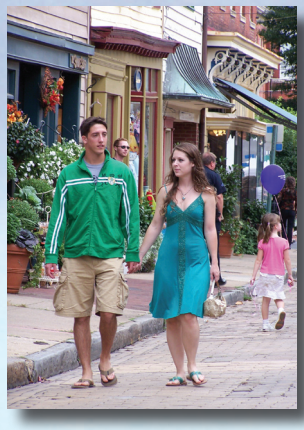
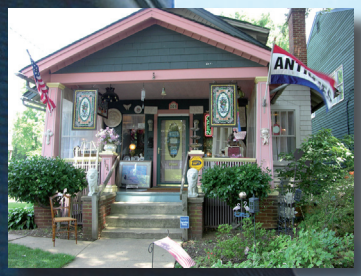
MAY 2009

Annapolis Comprehensive Plan

City Council Review Draft





Annapolis Comprehensive Plan

City Council Review Draft

City of Annapolis, Maryland

May 2009

Dedicated to the Memory of

Daria Dittmer Hardin

1969 - 2007

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EXECUTIVE SUMMARY

As a center of government, education and maritime activity the City of Annapolis has remained unique, vibrant, and attractive over its long history. Annapolis is Maryland's State Capital, home to the U.S. Naval Academy, and is one of the most historically significant small cities in the country. When people think of Annapolis they may envision the Maryland State House, the Naval Academy, or the City Dock, but these landmarks are just a few of the many places that make Annapolis unique. The city also includes distinctive neighborhoods, active business corridors, and a diverse population of residents.

The *2009 Comprehensive Pla*n has been developed to chart the City's direction for the next ten years, respond to relevant State law, and replace the 1998 Comprehensive Plan. The Plan is organized around three main ideas that define the approach to planning for the City's next decade. The three ideas are:

- Preserve and Enhance Community Character
- Maintain a Vibrant Economy
- Promote a 'Green' Annapolis

The *2009 Comprehensive Plan* presents policy recommendations, principles, and objectives in seven topical chapters. In addition to the policy recommendations, the Plan identifies major projects and geographic areas or topics warranting more study. The seven topical chapters are:

Chapter 3 - Land Use & Economic Development
Chapter 4 - Transportation
Chapter 5 - Municipal Growth & Community Facilities
Chapter 6 - Parks
Chapter 7 - Environment
Chapter 8 - Housing
Chapter 9 - Water Resources

Demographic data is presented in Chapter 2. Implementation is discussed in Chapter 10

Land Use & Economic Development

One guiding principle of this Plan is that a City's economic vitality does not depend on the outward expansion of its borders. Growth will be directed primarily to four Opportunity Areas that lie almost entirely within the current city boundary. The Plan identifies three Community Character Types to describe the desired character of future development in the Opportunity Areas. Each of these types distinguish themselves from traditional zoning and land use categories by focusing as much on the character and the design of buildings as on their uses. These character types are identified as "Urban Commercial Character", "Urban Center Character" and "Urban Center Low Character".

Another principle of this Plan is that infill development should occur in a way that is consistent with existing community character. New development should be designed to fit into the existing community and help to serve the needs of its residents.

The eleven policy recommendations for this chapter are:

1. Growth will be directed primarily to four Opportunity Areas: West Annapolis; south of Bay Ridge Road near Hillsmere; along Forest Drive near its intersection with Spa Road; and Outer West Street.
2. Infill development, redevelopment, and expansion outside of the four defined Opportunity Areas should be consistent with the character of the surrounding community.
3. Land areas devoted to light industrial and flex space will remain productive and sound for the operation of business.
4. Support the expansion of professional office space such that office employment and the services provided by office-based businesses are readily accessible to all residents.
5. Protect and promote the neighborhood commercial retail centers in the city.
6. Enhance the public realm of City Dock and its environs.
7. Acknowledging the importance of the Maritime industry to Annapolis' character, identity, and economy, strive to ensure the Maritime industry's sustained health and viability.
8. Continue to maintain stringent historic preservation requirements in the downtown area and protect and conserve neighborhoods utilizing the neighborhood conservation zoning designation.
9. Annapolis' rich cultural history and wealth of current historic and cultural offerings will be protected and enhanced.
10. Evaluate risks from sea level rise in decisions involving land use along the waterfront.
11. Through land use planning and economic development activities work to ensure the maintenance of the City's AA+ bond rating or better.

Transportation

A principle of transportation in this plan is the acknowledgement that transportation is critical in the achievement of community goals. This means creating a transportation system that is safe, accessible, integrated and effective. The opportunity areas identified in the Land Use & Economic Development Chapter play an important role in achieving these objectives.

A focus on improving and expanding alternatives to automobile travel is also an important aspect of this Plan. The Plan recognizes that transportation alternatives serve multiple purposes, including reducing traffic and contributing to the move toward a "Green" Annapolis by reducing auto emissions. A number of policies in this Chapter are directed toward improving the bicycle network throughout the City, expanding the pedestrian and bicycle network, and improving the performance and reliability of the City's public transportation system. The implementation of these policies should become a part of the City's growth and development process.

Another important aspect of the transportation chapter is the pursuit of creating an effective regional transit system to serve the needs of commuters, residents and employees. The Plan recognizes that coordinating with the County and State will be critical in achieving this objective. The development of a regional multi-modal transportation hub will help achieve a successful and effective multi-modal network. These objectives are important to the success of the City and region in the coming years.

The ten policy recommendations in this chapter are:

12. The Opportunity Areas recommended in the Land Use Chapter will each contribute system-wide transit demand such that this demand (i.e. transit ridership) can be leveraged to efficiently operate and expand the entire transit system.
13. Public transit vehicles, which carry far more passengers per gallon of fuel and per unit of street infrastructure than individual automobiles, will be given priority on all major streets and highways serving Annapolis.
14. Pursue the creation of a regional transit system serving the needs of Annapolis commuters, residents, and visitors.
15. Specific and targeted improvements to the local street system should be made with priority to those that improve cross-town circulation, route continuity for public transit, and intersection capacities.
16. In light of the continuing growth of congestion in the Forest Drive corridor, preserve and enhance the array of solutions currently at the City's disposal.
17. Street improvements should be made to support the implementation of the Opportunity Areas.
18. Parking throughout the City will be priced and the supply managed to reduce demand for automobile travel during peak congestion periods and to help fund transit, biking, walking, and ferry service.

19. The City will invest in system-wide improvement to convert main streets and avenues into "complete streets" – that is, streets which serve the full needs of the community.
20. Conventional methods for evaluating a development project's traffic impacts will be replaced with a more coherent and balanced urban planning-based evaluation of accessibility and mobility.
21. The City will focus on travel demand management as a tool for improving circulation, accessibility, and mobility through Annapolis.

Municipal Growth & Community Facilities

The Plan calls for modest expansion of city limits. In two locations it rationalizes the shared city-county boundary and promotes unified redevelopment projects on properties which lie on or adjacent to the city-county line. The majority of growth is planned to occur in the designated Opportunity Areas. The plan projects the overall population to grow from 35,840 in 2000 to 42,600 in 2030. This equates to a growth rate of half of a percent (0.5%) per year. The Plan allows for the annexation of two areas - land bordering Route 2 & Route 50 in the northwestern corner of the city, and land bordering Bay Ridge Road along the southern boundary of the city. The City will continue to respond to individuals seeking to annex their property into the city, even if that property is located outside the two areas identified above. The City will seek coordination with Anne Arundel County as it considers all future annexation and development on annexed parcels.

Parks

The Parks Chapter focuses largely on enhancing existing parks and facilities. It also points to the need for completing connections between pedestrian and bicycle pathways. The completion of the Pip Moyer Recreation Center and improving the city's trail system are two objectives toward the achievement of these goals.

The three policy recommendations in this chapter are:

1. Enhance existing parks and facilities with the objective of supporting structured and informal recreation, protecting the natural environment, and encouraging human health and fitness.
2. Complete the network of pedestrian and bicycle pathways.
3. Expansion of the parks system should be undertaken selectively and strategically, with the objective of taking advantage of rare opportunities, providing parks and recreation services to underserved areas, allowing public access to the waterfront, and furthering environmental goals.

Environment

Recommendations made in the Environment Chapter include protecting the Chesapeake Bay, shrinking the City's "carbon footprint" and protecting environmentally sensitive areas within the City. The Chapter recognizes the City's environmental achievements, and recommends that these efforts be continued. The Chapter also recognizes the need for citizen education and involvement in helping to protect the environment.

The five policy recommendations in this chapter are:

4. Reduce the polluting effects of stormwater runoff into the Chesapeake Bay and its tributaries.
5. Protect and restore environmentally sensitive areas and other natural resources within the city.
6. Shrink the City's Carbon Footprint and become a community of Green buildings to combat climate change.
7. Improve community environmental stewardship and education.
8. Minimize noise and light pollution.

Housing

The Housing Chapter focuses on the need for more affordable housing in the city. It recognizes the fact that home values rose rapidly over the past decade while wages did not keep pace. It recommends City support for efforts to provide housing that is affordable to workforce and middle income households.

The Chapter also focuses on the City's public housing communities. These efforts should include rebuilding and rehabilitating public housing complexes with a mix of ownership and rental units. It also recommends working with the Housing Authority (HACA) to evaluate income diversity within these communities and reserving ten percent of re-constructed units for mixed income residents.

The three policy recommendations in this chapter are:

1. Support development of housing affordable to workforce or middle income households.
2. Reinvent public housing.
3. Support housing programs that assist low and moderate-income households with homeownership and housing rehabilitation.

Water Resources

The Water Resources Chapter recognizes the need for the City to protect and conserve the existing water supply and distribution systems. It shows that the growth forecast in this plan can be supported by the water and sewer systems. It also recommends the City enhance the wastewater collection and treatment systems, and that the City maintain its water resource management areas. Policy recommendations for achieving these goals include reducing the overall water usage of the community as well as continuing to limit recreational uses in the Waterworks Park.

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CHAPTER 1: INTRODUCTION

Purpose

Sunset Masts against Capital Dome

The Annapolis Comprehensive Plan serves two purposes. First, it articulates a vision for the city's next decade and beyond, identifying and addressing issues important to the city and its citizens. As such, it seeks to guide decision-makers and citizens as they face the myriad of decisions in the years to come. The Comprehensive Plan formulates goals and a series of policy recommendations to enact those goals, and proposes a land use vision to guide development and redevelopment. The 2009 Comprehensive Plan builds on, but replaces the prior Comprehensive Plan adopted in 1998 (A report on the City's accomplishments since the adoption of the 1998 Plan are documented in Appendix C of this document).

Second, the Comprehensive Plan responds to Maryland statutes that govern local land use planning under the authority of Article 66B of the Maryland Annotated Code:

- The 1992 Economic Growth, Resource Protection, and Planning Act, amended in 2000, requires local jurisdictions to prepare comprehensive plans to address the following eight visions:
  1. Development is concentrated in suitable areas.
  2. Sensitive areas are protected.
  3. In rural areas, growth is directed to existing population centers and resource areas are protected.
  4. Stewardship of the Chesapeake Bay and the land is a universal ethic.
  5. Conservation of resources, including a reducing in resource consumption, is practiced.
  6. To assure the achievement of 1 through 5 above, economic growth is encouraged and regulatory mechanisms are streamlined.
  7. Adequate public facilities and infrastructure under the control of the municipality are available or planned where growth is to occur.
  8. Funding mechanisms are addressed to achieve these Visions.

- The 1997 Priority Funding Areas Act directs State funding for growth-related infrastructure to designated priority areas such as Annapolis.
- The 2006 State Legislation (HB 1141) requires two new elements to be incorporated into municipal comprehensive plans - a Municipal Growth Element and a Water Resources Element.

Approach

Three main ideas define the approach to the 2009 Comprehensive Plan. These ideas emerged over the course of the planning process and became central ideas in planning for Annapolis' next decade and beyond. These three ideas weave throughout the Comprehensive Plan and are articulated in various ways in all of the chapters. The three ideas are:

- Preserve and Enhance Community Character
- Maintain a Vibrant Economy
- Promote a "Green" Annapolis

Community Character

Main Street July 4th

Annapolitans are proud of their city and their neighborhoods and recognize that each of the neighborhoods in Annapolis has a distinct character created by the mixture of land uses, the built environment, and public spaces. Over the course of its 300 years, the City of Annapolis has established a character and heritage that is most recognizable in the historic downtown and adjacent neighborhoods and through our maritime heritage, but also reinforced throughout the diverse neighborhoods that make up the city and along the waterfront. These unique areas offer a distinct and unique character. They are all great places that locals and visitors alike appreciate.

Most comprehensive plans, including the 1998 Plan, had a major focus on land use. The primary recommendations were to preserve existing residential zoning in established areas and promote commercial, office, and residential "mixed-use" centers. The zoning decisions that followed promoted these goals. Zoning hearings and comments received during meetings in development of this plan have demonstrated that this traditional approach has failed to meet the community's expectations. Despite the intent of previous planning efforts and existing

development regulations, citizens remain fearful that new development and overall growth will erode those traits that make the community special. Most established neighborhoods do not have a character-based zoning mechanism for the review of new construction and struggle to keep integrity intact against new homes that appear out of context. Commuters fear the impact of additional density or commercial activity along already congested roadways. Annapolis continues to struggle with these controversies, even though new projects follow the recommendations of the 1998 Comprehensive Plan. Unfortunately, a plan for land use alone simply does not adequately address the complex issues facing Annapolis' residents and businesses, because it does not provide strong and direct linkages between land use, design and functionality. Such a plan may not, for example, differentiate between an urban commercial environment and a commercial strip development.

Historic District

The 2009 Comprehensive Plan takes an approach to planning focused on "community character." The concept of community character provides a means to understand a community's physical, functional, and design attributes as a whole and further understand how they work together to create or strengthen a sense of place. Rather than relying on only land use or density, character is based on retaining or creating those traits that make Annapolis' neighborhoods, commercial districts, and other places unique. Residents and local leaders alike struggle to place values on terms such as "low density residential" or "light industry." However, most have a clear image of "urban" or "suburban" character development. These are not terms defined by land use alone. They are concepts of character, complete with values associated with natural resources, transportation systems, mix of uses, relationship between buildings and the street, location of gathering places, and a myriad of other traits. With character, cultural and economic aspects are closely linked to those physical attributes.

Creating this plan with a focus on community character offers a holistic approach that will allow the city to focus on:

- Preservation of the features, values, and places that make Annapolis a unique community.
- Future development based on the role that each designated area is intended to play in the community, including its appearance and function.
- Protection of natural resources.
- Increased connectivity between and within places.

- Enhanced ability to anticipate needs associated with new development or redevelopment, including traffic demand, infrastructure, community facilities, services, and other critical features.
- A stronger understanding of traffic congestion or similar negative impacts on sense of character and quality of life.
- Ability to preserve the important qualities of Annapolis while achieving higher density in strategic locations, specifically in an effort to create transit supportive development.
- Anticipation of the relationship between places and the need for design features such as buffering or architectural relief between areas of different character.

Economic Vitality

Downtown Annapolis

Economic vitality is critical to the economic well-being of our business community, the employment opportunities for our residents, the fiscal well-being of the city, and the quality of life of our residents. A healthy economy provides nearby employment opportunities and makes Annapolis an enjoyable place to live, work, and visit. Annapolis must maintain its competitiveness in a challenging market environment that recognizes the hyper-commercial development beyond Annapolis' borders. Annapolis aspires to accommodate jobs-producing uses and extend economic opportunities to all residents while also protecting its character, respecting its cultural heritage, and safeguarding its neighborhoods. To maintain a vibrant local economy the City aims to:

- Provide sufficient opportunities for diverse commercial and industrial development and redevelopment;
- Encourage development that responds to local market needs and induces desirable land use patterns that advance other civic goals;
- Recommend development decisions that add to the convenience of residents;
- Maintain municipal financial stability by balancing residential and non-residential uses, acknowledging that a healthy tax base supports City investments that contribute to quality of life; and
- Encourage local businesses that provide employment opportunities for local residents.

The "Greening" of Annapolis

The Comprehensive Plan approaches the "greening" of Annapolis as the third imperative. "Greening" refers to a variety of City actions and policies that recognize the serious environmental challenges that we face as a society. This builds on Annapolis' already notable achievements in the area of environmental stewardship, for which Annapolis has been recognized as a leader and a model. The City will continue to espouse environmental stewardship of its shorelines, forested areas, creeks, and other natural areas, and is also moving towards an aggressive stance on minimizing stormwater impacts on the Chesapeake Bay and reducing our carbon footprint to respond to the threat of climate change.

Thomas Point Lighthouse

In addition to protection of the city's natural resources, "greening" means creating a healthy living environment for Annapolis' residents. This takes the form of boosting parks and recreational opportunities as well as cultural offerings that enhance the community's quality of life. It refers to expanding transportation options so walking, biking, and taking transit are viable alternatives to driving. Actions that enable people to live and work in the city are included in this stance, along with locating commercial services in proximity to neighborhoods.

Finally, the "greening" of Annapolis affirms the Smart Growth principles of directing development and growth to existing urban centers where the infrastructure to support it already exists, thus avoiding sprawl and unsustainable development patterns. Other Smart Growth principles affirmed by this stance are development patterns that mix land uses, promote compact building design, create walkable communities with a variety of transportation options, and foster distinctive, attractive communities with a strong sense of place.

Plan Structure

The Comprehensive Plan consists of seven topical chapters and an Implementation chapter, corresponding with the elements required by State Statute. The elements are contained in chapters 3 to 10:

- Land Use & Economic Development (Chapter 3)
- Transportation (Chapter 4)
- Municipal Growth & Community Facilities (Chapter 5)
- Parks (Chapter 6)
- Environment (Sensitive Resources) (Chapter 7)
- Housing (Chapter 8)
- Water Resources (Chapter 9)
- Implementation (Chapter 10)

Each chapter identifies primary challenges facing the community for that topic area, followed by goals to address those challenges. Existing conditions are summarized in two categories. First, the nature of planning for that topic is identified – the legislative, regulatory, and historical context. Second, relevant data describing existing conditions is presented in summary fashion. Policy recommendations to enact the goals form the remainder of the chapter.

In two chapters – Land Use and Transportation – guiding principles have also been developed, recognizing their inherently complex and inter-related nature and acknowledging that the Comprehensive Plan cannot anticipate every situation or decision the City will face in those arenas in the years to come. Recommendations include some specific projects, also geographic or topical areas requiring more focused study or planning.

Main Street

Planning Process

Let's Talk Annapolis

In January, 2006, the City initiated *Let's Talk Annapolis*, a program to involve numerous citizens in small group conversations. *Let's Talk Annapolis* was intended to allow broad citizen input into the comprehensive planning process that would follow, but also to inject ideas and perspectives into public life generally. The hallmark of *Let's Talk* was for citizen participation to be accessible, comfortable, and engaging.

Each conversation group began with the same four questions:

> *How do we protect and improve our quality of life?*
>
> *How do we build a unified community?*
>
> *What should Annapolis become over the next 10 to 20 years?*
>
> *What should we do to address one specific priority?*

All told, 30 groups met for a total of 57 conversations between January and July of 2006. This amounted to approximately 460 people participating in at least one conversation. Each group submitted a conversation report at the end of its session. These reports were compiled and summarized in a report: "Let's Talk Annapolis: a report on six months of conversations, January – July 2006."

Comprehensive Planning

Citizens' Advisory Committee Meeting

In the fall of 2006, Mayor Ellen Moyer appointed a 35-member Citizens Advisory Committee. This Committee, representing all areas of town and many viewpoints, met between once and three times a month over the course of the planning study. The Citizens Advisory Committee received the *Let's Talk Annapolis* report at the outset of their work. The Committee was instrumental in identifying the key challenges facing the community and formulating the policy positions and actions the City should adopt.

In the fall of 2006, consultants conducted interviews with approximately 50 individuals and groups from throughout the community, seeking additional viewpoints and perspectives on a range of topics relevant to the Comprehensive Plan.

In March, 2007, a Public Forum was held at Bates Middle School that was attended by approximately 80 individuals from Annapolis and its surrounding neighborhoods. Participants were asked to identify areas of concern, and in smaller discussion groups, prioritize them according to importance.

Throughout the process, notice of all meetings and events was posted on the City web site and sent to a My Annapolis Email List dedicated to the 2008 Comprehensive Plan. Meeting notes and presentation materials were also posted on the City web site.

Two newsletters and a progress report brochure were distributed to community associations, business associations, elected officials, and a variety of other interested individuals during the planning process in December 2006, April 2007 and June 2008. These aimed to document key milestones, highlights and directions emerging in the Plan.

In the fall of 2008, a preliminary draft of the complete Comprehensive Plan was released. The committee invited interested individuals and groups to comment on the preliminary draft as it conducted its review and preparatory to releasing a Draft Comprehensive Plan for a 60-day review period before public hearings at the Planning Commission and City Council.

CHAPTER 2: DEMOGRAPHIC DATA

Population

The 2000 Census counted 35,838 City residents, or 15,303 households with an average household size of 2.3 people. In the years since the 2000 Census, the Maryland Department of Planning estimates that the City grew by another 795 people as of 2006.

Group of Children

Over the past century, Annapolis has enjoyed a moderate, but steady growth in its population. A spike in growth occurred with major expansion through annexation in the 1950's. The growth rate between the last two Census' (1990 to 2000) was 8%. The average ten year growth rate over the past three decades was 6%.

Annapolis will continue to grow. Projections made in the 1980's for the year 2000 fell short and did not predict the growth that actually occurred. For instance, the 1985 Comprehensive Plan predicted a population of 34,840 for the City in 2000. The actual number was nearly 1,000 people more. Largely, this was a mistaken assumption that the household size would decrease by more than it did (2.1 persons per household versus the actual 2.3 persons per household.)

Figure 2-1 Population Growth

Year	City of Annapolis Population	Percent growth	Anne Arundel County Population	Percent Growth	City as a Percent of County
1900	7,657		39,620		19.3%
1910	8,262	7.9%	39,553	-0.2%	20.9%
1920	8,518	3.1%	43,408	9.7%	19.6%
1930	9,803	15.1%	55,167	27.1%	17.8%
1940	9,542	-2.7%	68,375	23.9%	14.0%
1950	10,047	5.3%	112,361	64.3%	8.9%
1960	23,385	132.8%	206,634	83.9%	11.3%
1970	30,095	28.7%	298,042	44.2%	10.1%
1980	31,740	5.5%	370,775	24.4%	8.6%
1990	33,187	4.6%	427,243	15.2%	7.8%
2000	35,838	8.0%	489,656	14.6%	7.3%
2006 (est.)	36,603				

A slowing growth rate had also been predicted due to the built-out nature of this mature city. However, that assumption is being challenged by the recent infill and redevelopment activity seen in the City's housing. With the conversion of the old hospital site to residential units, the redevelopment of Inner West Street to include higher density residential units, the prospect of annexed land, and the trend of building on small infill sites around the City, it is likely that the population will grow more than traditional models would predict. Market conditions, as well as City land use policies, will determine if this will continue beyond the above mentioned projects.

At its inception, Annapolis was the lion's share of the population in Anne Arundel County. Even in 1900, the proportion of Anne Arundel's population residing in Annapolis was almost a fifth (19%). By 1970, it had fallen to 10% and today is closer to 7%. Much of this is due to the enormous growth in Anne Arundel County, while the older City of Annapolis grew modestly.

Age Trends

The median age in Annapolis is 35.7 years, which is comparable to Anne Arundel County as a whole and Maryland both of which are 36.0. The trend nationally has been toward an aging population, and Annapolis is consistent with this. The median age in 1980 was 30.4 and in 1990 was 33.9.

The age groups experiencing the greatest growth have been the 45 to 64 age range, reflecting the "baby boom" generation, and in the 85 and over group, reflecting longer life spans. Over the next few decades, these trends will combine with the effect being a large elderly population. In terms of growth, the next largest growth was seen in the Under 5 group. This suggests that the decline in birthrates has slowed and that there will be an increase in need for youth services.

Figure 2-2 Age Trends

Age Trends				
	1980	1990	2000	Change since 1980
0-4	1936	2304	2385	23.19%
5-17	6126	4730	5389	-12.03%
18-44	13970	15647	15305	9.56%
45-64	6092	6446	8483	39.25%
65-84	3464	3676	3805	9.84%
85+	282	384	471	67.02%

Household Composition

Annapolis is more typical of urban areas than of suburban areas in terms of household composition. There is a higher concentration of people living alone (32.9% in Annapolis) than in Anne Arundel County (21.3%) or the State (25.0%). There are fewer married couple households in the City (36.6%) than in the County (57.2%) and the State as a whole (50.2%).

Figure 2-3 Household Composition

Household Composition Family Households			
	Percents of Households		
	Annapolis	Anne Arundel	Maryland
Household with individuals under 18	28.1%	38.3%	37.3%
Household with individuals 65 years and over	20.9%	19.5%	21.7%

There are significantly fewer households with children than the county or the state as a whole. Of Annapolis households, 28% have children under the age of 18. The County and the State have 38% and 37% respectively. Percentages of homes with senior citizens (age 65 and over) are comparable to the county and state.

In accordance with the other trends, the average household size is smaller in Annapolis as well. Here it is 2.3 persons per household, whereas the County and the State are both just above 2.6 persons per household. However, the average household size is not as small as had been predicted previously. As mentioned in the discussion of population section above, the predicted average was 2.1 for the year 2000 in the 1985 Comprehensive Plan.

Race

Annapolis is blessed with a diverse population and has been throughout its history. Annapolis is comparable to the State as a whole in terms of minority population, although African Americans make up a slightly larger portion of that group in Annapolis. Compared to the county as a whole, Annapolis has a far greater minority population.

Figure 2-4 Race Statistics

Year	White		Minority					
	Total	% of Population	Black	Am. Ind/ Eskimo	Asian/ Pac.Is.	Other	Two + Races	% of Population
1960	15963	68.3%	7316	42	58	5	**	31.7%
1970	20925	69.5%	8871	45	245	9	**	30.5%
1980	20021	63.1%	11250	59	372	38	**	36.9%
1990	21449	64.6%	11009	53	472	204	**	35.4%
2000	22558	63.0%	11026	71	580	817	754	37.0%

The racial make-up of Annapolis has been relatively stable over time, with some growth in the minority population. While the White and African American populations have seen modest population increases, numbers of Annapolitans that identify themselves as Asian or Pacific Islander and Other races have grown quite steadily. The 2000 Census is the first Census that allowed multi-racial people to identify themselves as such. Time will bear out if there is any trend in this population.

Hispanic Population

The Census Bureau measures the Hispanic or Latino population separate from race, as these individuals may be of any race. This population has grown immensely in recent years. In 1980, Annapolis' Hispanic population was 413. By the year 2000, this had grown to 2,301, a gain of over 450%. Indeed, most of this occurred in the 1990's. Anecdotally, the Hispanic population has swelled to closer to 6,000 residents in the ensuing years. If local and national trends continue, we expect the Hispanic population of Annapolis to continue grow.

Because many of the new Hispanic Annapolitans are new immigrants, there is a language element to this population change. In 2000, 2,115 people over the age of 4 speak English less than "very well". Seventy percent of these are Spanish speakers.

Education

The Census Bureau considers educational attainment for people age 25 and older. In this respect, Annapolis has more people with very little education and more people at the high end of the educational spectrum than either the county or the state. In this way, Annapolis' population is somewhat more polarized than other nearby places.

Figure 2-5 Educational Attainment

Educational Attainment	Percent of the Population 25 years +		
	Annapolis	Anne Arundel County	Maryland
Less than 9th grade	5.8%	3.7%	5.1%
9th to 12th grade, no diploma	11.8%	9.9%	11.1%
High School graduate, (incl. equivalency)	20.3%	27.9%	26.7%
Some college, no degree	18.3%	21.9%	20.3%
Associate degree	5.1%	6.1%	5.3%
Bachelor's degree	22.7%	19.1%	18.0%
Graduate or professional degree	16.0%	11.5%	13.4%

Income and Poverty

Incomes in Annapolis are somewhat lower than in the surrounding County and in the State as a whole. While the percent of households at the very highest levels are comparable to the surrounding area, the percent in the very lowest ranges is much higher. This is likely due to Annapolis large supply of public housing and smaller household sizes.

Figure 2-6 Income Statistics

Income in 1999	Percent of Households		
	Annapolis	Anne Arundel	Maryland
Less than $10,000	9.2	4.0	6.9
$10,000 to $14,999	4.3	2.7	4.2
$15,000 to $24,999	11.3	7.2	9.5
$25,000 to $34,999	10.7	9.1	10.7
$35,000 to $49,999	15.3	15.0	15.4
$50,000 to $74,999	20.0	24.0	21.6
$75,000 to $99,999	12.7	16.3	13.6
$100,000 to $149,999	9.9	14.5	11.6
$150,000 to $199,999	3.4	4.1	3.5
$200,000 or more	3.1	3.2	3.0

Other Income Measures - 1999			
	Annapolis	Anne Arundel	Maryland
Median Houshold Income	49243	61768	52868
Per Capita Income	27180	27578	25614
Percent below poverty	13%	5%	9%

Smaller household size is also a factor in the much lower median household income of Annapolis, than Anne Arundel County, because per capita income in the city and county are roughly the same.

A very telling measure, however, is the percent of people below the poverty line. Annapolis' 12.7% is significantly higher than Anne Arundel County or the State.

Employment

84% of Annapolis residents participate in the labor force, at a substantially higher rate than Anne Arundel County (71%) or Maryland (68%). The top four industries employing Annapolis residents are Services (22%), Professional and Business Services (16%), Wholesale and Retail Trade (16%) and Leisure & Hospitality (14%). More than half of city resident workers (53%) commute out of the city to their work places.

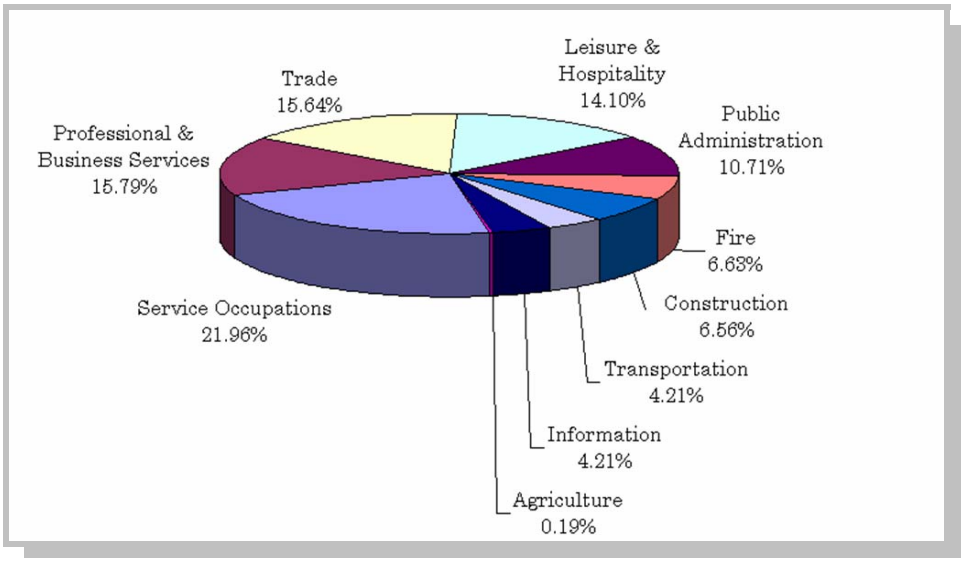

Figure 2-7 Employment Percentage by Category

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CHAPTER 3: LAND USE & ECONOMIC DEVELOPMENT

Introduction

Annapolis is a developed and diverse center of economy and culture in a major metropolitan region. It is the location of government, maritime industries, finance, law and professional services, retail and wholesale trade, visual and performing arts, and tourism. This Land Use Plan emphasizes:

Main Street

- Directing growth to key redevelopment opportunity areas;
- Conserving the character of downtown and the City communities, including, where appropriate, their mixed-use business and residential character;
- Responding effectively to long term environmental challenges; and
- Encouraging economic growth with land use policies that retain and expand existing businesses and promote the emergence of new businesses in locations that provide optimal benefit to the community.

Existing Conditions

The city's geographic location on the Annapolis Neck Peninsula between the South River and Severn River leaves little room for physical expansion. Existing development outside of Annapolis, combined with the expansion of Parole on the western edge, leave Annapolis with few options for growth outside of present boundaries.

Beginning about 40 years ago, major commercial real estate development on the edge of the city and historic changes in the nature of retailing generally, impacted the city's commercial base, as it did many other communities across the nation. These trends created competition for traditional in-town retailers and impacted the commercial real estate market. But after several decades of restructuring, Annapolis remains a vibrant commercial center and it is positioned to capitalize on the energy and vitality created both within its borders and in the adjoining areas. The expansion of Westfield Mall, the continued growth and development of the Anne Arundel Medical Center, and the new Annapolis Towne Centre at Parole all point to the economic vitality of the Annapolis area, of which Annapolis is the center.

For decades, Annapolis has promoted and supported development policies that are in balance with its geographic constraints and area-wide development trends. The City has optimized land use within its borders, promoted a mix of commercial and residential redevelopment of underutilized land, and conserved and revitalized downtown and its residential districts.[1] These essential policies remain the foundation of Annapolis' comprehensive planning. As indicated below, low commercial vacancy rates and high commercial rents are signaling that the City's commercial land base is vibrant and is, in fact, nearly built-out. The effectiveness of the City's planning and public policies on growth and development are visible, and in this regard key observations are noted here:

- The historic Annapolis downtown is a center of business, government, and housing. It is located between Spa Creek and College Creek. With its enduring city plan and advantaged waterfront location, downtown Annapolis remains a unique and special American place. The U.S. Naval Academy, St. John's College, and the Maryland State Government are the major institutions located in downtown. Main Street is designated by the State's Main Street Maryland Program and was named one of the Ten Great Streets in America by the American Planning Association in 2008.
- The city's historic core, a largely intact pre-industrial colonial city, is designated a National Historic Landmark for possessing exceptional value in illustrating the heritage of the United States. Annapolis boasts the largest collection of 18th century buildings in America. Many are open to the public where their beauty and architectural style are major attractions.
- The city's core is surrounded by residential neighborhoods that vary in age, character, and cost of housing.
- Throughout the city, land use on the waterfront has evolved over time. City residents have remained supportive of the maritime and sailing industries and large sections of Spa Creek and Back Creek are devoted to water related and/or water dependent enterprises. The maritime industry consists of about 300 maritime businesses, dozens of grassroots-driven organizations and yacht clubs, hundreds of year-round local, national, and international regattas and championships, and more than 3,000 private and commercial boat slips and public moorings.[2]

Annapolis Harbor

- The neighborhood of Eastport, opposite Spa Creek from downtown, while mostly residential, features a mix of maritime uses, restaurants and local commercial uses.

[1] Over the past two decades, the City has adopted a series of zoning amendments to implement the major land use recommendations of the 1985 and 1998 Comprehensive Plans. These have included new maritime zones to support maritime uses and protect water views, historic conservation zones to protect the residential character of downtown neighborhoods, a mixed use zone to stimulate new development along Inner West Street, a professional/mixed use and office/residential transition zone to promote office development and protect nearby residential uses and a business corridor enhancement zone to promote better design of commercial development along Outer West Street.

[2] Annapolis hosts the world's largest in-the-water boat shows, attracting 40,000 to 50,000 visitors each year that contribute an estimated spending of about $16 million annually within the City. The maritime industry is estimated to have a $200 million annual economic impact to Annapolis.

