

**Howard  
County**



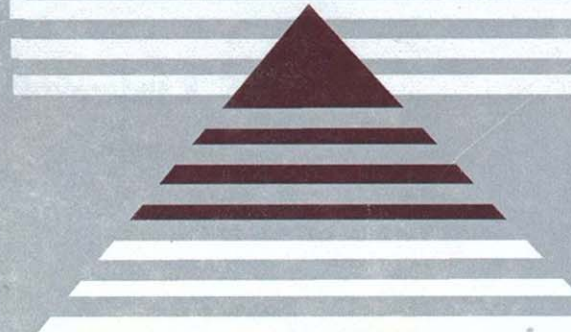
# **P** GENERAL **PLAN**

# **2000**

# **Adopted**

James N. Robey,  
County Executive

November 8, 2000





# General Plan 2000

*... a six point plan for the future.*

November 8, 2000



HOWARD COUNTY OFFICE OF THE COUNTY EXECUTIVE  
3430 Courthouse Drive ■ Ellicott City, Maryland 21043 ■ 410-313-2013

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James N. Robey, County Executive

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November 8, 2000

Dear Citizens:

I am pleased to present Howard County's blueprint for the future – General Plan 2000, which examines the issues that are most likely to influence our County over the next 20 years. This document enables us to be proactive in establishing our policies and taking actions that best respond to the County's future needs and opportunities. General Plan 2000 will guide County decision making in a wide range of areas. It is the basis for decisions relating to development, land preservation, environmental protection and community conservation. It also establishes official housing, population and employment forecasts which are used by County and State agencies to define service and budget needs.

General Plan 2000 reflects recommendations made by the General Plan Task Force, the citizens who attended public meetings held by the Planning Board and County Council, and suggestions sent by mail and e-mail. In response to your ideas and concerns, my administration and the County Council worked cooperatively to refine this document into the adopted General Plan 2000 presented here.

As in all business your government conducts, the opinions you have about the way the General Plan 2000 will be implemented are important. There will be many opportunities for public input on the various legislative, budget, and planning initiatives necessary for us to accomplish the policies we have set forth here to guide Howard County into the future. I encourage you to take the opportunity to express your views as we move forward.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. N. Robey', written in a cursive style.

James N. Robey  
County Executive



# Howard County Council

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November 8, 2000

Dear Howard County Resident:

The 2000 Howard County General Plan is the product of over eighteen months of effort by local government, citizens, and businesses representing a major shift in the direction of planning for the future of Howard County and Howard County communities. This plan acknowledges the need to plan for a maturing, rather than developing, county.

Shaping of the 2000 General Plan was propelled by issues of communities as they age, re-development rather than development, conservation rather than growth. The plan also recognizes our changing demographics, particularly the need to accommodate a growing senior population which wishes to remain an active part of Howard County. Most importantly, this plan clearly affirms the principle and importance of the role of community in implementing the policies of the 2000 General Plan.

On behalf of the County Council, it is with a great deal of pride and satisfaction that I join the County Executive in presenting the blueprint for Howard County for the next 20 years.

Sincerely,

Mary C. Lorsung  
Chairperson





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**County Council  
of Howard County, Maryland**

**Council Bill No. 45**

**2000 Legislative Session**

**WHEREAS**, the Howard County Department of Planning and Zoning prepared a 2000 General Plan for Howard County following guidelines promulgated by the Planning Board and adopted by the County Council in Resolution 135-1999; and

**WHEREAS**, the 2000 General Plan includes, but is not limited to policies and action plans for land use, regional coordination, transportation, the farm economy, solid waste, and the environment; and

**WHEREAS**, the Planning Board held a hearing on the proposed 2000 General Plan on May 8, 2000 and issued its recommendations on June 29, 2000; and

**WHEREAS**, the County Executive has submitted to the County Council a Proposed 2000 General Plan for Howard County, consisting of the 2000 General Plan as reviewed by the Planning Board.

**BE IT ENACTED** by the County Council of Howard County, Maryland this 8th day of November, 2000, that the 2000 General Plan for Howard County, Maryland as attached hereto and incorporated herein is hereby adopted as the General Plan for Howard County.

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# Introduction

## Context

The County's last General Plan was written in the context of the late 1980s, when Howard County's growth rate was the most rapid in the State. The County lacked the growth management tools used in many neighboring jurisdictions and could not build new schools and road improvements fast enough to serve the increase in population. The agricultural land base was shrinking rapidly, threatening the survival of the farm industry and the western County's rural landscapes.

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*We are stewards of the County's social, economic and environmental systems.*

---

Rather than merely updating previous plans, the 1990 General Plan called for a new approach to growth management and stressed that key actions had to take effect quickly if the County were to maintain some control over its future. The 1990 General Plan was very ambitious, presenting more than 300 specific recommended actions. Many of these have been implemented, including the Adequate Public Facilities Ordinance and Development Monitoring System, cluster zoning in the Rural West and Mixed Use Development Districts in the East, an excise tax to fund road improvements, rezoning to provide a better balance of employment uses and various types of housing, and many other initiatives. Some actions recommended in the 1990 Plan have been only partially implemented or have not yet been addressed by the County.

General Plan 2000 provides continuity with the 1990 Plan and, in fact, retains many *Policies and Actions* that remain relevant. However, it also presents a shift in focus for County planning. The County no longer has the supply of raw land that supported the rapid growth rates of the past three decades. While the 1990 General Plan had growth management as its primary emphasis, General Plan 2000 focuses on the County's transition from a rapidly growing jurisdiction to a "maturing" County. Policies for housing and



employment growth, agricultural preservation and environmental protection are refined. However, the County's land use patterns are largely set. The next twenty years will see the build-out of this pattern and a shift toward renovation and redevelopment of older properties.

## **State Planning Mandates**

The State of Maryland has become increasingly active in establishing State-wide policies for land use planning and resource protection. Two key packages of legislation enacted during the 1990s influence local planning.

The Maryland legislature passed the Economic Growth, Resource Protection, and Planning Act of 1992 (the 1992 Planning Act) as an outgrowth of two documents prepared in response to concerns over the declining health of the Chesapeake Bay. The first document was the 1987 Chesapeake Bay Agreement, signed by Maryland, Virginia, Pennsylvania, the District of Columbia, the Chesapeake Bay Commission and the US Environmental Protection Agency. The second document, the 1988 report on Population Growth and Development in the Chesapeake Bay Watershed to the Year 2020 (the 2020 Report), contained recommendations for local governments to adopt new policies toward growth, development and environmental protection.

The 1992 Planning Act includes seven visions to guide growth management throughout the State. During the 2000 legislative session, the General Assembly approved an eighth vision. Local jurisdictions must incorporate these visions into their comprehensive plans. The 1992 Planning Act also mandates that local plans include a sensitive areas element and encourage regulatory flexibility and innovation. The eight visions of the amended 1992 Planning Act are:

1. Development is concentrated in suitable areas;
2. Sensitive areas are protected;
3. In rural areas, growth is directed to existing population centers and resource areas are protected;
4. Stewardship of the Chesapeake Bay and the land is a universal ethic;

5. Conservation of resources, including a reduction in resource consumption, is practiced;
6. To assure the achievement of paragraphs 1-5, economic growth is encouraged and regulatory mechanisms are streamlined;
7. Adequate public facilities and infrastructure under the control of the county or municipal corporation area are available or planned in areas where growth is to occur; and
8. Funding mechanisms are addressed to achieve these visions.

In 1997, the Maryland General Assembly adopted several related programs which together form the Smart Growth and Neighborhood Conservation initiatives (**Box 1-1**). Collectively, these initiatives aim to direct State resources to revitalize older developed areas, preserve some of Maryland's valuable resource and open space lands, and discourage the continuation of development sprawling into rural areas. The centerpiece of the Smart Growth initiatives is the "Priority Funding Areas" legislation, which limits most State infrastructure funding and economic development, housing and other program monies to areas that local governments designate for growth. To spur preservation of undeveloped land, the Rural Legacy Program provides financial resources for the protection of farm and natural resource lands.

These State mandates have not required major changes in Howard County's land use policies and plans. The 1990 General Plan incorporated key goals of the 2020 Report, so the County was the first in Maryland to have a General Plan in compliance with the 1992 Planning Act. However, the visions of the 1992 Planning Act and the Smart Growth programs have strongly reinforced the County's policies of directing most growth and related services to the Planned Service Area in the East and preserving farmland and rural character in western Howard County.

## **Howard County's Six Visions**

The central theme for this General Plan, cited at the beginning of this Introduction, is that we are stewards of the County's social, economic and environmental systems. All those who have a stake in the County, includ-

**Box 1-1****Maryland's Smart Growth and Neighborhood Conservation Program****Smart Growth Goals**

The Maryland Smart Growth and Neighborhood Conservation initiatives have three goals:

- To save our most valuable remaining natural resources before they are forever lost,
- To support existing communities and neighborhoods by targeting State resources to support development in areas where the infrastructure is already in place or planned to support it, and
- To save taxpayers millions of dollars by not building the infrastructure required to support sprawl.

The 1997 General Assembly adopted several specific programs, which together form the Smart Growth initiatives:

**Priority Funding Areas**

The Priority Funding Areas legislation establishes a policy for the use of State funds which supports communities and influences the location of development. Projects in Maryland municipalities, other existing communities, industrial areas and planned growth areas designated by counties will receive priority for State funding over other projects. Priority Funding Areas are locations where the State and local governments target their efforts to encourage and support economic development, community revitalization and new growth.

**Rural Legacy**

The Rural Legacy Program redirects existing State funds into a land preservation program specifically designed to limit the adverse im-

pacts of sprawl on agricultural lands and natural resources. The program reallocates State funds to purchase conservation easements for large contiguous tracts of agricultural, forest and natural areas subject to development pressure, and for fee simple purchase of open space where public access and use is needed. Local governments and private land trusts have been encouraged to identify Rural Legacy Areas and to competitively apply for funds to complement existing land conservation efforts or create new ones.

**Brownfields**

Maryland's new Brownfields law limits liability for those redeveloping unused or abandoned properties that are contaminated, or perceived to be contaminated, unless they exacerbate contamination or create new pollution. The law creates a voluntary clean-up program and provides an opportunity for public participation.

**Live Near Your Work**

This program encourages employees of Maryland's businesses and institutions to buy homes near their workplace. This initiative will help stabilize the neighborhoods surrounding the State's major employers by stimulating home ownership in targeted communities.

**Job Creation Tax Credit**

Since small businesses generate the majority of new job growth in the State, this program encourages mid-sized and smaller businesses to invest in Smart Growth areas. It will encourage small business development and job growth in areas accessible to available labor pools, and will encourage more efficient use of the State's existing infrastructure.

Source: Maryland Department of Planning, [www.op.state.md.us](http://www.op.state.md.us), March 2000

ing individual citizens, businesses, community organizations and government agencies have an important role. As stewards, we seek to build sustainable communities that will meet the needs of current and future generations for environmental health, economic prosperity and social well-being. This central theme derives from sustainable development con-

cepts (Box 1-2). To accomplish this, planning policies must conserve and enhance the value of the natural and built environments. Decision-makers need to promote the County's fiscal health and recognize the needs of all County residents. All of us must undertake actions that will improve our environmental, social and economic systems.

**Box 1-2**  
**Sustainable Development**

In recent years, sustainability has emerged as a planning concept. Sustainable development was first popularized by the World Commission on Environment and Development, established by the United Nations General Assembly to study connections between the environment and development. The Committee's 1987 report, *Our Common Future*, defined sustainable development as "meeting the needs of the present without compromising the ability of future generations to meet their own needs."

As amplified by the US President's Council on Sustainable Development, sustainable development addresses the need for more collaborative, flexible and creative approaches to environmental protection and economic development, the need to integrate these goals rather than viewing them as mutually antagonistic, and the need to include social equity concerns. Sustainable development focuses on a long-term perspective, with equal and integrated emphasis on the three legs of the "sustainability stool": economic prosperity, environmental quality and community well-being. The National Association of County Officials and the US Conference of Mayors are encouraging local jurisdictions to build these concepts into comprehensive plans, community plans, neighborhood revitalization efforts and economic development programs nationwide.

Some hallmarks of the sustainable approach to planning are:

- Identifying the environmental, historic, cultural, social, economic

and other resources that make a community viable and unique.

- Seeking solutions that protect and make use of these resources while providing needed growth.
- Encouraging participation from all stakeholders in the community: residents, businesses, institutions, public officials and others.
- Seeking regional communication and cooperation.
- Arriving at solutions through consensus building and collaborative decision-making.
- Developing implementation strategies that define priorities, phasing, stakeholder responsibilities and funding.
- Using community indicators that measure trends related to quality-of-life issues to gauge progress in implementation.

Sustainable development concepts are applicable to all levels of planning. They will be especially valuable as the County faces continuing growth pressure with increasingly constrained land resources, and as the County prepares to look more intensively at maintaining and improving the quality, value and livability of its maturing neighborhoods.

Six visions for Howard County's future support this central theme and provide a foundation for the *Policies and Actions* of this General Plan. These visions, which are developed in the six major chapters of this Plan, are:

- Vision 1:** Our actions will complement State and regional initiatives in resource and growth management.
- Vision 2:** Our rural lands will be productive and rural character will be conserved.
- Vision 3:** Our development will be concentrated within a growth boundary, will be served by adequate public facilities and will encourage economic vitality.

- Vision 4:** Our communities will be livable, safe and distinctive.
- Vision 5:** Our environmental resources will be protected, used wisely and restored to health.
- Vision 6:** Our citizens will take part in the decisions and actions that affect them.

