Adopted: June 17, 2010

GREENSBORO COMPREHENSIVE PLAN

2010

Greensboro Comprehensive Plan
2010

Chapter 1

BACKGROUND

INTRODUCTION

From its inception in 1732, Greensboro has been influenced by groups of citizens who thought about and planned for the Town's overall development. The community leaders of the colonial era, like today's Town officials, were attempting to provide a rational basis for meeting the current and projected development needs of the community. Their purpose was to ensure the Town's continued vitality for centuries to come.

When the Maryland General Assembly gave counties and incorporated communities general planning authority it also granted the zoning and land subdivision powers needed to regulate the development of individual properties so that they would conform to community standards. The Comprehensive Plan provides the overall statement of community policy on development. Along with the Zoning and Subdivision Regulations, which implement these development policies, the Comprehensive Plan is recognized as a major part of the overall growth management program for the Town.

It is the object of this document to trace recent trends, to analyze factors affecting future development, to assess the will and interests of Greensboro residents regarding the future of their Town, and to establish a Comprehensive Plan for the Town which will direct future development.

Such a document must be viewed as dynamic and thus, continually reappraised and updated to reflect changing needs and trends. This Plan is part of an on-going process – the process of formulating and intelligently planning the direction and character of future growth in Greensboro – to assure its serviceable form and the achievement of the many objectives and policies contained herein.

AUTHORITY

The Comprehensive Plan of the Town of Greensboro has been prepared as required and in accordance with the provisions of Article 66B of the Annotated Code of Maryland (as amended), the Maryland Economic Growth, Resource Protection, and Planning Act of 1992 (as amended), and the Smart Growth Areas Act of 1997. The Plan also serves to meet the minimum requirements of State law as enumerated in Natural Resources Article 8-1808 and appropriate criteria established for local jurisdictions, like Greensboro, which are located within Maryland's Chesapeake Bay Critical Area.

RELATIONSHIP TO OTHER PLANS AND LAWS

The Town of Greensboro, as required by State laws, has prepared and continues to prepare a variety of specific plans and ordinances. Among them are the Zoning Ordinance, Subdivision Regulations, Sediment Control Ordinance, Stormwater Management Ordinance, Critical Area Program, Forest Conservation Program, and Floodplain Ordinance. While providing greater detailed information and policy, all plans and laws shall be in compliance with and conform to the Town's Comprehensive Plan. Should policy or programs not conforming with the Plan be desired, when such changes would benefit the public as determined by the Greensboro Town Council, the Plan may be amended according to the procedures set forth in Article 66B of the Annotated Code of Maryland.

The Critical Area Overlay District, the Forest Conservation Program, and the Floodplain Ordinance are additions to the Town's traditional regulatory mechanisms. They are detailed and, in many instances, quite restrictive as to the nature and type of new development allowed in Greensboro. This Plan affirms the goals of the State and Federal legislation requiring these regulations and recognizes the importance of

applying them at the local level. All development affected by these regulations will be scrutinized for conformance to them.

PURPOSE

The Plan is the principal document outlining the Town's direction, policy, and action regarding land use. It has been designed as a policy statement which can be valid in the face of change over many years. Properly used, the Plan is the basis for decision-making at all levels of government and will guide the private sector toward beneficial and profitable activities affecting the land and people.

The Plan calls for many specific tasks to achieve the Town's planning program. It will only be through concerted effort that many of the goals and objectives set forth herein can be achieved.

The many uses of a plan may be put under seven general purposes.

1. To create a unified set of goals for the development of the Town.
2. To formulate a plan that may be relied upon as a central source of proposed public projects. This plan will seek to exploit opportunities to coordinate all public construction to ensure that each project contributes in moving the community toward its adopted goals.
3. To restrain the public regulation of private land within fair limits. When a community wields the tools of planning without having a plan, the property owner finds his rights managed arbitrarily.
4. To guide private landowners in making individual plans to develop their property. The private landowner needs information that tells him the total direction of development his community will take.
5. To appraise unexpected problems or opportunities. The plan will give us an analysis of fact and a considered set of policies, with which to assimilate the unexpected to our advantage, turning problem into opportunity.
6. To preserve the more fragile among desirable land use arrangements. The plan should show how to harmonize the sometimes conflicting desires of preserving an asset in our landscape and using it, too.
7. To help Greensboro operate as a “citizen” of Maryland. The State has developed a growth management program to encourage economic growth, limit sprawl development, and protect its natural resources. The Maryland Economic Growth, Resource Protection, and Planning Act took effect on October 1, 1992, and has reshaped how citizens, developers, the State, counties, and towns think about planning, growth, and resource protection.

Most local jurisdictions in the State establish priority areas for growth and corresponding areas for resource protection. The 1992 Act encouraged building on that base with consistent development regulations and targeted infrastructure investment by the State. A premise of the Act is that the comprehensive plans prepared by counties and towns are the best place for local governments to establish priorities for growth and resource conservation, and that once those priorities are established, it is the State's responsibility to back them up.

During the 2009 Legislative session, the eight planning visions of Maryland’s 1992 Planning Act were replaced with twelve new visions to address a broader spectrum of issues. These new planning visions are the State’s land use policy, and a local jurisdiction is required to include them in their comprehensive plan and implement them through zoning ordinances and other regulations.

1. Quality of Life and Sustainability: A high quality of life is achieved through universal stewardship of the land, water and air resulting in sustainable communities and protection of the environment.

2. Public Participation: Citizens are active partners in the planning and implementation of community initiatives and are sensitive to their responsibilities in achieving community goals.

3. Growth Areas: Growth is concentrated in existing population and business centers, growth areas adjacent to these centers, or strategically selected new centers.

4. Community Design: Compact, mixed-use, walkable design consistent with existing community character and located near available or planned transit options is encouraged to ensure efficient use of land and transportation resources and preservation and enhancement of natural systems, open spaces, recreational areas, and historical, cultural, and archeological resources.

5. Infrastructure: Growth areas have the water resources and infrastructure to accommodate population and business expansion in an orderly, efficient, and environmentally sustainable manner.

6. Transportation: A well-maintained, multimodal transportation system facilitates the safe, convenient, affordable and efficient movement of people, goods and services within and between population and business centers.

7. Housing: A range of housing densities, types, and sizes provide residential options for citizens of all ages and incomes.

8. Economic Development: Economic development and natural resource-based businesses that promote employment opportunities for all income levels within the capacity of the State's natural resources, public services, and public facilities is encouraged.

9. Environmental Protection: Land and water resources, including the Chesapeake Bay and its coastal bays, are carefully managed to restore and maintain healthy air and water, natural systems and living resources.

10. Resource Conservation: Waterways, forests, agricultural areas, open space, natural systems and scenic areas are conserved.

11. Stewardship: Government, business entities, and residents are responsible for the creation of sustainable communities by collaborating to balance efficient growth with resource protection.

12. Implementation: Strategies, policies, programs and funding for growth and development, resource conservation, infrastructure, and transportation are integrated across the local, regional, State and interstate levels to achieve these visions.

These visions give local jurisdictions a succinct statement of Maryland's priorities for their plans. However, the visions are intended as the beginning of the planning process, not the end. Greensboro will start with the visions and interpret them to establish its priorities and directions.

THE TOWN PLANNING PROGRAM

This Comprehensive Plan provides the basic framework and direction for all components of what may be considered the Town's Overall Comprehensive Planning Program. It will influence revisions in the companion documents which serve to implement the Plan, including the Zoning Ordinance and Land Subdivision Regulations.

ZONING ORDINANCE

The Town Zoning Ordinance is the chief (though not exclusive) means through which the Plan is implemented. It prescribes ways in which lands located within the Town may or may not be used. It prescribes a series of zoning districts, and enumerates uses permitted and performance standards which must be met for each district. The standards are designed to ensure achievement of certain objectives established in the Plan, including protection of sensitive environmental features and preservation of the small-town character of Greensboro. Finally, the Ordinance establishes design standards and site planning standards for certain uses to require control of access to certain local streets and roads; to prescribe minimum landscaping requirements; and to enhance the established pattern of development in the Town.

SUBDIVISION REGULATIONS

The Subdivision Regulations provide guidance and controls for the configuration and layout of land subdivision in the Town. They further establish standards for subdivision plat content and procedural submission requirements. Standards contained in these Regulations are also designed to ensure implementation of certain Comprehensive Plan policies and objectives.

GREENSBORO CRITICAL AREA PROGRAM

The Town Critical Area Program was prepared in 1987. It establishes a protection program for natural resources located within 1000 feet of tidal waters or tidal wetlands within Greensboro. It also limits development densities in those portions of the Town’s Critical Area which are dominated by farm or forested resources and designated “Resource Conservation Areas" in accordance with State guidelines. The Program sets forth standards for future development and protection of forest cover, agricultural lands, and plant and wildlife habitats within this defined geographic area of the Town. The Critical Area Program is therefore, by reference, part of this Plan.

FOREST CONSERVATION PROGRAM

The Forest Conservation Program provides guidelines for the amount of forest land retained or planted after the completion of development projects. These guidelines vary for each development site and are based on land-use categories. These categories include agricultural and resource, medium-density residential, institutional development, high-density residential, mixed use, planned-units development, and commercial and industrial use areas.

Generally, rural areas with larger forests have higher thresholds to minimize the number of acres cleared. For example, an area zoned for medium-density residential use would require about 25% of the forests on the site to be retained. Areas zoned for commercial and industrial use would require about 15% retention. This allows development to occur in areas where it is appropriate while protecting forests.

Where little or no forest exists, the Program requires that forests be established by planting trees. Using the same example, in medium-density residential use areas 20% of a project site would be planted, but only 15% of the site requires planting in a commercial and industrial use area. Under some conditions

planting may occur outside of the project site where a forest would provide protection to other natural resources, such as streams or wetlands.

The Forest Conservation Act applies to all activities requiring a permit for subdivision, grading, or sediment control that is larger than 40,000 square feet, or slightly less than one acre.

