI/ Linthicum Small Planning Area (based on 1995 coverage)

Land Use Category	Acreage	Percentage of Total
Agricultural/Open Space	1,605 acres	12.9 %
Commercial	681 acres	5.4 %
Government/Institutional	307 acres	2.5 %
Industrial	1,277 acres	10.2 %
Recreation	229 acres	1.8 %
Residential	2,877 acres	23.0 %
Transportation/Utility	3,721 acres	29.7 %
Vacant	1,818 acres	14.5 %
Total	12,515 acres	100.0 %

Source: BWI/Linthicum Small Area Plan

Future land use in the BWI/Linthicum small area plan includes:

- Encourage revitalization of existing commercial districts,
- Establish commercial revitalization design guidelines that will help integrate these commercial areas with their surrounding communities,
- Create zoning incentives in industrial zones that encourage the preservation, or creation of forested areas adjacent to residential uses,
- Establish a transit mixed-use district to include retail, employment, and residential uses,
- Maintain and improve the relationship between the Maryland Aviation Administration, the County Office of Planning & Zoning, and community organizations in order to encourage enhanced planning of airport facilities, particularly with respect to buffering of adjacent residential communities,
- Encourage the BWI Airport planning staff to incorporate buffers between offsite airport uses and existing communities similar to those required by the County for development in industrial zones.

5.7.5 Crofton.

Table 5-19. Existing Land Use for the Crofton Small Planning Area (based on 1995 coverage)

Land Use Category	Acreage	Percentage of Total
Agricultural/Open Space/ Recreation	3,841 acres	32.2 %
Commercial	160 acres	1.3 %
Government/Institutional	1,074 acres	9.0 %
Industrial	72 acres	0.6 %
Residential	3,725 acres	31.3 %
Utility	519 acres	4.4 %
Vacant	2,528 acres	21.2 %
Total	11,919 acres	100.0 %
Source: Crofton Small Area Plan		

Future land use in the Crofton small area plan includes:

- Incorporate mixed use design in commercial development,
- Consider bicycle and pedestrian friendly design in future designs,
- Preserve the existing basic land use and zoning of the area,
- Preserve as much farm land as possible, retain open space, and protect the environment and scenic roads,
- Ensure that development in sensitive areas is well buffered.

5.7.6 Crownsville.

Table 5-20. Existing Land Use for the Crownsville Small Planning Area (based on 1995 coverage)

Land Use Category	Acreage	Percentage of Total
Agricultural	2,382 acres	12.1 %
Commercial	135 acres	0.6 %
Government	1348 acres	6.8 %
Industrial	43 acres	0.2 %
Open Space	2,640 acres	13.4 %
Recreation	688 acres	3.5 %
Single Family Residential	6,408 acres	32.5 %
Utility	924 acres	4.7 %
Vacant	5,132 acres	26.1 %
Total	19,700	100.0 %

Source: Crownsville Small Area Plan

Future land use in the Crownsville small area plan includes:

- Restrict the boundaries of adjacent town centers and small plan areas to the entire Crownsville Small Area as a greenbelt,
- Evaluate and prepare design guidelines for road segments that preserve the historic character and/or enhance their functional and aesthetic quality,
- Remove the designation of “revitalization area,”
- Construct hiking and biking trails to enhance recreational opportunities and encourage bicycle and pedestrian friendly design.

5.7.7 Deale/Shady Side

Future land use in the Deale/Shady Side small area plan includes:

- Curb commercial sprawl by restricting commercial development to the existing small villages,
- Encourage public improvements and reinvestment in planned commercial growth centers including new infill commercial development,
- Reduce the density of future development by rezoning vacant property,
- Provide greater protection for non-tidal wetlands in new subdivisions by considering alternatives to lot arrangement and overall density allocations,
- Improve pedestrian and bicycle access due to safety concerns,
- Enhance educational, recreational, and senior facilities.