While the six visions of this General Plan are derived from the State-wide visions of the 1992 Planning Act, they also reflect Howard County's particular resources and challenges. The relationships of policies adopted in this Plan to State planning requirements and growth management policies are noted in each chapter's introduction.

## Organization of the Plan

General Plan 2000 is organized around five points or themes. These points – *Responsible Regionalism, Preservation of the Rural West, Balanced and Phased Growth, Working with Nature, and Community Conservation and Enhancement* – encompass the major issues the County will face during the next 20 years. A final chapter, *Implementation*, provides priorities for action and recommends a program for monitoring progress and effectiveness.

The traditional elements of a General Plan (for example, land use, transportation, public facilities, housing and environment) may appear several times in this Plan as topics of discussion within two or more of the major themes. This format makes it easier to recognize the interrelationship of these traditional elements. If an element such as transportation is discussed separately, it can become divorced from its relationship with other ele-

ments. The intent of this Plan's format is to better integrate related issues.

Much of the organizational structure of the 1990 General Plan is retained in General Plan 2000. This provides continuity and also helps to highlight the differences. The themes of Balanced Growth and Phased Growth from the 1990 General Plan are combined in this Plan, since many of the 1990 Phased Growth recommendations – for example, the Adequate Public Facilities Ordinance, the Development Monitoring System and the excise tax for road improvements – have been implemented. Many of the schools, roads and transit improvements noted as needed in the 1990 Plan have been implemented or are in the planning stages.

Additional background material and data related to the topics discussed in this General Plan can be found in a series of Issue Papers published by the Department of Planning and Zoning in 1999 and in the General Plan Guidelines adopted by the County Council on October 4, 1999.

# Responsible Regionalism

## Introduction

Howard County's relatively small size and its location between two major metropolitan areas makes examination of our regional context extremely important (Map 2-1). Howard County is part of a dynamic regional economy, transportation network, agricultural land base and natural resource system. The County is affected by regional trends and conditions which do not heed political boundaries. The County is influenced by the decisions of neighboring jurisdictions and, in turn, influences its neighbors and the region.

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***Vision 1:***  
*Our actions will complement State and regional initiatives in resource and growth management.*

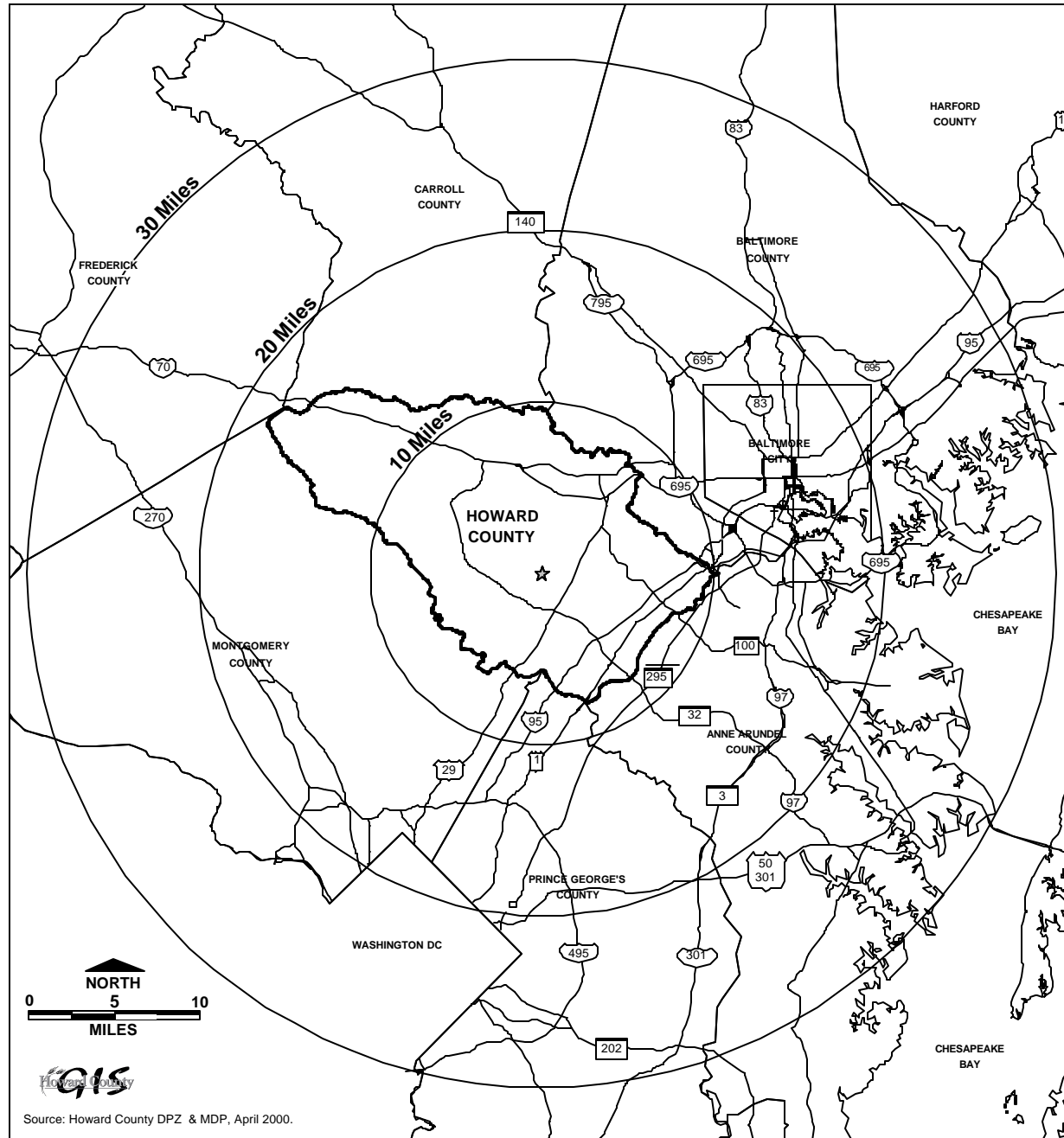
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This chapter focuses on policy decisions and actions that have ramifications beyond the County's borders. Howard County will work with neighboring jurisdictions and regional organizations on a variety of issues raised in this Plan. However, three major regional coordination goals are especially important to the General Plan vision cited earlier:

**Manage growth and preserve rural lands.** Howard County's Planned Service Area boundary for public water and sewer is also the County's growth boundary. By maintaining the current planned growth boundary, Howard County will reinforce State-wide growth management efforts. Farmland preservation in the Rural West will help establish a critical mass of preserved farmland in central Maryland.

**Enhance regional transportation planning and programs.** Regional transportation planning and programming are essential to the implementation of transit services and road improvements needed to sustain economic growth and the quality of life. The nature of these efforts will strongly influence the potential for regional air quality improvements.





**Howard County**  
M A R Y L A N D  
**General Plan**  
**2000**

**Map 2-1**  
**Regional Context**

**Protect water resources.** Regional cooperation is necessary to protect water resources, including the Chesapeake Bay, the Patuxent and the Patapsco Rivers and their tributaries, and the reservoirs which provide the public water supply for Howard County and neighboring jurisdictions.

## State Planning Mandates

Maryland's 1992 Planning Act provided common goals for local plans across the State. The Smart Growth program broadened the scope of State-wide planning goals, recognizing the impact of regional growth patterns on the natural environment and also on the health and vitality of existing communities. This General Plan calls for strengthening existing communities and encouraging compatible infill development and redevelopment in the East, goals that will enable Howard County to absorb some of the regional growth pressure where it can be appropriately accommodated.

## Land Use

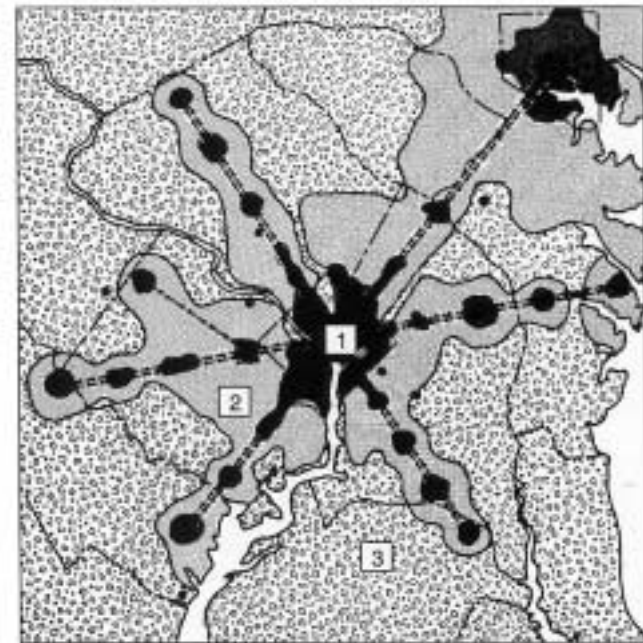
### History of Regional Growth Patterns

After the second World War, the counties immediately surrounding Washington and Baltimore saw a great surge of outward growth. Jobs followed people, and soon the beltway communities rivaled their downtowns as employment centers. These close-in counties were, for the most part, unprepared to respond to the growth surge, and planning for infrastructure and services was generally inadequate even though the pace of their growth had moderated by the 1970s.

In the mid-to-late 1970s, when the effects of this massive growth were clearly apparent in newly-congested roads and development of farmland, some of these counties took the first steps towards growth management. These steps took the form of more restrictive zoning, the development of adequate public facilities ordinances (which typically required that schools and roads have capacity to accommodate development) and the adoption of

master plans to guide growth. A precursor of many later master plans and growth controls was the landmark General Plan for the Physical Development of the Maryland-Washington Regional District, published in 1964 by the Maryland-National Capital Park and Planning Commission. Known as the "Wedges and Corridors" plan, it proposed radial development along the highways that would be separated by regional-scale open space large enough to sustain farming (Figure 2-1).

**Figure 2-1**  
**Wedges and Corridors**



- 1 Urbanized Area
- 2 Town Center
- 3 Open Space

Source: General Plan for the Physical Development of the Maryland-Washington Regional District, 1964.

These fledgling growth controls, the high cost and low supply of land served by water and sewer, and the continuing pressure for jobs and housing in the Washington and Baltimore regions have forced development into areas well beyond the beltways. Figure 2-2 illustrates the earlier waves of growth rising and subsiding as growth in Baltimore City gave way to growth in the outlying counties.

Improvements to the regional highway system from the 1960s through the 1990s have been key to the movement of population and job growth from Baltimore and Washington into the surrounding jurisdictions. The Washington and Baltimore beltways were constructed in the 1960s. I-95 had replaced US 1 and the Baltimore/Washington Parkway as the major north-south through highway by 1970. This road network reinforced and expanded the centrifugal pattern of movement and development occurring in the 1970s. Employment centers began to spring up along the two beltways. The extension of I-270 and I-70 to Frederick created a “golden triangle.” East-west movements became much easier, and suddenly com-

muting from Frederick and Carroll Counties to beltway employment centers became easier than ever before. Indeed, employment centers began to expand along the new radial highways. The growth of Baltimore-Washington International (BWI) Airport as an employment area and the possibility of commuting to the State capitol in Annapolis along MD 32 from Columbia and Westminster further established Howard County as the center of regional traffic patterns.

These regional highway improvements meant Howard County workers could easily commute to jobs in nearby jurisdictions. Conversely, the regional workforce had convenient access to employment centers that were developing in Columbia and along US 1 and I-95. Figure 2-3 shows that in 1990, 64% of Howard County residents commuted to jobs outside the County, being attracted almost equally to the Baltimore and Washington metropolitan regions. Of the jobs located in Howard County, only 42% were held by County residents.

### The County’s Role in Regional Patterns

The County most squarely in the path of the growth from both the Baltimore and Washington areas is, of course, Howard County. When Jim Rouse envisioned and founded Columbia in 1965, he created amidst a rural setting a sharply defined urban place meant to absorb growth within a planned framework. Howard County, astride these merging regions, assumed through the 1970s that Columbia would absorb most of the growth pressures and that its rural area would be insulated from development pressure. Nevertheless, in 1977 the County rezoned the West from one acre per dwelling unit to three acres per dwelling unit. The 1982 General Plan dramatically pulled back the 1971 planned water and sewer extension area in an attempt to further contain growth and maintain the rural landscape pattern.

The 1982 General Plan also identified some areas north, south and east of Columbia for higher density housing and expanded employment corridors along I-95, US 1, US 29 and the proposed MD 100. In addition, the State expanded its program for highways essential to through movement and, to a lesser extent, local growth. Thus, the MD 32 expansion, MD 100 and US 29 improvements were all approved during the 1980s.