STORMWATER MANAGEMENT REGULATIONS

The purpose of these regulations is to protect, maintain, and enhance the public health, safety, and general welfare by establishing minimum requirements and procedures to control the adverse impacts associated with increased stormwater runoff. Proper management of stormwater runoff will minimize damage to public and private property, reduce the effects of development on land and stream channel erosion, assist in the attainment and maintenance of water quality standards, reduce local flooding, and maintain after development, as nearly as possible, the pre-development runoff characteristics.

FLOODPLAIN REGULATIONS

The purposes of these regulations are to protect human life and health, minimize property damage; encourage appropriate construction practices to minimize future damage; protect individuals from unwittingly buying land subject to flood hazards; and protect water supply, sanitary sewage disposal and natural drainage. The prevention of unwise development in areas subject to flooding will reduce financial burdens to the community and the state and will prevent future displacement and suffering of its residents. This protection is achieved through the review of all activities proposed within identified floodplains and by the issuance of permits for those activities that comply with the objectives of these regulations.

WASTEWATER ALLOCATION PROGRAM

The availability of sewer taps for future development is very limited without a significant sewer plant expansion. In response, the Town in 2006 limited the award of sewer taps to public uses, rehabilitative uses, and non-residential job-creating uses. This is a severe limitation and reflects Greensboro's cautious approach to growth beyond the substantial amount that is already approved. This will be discussed further in the chapter on Growth Considerations.

PROPERTY MAINTENANCE PROGRAM

The Town has adopted a Property Maintenance Code to establish minimum regulations governing the condition and maintenance of all property, buildings, and structures in Greensboro. The Code provides standards for utilities, facilities and the other physical conditions essential to ensure that structures are safe, sanitary, and fit for occupation and use. It also provides for the condemnation of buildings and structures unfit for human occupancy and use, and the demolition of such structures.

CONSTRUCTION STANDARDS

The Town has adopted design standards, specifications, and details that are made available to private contractors and developers as standards to be complied with in every water, sewer, stormwater, and street construction project in Greensboro. These standards are binding and may only be modified by the Mayor and Council.

THE COUNTY PLANNING PROGRAM

CAROLINE COUNTY COMPREHENSIVE PLAN

The County Plan for that portion of the County containing Greensboro is not complete but the West Caroline County Comprehensive Plan was completed in May, 2006, and contains the basic direction that will be applied to the eastern County Plan.

In 2004, the Caroline County Commissioners formed the "Caroline County Strategic Planning Committee" to produce a vision, goals, and objectives for achieving sustainable growth in the County. The Committee's vision was to maintain Caroline County as the "quintessential rural place." A broad set of goals were developed to support this vision:

1. Creating unity among local government officials and citizens about a numerical target for the County's population by the year 2025;
2. Creating unity among local government officials and citizens about where new housing in the County will locate;
3. Developing increased coordination among the County and its towns for the provision of planning, zoning, development ordinances, and local services to maximize efficiency;
4. Protecting the value of land when managing the population growth process;
5. Supporting an economically viable farming industry;
6. Providing good job opportunities for young people;
7. Continuing to provide high quality public education;
8. Creating affordable housing for local residents;
9. Preserving the cultural and environmental assets in the County;
10. Promoting adequate public and private health care services'
11. Providing an adequate level of public infrastructure assets – roads, water and sewer systems, school buildings, etc. – to support public services, based on local funding and State and Federal support; and
12. Building a finance and revenue system that is publicly acceptable as an adequate response to citizen demands for public services.

To achieve these aims, the Committee recommended a series of implementation strategies including:

• Creating a target population goal between the County and municipalities of 47,848 people by 2025, which provides for a 2% annual growth rate rather than a projected 2.7% growth rate;
• Relocating 80% of new homes in municipal areas consistent with State laws and the provision of adequate public infrastructure and services;
• Developing County/Municipal Inter-Governmental Agreements for land use, land preservation, growth management, and infrastructure and services to achieve effective management and economies of scale;
• Providing fair compensation for development rights located in agricultural areas and maintaining a viable farming industry through the expansion of the industry sector;
• Developing enhanced revenue generating measures to address growth impacts such as excise taxes, impact fees, adequate public facilities ordinances for municipalities, developer's rights and responsibilities agreements, etc; and
• Guiding the location of growth away from rural areas to urban/suburban areas (municipalities) and enhancing policies for the preservation of rural areas, such as Transfer of Development Rights and existing preservation/conservation programs.

The primary growth management strategy for Caroline County in the West County Plan is the development of County and Municipal "Inter-Government Agreements " (IGA'S) for land use, land preservation, growth management, and infrastructure and services. The following initiatives are proposed for West County and will very likely be prescribed for the eastern portion of the County as well:

1. Synchronizing County and Municipal growth areas to create "Inter-Jurisdictional Growth Areas;"
2. Developing "Greenbelts" for Targeted Land Preservation/Conservation;
3. Preparing an IGA Report and Municipal IGA Development Kit to assist inter-jurisdictional efforts;
4. Developing a municipal "Build-Out Assessment" for each of Caroline County's Towns;
5. Developing a Countywide "Housing Plan" to address affordable housing;
6. Developing a "Fiscal Impact Analysis" with municipalities; and
7. Finalizing County and municipal IGA's to preserve Caroline County's rural character.

All of these ideas and directions require a high degree of cooperation between Greensboro and Caroline County. Greensboro is willing to cooperate in all of these fundamental initiatives and try to concentrate future growth in the municipal growth areas and preserve the predominantly rural character of Caroline County. At the same time, Greensboro will reserve its right to exercise its basic responsibility to choose directions that serve the best interests of its citizens and future even if they are at odds with County policy.

DEVELOPMENT REGULATIONS

Caroline County revised its Transferable Development Rights (TDR) program in 2006 and these changes may have an impact on growth in and around Greensboro. The basic program allows the transfer of development rights from areas designated as sending areas to areas designated as receiving areas or municipal growth areas. It is designed to protect and preserve agricultural land, to give the owners of such property an equitable alternative to development, and to provide an essential countywide growth management tool.

The mechanics of the TDR program are:

- Each landowner of a parcel in a sending area (Transferor) has the right to remove one or more development rights from the parcel, and to hold, sell, trade, or barter these rights to another person or entity (Transferee)
  - The transferee may retire, resell, or apply the rights to land in a receiving area to obtain approval fro development at a density greater than would otherwise be allowed on the land, up to the maximum density or intensity allowed.
  - No development right may be used to increase density with the Critical Area if such right is derived from a sending parcel that is outside the Critical Area.
  - Lands under a recorded restrictive covenant or conservation easement are not eligible to transfer development rights.
  - A development right shall be created, transferred, and extinguished only by means of documents approved by the Caroline County Planning Commission and recorded in the land records of Caroline County.

The R-Rural District shall be the TDR sending area and the receiving areas shall be specifically mapped, designated by the Planning Commission, and approved by the County Commissioners. Receiving areas shall be located in the R, Rural District or in a municipality with an approved intergovernmental agreement between the County and municipality for use of transferred development rights (an "IGA Area). Receiving areas shall be designated where the Planning Commission has determined that the predominate land use in the neighborhood is rural-residential, or an IGA Area rather than agricultural, and where rural-major subdivisions are an acceptable land use and existing or planned public facilities and infrastructure are adequate. The Planning Commission shall review the TDR receiving area map each year in October.

CAROLINE COUNTY WATER AND SEWER PLAN

This Plan meets the legal requirements of Article 43, Sections 387B and 387C of the Annotated Code of Maryland, which requires the County, including the incorporated municipalities, to adopt an overall County Water and Sewer Plan. Its purpose is to guide the development of adequate water supply and sewerage systems and facilities by establishing town development policies to prevent or minimize adverse health and environmental problems. It is designed to ensure that:

- An ample supply of water may be collected, treated, and delivered to points of use.
- Wastewater may be collected and delivered to points best suited for waste treatment, disposal, or re-use.

Wastewater can be either treated before any discharge into State waters, in compliance with applicable water quality standards and discharge permit conditions, or disposed of with minimum adverse effects on legitimate water uses.

STATE PLANNING CONSIDERATIONS

In 1997, Maryland enacted the Neighborhood Conservation and Smart Growth Areas Act (Smart Growth Act). The intent of the legislation was to marshal the State's financial resources to support growth in Maryland's existing communities and limit development in agricultural and natural areas.

At the heart of the Smart Growth concept are "Priority Funding Areas" (PFA's), which represent local growth areas for targeted State funding. PFA's include municipalities that existed on January 1, 1997, existing rural villages, and planned communities/growth areas and industrial areas to be served by public water and sewer. Areas annexed after January 1, 1997, must meet new density requirements and have water and sewer service to qualify as PFA's. Communities that have not enacted local plans and ordinances to manage growth and establish the infrastructure required to accommodate growth may not receive State funding.

Plans must show designated growth areas. Lands within local growth boundaries may be designated as a PFA provided sewer service is planned in the County's 10-Year Water and Sewerage Plan provided such designation is a long-term and planned development policy that promotes efficient land use and public infrastructure and provided that certain density requirements are met.

Under the Smart Growth Act, all Maryland municipalities are automatically designated PFA's. As of 1998, State funding can only be applied to "growth related projects" in PFA's. Growth related projects include highway and road improvements and construction, water and sewer construction, and economic development assistance.

Municipalities annexing territory must determine whether the area is eligible for PFA status and is best achieved through joint review by municipal, county, and State planning agencies. Notice of PFA certification should be made to the Maryland Department of Planning to ensure that the State has the necessary information to make funding decisions.

THE PROCESS OF PLAN DEVELOPMENT

In providing a context for subsequent understanding of various Plan ideas, the process of Plan development is as important as the Plan document. Noteworthy components of the Greensboro process were a Public Information Meeting in early 2005, a Visioning Session in the summer of 2005, and the

direct involvement of the Town Planning Commission and the Mayor and Council. Their involvement included periodic review, discussion, and selection of Plan elements. This process involved serious consideration of how the Plan might be implemented and was integral to the selection of Plan policies contained in the various sections of this document.