- The revitalized Inner West Street Commercial District, a narrow corridor surrounded by established residential neighborhoods, extends outward from downtown to Westgate Circle. This corridor is newly designated as the Capital City Cultural Arts District, a State designation to promote arts and entertainment.
- Visual and performing arts venues flourish in Annapolis, supported by a loyal and effective community.
- Outer West Street (from Legion Avenue west to the City-County line is characterized by lower intensity, automobile- oriented commercial development.
- The primary concentrations of industrial land in the city are in the Outer West Street corridor, the Annapolis Business Park along Gibraltar Avenue, and in areas along Chinquapin Round Road and Legion Avenue. These areas feature heavy commercial services, light industrial businesses, warehousing, and other employment uses. These land areas are at or near build-out capacity for their intended uses. The city's industrial vacancy rate is a low 8 percent compared to other jurisdictions in Maryland.[3] Flex space in the city is fully occupied. Average square footage rents for flex commercial/industrial space in Annapolis are the highest in Maryland.
- Professional office space is located along West Street, in West Annapolis where access to both U.S. Route 50 and downtown is convenient, in downtown Annapolis, and to a lesser extent along Forest Drive. The City has a little over 5 million square feet of office space, of which Class A space constitutes about 35 percent. Annapolis is also known as one of the "tightest" office markets in the Baltimore region with low vacancy rates thanks in part to the stabilizing influence of County and State government. The limited availability of prime sites has continued to constrain new office development. Office rents in Annapolis are higher than in many other jurisdictions in Maryland, including the City of Baltimore.
- Neighborhood-level retail centers are located along Forest Drive; along Bay Ridge Avenue in Eastport; along Taylor Ave. and Annapolis Street in West Annapolis; in the central section of West Street; and at Bay Ridge Road and Hillsmere Drive. There are no vacant or distressed shopping centers in the city. Retail storefronts in neighborhood-level shopping centers are generally occupied throughout the city.
- Roughly three percent of the land within the city is vacant, 15 percent is devoted to roadways, and the majority of the city's land area (approximately 56%) is in residential use.

Figure 3-1 Land Use

Land Use Classification	Acres	Percentage of Total Land
Commercial	346	8%
Industrial	108	2%
Institutional	306	7%
Maritime	64	1%
Mixed Use	20	0%
Recreation & Open Space	326	7%
Residential	2549	56%
Vacant	139	3%
Roadways	696	15%

[3] Only Baltimore City and West Baltimore County, at 6 and 5 percent respectively, have lower vacancy rates.

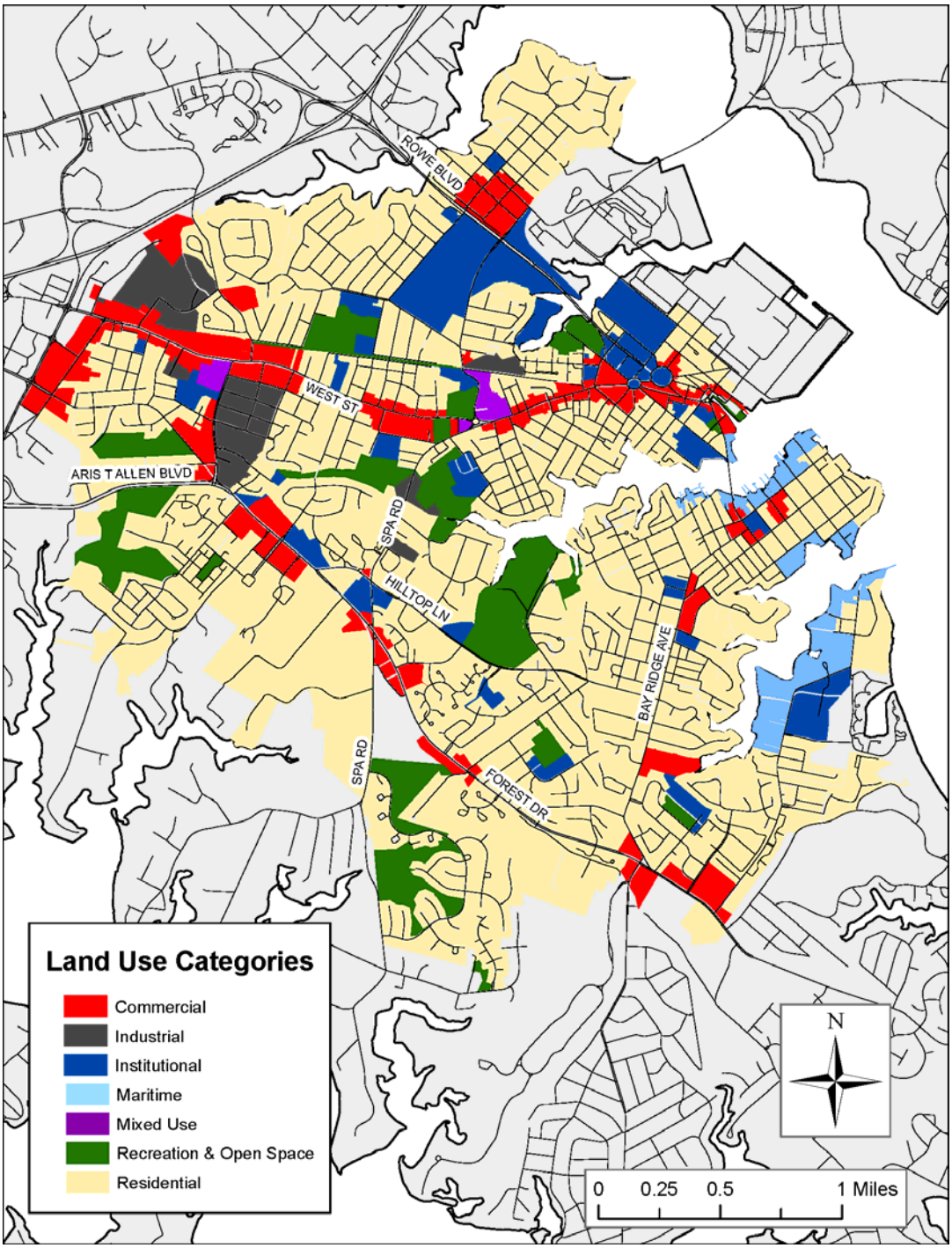


Figure 3-2 Generalized Existing Land Use Map

Principles and Objectives

Guiding principles inform the Plan's policies on land use and economic development. These principles, while universal, address the basic land use planning issues present in Annapolis. Also presented are the objectives of the Annapolis Land Use Plan and policies.

Principle 1. A city's growth and economic vitality does not depend on the outward expansion of its borders.

Because the productive use of land is cyclical, at any given time, there are land areas that are underutilized and buildings that are obsolete when compared to current community needs. A City can target and promote specific areas for redevelopment as part of a sound land use policy that can help guide private sector development decision making.

Objectives:

- Through 2030, residential and commercial growth will largely be directed to mixed use development projects in designated Opportunity Areas shown in this Plan. With one exception–the Katherine Property[4]–these areas are presently in land intensive, but not land efficient, commercial uses.
- The development of Opportunity Areas will increase the supply of commercial space in the City, especially professional office space.
- The development of Opportunity Areas, through their layout and design, mix of uses and residential densities will promote efficient and cost-effective public transit (see Ch. 4 – *Transportation*).
- The redevelopment of lands in the Opportunity Areas will advance and promote ecologically sound approaches to urban development, and result in improved environmental conditions.

4 The Katherine Property is a 180-acre site located south of Forest Drive. It was annexed into the city in 2005 and is currently in use as horse farms and residential estates.

Principle 2. Infill development can occur, and it should occur in a manner that respects the size, scale, and use of existing and historic development patterns.

Since only three percent of Annapolis' developable land is vacant, by necessity future development in the city will consist of the gradual redevelopment of existing properties and the gradual build-out of scattered vacant lots. Successful infill maintains and/or restores spatial continuity to streetscapes; strengthens neighborhoods and commercial districts; respects historic preservation, existing vistas, and natural resources; and introduces compatible uses that complement community attributes and needs.

Objectives:

- The gradual improvement of vacant or underutilized parcels will strengthen, not distract from neighborhood and community character.
- Infill development will promote economic diversity and real estate vitality while respecting neighborhood character.
- Downtown Annapolis will remain a special American Place; its historic and cultural quality and its economic vitality protected and sustained as a gift for future generations.

Principle 3. Today's land use planning and development must recognize the need to locate investments where they will be secure from hazards, such as flooding, in the future.

Objectives:

- A City land use pattern that is cognizant of potential flooding hazards due to sea level rise.
- The best way for the City to respond to the potential impact of sea level rise on downtown Annapolis involves proactive study and planning to promote consensus and guide both public and private decision-making long term.

Land Use Plan

Figure 3-3 shows the generalized land use pattern desired for Annapolis by 2030. This map is the primary guide to the long term development of Annapolis. Population growth in Annapolis between 2008 and 2030 is accommodated primarily in four Opportunity Areas described and shown in the more detailed maps on the following pages.

The Opportunity Areas were selected on the basis of where the character of the area is expected or desired to change. Plans for the Opportunity Areas utilize three separate urban "character types" that reflect expectations for the character, type, and intensity of development: Urban Commercial, Urban Center Low and Urban Center. Figures 3-4, 3-5, and 3-6 describe each of these character types. The statistics describing the mix of uses, gross density, and building height are not intended to serve as rigid development standards, but to describe general characteristics and desired character. The development of design objectives or guidelines and more detailed development standards are recommended for each of the Opportunity Areas, as stated in Policy 1 of this chapter.

For each Opportunity Area, projections of residential and commercial development were completed, and are documented in Ch. 5 – *Municipal Growth & Community Facilities*, and were used as a basis for projecting water and sewer infrastructure needs in Ch. 9 – *Water Resources*. For the sake of infrastructure planning, they represent a build-out scenario as if the entirety of each Opportunity Area were to redevelop. In practical terms, the more likely scenario is that sites within the Opportunity Areas will redevelop, and the desired character will be interpreted specific to that site.

This Plan anticipates that Annapolis will grow during the period covered by this Plan, and its recommendations are formulated to direct and harness that growth according to the community's wishes and to achieve other City objectives.

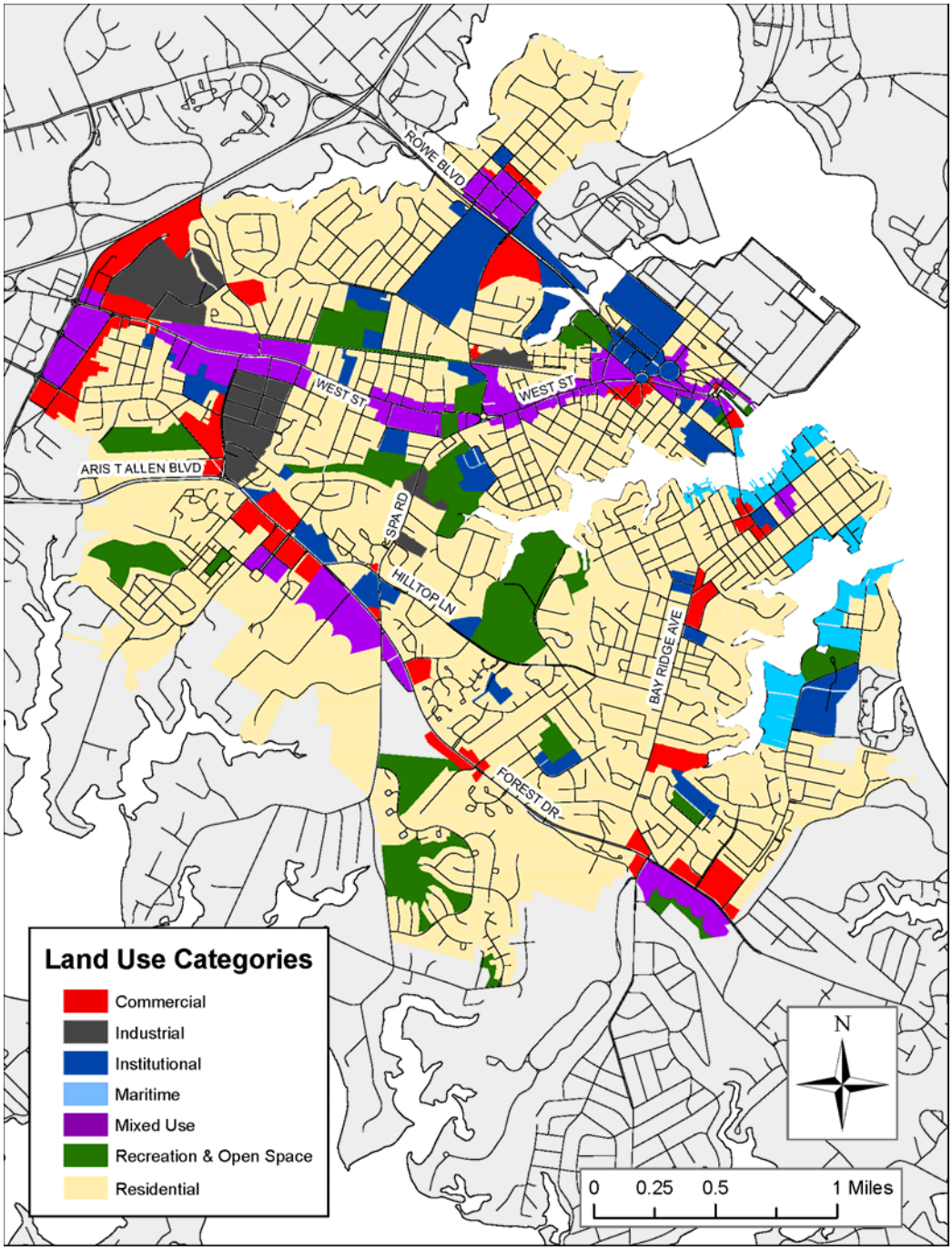


Figure 3-3 Generalized Proposed Land Use Map

Figure 3-4 Urban Commercial Character Type

Urban Commercial

Examples in and around Annapolis
Main Street, Maryland Avenue, Annapolis Street, West Street

General Description
Sites consist of a mix of commercial uses including retail, offices, and service activities. Heights can range from two stories to four stories tall and buildings typically have limited setbacks from the street. These areas are typically not intended for residential uses. They are often more traditionally designed and have strong connections with surrounding residential neighborhoods. These areas are densely populated with buildings that may serve as employment, shopping, dining or tourist destinations.

Transportation
Pedestrian and bicycle oriented development, with a balance that also includes automobiles. Parking may be on-street or structured. Pedestrian activity includes travel to destinations such as transit stops or nearby retail sites. Density is sufficient to promote transit.

Figure 3-5 Urban Center Character Type

Urban Center

Examples
Park Place
Rockville Town Center (Rockville, MD), City Place (Silver Spring, MD)

General Description
Urban Centers are large scale mixed use areas consisting of retail, office, entertainment, lodging and residential activities. They are often employment, entertainment, shopping, and dining destinations for the surrounding region. These areas include a very balanced mix of residential and commercial uses and are designed to be self-sustaining places where people can live, work and shop while relying less on the automobile. In Annapolis, it is recommended that these areas be designed for a range in height from four to eight stories with residential densities ranging between 35 to 45 units per acre of land.

Transportation
Pedestrian and bicycle oriented development, with less dependence on automobiles. These areas almost always include a significant amount of structured parking, but can also include on-street parking. Pedestrian activity is generated by on-site uses, but can also come from transit stops or nearby residential areas. The large amount of density in these areas promotes and supports local transit systems.

Figure 3-6 Urban Center Low Character Type

Urban Center Low

Examples
The Kentlands (Gaithersburg, MD), Clarendon Centre (Arlington,VA), King Farm (Gaithersburg, MD), Bethesda Row (Bethesda, MD)

General Description
Urban Center Low areas are similar to Urban Commercial areas in terms of character and building heights, but allow for a mix of land uses that is similar to Urban Center areas. These areas consist of a mix of uses that include retail, office, restaurants, and residences. Typically these areas range from two to four stories in height and include a very balanced mix of residential and commercial land uses. Residential density typically ranges from ten to twenty units per acre of land depending on the indended character. These areas serve a smaller more localized population than Urban Center, and can function as a limited intensity, walkable destination for area residents.

Transportation
Pedestrian and bicycle oriented development that is more focused on the automobile than Urban Center. Parking may be either on-street or structured. Pedestrian activity includes travel to destinations such as transit stops or nearby retail sites. Density will better support transit than suburban malls or shopping centers, but is not as supportive as Urban Centers.

Opportunity Areas

West Annapolis Opportunity Area

The West Annapolis Opportunity Area encompasses the intersection of Rowe Boulevard and Taylor Avenue and the commercial sections of West Annapolis along Ridgely and Melvin. It is a major gateway into Annapolis with good highway and transit accessibly to U.S. Route 50, MD Route 450, and downtown.

Figure 3-7 West Annapolis Opportunity Area Map

The purpose of designating the West Annapolis Opportunity Area is to:

- Acknowledge the development potential of this area, anticipate likely development pressure, and articulate the desired future character of the West Annapolis "Village".
- Set the stage for detailed area planning that allows more stakeholder and community input and more thorough consideration of the issues important to the area's future character and economic viability.
- Acknowledge that Rowe Boulevard is a primary gateway and entry point into Annapolis that defines visitors' first impression of the city. Rowe Boulevard has more of a ceremonial character than other gateways, and future development along Rowe should reflect and enhance the character of this corridor.
- Acknowledge that careful planning is needed to ensure the sensitive transition between the quiet neighborhoods of Wardour and West Annapolis, the neighborhood-scale commercial areas abutting the residential neighborhoods, and the more massive office buildings on the blocks closest to Rowe Boulevard.

- Acknowledge that the widening of Rowe Boulevard created an awkward intersection at Forbes and Melvin and created very narrow lots between Forbes and Rowe. A reconfiguration of the intersection and parcels could benefit the function of the area as a whole.
- Acknowledge that the current zoning of the area may not enact the desired character for West Annapolis and should be reviewed for its appropriateness. Review of, and change to zoning could be done as part of an area planning effort.
- Facilitate the comprehensive treatment of features important to the area's future character and identity, circulation and economic viability: pedestrian and bicycle facilities, in particular those that enhance pedestrian and bicycle safety; a parking strategy; signage; streetscape improvements; road alignment; access management; transit service; and connections to the bicycle network.
- Acknowledge the regionally significant role of Rowe Blvd. and Taylor Avenue/MD450 as an overflow route to US 50. A balance must be found between regional transportation needs and local circulation and mobility.

Recommendations for the West Annapolis Opportunity Area are:

- The area shown in figure 3-7 should transition over time to the Urban Center Low character to enhance the "Village" quality and function of West Annapolis. In West Annapolis, the Urban Center Low designation directs redevelopment to achieve a mix of retail, offices, restaurants, and housing, and preserve essential neighborhood services.
- As part of the redevelopment of the opportunity area, a park should be created to serve as a community gathering place that creates a recognizable focal point for the West Annapolis Village. Such a park could encompass both "green" and hardscape features.
- The form of development - articulated by building massing and height, site coverage, relationship of buildings to streets, building setbacks, architectural detailing - should enhance the urban "village" character. New development along Rowe should be designed within the context of Rowe Boulevard being the ceremonial gateway into Annapolis, along which other prominent buildings are located– the District Court building, DNR building, and State Archives building. As such, higher buildings along Rowe may be appropriate.
- Views and sight lines should be taken into consideration in the redevelopment of this area, in particular the protection of scenic viewsheds into downtown. Environmental features in the area should be preserved, with special attention to preserving mature trees.
- Two portions of the West Annapolis Opportunity Area are designated "Special Use." These are public use sites and there is one principal guideline for their development and/or redevelopment: the future use should bring substantial recognition and prestige to the City of Annapolis while conferring direct benefits to the City's residents.
- Urban design amenities (pedestrian and bicycle facilities, planting, signage, streetscape treatments, public spaces) should be implemented throughout the opportunity area and serve to create cohesion and enhance the West Annapolis Village as a recognizable "place". Measures to enhance pedestrian and bicycle safety should be implemented.

- Parking should be located in structures or underground to allow the most efficient use of space for commercial activity.
- The Transportation chapter of this Plan recommends an engineering feasibility study to address the goals of alleviating peak period traffic congestion, handling Route 50 overflow traffic, improving transit efficiency, and enhancing access to and circulation within West Annapolis.

Bay Ridge Opportunity Area

The Bay Ridge Opportunity Area encompasses the south side of Bay Ridge Road between Hillsmere Drive and the city's eastern boundary. The purpose of designating the Bay Ridge Opportunity Area is to:

- Acknowledge the development potential of this area and articulate the desired future character;
- Acknowledge that the opportunity area is part of an already existent commercial center utilized by the communities on this portion of the Annapolis Neck peninsula that could provide for more of the community's commercial needs;
- Acknowledge that this stretch of Bay Ridge Road is a busy, 4-lane street that effectively divides the south side of the street from the north and presents challenges for implementing bicycle and pedestrian and bicycle features;
- Set the stage for more detailed area planning that allows more stakeholder input and more thorough consideration of issues important to the area's circulation and character.

Figure 3-8 Bay Ridge Opportunity Area Map

Recommendations for the Bay Ridge Opportunity Area are:

- The area shown in Figure 3-8 should transition over time to the Urban Center Low character. The focus will be on retail and office uses, although some residential development should be included.
- Permanent open space should be preserved as part of new development. In particular, a green space buffer is recommended between new development and the residential area to the south and this should be implemented through the site design review process.
- Extend Edgewood Road and Georgetown Road south across Bay Ridge Road, and connect them within the opportunity area. These road connections should allow circulation and access within the opportunity area and onto adjacent streets. A pedestrian and bicycle connection to Old Annapolis Neck Road is recommended, possibly utilizing an existing right of way corridor.
- Features to create an attractive urban activity center that is transit, bike, and pedestrian- friendly should be implemented, including consistent streetscape treatments and comfortable sidewalks.

Forest Drive Opportunity Area

The proposal for the Forest Drive Opportunity Area should involve an integrated and coordinated mixed use development that prioritizes maximum land conservation. Much of the Opportunity Area is proposed to maintain its natural and forested character. Approximately 75 acres of the 180-acre Katherine Property, which is in this Opportunity Area, will be preserved by a conservation easement required as part of the annexation of this property. Development of the Katherine Property is also subject to a Master Plan to be reviewed and approved by the City, also a requirement of its annexation approval.

Figure 3-9 Forest Drive Opportunity Area Map

There are three goals for development within the Forest Drive Opportunity area as a whole. These goals should be incorporated into the Master Plan for the Katherine Property. The three goals are:

- The more intense development should be closest to Forest Drive. The area closest to Forest Drive is recommended for an Urban Center Low land use character. To preserve the natural character of the remainder of the area, clustered residential development with extensive open space requirements is recommended. Residential clusters could be sufficiently intense to allow for housing that could be served efficiently with public transit and other City services, while maintaining the natural areas.
- A mix of uses is recommended for new development. Incorporating employment uses is an important part of this recommendation.
- Connections to adjacent areas should be incorporated. Road connections should be made so as to contribute to relief from traffic congestion on Forest Drive and increase connectivity to adjacent areas. Gemini Road, for example, should be extended across Forest Drive and should then run parallel to Forest Drive and provide inter-parcel connections and redundancy in the street network. The conceptual alignment of the Forest Drive Relief Road (see Ch. 4 - *Transportation*) could also connect to Forest Drive within the Forest Drive Opportunity Area.

The Forest Drive Opportunity Area has two particularly unique characteristics – substantial acreage and unified ownership. These factors combine to provide an excellent opportunity to fulfill many of the objectives of the Comprehensive Plan. The development approved in this Opportunity Area should be aimed at creating a mixed-use neighborhood with retail and offices uses; providing a variety of housing opportunities; helping to address the traffic concerns in the area; and setting forth a model for sustainable development.

Outer West Street Opportunity Area

The areas that comprise the Outer West Opportunity Area are shown in color on Figure 3-10. This Plan recommends a transformation of the area, from an automobile oriented suburban commercial pattern to an urban character focused on residential development and commercial uses. It is important to note that the Plan also recommends the land presently in industrial use remain intact and economically viable. These areas are shown as "industrial" on Figure 3-9. Several other elements of this Opportunity Area plan are noted below:

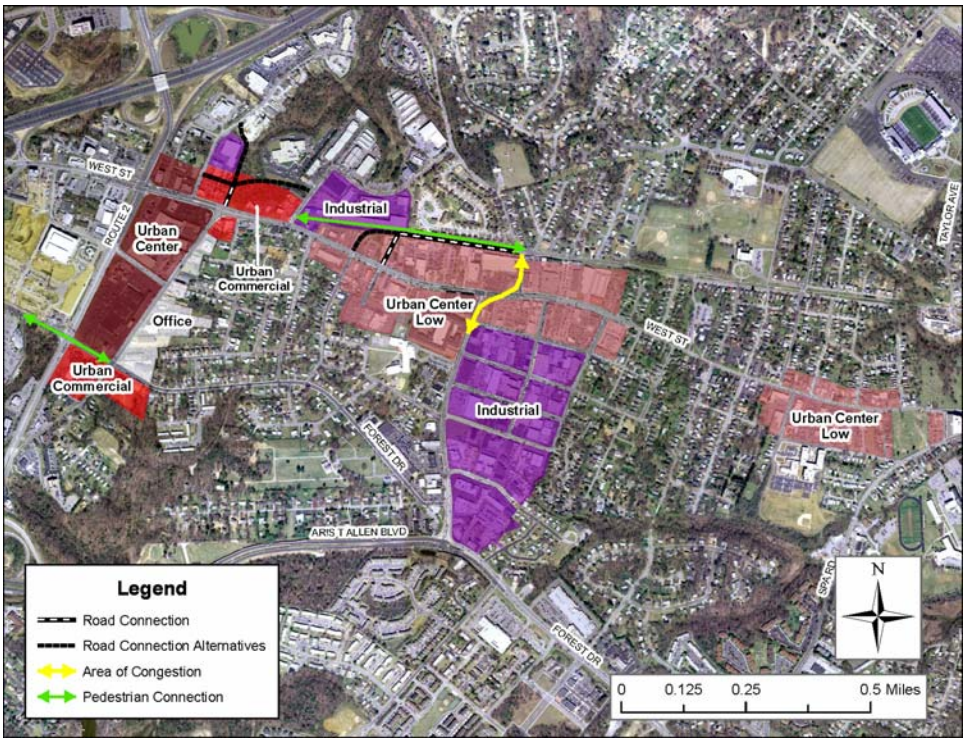


Figure 3-10 Outer West Street Opportunity Area Map

- Urban mixed use redevelopment is targeted to strategic points along the West Street Corridor and near the Annapolis Towne Centre at Parole. New structures may include residential and/or office space on upper floors. Alternatively, redevelopment might integrate fully-residential structures with nearby non-residential structures.
- Buildings should front directly onto West Street with little or no front yard setbacks and little interruption of facades. At the same time, use of extensive buffer yards and design requirements (including transparency, differentiation and sky exposure angle) are recommended to assist in creating strong urban form while also remaining sensitive to the impact on surrounding neighborhoods.
- Buildings along the east side of Old Solomon's Road are anticipated to serve as a transitional region between the Parole Neighborhood and the more intense development to the west. That character is largely in existence currently.

- A new park should be created to provide a recognizable focal point for this corridor and provide open space and a gathering place to support new residences and the adjacent neighborhoods. A park is critical to the idea of "place-making" and transforming the area into an urban corridor over time. Integrating transit with the park encourages its use as an active urban space. The exact size and location of the park should be determined as part of more detailed area planning, however it should front on West Street. An urban park concept incorporated into a multi-level building could be considered.
- The Plan recommends transition of existing adjacent industrial areas into "clean industry parks" specifically with a focus on environmentally responsible practices aimed at reducing the carbon footprint and impact on water quality.
- The Plan calls for the realignment of Admiral Drive and Chinquapin Round Road to form a full intersection and important local street connections to improve traffic flow and safety. (See Policy 4, Ch. 4 - *Transportation).*
- Construction of a Multi-Modal Transportation Center is desirable, perhaps in the vicinity of the intersection of Old Solomons Island Road and West Street. (See Policy 3, Ch. 4 - *Transportation).*
- Noting that West Street was the historic entrance to the city, demarcate this "Gateway" into the city with streetscape improvements and other design features to convey arrival and welcome. It is recommended that the street transition to an urban boulevard in character with widened sidewalks, enhanced pedestrian and bicycle crossings, street trees, transit features, and street lights.
- The Plan recommends pedestrian, bicycle and transit-friendly design in general, and a major pedestrian-bicycle connection over MD Route 2 between Annapolis Towne Centre at Parole and the Opportunity Area, perhaps using Old Forest Drive.
- In light of the changing character of this area, a sector study is recommended. A sector study should complement the detailed area planning called for in this chapter's Policy 1 and should include the entire Outer West Opportunity Area and the Parole Neighborhood. A sector study allows greater participation by affected residents and businesses in planning for the future of this sector of Annapolis and more thoroughly responds to current conditions and forces of change. In addition to the recommendations noted above and shown in Figure 3-9, a sector study should address:
    - Maintaining conditions that allow numerous small businesses to provide significant employment opportunities and economic activity;
    - The influx of newer residents in recent years, with resulting language and cultural issues;
    - Awkward traffic flow at the intersection of Old Forest, Chinquapin Round, and Forest Drive/MD 665;
    - The need for better connectivity throughout this area.
    - The sector study should address the merits of expanding the urban character to properties adjacent to the identified opportunity area, in particular:
        - extending south along the east side of Old Solomon's Road, and
        - along the north side of West Street in the vicinity of the proposed northward extension of Old Solomon's Road.

- The sector study should also undertake an examination of the zoning along West Street directly to the east of Legion Avenue. This Plan recommends the retention of the existing character in that stretch of West Street (the R3-NC zone), however, a look at uses permitted in that zone is merited. This examination acknowledges that while the character of that stretch of West Street should remain, the commercial function of the buildings has become as important as their residential use and should be supported.

Policy Recommendations

Policy 1. Growth will be directed primarily to four Opportunity Areas, illustrated in Figures 3-7 through 3-10 and reflected in the Future Land Use Map.

Over the next decade, the City will formulate detailed land use and urban design plans for each of the four opportunity areas.

1.1 The detailed area plans should identify the necessary role of the City and other public entities in facilitating redevelopment, including, for example, infrastructure improvements and zoning changes.

1.2 Each of the four opportunity areas should be developed as models for ecologically sustainable urban development.

1.3 Each of the four opportunity areas should be seen as vital nodes on the network of public transit routes. Each area should be developed to promote a high transit demand so as to encourage the effective provision of transit city-wide. In other words, the development of the opportunity area and its transit demand should have a positive spillover effect on the quality of transit service. As an example, the development in the Outer West Street Opportunity Area should demand service to such a degree that residents elsewhere in the city benefit by virtue of their proximity to the same bus routes serving Outer West Street.

Policy 2. Infill development, redevelopment, and expansion outside of the four defined Opportunity Areas should be consistent with the character of the surrounding community.

2.1 Future development and improvements within the city should respect or restore, not distract from, the character of the surrounding community. A community is physically characterized by the scale and patterns of its roads and buildings, by the placement of buildings and automobiles within the landscape, by the types and granularity of its buildings, by the diversity and intricacy of their designs, their materials, their textures, and their detailing, by the relationship of buildings and landscape to the human scale, and by the mix of land and building uses within the community.

2.2 Community character is directly influenced by external elements: vistas, parks, and adjacent or nearby natural resources. Future development and improvements within the city should maintain or enhance a community's relationship to these elements.

Policy 3. Land areas devoted to light industrial and flex space will remain productive and sound for the operation of business.

3.1 As shown in the Outer West Opportunity Area plan and the future Land Use Plan Map, areas currently designated as light industrial or heavy commercial should remain in those uses and be protected and buffered from incompatible uses.

3.2 The City should work to ensure that the circulation and accessibility needs of industrial users is protected and secured, especially in light of planned land use changes in the Outer West Street corridor.

3.3 The City's economic development efforts should focus on business retention, intensification and expansion within areas zoned for light industrial use and in areas zoned for maritime businesses.

Policy 4. Support the expansion of professional office space such that office employment and the services provided by office-based businesses are readily accessible to all residents.

4.1 Professional office space should be a component of the development of Opportunity Areas recommended in this Plan.

4.2 Office space throughout the City should be maintained and expanded in a manner that complements the character of surrounding neighborhoods.

Policy 5. Protect and promote the neighborhood commercial retail centers in the city.

5.1 The City should follow land use planning and development strategies to protect and support the expansion of neighborhood commercial retail centers that serve local residents.

5.2 The City's economic development efforts should focus on business retention, intensification and expansion within areas zoned for neighborhood business.

Policy 6. Enhance the Public Realm of City Dock and its Environs.

City Dock and its environs are fundamental to the city's character and identity as a small seaport town with a rich history. Main Street has been designated one of Ten Great Streets in America by the American Planning Association, for its role as a living museum, a place that makes significant contributions to Annapolis' downtown economy at the same time that the entire downtown remains physically and visually connected to its history, maritime culture, and architectural character.

Given the importance of the City Dock area to Annapolis, a plan for its future must be developed with broad participation by the entire community, as well as downtown residents and businesses. A plan for the public realm of City Dock and its environs should begin with forming a Vision, from which specific implementation steps be developed. Such a plan should update the 1993 *Ward One Sector Study*, which has been the guiding planning document for the downtown area.

The plan for the public realm around City Dock should achieve:

- Maximize public access to the waterfront;
- Maximize pedestrian and bicycle friendly features;
- Minimize car parking during the day from the Market House to the end of City Dock at water's edge;
- Incorporate a variety of open places, both large and small, for people to congregate for various purposes;
- Manage parking supply, parking demand, and public transportation;
- Improve links between parking areas and transit, especially for employees;
- Accommodate boats of all types, as well as docking for cruise boats, commercial vessels, and water taxis;
- When hosting public events, balance the needs and interests of residents, businesses, and the event.

Policy 7. Acknowledging the importance of the Maritime Industry to Annapolis' character, identity, and economy, strive to ensure the Maritime Industry's sustained health and viability.

7.1 Promote Annapolis for maritime business, maritime tourism, and charter and fishing activities as part of Economic Development efforts.

7.2 Acknowledging that the local economy is impacted by national and regional trends in the boating industry, assist maritime property owners and businesses to remain competitive. The City will evaluate and implement programs and policies with the objective of maintaining a supportive business climate. This should include periodic assessments of the City's rates and regulations that apply to the maritime industry.

7.3 Assure safe and efficient navigation of Annapolis' waterways and promote the efficient use of the Annapolis Harbor. This policy acknowledges that the city's waterways have seen an increase in the number of larger vessels and at times experienced crowding due to build-out of residential and maritime waterfront properties and a robust population of transient boaters. It also acknowledges that the Harbor is the primary access point by the boating public and is used for many special events. The City will not limit access to the Harbor but can take measures to promote the efficient use of the space and balance the many demands placed on it.

7.4 Update the *2003 Draft Waterways and Harbor Plan* to address issues that are having an immediate impact on Annapolis' harbor and waterways: the increase in the number of recreational, transient, and stored vessels in city waters, the city's ability to accommodate them, their collective effect on boating safety, and the quality of the boating experience. Specifically, the Plan should address:

- Market trends and economic impacts and the response of the Annapolis maritime community;
- Improving the efficient use of Annapolis' waterways given the increase in boat traffic;
- The trend toward larger vessels, how Annapolis' public and private facilities can accommodate them and their impact on a marinas' relationship to the adjacent waterway;
- New criteria for determining harbor line amendments in order to balance the interests of the maritime industry, boaters, and the community;
- Overall use of the harbor, including docking and mooring;
- Public and private deficiencies in serving the boating public; and
- Rates and regulations pertaining to the use of public docks and moorings.