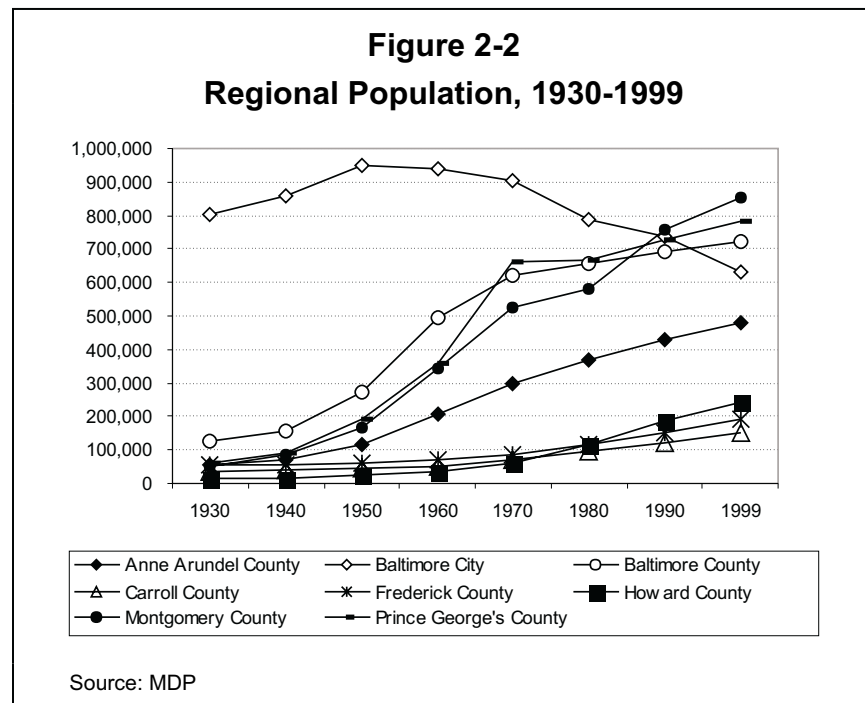
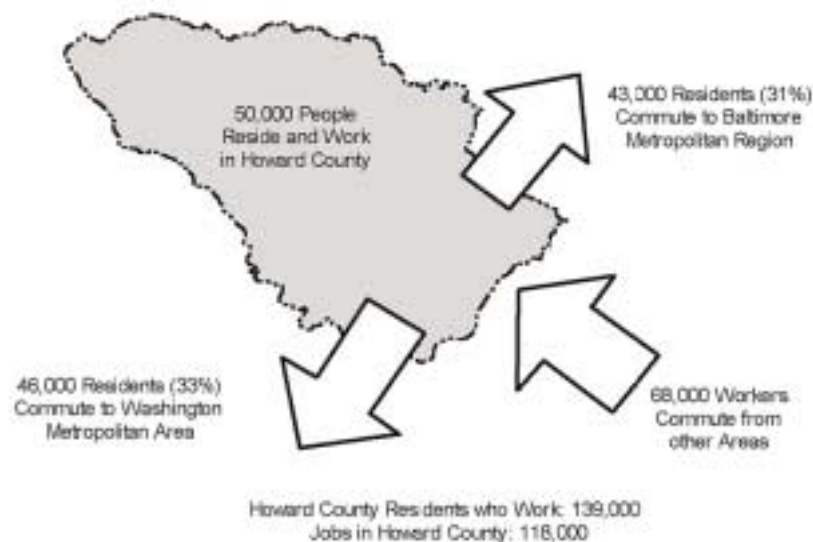


Figure 2-3

## Howard County Work Force Commuting Patterns



Source: Howard County Economic Development Authority, MD Department of Labor, Licensing and Regulations, and 1990 Census.

The approaches to growth management reflected in the 1982 General Plan were inadequate in the face of the strong pressures for development. Howard County became the development frontier of the 1980s. The increasingly stringent growth management techniques implemented in neighboring counties in the region only reinforced the attractiveness of Howard County for urban development.

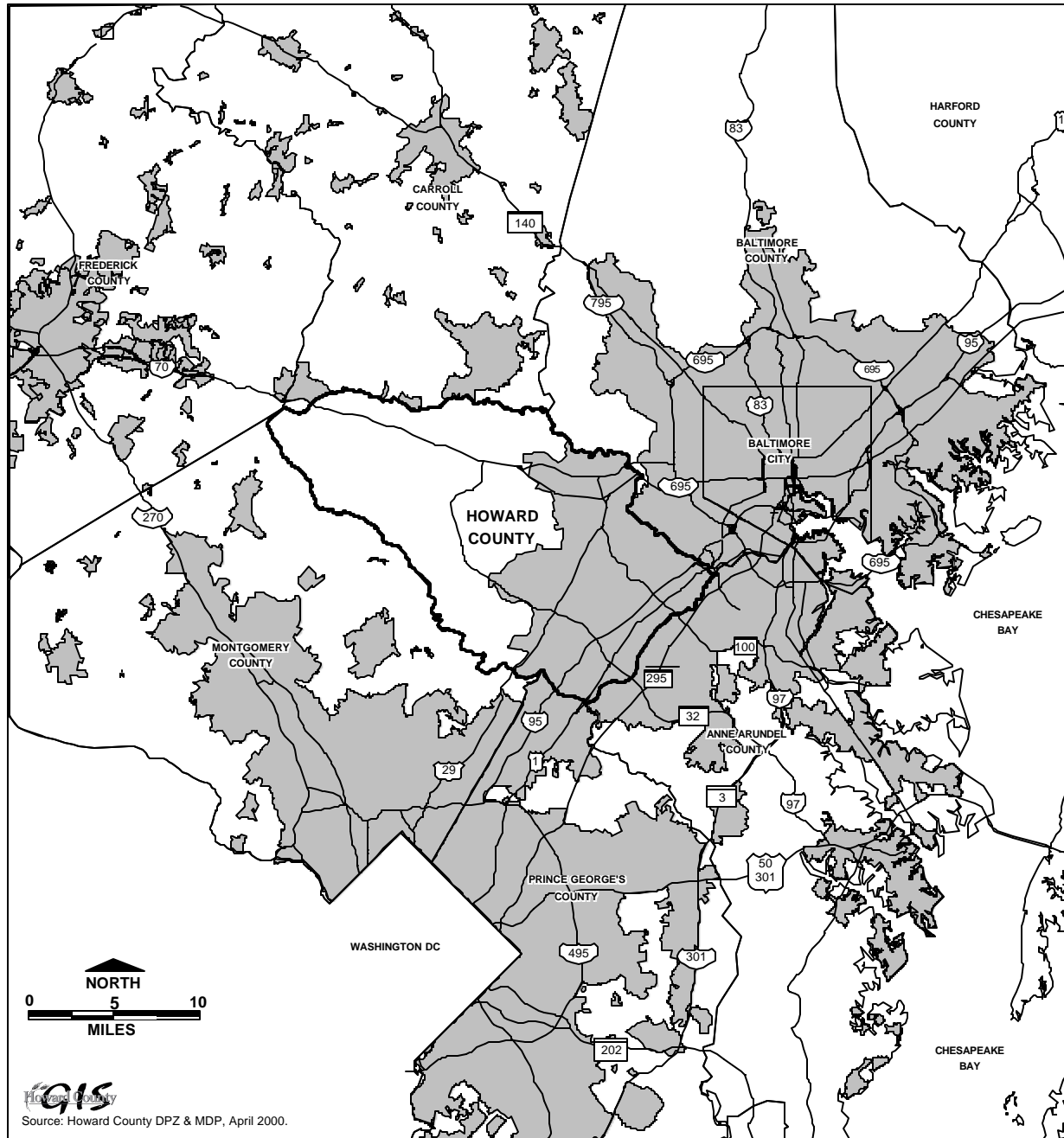
The 1990 General Plan responded to the rapid growth by recommending annual housing and employment growth targets, adequate public facilities legislation, a development monitoring system, and rural cluster and density exchange zoning in the Rural West. The 1990 General Plan also recommended creation of several major mixed use centers to absorb growth on the largest remaining parcels having good highway access.

Howard County's Adequate Public Facilities Act, adopted in 1992, has served its purpose of slowing the rapid residential growth rate of the late 1980s, assisted in part by the declining availability of undeveloped residentially zoned land. The pace of residential growth has been below the targets established by the 1990 General Plan. After the economic slowdown of the early 1990s, employment growth was strong during the remainder of the 1990s, substantially exceeding the 1990 General Plan projections. Chapter 4, *Balanced and Phased Growth*, provides more detail on recent growth.

Not only the amount, but also the distribution of growth is important to County and State-wide planning goals. The boundary of the Planned Service Area for public water and sewerage is Howard County's growth boundary. This identification was strengthened by Maryland's 1997 Smart Growth initiatives under which most categories of State spending for infrastructure and services must be targeted to "Priority Funding Areas" in each County. Howard County's Priority Funding Area is the eastern 40% of the County that lies within the Planned Service Area for both public water and sewerage.

Directing growth to the Priority Funding Areas in Howard County and adjacent counties is important to the State-wide growth management goals articulated in the 1992 Planning Act and the Smart Growth initiatives. These goals are protecting natural resources, preserving valuable resource and open space lands, discouraging sprawl and strengthening older communities. Eastern Howard County generally fits well with the Priority Funding Areas of adjacent counties and municipalities (Map 2-2). Howard County's Rural West is part of a belt of rural land that encompasses parts of Montgomery, Carroll and Frederick Counties.

Howard County succeeded in directing most residential growth to the East. During the 1990s, 86% of new housing was within the Planned Service Area, a proportion similar to that of other counties in the Baltimore region (Figure 2-4). However, during the 1990s, the proportion of units built in the sewerage service area gradually decreased (Figure 2-5), while the proportion of new housing built in the Rural West increased. Continuing growth pressures and the decreasing supply of land in eastern Howard County will reinforce this trend. Howard County must seek to reverse this trend by en-



**Howard County**  
MARYLAND  
**General Plan**  
**2000**

**Legend**

 PRIORITY FUNDING AREAS

Note: The Maryland Department of Planning has yet completed its analysis of all of the areas sho

**Map 2-2**  
**Regional Priority**  
**Funding Areas**



**Figure 2-4**  
**Baltimore Region Residential Permits Inside & Outside Sewerage Service Areas (SSA), 1990-1998**

Jurisdiction	Units Permitted	Inside SSA	Outside SSA	% Inside SSA	% Outside SSA
Anne Arundel County	29,481	26,202	3,279	89%	11%
Baltimore County	32,505	28,230	4,275	87%	13%
Carroll County	9,659	5,031	4,628	52%	48%
<b>Howard County</b>	<b>17,428</b>	<b>15,054</b>	<b>2,374</b>	<b>86%</b>	<b>14%</b>
Harford County	17,432	14,178	3,254	81%	19%
<b>TOTAL</b>	<b>89,073</b>	<b>74,517</b>	<b>14,556</b>	<b>84%</b>	<b>16%</b>

Source: BMC

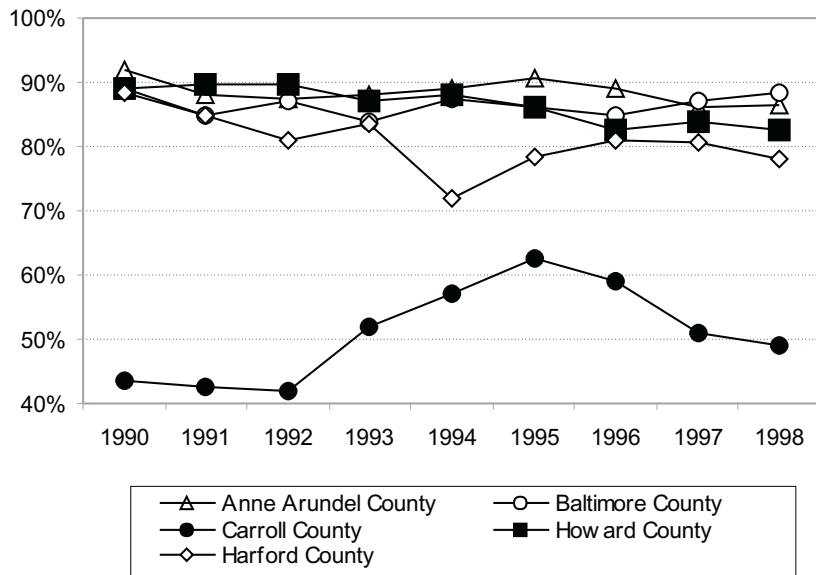
couraging infill development, revitalization and development of the areas zoned for mixed use development in the East, while purchasing additional preservation easements in western Howard County.

### Regional Demographic Trends

The region's population is increasing and becoming older and more racially diverse. International migration accounted for a larger share of the population growth in the more urban jurisdictions (Montgomery, Prince George's and Baltimore Counties and Baltimore City), while domestic migration from other areas of the United States contributed more to population growth in the less urban jurisdictions such as Howard County.

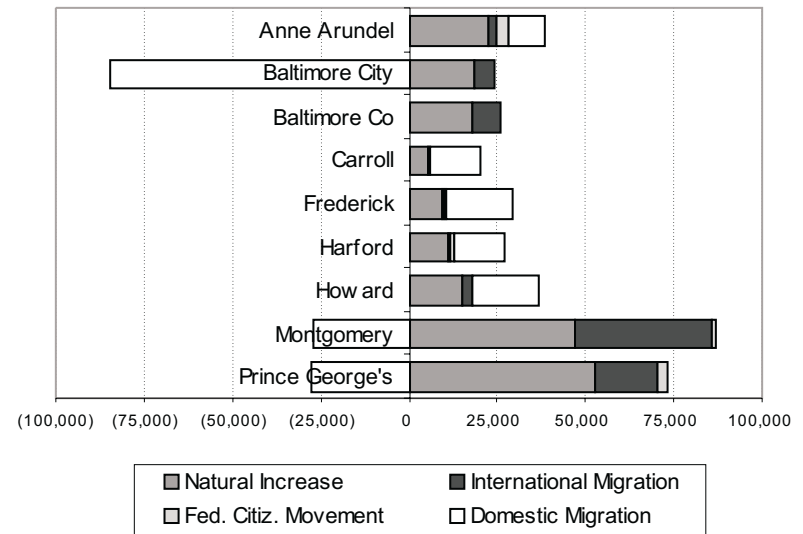
Figure 2-6 shows the components of recent population change. The largest component of population change in the region between 1990 and 1999 was

**Figure 2-5**  
**Baltimore Region Percent Residential Permits in Sewerage Service Areas, 1990-1998**



Source: MDP

**Figure 2-6**  
**Components of Regional Population Change, 1990-1999**



Source: US Bureau of the Census

**Figure 2-7**  
**Racial Mix by Jurisdiction, 1990 US Census**

<b>Jurisdiction</b>	<b>White</b>	<b>Black</b>	<b>Amer. Indian</b>	<b>Asian/Pac. Islander</b>	<b>Total</b>	<b>Hispanic*</b>
Anne Arundel County	367,502	50,700	1,309	7,728	427,239	6,815
Baltimore City	289,041	436,378	2,578	8,017	736,014	7,608
Baltimore County	589,346	85,694	1,473	15,621	692,134	8,131
Carroll County	119,487	2,939	193	753	123,372	903
Frederick County	140,363	8,039	288	1,518	150,208	1,713
Harford County	163,434	15,653	510	2,535	182,132	2,821
<b>Howard County</b>	<b>156,687</b>	<b>22,110</b>	<b>410</b>	<b>8,121</b>	<b>187,328</b>	<b>3,699</b>
Montgomery County	598,281	94,261	1,919	62,566	757,027	55,682
Prince Georges County	324,703	372,573	2,397	28,880	728,553	29,970
<b>TOTAL</b>	<b>2,748,844</b>	<b>1,088,347</b>	<b>11,077</b>	<b>135,739</b>	<b>3,984,007</b>	<b>117,342</b>
<b>Percent</b>	<b>69.0%</b>	<b>27.3%</b>	<b>0.3%</b>	<b>3.4%</b>	<b>100.0%</b>	<b>2.9%</b>

Source: US Bureau of the Census \* Hispanics may be of any race.