CHAPTER 2
CONDITIONS

HISTORICAL SKETCH OF GREENSBORO

Here's a toast. May her fame spread far and wide
Then higher rise, like a Choptank tide.
And though in distant lands we roam
May we e'er be proud to call Greensboro--home.
- from "A Rhyme of Bygone Years" by Bessie Edwards

The incorporated Town of Greensboro, pleasantly situated near the headwaters of the Choptank River, is one of the oldest inland towns on Maryland's Eastern Shore. An act passed in 1732 by the General Assembly legislated that twenty acres of land were to be purchased from Dorchester and Queen Anne's Counties where each bordered either side of the Choptank Bridge. The act also specified that this town at the “Great Bend" in the river was to be called "Bridge Town". That planned town, the ancestor of what we today know as Greensboro, was not exactly a successful venture. By 1737 only two non-adjacent settlers occupied lots within Bridge Town's limits. Of the twenty building lots parceled out at each end of the bridge, only one lot was sold. In 1740, the unsold lots reverted to their original owners.

As early as 1736, Peter Rich, an innkeeper, acquired two tracts adjoining the western side of the Choptank Bridge. During his lifetime Rich sold only one lot inside the "Great Bend". In 1779 another Peter, namely Peter Harrington (one of Rich's grandsons), began to sell building lots on the hill above the bridge's west side. By 1783 he had founded a town on this hill -- the town we now call Greensboro.

A few of the buildings which date from the time of the original Harrington settlement are still standing, including the founder's two-story brick house. It is located on the present-day northeast corner of Bernard Avenue and Church Street. Among the many structures from that era which no longer exist can be counted a tobacco warehouse (one of the first buildings erected near the bridge's west end) and a county wharf. Lot sales for the tracts at each end of the bridge remained sluggish, even into the nineteenth century.

When resurveyed in 1791, the name "Bridge Town" was changed to "Greensborough." The town was somewhat different in its plan in 1791 than it is today. Main Street at that time lay nearer the river. It joined Railroad Avenue a block below the present conjunction and, by a winding way, reached the Main Street of today (a short distance from the Riverside Hotel). The first mention of the street now called Sunset Avenue appeared in a deed circa 1793. There it was mentioned as the "new road leading from the village of Greensborough." There is also evidence, from a deed drawn up in the year 1812, that the present Main Street had by that time superseded the road from the Choptank Bridge (to Nine Bridges) in importance.

By the 1880s, Greensborough was firmly established as a Caroline County town; it was no longer halved between Dorchester and Queen Anne's Counties. At the turn of the century the village underwent a great period of prosperity. At this time the Choptank River was utilized as a transportation corridor for commercial shipping. It was during this boom period that the greatest population increase for Greensboro was recorded.

The need for Greensboro as a marketing and industrial center began to diminish with the advent of new transportation options. As a result, the growth rate declined and the Town became primarily a residential center. The Town has since shown a stable population pattern but with a significant increase recorded recently.

PHYSICAL CHARACTERISTICS

General

Greensboro is in the west-central part of the peninsula known as the Eastern Shore. The Town straddles the Choptank River where it turns through north-central Caroline County in a long, lazy S-bend. The Town is at the tidal limit of the Choptank. The National Rivers Inventory has identified an eight-mile segment (from Denton to Greensboro) and a separate sixteen-mile segment (from Greensboro to the headwaters of Tidy Island Creek at Marydel) of the Choptank River as potential National Wild and Scenic Rivers. (See the Natural Resources Map 1)

Wildlife and Habitat

In and around the environs of Greensboro wildlife is abundant, which adds to the rural character of the Town. Various species of open-land wildlife (such as the rabbits and quail that normally frequent cropland, pastures, meadows, and lawns) thrive here. There is no lack of woodland wildlife (such as the deer, squirrel and raccoon which usually inhabit areas with hardwood trees, coniferous trees, shrubs, and mixtures of such plants). Wetland wildlife (such as the muskrat and numerous kinds of waterfowl that typically live in ponds, marshes, and swamps) are also plentiful in the Greensboro region. White perch, striped bass, catfish, alewife herring, and blueback herring spawn in the Choptank River, which threads through town. No rare, threatened or endangered species are known to be located within the Town.

Topography

The topography in and around Greensboro is fairly level, with elevations varying from a few feet above sea level to a maximum elevation of 40 feet. Excessive slopes do not offer a major impediment to development.

Soils

Greensboro is located near the junction of three major soil associations:
1. Pocomoke-Fallsington - Represents the majority of the soils in Greensboro. The soil is dominated by Pocomoke which is very poorly drained.

2. Sassafras-Fallsington-Woodstown - These soils are well-drained to poorly drained soils that developed in silty or sandy clay. The soils in this association retain moisture and plant nutrients better than the other two types found in the Greensboro vicinity.

3. Sassafras-Galestown-Fallsington - This soil association is very well drained. Of the three main soils which surround the Greensboro area, only the Sassafras-Galestown-Fallsington association is suitable for purposes of development involving on-site septic systems. This type is found southeast of the town.

In the non-tidal wetland areas the substrate is predominately un-drained hydric soils. Soils typed as hydric are wet frequently enough to periodically produce anaerobic (oxygen-absent) conditions, thereby influencing the species composition or growth, or both, of plants in those soils. These soils, noted on the Natural Resources Map, offer limitations to development not only due to their saturated condition, but because they are generally associated with protected non-tidal wetland areas.

Waterbodies

The Town of Greensboro is drained on the west side by Forge Branch and on the east by the Choptank River. The River is deep enough at Greensboro to accommodate pleasure boats, gasoline or electric-powered jonboats, rowboats, and canoes. At the same time, the River is shallow enough to maintain its role as an important spawning and nursery ground for a number of anadromous fish species.

Floodplain

The Natural Resources Map indicates the location of the 100-year floodplain within the Town. Over 15 % of the Town lies within the designated floodplain, 48 acres along the Choptank River and 8 acres along Forge Branch. These areas incur high flood risk, as well as additional regulatory restrictions when developed. Bordering the Choptank River, these area are developed primarily with single-family residential homes and some commercial structures. The flooding problems in the Town result from a combination of heavy rainfall, high river discharge, and storm tides. Development in these areas is currently regulated by the Town's Floodplain District Ordinance.

Wetlands

The area bordering the Town's two water bodies is comprised of a system of tidal and non-tidal wetlands and potential protected habitat areas. The undeveloped areas in the Town bordering the Choptank River and its tributaries are areas that have been found unsuitable for development, either because of wetlands or unsuitable soil conditions.

Non-tidal wetlands have been identified and are shown on the Natural Resources Map. The non-tidal wetlands inventoried are found upland from and contiguous to the tidal wetlands that line the Choptank River. These wetlands are classified as Palustrine-Forested-Broadleaved deciduous.

Along the banks of the Choptank River are coastal wetlands of the swamp forest type. Red Maple and Ash are the trees common to this freshwater portion of the wetland system. The wetland area bordering the River is periodically flooded by tidal waters.

The non-tidal wetlands described above fall predominately within the Critical Area 100-foot buffer; therefore, they will receive the protection built into the buffer preservation requirements. Other areas of non-tidal wetlands border Forge Branch and will be protected primarily by wetland permitting processes.

The Critical Area

The Chesapeake Bay Critical Area boundary, as established in Greensboro, follows the guidelines set forth in the legislation. It extends 1000 feet inland from mean high water or the upland limits of tidal wetlands. The Critical Area described encompasses 130 acres, representing 36 % of the land area of the Town. Consequently, the Critical Area Local Program has significant ramifications for the overall planning, land development, and economic growth of the Town. The Critical Area includes much of the most intensely developed part of the Town. See Map 2 (not included).

Sensitive Areas

The Maryland Economic Development, Resource Protection and Planning Act of 1992 established requirements that County and Municipal Comprehensive Plans include a sensitive area element that contains goals, objectives, principles, policies, and standards designed to protect certain environmentally sensitive areas from the adverse effects of development. Such areas are defined in the 1992 Planning Act to include: streams and their buffers, 100-year floodplains, steep slopes, and habitats of threatened and endangered species.

The sensitive areas in Greensboro, as defined by the 1992 Planning Act, are generally found within those portions of the Town located within the Chesapeake Bay Critical Area.

SOCIO-ECONOMIC CHARACTERISTICS

Population

With a total population of 1,632 in 2000, Greensboro was the third largest municipality in Caroline County. Following a dramatic increase in population for the period 1940 to 1950, when Greensboro grew by over 60%, the Town's population remained relatively stable through 1970. During the period 1970 to 1980, the Town's rate of growth increased to 6.8 % as the town population grew from 1,173 to 1,253 residents. From 1980 to 1990 the Town population increased 15 %, the highest rate of growth for any decade since the 1940s. This growth continued to 2000 increasing by 13% or 191 persons. From 2001 through 2006, 130 residential units and approximately 326 people were added for a current population of 1,958. This recent growth rate of 21% is the second highest in the town's history.

Table 1 - POPULATION COMPARISON 1930 - 2000

	1940	1950	1960	1970	1980	1990	2000	2006
Maryland	1,821,244	2,343,001	3,100,689	3,923,897	4,216,975	4,781,468	5,296,486	5,615,727
Upper Eastern Shore	90,681	99,274	121,498	131,322	151,380	180,726	209,280	234,409
Caroline	17,549	18,234	19,462	19,781	23,143	27,035	29,772	32,617
Town of Greensboro	737	1,181	1,160	1,173	1,253	1,441	1,632	1,958

Source: All tables, unless otherwise noted, use data from the US Census Bureau

To place recent growth in context, note that it took fifty years from 1940 to 1990 to double Greensboro's population; if the current proposed developments take five years to complete, the population will increase by 50% by 2013.

Table 2 - POPULATION COMPARISON Percent Change 1940-2000

	1940-1950	1950-1960	1960-1970	1970-1980	1980-1990	1990-2000	2000-2006
Maryland	28.6	32.3	26.5	6.9	13.4	10.7	6.0
Upper Eastern Shore	7.2	17.9	7.4	16.1	19.4	15.8	12.0
Caroline	3.9	6.7	1.6	17.0	16.8	10.0	9.6
Town of Greensboro	60.2	-1.8	1.1	6.8	15	13.2	19.4

During the 1970 to 2000 period, the Upper Eastern Shore Region population growth reversed a long standing trend in relative growth rates. As can be seen in Table 2, between 1950 and 1970 the State of Maryland consistently experienced substantially higher rates of growth than did the Upper Eastern Shore, Caroline County, and Greensboro. However, the 1980, 1990, and 2000 Censuses revealed that, whereas the rate of growth for the State slowed considerably, the rate for much of the Upper Eastern Shore grew to exceed that of the State. Caroline County experienced higher rates of growth in the1980's and 1990's than

in any decade since 1930. Although the Town of Greensboro's growth rate for the 1980 to 1990 period (15%) was not as substantial as the County's (16.8%), it exceeded the County in the 1990's.