Policy 8. Continue to maintain stringent historic preservation requirements in the downtown area and protect and conserve neighborhoods utilizing the neighborhood conservation zoning designation.

8.1 The City's Neighborhood Conservation districts (shown on Figure 3-10) should remain in place and be continually monitored to ensure their effectiveness.

8.2 The City will work with neighborhoods wishing to implement a neighborhood conservation designation to protect neighborhood character.

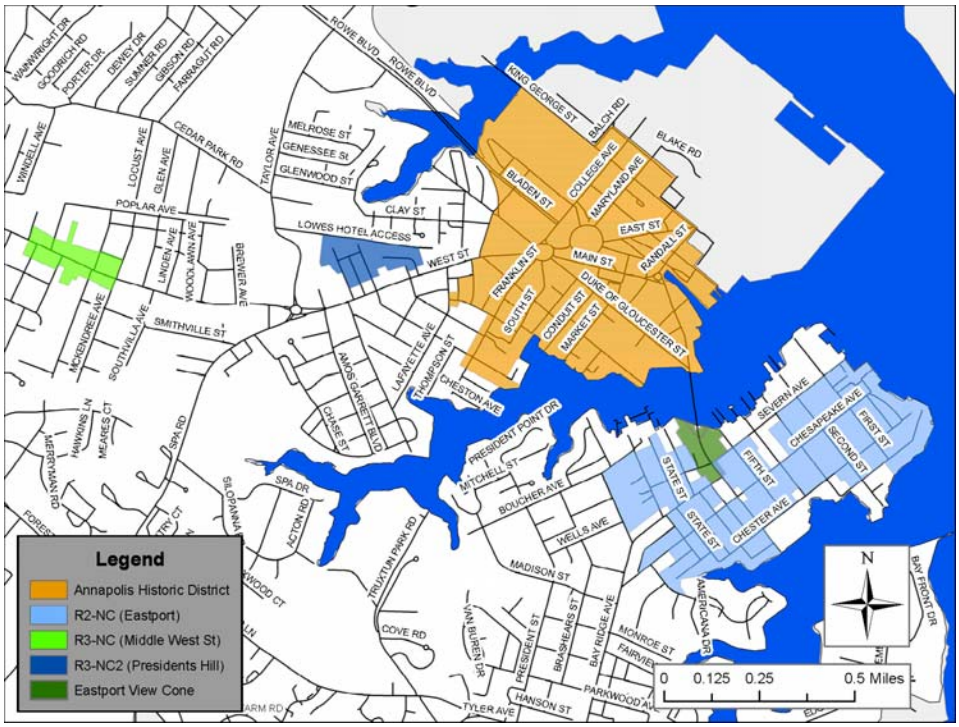


Figure 3-11 Neighborhood Conservation Districts Map

Policy 9. Annapolis' rich cultural history and wealth of current historic and cultural offerings will be protected and enhanced.

Cultural resources encompass at least two broad categories: 1) the historical assets, architecture, and venues for which Annapolis is renowned, and 2) cultural offerings, including performing and visual arts. Although Annapolis is a small city, it currently supports cultural activities of a variety and quality beyond most cities even much larger than Annapolis. These cultural offerings include an excellent symphony orchestra, ballet company, choral society, opera company, theatrical groups and numerous visual arts activities.

9.1 Encourage the success of the Capital City Cultural Arts District, building on Inner West Street's progress as a vibrant urban corridor. Create an "identity" for the District and foster the types of arts and cultural venues consistent with that identity. Ensure that the District's arts and cultural identity acknowledges the proximity of the adjacent residential neighborhoods and is consistent with the residential character and quality of life in those communities. Utilize the District to support and enhance the numerous arts and cultural organizations already active in Annapolis and to create opportunities for new cultural arts resources which will enhance the cultural diversity and vitality of the city.

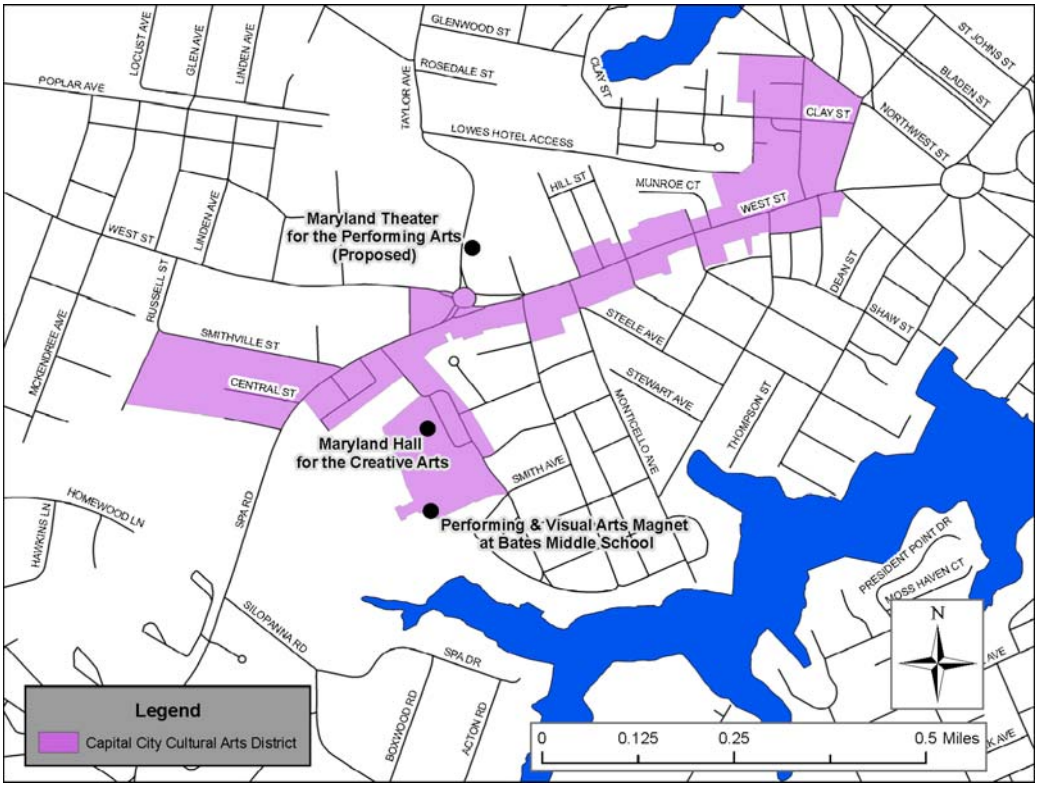


Figure 3-12 Capital City Cultural Arts District Map

9.2 Support the development of a world-class performance venue suitable for the orchestras, dramatic troupes, ballet and opera companies in the Annapolis area, that can accommodate their potential audiences and attract patrons from Annapolis and throughout the greater Washington-Baltimore area.

9.3 Preservation of Historical Assets:

- An updated Survey of the Historic Structures in the Historic District needs to be completed, building on the last one performed in 1984. The Survey allows the City to document change, manage future changes within the District in a comprehensive fashion, and evaluate resources needed.
- A comprehensive examination of cultural and historical assets in Annapolis outside the Historic District should be conducted.

9.4 Under-grounding overhead utilities in the Historic District must continue, to improve safety, protect the historical assets, and improve the attractiveness of the area. Under-grounding of utilities must be continued as a serious strategic effort and financial commitment, with the involvement of State and Federal partners, and building on the under-grounding that has been completed or is programmed for Main Street, Church Circle, State Circle, Inner West and Hanover Street.

9.5 Working with the cultural heritage organizations active in the Annapolis area, create a Cultural Heritage Strategic Plan to address the following challenges and needs:

- A Strategic plan for Advocacy, Education, and Marketing;
- Growing audiences and supporters by reaching new residents with interests in the arts;
- Expanding the organizational capacity of arts organizations;
- Coordinated public access to shuttles, transportation, and parking that serve arts venues.

Policy 10. Evaluate risks from sea level rise in decisions involving land use along the waterfront.

The parts of the established downtown which are prone to severe flooding and may be expected to be impacted by sea level rise should be the subject of a study to determine the costs and benefits of public intervention in mitigating property damage. Refer to Figure 7-7 and Policy 3 in Ch. 7 – *Environment* for further treatment of the City's policy position on sea level rise. Notwithstanding this, land use in areas that are prone to flooding should be evaluated carefully when land use changes are proposed.

Policy 11. Through land use planning and economic development activities the City will work to ensure the maintenance of its AA+ bond rating or better.

11.1 The City should biennially review land development trends and policies with the goal of maintaining and/or improving the City bond rating. In this regard, the City should develop evaluative criteria related to land use change and the value added to property assessments, the cost of municipal services to serve development, and growth and change in employment and commercial land use base.

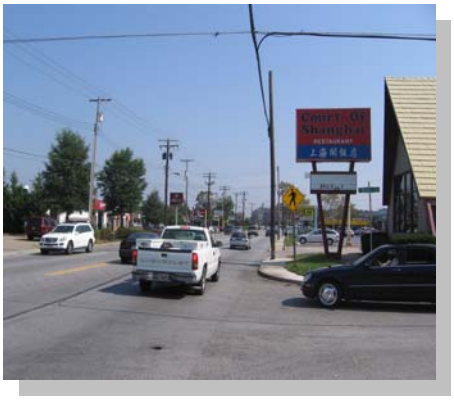
11.2 The City should examine zoning and subdivision regulations and determine where streamlining of regulations and procedures could produce reductions in development approval times, while maintaining a high quality of plan review and public information about and oversight of development approval.

11.3 The City should maintain high standards of development design, landscape architecture and adherence to architectural standards to elevate and sustain the tax base and value of the built environment.

CHAPTER 4: TRANSPORTATION

Introduction

Annapolis seeks to enhance mobility and accessibility within the city by advancing realistic and achievable land use concepts and transportation strategies. This Plan calls for a fundamental shift in transportation planning and development. The City's efforts to improve mobility and accessibility will mean that automobile use in the city cannot be allowed to grow as a percent of total trip making.



West Street

While this is a city transportation plan, it is informed by and takes into account development and traffic trends outside of Annapolis that have a bearing on the city.

Primary Challenges

In past decades while there was still a net outflow of commuters from the city to distant work locations, incremental highway expansions were seen as reasonable solutions to the problem of peak-period congestion.[5] Not any longer. Indeed the nature of the problem has changed. Today, there is a net inflow of workers and visitors each day.

The movement of people and goods throughout the city and to and from the growing residential and shopping areas adjacent to the city is also now extensive. Special events to which the City plays host also add to congestion and parking problems at certain times of the year. All of this is complicated by geography and the fact that access to and from the regional highway system is confined to only a few routes. The area highway system is operating at or near its capacity, so even minor disruptions (e.g. an accident) can cause gridlock on the network of streets and highways serving the city. Continued regional growth will contribute to the city's transportation challenges.[6]

Annapolis is also home to many people whose travel and housing options are limited because of lower income levels, driving ineligibility, or disability. Rising fuel prices also affect travel decisions. The air quality and other environmental impacts of automobile use and traffic congestion are now broadly acknowledged.

5 Major highway projects in the Annapolis area were constructed, including Aris T. Allen Boulevard, Interstate Highway Route 97, connecting MD Route 2 to Forest Drive, and the Rowe Boulevard expansion.

6 The federal Base Realignment and Closure Act (BRAC), which will consolidate many federal defense related jobs in Maryland, is expected to add approximately 10,000 jobs and 4,400 housing units to Anne Arundel County.

In light of current conditions and forecast growth, expanding streets and highways to accommodate automobile travel will not increase overall mobility or accessibility, nor will it make the most efficient use of our public rights-of-way. Even the state and county highway improvements presently programmed for the Annapolis area will not, in the long term, meaningfully improve operations over current conditions. Without a decisive course correction in transportation policy, by 2030, traffic congestion will impede the flow of goods and services, choke the quality of life in the city and its environs, and dim the ambience that attracts millions of yearly visitors.

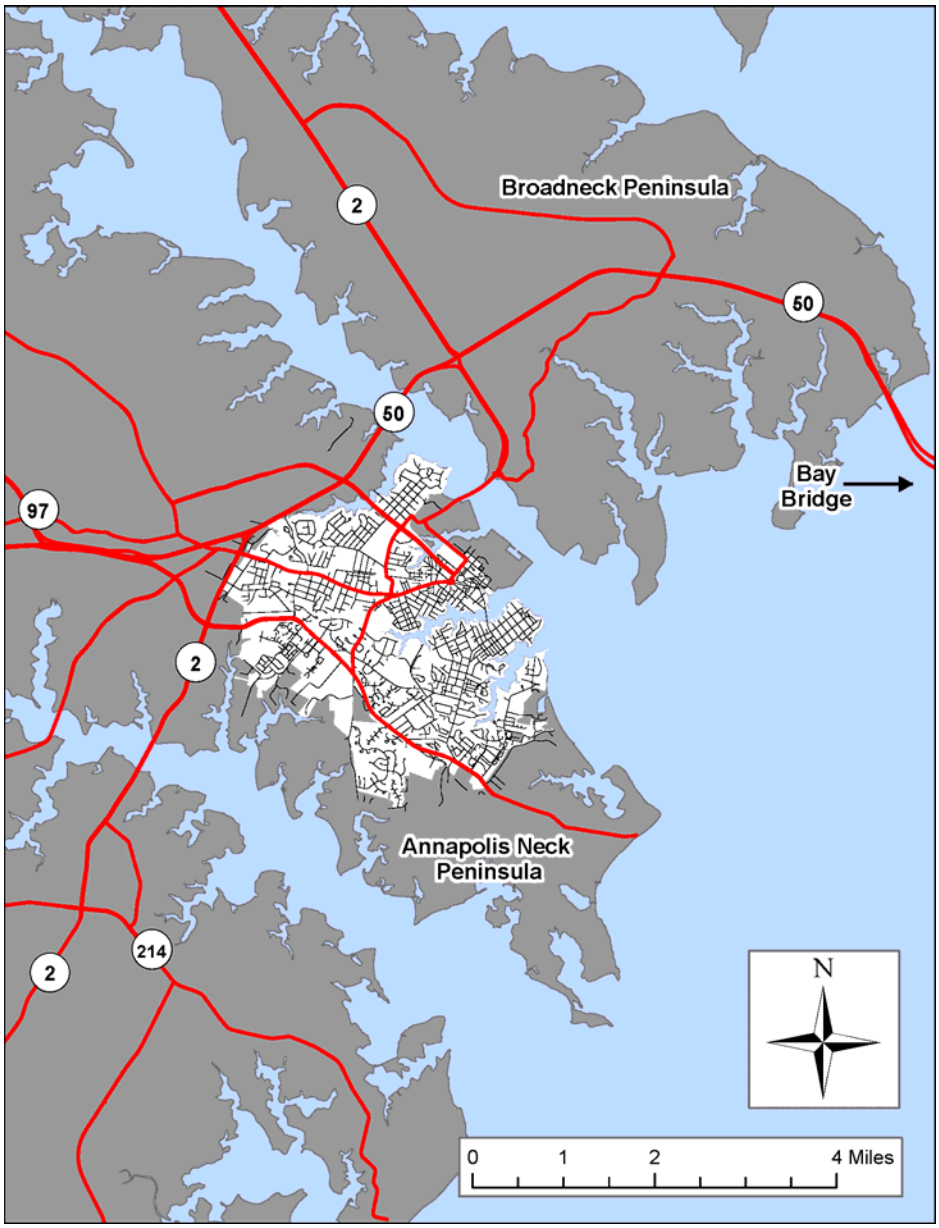


Figure 4-1 Regional Automobile Routes

Summary of Existing Conditions

An inventory and assessment of streets and highways, local and regional transit service, the bicycle and pedestrian network, and parking conditions are documented in Appendix A. Key findings are summarized in this section.

- **Streets and Highways**. Figure 4.2 shows the functional classification of streets and highways in Annapolis. The arterial street and highway network which is intended to carry comparatively large volumes of traffic includes freeways, such as MD Route 50 and Aris T. Allen Boulevard (MD 665), Major Arterials such as Forest Drive (MD 665) and Rowe Boulevard (MD 70), and Minor Arterials such as West Street (MD 450) and Bay Ridge Avenue (MD 181). The Major and Minor Collector streets function to collect traffic from neighborhood or residential streets and convey that traffic to arterial streets and highways. Examples of streets that perform this function include Tyler Avenue and Gemini Drive.

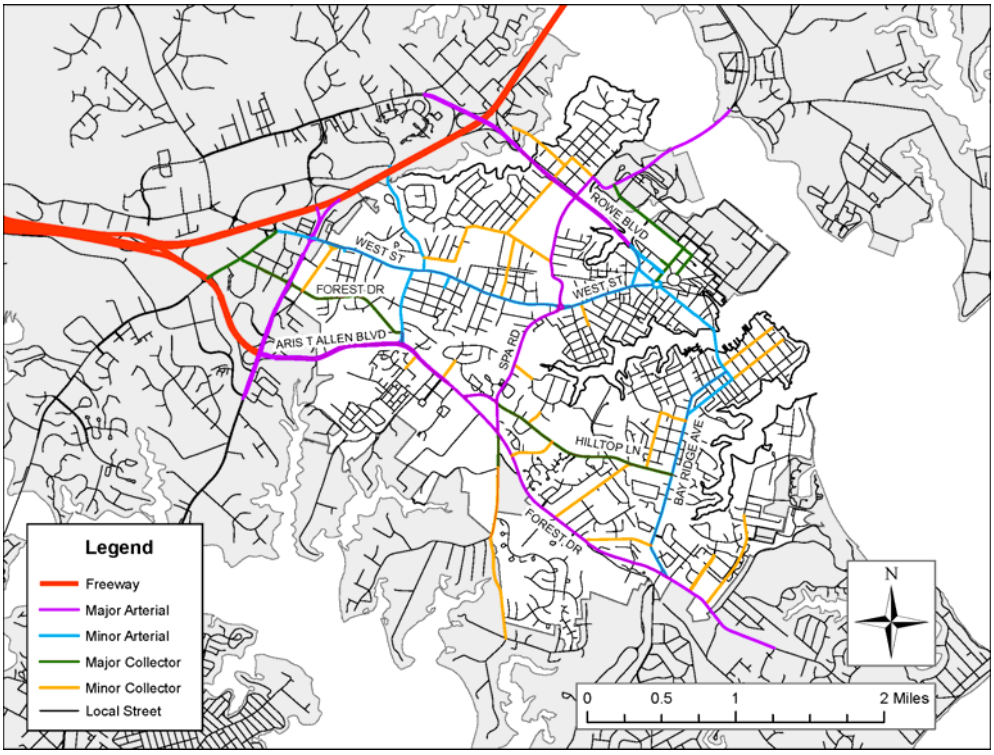


Figure 4-2 Functional Classification Map

- **Congestion.** The major streets and highways shown on Figure 4.2 have since the last Comprehensive Plan continued to experience increasing traffic volumes and deteriorating levels of service. Figure 4.3 shows the distribution of congestion expected in the year 2030. It represents the results of a 2030 travel forecasting model employed in the development of this Plan. In projecting the level of congestion for the year 2030, the model incorporated the latest socioeconomic data and roadway improvements planned or programmed by the City, Anne Arundel County, and the regional transportation plan. As shown, by 2030 all major radial and cross-town routes will experience severe congestion including significant sections of Forest Drive (MD 665), Hilltop Lane, Bay Ridge Road (MD 181), Spa Road (MD 387), Taylor Avenue (MD 435), West Street (MD 450), and Rowe Boulevard (MD 70). Sections of these roadways will operate at failing levels of service during peak travel periods.

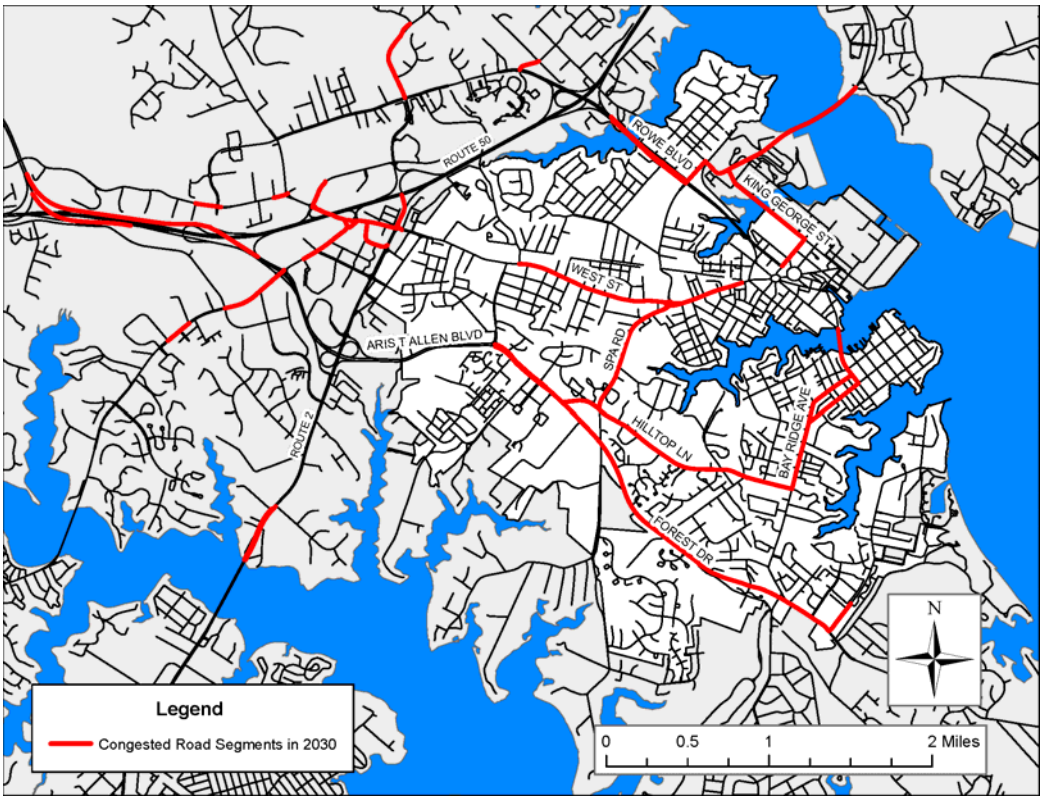


Figure 4-3 Congested Road Segments (Peak Hour) - 2030 Map

- It is in this context that the Comprehensive Plan represents a rejection of the Baltimore Regional Transportation Board "Outlook 2035" as it pertains to Annapolis. Outlook 2035 is the long-range transportation plan prepared for the Baltimore metropolitan area.[7] While recognizing that this regional Plan is constrained by fiscal resources, it reflects a timid vision of the future. It recommends no regional transit investment to serve the Annapolis area but proposes a two-lane widening of US Route 50/301.

7 The Baltimore Regional Transportation Board is the federally designated Metropolitan Planning Organization covering a six county region, inclusive of Annapolis. All federally funded transportation improvements come out of this regional planning process.

- **Local Transit Service**. Almost three quarters of all city residents live within a 5-minute walk to a bus stop. The City operates a local bus transit system, which includes two free downtown shuttles, regular fixed route services on five routes, and one deviated fixed route service.
- **Regional Rail & Bus Service**. Regional commuter bus services provided by the Maryland Transit Administration (MTA), Greyhound and other private companies connect Annapolis with Washington DC, Baltimore, and BWI Airport. Annapolis lacks rail access to both Washington, DC and Baltimore. The closest DC Metro Station is the New Carrollton Station, and the nearest Baltimore Light Rail Station is Cromwell Station in Glen Burnie.
- **Bicycle Network**. Bicycle lanes and routes in Annapolis are limited and fragmented. There are few streets with designated bicycle lanes, although off-road trails are part of the City's Colonial Annapolis Maritime Trail system (shown in Chapter 6 – *Parks*, Figure 6-2). In general, it is difficult to provide bike lanes on the city's historic streets, and on other roads the right-of-way widths frequently cannot accommodate bicycle lanes. In early 2008, the Annapolis Bicycle Transportation Committee (ABTC) was convened to assess the city's bicycle network and amenities and recommend improvements. The ABTC's Nov. 2008 Report proposed short- and long-term solutions to improving Annapolis bicycle facilities and assessed critical missing links in the network. To guide future City decisions in regards to bicycle facilities, the ABTC proposed the Vision Statement in Figure 4.4.
- **Pedestrian Network**. Streets in the historic downtown and sidewalks along many recently reconstructed roads provide a good experience for pedestrians and are designed at a scale that makes walking enjoyable. Thousands of tourists visit Annapolis every year and walking is their primary means of experiencing the city. However, even though Annapolis has the reputation of being a walkable city, more needs to be done to enhance city-wide pedestrian connectivity. Pedestrian conditions on some roads are characterized by narrow sidewalk widths and deteriorating conditions. These areas are often blocked by utility poles or tree wells, interrupted by curb cuts or gaps, and sometimes end without warning. In 2004 the City produced the TeamPed map, which acts as an assessment of pedestrian connectivity throughout the city and prioritizes routes in need of improvement (Figure 4.5).
- **Parking.** Parking issues in Annapolis are generally confined to downtown: at times the demand for parking outweighs the supply, especially during special events that attract large numbers of visitors. Residential parking permits issued greatly out-number on-street spaces available in the downtown districts. Finally, during weekday business hours, much of the parking downtown is in use by vehicles parked there for the full-day. Meanwhile, the pricing structure for the Navy Stadium Lot does little to encourage drivers to park there rather than driving downtown to park.

- **Ongoing Transportation Planning.** Transportation planning, at various levels of study, in the Annapolis area is an ongoing endeavor. The regularly updated and adopted Annapolis *Transit Development Plan* provides guidance to the expansion and operation of local buses.[8] The City is working on projects at various stages of implementation to create a coherent pedestrian and bicycle network. Anne Arundel County and the Maryland Department of Transportation have planned expansions to the highway network serving the Annapolis area, including the Forest Drive Corridor. The City has studied enhancing the capacity of Forest Drive (MD 665) through construction of a relief road.[9] Many other improvements have been recommended over time, studied, and documented,[10] and the City continues to seek cooperation and opportunities for joint planning with Anne Arundel County.[11]

Vision Statement by the Annapolis Bicycle Transportation Committee. April, 2008.

The City of Annapolis recognizes the many environmental, economic and health benefits of walking and bicycling for both transportation, recreation and tourism in our city. Foremost among these benefits are reduced traffic and parking pressure, stronger communities and neighborhoods, and enhanced mobility for all residents and visitors. Therefore, it shall be the policy of the City of Annapolis to invite, welcome and encourage more bicycling by planning, developing and continually improving safe and accessible streets through programs like Safe Routes to School and off-road networks and amenities such as bicycle storage, signage, education, enforcement and maps.

As the capital city of Maryland and the heart of the Chesapeake Bay watershed, Annapolis should promote bicycle use in order to reduce automobile congestion as a part of its clean air strategy in a region that has been determined by the Environmental Protection Agency to be a non-attainment area because of high ozone levels directly related to automobile exhaust, and where highway funding is tied directly to specific actions undertaken by local governments to promote alternative forms of transportation.

To demonstrate this commitment, the City will hire or designate a bicycle/pedestrian planner whose short term goals will be to procure grants, enlist state support, coordinate bicycle initiatives with the county, build partnerships with bicycle and pedestrian groups, and promote safety and education programs to enhance bicycling. The planner's long term goals will be to develop a bicycling master plan that will result in Annapolis' becoming a Bronze-level Bicycle Friendly Community as determined by the League of American Bicyclists by June 1, 2011 and to continue to improve thereafter and become a Silver-level Community by 2016.

As the only municipal hub in the United States where two national trails (the East Coast Greenway Trail and the American Discovery Trail) converge, and as the finish line for the Race Across America, and as a key link to international destinations via the B&A Trail, the BWI Trail, BWI Thurgood Marshall Airport, AMTRAK, and Greyhound/Trailways, Annapolis will be a world-renowned bicycle destination where safe bicycling is an accepted form of transportation.

Figure 4-4 Vision Statement by the Annapolis Bicycle Transportation Committee

8 Last Transit Development Plan adopted in 2003.

9 Forest Drive Relief Route Alignment Study, 1999.

10 Including the 1998 City of Annapolis Comprehensive Plan and the Draft 2006 Annapolis Region Transportation and Vision Master Plan. The 2006 report was developed jointly by the City of Annapolis, Anne Arundel County, the U.S. Naval Academy, and the Maryland Department of Transportation. It represents a step toward the joint and cooperative transportation planning recommended prominently in the 1998 Annapolis Comprehensive Plan.

11 The local and regional impacts of the Base Realignment and Closure Act which will add employment and population to Anne Arundel County and underscores the need for cooperative and expeditious planning and transportation improvement in the Annapolis area.

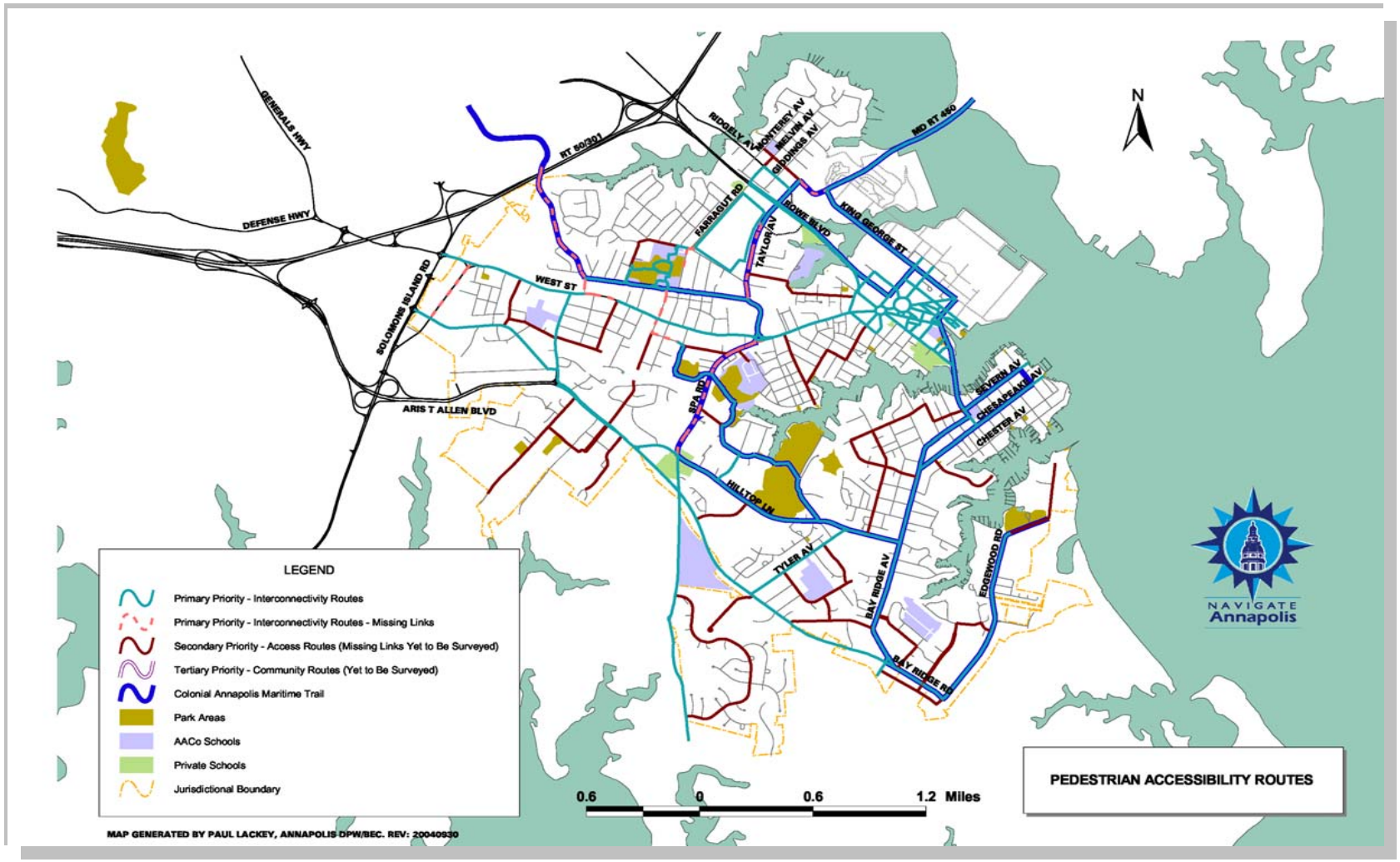


Figure 4-5 Team Ped Map

Principles & Objectives

These guiding principles inform the City transportation policies. These principles, while universal, address the basic transportation planning issues present in Annapolis. Also presented are the objectives of the transportation plan.

Principle 1. Transportation plays a critical role in the achievement of personal and community goals.

Access to good transportation, including the choice of safe travel modes, provides the freedom to choose between a variety of places to live, work, shop, and recreate. The role of transportation in making accessible opportunities for human advancement and cultural enrichment is paramount.

Objectives:

- All neighborhoods in Annapolis should be readily accessible to transit service. This practical meaning of accessibility in terms of frequency of bus service should be determined through the Annapolis *Transit Development Plan*, but at a minimum, no resident shall be prevented from reaching a covered transit stop because of lack of sidewalks or poor sidewalk maintenance.
- A transportation system that protects public safety and minimizes the frequency and severity of accidents.
- A transportation system that links all major institutional land uses and activity centers together for ease of access and convenience regardless of mode of travel. No city resident should be prevented from accessing the following opportunities in or immediately adjacent to Annapolis on account of poor transportation: desired employment, medical care, educational, civic, recreational, and other institutional resources or centers, and shopping.
- A transportation system that fully integrates information and communication technology to manage system performance, help users make good travel decisions, and generally meet the transport needs of the city's citizens and visitors.

Principle 2. Transportation offers a significant opportunity to move toward a "Green" Annapolis

A host of current environmental problems, from air pollution to storm-water runoff, have their roots in our transportation system. To improve our environment, we must change transportation.

Objectives:

- Reduced air and water pollution linked to transportation.
- Reduced transport-related energy consumption.
- A public transportation system that is a convenient and fully functional replacement for auto use.
- Improved infrastructure for walking and bicycle transportation.

Principle 3. Transportation systems both lead and follow important changes in our city's land uses.

Investments in transportation can be targeted to support development patterns that are environmentally and economically sustainable.

Objectives:

- Transportation system capabilities provide a high level of mobility to and within downtown and all other activities centers in the city and in nearby Parole.
- Acknowledging that our development patterns are shifting toward higher density, the City must emphasize high capacity modes of transport over single occupant vehicles.
- The development plan review and approval process must reflect the objectives and policies of this Plan, in addition to a project's auto traffic impacts.

Principle 4. Transportation investment and operating priorities in Annapolis must shift to transit, pedestrians and bicycles first, automobile second.

This Plan recognizes that our City has changed significantly in the past ten years and foresees continued change in the decade ahead. The Plan must guide the City towards meeting these challenges. It is imperative that the transportation system shift away from reliance on single-occupant vehicle use towards transit and other alternative modes of transportation. This shift will allow the City to capitalize on its character as a compact and walkable community and focus on restoring and improving the safety and convenience of sidewalks, trails, and bicycle facilities.

Objectives:

- Convenient access to local and regional public transportation for every citizen.
- Bicycles and walkways recognized as an important part of the transportation mix.
- A transportation system that allows the users of the system to factor the external costs of transportation into travel decisions and promotes travel decisions that limit congestion and environmental impacts and improves quality of life.

Transit Downtown

Principle 5. Parking is key to transport system operation and funding.

The storage of vacant unused automobiles has been a problem for cities for as long as people have used cars for urban travel. The need for parking is a key lever for influencing when, where, and how people choose to use autos. By using parking as an incentive and disincentive, the City can move toward achieving its overall transportation goals.