**Figure 2-8**  
**Racial Mix by Jurisdiction, July 1, 1998**

<b>Jurisdiction</b>	<b>White</b>	<b>Black</b>	<b>Amer. Indian</b>	<b>Asian/Pac. Islander</b>	<b>Total</b>	<b>Hispanic*</b>
Anne Arundel County	388,896	73,345	1,699	12,120	476,060	11,297
Baltimore City	204,901	430,094	2,286	8,312	645,593	8,416
Baltimore County	581,519	115,744	1,791	22,820	721,874	12,734
Carroll County	143,563	4,517	280	1,337	149,697	1,797
Frederick County	170,220	13,389	416	2,752	186,777	3,353
Harford County	185,978	23,711	712	4,267	214,668	4,802
<b>Howard County</b>	<b>185,112</b>	<b>36,410</b>	<b>606</b>	<b>14,260</b>	<b>236,388</b>	<b>6,934</b>
Montgomery County	617,462	128,694	2,534	92,189	840,879	86,804
Prince George's County	290,733	447,511	2,693	36,874	777,811	39,143
<b>TOTAL</b>	<b>2,768,384</b>	<b>1,273,415</b>	<b>13,017</b>	<b>194,931</b>	<b>4,249,747</b>	<b>175,280</b>
<b>Percent</b>	<b>65.1%</b>	<b>30.0%</b>	<b>0.3%</b>	<b>4.6%</b>	<b>100.0%</b>	<b>4.1%</b>

Source: US Bureau of the Census \*Hispanics may be of any race.

natural increase (births minus deaths) followed by migration. Most new residents moving to the region were from other countries. In Montgomery County, in particular, growth was divided between natural increase and international immigration. However, international immigration accounted for a much smaller proportion of growth in less urban counties, ranging from 7.8% in Howard County to as low as 3 to 4 % in Carroll, Harford and Frederick Counties.

After international immigration, the greatest source of population change was domestic migration between counties and states. Montgomery and Prince George's Counties and Baltimore City lost population to other jurisdictions in the United States. Howard County and Frederick County increased the most from domestic migration.

Figure 2-7 shows the regional population by race in 1990. The 1990 Census reported that 69% of the regional population was White and 27% Black. In two jurisdictions, Baltimore City and Prince George's County, the majority of the population was Black. Montgomery County had the largest Asian and Hispanic populations. Since 1990 the region has become more racially diverse. In Howard County, both the Asian and Hispanic populations increased by more than 75% (Figure 2-8).

**Figure 2-9**  
**Regional Population by Age, 1990-1998**

Age	1990	1998	Difference	% Change
0-4	305,968	286,933	(19,035)	-6.2%
5-19	773,681	877,197	103,516	13.4%
20-44	1,731,371	1,701,790	(29,581)	-1.7%
45-64	759,145	907,241	148,096	19.5%
65+	413,842	476,586	62,744	15.2%
<b>TOTAL</b>	<b>3,984,007</b>	<b>4,249,747</b>	<b>265,740</b>	<b>6.7%</b>

Source: US Bureau of the Census

As shown in Figure 2-9, between 1990 and 1998 the region's population increased by almost 200,000 or 5%. The greatest increase among age groups was a 15% increase in persons between 45 and 65. The number of school age children increased by 6%. It is anticipated that the regional population will have a greater proportion of seniors in the future. The 1990 Census is now dated and the 1998 data are estimates. More current data will be available when the results of the 2000 Census are released.

Figure 2-10 shows the regional population estimates from 1995 to 2020.

**Figure 2-10**  
**Regional Population Increase (1,000s), 1995 to 2020**

Jurisdiction	1995	2000	2005	2010	2015	2020
Anne Arundel County	460.5	485.8	506.6	516.8	528.0	537.1
Baltimore City	692.8	625.2	615.0	605.9	605.3	604.7
Baltimore County	713.6	727.2	736.5	749.5	762.9	776.0
Carroll County	139.3	154.9	166.7	181.7	193.9	206.0
Harford County	209.1	224.7	237.6	249.4	257.4	264.8
<b>Howard County</b>	<b>218.0</b>	<b>249.0</b>	<b>279.3</b>	<b>298.0</b>	<b>304.9</b>	<b>303.5</b>
Frederick County	175.4	193.6	216.6	238.3	260.0	281.7
Montgomery County	805.9	860.0	910.0	945.0	975.0	1,000.0
Prince George's County	765.2	790.3	824.5	852.4	886.1	916.6
<b>TOTAL</b>	<b>4,179.8</b>	<b>4,310.6</b>	<b>4,492.7</b>	<b>4,636.9</b>	<b>4,773.4</b>	<b>4,890.4</b>

Source: MDP, September 1999



Between 1995 and 2020 the region's population is expected to increase by 14.5%. The population growth rate is expected to level off as the national population ages. Howard County's share of the region's population, 5.2% in 1995, is expected to slightly increase to 6.2% in 2020.

## ***Policies and Actions***

### ***POLICY 2.1: Contribute to regional growth management.***

- ◆ ***Priority Funding Area.*** Confirm that the Planned Service Area and growth projections continue to meet State Priority Funding Area requirements. Use this designation to guide State and County decision-making regarding the provision of public facilities and services.
- ◆ ***Infill and Redevelopment.*** Encourage new infill development and redevelopment, with appropriate uses and densities, within the Planned Service Area in order to absorb some regional growth in areas where public service and infrastructure can be provided.

# **Regional Coordination**

## **Regional Planning**

Numerous forums allow Howard County to share information with neighboring jurisdictions and address issues that cross county or city boundaries. These include membership in the Baltimore Metropolitan Council (BMC), transit initiatives (such as the Corridor Transportation Corporation) and several working groups that address watershed protection and water quality for the Patuxent and Patapsco Rivers.

Federal funding and data collection are tied to formal regional organizations and regional designations. Jurisdictions can have formal membership in only one regional organization. Howard County has always been designated as part of the Baltimore region. This official designation does not preclude informal participation in other regional organizations. Howard

County participates informally in the Metropolitan Washington Council of Governments (MWCOG), an organization centered on Washington, DC and its surrounding jurisdictions.

The Baltimore Metropolitan Council includes Baltimore City and Anne Arundel, Baltimore, Carroll, Harford and Howard Counties. The BMC is an important forum in sharing information, developing regional forecasts and discussing regional issues. In several areas, its impact and influence have grown over the past decade:

- **Roads.** In response to Federal transportation legislation enacted in 1991, the BMC coordinates a regional planning process which includes the local jurisdictions plus Maryland Department of Transportation, Maryland Department of the Environment and Maryland Department of Planning. A primary objective of this process is to develop a Baltimore Regional Transportation Plan (BRTP) every three years which establishes priorities for Federal and State transportation funding. The BRTP thus has a direct impact on funding roads and transit in the region. BMC serves as technical staff to the region's jurisdictions for the development of this plan.
- **Environment.** The Federal Clean Air Act Amendments of 1990 were designed to complement the transportation legislation by requiring metropolitan regions to develop transportation plans which are judged, in part, by how effectively they contribute to improving regional air quality. BMC serves as the regional forum for coordinating these processes via the BRTP.
- **Transit.** Increasingly, BMC has also taken on a major role in the development and coordination of regional transit initiatives, including the Reverse Commute and Access to Jobs programs. These programs are aimed at improving both regional mobility and regional air quality.
- **Pedestrian/bicycle facilities.** Similarly, BMC coordinates local and regional planning of facilities to serve pedestrians and bicyclists.
- **Solid waste management.** As regional facilities and programs for solid waste management become more important to most local jurisdictions, BMC's role as a forum for discussion has grown in importance. In the future, this role is likely to increase as new regional facilities or regional procurement of contracts for solid waste processing are considered.

Because of its key role in planning for roads, transit and Clean Air Act compliance, BMC's primary focus is transportation planning. However, it is also a forum for discussion on several other areas of common concern, including solid waste management, watershed protection, funding strategies for stormwater management and cooperative purchasing.

Effective regional coordination depends on the willingness and effort contributed by each individual county or city. Because of differing priorities and resources, the level of participation in the BMC and other regional forums varies among member jurisdictions. Howard County needs to continue to commit leadership and resources (including information and staff time) to improve the quality of regional planning efforts.

The Metropolitan Washington Council of Governments (MWCOG) includes Washington, DC and 17 surrounding jurisdictions, which are generally urban and have sophisticated planning programs. MWCOG is well-staffed and has considerable funding to support its mission. Howard County is strongly influenced by the Washington area in terms of economic development and the housing market. However, MWCOG, which focuses on two states and the District of Columbia, operates in a complex political environment that includes a more varied range of issues compared to the BMC. The BMC is Maryland based and focuses on issues that relate closely to Howard County's concerns. Because of its relatively small size and peripheral location, Howard County is not a formal member of MWCOG, but participates informally as a "fringe" jurisdiction. This allows the County to benefit from MWCOG information and interaction. Recognizing that the two metropolitan areas have many issues of mutual concern, BMC and MWCOG share forecasting and transportation data and are exploring other avenues of potential cooperation.

Two other regional organizations provide a forum for addressing issues of interest to the business communities in the Baltimore region. The Greater Baltimore Alliance (GBA) is a regional economic development organization for the Baltimore metropolitan region, including Howard County. Its primary focus is marketing the region, rather than the coordination of economic development plans. The Greater Baltimore Committee (GBC) serves as a forum for coordination of regional positions on legislation im-

pacting business concerns.

## **Interjurisdictional Coordination**

Regional organizations, such as BMC and MWCOG, focus only on those issues of greatest concern to their diverse membership. There are many other topics of interest to smaller subsets of these groups. For example, the County works with Montgomery and Prince George's Counties in watershed protection and with Baltimore City and Anne Arundel County on transit services. Howard County would benefit from fostering closer coordination with adjacent jurisdictions on other shared concerns, such as US 1 corridor revitalization, preservation of rural land and others.

Howard County has used numerous formal and informal mechanisms for coordinating with surrounding jurisdictions about issues that are of common concern. It is frequently easier, more efficient and more effective to work with one or more jurisdictions to address a specific concern than it is to resolve issues via the large metropolitan organizations.

- **Land Use.** A Memorandum of Understanding, signed by Howard County, the City of Laurel, and Montgomery, Prince George's, Anne Arundel, Carroll and Frederick Counties, establishes an agreement to enhance communications about planning issues that cross jurisdictional lines. This is accomplished via notification to signatories about new policies, plans and regulatory cases or capital projects meeting certain criteria, as well as through periodic meetings of planning department representatives.
- **Transportation.** Howard County participates in a number of interjurisdictional transit initiatives that respond to joint needs, including the Corridor Transportation Corporation (with the City of Laurel and Prince George's and Anne Arundel Counties), the Spirit Shuttle and a new service between the Clarksville park-and-ride lot and the National Security Agency (in Anne Arundel County), and Reverse Commute (with Baltimore City).
- **Environment.** Coordination of water quality protection and watershed planning includes the Patuxent River Commission, the Patapsco/Back River Tributary Strategy Team, the Patuxent Reservoirs Watershed Protection Group and the Baltimore Reservoirs Technical Group.

Increased cooperation with all of the adjacent jurisdictions is desirable. However, enhanced communication with the City of Laurel and Montgomery and Prince George's Counties is particularly desirable as a means of balancing the County's more informal ties to the Washington area with the County's considerable involvement in the Baltimore region. For example, transit connections and US 1 corridor revitalization are two issues that offer opportunities to develop and implement joint solutions that are effective and that help strengthen ties between the Baltimore and Washington regions.

### ***Policies and Actions***

***POLICY 2.2: Provide leadership to advance coordination between neighboring jurisdictions and improve the effectiveness of regional organizations.***

- ◆ ***Baltimore Metropolitan Council.*** Continue active participation in the Baltimore Metropolitan Council (BMC). Provide leadership and encourage a higher level of member commitment to provide data and staff for key forecasting and transportation planning responsibilities in order to enhance the quality of BMC forecasting and decision-making. Encourage the BMC directors (county executives and mayors) to define a consistent standard for member staff participation.
- ◆ ***Metropolitan Washington Council of Governments.*** Continue informal participation in the Metropolitan Washington Council of Governments to help ensure that relevant information is exchanged and, where appropriate, that the Baltimore metropolitan or "Washington fringe" perspective is raised.
- ◆ ***Interjurisdictional Collaboration.*** Expand collaboration with neighboring jurisdictions on land use, economic development, transportation, agricultural and environmental issues of mutual concern.