Household Formation

In 2000, there were 616 households in Greensboro compared to 595 in 1990 and 450 households in 1980. Average household size declined 13% from 1980 to 1990 from 2.78 persons per household in 1980 to 2.42 persons per household by 1990 but rose 10% in 2000 to 2.64.

Table 3 - HOUSEHOLDS BY TYPE - TOWN OF GREENSBORO

Type	Number	%
Family Households	407	66.1
With own children under18	250	40.6
Married couple family	257	41.7
With own children under18	140	22.7
Female householder, no husband present	121	19.6
With own children under18	94	15.3
Nonfamily Households	209	33.9
Householder living alone	179	29.1
Householder 65 years and older	84	13.6
Total	616	100.0

By way of comparison, in 1980 the average household size for Caroline County (2.81 persons per household) was quite similar to Greensboro's (2.78). By 1990, the County average household size declined to 2.66, only a 5 % decrease.

Age

The age distribution of the population of Greensboro reported in the 1990 Census was very similar to that of the County. Between 1990 and 2000, some differences appeared. There is a higher percentage of Town residents 5 to 17 (33.5%) as compared to the County (22.9%) and the State (21.5%) and a lower percentage in the 45 to 64 group. This may mean that the Town will be facing a larger than normal loss of younger residents as they leave to seek education, jobs, and more affordable housing. Fewer residents in the 45 to 64 age group may mean a smaller than normal loss of residents as the “boomers” of this group retire and move.

Table 4 - AGE DISTRIBUTION COMPARISON			
	Town of Greensboro	Caroline County	Maryland
Age	2000 %	2000 %	2000 %
Under 5 years	8.0 (132)	6.2	6.7
5-17 years	33.5 (551)	22.9	21.5
18-44 years	29.7 (489)	34.1	37.3
45-64 years	16.3 (269)	23.1	23.2
65 +	12.2 (201)	13.6	11.4

Income

The median household income for Greensboro recorded in 1989 was $20,946. The median family income in 1989 was $25,508, nearly 22 % higher than the median household income for the Town. By 1999, household income had risen to $31,397 (+13% adjusted for inflation) and family income had risen to $36,083 (+5% adjusted for inflation). Family income (3.28 persons/family) remained higher than household income (2.64 persons/household) by 15%. Both household and family income for Caroline County and the State remained significantly higher than Greensboro.

Table 5 - HOUSEHOLD AND FAMILY INCOME, 1989 & 1999				
Income	1989 Households	1999 Households	1989 Families	1999 Families
Less than $9,999	125	92	39	47
$10,000 - $14,999	103	55	63	28
$15,000 - $24,999	105	83	92	59
$25,000 - $34,999	111	90	103	61
$35,000 - $49,999	84	113	69	86
$50,000 - $74,999	38	88	29	68
$75,000 or more	12	61	6	54
Greensboro Median	$20,946	$31,397	$25,508	$36,083
Caroline Median	$27,758	$38,832	$32,093	$44,825
Maryland Median		$52,868		$61,876

Of the total population in the Town, 217 individuals had incomes at or below poverty level in 1980, as compared with 175 classified by the 1990 Census as below the poverty level. In 2000, 258 persons were identified as below the poverty level and 103 of these were children under 18 years old.

Housing

The 1980 Census recorded 483 housing units in the Town of Greensboro. By 1990, the Census indicates that housing stock grew substantially - to 628 units, an increase of 146 units for the 10-year period. By 2000, the number had increased to 674 and, by 2005, to 804 units.

Other changes in the composition of housing stock occurring during the 10-year period are noteworthy. In 1980, 85 % of the Town's total housing stock took the form of detached single-family homes, with attached and multi-family housing representing only 11% of Town housing stock. By 1990, attached and multi-family units grew to represent roughly 30 % of total housing stock. By 2000, this number had increased to 35%.

Table 6 - HOUSING CHARACTERISTICS - TOWN OF GREENSBORO				
	1980	1990	2000	2005 (est.)
Single-family detached	409 (85%)	376 (60%)	416 (62%)	512 (64%)
Single-family attached	11	29	39	73
Multi-family 2-4 units	28	62	92	92
Multi-family 5 or more units	15	98	102	102
Mobile homes	20	63	21	21

Total - All Units	483	628	674	800
Total - Occupied Units	450	595	616	-
Total - Vacant Units	32	33	58	-

These trends in the type of housing also appear to have influenced the occupancy characteristics of housing in Greensboro. Approximately one-quarter of the occupied housing units in 1980 were renter-occupied. By 1990, 45 % of the total occupied units were renter-occupied. By 2000, this figure had risen slightly to 47%. Another explanation for the rise in rentals is that the relatively low cost of housing in Greensboro created a pool of affordable housing and encouraged speculative purchases for rental purposes. In 1990, the median rent was $267, by 2000 the median rent had risen to $452. Anecdotal evidence has monthly rents at over $1000/month for a single-family home in 2006.

Table7 - HOUSING OCCUPANCY - TOWN OF GREENSBORO			
	1980	1990	2000
Owner- Occupied	344 (76%)	329 (55%)	324 (53%)
Renter- Occupied	106 (24%)	266 (45%)	292 (47%)
Total	450	595	616

Of the 42 towns in Maryland with a population between 1,500 and 5,000, only eight have a higher percentage of rental housing than Greensboro. This trend toward an increasing number of rental units has led the Town to restrict rental housing in the downtown area and discourage it in the rest of the community. As can be seen in Table 8, 37 % of the housing units in Greensboro are over 65 years old, and nearly 20% or 130 units have been constructed within the past 5 years.

Table 8 - YEAR-ROUND HOUSING UNITS BY YEAR STRUCTURE WAS BUILT - TOWN OF GREENSBORO		
Period	Units	Distribution %
2001-2005	130	19.0
1995-2000	42	6.0
1990-1994	40	6.0
1980-1989	105	15.0
1970-1979	50	7.0
1960-1969	42	6.0
1940-1959	135	19.0
1939 or earlier	256	37.0
Total	700	

Employment

In 1980, a total of 453 persons 16 years old and over were employed in the civilian labor force. By 1990, the Town civilian labor force grew to 634 persons 16 years old and over and by 2000 had increased to 683. The vast majority (529 or 77 %) was classified as private wage and salary workers. The next major class of workers was government workers (local, state and federal), which comprised 14.5 % of the employed labor force in the Town. The remaining 7 % were classified as self-employed workers.

Table 9 - LABOR FORCE - 16 YEARS AND OVER - TOWN OF GREENSBORO		
	1990	2000
Armed Forces	2	2
Civilian Employed	634	683
Civilian Unemployed	29	48
Not in Labor Force	406	397
Total	1,071	1,130

As shown in Table 9 a total of 48 persons (7 %) in the labor force were unemployed in 2000. An additional 397 persons 16 years or over were not in the labor force.

Table 10 provides a breakdown of the industry of employment for employed persons 16 years and over in 2000. As can be seen, the leading industry of employment for Town residents is education, health and social services followed by manufacturing and construction. Together these sectors accounted for 51% of all jobs.

Table 10 - EMPLOYED PERSONS 16 & OVER BY INDUSTRY 2000 - TOWN OF GREENSBORO

Industry	Number	%
Agriculture, Forestry, Fisheries, Mining	7	1.0
Construction	104	15.2
Manufacturing	108	15.8
Transportation	24	3.5
Wholesale Trade	33	4.8
Retail Trade	68	10.0
Information	25	3.7
Finance, Insurance, & Real Estate	13	1.9
Professional, Scientific, Management, and Administrative Services	53	7.8
Education, Health & Social Services	137	20.1
Arts, Entertainment, Recreation, Accommodation & Food Services	57	8.3
Public Administration	40	5.9
Other Services	14	2.0
Total	683	

Table 11 shows the leading occupation in 2000 was the category of sales and office workers. The second leading occupation class was production, transportation, and material moving.

Table 11 -EMPLOYED PERSONS 16 YEARS & OVER BY OCCUPATION 1990 & 2000 - TOWN OF GREENSBORO		
Occupation	Number	%
Managerial & Professional	133	19.5
Sales & Office	164	24.0
Service	119	17.4
Farming, Forestry, Fishing	9	1.3
Construction, Extraction, & Maintenance	113	16.5
Production, Transportation & Material Moving	145	21.2
Total	683	

The mean travel time to work for workers in 1990 was 27 minutes and by 2000 the travel time was 29 minutes. Of the total reported (674 persons), the vast majority (72 %) drove alone, and 19 % carpooled

(only 13% carpooled in 1990). Over 6% of workers reported that they either walked to work or worked in their homes.

COMMUNITY FACILITIES

Water

Greensboro's water is provided by three wells located throughout the Town. The Hobbs Street Well and the Academy Street Well were rehabbed in 2007 to ensure their efficient production. All three wells draw from the Piney Point formation. The total permitted average daily appropriation of water in 2008 was 325,000 gpd (gallons per day). The greatest annual average daily demand from 2002 to 2007 was 184,512 gpd.

State design recommendations for water distribution systems call for a well capacity equal to the peak daily flow rate with the largest well out of service, and all remaining wells running 24 hours per day. With a current maximum daily demand of 455,000 gpd and a capacity of 300 gpm (gallons per minute) with the largest well out of service, the total well-field can produce 864,000 gpd, a surplus of 409,000 gallons per day.

The water quality from the Piney Point Aquifer is generally good and relatively uniform. Currently, disinfection is the only water quality measure performed in Greensboro.

Many improvements have been made to the water distribution system during the past 15 years, including the replacement of nearly all the water mains on Sunset Avenue and Main Street. The eastern section of town including mains to the north and south of Rt. 314 were replaced in 1990 and 2000, respectively. Portions of Cedar Lane were replaced in 1990. The newly completed subdivisions of Cedar Run and Caroline Farms have piping that was installed in the early 1990's. The remainder of town consists of the original Greensboro water distribution system constructed between 1915 and 1920.