5.7.8 Edgewater/Mayo.

Table 5-21. Existing Land Use for the Edgewater/Mayo Small Planning Area (based on 1995 coverage)

Land Use Category	Acreage	Percentage of Total
Commercial (Retail & Office)	250 acres	3.2%
Government/Institutional	610 acres	7.8%
Industrial	48 acres	0.6%
Open Space and Natural Areas	864 acres	11.1%
Recreation/Parks	123 acres	1.6%
Residential	3,160 acres	40.6%
Transportation/Utility & Vacant and Agricultural	2,730 acres	35.1%
Total	7,785 acres	100.0 %

Source: Edgewater/Mayo Small Area Plan

Future land use in the Edgewater/Mayo small area plan includes:

- Revitalize existing commercial areas to serve nearby residential communities,
- Enhance pedestrian transportation alternatives with bicycle and pedestrian trails,
- Maintain primarily low-density residential with appropriate mix of low density and medium density communities closer to existing commercial hubs.

5.7.9 Glen Burnie.

Table 5-22. Existing Land Use for the Glen Burnie Small Planning Area (based on 1995 coverage)

Land Use Category	Acreage	Percentage of Total
Commercial (Retail & Office)	1,111 acres	8.9 %
Government/Institutional	1,325 acres	10.6 %
Industrial	440 acres	3.5 %
Open Space and Natural Areas	522 acres	4.2 %
Recreation and Parks	260 acres	2.1 %
Single Family Residential	5,246 acres	41.9 %
Townhouse and Multifamily Residential	946 acres	7.6 %
Transportation/Utility	1,517 acres	12.1 %
Vacant and Agricultural	1,150 acres	9.2 %
Total	12,517 acres	100.0 %

Source: Glen Burnie Small Area Plan

Future land use in the Glen Burnie small area plan includes:

- Correct existing land use maps to reflect current use,
- Encourage mixed-use designation around existing light rail stations and town centers to promote redevelopment,

5.7.10 Jessup/Maryland City

Table 5-23. Existing Land Use for the Jessup/Maryland City Small Planning Area (based on 1995 coverage)

Land Use Category	Acreage	Percentage of Total
Agricultural/Open Space	1,603 acres	17.5 %
Commercial	462 acres	5.0 %
Government/Institutional	1,510 acres	16.5 %
Industrial	208 acres	2.3 %
Recreation	102 acres	1.1 %
Residential	1,976 acres	21.6 %
Utility/Transportation	968 acres	10.5 %
Vacant	2,336 acres	25.5 %
Total	9,165 acres	100.0 %

Source: Jessup/Maryland City Small Area Plan

Future land use in the Jessup/Maryland City small area plan includes:

- Designate existing commercial areas for future residential mixed-use development,
- Develop a comprehensive plan for a Jessup Village Corridor which will incorporate public spaces, small businesses to serve the local community, preservation of historic homes, sidewalks and streetscape improvements, and design standards that promote a village character,
- Preserve the semi-rural character of the area by assigning a low-density residential designation to the area not designated for development.

5.7.11 Lake Point

Table 5-24. Existing Land Use for the Lake Point Small Planning Area (based on 1995 coverage)

Land Use Category	Acreage	Percentage of Total
Government/Institutional	314 acres	2.2 %
Industrial	3 acres	0.02 %
Natural Open Space	623 acres	4.4 %
Office Commercial	8 acres	0.1 %
Recreation and Parks	692 acres	4.9 %
Retail Commercial	205 acres	1.5 %
Single Family Dwelling	7,051 acres	49.9 %
Townhouse	154 acres	1.1 %
Transportation/Utility	127 acres	0.9 %
Vacant	4,868 acres	34.5 %
Water	82 acres	0.6 %
Total	14,127 acres	100.0 %

Source: Lake Point Small Area Plan

Future land use in the Lake Point small area plan includes:

- Limit future residential development,
- Preserve natural resources and open space,
- Improve the existing roadway network,
- Provide adequate recreational and cultural opportunities.