## **Regional Transportation**

### **Land Use and Highway Traffic**

Building upon the regional farm-to-market travel patterns that evolved through the nineteenth and early twentieth centuries, the modern road network serving the Baltimore-Washington region was largely designed to accommodate radial patterns of land development that served commuters traveling from dispersed suburban communities to dense employment areas in the central cities. While employment has increasingly shifted to the suburbs, roadway infrastructure and transit routes have not been able to keep pace with the evolving need for cross-corridor and circumferential travel patterns.

The primary factor contributing to the traffic increases throughout the Baltimore-Washington region is the rise in the region's population and number of jobs. However, growth in traffic volumes is also due to changes in individual travel behavior, not only locally but throughout the United States. Auto ownership per household is rising, commuting trips are becoming longer, the number of two-income households is rising, and more people are doing lunch-time errands.

Except in parts of Columbia, Howard County's residential growth has occurred at lower densities than in more urban adjacent counties. However, traffic volumes in Howard County are heavily influenced by the County's location at the crossroads of several regional corridors that carry significant through traffic. Some of the travel corridors, such as I-70, I-95 and MD 32, are also major east coast and mid-Atlantic trucking routes, adding to the volume of through traffic. Through traffic comprises over half the traffic on such major highways in the County as I-70, I-95, MD 32 and MD 97 and ranges to as high as 82% of total daily traffic on some roadways.

Given the region's robust job growth and its increasingly dispersed housing, regional traffic volumes and congestion are anticipated to continue increasing. While Howard County has not yet experienced traffic congestion on the scale of some of the surrounding counties, the latest Baltimore Regional Transportation Plan (BRTP) indicates that several of the region's

transportation corridors most in need of improvement are in Howard County. Congested regional corridors projected for the year 2020 include portions of I-70, I-95, US 40 and MD 100 in Howard County (Map 2-3). The BRTP anticipates that congestion will occur despite significant investments in highways, transit and other transportation programs. Major improvements to relieve congestion on the interstate highways are not projected to occur for many years. Regional traffic congestion, therefore, is a problem that may not be solved, but only better managed, during the lifetime of this Plan.

Currently, roads in Howard County accommodate slightly over one million vehicle trips per day traveling into, out of, through and within the County, based on data provided by the BMC. While most of these trips begin or end

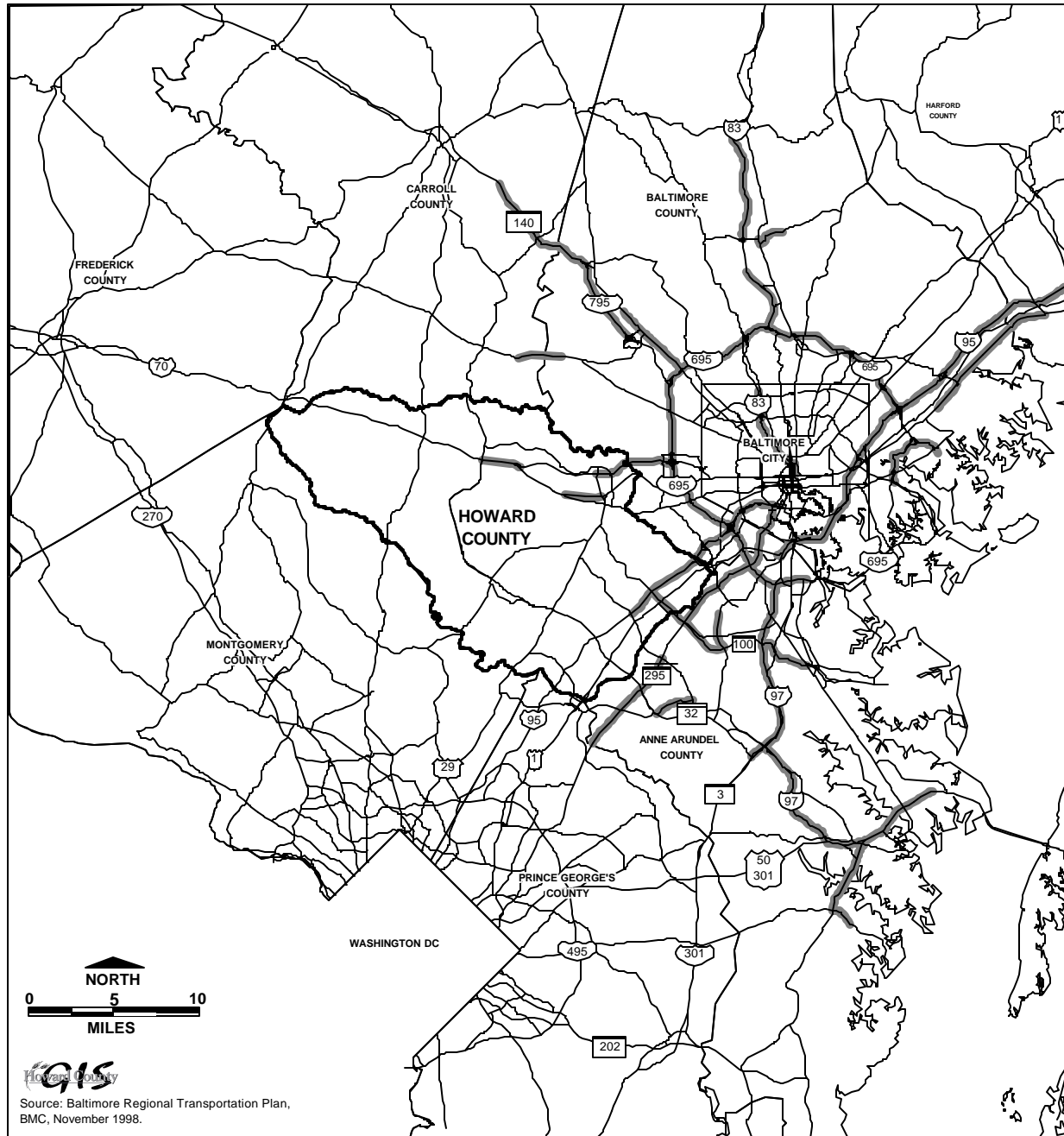
in Howard County, about 164,000 trips or 16.1% represent through traffic. By the year 2020, the number of total vehicle trips in the County is projected to increase by slightly under 28% to 1.3 million trips per day, while the through trip component is expected to increase by over 37% to more than 225,000 trips per day. Map 2-4 shows the projected growth in through traffic on some of the major commuter routes in Howard County.

These through trips will be a significant source of traffic growth on the major State roads such as I-95, I-70, US 29, MD 97, and MD 32. Effectively managing future traffic in Howard County, therefore, will require regional cooperation and the development of regional transportation solutions which emphasize the mitigation of congestion within the region's major commuter corridors. Box 2-1 highlights some of the ongoing regional and

### Box 2-1


#### Current Regional Transportation Coordination Efforts

- Participation with State and local jurisdictions through the Baltimore Metropolitan Council (BMC) in the development of a multimodal regional transportation plan.
- Participation with BMC in delineating a short-range regional Transportation Improvement Program that provides the required coordination for securing Federal transportation funding.
- Participation in ongoing regional planning efforts as members of such committees as the Transportation Steering Committee, Technical Committee, Travel Analysis Subcommittee, Cooperative Forecasting Committee, and Pedestrian and Bicycle Advisory Group.
- Coordination with adjacent jurisdictions on regional and bi-regional transportation issues through joint technical staff meetings with emphasis on such issues as regional transit/high occupancy vehicle (HOV) corridors (for example, I-95 and US 29), park-and-ride lots, traffic forecasting and others.
- Support for joint transportation planning efforts between the Metropolitan Washington Council of Governments (MWCOC) and BMC to better anticipate transportation issues of mutual interest. These efforts include sharing of technical information and development of a bi-regional transportation model capable of forecasting future traffic levels within both regions.
- Provision of data and ongoing coordination and review of various State Highway Administration initiatives of regional significance including the MD 32 project planning study.
- Participation in ongoing State committees such as the Maryland Bicycle Advisory Committee, the State's Comprehensive Traffic Safety Program and the Maryland Older Driver Consortium.
- Coordination through the Maryland Mass Transit Administration (MTA) on the development and expansion of transit services which connect Howard County to the surrounding region.
- Coordination through MTA, BMC and MWCOC of a bi-regional carpool matching program.



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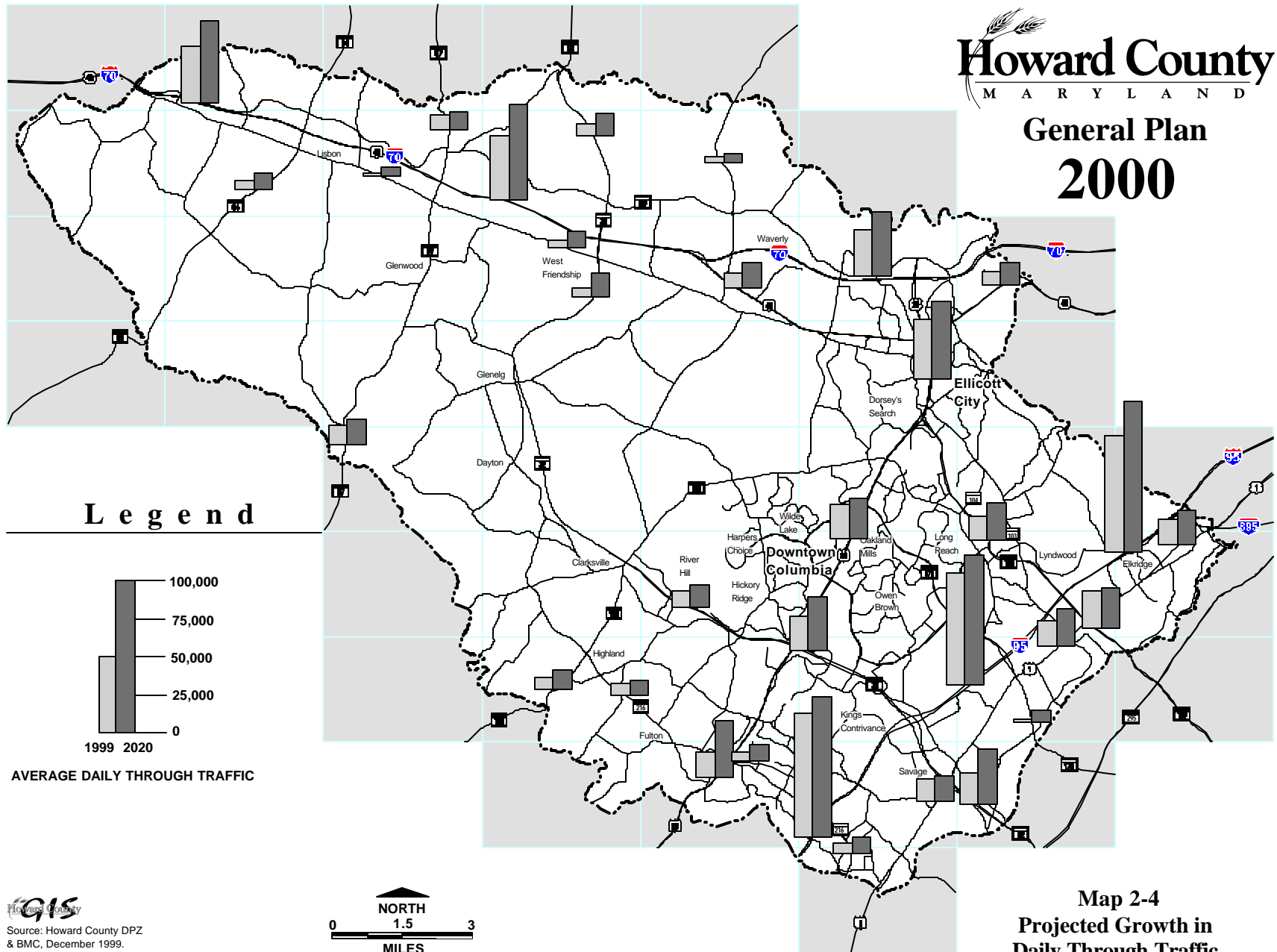
**Legend**

 PROJECTED CONGESTED ROAD  
 (LEVEL OF SERVICE E AND F)

\*Note: Map shows Baltimore region highway analysis only, Washington region does not provide data on year 2020 congestion. Baltimore Regional Transportation Plan (BRTP) is expected to be updated in FY 2001. Congestion projections take into account improvements listed in the BRTP.

**Map 2-3**  
**Projected Regional**  
**Highway Congestion, 2020**

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interjurisdictional transportation planning efforts in which Howard County participates that must be continued and strengthened if Howard County is to adequately address future regional transportation demands.

## **Transit and Related Strategies**

Public transportation currently plays a relatively minor role in accommodating the County's transportation needs, providing for less than 2% of all trips. This is due to the wide geographic dispersion of trip origins and destinations, high automobile ownership levels and limited transit service availability.

Because of the County's strong job growth over the last decade, Howard County has one of the lowest unemployment rates in the State and, indeed, the nation. Meanwhile, Baltimore and Washington have areas of consistently high unemployment. The regional imbalance between the available labor force and available jobs is expected to result in added demand for commuting into Howard County from the Baltimore and Washington areas. It is expected that Howard County employers will continue to have difficulty finding employees to fill entry level and lower skilled jobs, while relatively high housing prices in the County preclude much of the eligible work force from living in Howard County. As a result, the demand for regional public transportation to bring workers into the County and for local public transportation to carry these workers from major transfer points to job sites is expected to increase.