Sewer

The Town's wastewater treatment plant is a fixed film, activated sludge type facility originally constructed in 1968 and land modified in 1996. Its permitted capacity is 280,000 gpd. The latest three-year average flow is 142,000 gpd. The facility consists of an influent screen, primary clarifier, dual rotating biological contactors, two secondary clarifiers, disinfection, post aeration, and sludge drying beds. Wastewater effluent flows by gravity through the plant to an outfall that discharges into an unnamed tributary of the Choptank River.

The sewer system is divided into two collection zones, with the divide located in the vicinity of Bernard Avenue. The system to the north of this divide flows by gravity directly to the wastewater treatment plant. The system to the south collects at the East Side Pump Station along Sunset Avenue and is pumped to a manhole near the Main Street and Cedar Lane intersection. From this manhole, flow continues by gravity to the treatment plant.

The collection system consists of approximately 46,000 feet of 8", 10", and 12" mains. The majority of the gravity sewer system is 8" PVC. All pipes within the system are the appropriate size and slope to carry the flow. Inflow and infiltration rates into the collection system were analyzed in 2002 and 2003 and the average daily flows per capita were found to be below the accepted national averages and non-excessive.

Parks and Public Buildings

The new (2005) Town Offices on Main Street are centrally located and adequately meet the functional needs of Town government operations for office space and a meeting room for various appointed boards and commissions. Use of the former Town office location for the police and public works departments has increased the availability of space to support policing functions. The former police station now houses a styling and barber shop. The completion of the Town library and Community Center in 1997 satisfied a need identified in the 1988 Comprehensive Plan for library facilities in the Town and added to the space available for community and civic organization activities.

The Town has a well-developed and maintained park, Ober Park, located behind the Schoolhouse Apartments at Horsey Street and Bernard Avenues. Park/ballfield facilities are also located at Cedar Lane and School Street to support northern Town resident recreational needs.

A developed picnic area on Forge Branch provides some opportunities for outdoor enjoyment on the west side of Town. Public boat launching facilities on the Choptank River and an adjacent picnic area near the Town carnival grounds, south of the bridge, provide additional recreation facility offerings to Town residents. Tot lot facilities have been provided at Rolling Meadows and at the new community center to meet community needs. The Choptank River Park, located on the north side of the Sunset Avenue bridge, will provide additional recreational opportunities for Town residents.

Greensboro will be gaining parkland in the newly annexed development south of town. This will consist of eight acres of contiguous space for active recreation and several smaller parcels dedicated to planting and passive activities.

Overall, park development within the Town indicates adequate service levels by most standard measures. This is especially true given the rural setting of the Town and the numerous outdoor recreational opportunities nearby.

CURRENT LAND USE

The existing pattern of land uses was surveyed in the field in July, 1995, recorded in detail on a 1"=300' scale map, and updated in August 2006. Map 3 identifies the pattern of existing land use in Greensboro at a reduced scale. Once identified and mapped, the land use distribution was calculated by type, as represented in Table 12, for description and further analysis.

Greensboro is located in an agricultural area with very little urban development beyond the community's corporate limits. Except for the "South Greensboro" annexation and the "Kinnamon/Baldwin" tract, most of the usable land within the corporate limits of Greensboro has been built upon or is otherwise in use. Approximately 35 % of the land located within the corporate limits remains undeveloped but much of this land is currently in the subdivision and development process. Specifically, 71 infill lots remain and approved but undeveloped subdivisions total 336 lots.

Residential

Single-family residential is the dominant land use type in Greensboro, representing 31% of the developed land area in the Town. Land devoted to residential use totals an estimated 196 acres. Much of this development is on small lots but, in 2005, during the build-out of Caroline Farms, a small lot subdivision dating from the early 1990's, the Town increased its low density, single-family lot size requirements from 7,475 sq. ft. to 12,000 sq. ft. This was in response to significant development pressure within Greensboro and dissatisfaction with the appearance of the town's older subdivisions.

Multi-family residential use increased substantially in Greensboro in the 1980s with construction of Greensboro Heights Apartments and Rolling Meadows Apartments. In 1995, roughly 14.7 acres was occupied by multi-family residential uses. A significant number of single-family residences were converted to apartments in the 1990's and, in the early 2000's, a duplex project known as Cedar Run was completed. By 2006, land occupied by multi-family had increased to 22.7 acres. To preserve the stock of available space in the downtown and limit the demand for parking, the Town in 2005 limited the conversion of single-family dwellings in the Central Commercial District to ten units annually and required more land and open space for the units that are allowed to convert.

In 2004, Greensboro annexed two parcels at the southern entry to the town along Rt. 480 containing 172 acres for a master planned residential and commercial development. The project ("South Greensboro) will include approximately 230 single-family homes on 80 acres and a commercial section on 21.5 acres. It is designed as a mix of large lot and "traditional neighborhood" homes. The project will probably receive final approval for recordation in 2009.

An in-town, 44 acre single-family residential parcel (the "Kinnamon/Baldwin" tract) on Cedar Lane was reviewed in 2006 and has received approval for the first phase of development. This development will contain 101 lots and is designed to extend the grid system of town streets and integrate with the character of the surrounding community.

Commercial

The traditional business center of the Town is the intersection of Sunset and Main Streets. In 1988, the Central Business District (CBD), combined with several smaller nodes of business activity and miscellaneous scattered commercial sites throughout the Town, represented a total of 8 acres. In 1995, commercial land uses occupied an estimated 12.5 acres and represented 3 % of the area of the Town.

The increase in commercial land area is due to development of commercial uses along MD Route 313 (Greensboro Road), including a grocery store and automotive services. This particular area has become a major highway-oriented commercial center in contrast with the traditional CBD, which provides the ambiance of a traditional walkable downtown. The next major increase in commercial land area will be 21.5 acres within the newly annexed planned development south of town on Rt. 480. A small commercial node is also developing at Sunset Avenue and Granby Street which could grow larger with the development of the planned community.

Industrial

In spite of the solid manufacturing employment base found in Greensboro, the land used for industry totals only 9.3 acres or 2 % of Town land area. However, total land area shown as industrial on the existing land use map as industrial represents 26.4 acres, which includes vacant land near the rail corridor adjacent to Sunset Avenue. Within this area there are opportunities for expansion of existing industries or the location of new businesses in the Town. The only identifiable concentration of industrial activity in the Town is on the west side, along the rail line at Sunset Avenue. The rest of the sites are in scattered locations within or adjacent to established residential areas.

Table 12 - LAND USE - TOWN OF GREENSBORO

Land Use	Acres Developed 1995	Acres Developed 2006	Full Development
Single-family residential	164.3 (40%)	196.3 (31%)	305.3 (48%)
Multi-family residential	14.7 (4%)	22.7 (4%)	22.7 (4%)
Commercial	12.5 (3%)	14.5 (2%)	36.0 (6%)

Industrial	9.3 (2%)	9.3 (1%)	26.4 (4%)
Public	8.2 (2%)	44.0 (7%)	44.0 (7%)
Semi-Public	10.5 (5%)	15.0 (2%)	15.0 (2%)
Parks/Open Space	22.8 (6%)	29.8 (5%)	74.6 (12%)
Streets and Roads	75 (18%)	79.25 (13%)	109.5 (17%)
Subtotal developed land	334.4 (81%)	427.9 (68%)	633.5 (100%)
Undeveloped land	94.7 (23%)	222.7 (35%)	0
Total	412	633.5	633.5

Source: Redman/Johnston Associates Field Survey, July 1995, and updated by the Greensboro Planning Commission in August 2006.

Parks and Open Space

There are 29.8 acres of land developed as parks or designated as open space in the Town. These areas are well distributed throughout the Town. In addition, the cemetery property on the south side serves the function of providing permanent "open space" within the developed Town. Additional active and passive parks and open space will be provided in both the "South Greensboro" and the "Kinnamon/Baldwin" developments for a new total of nearly 75 acres.

Public Lands

Public lands represent some 44 acres of land in Greensboro and include land owned by the Town or County and committed to public uses. These include the Municipal Building, Police Department, Fire Department, the elementary school, and sites supporting various components of the Town sewer and water systems, but not including Town parkland.

TRANSPORTATION

Greensboro is located on the main north-south artery in Caroline County, MD Route 313, a minor arterial which bypasses the Town center on the east. The Town is linked to the US Route 50 corridor via MD Route 480 to MD Route 404. MD Route 480, or Main Street, functions as a minor north-south local collector. Sunset Avenue, running through the Town center and connecting with MD Route 314, serves as minor east-west local collector, linking the Town to US Route 13 via MD Route 12. Traffic counts for these major routes are shown on the Traffic Trends Map 4. The traffic is generally light on these roads and, therefore, there are no planned improvements related to capacity. Even though State roads are adequate and far from reaching capacity, the residents may notice the steady incremental increase annually in daily traffic counts shown on the Transportation Map.

The remainder of the Town's streets function as local streets. Though they serve existing land uses adequately, many do not meet minimum standards for paving width. Future development in the Town will require upgrading the streets to meet the newly adopted construction and right-of-way standards.

This section describes the existing situation for key road links for Greensboro in terms of average daily traffic volumes and the degree of congestion in terms of level of service. The initial effort involved an inventory and analysis of existing transportation facilities using the best available data. Based on published materials, the following information relating to highways was analyzed: functional

classification, average daily traffic volumes, roadway capacity/level of service, and available excess capacity.

Traffic Volumes

Average daily traffic (ADT) volumes prepared by the Maryland State Highway Administration were reviewed for the years 1983, 1989, 1993, 2004, and 2006 to identify changes in traffic volume for major routes in recent years. Information concerning trends in volume are shown Map 4. The highest ADT (5,900 vehicles) in Greensboro in 2004 was on MD Route 313, the Intermediate Arterial in the region. Maryland Route 314 is currently classified as a Major Collector, and in 2004 handled an average of 2,931 vehicles per day on the west side of Town and 4,631 on the east side. MD Route 480 (Main Street), also functions as a Major Collector, and in 2004 carried 4,531 vehicles per day at the southern Town limit and 2,951 at the northern Town limit. The other streets and roadways in the Town are local in function.