5.7.12 Odenton

Table 5-25. Existing Land Use for the Odenton Small Planning Area (based on 1995 coverage)

Land Use Category	Acreage	Percentage of Total
Agricultural	10,655 acres	32.7 %
Government/Institution	6,593 acres	20.2 %
Industrial	719 acres	2.2 %
Multiple Family Dwelling	53 acres	0.2 %
Office Commercial	18 acres	0.1 %
Open Space	1,804 acres	5.5 %
Recreation and Parks	152 acres	0.5 %
Retail Commercial	259 acres	0.8 %
Single Family Dwelling	3,589 acres	11.0 %
Townhouse	319 acres	0.9 %
Transportation/Utility	2,657 acres	8.2 %
Vacant	5,760 acres	17.7 %
Total	32,578 acres	100.0 %
Source: Odenton Small Area Plan		

Future land use in the Odenton small area plan includes:

- Revitalize existing commercial districts by providing sidewalks and streetscape improvements,
- Preserve and protect the streams, rivers, watersheds, and their biological communities,
- Promote the improvement, expansion, and connection of the hiker/biker trails in the area,
- Establish a commuter bus system that links major employment centers with stops at the MARC rail station and major activity centers,
- Plan and develop areas suitable for passive and active recreation areas.

5.7.13 Pasadena/Marley Neck

Table 5-26. Existing Land Use for the Pasadena/Marley Neck Small Planning Area (based on 1995 coverage)

Land Use Category	Acreage	Percentage of Total
Agriculture	337 acres	3.0 %
Government/Institutional	314 acres	2.8 %
Industrial	306 acres	2.7 %
Multiple Family Dwelling	24 acres	0.2 %
Natural Open Space	408 acres	3.6 %
Office Commercial	4 acres	0.1 %
Recreation and Parks	171 acres	1.5 %
Retail Commercial	342 acres	3.0 %
Single Family Dwelling	3,334 acres	29.6 %
Townhouse	564 acres	5.0 %
Transportation/Utility	1,244 acres	11.0 %
Vacant	3,437 acres	30.5 %
Water	793 acres	7.0 %
Total	11,278 acres	100.0 %
Source: Pasadena/Marley Neck Small Area Plan		

Future land use in the Pasadena/Marley Neck small area plan includes:

- Encourage commercial revitalization by adopting design guidelines that consider uniform facades, coordinated setbacks, sign standards, and maintenance requirements,
- Develop strategies to reduce emissions that accelerate the completion and implementation of bike and pedestrian facilities,
- Encourage the maximum utilization of developed areas by promoting infill,
- Identify and preserve areas that should be maintained as open space for active and passive recreation and public access to the water.
- Prepare an integrated transportation plan that evaluates existing and projected traffic conditions.

5.7.14 Severn

Table 5-27. Existing Land Use for the Severn Small Planning Area (based on 1995 coverage)

Land Use Category	Acreage	Percentage of Total
Agricultural	876 acres	7.7 %
Government/Institutional	281 acres	2.5 %
Industrial	215 acres	1.9 %
Multiple Family Dwelling	215 acres	1.9 %
Office Commercial	6 acres	0.1 %
Open Space	963 acres	8.5 %
Recreation and Parks	276 acres	2.4 %
Retail Commercial	75 acres	0.7 %
Single Family Dwelling	4,461 acres	39.4 %
Townhouse	173 acres	1.5 %
Transportation/Utility	599 acres	5.3 %
Vacant	3,185 acres	28.1 %
Total	11,323 acres	100 %
Source: Severn Small Area Plan		

Future land use in the Severn small area plan includes:

- Implement smart growth initiatives that direct growth to areas where substantial infrastructure exists,
- Reuse existing abandoned buildings and integrate new developments into the character of existing communities,
- Establish design guidelines to ensure that appropriate scale, pedestrian amenities, residential character, and quality development is maintained.