Improved transit and related strategies are often cited as the best response to Howard County's traffic congestion. Buses, highway lanes dedicated to high occupancy vehicles (HOV), light rail and commuter rail extensions are ways to improve regional mobility. Combinations of these options must be explored and implemented over the next two decades despite their relatively high cost and need for public subsidies. Based on experience in other metropolitan regions with similar land uses and residential densities, however, these strategies are likely to divert at most 5% of trips from highways on a daily basis and perhaps 10% of trips during peak periods.

Nonetheless, transit use in the Baltimore-Washington region does marginally reduce the need for added highway capacity improvements and causes

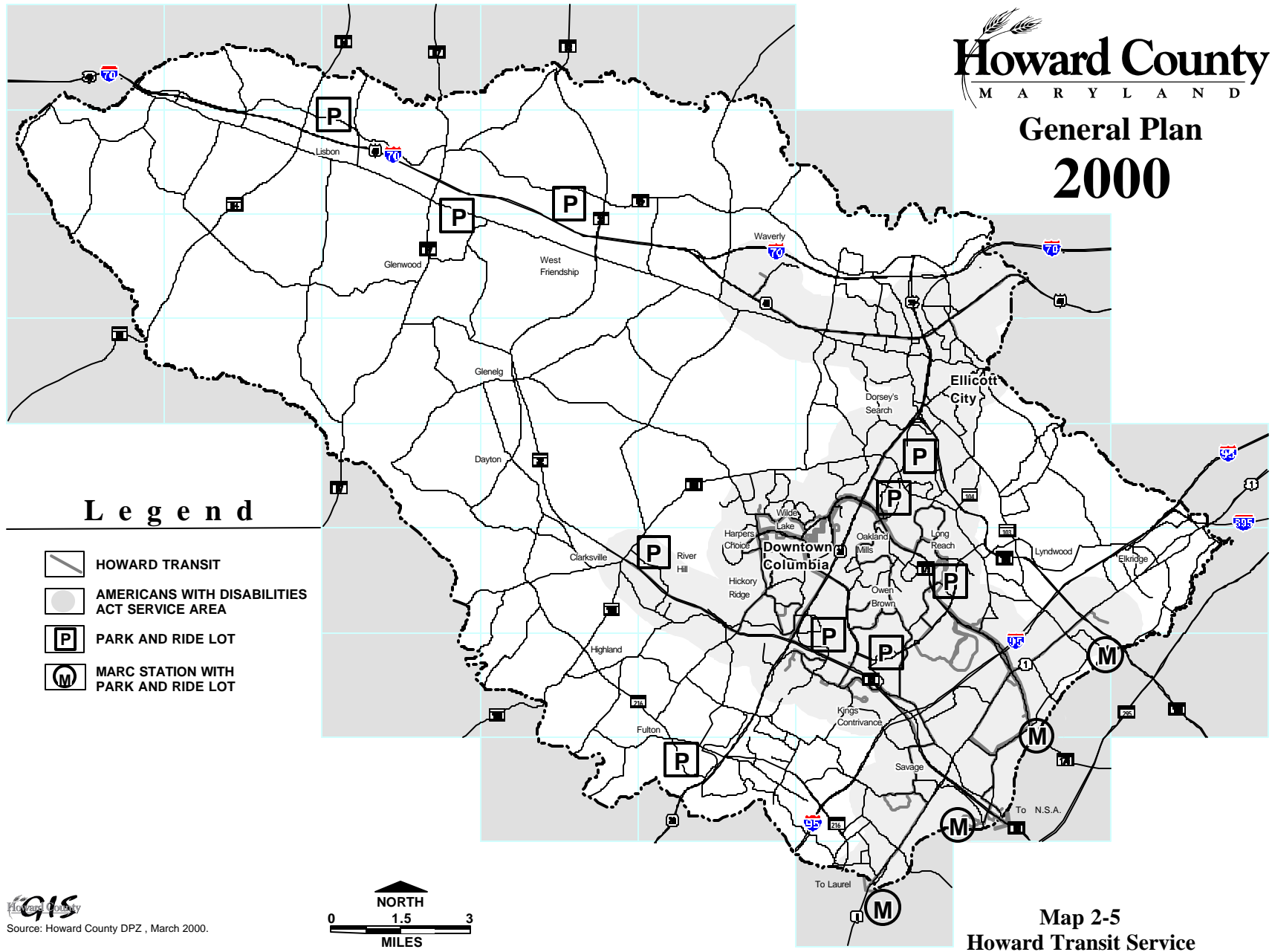
less air pollution than if these trips were made in single occupant automobiles. As efforts to improve air quality nationally and in the Baltimore region intensify, implementation of transit, ridesharing and other related strategies will become increasingly necessary.

Maryland Rail Commuter Service (MARC) and Mass Transit Administration (MTA) bus service together provide the regional transit system serving Howard County. These services operate predominantly along radial corridors fanning out from downtown Baltimore and Washington. As such, they do not adequately address the cross-corridor and circumferential travel patterns which increasingly typify suburban commuting demand. There are many areas of the County and region that are not served at all by these services and other areas for which a typical commute can only be accomplished through multiple transfers and circuitous, time-consuming travel. MTA has been constrained from expanding services due to a State-legislated 40% farebox recovery requirement for the system. The General Assembly reduced the farebox recovery requirement to 40% in the spring of 2000. Hopefully, this amendment will allow the MTA more flexibility to test new service options.

Howard County's Howard Transit (formerly Howard Area Transit Service or HATS) fixed route bus service attempts to at least partially address these needs by serving as a feeder/distributor service connecting to the regional bus and rail services ([Map 2-5](#)). Howard Transit routes are structured to use rail stations and park-and-ride lots throughout the County as major transfer points, coordinating with MTA schedules wherever possible. Laurel Connect-A-Ride serves the greater Laurel area, and its buses connect with the Columbia area to allow riders to transfer to Howard Transit buses serving the southern portion of the County. County bus service also connects with the Spirit Shuttle, a free morning and evening peak period shuttle bus service operating between the MARC rail system and employment sites in the US 1 corridor and Columbia Gateway area. Despite these coordinated efforts, significant service area gaps remain. Future transit upgrades that address these interjurisdictional travel demands should be focused within several regional travel corridors (shown on [Map 4-10](#)). Accomplishing this objective will require a series of coordinated efforts between Howard County, MWCOG, BMC, State agencies and adjacent jurisdictions.



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GIS  
 Source: Howard County DPZ, March 2000.





## **Pedestrian And Bicycle Travel**

Perhaps the most overlooked and underused modes of travel are walking and bicycling. The BMC has developed and continues to refine a proposed regional pedestrian/bicycle facilities network as part of the BRTP. Howard County participates in the Pedestrian/Bicycle Workgroup that developed this initiative. Over the past several years, the County has been successful in implementing some of the proposals in the BRTP (for example, segments of the spinal pathway system) and in filling some key gaps in the County's network of sidewalks, pathways and paved shoulders.

Bicycle and pedestrian travel in Maryland was assisted in 1995 by enactment of Access 2000 legislation by the Maryland General Assembly. This legislation prohibits the severance or supplanting of any major pedestrian or bicycle route by the State Highway Administration (SHA) unless an equivalent facility is provided. The law requires SHA to consider pedestrian/bicycle facilities in all highway projects and to provide them if requested by the local government. Other provisions include a cost sharing with local governments for retrofitting sidewalks on existing State roads and a MTA requirement that bicycle/pedestrian access to rail stations be studied and planned.

## **Intelligent Transportation Systems**

Another promising approach to address growing travel demand is known as Intelligent Transportation Systems (ITS). ITS strategies complement and enhance existing infrastructure and technologies using new telecommunication, information and remote sensing technologies. A traffic signal system, for example, can be made more effective with electronic sensing and enforcement. A freeway may not have to be widened if electronic ramp-metering can apportion peak hour traffic flow so that acceptable levels of service can be maintained on the existing roadway.

Howard County is at the forefront of a national effort to use an ITS strategy to detect and photograph motorists who run red lights. The BMC is investigating ways in which ITS technologies can be used effectively in the Baltimore region. Initially, these efforts will focus on using ITS technologies for highway incident detection, monitoring and traffic management.

## **Transportation Management Strategies**

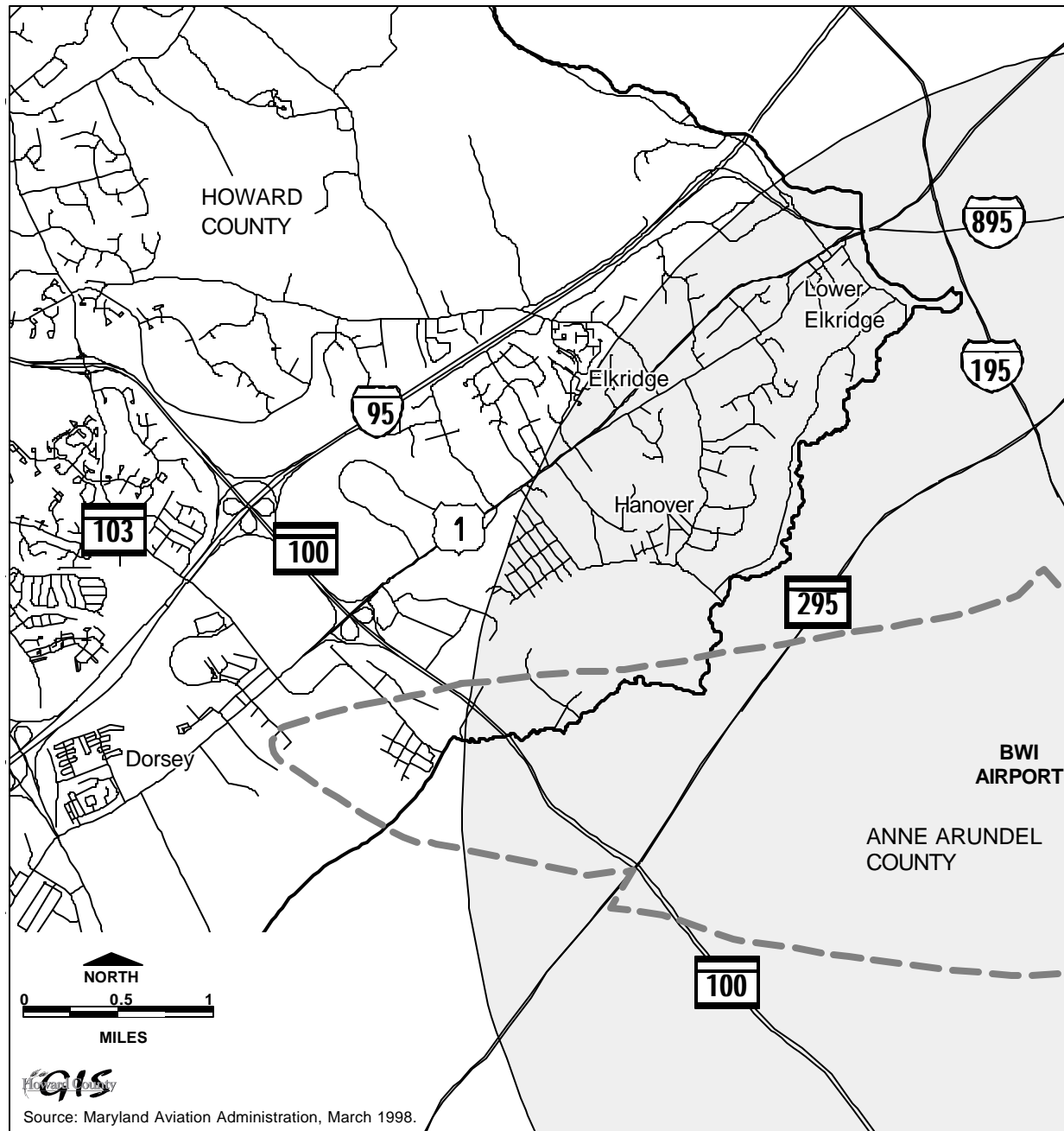
Finally, there are a number of low cost strategies such as telecommuting, ridesharing and flex-time which can each help in modestly reducing traffic congestion and improving air quality. These strategies, typically categorized as either transportation systems management (TSM) or transportation demand management (TDM) strategies, are most effective when implemented at both the local and regional levels. In most instances, TSM and TDM strategies allow the existing transportation system to function more efficiently and more cost effectively, thus increasing overall system capacity without major capital expenditure. Ultimately, a combination of many approaches will be needed to accommodate growing mobility needs and to maintain traffic congestion at tolerable levels.

## **Land Use and the BWI Airport**

BWI Airport, located nearby in Anne Arundel County, is a major traffic destination and one of the major employment centers of the Baltimore-Washington region. Significant growth of the airport is anticipated over the next five to ten years. Deregulation of the air transportation industry has dramatically increased the number of flights into BWI in recent years. Based on projections for the coming decade, air traffic will increase for both business and leisure travel. Not only will passenger traffic increase, but with a new cargo facility being added, air freight is expected to increase as well. One of the four major flight approach paths to BWI Airport extends roughly along the MD 100 right-of-way.



On an ongoing basis, the Maryland Aviation Administration (MAA) monitors noise levels in the area surrounding BWI and has established an official Airport Noise Zone (ANZ) comprised of those areas of the region falling within the 65, 70 and 75 Ldn noise level contours. Ldn is a noise level measurement system which provides a 24-hour weighted noise level average as a means of evaluating the relative impact of airport activities (primarily flight arrivals and departures) on land uses close to flight paths. MAA also regulates the height of proposed structures within a four-mile radius of the airport to avoid obstructions which may pose a hazard to aircraft. [Map 2-6](#) and [Box 2-2](#) provide details on these concepts.