Objectives:

- Reduced environmental and land costs associated with auto use and storage within the city.
- Parking pricing and availability is managed by the City in a manner that maximizes the potential for people to choose non-auto alternatives.
- Parking revenues contribute to improvements in transit services and infrastructure.

Knighton Parking Garage

Policy Recommendations & Major Projects

Policy 1. The Opportunity Areas recommended in the Land Use Chapter will each contribute system-wide transit demand such that this demand (i.e. transit ridership) can be leveraged to efficiently operate and expand the entire transit system.

1.1 New development in the Opportunity Areas must contribute to the operation and efficient expansion of transit services. Transit demand will be increased through higher residential densities, site design, parking limits and pricing, and other strategies detailed elsewhere in this chapter. The land use planning standards that will guide the redevelopment of the four Opportunity Areas are set forth in Ch. 3 - *Land Use & Economic Development*.

1.2 As more detailed planning and actual development of the Opportunity Areas proceeds, techniques designed to moderate the demand for travel will be implemented. The Transportation Demand Management techniques described in Policy 10 should be applied in each Opportunity Area.

Policy 2. Public transit vehicles, which carry far more passengers per gallon of fuel and per unit of street infrastructure than individual automobiles, will be given priority on all major streets and highways serving Annapolis.

Recommendations for achieving this include:

2.1 Transit signal priority. Transit signal priority uses on-vehicle or roadside technology to give preference to transit vehicles as they move through signalized intersections. The goal is to make minor adjustment to intersection signals to reduce or eliminate delays to transit vehicles. Transit signal priority should be incorporated into the Forest Drive Corridor immediately.

2.2 Dedicated transit lanes. In a congested street network, the expansion of transit services–either by adding buses or making their routes more frequent—subjects passengers to the same congestion as the surrounding traffic. Transit's advantages are dissolved when buses are stuck in traffic. Providing dedicated travel lanes for buses or shuttles reduces travel time and allows buses and other transit shuttles to keep moving even when cars are slowed by congestion. Dedicated transit lanes along Forest Drive (MD 665) should be studied to determine potential impacts, costs, and benefits.

2.3 Institute real-time passenger information systems throughout the transit system at transit stops and stations and through electronic hand-held communications equipment.

Policy 3. Pursue the creation of a regional transit system serving the needs of Annapolis commuters, residents, and visitors.

3.1 Conduct a Feasibility Study of improved express transit service between Annapolis and Washington DC, Baltimore, BWI Airport, and the Eastern Shore. The study should determine what level of transit services are needed. The Feasibility Study should be done in partnership with the County and State.

3.2 It is the expressed policy of the City of Annapolis that the City be connected via rail transport to the broader region. The feasibility study called for in 3.1 above should determine the conditions under which rail transport between Annapolis and Washington, DC and Annapolis and Baltimore would be feasible. It should lay out a strategic plan for the development of a rail service and how that service can be seamlessly connected to and integrated with existing rail services in the Washington and Baltimore Metropolitan Areas.

3.3 A Multi-Modal Transportation Hub should be constructed to serve as the primary terminal for regional and local transit, taxis, and airport shuttles. Promote a partnership of public agencies and the private sector for the purpose of constructing the Hub. The Hub is envisioned to be located in the general vicinity of West Street (MD 450) and MD Route 2, however the public-private partnership should reach agreement on the specific location of the Hub as well as its scope and program. In addition to serving as the Hub for public transit, it should provide intercept parking for vehicles, a bicycle rental facility, and be connected to the developing bicycle network.

3.4 Advocate for reforms in transportation funding arrangements at the County, State, and Federal levels to achieve regional decision-making and modal choice and eliminate bias against pedestrian, bicycle, public transit, and rail projects. Pursue the reinstatement of dedicated federal transit funding recently withdrawn by federal agencies.

3.5 Pursue the establishment of an organizational structure and funding mechanism in support of cooperative transportation planning and funding in the Annapolis area, if not through mutual agreement of Annapolis and Anne Arundel County, then by the private and/or non-profit sectors.

Policy 4. Specific and targeted improvements to the local street system should be made with priority to those that improve cross-town circulation, route continuity for public transit, and intersection capacities.

Figure 4.7 shows the location of these projects. The system improvements should be made as described below:

4.1 Chinquapin Round Road / West Street / Admiral Drive Intersection Realignment: The Chinquapin Round Road and Admiral Drive intersections with West Street (MD 450) are offset, which inhibits continuous cross town movements and contributes to local and system-wide traffic congestion. Figure 4-6 shows four conceptualized improvement scenarios. What is not shown in Figure 4-6 but has merit as both a transportation and urban design solution is a roundabout at the intersection of Chinquapin Round Road and West Street. A roundabout at this location should be evaluated as a component of each of the four alternatives shown in Figure 4-6 during the preparation of the Outer West Street Opportunity Area Master Plan.

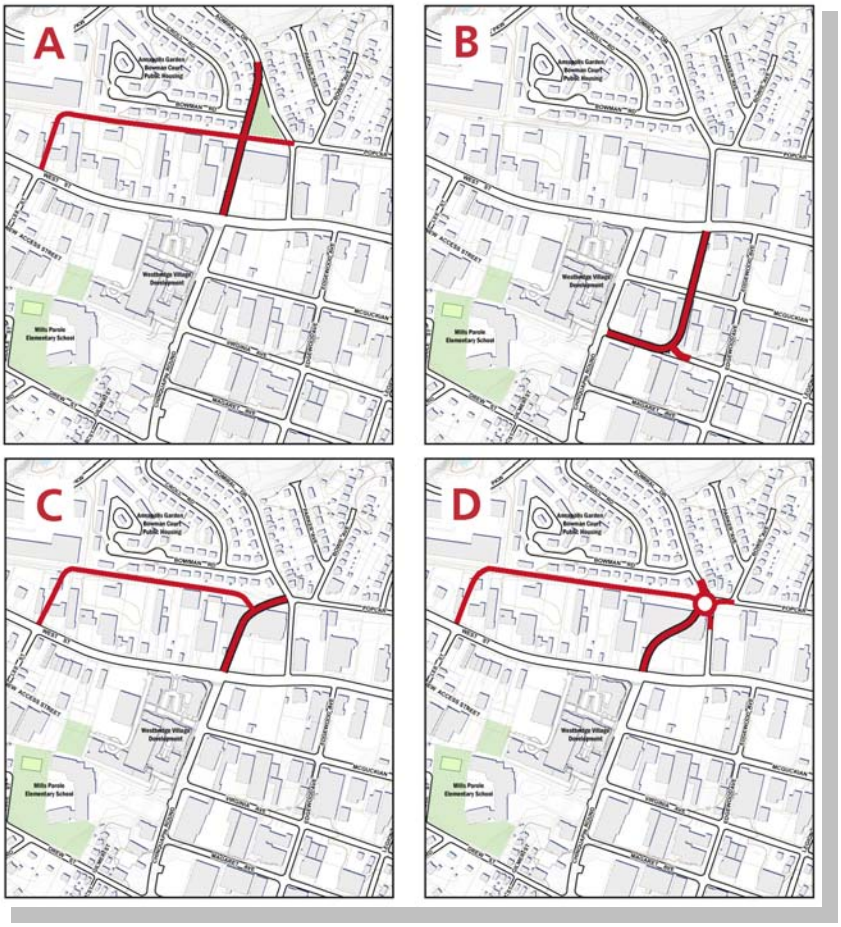


Figure 4-6 West St.– Chinquapin Round Rd. Intersection: four conceptual scenarios for improvement

4.2 Outer West Street (MD 450) from MD Route 50 to Chinquapin Round Road: Outer West Street with its multiple and uncoordinated commercial driveways, poor pedestrian safety record, high vehicle collision rates, congestion, and inefficient carrying capacity, is obsolete in its current configuration. The route needs to be improved, deserving of its role as a major gateway street. A traffic circle at the intersection of Old Solomon's Island Road and West Street should be evaluated, and if found feasible and beneficial, created by 2030. Pedestrian amenities, bicycle lanes, and modern and efficient transit operations should be featured prominently on the new Outer West Street.

4.3 Taylor Avenue (MD 435), MD 450, King George Street (MD 450) and Naval Academy Gate 8: MD Route 450 brings traffic into Annapolis but fails to connect directly to a major route. During special events and when traffic overflows from US 50, traffic can back up onto Taylor Avenue and King George Street and choke the intersection of Taylor with Rowe Boulevard (MD 70). An engineering study should be done, with the goals of alleviating peak period traffic backups, improving transit efficiency, adding bike lanes, and enhancing access to and circulation within West Annapolis.

4.4 Taylor Avenue (MD 435) from West Street (MD 450) to Rowe Boulevard (MD 70): The capacity of Taylor Avenue should be re-examined to determine how best to accommodate traffic and transit operations and improve pedestrian and bicycle access. A feasibility and engineering study should focus also on the access and circulation needs of the neighborhoods along this section of Taylor Avenue.

Policy 5. In light of the continuing growth of congestion in the Forest Drive corridor, preserve and enhance the array of solutions currently at the City's disposal.

The 1998 Comprehensive Plan and other studies recommended a parallel service road running on the south side of Forest Drive (MD 665) – the Forest Drive Relief/Service Route. To that end, as land has been annexed into the city, a future road right of way has been reserved. The proposed route, however, has some important environmental concerns and potential capacity limitations that may reduce its desirability and usefulness. The City must keep a broad set of options available for dealing with this congestion in the future. If problems grow as forecasted, these options will become increasingly important in engineering an overall solution. For now, Anne Arundel County is widening Forest Drive from Aris T. Allen (MD 665) to Hilltop Lane, adding a lane in each direction. These are first steps in a phased improvement to the corridor.

To adequately address, congestion in the Forest Drive corridor, however, it will be necessary to update the prior studies in order to recommend a comprehensive set of improvements which will document and weigh the potential impacts of a parallel service road and provide a set of improvements to access and circulation within the Forest Drive corridor and the Forest Drive Opportunity Area (see Ch. 3 - *Land Use & Economic Development*). The goals of the improvements in the Forest Drive Corridor are to:

- reduce peak-period congestion,
- provide some measure of redundancy in the arrangement of streets by expanding connectivity in the existing road system and between neighboring grids, thus enabling short trips to be made without accessing Forest Drive (MD 665),
- advance the City's commitment to alternative forms of transportation and reduced dependence on the automobile. In determining the future use of the Forest Drive parallel service route, priority should be given to alternative forms of transportation – transit, bicycles, pedestrians.

Figure 4.7 shows the location of the study area.

Policy 6. Street improvements should be made to support the implementation of the Opportunity Areas.

Improvements to the street systems are required in each Opportunity Area to support the redevelopment goals that are central to this Comprehensive Plan. Specifically these street improvements should help ensure that the future development resolves long-standing transportation safety and congestion concerns. Bicycle and pedestrian amenities are an important element of redevelopment of the Opportunity Areas, and street improvements should adhere to the "Complete Streets" principles outlined in Policy 8. It is recommended that new development build these improvements. The improvements are shown on Figure 4.7. They are conceptual in their location and alignment and will need to be further detailed as part of the development plan review and approval process. They are summarized below by Opportunity Area:

6.1 Outer West Street Opportunity Area: A street running parallel to West Street (MD 450) as a rear access road for the parcels on the north side of the street, with coordinated access and intersection controls, will provide redundancy in the street network and connect parcels, thereby alleviating traffic on West Street. Extending the Poplar Trail west of Admiral Drive should be considered.

6.2 West Annapolis Opportunity Area: The road improvements are primarily ones that are required to alleviate current congestion and delay on Taylor Avenue (MD 435). Redevelopment activities in this area should include street improvements to help resolve the traffic congestion and create a more pedestrian oriented environment.

6.3 Forest Drive Opportunity Area: Network improvements are needed to tie the development into the surrounding road network, including the conceptual Forest Drive Relief/Service Route (see Policy 5). Gemini Road should cross Forest Drive (MD 665), and a road should be constructed parallel to Forest, extending Skipper Drive, to provide redundancy and enhance connectivity. A road linkage is also recommended the Safeway Food & Drug parking lot to the Opportunity Area such that there is a continuous side street from Chinquapin Round Road to Spa Road.

6.4 Bay Ridge Opportunity Area: The focus is on creating inter-parcel connections and redundancy in the network of local streets. Here it is recommended that a street be constructed parallel to Bay Ridge Road (MD 181) and that Georgetown Road cross Bay Ridge Road to help connect development on north and south sides. A high level of pedestrian access and safety is envisioned.

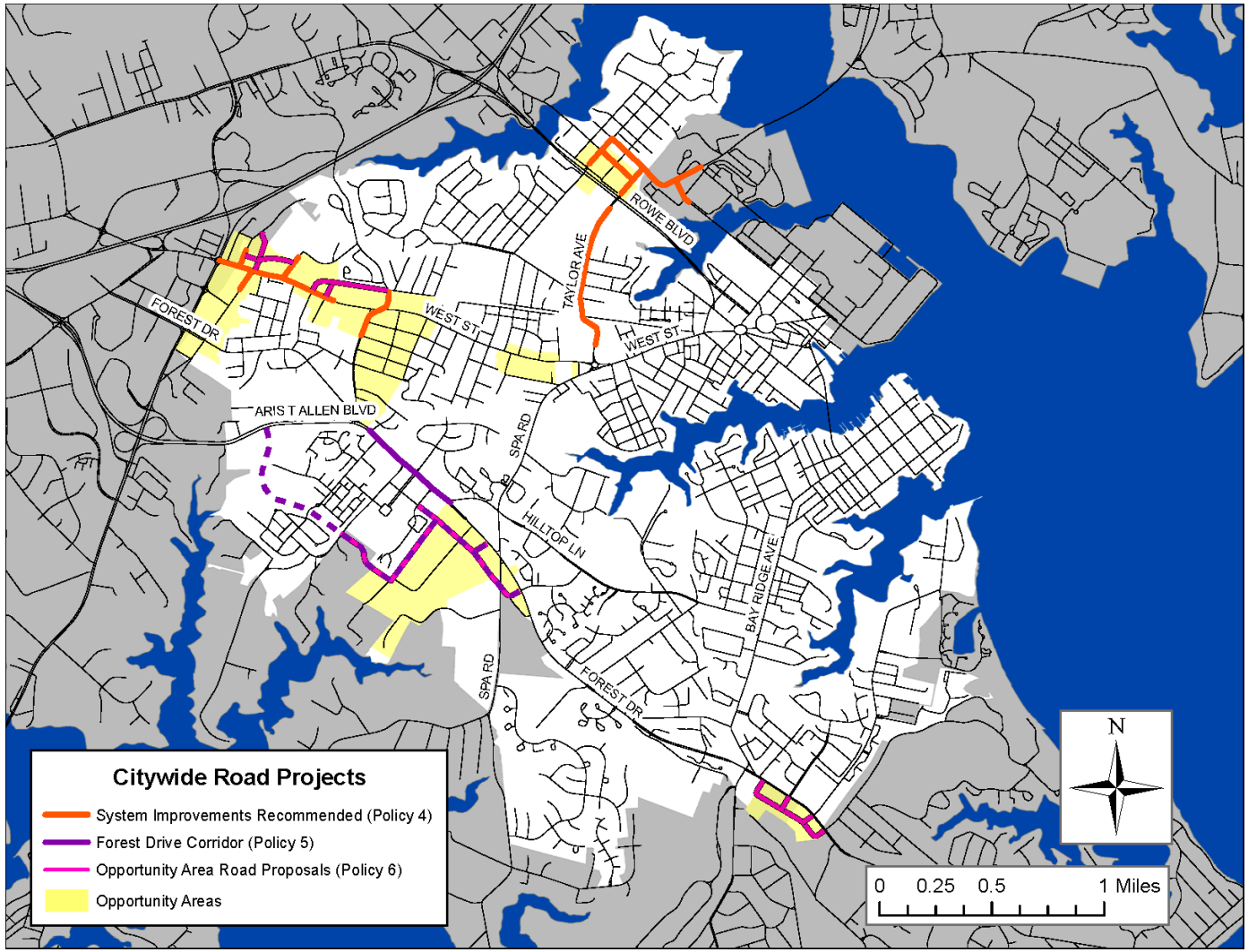


Figure 4-7 Citywide Road Projects Map

Policy 7. Parking throughout the City will be priced and the supply managed to reduce demand for automobile travel during peak congestion periods and to help fund transit, biking, walking, and ferry service.

The means for achieving this include:

7.4 Parking should be priced according to demand. Spaces in the highest demand should be priced at the highest rate.

7.5 Long-term parking should be outside the city center and at satellite lots. Short-term parking should be accommodated in or near the city center. The City should provide timely, frequent, and comfortable transportation from satellite lots to the city center.

7.6 Utilize technological solutions to manage parking—real-time parking information at key gateways to downtown, a pay-and-display system to increase parking capacity and allow pricing to be set in response to demand, and technology that supports parking enforcement.

Bicycle Parking

Policy 8. The City will invest in system-wide improvement to convert main streets and avenues into "complete streets"—that is, streets which serve the full needs of the community.

Depending on the location, this could mean retrofitting existing streets to add sidewalks or tree planting strips, striping roadways to reinforce the shared use of streets for bicyclists, installing traffic calming improvements, and approving a unified set of standards. Part of this policy is a goal of making Annapolis a premier community for safe and reliable bicycle transportation and walking and promoting safe pedestrian and bicycle access to all schools in the community.

8.2 The design of Complete Streets elements will be done in coordination with the Maryland State Highway Administration's Community Design Division. The State of Maryland has awarded Annapolis a Safe Routes to School grant and this and similar programs, such as the Sidewalk Retrofit Program, will be key tools for implementing this policy.

8.3 Build on the ongoing work of committed residents to create a world-class network of bicycling facilities and routes, and undertake the following key bicycle transportation improvements:

- Connect the Poplar and Spa Creek Trails.
- Extend the Poplar Trail to the downtown area in part by improving the service roads running parallel to West Street (MD 450). Extend the Poplar Trail to Parole, the Annapolis Mall, and to the Anne Arundel County South Shore Trail.
- Work with the State Highway Administration to install bicycle lanes on all State roads within the city.
- Develop a bicycle parking strategy that includes improved bicycle parking facilities at automobile parking facilities and other locations in commercial districts.
- Improve bicycle route signage and develop an action funding plan to implement the feasible bicycle facility improvements and policy changes recommended in the Annapolis Bicycle Transportation Committee's November 2008 Report.

8.4 Building on the TeamPed Initiative and supporting the City sidewalk program, complete a Pedestrian Master Plan that formulates: an action plan for initial projects and programs; pedestrian improvements integrated with the transit system; funding recommendations; a prioritized program for repair, maintenance, and enhancement; and remediation of critical deficiencies that present safety issues.

8.5 The City of Annapolis is committed to upholding the intent and spirit of the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973. This commitment extends to all programs, services and activities, such that no individual with a disability shall be discriminated against on the basis of his or her disability.

- Where applicable ensure compliance with ADA Standards.
- Where possible comply with ADA Best Practices.

8.6 The primary function of major streets should be indicated through the use of landscape architectural treatments that are designed in harmony with the community character. West Street (MD 450), for example, is a major gateway from Parole into the center of Annapolis. It should project a unified appearance as a gateway with street trees, plantings, street lights, bike lanes, sidewalks and improved crosswalks.

Policy 9. Conventional methods for evaluating a development project's traffic impacts will be replaced with a more coherent and balanced urban planning-based evaluation of accessibility and mobility.

Conventional traffic impact studies are not sensitive to the role of transit service or walking and biking options in an urban community. Nor can they ever be considered a tool for creating mixed use communities where higher density development and options for various forms of travel are to be encouraged. If transit, walking, carpooling, and all other modes of travel are not considered appropriately, a traffic impact study may suggest solutions that effectively over-build the capacity of streets and highways at the expense of the place-making goals of this Plan. A Planning Commission which relies on the results of a conventional traffic impact study might actually act to deny the very development projects which are needed to convert an underutilized suburban pattern into a more economically vibrant one.

9.1 The City will adopt an area-wide approach to the study and monitoring of traffic conditions and projection of travel demand by mode. This will be a plan-based approach and will provide the basis for understanding how future development projects should contribute to an area's transportation performance. Planning for traffic impacts on an area-wide basis recognizes that residents and employees should have choices of alternative routes and modes within an area and, therefore, traffic congestion at some intersections can be tolerated as long as the overall transportation network functions adequately.

9.2 From a regulatory approach, future development projects will be evaluated against their contribution to an area's transportation performance broadly defined to include safety, transit ridership and cost effectiveness, heavy truck congestion, automobile congestion, bicycle and pedestrian circulation, and the existing nature and purpose of the surrounding road network. The City will develop regulations to implement this provision, which must include ensuring safe facilities for walking and cycling.

Policy 10. The City will focus on travel demand management as a tool for improving circulation, accessibility, and mobility through Annapolis.

Transportation demand management program will address the following key components:

10.1 Influence travel behavior. The City should adopt regulations for site design features to reduce auto dependency and also ensure that land use development is consistent with the function and capacity of affected transportation facilities.

10.2 Use marketing to inform people about travel choices and promote changes in travel behavior.

10.3 Improve the quality of services and facilities for transit, bicycling, and walking.

10.4 Encourage employers to help reduce commute trips through telecommuting, flexible work hours, and compressed work schedules. As an employer, the City can be a model to other employers in this regard.

10.5 Support the Annapolis Regional Transportation Management Association (ARTMA), a public-private partnership which advocates and promotes transportation management strategies to improve commuting efficiency by reducing drive-alone commutes, traffic congestion, and air pollution. By creating a central information service for ridesharing, carpool, vanpool, and public transportation, ARTMA promotes commuter options that can have a positive impact on reducing vehicle miles traveled.

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CHAPTER 5: MUNICIPAL GROWTH AND COMMUNITY FACILITIES

Introduction

In 2006, the Maryland General Assembly passed changes to Article 66B, the code of laws dealing with planning and zoning. State law now requires that comprehensive plans contain a "municipal growth element" to address primarily the outward expansion of municipal limits. This chapter combines treatment of municipal growth with the "community facilities element," also a requirement in Article 66B.

This Comprehensive Plan calls for only modest expansion of City limits. It essentially rationalizes the shared city-county boundary and promotes unified redevelopment projects on properties which lie on or adjacent to the city-county line. Annapolis will grow from within with only minor annexations and so the purpose of this section is to:

- Document the level of growth anticipated through 2030;
- Document the planned distribution of forecast growth by location within the City;
- Identify growth areas where the City would approve annexation, if petitioned; and
- Document the potential impact of growth on community facilities.

Bates Senior Center

2030 Forecast of Households and Population

Purpose of Forecasting Growth

A forecast is an essential step in preparing a comprehensive plan. A forecast allows the City to properly anticipate and prepare for the likely impacts and needs that may arise from change. Understanding the impacts of future growth in particular on community facilities and services helps ensure that adequate facilities are in place to meet future needs.

This Plan recognizes that accurate forecasting for a city like Annapolis located in a growing metropolitan region can be difficult; therefore the Plan evaluates alternative forecasts including the forecast prepared by the Baltimore Metropolitan Council. It arrives at a selected forecast in light of the physical constraints of municipal expansion, the City's land use plan, and reasonable estimates of the capacity of the City to absorb added development. This Plan does not accept an unrealistic forecast of growth and then "force" a design on the City to accommodate that growth.

Appendix B provides information on the sources and methodologies for preparing the forecast for this 2030 Plan. Forecasting growth involves a study of fertility and mortality rates and of in- and out-migration of population. It also necessarily includes projections of regional economic activity with particular attention to employment growth. The population and household forecasts set forth in this chapter were reviewed by the Maryland Department of Planning (MDP) and were found by MDP to represent "a reasonable expectation of growth and development for the planning period (that is, through the year 2030) especially given the geographic constraints the City of Annapolis faces". MDP's comment reflects what each of the alternative forecasts studied suggests: Annapolis will continue to grow slower than Anne Arundel County and represent a declining share of total County population, but City population will grow. To put the Plan's growth forecast in context, this section of the chapter discusses recent residential development approvals and the "development pipeline".

Recent & "Development Pipeline" Growth

Between 1990 and 2000, Annapolis added 2,651 people, growing from 33,187 to 35,838 or by 0.8 percent per year, on average. Thus, by 2000, there were 15,300 households in the City. Over the next seven years, Annapolis issued building permits for approximately 900 new housing units (see Figure 5.1). The additional 900 housing units added to the base level in 2000 means that by the end of 2007, the City had an estimated 16,200 households. This estimate is confirmed by the Maryland Department of Planning's 2007 estimate of the City population: 36,603, which equates to an average household size just under 2.3 persons.

Figure 5-1 Building Permits 2000 - 2007

Residential Building Permits: 2000-2007	
Year Applied	*Number of Permits*
*2000**	50
*2001**	50
2002	107
2003	101
2004	365
2005	79
2006	112
2007	35
Total	**899**

*Estimated

In forecasting future growth, it is important to note that development and redevelopment plans are reviewed and approved on a continual basis. Figure 5.2 shows residential development projects in the "pipeline" at the end of 2007, ie. housing units in the process of obtaining approvals, but for which building permits had not been issued. The completion of these pipeline units would add about 470 households.

Figure 5-2 Residential Development Projects in the Pipeline, 2007

Residential Development Projects in the Pipeline			
Project Name	***Dwelling Units***		
	Total	***Occupied***	***Remaining***
*Clay Street Revit.**	216	164	50
Old Annapolis Neck	160	-	160
Village Greens	90	-	90
Rocky Gorge	48	-	48
smaller projects	123	-	123
Total	**637**	**164**	**471**

* 164 units to be replaced with 214, providing a net increase of 50.

2030 Forecast

This Comprehensive Plan adopts the forecast levels of population and households shown in Figure 5.3. As previously noted, alternative forecast methods and assumptions were evaluated in arriving at a 2030 forecast for Annapolis. These are discussed in Appendix B.[12] It is relevant to note that the alternative forecasts deviate from each other very little through the year 2030 and taken as a whole, they indicate that by 2030, the City's population may approximate 42,600 and the number of households may approximate 18,520[13].

Figure 5-3 Population and Household Growth 2000-2030

Population and Household Growth 2000-2030					
	2000	***2030***	***Change: 2000-2030***		***Ave. Annual Growth Rate***
			#	%	
Population	35,840	42,600	6,760	18.9%	0.5
Households	15,300	18,520	3,220	21.0%	0.6

Therefore, between 2000 and 2030, about 3,220 new households may be expected to be added to Annapolis. This reflects an annual growth rate that is comparable to the growth experienced between 1990 and 2007: about 0.6 percent. Annapolis is expected to continue in a slow growth mode during the period covered by this Plan.

12 The projections described and illustrated in the Appendix project population through the year 2025. This Plan adopts the year 2030 as the planning horizon and thus extends the described projections five years to 2030, focusing on households.

13 An annual average population growth rate of 0.5 percent per year was selected after considering the results of multiple forecasts. The average of the four projected annual growth rates studied (between 2000 and 2025) was about 0.52 percent. The "geometric projection technique" discussed in the Appendix projects the highest of the growth rates at about 0.59 percent per year. The Linear Regression projection technique, by contrast, projected the lowest of the growth rates at about 0.46 percent per year. These two results may be used to "bracket" the Plan's adopted projection and if carried forward through 2030, the 2030 forecast population would range from a high of about 42,800 persons (and 18,610 households) and a low of about 41,200 persons (and 17,910 households).

Of the 3,220 new households expected between 2000 and 2030, about 42 percent of them have already been constructed or are in the previously mentioned "development pipeline". As indicated above, the City issued building permits for an estimated 900 units between 2000 and 2007, and approximately 470 additional housing units are now in the pipeline. Therefore, in keeping with the forecast, in the years between 2008 and 2030, the City may anticipate an additional 1,850 households. As described in the following section, this development could be accommodated through gradual mixed-use development and re-development in four planned Opportunity Areas that are almost entirely within the city.

Distribution of Growth

This section addresses the location and distribution of forecast household and commercial growth. Large open areas or vacant lands are not readily available for development within Annapolis or adjacent to the City. This means that City will need to take care over the next two decades to direct growth into proper arrangements that sustain and support the goals of this Plan. The Land Use Element of the Comprehensive Plan proposes development concepts and recommendations intended to guide growth through both development and re-development to mixed-use centers located primarily within the City, rather than through annexation. This section signals that:

- This Comprehensive Plan seeks to direct future growth into planned arrangements and in areas presently within the corporate limits of Annapolis.
- Almost all growth potential could be accommodated within designated Opportunity Areas, much of it within the Outer West Street corridor.
- Vacant lands within the City will accommodate a very small share of future growth.

Development Capacity of Vacant Land

In planning where future growth should occur, this Plan considers the development potential of vacant land. There are 179 acres in 348 separate parcels within the City limits that are now vacant. About 93 percent of these, or 324 parcels, are less than one acre in size. It is estimated that 33 percent are adequately sized or otherwise unaffected by environmental or other constraints allowing the potential for their development over the next 20 years. This means that an estimated 107 parcels are "developable". Based on past experience in building permit issuance, the Plan assumes that half of these developable parcels will actually develop through 2030 and each parcel will accommodate one dwelling unit. This means that up to 50 new housing units may be expected on the current vacant parcels under one acre in size in the City.

Only seven percent of vacant land is in parcels greater than one-acre in size. These larger parcels account for 72 acres of land. Of these, about 39 acres are already in the "development pipeline" (see Figure 5-2) and 21 acres cannot be developed because they have environmental or other site constraints. This leaves 12 acres that are vacant in the City which may be developed at some point. Assuming that all the land is developed and about 33 percent of the area is taken up in streets and other rights-of-way or set aside because of environmental constraints, these 12 acres could accommodate about 44 houses, at a density of 5.5 units per acre. In total then, vacant land in the City might be able to accommodate an estimated 94 housing units through 2030.

Development Capacity and Planned Opportunity Areas

Four Opportunity Areas are proposed, and recommendations for land use and density are provided in Ch. 3 – *Land Use & Economic Development*. Chapter 3 also recommends that detailed master plans be prepared for each Opportunity Area with the participation and input of nearby residents and property owners, and that planning and development in each Opportunity Area be guided by the Character Types documented in that chapter. Combined, the four Opportunity Areas could accommodate up to 1,770 new residential units and 604,000 square feet of net new commercial space. This projection should not be construed as a recommended development maximum or minimum, but rather as an attempt to anticipate a build-out scenario. Chapter 9 – *Water Resources* shows that sufficient public water and sewer resources are available to support this growth projection.

Figure 5.4 provides guidance on the distribution of forecast households among the Opportunity Areas. The land use-based projection assumes a maximum build-out scenario, ie. making the assumption that the opportunity areas redevelop to the full extent and at the maximum density. This chapter must be read in conjunction with chapter 3, which states a policy that all growth in opportunity areas must blend with adjacent communities. In many ways this Plan requires growth in opportunity areas to be modulated and moderated in ways consistent with the goal of preserving, protecting, and enhancing communities, eg. via attention to site design, aesthetics, bulk and mass of buildings, views, sunlight, and traffic management. Figure 5.4 also shows the number of units that may be constructed on currently available vacant parcels.

Figure 5-4 Distribution of 2030 Household Forecast

Location	Potential New Housing Units	Share of 2030 Growth
Opportunity Area		
West Annapolis	109	6%
Bay Ridge	69	4%
Forest Drive	139	8%
Outer West Street	1439	78%
Subtotal	**1756**	**95%**
Vacant Parcels	94	5%
Total	**1850**	**100%**

Each of the Opportunity Areas has a commercial base and the Plan proposes that each remain mainly commercial while transitioning to a mix of uses, with residential development allowed. In this regard, the Plan proposes that each Opportunity Area meet only a share of the City's residential needs through 2030 but that each area in fact contribute to, and through mixed use development (or redevelopment) help achieve the essential land use, transportation, and environmental goals of this Comprehensive Plan. The estimates of future housing units and commercial space shown below should guide the City as it conducts master planning for the Opportunity Areas with the participation of local residents and property owners.

- Outer West Street Opportunity Area: This expansive area is mostly developed in auto-oriented commercial and light industrial uses. It contains about 2,500,000 square feet of non-residential space and nearly 400 housing units. As direction to future master planning, this Plan anticipates that new mixed-use development could yield 1.1 million square feet of commercial space, of which 350,000 square feet would be a net increase, and about 1,440 housing units.
- West Annapolis Opportunity Area: This area is mainly commercial with little residential use. It now contains nearly 500,000 square feet of non-residential space. As direction to future master planning, this Plan anticipates that new mixed use development could yield 135,000 square feet of commercial space, of which 10,000 square feet would be a net increase, and about 110 housing units.
- Bay Ridge Opportunity Area: This area is mainly commercial with up to 80,000 square feet of non-residential space currently and little residential use. As direction to future master planning, this Plan anticipates that new mixed use development could yield 90,000 square feet of commercial space, of which 80,000 square feet would be a net increase, and about 70 housing units.
- Forest Drive Opportunity Area: This area is largely undeveloped now but does contain about 82,000 square feet of commercial space with frontage on Forest Drive and little residential use. As direction to future master planning, this Plan anticipates that new mixed use development could yield 167,000 square feet of commercial space, of which 162,000 square feet would be a net increase, and about 140 housing units.

Annexation Areas

This Plan provides for the expansion of City limits in two areas, shown on Figures 5.6 and 5.7. These areas are labeled Growth Area "A" and Growth Area "B." A third area is potentially subject to annexation in order to complete road improvements in the Forest Drive corridor.

Figure 5-5 Future Annexation Areas

Future Annexation Areas				
Annexation Areas	***Acres***	***Current Land Use***	***Recommended Land Use***	***Sensitive Areas Present (Yes/No)***
Growth Area "A" *Part of the Outer West Street Opportunity Area*	*45*	Highway Commercial	Urban Center: Mix Residential and Commercial	No
Growth Area "B" *Part of the Bay Ridge Opportunity Area*	*16*	Highway Commercial	Urban Center Low: Mix Residential and Commercial	No

Growth Area "A" (part of the planned Outer West Opportunity Area).

This Comprehensive Plan envisions the redevelopment of the Outer West Street corridor from roughly MD Route 2 to just past Chinquapin Round Road. Growth Area "A" (Figure 5-6) is composed of several parcels currently in commercial use along MD Route 2 which could be developed into a unified pattern with the rest of the Opportunity Area. This Plan recommends that this Growth Area be redeveloped following the principles of the Urban Center character type (See Ch. 3 - *Land Use & Economic Development).*

The parcels comprising Growth Area "A" are therefore eligible for annexation. The Plan anticipates that Growth Area "A" could accommodate approximately 270 residential units and approximately 100,000 square feet of new commercial uses. No environmentally sensitive areas are present in the Growth Area.

Figure 5-6 Growth Area A – Part of the Planned Outer West Opportunity Area Map

Growth Area "B" (part of the Bay Ridge Opportunity Area).
As shown on Figure 5.7, this area covers the existing commercial sites located between Old Annapolis Road and Bay Ridge Road. This area is eligible for annexation. Its annexation to the City would close a gap in the City-County boundary along Bay Ridge Road and promote the unified re-development of the Opportunity Area, about half of which is within the present City limits.

The Plan recommends that Growth Area "B" be developed with both commercial and residential uses according to the principles of the Urban Center Low character type. The Plan anticipates that Growth Area "B" could accommodate 50 housing units and approximately 40,000 square feet of new commercial uses. No environmentally sensitive areas are present in the Growth Area.