Significant to modest increases in traffic volumes are evident for the period from 1993 to 2004 for each of the major routes and with anticipated development these numbers will continue to grow.

Table 13 - Average Annual Increase in Average Daily Traffic Volume from 1983 to 2006	
Main St. south of Town	95 vehicles
Main St. north of Town	40 vehicles
Sunset Ave. west of Town	28 vehicles
Sunset Ave. east of Town	135 vehicles
Md 313 north of Town at Main St.	117 vehicles

Capacity/Level of Service

To evaluate the operation of specific road sections, the capacity of the major roadways was determined. Roadway capacity is a function of the roadway classification, number of lanes, pavement type, and intersection control. The daily service capacity for each roadway classification was determined from the Maryland State Highway Capacity Manual. MD Route 313 has a capacity of 7900 vehicles per day to maintain a Level of Service (LOS) C as a two lane highway. MD Routes 314 and 480 likewise have an approximate capacity of 7900 vehicles per day.

Using the 2006 ADT volumes and the estimated capacity, a volume to capacity ratio (V/C) was determined. A V/C of 1.0 means that the road is at capacity. The ratio ranges from values of 0.37 on less trafficked routes, such as Sunset Rt. 314 on the western side of town, to volumes which are three-quarters of route capacity (0.75) on Route 313 north of Town. MD Route 480 has a volume to capacity ratio of 0.37 on the north end of Town and a ratio of 0.57 on the south end of Town. The eastern end of Sunset is operating at a ratio of 0.59.

Pedestrian/Bicycle Circulation

Pedestrian safety has been a long-time concern of the Town. There are gaps in a continuous pedestrian circulation system. Some existing sidewalks are hazardous to walkers and need to be upgraded. This process began with a State Highway Administration project in 1999 to improve streets and sidewalks along Sunset Avenue and Main Street. This work is complete and the next phase is to include improvements along North Main Street from School Street to the Greensboro Elementary School.

Another notable improvement was the addition of a walkway in conjunction with the new bridge across the Choptank, thus eliminating what was a formidable barrier to residents on the east side of Town who might walk to the Town center. However, this bridge walkway amplifies a larger problem of the Town, which is to provide safe pedestrian crossing across MD Route 313 at Sunset Avenue. A traffic light has been added at this intersection but pedestrian crosswalks or other safety improvements have not been made.

Greensboro is a very walkable and bikeable community in terms of size, scale, and neighborliness but facilities are lacking to provide a basic network of walks, trails, and "parking/resting." This important topic will be discussed further in the Visions chapter.

Public Transportation

There are two public transportation facilities for Greensboro residents. Neither is suitable for commuting to a job. Maryland Rural Development Corporation provides a medical transportation service with three days advance notice. Upper Shore Aging provides public transportation services (U-STAR) to anyone requesting such services in Greensboro with 24-hour notice. This service is used primarily by special populations (handicapped and elderly), but is available for general public use. The service is suitable for shopping, medical visits, or any planned trip within the region.

CHAPTER 3
GROWTH CONSIDERATIONS

POPULATION SCENARIOS

The amount, distribution, and timing of projected population growth and residential and industrial development in Greensboro will continue to influence the character of the Town and its capacity to provide services to a changing population. These factors determine the cost of providing the public facilities needed to support the new population and are extremely important elements when thinking about Greensboro's future.

Greensboro has grown significantly during the past several years and, while this rapid pace has recently slowed along with the rest of the US economy, the eventual completion of two major development projects now in the pipeline will bring more growth. Table 14 contains four growth scenarios for Greensboro.

Scenario 1 assumes that the 386 recorded or to-be-recorded Town building lots are built upon and occupied by 2015. Using the current Greensboro and Caroline County household size of 2.64 persons/unit, this would add approximately 1,000 residents and yield a population of roughly 3,000 persons. This level of growth can be accommodated by the current water and wastewater treatment system without expansion and would not require an expansion of the Town's boundaries. This scenario does not allow any new residential annexations or new major residential projects during the period between this Plan and the next required Plan in 2015. This is the default growth strategy adopted by this Plan. The focus for the coming years will be to absorb the growth that is currently in the development pipeline, provide employment opportunities for residents, and revitalize the Town's economic base. The preferred growth strategy is outlined in Scenario 3 following and depends upon construction of a new wastewater treatment plant to serve Greensboro and North Caroline County.

Scenario 2 assumes build-out by 2015 at a population of 2,995 and continued growth at Caroline County's 1970 to 2000 annual growth rate of 1%. By 2030, the population would grow by 463 persons and add approximately 176 units over the 2015 population. Modifications to the water and wastewater treatment system would likely by required and the Town boundaries would have to enlarge.

Table 14 - POPULATION SCENARIOS - TOWN OF GREENSBORO

	Scenario 1 - Cap	Scenario 2 - 1%	Scenario 3 - 2%	Scenario 4 - 3%
1990	1,441	1,441	1,441	1,441
2000	1,632	1,632	1,632	1,632
2005	1,975	1,975	1,975	1,975
2010	2,485	2,485	2,485	2,485
2015	2,995	2,995	2,995	2,995
2020	2,995	3,144	3,294	3,444
2030	2,995	3,458	3,952	4,477

Scenario 3 follows the County's assumption of focusing more growth in municipalities by building upon

existing sewer capacity and projecting an annual growth rate of 2%. In Greensboro, this would yield roughly 957 new residents and 363 new dwelling units over the 2015 population of 2,995. This scenario would definitely require expansion of the Town's water and wastewater treatment capacity and a significant addition to the Town's borders. A new project, the North County Wastewater Extension, has been proposed to accomplish the required expansion and meet the critical disposal needs of the North County communities of Goldsboro, Henderson, Marydel, and Templeville (referred to as the "Authority"). The recommendation is to construct a new wastewater treatment facility north of Greensboro in two phases. The first phase would have a capacity of 540,000 gpd and the second phase would meet the proposed build-out capacity in Scenario 3 of 814,000 gpd for the Authority and Greensboro. The first phase would accommodate Greensboro's current capacity of 280,000 gpd plus the capacity required by the Authority of 260,000 gpd. The second phase would add 274,000 gpd to allow a 2030 Greensboro build-out population of approximately 4,000 residents and 1,500 dwellings. Construction of a new wastewater treatment plant with a treatment capacity of 814,000 gpd serving both Greensboro and North County is the preferred growth strategy of this Plan.

Scenario 4 also follows a County assumption that if local communities expand their water/sewer capacities and growth areas, the annual growth rate could reach 3%. In Greensboro, this would add about 1,482 residents and 562 dwellings over the 2015 population of 2,995 and a very large expansion of the Town's boundaries.

LAND USE CONSIDERATIONS

In this section, the current land use statistics of Greensboro are compared with an average land use breakdown of comparable communities in an effort to pinpoint major deficiencies in the present land use pattern, and to serve as a general guide in determining the most desirable range of development activity for the future development of Greensboro. Since no two communities are identical, it is cautioned that this average breakdown of major land uses in a typical small town is intended to serve only as a rough guide in projecting a desirable range of development activity in each major land use category.

Table 15 shows the land use breakdown for an average of 10 other Eastern Shore towns. This comparison indicates that residential use is higher in Greensboro than in other towns, while commercial use is lower but gaining. Industrial land use in Greensboro is significantly less than the comparable towns.

Table 15 - LAND USES - GREENSBORO AND COMPARABLE TOWNS

Land Use Type	Percentage of Developed Area		
	Greensboro 2006	Greensboro Full Development	Comparable Towns in the Eastern Shore Region
Residential	51 %	52 %	42 %
Commercial	3 %	6 %	4.3 %
Industrial	2 %	4%	9.4 %
Public/Semi-Public	14 %	9 %	9.4 %
Parks/Open Space	7 %	12 %	8.1 %
Streets	18 %	17 %	26.8 %

Source: Comparable town data from Redman/Johnston Associates (1987)

Land for future growth beyond that now in the development process or held as infill lots can only be found outside the current Town limits. The Eastern Shore Regional GIS Cooperative prepared a Municipal Development Capacity Analysis, Caroline County, Maryland in November, 2008, that included Greensboro. This analysis showed that within our mapped Growth Area, there are 625 developable parcels of land with a dwelling unit capacity of 2,158. See Appendix B for a summary analysis and a series of Growth Area maps. At our highest projected growth rate of 3%, 948 dwelling units would be added from 2009 until 2030. This rate would consume roughly 44% of the dwelling unit capacity of the Town and surrounding Growth Area.

To add the population projected in Scenario 2 (+463 residents and 176 units) at the current single-family zoning would require roughly 352 acres (includes lot, open space, stormwater, forest conservation, and streets).

Table 16 - Scenario 2 - 1% Growth Rate

	Total Population	Added Population (cumulative)	Added Dwellings (cumulative)	Added Acres (cumulative)	Acreage Available
2005	1,975	0	0	0	
2010	2,485	510	218	0	
2015	2,995	1,020	386	0	2,307
2020	3,144	1,169	442	112	2,195
2030	3,458	1,483	562	352	1,955

To add the population projected in preferred Scenario 3 (+957 residents and 363 units) at the current single-family zoning would require roughly 726 acres.

Table 17 - Scenario 3 - 2% Growth Rate

	Total Population	Added Population (cumulative)	Added Dwellings (cumulative)	Added Acres (cumulative)	Acreage Available
2005	1,975	0	0	0	
2010	2,485	510	218	0	
2015	2,995	1,020	386	0	2,307
2020	3,294	1,319	500	227	2,080
2030	3,952	1,977	749	726	1,581

To add the population projected in Scenario 4 (+1,482 residents and 562 units) at the current single-family zoning would require roughly 1,124 acres.

Table 18 - Scenario 4 - 3% Growth Rate

	Total Population	Added Population (cumulative)	Added Dwellings (cumulative)	Added Acres (cumulative)	Acreage Available
2005	1,975	0	0	0	
2010	2,485	510	218	0	

2015	2,995	1,020	386	0	2,307
2020	3,444	1,469	556	340	1,967
2030	4,477	2,502	948	1,124	1,183

All of these scenarios will require additional land for expanded commercial, industrial, and public uses.