The County attempts to work within the framework of the adopted 1998



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**Legend**

-  1998 CERTIFIED AIRPORT NOISE ZONE (65 LDN)
-  FOUR MILE HEIGHT RESTRICTION ZONE

**Map 2-6**  
**Baltimore-Washington**  
**International (BWI)**  
**Airport Noise Zone**

**Box 2-2**

**Baltimore-Washington International (BWI)  
Airport Noise Zone**

**The Airport Noise Zone**

The expansion of BWI Airport has been accompanied by modifications to land use regulations in the form of an Airport Noise Zone (ANZ) established and administered by the Maryland Aviation Administration (MAA). This zone is an “overlay” on local land use regulations establishing limits in addition to those in local zoning and subdivision controls. The first Airport Noise Zone and Abatement Plan for BWI was adopted in 1976. It was updated in 1998 (Map 2-6) using existing and projected noise levels based upon the expected growth in aircraft traffic and the mandated usage of new or retrofitted quieter jet engines in commercial aircraft. The Noise Abatement Plan establishes controls and restrictions on airport/aircraft operations that will minimize the impact of noise on communities surrounding the BWI Airport.

Within the BWI Airport Noise Zone, most industrial, commercial and recreational activities are permitted, but residential development and many community facilities (such as churches, libraries, schools, hospitals) are not, except for pre-existing uses. Should a developer wish to develop such uses, he must petition the Board of Airport Zoning Appeals (BAZA) showing that his proposal meets specific noise reduction standards.

**Height Restrictions**

Similarly, the height of temporary and permanent new structures within a four-mile radius of BWI is regulated by MAA. Potential non-height related “obstructions”, such as lighting, are also subject to MAA regulations.

ANZ and height restriction area. The majority of the area affected by the ANZ is zoned for employment. The County review process seeks to forewarn developers about the ANZ so they can work within MAA guidelines. Because Howard County’s zoning regulations are more restrictive with regard to height restrictions, it is unlikely that a proposed structure would be in conflict with MAA height restrictions.

The Department of Planning and Zoning, as a member of the BWI Neighbors and Environmental Committees, continues to monitor impacts that airport operations and flight patterns may have on the County and attends Board of Airport Zoning Appeals hearings for residential variance petitions within the County.

***Policies and Actions***

***POLICY 2.3: Promote coordinated planning of transportation programs and facilities of regional significance.***

- ◆ ***Baltimore-Washington Cooperation.*** Expand efforts to promote regional coordination and cooperation through various committees and the exchange of technical information, including refinements of the regional transportation simulation model to better evaluate the feasibility of bus, rail and high occupancy vehicle (HOV) options.
- ◆ ***Baltimore Regional Transportation Planning.*** Maintain an active role in the development and implementation of a multimodal regional transportation plan for the Baltimore region in cooperation with the Baltimore Metropolitan Council (BMC) and the other jurisdictions of the Baltimore region.
- ◆ ***Regional Highway Corridors.*** Encourage the Maryland Department of Transportation to expand the capacity of regionally significant commuter corridors. Use County funds to selectively leverage additional Federal and State funds to accelerate improvements for regionally important corridors in Howard County.
- ◆ ***Intelligent Transportation Systems (ITS).*** Work with BMC and surrounding jurisdictions to continue exploring the feasibility of implementing ITS strategies in the Baltimore region.
- ◆ ***Regional Demand Management Strategies.*** Promote, at a local and regional level, low cost strategies such as telecommuting, ridesharing and flex-time which can help reduce traffic congestion and improve air quality.

- ◆ **Pedestrian/Bicycle Facilities.** Continue, through the BMC, to plan for and implement pedestrian/bicycle facility improvements which emphasize expanding the regional network and filling critical gaps within the existing local network.

**POLICY 2.4: Encourage the use of public transportation, reduce private automobile usage and facilitate access to employers.**

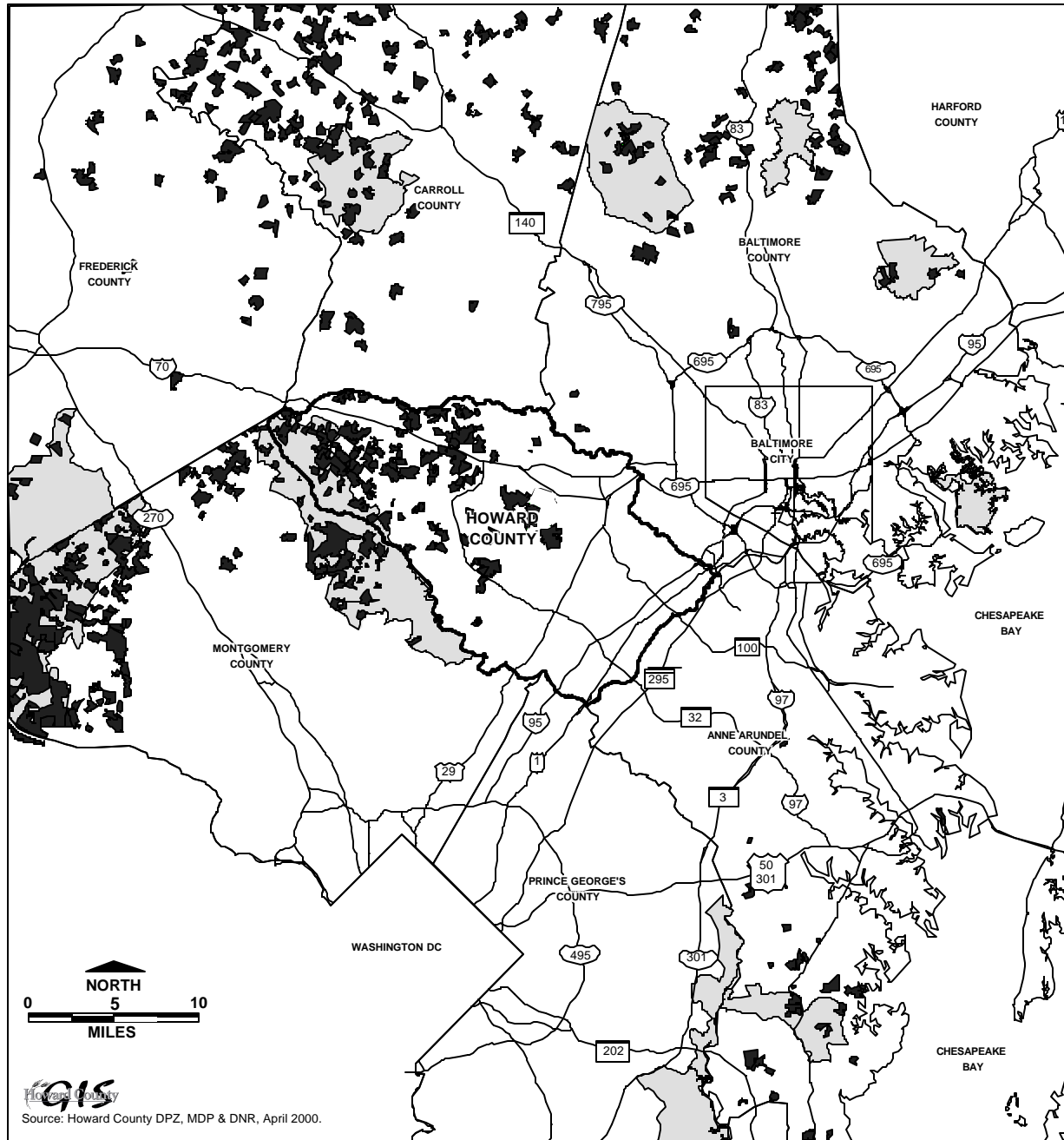
- ◆ **Improve Regional Bus Service.** Work with the Mass Transit Administration, Washington Metropolitan Area Transit Administration and neighboring jurisdictions to coordinate and implement priorities for improved regional bus service and linkage to the Baltimore and Washington transit systems.
- ◆ **Expansion of Howard Transit Bus Service.** Expand the County's bus service to selectively provide additional connections to surrounding jurisdictions and transfers to other transit systems, while continuing to strengthen the intra-County bus service.
- ◆ **Transit Corridors.** Work cooperatively with the Metropolitan Washington Council of Governments (MWCOG), BMC, State agencies and adjacent jurisdictions to promote designation of several regional travel corridors in Howard County for bus and/or HOV use and, by preserving rights-of-way, provide the opportunity for a long-term conversion to light rail corridors. Work proactively with other jurisdictions and the State to determine whether bus-only lanes and light rail in the I-95, US 1 and US 29 corridor are feasible and would provide an effective regional tool for reducing congestion.
- ◆ **Transportation Management Association.** Encourage greater participation by Howard County employers in the BWI Business Partnership, Inc., a transportation management association which serves employers in portions of Howard, Anne Arundel and Baltimore Counties.

## Regional Farm Economy

Farming in the region has undergone significant changes. Farming has evolved in response to changing economic realities (for example, high land and labor prices demand higher value per acre crops) and to changing market opportunities (for example, horticultural nurseries to supply plant materials for new residential and employment areas). A growing proportion of farms are turning to “green industry” products (nursery and turf), horses, and fruits and vegetables, while the number of traditional grain, beef and dairy farms is declining. This trend is more pronounced in areas of the region close to suburban development. More often than not, farm income is supplemented by other income and farms are operated by part-time farmers. This change in farming patterns is generally prevalent in metropolitan areas.



Howard County's farmland is part of a network of farms cutting through large portions of Carroll, Frederick, Howard and Montgomery Counties. The critical mass of farmland needed for the regional farm industry to survive is not clear. However, the permanently preserved farmland in Howard County clearly helps to provide stability and predictability for farmers and farm support businesses throughout the region. Likewise, the long-term viability of farming in the region is necessary for Howard County's farm industry. As a small county with a relatively small portion of the regional farm acreage, Howard County's farm industry depends on services located elsewhere in the region.

Each of the four counties within this farming region has zoning and easement programs in place aimed at permanently preserving farmland (Map 2-7). Land use patterns are for the most part established, but opportunities may exist for productive cooperation between Howard County and adjacent counties in identifying areas to target for easements. State farmland protection programs, in particular the Rural Legacy Program, provide counties with added resources to preserve locally and regionally significant farming areas. The Upper Patuxent Watershed has been designated as a Rural Legacy area in both Howard and Montgomery Counties, furthering the potential for linking these farmland preservation areas.



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-  STATE AND COUNTY PRESERVATION EASEMENTS
-  APPROVED RURAL LEGACY AREAS

**Map 2-7**  
**Regional Agricultural**  
**Preservation Areas**

Significant potential also exists to support and strengthen the regional farm industry through joint economic development efforts. All counties in this farming region have Agricultural Economic Development Officers. Sharing information and strategies can lead to a more complete understanding of the regional industry and of the resources available to or needed by farm operators. Cooperative efforts could lead to the establishment of regional services such as marketing cooperatives or small-scale processing facilities for local farm products.

### ***Policies and Actions***

***POLICY 2.5: Help promote regional agricultural land preservation and strengthen the regional farm economy.***

- ◆ ***Land Preservation.*** Cooperate with neighboring jurisdictions in regional land preservation initiatives that will protect and support productive farmland and rural watershed areas.
- ◆ ***Marketing and Economic Development.*** Expand regional cooperation on marketing and economic development initiatives that support agriculture.

## **Solid Waste**

Most of Howard County's solid waste has been diverted from Alpha Ridge Landfill and is recycled or exported to private out-of-state landfills. Similar waste export steps have also been taken by other jurisdictions in the Baltimore region. As jurisdictions become less able to provide locally all of the processing and disposal facilities needed for solid waste management, regional cooperation has become more important. For its long-term needs, Howard County needs to pursue regional strategies that will reduce its susceptibility to potential future changes in cost and available capacity at private waste disposal facilities.

In 1993, members of the BMC entered a Regional Solid Waste Compact to study the feasibility of regional solid waste management programs and fa-

cilities. The Compact's goals are to reduce, reuse and recycle as much waste as feasible and to develop composting and/or waste-to-energy facilities for the remainder, reserving landfills for disposal of non-recyclable, non-combustible and non-compostable wastes. This Compact produced the 1996 report, *Strategies for Developing Regional Solid Waste Management Programs*, which considers the use of facilities located both within and outside the Baltimore-Washington region.

Howard County currently participates in two regional agreements. Howard, Anne Arundel and Baltimore Counties pool yard waste for processing at a composting facility in Prince George's County. Under a second agreement, Anne Arundel and Howard Counties export municipal solid waste to a private landfill in Virginia.

Landfill disposal will become an increasingly limited option in the Baltimore region as existing landfills approach capacity and large tracts of land for new landfills become scarce or unavailable. Economies of scale and siting constraints make it far more likely that new facilities will serve the region rather than an individual county or city. New facilities could be built by private companies, such as the waste transfer station in Anne Arundel County, or by regional organizations, such as the Baltimore Refuse Energy Systems Company (BRESKO) waste-to-energy plant in Baltimore City or the yard waste composting site in Prince George's County. New facilities may also be built by local jurisdictions, such as the waste transfer station that Baltimore County operates, contracting excess capacity to other users.

If the export of waste to out-of-state landfills becomes unavailable or less cost effective in the future, regional solutions will become essential. Howard County and other jurisdictions in the region need to explore and work towards regional solutions now, to ensure that options will be available when needed.

### ***Policies and Actions***

***POLICY 2.6: Ensure that regional solutions are available for environmentally sound and cost effective solid waste management.***



- ◆ **Regional Coordination.** Continue active participation in the Baltimore Metropolitan Council's Solid Waste Management Compact, the Northeast Maryland Waste Disposal Authority and other organizations seeking regional options for solid waste management.