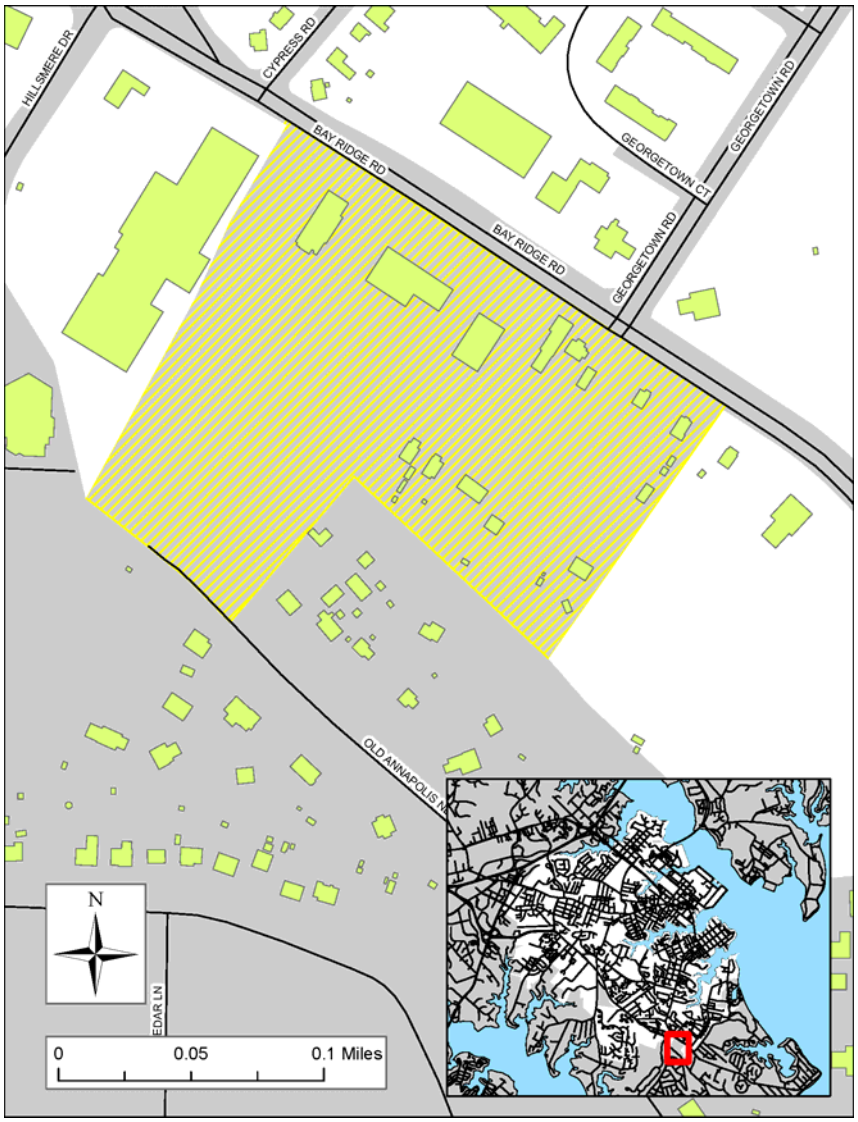


Figure 5-7 Growth Area B – Part of the Bay Ridge Opportunity Area Map

Development of the annexation areas may be expected to impact community facilities and services to some extent. However, this impact is minor as indicated below. Figure 5.8 provides information on the potential public water and sewer demands for the two annexation areas, and this topic is treated in more detail in Ch. 9 – *Water Resources*. Important to consider in this regard is that both areas are presently in commercial use, so any estimate of impact to water and sewer is likely to be overstated.

Figure 5-8 Impact on Water and Sewer Demand of Future Annexation Areas

Potential Water & Sewer Demand of Future Annexation Areas				
Annexation Areas	***Estimated Dwelling Units***	***Estimated Commercial Space (sf)***	***Estimated New Water Demand (gpd)***	***Estimated New Sewer Demand (gpd)***
Growth Area "A" *Part of the Outer West Street Opportunity Area*	270	100,000	Currently supplied by City	87,400 (area partially supplied by City sewer currently)
Growth Area "B" *Part of the Bay Ridge Opportunity Area*	50	40,000	Currently supplied by City	18,800

Additional Expansion Area

Improvements to the Forest Drive corridor, specifically completion of the Forest Drive Relief/Service Route, could warrant expansion of the city limits in a third area. However, there is more than one way that completion of the Relief Route could occur, and its exact alignment is subject to further study and evaluation. This is treated in more detail in Ch. 4 – *Transportation*.

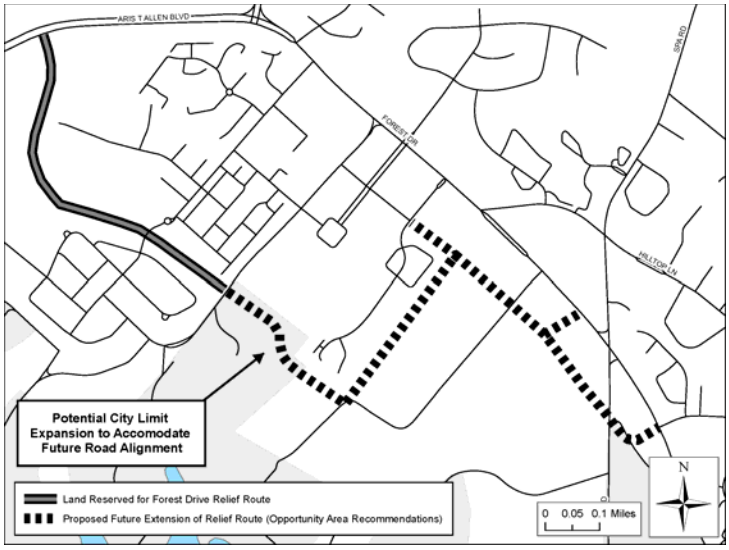


Figure 5-9 Potential City Limit Expansion Map

Community Facilities and the Impact of Growth

In the years between 2008 and 2030, the City may anticipate an additional 1,850 households and 604,000 square feet of commercial space above and beyond growth currently in the development "pipeline." The impact of this growth on the adequacy of the main community facilities is evaluated in this section.[14] Community facilities in Annapolis are shown in Figure 5.10 and the public education facilities are shown in Figure 5.11.

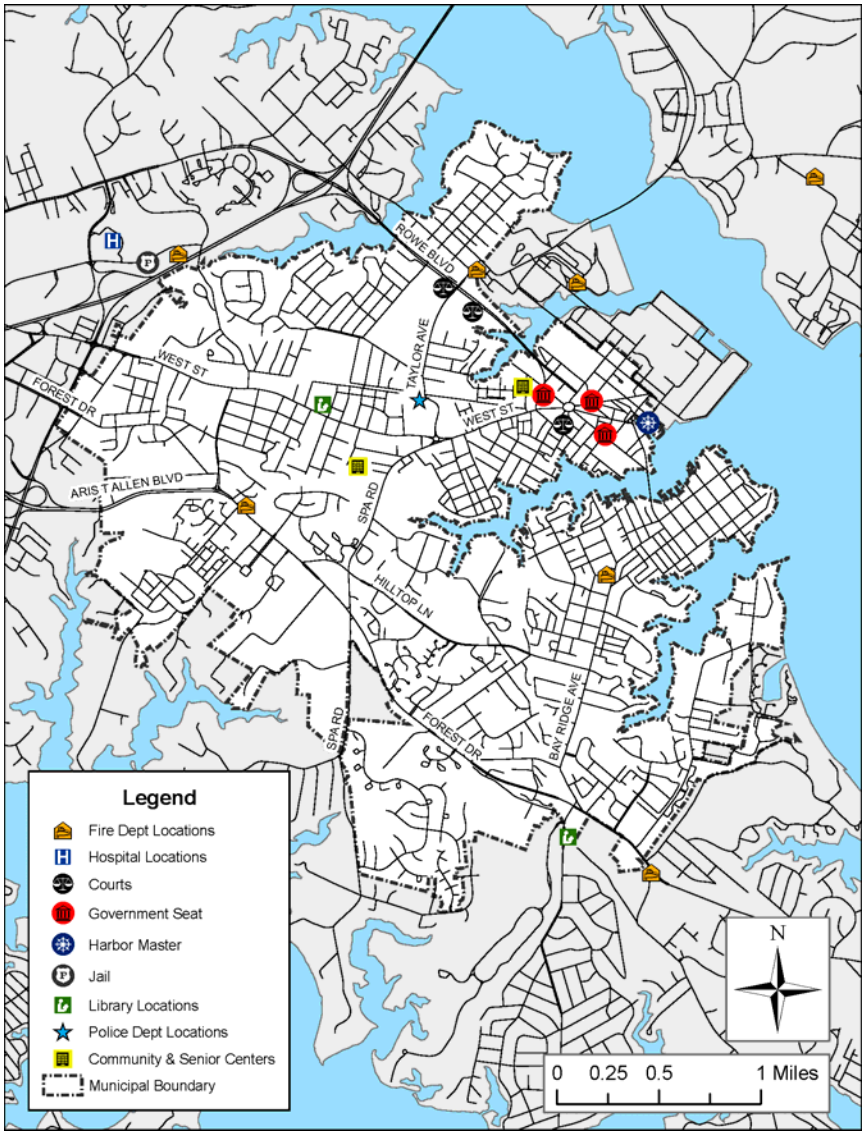


Figure 5-10 Community Facilities Map

14 Annapolis has an Adequate Public Facilities Ordinance. It will play It will play an important role in balancing growth with available public services and facilities. The ordinance covers fire and emergency services, police protection services, public maintenance, public water and sewer services, recreational facilities, non-auto transportation facilities, and stormwater management facilities. Each development or redevelopment project greater than 10,000 square feet in size or residential subdivision of more than 11 lots must pass a test of adequacy (see Title 22 of the City Code).

Public Education

Annapolis is part of the Annapolis Feeder system of the Anne Arundel County Public School System (AACPS). Public schools located within the City include one middle school (Bates Middle) and seven elementary schools (Annapolis, Eastport, Georgetown, Germantown, Mills-Parole, Tyler Heights, and West Annapolis). Both the Annapolis Middle School and Annapolis High School lie outside City limits. Other educational facilities located in the City include Adams Academy and the Phoenix Center, both of which serve students with special needs.

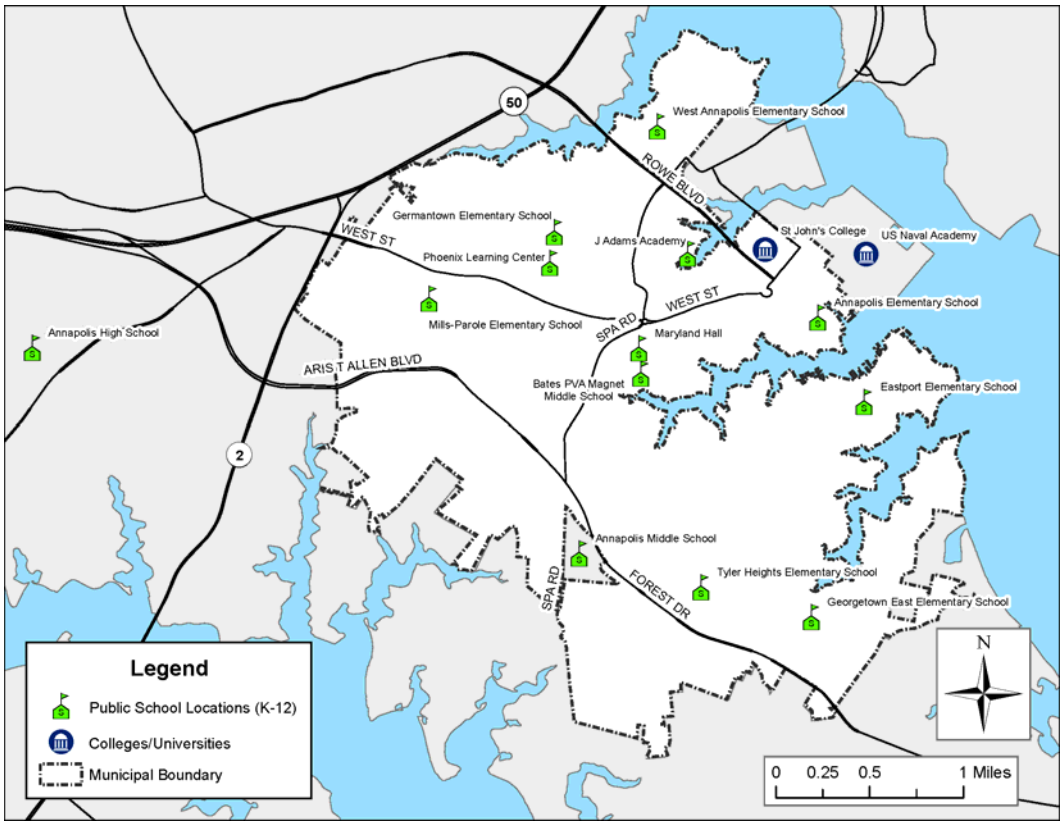


Figure 5-11 Educational Facilities Map

The forecast growth would result in an additional 295 elementary school students, 165 middle school students, and 240 high school students.[15] The service area for some of the schools Annapolis residents attend include areas of Anne Arundel County beyond City limits; therefore, the impact on schools cannot be fully determined until County growth is factored.

Maryland Hall for the Creative Arts serves the Annapolis region with a variety of educational offerings and visual and performing arts. The Anne Arundel Board of Education owns the Maryland Hall facility, although Maryland Hall is an independent entity.

15 Pupil Generation Rates for public schools for all types of housing: elementary schools, 0.16; middle schools, 0.09; and high schools, 0.13.

The new Performing and Visual Arts Magnet at Wiley H. Bates Middle School is developing an arts program and campus in partnership with Maryland Hall. The City supports the partnership of the Anne Arundel County Public Schools and Maryland Hall for the Creative Arts in this endeavor. The Visual and Performing Arts Magnet may be expanded to Annapolis High School in future years.

Higher education facilities in the Annapolis area include St. John's College and the United States Naval Academy.

Parks and Recreation[16]

Annapolis owns and maintains 233 acres of City parkland. Also available to City residents are community-level parkland and open spaces operated by the U.S. Naval Academy and Anne Arundel County totaling 1,217 acres. Using a reasonable parkland planning standard of 6 acres per 1,000 population, the forecasted growth of 1,850 new households will generate a demand for 25 acres of improved parkland by 2030. The redevelopment of lands in the City, particularly within the Outer West Opportunity Area, as described in Ch. 3- *Land Use and Economic Development* and Ch. 6 - *Parks*, provides opportunities to add parks and open space in close proximity to future residential areas.

Police

Annapolis Police Department (APD) Headquarters is located on Taylor Avenue. The facility is currently undergoing a $12.8-million renovation and expansion. The renovation project will double the size of the police station and include a new Emergency Management Office.

Annapolis Police Department

The Annapolis Police Department maintains a ratio of 3.6 officers per 1,000 residents. This is higher than the national standard used by the International Association of Chiefs of Police (2.6 officers per 1,000 residents). Continuing the standard established by APD, 15 additional police officers would be needed to accommodate the 1,850 new households expected by 2030, assuming 2.3 persons per household. Existing buildings, with the headquarters expansion completed, are expected to remain adequately sized through 2030.

16 Parks, recreational areas, and natural areas are addressed in Chapter 6.

Fire and Emergency Services

The Annapolis Fire Department provides fire and disaster protection, emergency health care, as well as rescue and related services for the City of Annapolis and adjacent parts of Anne Arundel County. The Department operates with three fire stations: the Forest Drive Station (Headquarters) near Parole, the Taylor Avenue Fire Station near West Annapolis, and the Eastport Fire Station on Bay Ridge Avenue. The Eastport Fire Station is slated for a $3.6 million renovation, which will include new fire equipment and an upgrade to the Emergency Response Center to accommodate new ambulance services and meet new technological needs.

The City has mutual aid agreements with Anne Arundel County and the Naval Academy to provide emergency response services. These reciprocal relationships ensure efficient response time and service coverage throughout the Annapolis area. The Naval Academy operates the Naval Academy Fire Station (located on the USNA Campus) and the North Severn Station (located on the north side of the Severn River). Anne Arundel County operates a Fire Station located on Jennifer Road, and a new fire station is slated for construction on Bay Ridge Road along the City's southern boundary.

Because Fire and Emergency Services are provided to an area larger than the City itself, service levels are impacted not only by development in Annapolis but also by development throughout the service areas. This Comprehensive Plan provides for little expansion of the City fire protection service areas. However, it does call for the redevelopment and/or intensification of some existing locations. In this regard, Annapolis has traditionally had few buildings exceeding four stories in height. This Plan proposes mixed use development in some locations where only a single use development currently exists. It also promotes, in certain circumstances, building heights as tall as eight stories. Mixed uses and taller buildings require specialized fire apparatus and techniques. These requirements may be somewhat offset by the requirements that all new multi-family construction be served by sprinkler systems.[17]

Increased development within the City could increase response times. In planning for Fire and Emergency Services, it is most appropriate to monitor response times and equipment capabilities and work within the mutual aid framework to ensure that response times and service levels remain adequate or are improved over time. If an additional fire station is indicated, the Annapolis Fire Department has suggested that a location along West Street between Taylor Avenue and Calvert Street should be considered.

17 Some municipalities are also adopting regulations requiring new single-family dwellings to be outfitted with fire suppression sprinkler systems, which may have the impact of offsetting the service costs of development.

Libraries

The Anne Arundel County Public Library system consists of 15 branches serving more than 500,000 County residents. Two library branches serve the City of Annapolis: the Annapolis Library on West Street and the Eastport-Annapolis Neck Library on Hillsmere Drive just south of the City boundary.

Annapolis Library

Future library needs will have to consider growth in the Upper Annapolis Neck area, not just from within Annapolis. Nevertheless, the anticipated City growth will increase library service requirements. The County completed the Annapolis Area Library Feasibility Study in 2008 to help determine the future size and strategic role of the Annapolis Library. The study recommended that the library be expanded from its current size of 20,000 square feet to 52,000 square feet. This Comprehensive Plan recommends that the library be expanded and remain at its existing site.

Public Water and Sanitary Sewer Services

A detailed description of the City's existing and planned public water and sanitary sewer services and facilities is provided in Ch. 9 - *Water Resources*. This section only summarizes the impact of future growth on those facilities. The additional 1,850 housing units and 604,000 square feet of commercial space forecast by this Plan would demand an additional 544,000 gallons per day (gpd) of water capacity and 571,000 gpd of sewer capacity.[18] The City water supply system and allocation of the wastewater (sewer) treatment system can accommodate the forecasted growth.

18 The City establishes a level of service for water and sewer based on 250 gpd per dwelling unit. Commercial space is assumed to develop at 50% office, and 50% retail. It should be noted that because a sizable amount of development occurs through the re-use of existing urban areas, the estimate of water and sewer demand provided here is likely over-counted.

Policy Recommendations

Policy 1. Continue Municipal Annexation as opportunities benefiting the City arise.

In the past, Annexation has benefited Annapolis in the following ways:

- Land dedication for rights-of way and conservation easements;
- Providing water and sewer service to meet the needs of previously un-serviced lots;
- Promotion of mixed-use areas;
- Expansion of the City tax base;
- Developing a compact municipal configuration for the efficient provision of public services; and
- Providing new residential and commercial opportunities for the convenience of citizens.

1.1 The City will plan for the annexation of the two "Growth Areas" that are specifically recommended in this Chapter, subject to an annexation petition being initiated by the property owner. The two Growth Areas are part of Annapolis' planned Opportunity Areas. They promote this Plan's development goals and contribute to rationalizing the city-county boundary.

1.2 As unincorporated areas around the city develop, e.g. Parole, the likelihood of properties annexing into Annapolis will greatly diminish. Though to a great extent Annapolis can accommodate its projected growth through redevelopment, the City will continue to respond to individuals seeking to annex their property, even if that property is located outside of a designated "Growth Area." The 2005 *Annexation Workgroup Report* provides context for responding to annexation petitions.

1.3 The Annapolis Planning Commission will review this element of the Comprehensive Plan every six years following its adoption. Should any annexation not now recommended be contemplated later, the Planning Commission will determine during a future six-year update if amendment of the Plan is warranted and desirable.

1.4 The City will seek coordination with Anne Arundel County as it considers future annexation and development on annexed parcels.

CHAPTER 6: PARKS

Introduction

Newman Street Playground

Recreation and open space make an essential contribution to a healthier population and a greener city. They are integral to quality of life and provide beauty, respite, and opportunity for structured and informal play, and they are an important part of the urban living experience. Annapolis' parks and open spaces are also an important part of its community character and should be approached as a valuable aspect of the community's identity. The park system encompasses a broad variety of parks, trails and open spaces providing passive and active activities to the community.

Primary Challenges

The public continues to demand excellent parks and recreational facilities that accommodate new trends and activities. In allocating resources, the City must strike a balance between maintaining and redeveloping its existing parks and facilities and developing new parks and open space. Furthermore, parks and recreational facilities must be accessible to all neighborhoods.

Policies

To respond to the primary challenges, the City embraces three main Policies; further details are in the Policy Recommendation section:

- Enhance existing parks and facilities, with the objective of supporting structured and informal recreation, protecting the natural environment, and encouraging human health and fitness.
- Complete the network of pedestrian and bicycle pathways.
- Expansion of the parks system should be undertaken selectively and strategically, with the objective of taking advantage of rare opportunities, providing parks and recreation services to underserved areas, allowing public access to the waterfront, and furthering environmental goals.

Summary of Existing Conditions

The Context for Planning

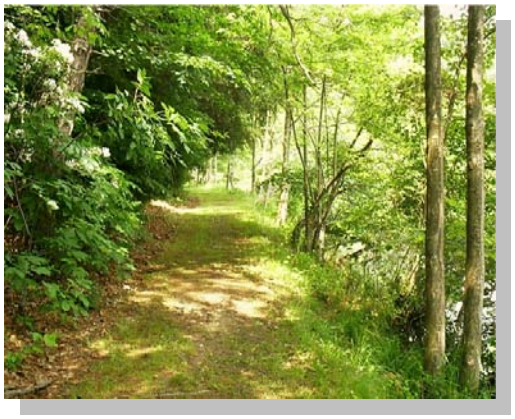
- State legislation, reflected in Article 66B, Land Use, Section 3.05(4)(iv) requires a "community facilities plan element, which…may include parks and recreation areas…" The Parks Element of the Comprehensive Plan complements Ch. 5 - *Municipal Growth & Community Facilities*.

- In 2004, the City completed an extensive *Parks, Recreation and Open Space Master Plan*. It serves as a comprehensive source of information related to the management of existing facilities and programs. It updated the 1987 award - winning *Parks and Paths for People* Plan.

- Annapolis recently adopted an Adequate Public Facilities Ordinance (APFO) that requires "adequate availability of recreation facilities" within 0.5 miles of a new development. New development can contribute fees or land to satisfy the requirement.

Existing Conditions

- The City of Annapolis Department of Recreation and Parks owns and maintains 40 parks and facilities (Figure 6.1). Large parks include Truxtun Park (70 acres), Back Creek Nature Park (12 acres), Bates Athletic Complex (14 acres), fields at the Bates Heritage Complex (8 acres), Spa Creek Conservancy (5 acres), Waterworks Park (650 acres, of which 45 acres are in recreational use), the Annapolis Sports Complex (32 acres), and about twenty small neighborhood and street-end parks. Some are sitting parks for relaxing by the water's edge, such as those along Spa Creek and Back Creek. Others support more activity, like the woodland trails at Truxtun Park, Back Creek Nature Park and Waterworks Park.



Waterworks Park

- To the north of Waterworks Park lies the 199-acre Eisenhower Golf Course, a property owned by the City but leased to Anne Arundel County for operation of the golf course (Figure 6.1). The City's lease with the County expires in 2011.

- When only considering City-owned facilities, Annapolitans have fewer park acres per person (5.7 acres per 1,000 persons) than the recommended minimum national standard (6.0 acres per 1,000 persons). However, residents benefit from parks and recreation areas provided by other entities such as Anne Arundel County, the Board of Education, and the US Naval Academy. Park resources are also complemented by the Chesapeake Bay and the many associated water activities.

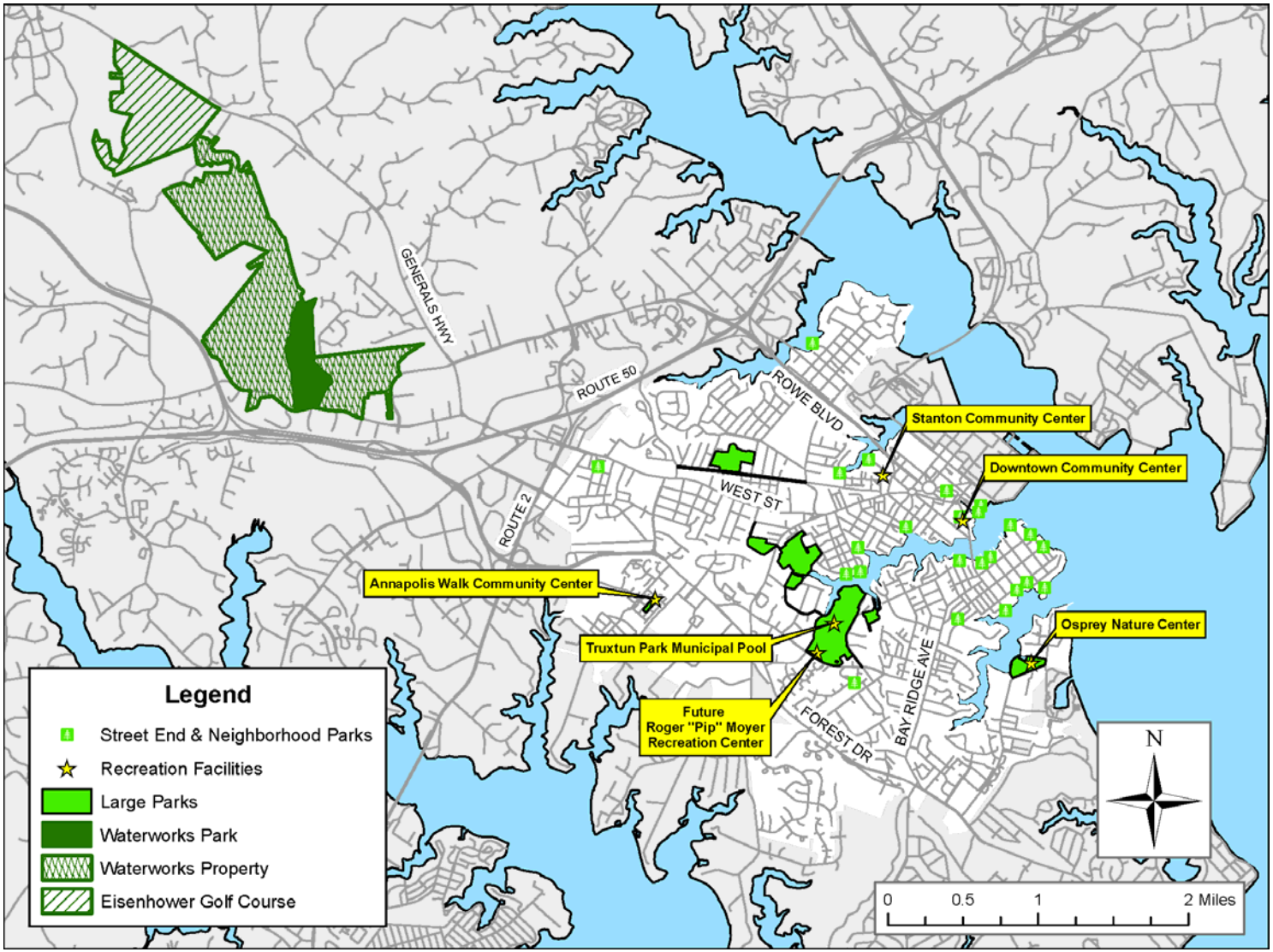


Figure 6-1 Parks and Facilities Map

The desire for recreational opportunities is growing, along with growth in the population of seniors and retirees. Annapolis has been cited as one of the best retirement communities (AARP (2000), Money Magazine (2005), and US News & World Report (2007).

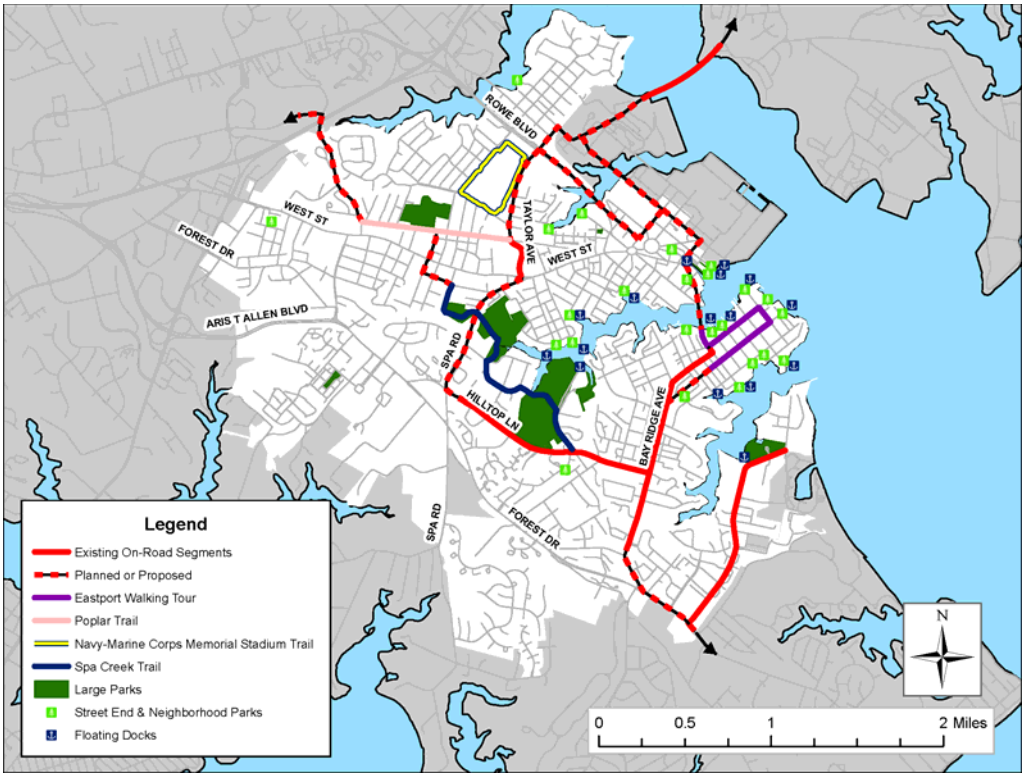


Figure 6-2 Trail Network Map

- The Colonial Annapolis Maritime Trail (CAMT), a 16-mile bicycle and pedestrian network remains a work in progress (shown in Figure 6.2). It encompasses the 1.3 mile Poplar Trail, the 1.5 mile Spa Creek trail, and the 1.25 mile Navy Stadium Trail. Challenges include connecting all the segments of the CAMT.

- The Colonial Annapolis Maritime Trail (CAMT) is part of the Maryland Millennium Legacy Trail, which also encompasses the BWI and Baltimore Annapolis Trail facilities in Anne Arundel County. Annapolis is the only place in the United States where two national trails connect: the East Coast Greenway Trail, running from Maine to the Florida Keys, and the transcontinental Great American Discovery Trail, stretching from Delaware to California. Both the East Coast Greenway Trail and the Great American Discovery Trail enter the City at the Naval Academy Bridge and follow City roads before connecting to the Poplar Trail, then leave the City via Admiral Drive.

- Outreach programs engage the community to support and advocate for public open spaces. The annual GreenScape program has demonstrated robust public commitment and interest that has grown since it began in 1992.

- Lack of available vacant land and increased market demand mean that land for new parks and facilities is expensive. Despite the cost, additional purchase of park land is critical to the success of many of the items in this plan, such as the proposed West Street park, trail connections and storm water modifications.

- The City of Annapolis is faced with a number of the same trends facing most parks and recreation departments across the country including outdated and failing park infrastructure, demand for increased services, and less state and federal funding opportunities.

- Annapolis has utilized its parks and open spaces to highlight environmental stewardship.

- The Recreation and Parks Department offers programs and services accessible to residents in the community. After-school activities, sport leagues, and a variety of enrichment programs contribute to the affordable offerings. Limited program space restricts the variety and level of participation that can be provided.

Policy Recommendations

Parks, open spaces and other recreation opportunities play an important role in sustainability, quality of life, property values, and overall marketability of the community. Furthermore, parks and recreation offerings can influence the health of a community. As part of the urban living experience, parks are elevated to a higher priority than in the past. Planning for parks and recreation facilities and recognizing their significant role in the overall comprehensive planning of a community is perhaps the best means to ensure not only a beautiful city, but a healthy, prosperous one too. The future of parks and open spaces should be one of vision, excellence, inclusion, partnership and balance.

Policy 1. Enhance existing parks and facilities with the objective of supporting structured and informal recreation, protecting the natural environment, and encouraging human health and fitness.

1.3 Use the draft 2004 *Parks, Recreation and Open Space Master Plan* as a planning tool for upgrading and enhancing current recreation and park facilities. Priority areas include completion of the new Pip Moyer Recreation Center at Truxtun Park, further improvements at Truxtun Park, Bates Athletic Complex, Annapolis Sports Complex, and Waterworks Park, and other areas as outlined in the Plan.

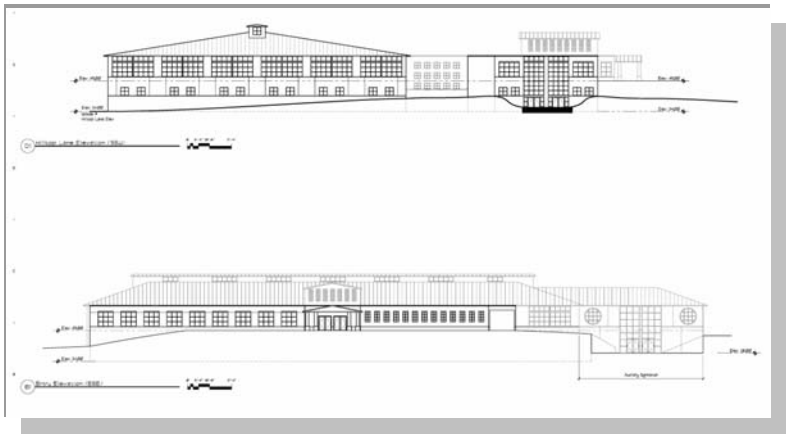


Figure 6-3 Architectural drawings for the new Pip Moyer Recreation Center at Truxtun Park

1.4 Aggressively implement best land management practices in park improvements and maintenance, specifically for purposes of environmental protection and management as well as interactive education opportunities and overall beautification efforts. Enhancements should reflect a diverse mix of natural areas, urban green spaces, and informal and structured spaces for active and passive use.

1.5 Recreation area improvements should be undertaken in order to better address the needs of the City's senior citizens, cultural groups, and at-risk youth. Programs and facilities should provide an outlet for physical activity and community involvement.

1.6 Incorporate cultural, historical, environmental and other educational activities into parks, open spaces and trails.

Policy 2. Complete the network of pedestrian and bicycle pathways.

2.1 Expand and consolidate Annapolis' proposed Colonial Annapolis Maritime Trail into one comprehensive, safe and user-friendly network for both cyclists and pedestrians. Close coordination between the Departments of Recreation & Parks, Planning and Zoning, Transportation, and Public Works will be necessary for the successful completion of such a network. Coordinate with the County, State (Maryland Millenium Legacy Trail, of which the Baltimore & Annapolis Trail is a component) and national trail systems (East Coast Greenway, Great American Discovery Trail) for the purpose of publicity, education, and implementation.