5.7.15 Severna Park

Table 5-28. Existing Land Use for the Severna Park Small Planning Area (based on 1995 coverage)

Land Use Category	Acreage	Percentage of Total
Agricultural	119 acres	1.2 %
Government/Institutional	415 acres	4.0 %
Industrial	23 acres	0.2 %
Multiple Family Housing	46 acres	0.4 %
Office Commercial	31 acres	0.3 %
Open Space	358 acres	3.5 %
Recreation and Parks	722 acres	7.0 %
Retail Commercial	259 acres	2.5 %
Single Family Dwelling	6,759 acres	65.3 %
Transportation/Utility	352 acres	3.4 %
Vacant	1,272 acres	12.3 %
Total	10,356 acres	100.0 %
Source: Severna Park Small Planning Area		

Future land use in the Severna Park small area plan includes:

- Work with existing community centers to expand programs,
- Support protection, restoration, and enhancement of the area's natural environment to ensure a high quality community life,
- Encourage mixed-use development within existing commercial centers,
- Adjust existing parcels to reflect actual use,
- Provide a system of safe roadways, pathways and sidewalks that efficiently move residents throughout the community.

5.7.16 South County

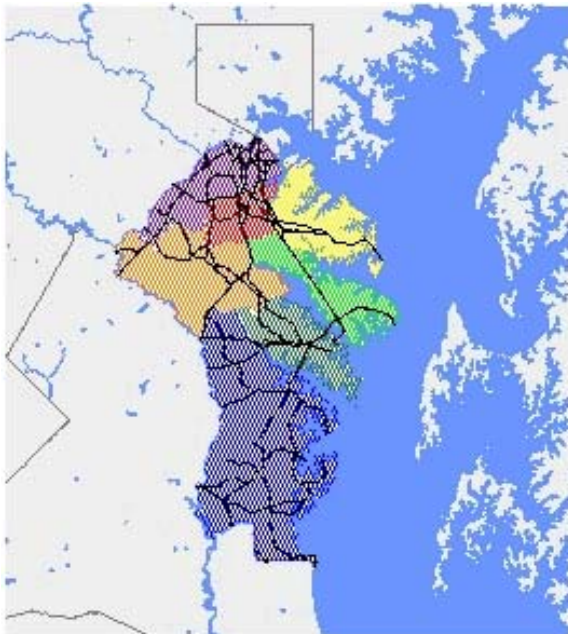
Future land use in the South County small area plan includes:

- Encourage the use and *reuse* of existing commercially used land, while discouraging new commercial zoning,
- Preserve the agricultural, rural, and historical qualities of the area,
- Maximize opportunities for sustained agricultural use, the retention of woodland, and open space areas.

5.8 Local Government

Since 1964, Anne Arundel County has had a charter form of government in accordance with State law. County government is composed of a legislative branch, known as the County Council, and an executive branch that is headed by the County Executive.

Figure 5-12. County Council Districts



The County Council, as the legislative branch, adopts ordinances and resolutions, and has all of the County's legislative powers. The county is divided into 7 districts that elect a representative to the County Council (see Figure 5-13).

The County Council has the exclusive power to enact, repeal, and amend all local public laws. Legislation must take the form of ordinances, most of which are subject to executive veto. Five council votes are necessary to override an executive veto. The Council may also draft resolutions, which are not subject to executive veto and may only be temporary or administrative in nature.

The County Executive oversees the executive branch of the County government, which consists of a number of offices and departments (see Figure 5-14). The executive branch is charged with implementing County law and overseeing the operation of the County government. The County executive is elected every four years and term-limited to two terms.

There are only two incorporated communities within the County: Annapolis and Highland Park. While a number of entities within the County are commonly perceived to be independent, areas such as Parole, Glen Burnie, and Odenton are in fact unincorporated entities for which the County provides services (See Figure 5-15).