Absent a new wastewater treatment plant, the Town will focus on absorbing the growth that is currently in the development pipeline, providing employment opportunities for residents, and revitalizing the Town's economic base. If the new treatment plant becomes a reality, opportunities for annexation will present themselves and they will be evaluated primarily on their ability to improve natural resource preservation, provide recreational opportunities, or add significant employment. It is expected that annexation interest will be focused first on the large parcels north of Greensboro along Rt. 313 (See Growth Area and Greenbelt map). These parcels should be considered for mixed use residential and employment uses at a density comparable to overall Town densities and for a large preservation and recreational park use along the Choptank. The next extension of Town is expected adjacent to the eastern boundary on several small parcels north and south of Sunset Ave. The third phase of growth should probably be considered in the northeast quadrant on the eastern side of the Choptank. Close to Town, this area should reflect Town residential densities with larger lots allowed as development approaches the outer greenbelt. The final areas for potential growth or annexation is the large area south of Town on both sides of the Choptank extending to the southern greenbelt. Close to Town, there may be some opportunity for higher density uses along Rt. 213 but, in large part, the area should retain a rural flavor with lower residential densities and small residential clusters to preserve farmland.

COMMUNITY INFRASTRUCTURE CONSIDERATIONS

Water Resources

Due to unexpectedly high quantities of unaccounted-for water, the Town exceeded its groundwater appropriations permit on several occasions and applied for an increased withdrawal permit in 2007. The new permit allows withdrawal of 325,000 gpd. Average daily demand in 2007 was 183,561 gpd. Adding a drought allowance of 10%, the remaining flow available is 123,083 gpd. Seventy-one infill lots would add a demand of 15,975 gpd and the approved but undeveloped subdivisions (336 dwelling units) would add another 75,600 gpd. A withdrawal permit of 325,000 gpd will allow build-out of the Town under Scenario 1 with a 31,500 gpd margin of safety.

Given current maximum daily demand of 455,000 and a capacity of 300 gallons per minute with the largest well out of service, the total well-field in Greensboro can produce 864,000 gpd; a surplus of 409,000 gpd. This indicates that water supplies and pumping capacity should be suitable to support projected growth to the year 2030. However, any development beyond Scenario 1 and its 2,995 residents will require further modifications to the groundwater appropriations permit and improvements to the water distribution and storage facilities to provide adequate fire flows beyond the year 2015.

Sewage Treatment

Greensboro's current wastewater treatment capacity using average daily flows and a 250 gpd projected use rate per equivalent dwelling unit (EDU) is:

Rated Design Capacity of WWTP	280,000 gpd
Permitted Capacity of WWTP	280,000 gpd

Improved parcels with sewer service	799
3 year average flow	142,000 gpd
Gross available wastewater capacity	138,000 gpd
Estimated flows for infill	
Individual Town parcels @ 72 lots	18,000 gpd
Baldwin subdivision @ 101 lots	25,250 gpd
Greensboro Farms residential @ 230 lots	57,500 gpd
Total estimated flows for infill	100,750 gpd
Net available wastewater capacity	37,250 gpd or 149 EDU

As the above tabulation makes clear, the availability of sewer taps for future development is very limited without a significant sewer plant expansion and treatment upgrade. Infill and approved projects put the plant very close to its permitted capacity and any additional development will require new permitting and expansion. In response, the Town in 2006 limited the award of sewer taps to public uses, rehabilitative uses, and non-residential job-creating uses.

To add the population projected in the preferred growth Scenario 3 (+2,000 residents and +750 units by 2030) will require a total treatment capacity of 375,000 gpd. This capacity would be provided under the North County proposal which allocates 431,000 gpd to future flows from Greensboro with a total plant treatment capacity of 814,000 gpd.

Expansion of treatment capacity will require the facility to achieve more stringent discharge criteria compared to existing requirements, especially with respect to nutrients. Presently, only a modest degree of nitrogen and phosphorus removal is required with allowable effluent mass loadings of 9,867 lbs/year of nitrogen and 1,644 lbs/year of phosphorus. For disposal to the Choptank River at 814,000 gpd capacity, it is anticipated that the allowable effluent mass loadings will be at enhanced nutrient removal (ENR) levels of 9,196 lbs/year of nitrogen and 594 lbs/year of phosphorus. The current wastewater treatment plant in Greensboro cannot achieve these levels of treatment and a new plant as contemplated in the North County proposal would be required.

Transportation

Under average daily traffic conditions, most of the local roads and streets in the Greensboro area are expected to operate at acceptable levels of service. The following table shows the average annual increase in traffic volume in each 2030 scenario distributed to each major road.

Table 19 - 2030 Average Daily Traffic Volumes

	2006	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Main St. south of Town	4531	5260	5593	5946	6322
Main St. north of Town	2951	3437	3659	3894	4145
Sunset Ave. west of Town	2931	3417	3639	3874	4125
Sunset Ave. east of Town	4631	5395	5743	6114	6508

Md 313 north of Town at Main St.	5900	6872	7316	7787	8288

The only road that exceeds its capacity of 7,900 vehicles per day is Rt. 313 north of town. Fortunately, road improvements to increase capacity on Rt. 313 in Town are feasible due to its location outside the Central Business District and away from right-of-way constraints. Few significant major highway improvements will be necessary to manage the future traffic projected. The remainder of the Town roads will need only repaving and maintenance, since high delays are not likely to occur in the near future.

Parks and Recreation

The Parks and Open Space category includes all lands with any of the identified factors recommended for preservation from development as explained in the next section, Natural Environmental Constraints. These areas occur throughout the Town in and near developed areas. Preservation of these areas in natural vegetated open space through the site review process has significantly enhanced the visual quality of the Town's landscape and the health of the natural environment. Retention of wooded creeks as natural open space within the Town's developed areas would greatly improve recreational opportunities and protect vital natural areas and water quality. Forested buffers are natural filters of pollution that protect streams and rivers. Land management techniques, such as protecting wooded areas, are recommended in the Town's Critical Area regulations.

For planning purposes, the State of Maryland uses a ratio of 30 acres of parkland per 1,000 persons; 15 of these acres must be locally-owned. Greensboro currently has 75 acres of parkland developed or committed.

Table 20 - Additional Parkland Required in acres				
2006	Scenario 1	Scenario 2	Scenario 3	Scenario 4
None	+15	+28.5	+43.5	+59.0

To provide targets for the provision of parks and recreation facilities, Greensboro will apply the following standards when considering the adequacy of the current network and the requirements brought by any future growth. These standards are based on those of the National Recreation and Parks Association and the Rural Planning Institute.

Regional County Park	5 acres per 1000 population
Community Park	5 - 8 acres per 1000 population
Neighborhood Park	1 -2 acres per 1000 population
Playgrounds	1 per 1000 population
Tennis Courts	1 per 2000 population
Soccer Fields	1 per 5000 population
Baseball Fields	1 per 5000 population
Softball Fields	1 per 5000 population
Volleyball Courts	1 per 5000 population
Basketball Courts	1 per 5000 population
Trails	1 mile per 1000 population

Police

1.6 officers/1,000 people is the standard recommended by MDP and the Town now has the equivalent of

4.5 officers. Under the various scenarios, the MDP standard would require:

Table 21 - Additional Police Officers Required				
2006	Scenario 1	Scenario 2	Scenario 3	Scenario 4
4.5	+0.5	+1.0	+1.8	+2.7

Fire Engines

The formula used by the Insurance Services Office (ISO) is the number of engines = 0.85 + [0.12 x (population in 1,000s)]. Currently the Fire Company has two engines, one tanker, one rescue vehicle, one brush truck, one utility vehicle, and one command vehicle. The number of engines now operated by the Fire Company is adequate to serve the highest projected 2030 population

Libraries

The American Library Association standard is 1,000 square feet of library space needed per 10,000 population. No additional library facilities would be needed in 2030.

Schools

The Caroline County student generation rates per dwelling unit in 2005 were .24 elementary students per dwelling unit (du), .10 middle school students per du, and .18 high school students per du. Using these rates, the various growth scenarios would produce the following:

Table 22 - Additional Students Generated				
	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Elementary	93	135	180	228
Middle	39	56	75	95
High School	69	101	135	171
Total	+201	+292	+390	+494

There are currently 6,114 students in Caroline County's ten schools. The highest 2030 population scenario would increase the number of elementary students by 9.1%, middle school students by 7.6%, and high school students by 9.4%.

Financing of Infrastructure Expansion

The growth scenarios following Town build-out will require substantial outlays for infrastructure and services. Financing such infrastructure and service expansions will be governed by the following policies:

• New development will pay its fair-share of the costs associated with community facilities, infrastructure, and transportation needs whose demand is generated by the new development.

• Current residents, businesses, and property owners will not be required to fund capital improvement costs for community facilities, infrastructure, and transportation improvements necessitated by demands solely generated by new development.

• No new development will be approved within the Town unless it can be determined that adequate public facilities and infrastructure either already exists or has been planned and funded for construction within a reasonable time period in conjunction with the proposed development.

• The timing and phasing of community facilities, infrastructure, and transportation improvements requiring public investment will occur over time in conjunction with coordinated Town and County Capital Improvement Programs. Improvements recommended for areas within the Town should receive highest public-sector funding priority.

Greensboro's Rural Buffer and Protection of Sensitive Areas Near the Town

Several farms and lands in the Critical Area form a rural greenbelt around Greensboro and function as a growth boundary. The Town's willingness to accept regional growth near its boundaries is meant to suggest that these conservation areas constitute permanent buffers in the landscape and will be off limits to intensive development for the future. Private lands under conservation easement or proposed to be placed under conservation easements and known sensitive areas such as stream buffers, shoreline buffers, wetland areas, or important forested areas are areas around Greensboro where future development should be significantly limited or prohibited. The buffer is described on Growth Area Map 5.