Poplar Trail

2.2 Coordinate implementation of the Colonial Annapolis Maritime Trail with bike and pedestrian improvements described in Ch. 4 – *Transportation*.

2.3 Expand the "Navigate Annapolis" wayfinding and identification system to sites owned or maintained by Annapolis Recreation and Parks.

Policy 3. Expansion of the parks system should be undertaken selectively and strategically, with the objective of taking advantage of rare opportunities, providing parks and recreation services to underserved areas, allowing public access to the waterfront, and furthering environmental goals.

3.1 Expansion of the park system should meet the objectives of taking advantage of rare opportunities, providing parks and recreation services to underserved areas, allowing public access to the waterfront, and furthering environmental goals. Careful consideration should be given when applying these standards so that the park system does not get overwhelmed with an array of small, substandard parcels. A creative mix of heritage sites, resource lands, athletic fields, downtown parks, trails, and conservation areas should be part of the open space system.

3.2 Incorporate urban parks into redevelopment plans for the Opportunity Areas described in Chapter 3 – *Land Use & Economic Development*. Urban parks could include "village greens" (such as the park at Acton's Landing), natural areas, playgrounds, and plazas with amenities such as trees, benches and public art. In the Outer West Opportunity Area, consider an urban park concept that may be incorporated into a multi-level building.

3.3 Build upon partnerships with other major open space providers, including Anne Arundel County and the US Naval Academy, to coordinate services and programs.

3.4 Implement parks, open spaces and trails as part of annexation or redevelopment projects.

CHAPTER 7: ENVIRONMENT

Introduction

The vision of Annapolis as a "Green" City is one of this Plan's three central tenets. The "greening" of Annapolis refers to a policy stance and a variety of actions to protect the community's natural resources – shorelines, forested areas, creeks, and other natural areas. It refers to an embrace of new patterns and habits of building and living that seek to reduce our carbon emissions and energy use.

Volunteers participate in annual Greenscape Projects

Other aspects of the "greening" of Annapolis are addressed in other sections of the Plan. These include the maintenance of a healthy living environment for Annapolis residents: boosting parks, recreational offerings and cultural offerings; expanding options to walk, bike or take transit instead of driving; enabling people to live and work in the city; and having a variety of economic services in proximity to neighborhoods.

Primary Challenges

The Chesapeake Bay and the creeks of Annapolis are fundamental to the City's identity, sense of place, and beauty. However, the Bay is threatened by polluted runoff that degrades its ecological health. While the Chesapeake Bay's watershed spans parts of six states and 64,000 square miles, attention to all possible local improvements is warranted. Remedies to improve runoff water quality in fully developed areas such as Annapolis can be costly and require a degree of technical sophistication, as remedies often involve retro-fitting existing buildings and infrastructure.

Annapolis will accommodate growth and new development in the years to come as part of the City's ongoing need to regenerate. Preserving the community's natural resources as part of that growth is important.

Globally, we face the prospect of climate change and must commit to reducing our carbon emissions through systemic and individual actions.

Policies

To respond to the primary challenges, the City embraces five main Policies; further details are in the Policy Recommendation section:

- Reduce the polluting effects of storm water runoff into the Chesapeake Bay and its tributaries.
- Protect and restore environmentally sensitive areas and other natural resources within the city.
- Shrink the city's Carbon Footprint and become a community of Green buildings to combat climate change.
- Improve community environmental stewardship and education.
- Minimize noise and light pollution.

Summary of Existing Conditions

In the decade since the last Comprehensive Plan was completed, the City has made significant strides on a variety of environmental preservation efforts and has earned a reputation as a model for a city of its size. Portraying the range of activities and accomplishments in summary fashion is challenging, as these have encompassed such a wide variety of actions. The next section focuses on the legislative and regulatory context, also programs and partnerships with other jurisdictions and organizations. It is followed by a section summarizing the condition of natural resources in the city.

The nature of planning for sensitive environmental resources

- This chapter addresses state planning requirements related to sensitive areas in accordance with Article 66B, Land Use, Section 3.05(4)(ix). It also works in coordination with Chapter 9 - *Water Resource*s, to address requirements of Section 3.05(4)(vi) related to water and stormwater. In Annapolis' context, the State identifies sensitive environmental areas as: streams, wetlands and their buffers; 100-year flood plains; habitats of threatened and endangered species; and steep slopes.
- Approximately 40 percent of the city lies within the State-designated Chesapeake Bay Critical Area, which is land within 1,000 feet of wetlands and mean high water of the Chesapeake Bay (shown in Figure 7.4). Land within the Critical Area is protected through the City's Critical Area Overlay. As directed by the State criteria, the City's Critical Area Program designated three categories of land development within the Critical Area – Intensely Developed Area (IDA), Limited Development Area (LDA), and Resource Conservation Area (RCA). Grading, building, impervious lot coverage, buffering, and land use must follow the Critical Area criteria specific to that designation.

- The city has more than 120 acres of land preserved in conservation easements and monitored by the Annapolis Conservancy Board (shown in Figure 7.5). The Conservancy Board is the only municipal land trust in Maryland. It seeks donations of property, typically through the development review process, to further the goals of preserving open space, to provide recreational opportunities, and to improve the water quality of the Chesapeake Bay and its tributaries. Most of the easements are owned and maintained by the home owner association. The Conservancy Board inspects the easements annually, monitors them for compliance with the conservation deed, and provides public education.

- In 2003, the City began a Green Procurement Program to improve the energy efficiency of its overall operations and to provide an example for residents and local businesses. Under this program, the City switched to environmentally friendly and energy efficient products, such as recycled-content paper products, biodegradable cleaning supplies, and energy-efficient business machines and appliances. Energy-saving light-emitting diodes have been installed in traffic signals, crosswalk signs, streetlights, and building fixtures.

- In 2005, the City made a pledge to the World Wildlife Fund's Power Switch Program to purchase a minimum of 20 percent of municipal electrical needs from renewable energy resources by 2020.

- In 2006, the City adopted its Energy Policy, codified in Resolution 38-06, to reduce energy costs, energy consumption, and reliance upon petroleum. The City's Energy Policy addresses municipal energy use, energy performance contracting, distributed energy resources, green building standards, green purchasing standards, incentives, education, transportation, recycling, and the urban forest.

- In 2006, the Maryland Department of Natural Resources determined that approximately 41 percent of the City of Annapolis is covered by the urban tree canopy. The City committed to increasing the tree canopy cover to 50 percent by 2036. To work toward that goal, the City began a program to give away 500 native trees to city residents annually, stipulating that those trees be planted inside Annapolis City limits. The City now meets an annual goal of planting 1,000 trees a year. As a result, Annapolis has repeatedly won an Arbor Day Award as one of America's finest "Tree Cities."

Tree Planting

- In 2007, the City adopted new stormwater management standards in response to new State legislation. These include Best Management Practices (BMPs) for reducing stormwater runoff, such as green roofs and rain gardens, requiring environmentally sensitive acreage on a development site to be deeded into a permanent conservation easement, and a more comprehensive silt-fence standard. Updated State regulations are expected to be issued in 2009, which will update the City's Ordinance by reference.

- In 2008, the City adopted Green Building standards for all public buildings, buildings with more than 7,500 square feet of gross floor area, single family homes larger than 3,250 square feet, and all buildings (regardless of size) in any subdivision of five or more units. These standards become effective in 2009.

- Annapolis became a member of the International Cities for Local Environmental Initiatives (ICLEI) in 2003 and is participating in its Cities for Climate Protection Program, along with 350 other local governments. In 2006, the City completed an Energy Inventory of municipal facilities and operations. In 2008, the City completed a Community-wide Energy Inventory. Using the Community Energy Inventory as a 2006 baseline, the City plans to develop and adopt a Climate Action Plan (CAP). The CAP will include a set of emission reduction targets.

- The City is assessing its watersheds with a Watershed Restoration Plan. This study will develop a plan of action that will result in design and construction of stabilization, retrofits, and mitigation measures that will prevent further degradation of City waters and improve the City's water quality while enhancing recreational opportunities. Watersheds are also addressed in Ch. 9 – *Water Resources*.

- Four organizations dedicated to protecting, preserving, and improving Annapolis' four creeks have been formed in the last decade: the Spa Creek, Back Creek and Weems Creek Conservancies, and the Friends of College Creek.

- In an effort to engage citizens in beneficial environmental activities, publicly and privately, the City also actively participates in developing educational outreach, including expos, brochures, signage, school programs, awards, promotions, and a variety of other activities in English and Spanish, when possible.

- To ensure children's awareness of the environment, the City created a groundbreaking clean air program called "Take a Deep Breath" that was taught to every 4th grade student in Anne Arundel County in 2005. More than 7,000 children learned simple ways to reduce air pollution, such as by planting trees or by driving ten miles fewer each week.

Beautification Programs by Children

Existing Conditions

- Poor water quality is a persistent environmental problem for the Chesapeake Bay, stemming from the agricultural runoff and urban stormwater that flows into the Bay.

Rain garden at Hillman Parking Garage

- Approximately 42 percent of Annapolis land area is covered with impervious surface, an estimate generated by a Strategic Urban Forestry Assessment (SUFA) in 2006.

- As much as 80 percent of Annapolis' stormwater infrastructure was built prior to 1983, based on the engineering principle of removing water as quickly and directly from a site as possible. Since 1983, State standards are focused on slowing stormwater infiltration and reducing the polluting effects of stormwater for new construction projects. Retrofitting stormwater infrastructure to meet today's standards is expensive. A dedicated revenue source, the Stormwater Utility Fee, has been established to help fund the repair, replacement, and construction of the City's stormwater facilities. The City utilizes this fund to replace storm drains, curb inlets, and drainage outfall pipes.

- Together, Annapolis' public and private sectors have developed more than 60 bioretention areas, which are called rain gardens when the source of the runoff is rain. These gardens are planted with native flowers, shrubs, and trees atop an engineered gravel and rock substrata. Rain gardens are maintained at Truxtun Park, Newman Park, Amos Garrett Park, and numerous street-end parks.

- No threatened or endangered species have been documented in the city.

- Steep slopes (slopes greater than 15 percent) occur mostly in the upper reaches of Spa and Weems creeks and, as such, lie in the Critical Area and are subject to its protections (shown in Figure 7.6).

- Sea level has risen approximately one foot along Maryland's coastline in the last century. A general prediction estimates a rise of 1 meter by the end of this century (shown in Figure 7.7). Areas extremely critical to the overall character of Annapolis and most susceptible to flooding include the downtown City Dock area, portions of Eastport, and the Naval Academy. As proven in the aftermath of the flooding caused by Hurricane Isabelle in 2003, these areas are already susceptible to significant damage related to flooding as a result of storm surges.

- As of 2008, four buildings in the city have "green roofs," a building roof that is partially or completely covered with plants. One roof is on the Osprey Nature Center at Back Creek Park, another is on the Annapolis Police Department, a third is on the Severn Savings Bank building on Westgate Circle, and the fourth is on the back portion of the garage at 608 Melvin Avenue. The new Recreation Center will be the fourth building to install a green roof.

- With the help of volunteers, the City has constructed approximately 3,000 feet of natural shoreline around many City-owned parks. Such Living Shorelines control shoreline erosion, while restoring and preserving the characteristics of the estuarine marshes, tidal wetlands, and upland buffers.

- Annapolis is a part of a Nitrogen Oxide Air Quality Non-Attainment area that spans a number of states. A portion of the air quality problem is attributable to major out-of-state sources, but local emissions and travel patterns also contribute.

Green Roof on Severn Savings Bank
Courtesy of: O'Doherty Group Landscape Architecture

Policy Recommendations

Policy 1. Reduce the polluting effects of stormwater runoff into the Chesapeake Bay and its tributaries.

1.1 The City seeks to reduce pollutant loading from stormwater runoff to levels equivalent to a 10 percent reduction in the impervious surface, currently estimated to be 42 percent of the City's land area. In other words, the City seeks to reduce pollutant loading as if the City's impervious cover were 32 percent. Acknowledging that water quality of waterways is severely impacted once the impervious cover in the watershed exceeds 25 percent, the City's long-term vision is to achieve pollutant loading rates as if the city were no more than 25 percent impervious. Actions that support this policy can be applied to new development, redevelopment, and other site and building improvements, and include:

- Green roofs on buildings.
- Use of rain barrels and rain gardens.
- Low Impact Development (LID) or Leadership in Energy & Environmental Design (LEED) or equivalent site design practices.
- Use of pervious materials in parking lots, driveways, and sidewalks.
- Reducing the amount of paving by changing parking lot dimensions and road width standards.
- Eliminating curbs where ever practical to allow flow into swales.
- Diverting stormwater flow to bioretention areas.
- Increasing the tree canopy.

The baseline of this goal is the 2006 measurement of 42 percent impervious coverage. To meet this goal, the City will develop a coherent and comprehensive set of measurements to track progress. The City may adopt guidelines, consider revising current ordinances, or initiate programs to achieve this goal.

Figure 7-1 Sample commercial property stormwater improvements

The commercial property shown above utilized several techniques to reduce pollutant loading from stormwater runoff. These include, and are keyed to the image:

1. Permeable paving in the walkways
2. Green Roof
3. Bioswales between parking rows and along the site perimeter
4. Rain Garden
5. Native and adapted plantings

1.2 Retrofit older stormwater infrastructure (storm drains, curb inlets, drainage outfall pipes) with the objective of improving storm water quality and reducing the velocity and flow. Divert storm water away from or out of pipes where ever possible.

1.3 Shoreline erosion control efforts should utilize natural or green techniques, such as living walls and shorelines where possible. Hard erosion control devices should be reserved for areas with high energy wave activity.

1.4 Increase the City's urban tree canopy to 50 percent of its land area by 2036. In addition to meeting the primary objective of improving water quality of the Chesapeake Bay, increasing the urban tree canopy achieves other environmental objectives of reducing the urban heat island effect, reducing air pollution, and providing wildlife habitat.

Educational Storm Drain Markers

Actions that support this policy include:

- Tree planting, tree maintenance, and tree protection programs and activities.
- Strengthening the City's tree removal requirements currently codified in City Code Ch. 17.09.
- Providing for rooting space under paving such that each tree is provided with sufficient soil to attain a mature canopy size.
- Minimizing soil disturbance during grading and avoiding or repairing soil compaction to improve water infiltration and support tree health.
- Adding canopy trees to rain gardens.

Policy 2. Protect and restore environmentally sensitive areas and other natural resources within the City

2.1 Steep slopes that are located near water bodies should be protected by conservation easements when possible. When conservation easements are not possible, the City should enforce the preservation of all vegetation and trees along these slopes in order to prevent damage to the shoreline.

2.2 Every effort should be made to protect open space contiguous to existing natural areas to establish and protect wildlife corridors.

Kayakers on Spa Creek

2.3 Naturalized yards are encouraged over traditional landscaping. Naturalized yards favor plantings that include trees, shrubs, and groundcover plants that tolerate the natural rainfall patterns of the city and urban soils.

2.4 Through the Annapolis Conservancy Board, the City should obtain conservation easements to meet the objective of protecting the city's natural resources generally and environmentally sensitive areas specifically. Conservation easements should connect open space where possible. The City should consider limiting rear-lot easements, establishing incentives for developers to remove invasive species during the initial grading process, and acquiring fee simple dedications for small areas in minor subdivisions.

2.5 To help achieve the City's environmental goals and ensure high quality development, the City will create a Site Design Manual that will replace the 1986 *Parking and Landscaping Manual*. The Site Design Manual will provide guidance on design of the landscape on public and private development sites. This will include planting with a preference for water conserving plants and plants tolerant of urban soils, rainwater management, tree preservation, and soil management. Best management practices for handling the impacts of development, use of pervious and impervious paving materials, design of parking areas, lighting, internal circulation, and other matters related to site development should also be addressed in the Manual.

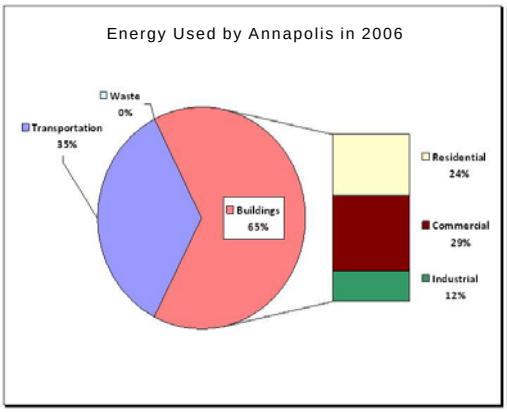
The Site Design Manual will aim to make the site design process more predictable. The Manual will be coordinated with the City's Green Building standards and other sections of the City Code governing trees and other planting, grading, critical areas, and rainwater.

Policy 3. Shrink the City's Carbon Footprint and become a community of Green buildings to combat climate change

3.1 The City's Energy Policy meets the objectives of reducing energy costs, energy consumption, and reliance upon petroleum. The full text of this policy is codified in R-38-06. It includes:

- A commitment to a ten (10) percent reduction in energy use in all City-owned or leased facilities five years from establishing the baseline (completed in 2007) and a fifteen (15) percent reduction by 2020, using 2006 data as a baseline;
- On-site energy generation wherever practical;
- Adoption of Green Building standards;
- A commitment to a more fuel-efficient public vehicle fleet;
- Purchase twenty (20) percent of the City's total energy needs from renewable sources by 2020;
- Increase recycling rates in City operations and in residential and commercial communities;
- Increase the urban tree canopy (see Environment Policy 1.4);
- Energy Performance Contracting; and
- Green purchasing standards for all City Departments.

3.2 Create a Climate Action Plan (CAP) as part of the City's commitment to the Cities for Climate Protection Program, a program of the International Council for Environmental Initiatives (ICLEI)-local governments for sustainability. Using the City's *Greenhouse Gas Emissions & Energy Consumption Inventory of 2006* as a baseline, the CAP will address how to meet the city-wide emissions reduction targets. Emission reduction targets to be addressed in the CAP range from a minimum of 10 percent to an aggressive 25 percent by 2012, and further reductions by 2020 and in the years to come. The City aims to meet or surpass the state's Climate Action Plan emission reduction targets that were set by the Maryland Commission on Climate Change.



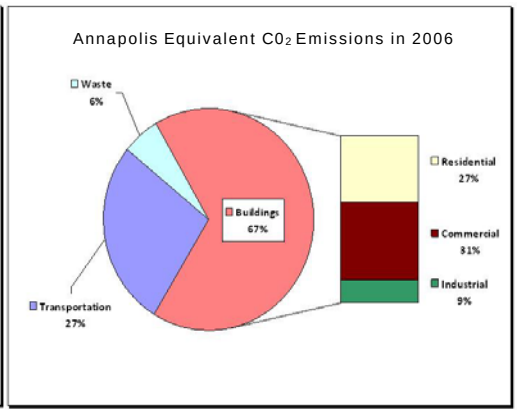


Figure 7-2 Energy Used by Annapolis in 2006

Figure 7-3 Annapolis Equivalent CO2 Emissions in 2006

3.3 Promote alternatives to gasoline-fueled vehicles for transportation to reduce transportation-related greenhouse gas emissions. Support land use patterns that limit vehicular travel demand. Support pedestrian and bike amenities along all major roads. Refer to Ch. 4 – *Transportation*, for further treatment of this subject.

3.4 Develop a strategy for sea level rise as part of the City's adaptation and response to threats from climate change. This planning effort should be coordinated with the City's *Hazard Mitigation Plan* and be prepared in coordination with State efforts, as well as the Federal government, U.S. Naval Academy, and County Government. It should delineate impacted areas, inventory potentially affected populations, assets, and resources, and develop legislative and regulatory responses. It should also address such issues as a post-disaster plan, public education on the risks of sea level rise, and coordination with other government agencies on research needs related to sea level rise. See Policy 10 in Ch. 3 – *Land Use & Economic Development* for the City's policy regarding waterfront land use.

Policy 4. Improve community environmental stewardship and education

4.1 In support of the numerous volunteer efforts, projects, and organizations dedicated to environmental preservation, advertise and popularize these efforts and their environmental benefits.

4.2 Build and foster partnerships with other jurisdictions, the private sector, and local environmental groups to address natural resource protection and environmental education.

Volunteer Project

4.3 Implement a Business Environmental Stewardship Program. This voluntary program should award certification to businesses meeting the minimum number of points in the areas of recycling, waste management, water and energy conservation, and pollution prevention.

Policy 5. Minimize Noise and Light Pollution

5.3 Seek to minimize noise disturbance in neighborhoods, with a particular emphasis on reducing noise at night and in the early morning hours. Efforts should be consistent with State of Maryland noise standards.

5.4 Develop a city-wide strategy to reduce light pollution, in coordination with BGE and the Naval Academy. Investigate utilizing minimum intensity light sources, timed lighting systems, improving light fixtures and directing them more accurately, and adjusting the types of lights used.

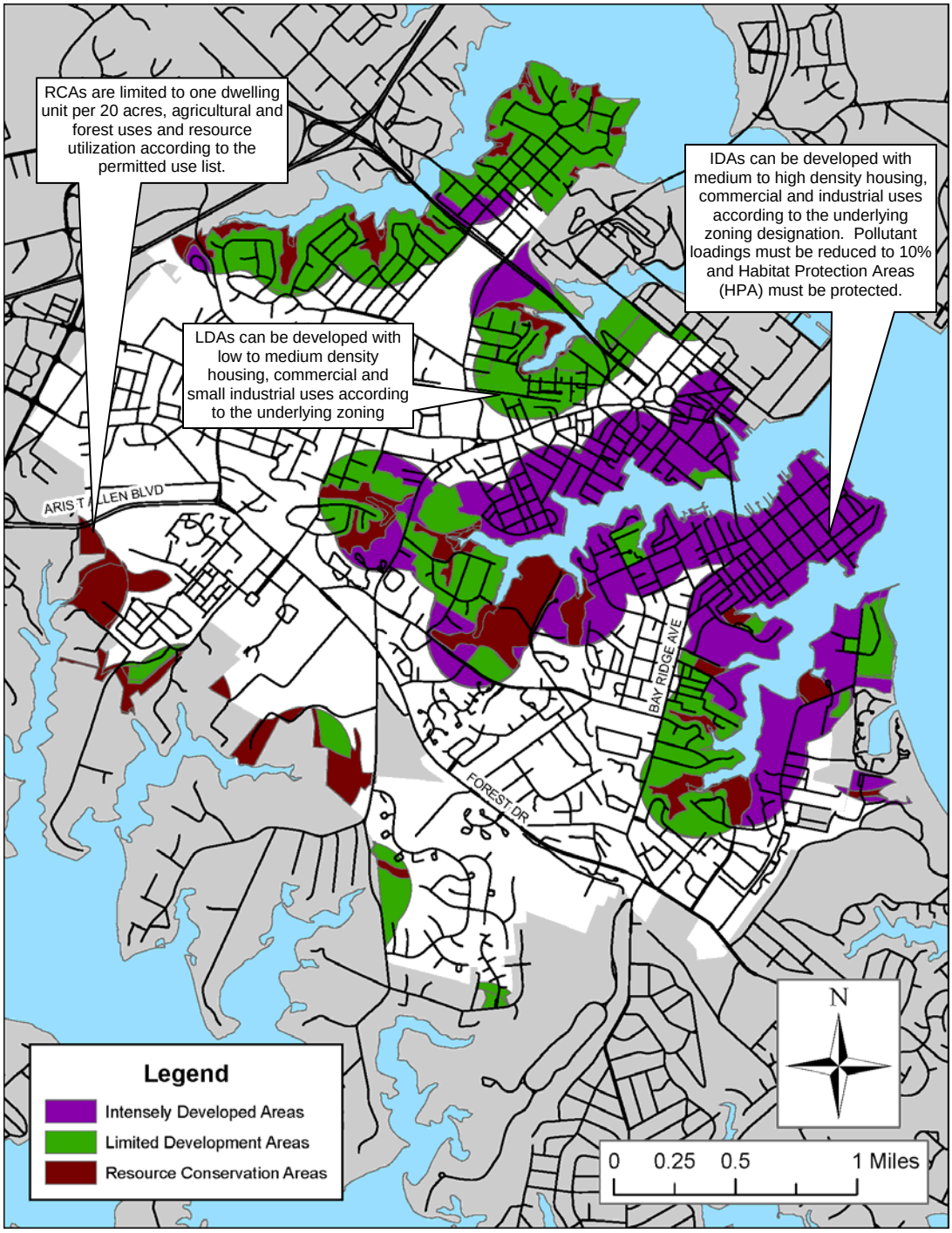


Figure 7-4 Critical Areas

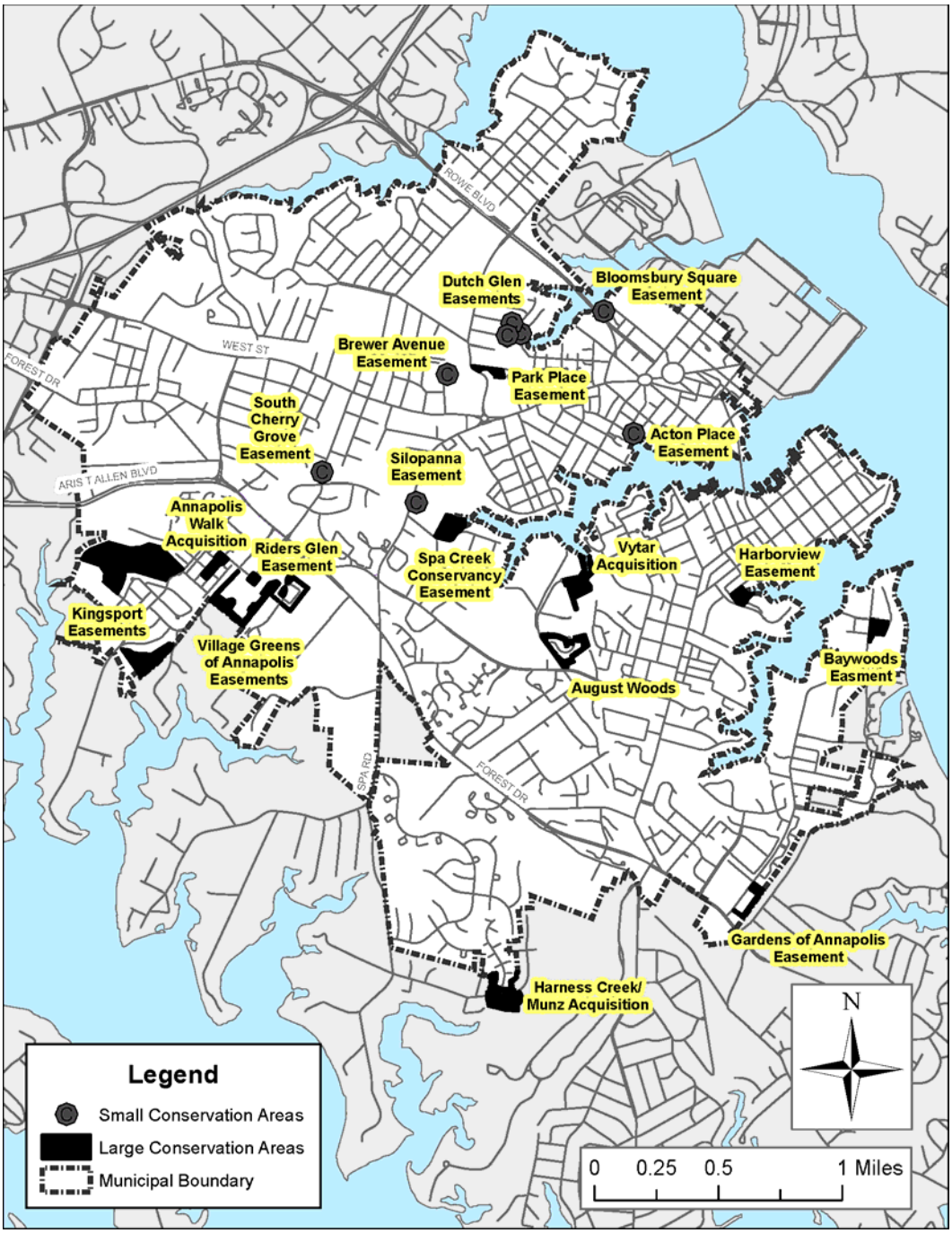


Figure 7-5 Conservation Easement Map

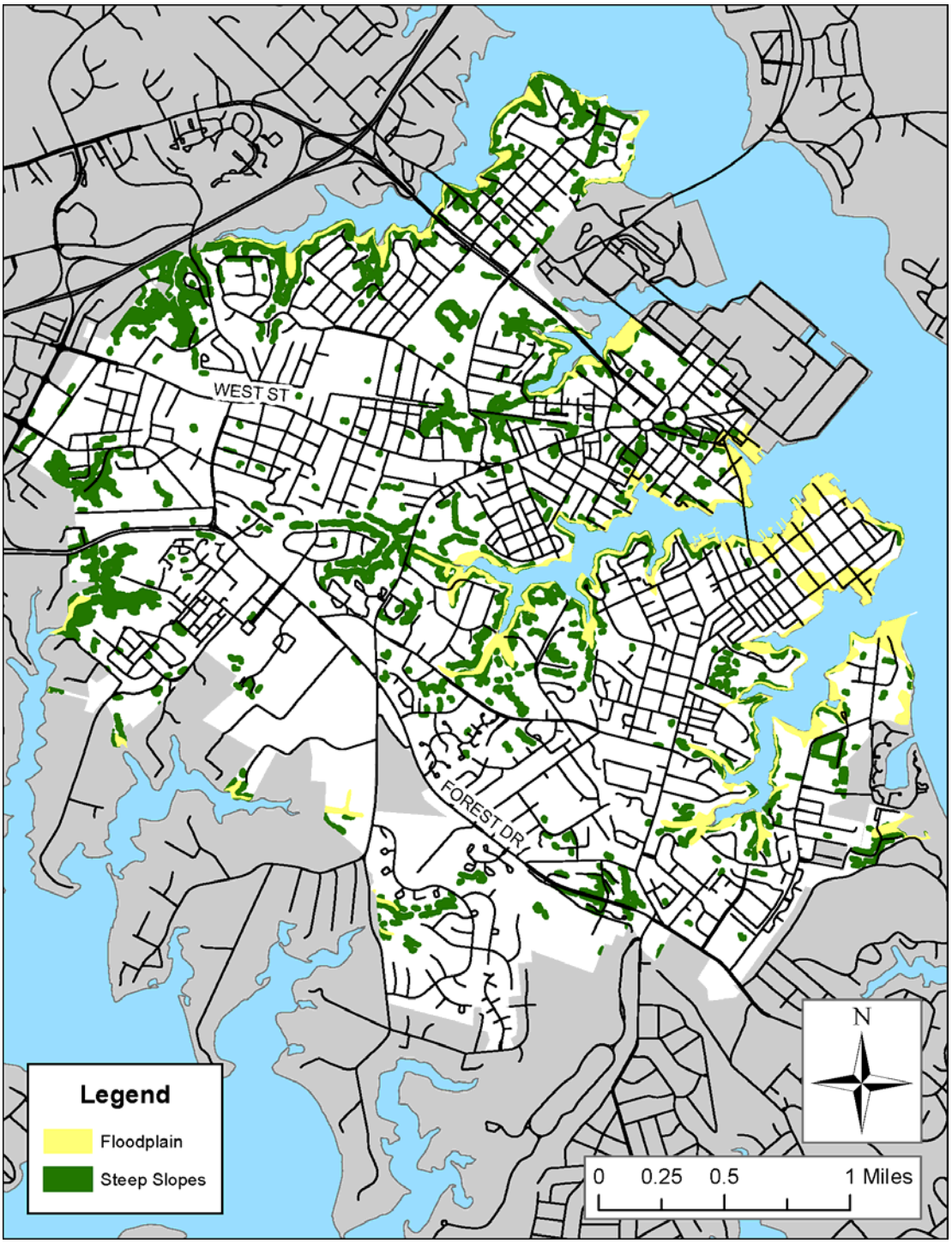


Figure 7-6 Steep Slopes and Floodplain Map

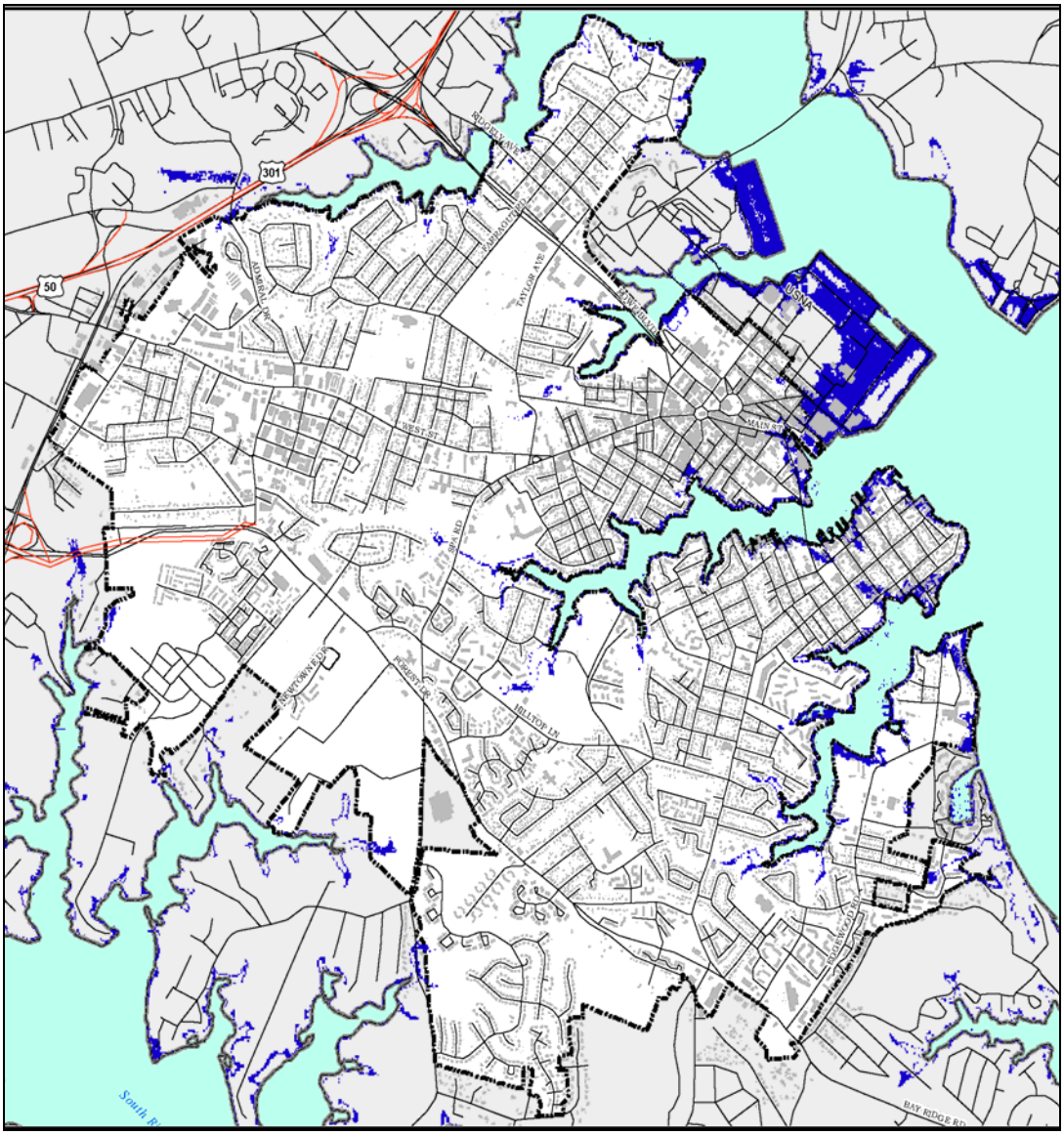


Figure 7-7 Potential 1 Meter Sea Level Rise (Shown in Blue) Map

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CHAPTER 8: HOUSING

Introduction

Approach

Annapolis Houses

Annapolis is a community of neighborhoods with distinct charm and character. It is in these neighborhoods that Annapolis residents are "at home"; the place where residents find a community of neighbors and a sense of belonging, where children are born and grow, and the place representing refuge and safety. For many Americans who own their home, the home is their most significant financial asset, and the home and neighborhood embodies economic aspirations and stability. Important to the treatment of housing in the Comprehensive Plan is the cost of buying a home in Annapolis and housing conditions for residents at the lowest income levels.