Figure 5-13. Departments of the Executive Branch

Anne Arundel County Government
Executive Branch

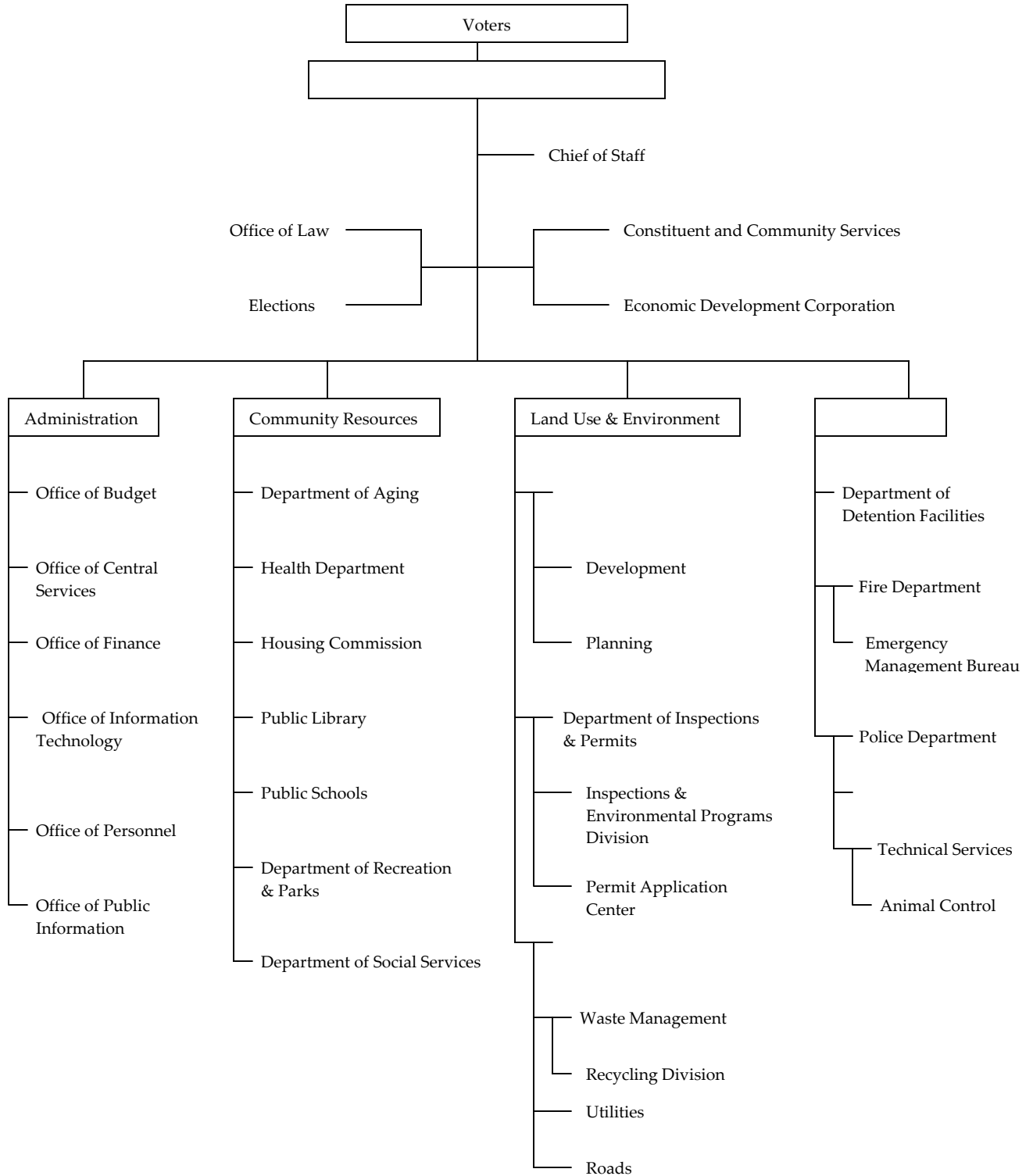


Figure 5-14. Incorporated Jurisdictions & Unincorporated Town Centers