Owners in land conservation areas will also be urged to participate in any of the various land conservation programs available such as the Maryland Agricultural Land Preservation Foundation (MALPF) farm easement purchase program and the conservation easement programs offered by the Eastern Shore Land Conservancy (ESLC), the Maryland Environmental Trust (MET) and the Maryland Historic Trust (MHT). The MALPF allows rural property owners to derive equity from their lands without actually developing them in return for placing easements on the property which prohibits or limits its future development. The ESLC, MET and MHT conservation easement programs provide tax credits and estate planning benefits to property owners who voluntarily place their lands under easements prohibiting or limiting future development.

NATURAL ENVIRONMENTAL CONSTRAINTS

This analysis reviewed all major proposed future use categories for Greensboro in relation to the natural and built environmental conditions to identify those factors that are particularly relevant to determine the suitability of any given area for a specific use. For example, areas containing wetlands or floodplains are best suited for open space and natural parks.

Map 6 shows the areas of natural environmental constraint in the Town of Greensboro. They include:

• Severe soil constraints for construction of buildings exist on the hydric soils;
    • Development within the 100-year floodplain is subject to Federal regulation and is both a potential hazard for life and property, and a constraint upon the natural function of this important element in the surface water system;
    • On the other hand, the alluvial soils typically deposited in hydric areas are usually fertile soils for farming and are ideal for parks and open space;
    • Erodible soils and soils with a high runoff potential require special measures during the construction process to prevent sedimentation of the surface water system. Where such conditions are severe, the affected lands are poorly suited for playfields and other activities that repeatedly disrupt the vegetation needed to mitigate them;
    • Forest cover has value for both protection of water quality and the small-town environment, which suggest that it requires protection, particularly in areas to be developed for suburban

residential densities or commercial, office or industrial uses.

The second step was to identify those conditions that virtually preempt land from development. Two such conditions were identified. The first condition is lands that are already developed. The second is a set of environmental characteristics that represent such natural value, fragility, susceptibility to damage from encroachment, or importance to the maintenance of the quality of the Chesapeake Bay that it is recommended that lands with these characteristics be preserved in their natural state.

The characteristics defining this preservation category include:

- A 25-foot buffer area adjacent to all non-tidal wetlands and streams, and a 100-foot buffer adjacent to all tidal wetlands;
- The 100 year floodplain;
- Tidal and non-tidal wetlands and marshes;
- Slopes greater than 25 percent.

It should be noted that these characteristics are only those requiring the greatest degree of protection.

The defining characteristics of the preservation category are generally protected by State and, in some cases, Federal legislation. While there are circumstances under which some such areas might be developed, the fact is that the majority of the land in Greensboro is better suited for development and amply able to accommodate foreseeable future growth. Lands recommended for the Preservation category are illustrated on Map 7.

WATER RESOURCES CONSIDERATIONS
Water Resources Element
Greensboro Comprehensive Plan

The Greensboro Comprehensive Plan's "Water Resources Plan Element" (WRE) is a new plan element added to the Comprehensive Plan. This plan element is mandated to assure compliance with the requirements of Maryland House Bill 1141 (HB 1141). The purpose of the WRE is to provide additional layers of planning for water resources in relation to existing use and proposed land use, based on an analysis of growth and development trends to assure demands for water supply can be satisfied as Town growth occurs and to assure measures are taken to minimize impacts to water quality.

The Greensboro WRE is directly linked a number of other Plan elements. They include: 1) the Land Use Plan; 2) the Municipal Growth Element; 3) Community Facilities; and 4) Resource Conservation elements. The Water Resources element addresses three major areas including water (both supply and quality), wastewater treatment and discharge, and stormwater management.

Among other things, preparation of the WRE is an exercise intended to test water resource capacity limits, determine the potential implications of water resource issues for future growth, and facilitate development of coordinated management strategies. The Town of Greensboro represents a very small portion of the much larger Choptank River watershed. Since water resource protection issues are of concern watershed wide, much of the effort to protect or enhance water quality will be dependent on County and State actions and programs. Nevertheless, this plan element evaluates Greensboro's role in protection of Water Resources in this larger context.

The purpose of the Water Resources Element (WRE), as defined in Maryland House Bill 1141, is to establish a clear relationship between existing and proposed future development; it further establishes the relationship between drinking water sources and wastewater facilities that will be necessary to serve that

development and measures to limit or control the stormwater and nonpoint source water pollution that will be generated by new development.

Specifically, the statutory requirements are:

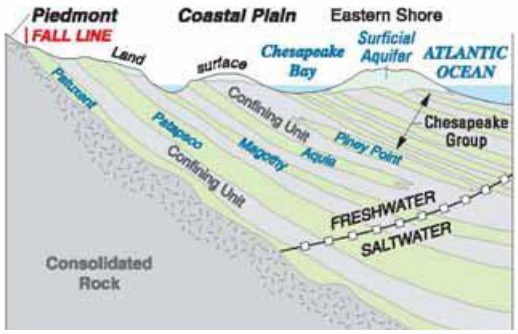
- Identify drinking water and other water resources that will be adequate for the needs of existing and future development proposed in the land use element of the plan, considering available data provided by the Maryland Department of the Environment (MDE).

- Identify suitable receiving waters and land areas to meet the stormwater management and wastewater treatment and disposal needs of existing and future development proposed in the land use element of the plan, considering available data provided by MDE.
- Adopt a WRE in the comprehensive plan on or before October 1, 2009, unless extensions are granted by Maryland Department of Planning (MDP) pursuant to law. Zoning classifications of a property may not be changed after October 1, 2009 if a jurisdiction has not adopted a WRE in its comprehensive plan.

This element of the Plan assesses the Town's drinking water sources and wastewater treatment facility and their ability to support existing and future development. It also identifies suitable receiving waters for existing and future wastewater and stormwater discharges. The Town of Greensboro, with substantial assistance and support from the Caroline County Department of Planning and Zoning, has prepared this Water Resources Element to assure the Town will focus growth to areas best suited to use the existing and planned water and wastewater infrastructure; to nurture efficient patterns of growth, protect and preserve the natural environs, promote economic growth, and support diversity of living environments in the Town.

Water Resources

The Town of Greensboro and Caroline County lie within the Northern Atlantic Coastal Plain (NACP) aquifer system. The NACP system extends from the North/South Carolina border to Long Island, New York. In Maryland the NACP is bounded in the west by the Fall Line and in the east by the Atlantic Ocean. The Coastal Plain system consists of sand and gravel aquifers interspersed with layers of silt and clay called confining beds. Beneath this system lies a layer of consolidated rock at depths ranging from zero at the Fall Line to about 8,000 feet at Ocean City.



The Northern Atlantic Coastal Plain Aquifer System
Source: *A Science Plan for a Comprehensive Regional Assessment of the Atlantic Coastal Plain Aquifer System*

Greensboro's water system is supplied by the Piney Point aquifer which is one of many located within the Atlantic Coastal Plain. The Piney Point aquifer is a confined aquifer.
A confined aquifer has a layer of clay or fine silt above it (a 'confining' layer) that allows very little water to travel vertically into the aquifer. Confined aquifers receive recharge from leakage through confining beds from surficial aquifers and lateral movement of water from adjacent aquifers and thus are less vulnerable to drought conditions.

Water quality in the Piney Point aquifer that serves Greensboro is generally good. A

In 2003, Maryland Department of the Environment conducted Source Water Assessments for 19 community water systems and 9 non-community systems located in Caroline County. MDE researched and identified potential sources of contamination for confined aquifers and analyzed each water system for susceptibility to pollutants originating at the land surface. MDE concluded that due to the protected nature of confined aquifers, the water supplies were not susceptible to surface contaminants. Some naturally occurring pollutants, such as arsenic and fluoride, do pose a risk to water systems supplied by the Aquia and Piney Point Aquifers but do not exceed EPA's maximum contaminant level (MCL). Tests conducted as part of MDE's Source Assessments indicated that that arsenic and fluoride levels measured less than 50 percent of the EPA's MCL in Greensboro's water supply. Water supply quality will continue to be monitored. Since the recharge area for the aquifer is located on the Western Shore of Maryland, the Town can do little to protect its source of water supply.

In 2000, USGS recorded that surface and groundwater withdrawals in Caroline County totaled 21,380,000 gallons per day (Tables 2 and 3 provide details of water withdrawals in the County). Unlike counties on the western shore, the largest water use in Caroline County was irrigation, which averaged 15.48 million gallons per day. The amount of groundwater withdrawn for irrigation purposes in the County is nearly five times higher than the next heaviest use (mining) and more than six times higher than domestic use.

Watershed Characteristics and Conditions

Greensboro drains into the Choptank River Basin which is a State-designated 6-digit watershed. State designated 8 digit watersheds (subsets of the 6-digit basins) within the Choptank Basin include the Tuckahoe River, Upper Choptank, and Lower Choptank Watersheds. 58% of Caroline County including the Town of Greensboro is located in the Upper Choptank Watershed.

The Upper Choptank River Watershed covers approximately 118,000 acres of land in Caroline County. Land use within the Caroline portion of the watershed is predominantly agriculture (59 percent), followed by forest (29 percent), urban land (8 percent), and wetlands (3 percent). As of 2005, the largest source of nitrogen in the Choptank River Basin was agriculture (70 percent). Agriculture was also the largest contributor of phosphorus (62 percent)and sediment loads (85 percent). In 2007, agricultural land contributed more than two-thirds of the total nutrient loads in the Basin.

A significant portion of the land in the Basin is drained via public ditches that were dugdecades ago, primarily to drain land for farming. These ditches cover 368 miles, and including their buffers, occupy 70,137 acres of County land. They are generally kept clear of plants and other vegetative growth, which contributes to increased stream flows and speeds delivery of nutrients to water bodies before they have had a chance to be absorbed into the soil.

The Upper Choptank River is included on the State's 2008 Integrated Report as a Category 5 impaired water body, with increases in total nitrogen and phosphorus recorded between 2006 and 2008. Category 5 indicates that a water body is impaired and an assignment of Total Maximum Daily Loads (TMDL) for nitrogen and phosphorus is needed, but not yet established. The watershed has been cited for several impairments including biological, fecal coliform, nutrients and sediments. A watershed plan prepared for the Upper Choptank in 2003 recommended a number of strategies to address water quality issues; a plan update is currently scheduled and will include the establishment and funding of a long-term cover