Primary Challenges

Two key issues challenge the Annapolis housing market. The recent dramatic rise in housing cost places a burden on typical workforce households like police, fire, teachers, and service workers. Soaring home prices has made homeownership only attainable for the affluent. Over the years, the City has used available funds to support homeownership for low and moderate-income families. Until recently, little help was available to "workforce" or middle-income families.

In addition, the City has a high proportion of public housing and other subsidized housing. With the exception of Bloomsbury Square, the age of public housing ranges from 40 – 70 years old and is in need of repair and/or replacement. Severe reductions in federal funding has further contributed to the deterioration of the properties.

Policies

To respond to the primary challenges, the City embraces three main Policies; further details are in the Policy Recommendation section:

- Support development of housing that is affordable to workforce and middle income households.
- Reinvent public housing.
- Support housing programs that assist low and moderate-income households with homeownership and housing rehabilitation.

Summary of Existing Conditions

The Context for Planning

- In the years since the adoption of the last Comprehensive Plan, the City has focused its resources on the housing issues facing low and moderate-income households, defined as households earning no more than 50 or 80 percent of the regional median income respectively. The City has accessed federal and state funds targeted to these income groups to provide homeownership opportunities and improve housing conditions. The City's Housing Rehab Program (Fig. 8.1) is one example of these efforts.

Figure 8-1 City Housing Rehab Program

- Every five years the City prepares a *Consolidated Housing and Community Development Plan* to implement federal programs that fund housing and community development activities, including the City's Community Development Block Grant (CDBG) allotment. The *Consolidated Plan* focuses on housing needs for low income households, the homeless, and other special needs populations, as well as non-housing community development activities. The most recent *Consolidated Plan* was prepared in 2005 and covers the years between 2005 and 2010. A yearly Action Plan guides the implementation of the *Consolidated Plan* and includes the City's work with partners, eg. the Anne Arundel County and Annapolis Partnership to End Homelessness.

	% of Regional Median Income	2008- Family of four Annual income not exceeding:
Middle Income or "Workforce" Households	81-120%	$92,500
Moderate Income	51-80%	$61,500
Low Income	Up to 50%	$39,100

Figure 8-2 Baltimore Regional Income Limits– Source: HUD: City of Annapolis

- The City adopted a Moderately Price Dwelling Unit (MPDU) program in 2004. Also termed "inclusionary zoning," the MPDU program requires that developments of 10 or more housing units provide 12 percent of for-sale units and 6 percent of rental units that are affordable to moderate income households. As of January 2008, the MPDU program had generated 18 rental units, and 52 for-sale units were in the pipeline. In circumstances where developers are unable to provide MPDUs, they are permitted to contribute funds to the City's Housing Assistance Trust Fund in lieu of providing MPDUs.

  According to the MPDU Ordinance, developments that comply with the MPDU ordinance can build to a density higher than the maximum density permitted in the zone. This "density bonus" is intended to serve as an incentive for developers to provide MPDUs. In practice, the density bonus has been difficult to achieve because of site constraints.

Existing Conditions

Admiral Heights Neighborhood

Annapolis neighborhoods vary widely in age, character, and level of affluence. From the historic homes and quaint streets downtown, to the post-WW2 neighborhoods of Admiral Heights, Germantown, and Homewood, and the newer neighborhoods along Forest Drive, almost every era of home-building in America is represented in Annapolis. Most neighborhoods have their own story and history. Some neighborhoods overlook the creeks and bridges of Annapolis. For other neighborhoods, parks, schools, or commercial corridors are the primary focus.

- The number of housing units in Annapolis is growing, but at the slow pace expected in a community that is largely developed. There were 15,303 occupied housing units in Annapolis in 2000 (or 16,192 units total), roughly 6 percent more than in 1990. In comparison, in the same time period the number of housing units in the county grew by almost 19 percent. In the years between 2000 and 2007, the number of occupied housing units in Annapolis grew further to approximately 16,200.

- Annapolis housing stock includes a large number of historic homes. The median age of construction for homes in Annapolis is 1968, but the age of houses varies considerably. Many of the older homes outside of the historic core are at risk of replacement because they do not offer the size or amenities desired in today's housing market.

- Approximately 61 percent of Annapolis housing units are single-family homes (both attached and detached), and 38 percent are in multi-family structures.

Figure 8-3 Annapolis Housing Units

Annapolis Housing by Number of Units					
	2000		***1990***		***Raw change***
Units in Structure	***# of Units***	***% of Total***	***# of Units***	***% of Total***	***# of Units***
1-unit, detached	6,412	39.6%	5695	37.3%	717
1-unit, attached	3,514	21.7%	2948	19.3%	566
2 units	471	2.9%	524	3.4%	-53
3 or 4 units	698	4.3%	690	4.5%	8
5 to 9 units	1,623	10.0%	1815	11.9%	-192
10 to 19 units	2,299	14.2%	2333	15.3%	-34
20 or more units	1,162	7.2%	1087	7.1%	75
Boat, RV, van, etc.	13	0.1%	160	1.0%	-147
Total	**16,192**		**15252**		**940**

- Approximately 52 percent of Annapolis housing units are owner-occupied, and 48 percent are rental units. As recently as 1990, the majority of Annapolis housing units were rentals (52% of housing units were rentals in 1990). The home-ownership rate in the City is lower than the State (67%) or County (77%).

- Home values grew by 148% in the ten years between 1997 and 2007. The median value for a home in Annapolis grew from $172,000 in 1997 to $428,000 in 2007. In 2007, only 21 homes under $200,000 were offered for sale in Annapolis.

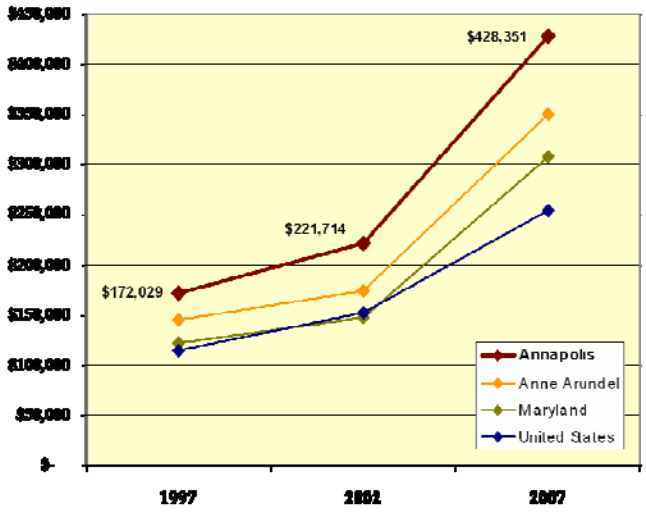

Figure 8-4 Median Home Sales Prices

- Household income has not kept pace with the sharp increase in home sales prices. In contrast with a 148% increase in home prices, median household income increased by only 40% in the same ten year period; from $54,100 in 1997 to $75,800 in 2007. The group most affected by this trend is the "workforce" or middle-income family who cannot afford to purchase a new home.

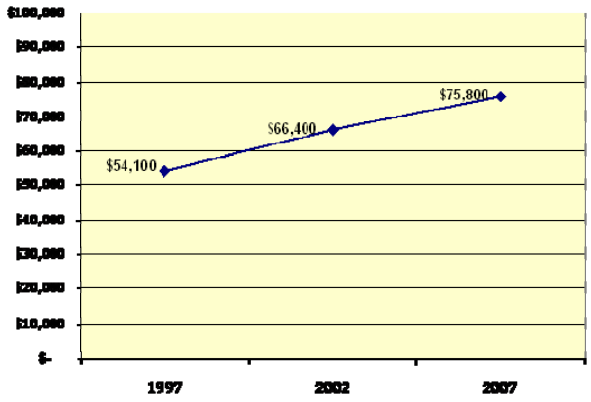

Figure 8-5 Baltimore Region Median Household Income

- In general, the housing market is dominated by the fact that little land is available for new development and the resulting rise in the price of housing. New housing construction is increasingly limited to annexation areas, demolition and redevelopment, and conversion of previously non-residential sites and structures.

- Lack of available housing or land makes it increasingly difficult to provide new housing affordable to workforce, moderate or low income households. This is forcing many households to live an extended distance from work.

- Approximately 33 percent of Annapolis rental units (or 2,376 units) are public housing or receive a public subsidy to provide housing to low and moderate-income households, as defined by HUD.

  - The Housing Authority of the City of Annapolis (HACA) manages 1,104 housing units in ten public housing communities, accounting for 15 percent of the total rental units in Annapolis (shown in Figure 8.4).

  - HACA also services 200 Section 8 Housing Vouchers, where payment is made to a private landlord on behalf of an eligible household.

  - There are approximately 1,072 other rental housing units available to low and moderate income households, that are subsidized by local, State, or federally funded programs. These account for 16 percent of the total rental units in the City.

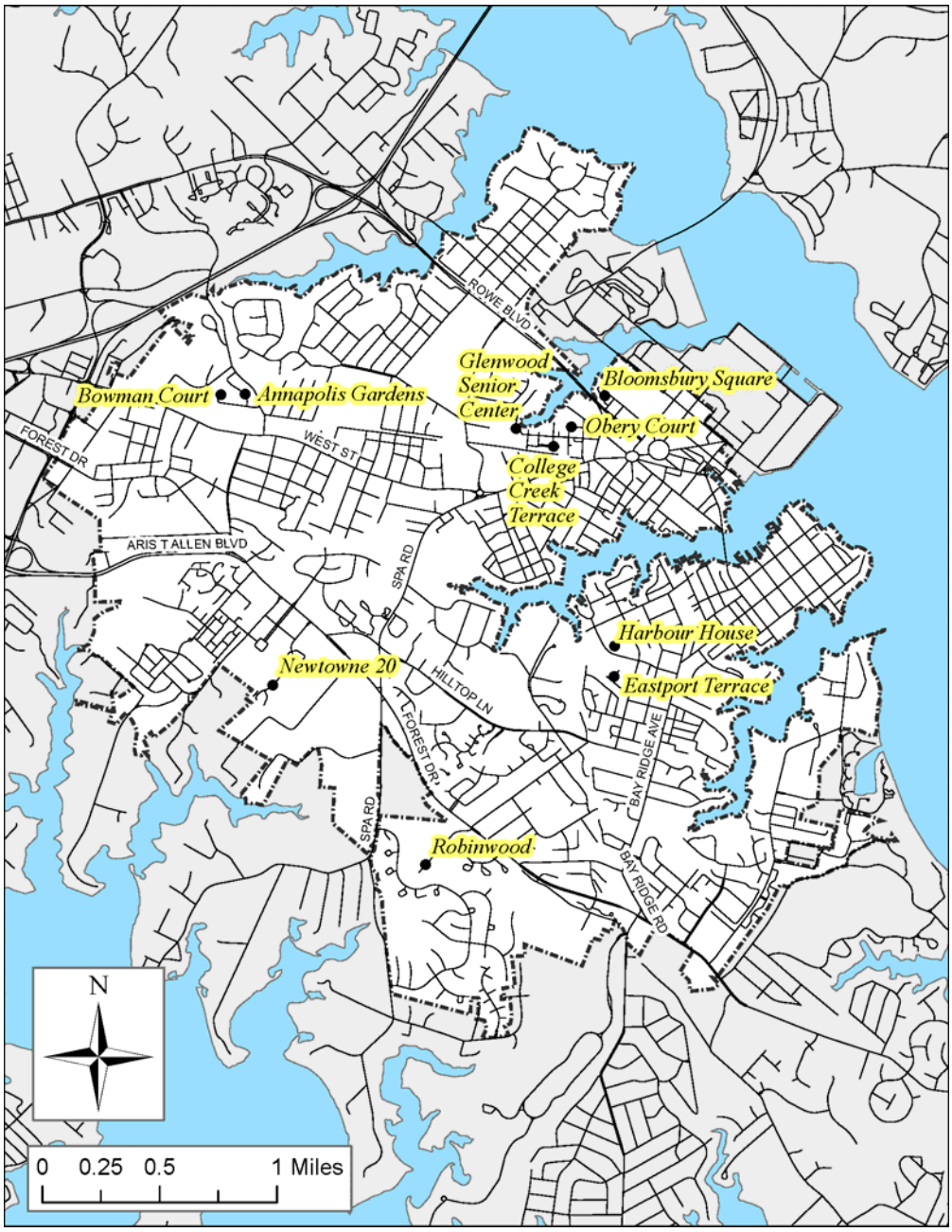

Figure 8-6 Housing Authority Properties

- The Housing Authority has begun to transform four of its communities, working with affordable housing development organizations. This will result in substantive improvements made to 314 existing units, or 28 percent of the City's public housing stock. The four communities are Obery Court (Fig. 8.7) and College Creek Terrace in the Clay Street area, and Annapolis Gardens and Bowman Court along Admiral Drive. These four communities are targeted for rebuilding or rehabilitation, with a mix of homeownership and rental homes. In addition, these communities will be converted to private professional property management.

Figure 8-7 Concept of Proposed Obery Court Improvements

Policy Recommendations

Policy 1. Support Development of Housing Affordable to Workforce or Middle Income Households

1.1 Access funds to address housing needs of Workforce and Middle Income households, loosely defined as households earning between 80 percent and 120 percent of the Regional Median Family Income.

Income range for a "Workforce" family of four in 2008 is $61,500 - $92,500. A family in this income range can typically afford a $300,000 home. With a median sale price of $428,000 for a house in the City, "Workforce" families are priced out of the Annapolis housing market.

1.2 To meet the objective of ensuring that housing options continue to be available to moderate income households, revise the density bonus provision of the Moderately Priced Dwelling Unit (MPDU) program. The density bonus has not served as the intended incentive to private developers to construct MPDUs, as site constraints have effectively limited density, and the density bonus has been difficult to achieve.

1.3 The City should work witb neighborhoods to consider allowing "mother-in-law apartments" or "granny flats" in owner-occupied houses in residential districts where the community finds them acceptable. These above-garage apartments, in-home apartments, or small cottages that serve as a second residence on a property can provide added income to the homeowner and provide a small affordable housing unit. Regulation of such "accessory dwelling units" would be necessary, and would need to address size of the accessory unit, provision of parking, and a permitting process and enforcement.

1.4 Acknowledging that Annapolis on its own cannot solve the affordable housing crisis, advocate for Anne Arundel County and the State of Maryland to play a role in increasing the supply of affordable housing.

Policy 2. Reinvent Public Housing

2.1 Support the Housing Authority's efforts to "reinvent" public housing, with the goal of ensuring quality housing for low income residents. "Reinventing" includes rebuilding and rehabilitating public housing complexes with a mix of ownership and rental units, new arrangements for property ownership (shared public-private ownership), and transitioning to private professional property management.

Bloomsbury Square

2.2 As part of the Housing Authority's current and future redevelopment planning, the City should work with HACA to evaluate income diversity of public housing residents.

2.3 In the redevelopment of public housing sites, encourage Context Sensitive Design and apply the principles of Crime Prevention through Environmental Design (CPTED). Context Sensitive Design ensures that the architectural elements, site layout, and scale of development complements the surrounding neighborhood. CPTED principles enhance natural surveillance, natural access control, and natural territorial reinforcement to reduce crime and improve quality of life of residents.

2.4 While "bricks and mortar" are an important aspect of public housing, just as important is the social context of poverty and disparities in income and educational attainment experienced by public housing residents compared to the larger Annapolis community. The Housing Authority offers a range of supportive programs to public housing residents and the City recognizes that programs that address social disparities must be included in public housing's "reinvention". This should include:

- For children: early childhood education programs, professional tutoring, counseling, and mentoring.

- While the public housing communities have recreation centers, recreation services are not always available. Offering recreation services on-site would enable young and stressed families to access these programs.

- For adults: computer training, employment skills, parenting, self-sufficiency, homeownership, and financial counseling.

2.5 Strive for efficient communication between the Housing Authority (HACA) and City government and identify common goals for the improvement of quality of life in public housing communities. Regular meetings between City staff and HACA are recommended to help facilitate coordination and work toward achieving common goals.

2.6 An Advisory Committee should be established to review and comment on all plans for reconstruction or rehabilitation of public housing communities. No reconstruction or rehabilitation plans should be approved by the City unless ten percent of units are reserved for mixed income.

Policy 3. Support housing programs that assist low and moderate-income households with homeownership and housing rehabilitation

3.1 Utilize City Community Development Block Grant (CDBG) funds and other State and federal programs to offer housing rehabilitation programs that allow people to rehabilitate and stay in their homes, to help rehabilitate subsidized rental housing, and to provide homeownership opportunities.

3.2 Foster partnerships with public, private, and nonprofit entities, particularly in efforts to acquire sites at a reasonable cost for purposes of affordable housing, including rehabilitation, redevelopment, and new development. In coordination with partner organizations, continue to pursue state and federal funds.

Senior Apartments at Bates Heritage Park

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CHAPTER 9: WATER RESOURCES

Introduction

Spa Creek near Truxtun Park

Annapolis recognizes that the protection of its water resources, particularly the condition of Chesapeake Bay, is of paramount importance to its future vitality. The Land Use and Municipal Growth chapters have indicated that the city is built-out and that the population growth projected will occur primarily through redevelopment. For this reason, the recommended water resource goals and policies presented in this Chapter are directed more toward reducing any existing impacts on water quality from existing development rather than extending service or accommodating large population increases.

This element addresses state planning requirements related to water supply, wastewater and storm drainage in accordance with Article 66B, Land Use, Section 3.05(4)(vi). It generally follows guidance provided by "*Models & Guidelines, Volume 26: The Water Resources Element*," by the Maryland Department of Planning (MDP). Similar to the Ch. 5 - *Municipal Growth & Community Facilities*, the Water Resources element makes every effort to work within guidance offered by MDP. The Water Resources element and Ch. 7 - *Environment* are complementary, particularly in regards to stormwater management issues.

The City embraces three main Policies; further details are in the Policy Recommendation section:

- Protect and conserve the existing Water Supply and Distribution Systems.
- Enhance the Wastewater Collection and Treatment Systems.
- Maintain Water Resource Management Areas.

Existing Conditions

Topics required by State guidelines are addressed in this section. They include:

- *Land Use Patterns and Growth*
- *Water System Supply & Demand*
- *Wastewater Collection & Treatment*
- *Drainage and Stormwater Management*
- *Water Resource Management Areas*
- *Coastal and Shoreline Protection*
- *Impervious Cover, and*
- *Adjustments to the Land Use Plan*

Land Use Patterns & Growth

Bembe Beach Marina

- Growth in Annapolis, as indicated in Ch. 3 - *Land Use & Economic Development*, is expected to occur through development or redevelopment of a limited number of "opportunity areas" throughout the community with emphasis on creating urban spaces appropriate to the desired character for the area as well as efforts to continue to improve environmental and fiscal conditions.
- Annapolis' population is projected to increase by 2,320 new households, between 2008 and 2030, as documented in Ch. 5 – *Municipal Growth & Community Facilities*.
- Ch. 7 - *Environment* recommends incorporation of a variety of environmentally friendly techniques into site and structure design, including opportunities to retrofit existing structures, as a means of reducing impacts on the natural environment.

Water System Supply and Demand

Water Supply

Groundwater drawn from seven deep wells located near the water treatment plant supply the City's water system. Water is pumped from three Coastal Plain aquifers – the Magothy, Upper Patapsco and Lower Patapsco aquifers. These aquifers slope downward from northwest to southeast and, where situated below Annapolis, are protected by confining layers of relatively impermeable, clayey soil.

The principal source of water for Annapolis is the Magothy formation. The aquifer is recharged where it crops out, an area of approximately 70 square miles in Anne Arundel County and another eight square miles in Prince Georges County. Possible exposures to the Magothy aquifer in the form of rock outcroppings have been reported in Bowie, which is approximately 10 miles west of Annapolis. Possible surface exposures to the deeper Patapsco aquifers would be more likely found further west and northwest, in the Columbia/BWI area. A study conducted jointly by the City and Anne Arundel County in 2003, concluded that there are no immediate threats to the raw water quality and little chance of any future changes to this condition.

The 2008 Water Supply Capacity Management Plan (WSCMP) for the City of Annapolis, has provided the following observations:

- In the past five years, Annapolis' highest annual average daily water demand was 4.77 million gallons per day (mgd) – see Figure 9.1. This translates to household water use of 300 gallons per day (gpd). When this figure is adjusted for commercial and institutional water consumption, leakage, and unaccounted for water uses, household water demand is consistent with MDE's rule of thumb of 250 gpd per household.

- The City has been allocated an average daily use of 5.70 million gallons by the Maryland Department of Environment (MDE) with an average daily supply of 10.0 million gallons during the month of maximum use. State permitting conditions require that water be drawn from the Upper and Lower Patapsco aquifers to the "greatest extent possible," instead of the shallower and more threatened Magothy aquifer.

- Annapolis is currently drilling a new well in the Lower Patapsco aquifer that will replace a similar, recently retired well. When this well becomes operational, the City's total capacity with all wells running at the same time will be 11.80 mgd. Well field capacity with the highest producing well off-line ("firm capacity") will be 9.26 mgd.

- Actual water uses recorded during the single driest annual summer month between 2003 and 2007 ranged from 4.7 mgd to 5.9 mgd. While 5.9 mgd exceeds the average daily allocation, it is well below the permitted allocation during the month of maximum use and the City's firm capacity.

- The City's MDE water allocation permit allows for an annual average daily withdrawal of 5.70 mgd. Actual use recorded between 2003 and 2007 has ranged between 74.1 and 83.6 percent of the allocation, as shown in Figure 9.1.

- The 2008 WSCMP states that the long-term safe yield of the water supply wells will be 8.2 mgd when the new well begins production. The safe yield takes into account water level trends in the water supply aquifers as well as individual well capacities.

Figure 9-1 City of Annapolis Daily Water Use and Allocation

City of Annapolis Daily Use & Allocation					
Year	Average Daily Water Use (mgd)	Allocation (mgd)	Percent of Allocation	Surplus Allocation	
				Daily Use (mgd)	Population Equivalent*
2007	4.53	5.70	79.4	1.17	4,690
2006	4.77		83.6	0.93	3,739
2005	4.65		81.6	1.05	4,198
2004	4.57		80.2	1.13	4,515
2003	4.22		74.1	1.48	5,912

* Population equivalent assumes per capita consumption of 100 gallons per day.
Source: Mark Schultz Associates and Kendig Keast Collaborative.

- Assuming that Annapolis grows by an additional 2,320 households and accommodates new commercial development (representing pipeline development and projected growth), by 2030 it is possible that average daily water use could grow from 4.77 mgd to 5.46 mgd. Figure 9-2 shows the impact of the residential and commercial growth discussed in *Ch. 5- Municipal Growth and Community Facilities* on the demand for water. The water demand figures in Figure 9-2 show the net increase in demand as a result of added development. If average daily water use exceeds the permitted allocation of 5.70 mgd, then the City will need to submit an application for an increase to the MDE.

Figure 9-2 Impact of Growth on Water Demand

Impact of Growth on Water Demand			
	Residential Units	***Commercial Space (sf)***	***Estimated New Water Demand (gpd)****
Projected Net Increase: Pipeline Development	470	200,000	144,500
Projected Net Increase: Projected Development 2009-2030**	1,850	604,750	544,141
Total	**2,320**	**804,750**	**688,641**

*The Estimated New Water Demand is the sum of the demand created by new residential units (assuming 250 gallons per day/unit) and the demand created by new commercial space. For commercial space a demand factor of 0.18 gallons per day (gpd) per square foot (sf) is applied to one-half of the projected commercial space and a demand factor of 0.09 gpd/sf is applied to the other half. These flow calculation rates apply to general shopping centers and office buildings, respectively (Source: MDE).

**The projection of net new commercial development was arrived at through a build-out analysis of the planned Opportunity Areas (see Chapter 3). Actual commercial development through 2030 may exceed that shown in this table; only the net increase expected in the City through 2030 is shown, reflecting the fact that much commercial development occurs through the redevelopment of existing space which is presently provided with public water and sewer service and counted as part of the "existing use".

Water Treatment

With a capacity of 10 mgd, the water treatment plant continues to have adequate capacity to meet the City's current and projected future demands. Treatment consists mainly of iron removal via injection of chemicals that cause the iron and other minerals in the raw water to coagulate and settle out, followed by filtration and chlorination/floridation.

The water treatment plant is over 60 years old and, while it was well constructed, it is in need of modernization. The Public Works Department is currently implementing or planning numerous improvements to enhance security, enclose and expand clearwell storage volume, update treatment processes, and replace aging equipment and control systems. These are included in the City's current capital improvements budget.

Storage

Water storage is provided by four water towers and one standpipe located throughout the City. Recently, the Public Works Department was considering the addition of another water tower but was experiencing difficulty in finding a location that was both functionally suitable and publicly acceptable. The immediate need for this additional storage has been lessened by the upcoming project to enclose and expand clearwell storage volume at the Water Treatment Plan, with an additional 1 MG of storage in conjunction with generator back-up. The City is also in the process of updating its water computer model to, among other things, evaluate the possibility of avoiding entirely the need for the additional tower.

Canoeing

Service Area and Distribution

The Annapolis water system serves all areas within the city limits and also extends outside the city to supply Loretta Heights to the west, Lindamoor and Dreams Landing north of Weems Creek, and the Chesapeake Harbor complex to the southeast of city limits (Figure 9.3). The water distribution system is reported to be generally in adequate condition, with ongoing repairs and replacement of aging components.

The City is completing a Water and Sewer Systems Study to update its water distribution system model and establish a foundation for identifying system deficiencies and developing a prioritized list of improvements. Improvement recommendations will be developed to address sections of the water system that may need to be cleaned and lined or replaced. This Study is expected to be completed in 2009.

Interconnection with other Water Systems

Excluding the out-of-city developments noted above, Anne Arundel County is responsible for supplying water to the remainder of the Annapolis Neck. A significant number of households in the Lower Neck area continue to rely on private wells of poor quality, and the County is formulating plans to extend service to these areas.

The U.S. Naval Academy operates its own wells, water treatment plant, and distribution system that serve most of the Campus. It is interconnected with the City's system at one tie-in location.

Back Creek Boatyard

Wastewater Collection and Treatment

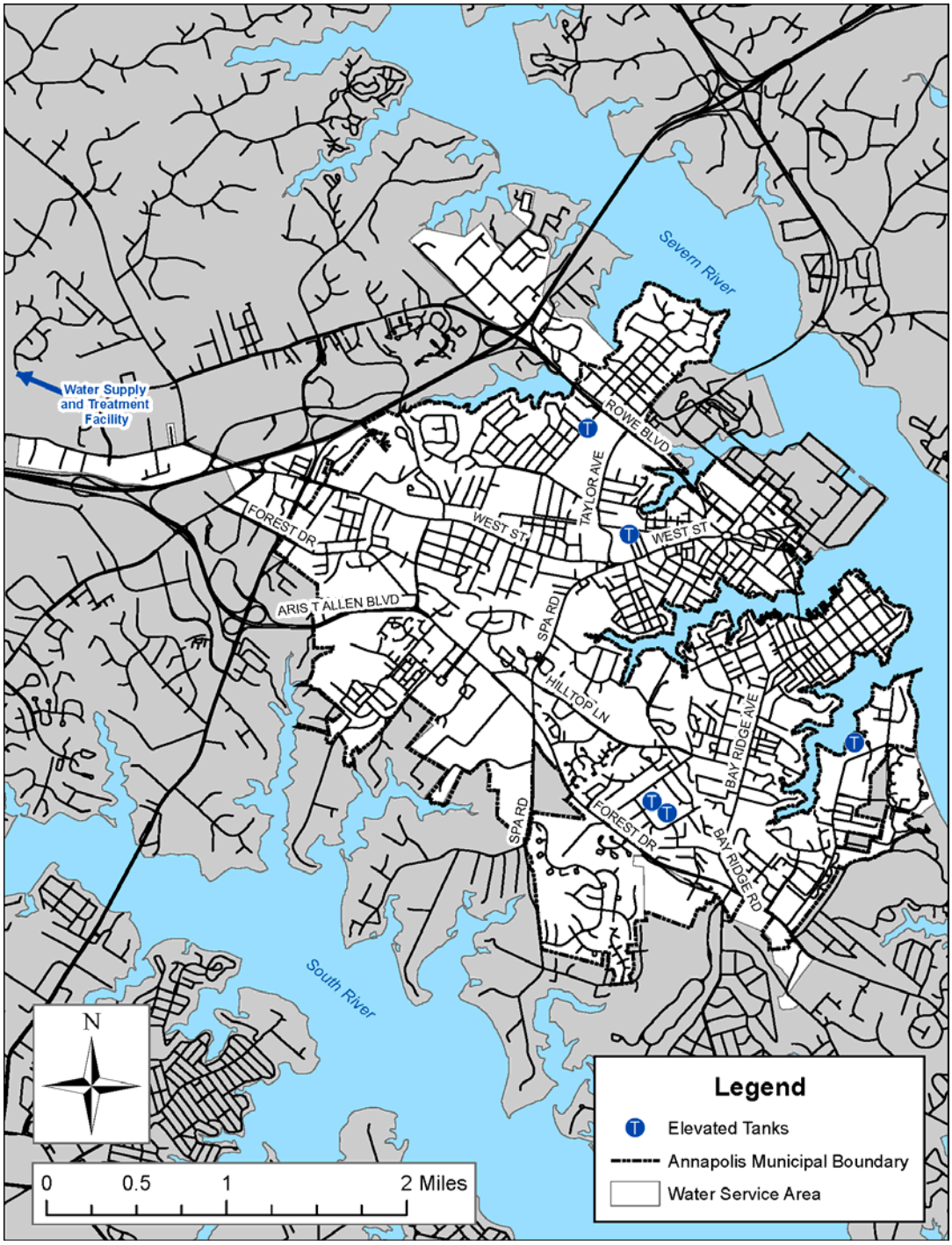

Figure 9-3 Water Service Area Map

Collection

Annapolis maintains a sanitary sewer system that serves all areas of the city and the Naval Academy. Based on the topography, the city is split into multiple pump station sub-systems to convey wastes to the treatment plant on Edgewood Road. A map indicating the existing sewer system and pump stations and siphon is shown in Figure 9.5. The City's sewer system serves all areas within the city boundary, although in some areas, service is subject to private connections to the system being made.

The City is completing a Water and Sewer Systems Study. This Study will update the City's wastewater model and establish a foundation for identifying system deficiencies and developing a prioritized list of improvements.

Inflow and Infiltration

Inflow and infiltration (I & I) can be a problem especially for older municipal sewer systems. Inflow is stormwater that enters the wastewater collection system as a result of insufficient stormwater management on lots (e.g., downspouts that direct water into sewer collection pipes). Infiltration is flow from groundwater that enters the system through cracks in pipes, for example. I & I add to the amount of wastewater that needs to be treated and discharged, which reduces available capacity for households and businesses. The Annapolis Water Reclamation Facility is operating under capacity and I&I has not be identified as a problem, but the City should undertake I&I studies of possible problems on a regular schedule.

Treatment

The Annapolis Water Reclamation Facility (WRF) is a plant that is jointly owned and supported by the City and Anne Arundel County, but is operated by the County. As a joint facility, it treats sanitary sewage collected from the City, County, and USNA. The plant is located off of Edgewood Road within the City's limits. The plant's capacity is 13 mgd, of which the City (with the USNA) has been allotted 6.7 mgd. The effluent from the WRF is discharged to the Severn River.

The City currently generates a little under 5 mgd of wastewater flow. Assuming that Annapolis grows by an additional 2,320 households and accommodates new commercial development (representing pipeline development and projected growth), by 2030 it is possible that wastewater flows could grow from 5 million gallons per day (mgd) to approximately 5.72 mgd. Figure 9-4 shows the impact of the residential and commercial growth discussed in *Ch. 5- Municipal Growth and Community Facilities* on the demand for sewer. The demand figures show the net increase in demand as a result of added development. While this remains within the City's allocation, it differs from an estimate calculated by the County in 2006.[19] The projection of 5.72 mgd should be factored into the City's Agreement with the County governing the WRF, which will be renewed in 2010.

19 The 2007-2010 Master Plan for Water Supply and Sewerage Systems by Anne Arundel County calculated that the City would generate only 5.48 of wastewater flow by 2030. However, the City's calculation is based on updated conditions and projections.

Figure 9-4 Impact of Growth on Sewer Demand

Impact of Growth on Sewer Demand			
	Residential Units	***Commercial Space (sf)***	***Estimated New Sewer Demand* (gpd)***
Projected Net Increase: Pipeline Development	470	200,000	151,725
Projected net Increase: Projected Development 2009-2030**	1,850	604,750	571,348
Total	**2,320**	**804,750**	**723,073**

*

Estimated New Water Demand is the sum of the demand created by new residential units (assuming 250 gallons per day/unit) and the demand created by new commercial space. For commercial space a demand factor of 0.18 gallons per day (gpd) per square foot (sf) is applied to one-half of the projected commercial space and a demand factor of 0.09 gpd/sf is applied to the other half. These flow calculation rates apply to general shopping centers and office buildings, respectively (Source: MDE).

**The projection of net new commercial development was arrived at through a build-out analysis of the planned Opportunity Areas (see Chapter 3). Actual commercial development through 2030 may exceed that shown in this table; only the net increase expected in the City through 2030 is shown, reflecting the fact that much commercial development occurs through the redevelopment of existing space which is presently provided with public water and sewer service and counted as part of the "existing use".

The County/City is in the process of completing a design of an Enhanced Nutrient Removal upgrade to reduce nitrogen to 3 mg/l and phosphorous below 0.3 mg/l. Construction on the project is scheduled to begin in 2009. The ENR upgrade would allow the plant's permitted capacity to reach 17.2 million gallons per day. There is sufficient space on the site of the WRF to expand to this capacity if needed. The Annapolis WRF currently uses Biological Nutrient Removal (BNR) technology and meets its permit requirements for total nitrogen and phosphorus concentrations in the effluent.

Wastewater Pretreatment

The Department of Neighborhood & Environmental Programs manages the City's Wastewater Pretreatment Program. This state regulated program, regulates the discharge of difficult to treat sanitary waste, having the potential to cause harm to the collection system, treatment plant, utility workers or the environment.

Septic Tank/On Site Waste Treatment Standards

The City's sewer system serves the full incorporated area. Septic tanks and onsite waste treatment are not a factor in Annapolis since there are no independent systems in the city.

Marine and Industrial Waste Management

Maritime and industrial waste discharges are subject to Maryland and U.S. Coast Guard regulation, as are recreational boating waste handling. Collection and conveyance to the City sewer system are the responsibility of boaters and individual marina operators. There are no commercial port or ship maintenance facilities in the City that require commercial disposal provisions.

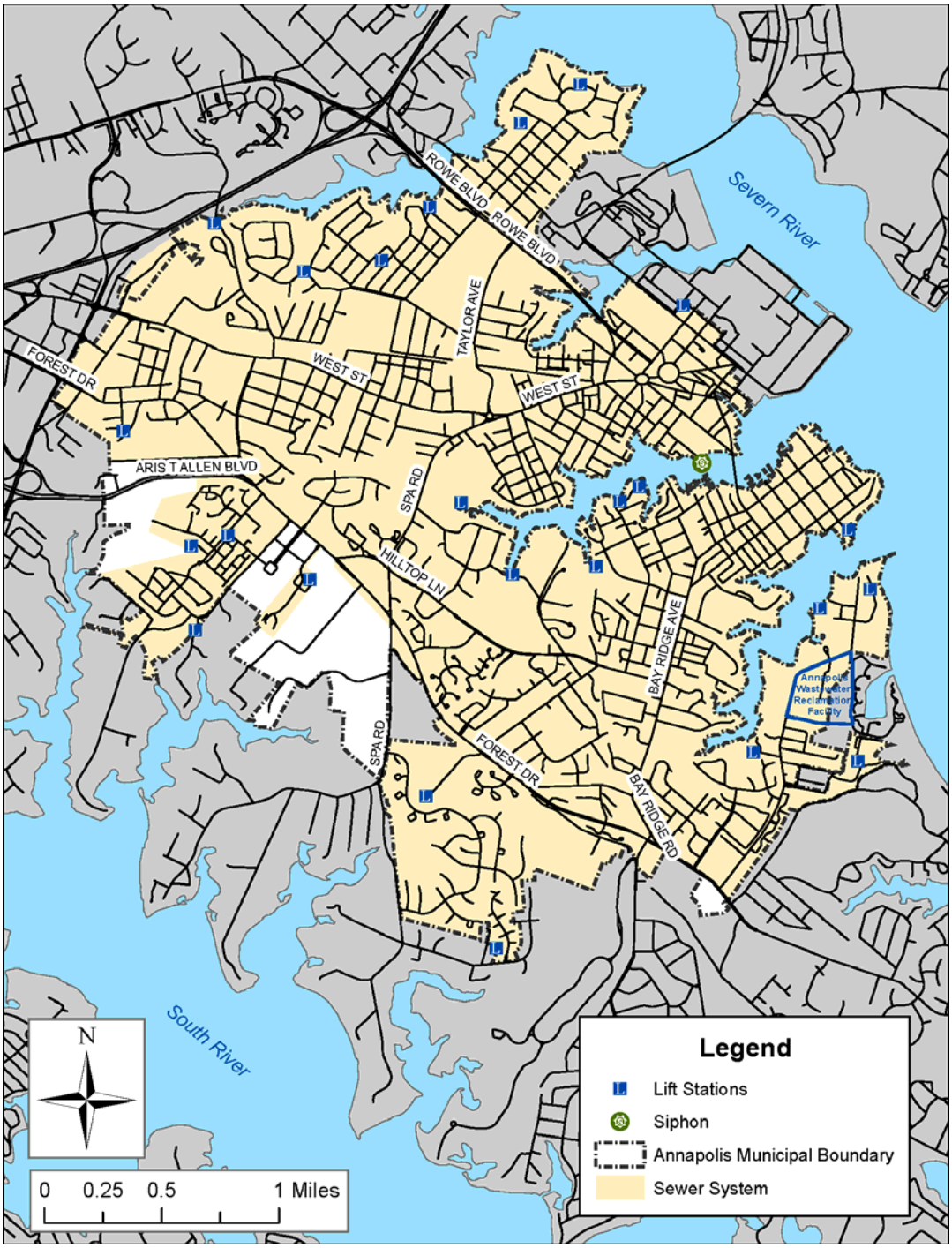

Figure 9-5 Sewer System Map

Drainage and Stormwater Management

Facilities

Generally, the City is served by a combination of storm sewers in the downtown urban areas and surface drainage into streams and creeks in the outlying areas. The storm sewers were separated from the sanitary sewer system during the 1960s and 70s. While there are no large retention/detention facilities integrated with the City's drainage system, such facilities are routinely required for all developments with large buildings or extensive paved areas.

Stormwater Management Sections of the City Code[20]

Chapter 17.10 is the stormwater management section of the City Code. It provides that all development and redevelopment activity in the City address water quality. In particular, it establishes that all site development plans with disturbances of more than 5,000 square feet (and 2,000 square feet for waterfront sites) shall reduce existing impervious area by at least 50 percent. If site conditions prevent this from being accomplished then the development plan must provide for enhanced control of the quality of runoff from the site. This improvement is most often accomplished through structural Best Management Practices, (BMPs) (such as rain gardens and infiltration trenches) but can also be done though such techniques as conservation easements, buffers, and greenroofs.

Beyond regulation of development, the volunteer and individual efforts of property owners and businesses can meaningfully help improve stormwater quality in the City and help reduce the loads on stormwater facilities.

Erosion and Sedimentation

The Maryland Department of Environment (MDE) has established erosion and sediment control standards, implementation and maintenance techniques, and specifications associated with various best management practices during construction. The permitting requirements and monitoring are administered by the City of Annapolis. Techniques deal with appropriate means of soil stockpiling, surface grading, and the application sedimentation skirting and fencing. Grading, soil erosion, and sedimentation control permitting requirements are administered by the City as part of the building and grading permitting process. Sediments entering storm sewers and surface waterways are also managed through a regular street sweeping program.

Chemical and Fertilizer Usage

Introduction of organic chemicals and fertilizers into storm sewers and waterways can be destructive to the biological balance of receiving streams, waterways, and rivers. The excess nutrients cause algae blooms in the waterways. Algae blooms can block sunlight and also deplete oxygen, causing harm to both aquatic plants and wildlife. Best management practices are normally associated with public education on appropriate ways to dispose of household substances and the proper application of lawn chemicals. The use of fertilizers in City Parks is extremely limited. Fertilizers containing phosphates were banned in Annapolis in 2008.

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20 Updates to State of Maryland stormwater design regulations automatically update the City's regulations in this area. The State Stormwater Design Manual is expected to become more stringent as it is updated in 2010 and with it, the principles of Low Impact Development may be expected to become increasingly relevant and applied in Annapolis.

Water Resource Management Areas

Wellhead Protection

Because Annapolis' raw water supply is drawn from wells ranging from 300' to over 1,000' in depth, special measures for protection from seepages into the aquifer at and around the locations of its wellheads is not a planning consideration. Additionally, the plant and all wells are located in Waterworks Park, shown in Figure 9.6. Approximately 30 acres of the 650-acre Waterworks Park are maintained as a secure water supply zone.

Aquifer Protection

The primary recharge areas of the aquifers supplying Annapolis are subject to significant urban and suburban development pressures in the Baltimore-Washington corridor. Quantity of aquifer recharge and the adequacy of aquifers to serve Annapolis over the long-term future is a regional issue that must be studied further and addressed.

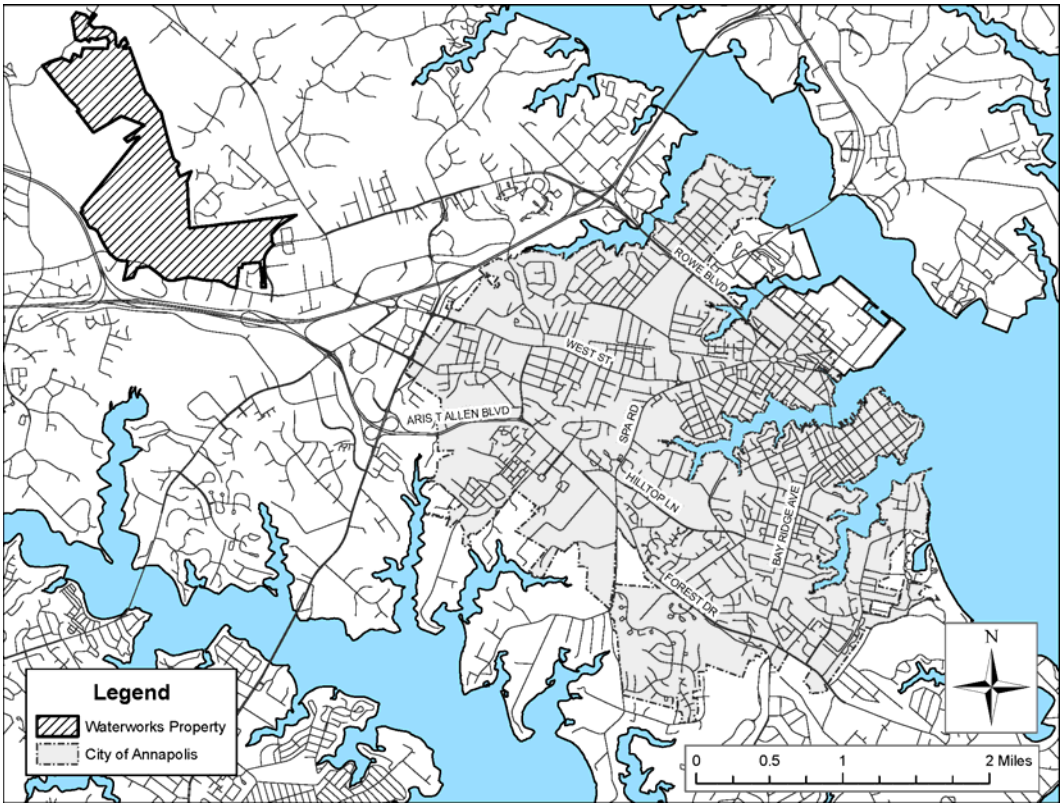

Figure 9-6 Waterworks Property in relation to the City corporate boundary

Surface Watershed Areas

Annapolis is situated in the "Lower Western Shore" tributary to the Chesapeake Bay watershed. The Annapolis Neck, in general, is drained by the Severn and South Rivers. More specifically, the City is drained by Weems Creek, College Creek, Spa Creek, and Back Creek, which are tributary to the Severn River and by Crab, Harness and Aberdeen creeks, which drain to the South River. Sub-watersheds are shown in Figure 9.7.

The City has completed an Action Plan for Annapolis Watersheds. The Action Plan measures impervious coverage for four sub-watersheds in the city (the Weems, College, Spa, and Back Creek sub-watersheds), and other indicators of ecological health. The analysis and recommendations from the Action Plan will inform the City's future actions in regards to watershed management. However, the comprehensive water resource planning that the City will conduct in coordination with Anne Arundel County, in compliance with Article 66B, is focused at the Severn and South River water levels and not to any individual stream, creek, or other "receiving water".

Annapolis' surface waterways also create challenges to the City in the form of infrastructure costs: bridges, culverts, water line and sewer crossings and the need for sewage lift stations for 14 sanitary sewer drainage basins for areas at the northern and western peripheries of the city.

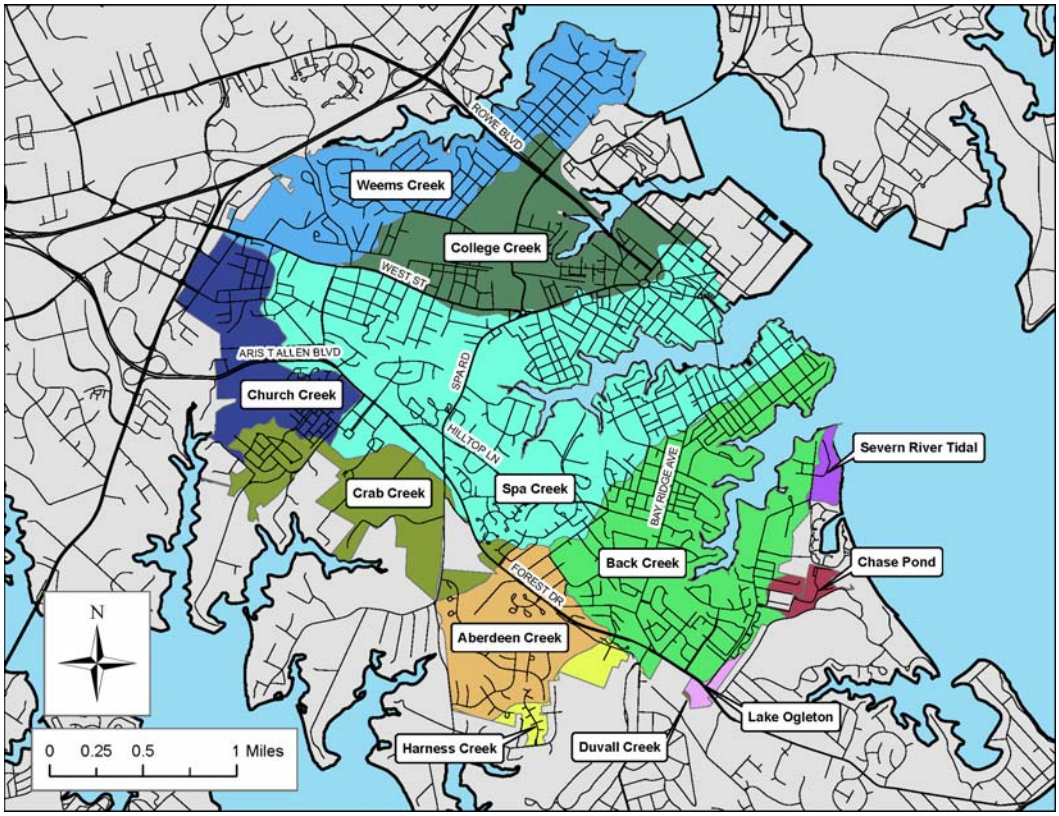

Figure 9-7 Sub-Watersheds Map

Stream Buffers

Most parts of Annapolis are drained by the freshwater and tidal tributaries to the Severn River. The City has recognized the importance of maintaining the integrity of these watercourses and has adopted Critical Area Overlay provisions to its land use regulations, which require a 100-foot minimum vegetated stream and wetland buffer.

These protected buffer areas generally correspond to the 100-year floodplains for the respective streams. Proposed development in these areas is subject to intensive review to ensure that impacts are minimized or entirely avoided.

Coastal and Shoreline Protection

With the possible exception of the far southern bank of the Severn River at Sparrows Beach and Horn Point, most of the City's shoreline is naturally sheltered from local storms and strong northeastern winds. A jetty has been constructed along the shore immediately south of the mouth of Back Creek, just south of the City Limits, to capture sand and provide erosion protection to the waterfronts of residences.

Waterfront Painting

Exposed shoreline development at the foot of Eastern Avenue and east of Horn Point Road is protected by a combination of submerged groins, riprap deposited on the bank, gabions, and sheetpile walls. Remaining areas of the City are less exposed and rely on sheetpiling with occasional riprap protection at the foot of the walls and "living shorelines" wherever appropriate. Major portions of the downtown area and the Naval Academy that are exposed to the Severn River are heavily protected by seawalls.

Hardened shorelines such as these are considered to be unsustainable, but are appropriate in built out urban areas that experience high energy wave activity. The use of groins tends to starve other down-drift beaches from natural sand accumulation, thereby depriving adjacent property owners' natural protection. These concerns have been recognized for decades, and the Coastal Zone Management Act of 1972, combined with Maryland's Coastal Program, has placed regulation of all coastal structures in the hands of the Maryland Department of the Environment, usually in conjunction with U.S. Army Corps of Engineers permitting requirements.

Impervious Cover

As noted in Ch. 7 - *Environment*, impervious cover in Annapolis is currently calculated to be approximately 42 percent. The City is currently completing an Action Plan for Annapolis Watersheds, which will refine the calculation of impervious coverage specific to each watershed. Given that the majority of proposed growth is located in currently developed areas, little of the tree canopy is expected to be impacted by growth. Refer to Chapter 7, for policy recommendations related to reducing pollutant loading to Annapolis waterways, increasing the tree canopy, and green building practices.

Adjustments to the Land Use Plan

No adjustments are needed to Future Land Use proposed in Ch. 3 - *Land Use & Economic Development*. This Plan's focus on environmental goals, in particular the reduction of polluting effects of stormwater runoff, Low Impact Development, the retrofit of stormwater management facilities and environmental site design in general, will contribute to water quality improvements as development and redevelopment occur. (See Chapter 7 – *Environment*, and Policy 3.4 of this chapter.) For the reasons mentioned below changes to the Annapolis comprehensive land use plan cannot be looked to for meaningful improvements in area water quality. Instead future growth will continue to be subject to strict stormwater management best management practices. When correctly implemented, development should have no significant impact on area water quality. In the case of redevelopment, pollutant impacts should be reduced especially in areas where existing development has substandard retention.

Annapolis is located within the Severn and South River watershed. The Maryland Department of Environment (MDE) has determined that both watersheds are impaired with respect to nutrients (nitrogen and phosphorous) metals, and bacteria. However, MDE has not yet established nutrient TMDLs for the watersheds as it is empowered to do under the federal Clean Water Act[21]. TMDLs stand for Total Maximum Daily Loads and reflect the total daily pollution that water bodies can absorb and still meet federal water quality standards. In the future MDE may promulgate TMDL's for nitrogen and phosphorous. When and if it is does, the City will endeavor to coordinate with Anne Arundel County to meet these established pollutant caps within the Severn and South River watersheds.

As part of its Water Resources planning, Anne Arundel County has completed watershed analyses for both the Severn and South watersheds and in the absence of TMDL's, calculated nutrient loading assimilative capacities for nitrogen and phosphorous[22]. Like TMDL's, the assimilative capacities establish a maximum value

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21 MDE has established bacteria TMDLs for the watersheds. The Annapolis contribution in this regard is minimal because development in the City is served by the municipal sanitary sewer system, rather than by individual on-site septic systems.

22 The County calculated the non-point source (stormwater) pollutant loadings using its Watershed Management Tool and data on existing land cover, stormwater management coverage, impervious coverage, soil infiltration rates, rainfall, pollutant event mean concentrations and other pertinent data. The assimilative capacities are based on data on bacteria and other stressors in the watershed and established quantitative relationships between certain land cover characteristics and concentration of nitrogen and phosphorous in stormwater runoff.

for acceptable nutrient loading. Where pollutant loadings are found to exceed assimilative capacities, the land use condition is determined to be unable the support biological health of the watershed's receiving waters.

The County's calculated assimilative capacities for nitrogen and phosphorous (in both watersheds) is 2.7 lbs/acre/year and 0.38 lbs/acre/year, respectively. The County study shows that both values are well exceeded in the watersheds under current conditions and under the County's future land use plan conditions. Assimilative capacities are much like TMDL's except that they are planning targets without the regulatory authority associated with MDE required TMDLs. In the absence of MDE promulgated TMDL's, Annapolis will use the County's assimilative capacities and coordinate with the County to study the contributions it can make toward achieving assimilative capacities.

The County's analysis showed nutrient loading in the Severn and South River watershed will experience little change between the existing conditions and future County land use plan. The City's Comprehensive Plan also recognizes that it is not possible for Annapolis alone to attain the assimilative capacities. While Annapolis is a major part of the Severn River Watershed in particular, it is an established city and nearly completely developed and the City's land use cannot be looked to for meaningful contributions to water quality improvements. That being said, as part of a continuing and coordinated water resource planning effort, the City will coordinate with the County to compare the City's Land Use Plan (see Chapter 3) with existing conditions data used by the County and quantify any possible impacts to area water quality. No adjustments to the City land use plan are envisioned at this time.

This Plan's focus on ecologically sound re-development and environmental site design in particular will contribute to long term improvements in water quality, however. The City will coordinate with the County to study the potential reductions in nutrient loading that can be achieved using a variety of measures such as implementation of enhanced stormwater management BMPs. These are discussed in this Chapter and in Chapter 7 - *Environment*.

Policy Recommendations

Policy 1. Protect and Conserve the Existing Water Supply and Distribution Systems

1.1 Utilize the findings of the Water and Sewer Systems Study (completion anticipated in 2009) to prioritize and implement improvements to the water supply and distribution systems. Provide reliable water service to all City residents.

1.2 Undertake measures to reduce water system losses and per capita consumption rates. Actions that support this policy include:

- Implement a strong public information campaign to promote increased residential and commercial water conservation.

- Improve record keeping and analysis of water use. Increase the frequency of public water use reports.
- Consider the adjustment of residential water rate structures to reward domestic water conservation.
- Review existing building codes to determine opportunities to require water conserving fixtures and appliances.
- Promote (or require) landscaping practices that minimize watering requirements, particularly during the drier seasons.

Policy 2. Enhance the Wastewater Collection and Treatment Systems

The city's wastewater treatment system does not appear to be at risk in the near future, in part due to coordination between the City and Anne Arundel County. Improved nitrogen removal at the wastewater treatment facility (in continued coordination with the county) will continue. Emphasis on development and redevelopment opportunities within municipal limits reduces the need to expand the number of existing lift stations.

2.1 Utilize the findings of the Water and Sewer Systems Study (completion anticipated in 2009) to prioritize and implement improvements recommended for the wastewater collection and treatment systems. Using the sewer model being developed as part of the Study, evaluate system capacity frequently and consistently.

2.2 In the 2010 renewal of the City's Agreement with the County for the Water Reclamation Facility (WRF), factor in changes detailed in this Plan to the City's allocation of the WRF capacity.

Policy 3. Maintain Water Resource Management Areas

3.3 Maintain best management practices (BMP's)—frequent street sweeping, planting of street trees, enhanced streetscapes, and catch basin cleaning—to reduce the introduction of pollutants into waterways and storm sewers. Identify opportunities for additional BMPs, such as pet waste cleanup requirements, limited fertilizer use, disconnection of downspouts and capturing of rainwater onsite, and publication of violations. (City policy regarding stormwater management is detailed in Chapter 7 – *Environment*, and complements this policy.)

3.4 Maintain the portions of Waterworks Park dedicated to a secure water supply service area. This area should be inaccessible to public recreational use.

3.5 Coordinate with Anne Arundel County to continue to refine its analysis of nonpoint source nutrient loading to the Severn and South River Watersheds and monitor improvements to area water quality.

3.6 In order to meet higher standards for environmental quality, water quality in particular. the City should promote Low Impact Development (LID). LID is an approach to land use that works with natural processes and ecologically engineered systems to manage stormwater as close to its generating source as possible. Basic principles include preserving and recreating natural landscape features and functions to provide water quantity control and water quality improvements that benefit nature and society. Treating stormwater as a resource as opposed to a waste product, LID strives to minimize the effective impervious area of a site by creating or retrofitting drainage features on a small scale close to the source of runoff. LID can significantly reduce the adverse cumulative impacts of stormwater on the physical, chemical and biological quality of receiving waters.

This policy will be implemented in coordination with the policies in Ch. 7 – *Environment*. LID can be addressed through development of a Site Design Manual and by making changes to subdivision regulations, the zoning ordinance, and stormwater management regulations. These efforts should be coordinated with the City's Green Building Standards. This level of attention will be needed as the City seeks to reduce pollutant loadings to area waterways to levels comparable to a 32-percent impervious coverage, see Ch. 7 – *Environment*, policy 1.

CHAPTER 10: IMPLEMENTATION

Overview

Inner West Street

Plan implementation is a critical component in comprehensive planning and the one most often overlooked. It is the opportunity to set an action agenda for accomplishing the goals and policy recommendations established in the plan. It is also an opportunity to prioritize items that must and can be accomplished immediately, compared with longer range items that require additional time, expense or effort. Prior chapters focus upon recommending policies needed to guide the community along the path considered most desirable. The Implementation element provides the tools needed to get there.

Article 66B, Land Use, Section 3.05 (vii) requires that a comprehensive plan "shall contain the planning commission's recommendation for land development regulations to implement the plan and which encourages the following:

1. Streamlined review of applications for development, including permit review and subdivision plat review within the areas designated for growth in the plan;
2. The use of flexible development regulations to promote innovative and cost-saving site design and protect the environment; and
3. Economic development in areas designated for growth in the plan through the use of innovative techniques."

Methods and Responsibility for Implementation

The Annapolis Comprehensive Plan is a City policy document. The primary means of implementation include:

- **Incorporation of policy recommendations into daily decisions** guiding development, redevelopment, preservation, infrastructure, transportation, economic development, growth and a myriad of other issues. Many of the policies cited in the Comprehensive Plan are designed to assist in site design as well as approval of plats and permits. Consideration should be given to incorporating policies into checklists or other review materials to ensure that they are utilized when and where appropriate.

- **Amendment of current land development regulations** to ensure a quality character of development that reflects the community's vision. The current zoning ordinance has the tools in place to address a number of the policies recommended in the Comprehensive Plan. Changes to Zoning Code language and maps may be indicated to facilitate the land use and character changes envisioned for the four opportunity areas identified in Ch. 3 – *Land Use & Economic Development*. Changes to existing zoning controls in the opportunity areas will be undertaken as part of the more detailed area planning that will be done for each opportunity area. Alternative development regulation techniques (described below) may also be explored to better accommodate recommendations about community character and environmental sustainability, as well as the flexibility cited in Article 66B, Land Use.

- **Changes to legislation and state actions**. Various recommendations of the Comprehensive Plan are best met through legislative action. For example, transportation recommendations addressing rail links to Baltimore and Washington D.C. could be emboldened by changes in transportation funding.

- **The Capital Improvement Program (CIP)** is the financially constrained document used to implement recommendations from this and other adopted plans. Coordination with the CIP will allow for construction of improvements in an order that will accommodate the most pressing needs of the Comprehensive Plan. The multi-year plan identifying capital projects for street infrastructure; water, wastewater, and drainage improvements; park, trail and recreation facility provisions; and other public buildings and municipal services is not only a critical link to the timing and funding of projects, it is also a recognition of the need for expanded intergovernmental coordination. Capital improvements must be coordinated with the objectives of this plan if the community is to meet its planning goals and serve as a catalyst in obtaining the desired future community character. Therefore this Plan recommends a policy-based capital improvements program. In executing its statutory duty to review the City's CIP and to determine its compatibility with the adopted Comprehensive Plan, the Planning Commission would benefit from clearer guidance. Capital improvements therefore should be drawn from this Comprehensive Plan and be specifically related to the policies set forth herein.

- **Identification and implementation of special projects, programs, and initiatives** will support organizational, programmatic, and/or developmental objectives. These may include further studies, detailed area plans (individual neighborhoods or special districts), or initiating or expanding upon key City programs.

Techniques for Addressing Development Regulations

Annapolis' development regulations follow the traditional Euclidean system of zoning that emphasizes the appropriateness and compatibility of land uses. In certain areas, Annapolis has successfully implemented overlay districts that address character and provide incentives for enhanced design features.

Alternative development regulation techniques that the City could consider to implement the Land Use recommendations in this plan include:

- Continue to rely on hybrid techniques such as overlay districts and incentives within the context of the existing code. City staff has become increasingly adept at using these techniques to better address character, as seen in the Eastport Gateway Conservation Overlay District. Consideration will be given to creating overlay districts that address the opportunity areas noted in Chapter 3, Land Use. A serious examination of maximum densities should occur that will allow for improved success with incentives and additional incentives should be added to address highly desirable outcomes such as increased green space and pervious surface.

- The City could create special districts in strategic locations and, within those special districts, it could utilize a set of standards that follow one of the three character based codes – Composite Zoning, Performance Zoning and Form Based Codes (described in Appendix D). In this manner, the community can experiment with the concept of a character based system before making a communitywide adjustment. Other communities, for example, have adopted a Form Based Code in areas of anticipated new growth or redevelopment while maintaining the Euclidean ordinance for the remainder to the community. As in the previous recommendation, the opportunity areas established in Chapter 3 offer the most select locations for use of special districts.

Maryland Avenue Fall Festival

- The City will continue to assure adequate public facilities via its Adequate Public Facilities Ordinance.

Implementation Strategies

Boats at City Dock

Figure 10.1 lists key strategies for implementation, as derived from the content and policy recommendations of this Comprehensive Plan. These strategies highlight the steps to be taken by the City, often in coordination with other jurisdictions, organizations, or agencies. This table is intended as a quick reference tool. It is designed to be kept up-to-date and used on an annual basis as part of the regular review process as well as an assessment of progress toward achieving the goals of the plan. In this way, this table may be used on an ongoing basis and provided to the City Council to keep them apprised of the progress of implementation.

Plan Administration

The City will maintain a commitment to the ongoing, successful implementation of the Comprehensive Plan. The City's management and staff, together with its boards and commissions have essential roles in implementing the plan and, thus, ensuring its success.

Role Definition

The Mayor and City Council will assume the lead role in implementing this plan. Their chief responsibility is to decide and establish the priorities and timeframes by which each action will be initiated and completed. They must manage the coordination among the various groups responsible for carrying out the plan's recommendations. Lastly, they are also responsible for the funding commitments required, whether it involves capital outlay, budget for expanded services, additional staffing, further studies, or programmatic or procedural changes.

The hierarchy and roles of implementation are as follows:

City Council

- Establishes overall action priorities and timeframes by which each action of the plan will be initiated and completed.
- Considers and sets the requisite funding commitments.
- Offers final approval of projects/activities and associated costs during the budget process.
- Provides direction to the Planning Commission and City staff.

Planning Commission

- Recommends to City Council an annual program of actions to be implemented, including guidance as to the timeframes and priorities.
- Prepares an Annual Progress Report for submittal and presentation to the Mayor and City Council.
- Ensures decisions and recommendations presented to the City Council are consistent with the plan's policies, objectives, and recommendations. This relates particularly to decisions for subdivision approval, site plan review, zone change requests, ordinance amendments, and growth.
- Review and add conditions to city funded projects for compliance with the requirements of the comprehensive plan.

City Departments

- City departments are responsible for administering this plan as it relates to their function within the organization. Many departments were involved in the plan development process and are, therefore, familiar with its content and outcomes.

Intergovernmental Coordination

US Navy Blue Angels Team fly by State House

Community leaders acknowledge that many issues related to character, environment and impacts of growth are regional, rather than local, in nature. Watersheds and other ecosystems, economic conditions, community character, transportation patterns, housing, and the effects of growth and change are issues that cross the boundaries of the community. They impact not only Annapolis, but adjacent areas of the Annapolis Neck Peninsula, Anne Arundel County, and the larger region. As a result, the economic, cultural and physical health of Annapolis is partly reliant upon the County, meaning that the success of one is largely dependent on and, thus, responsible for the success of the other. In addition, cooperation is now more important than ever due to increasing service demands and limited resources. Coordinating among entities allows for more efficient service provision.

Plan Amendment

In accordance with Article 66B, Land Use, Section 3.05(b)(2), the Comprehensive Plan will be examined at least once every six years to ensure that it remains relevant. Shifts in political, economic, physical, and social conditions, and other unforeseen circumstances will influence the priorities of the community. As Annapolis continues to mature and evolve new issues will emerge while others may no longer be relevant. Some action statements may become less practical while other plausible solutions will arise.

Annual Progress Report

A progress report should be prepared annually by the Planning Commission, with the assistance of the Planning & Zoning Department, and presented to the Mayor and City Council. This ensures that the plan is regularly reviewed and modifications are identified. Ongoing monitoring of plan consistency with the City's ordinances must be part of this effort.

To inform the Annual Progress Report, data to illuminate the following Plan topics will be assembled and tracked annually:

- Population growth and dynamics of that growth
- Residential and commercial building trends
- Economic indicators
- Indicators of progress toward transportation goals, environmental goals, and housing goals
- Expansion of municipal boundaries and areas served by City sewer and/or water infrastructure

The Annual Progress Report should include:

- Significant actions and accomplishments during the past year including the status of implementation for each programmed task.

- Implementation constraints including those encountered in administering the plan and its policies.

- Proposed amendments that have come forward during the course of the year, which may include revisions to plan maps, or other recommendations, policies, or text changes.

- Recommendations for needed actions, programs, and procedures to be developed and implemented in the forthcoming year, including a recommendation of projects to be included in the CIP, programs and initiatives to be funded, and priority coordination needs with public and private implementation partners.

- Guiding questions to help evaluate annual progress should refer back to the three main ideas that shaped the development of the Plan.

  Have actions and accomplishments furthered the goals of preserving and enhancing community character?

  Are local business districts thriving and have City actions supported the maintenance of a vibrant economy?

  What progress has been made towards promoting a "Green" Annapolis?

Six-Year Update/Evaluation and Appraisal Report

An evaluation and appraisal report will be prepared every six years. This report should be prepared by the Planning & Zoning Department, with input from various City departments, Planning Commission, and other boards and committees. The report involves evaluating the existing plan and assessing how successful it has been in implementing the vision and goals. The purpose is to identify the successes and shortcomings of the plan, look at what has changed, and make recommendations on how the plan should be modified in accordance with state requirements. The report should review baseline conditions and assumptions about trends and growth indicators, and it should evaluate implementation potential and/or obstacles related to any unmet goals and policy recommendations. The result of the evaluation report will be a revised comprehensive plan.

More specifically, the report should identify and evaluate the following:

1. Summary of plan amendments and major actions undertaken over the last six years.
2. Major issues in the community and how these issues have changed over time, particularly in regards to changes in items required by Article 66B, Land Use.
3. Changes in legislation that may impact the composition or content of the plan.
4. Changes in the assumptions, trends, and base studies including the following:
    - The rate at which redevelopment (or new development) is occurring relative to the projections put forward in the plan;
    - Shifts in demographics and other trends;
    - City-wide attitudes and whether changes necessitate amendments to the vision and goals; and,
    - Other changes in the political, social, economic, or environmental conditions that dictate a need for plan amendment.
5. Ability to continue to successfully implement the goals of the Comprehensive Plan.
    - Individual statements or sections of the plan must be reviewed and rewritten to ensure that the plan provides sufficient information and direction to achieve the intended outcome.
    - Conflicts between goals and policies that have been discovered in the implementation and administration of the plan must be resolved.
    - The action agenda should be reviewed and major actions accomplished should be highlighted. Those not accomplished should be re-evaluated to ensure their relevancy and/or to revise them appropriately.
    - The timeframes for implementing the individual actions should be re-evaluated. Some actions may emerge as a higher priority given new or changed circumstances while others may become less important.

- Based upon organizational, programmatic, and procedural factors, as well as the status of previously assigned tasks, the implementation task assignments must be reviewed and altered to ensure timely accomplishment.
- Changes in laws, procedures, and missions may impact the ability to achieve the goals. The plan review must assess these changes and their impacts on the success of implementation, leading to any suggested revisions in strategies or priorities.

The Action Agenda in Figure 10-1 lists the recommendations considered a priority within the first 3 years after Plan adoption. They are subject to budget, staffing, and other City management prerogatives and will be reviewed annually as part of the Annual Progress Report. Many of these must be implemented in concert with government or private sector partners.

Figure 10-1 Action Agenda 2009-2012

	Action Item	Policy/Chapter Reference
	Plans & Studies	
1	Outer West Street Sector Study	Chapter 3, Policy 1
2	West Annapolis Sector Study	Chapter 3, Policy 1
3	Bay Ridge Opportunity Area	Chapter 3, Policy 1
4	Forest Drive Opportunity Area	Chapter 3, Policy 1
5	City Dock Public Realm	Chapter 3, Policy 6
6	Regional Transit Initiatives	Chapter 4, Policy 3
7	Pedestrian Master Plan	Chapter 4, Policy 8
8	Climate Action Plan	Chapter 7, Policy 3
9	Sea Level Rise Strategy	Chapter 7, Policy 3
	Programs	
10	Capital City Cultural Arts District	Chapter 3, Policy 9
11	Historic District Survey	Chapter 3, Policy 9
12	Transportation Demand Management Program	Chapter 4, Policy 1
13	"Complete Streets" and Local Street System Improvements	Chapter 4 Policy 6
14	Traffic Impact Study Regulations	Chapter 4, Policy 9
15	Bicycle Transportation and Trail Network Improvements	Chapter 6, Policy 2
16	Pollutant Loading Reduction	Chapter 7, Policy 1
17	Urban Tree Canopy Program	Chapter 7, Policy 1
18	Moderately Priced Dwelling Units Program: Density Bonuses	Chapter 8, Policy 1