## Environment

Growth affects the retention of environmentally sensitive land as well as farmland. A large number of acres of woodland has been lost over the past 30 years. Until twenty years ago, wetlands were routinely filled in for development, their critical ecological functions unheeded, and runoff from tilled farms and from impervious areas flowed directly into streams and eventually to the Chesapeake Bay.

While the past two decades have witnessed strong efforts at the State and County levels to increase protection of sensitive resource areas, much damage has already been done, and incremental damage continues. Continuing to enhance existing measures to protect these resources in undeveloped areas is an ongoing challenge. The more expensive and difficult challenge of retrofitting has only recently begun.

The protection of stream valleys is a key element to preserving the water quality of the Chesapeake Bay. Howard County is bounded by two major rivers, the Patuxent and the Patapsco, which are protected as part of a State park system along most of their lengths. The main Patuxent watershed feeds the Washington Suburban Sanitary Commission (WSSC) reservoirs system which supplies water to the Washington region. Outside Howard County, other major streams are also important parts of the Baltimore-Washington regional park system. The North Branch of the Patapsco River is the basin of the Liberty Reservoir (which supplies water to Baltimore City, Baltimore, Carroll and Howard Counties). The long tradition of park planning in Montgomery County has yielded the Seneca and Rock Creek Parks and the Northwest and Paint Branch Parks within the Potomac River watershed. [Map 2-8](#) shows the mosaic of Federal, State and major County lands that have been placed in permanent protection as parks, green spaces and environmental preserves.

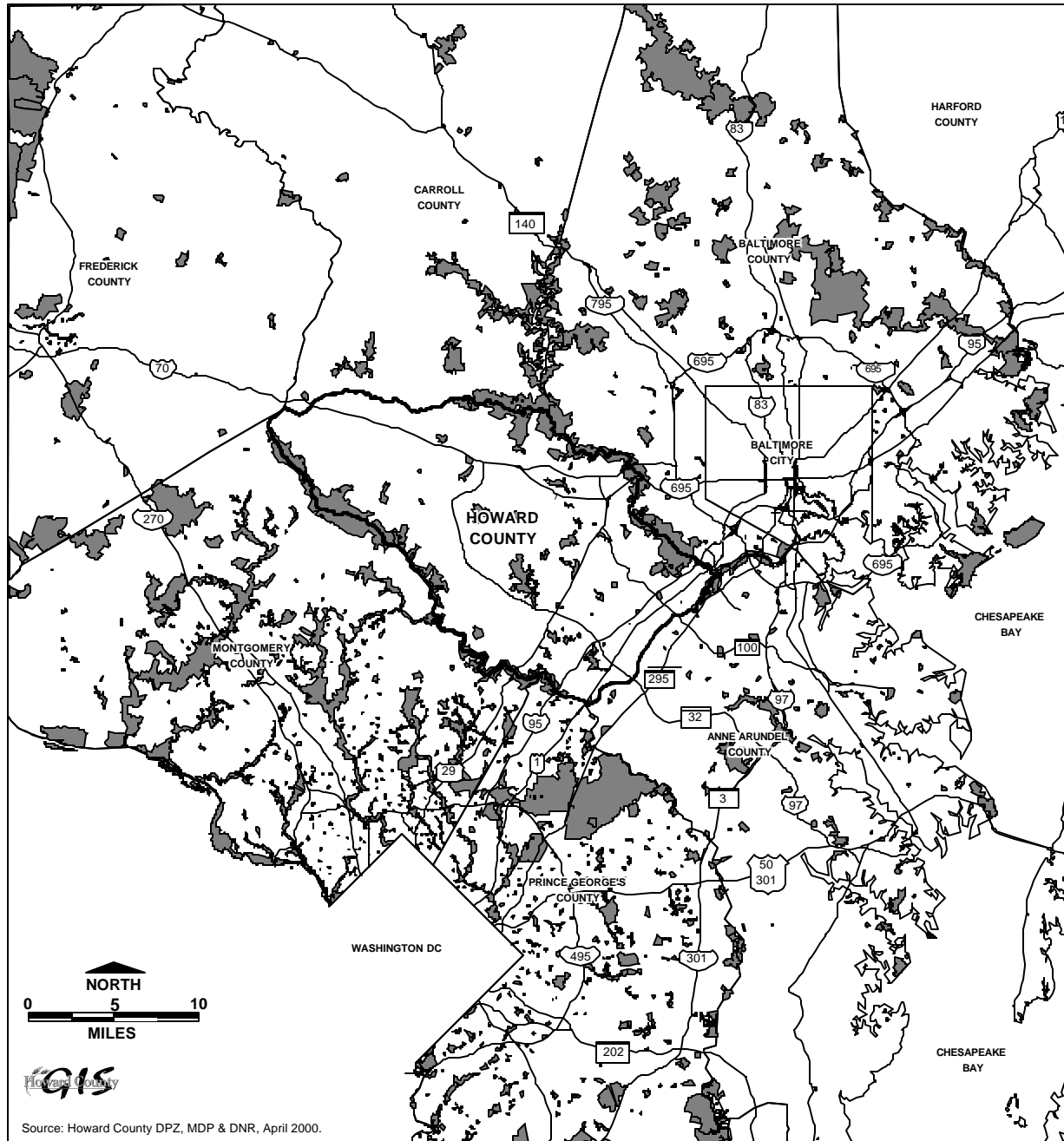
Watershed boundaries often cross jurisdictional boundaries, so protection efforts for water resources must often be coordinated on a regional basis. Howard County works with neighboring jurisdictions to protect the reservoir watersheds that supply water for our region's public water systems.

The County relies on the Baltimore City water system for the majority of its public water supply. However, the three reservoir watersheds for this system lie predominantly in Baltimore and Carroll Counties. Conversely, the County gets a small percentage of its water supply from the WSSC reservoirs along the main stem of the Patuxent, but approximately half of this system's reservoir watersheds lie within the County and the remainder lie predominantly within Montgomery County. As a result, the County participates in two regional cooperative agreements to protect these reservoir watersheds.

The (Baltimore City) Reservoir Watershed Management Agreement was signed in 1984 by Baltimore City, Baltimore and Carroll Counties, the Maryland Department of Health and Mental Hygiene (now the Maryland Department of the Environment), the Maryland Department of Agriculture, the (Baltimore) Regional Planning Council (now the Baltimore Metropolitan Council), the Water Quality Coordinating Committee and the Baltimore County and Carroll Soil Conservation Districts. Signatories to this agreement pledge to work cooperatively to prevent increased phosphorus and sediment loadings to the reservoirs and to actively reduce phosphorus loadings to the reservoirs. Howard County is a member of the organizational structure created by this agreement to coordinate protection efforts and supports this effort financially.

The Patuxent Reservoirs Watershed Protection Agreement was signed in 1996 by Howard, Montgomery and Prince George's Counties, the Howard and Montgomery Soil Conservation Districts, the Maryland-National Capital Park and Planning Commission and the WSSC. Signatories to this agreement pledge to work cooperatively to protect the long-term biological, physical and chemical integrity of the reservoirs watershed.

The County also participates in the Patuxent River Commission and the Patapsco/Back River Tributary Strategy Team. The legislatively-created Commission coordinates State and local efforts to protect and improve wa-



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 REGIONAL PARKS, GREEN SPACES AND OTHER PROTECTED LANDS

**Map 2-8**  
**Regional Parks, Green Spaces**  
**and Other Protected Lands**



ter quality and habitat within the Patuxent River watershed and acts as the Patuxent River Tributary Team. Tributary Teams, which are appointed by the Governor, coordinate State and local efforts to achieve a 40% reduction in nutrient loadings for each watershed as part of the overall goal to reduce nutrient loadings to the Chesapeake Bay.

A related environmental issue of regional importance is the discharge of treated effluent from sewage treatment plants into the region's rivers. This effluent contains nitrogen and phosphorous, and excessive nitrogen and phosphorus in the Bay's water are key factors in its degradation. Howard County has added enhanced phosphorus removal and biological nitrogen reduction to the Little Patuxent Water Reclamation Plant as a pilot demonstration project, with full implementation scheduled to be complete by 2002. The Little Patuxent plant's present capacity is 18 million gallons per day (mgd). The County plans to increase its capacity to 25 mgd by 2002, with an ultimate planned capacity of 29 mgd by 2015.

Those areas of the sewer service area not served by the County's own plant are served by the Baltimore City-owned and operated Patapsco Wastewater Treatment Plant. Howard County participates with the City, Baltimore and Anne Arundel Counties for a share of its costs and capacity.

## ***Policies and Actions***

### ***POLICY 2.7: Coordinate regional protection of water resources.***




- ◆ ***Watershed Planning and Management.*** Coordinate and cooperate with other local, regional and State agencies and organizations on joint watershed planning and management for the Patuxent and the Patapsco Rivers.
- ◆ ***Protection of the Patuxent and Patapsco Rivers.*** Urge the State to extend the boundaries of the Patuxent and Patapsco Valley State Parks through fee simple purchase of parkland or purchase of easements.

## **Summary Map**

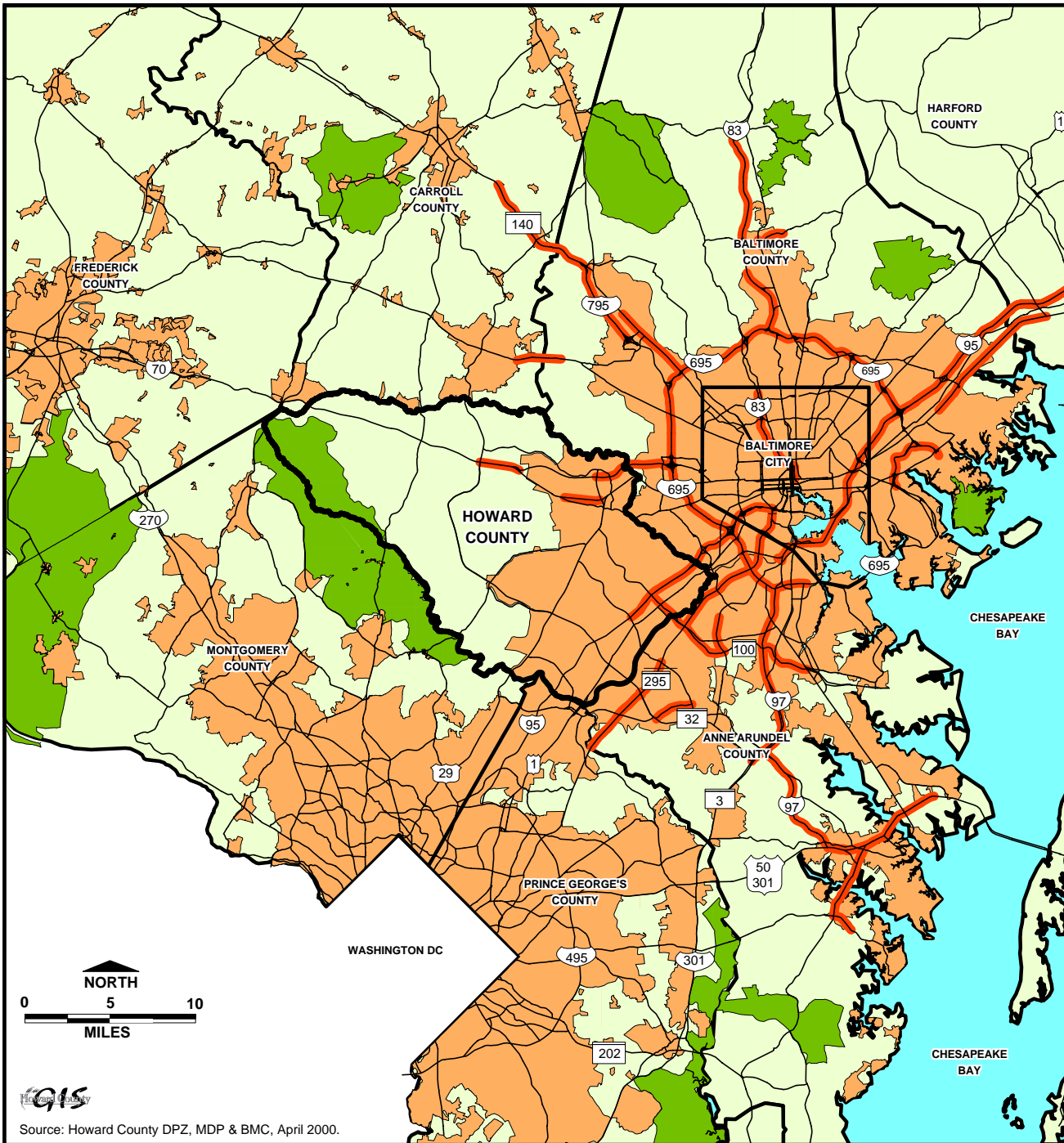
Map 2-9, titled Summary Map – Responsible Regionalism, summarizes and illustrates some of the policies and actions described in this chapter.

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-  PRIORITY FUNDING AREA
-  APPROVED RURAL LEGACY AREA
-  PROJECTED CONGESTED ROAD (LEVEL OF SERVICE E AND F) \*

\*Note: Map shows Baltimore region highway analysis only. Washington region does not provide data on year 2020 congestion. Baltimore Regional Transportation Plan (BRTP) is expected to be updated in FY 2001. Congestion projections take into account improvements listed in the BRTP.



Source: Howard County DPZ, MDP & BMC, April 2000.

**Map 2-9**  
**Summary Map**  
**Responsible Regionalism**

# Preservation of the Rural West

## Introduction

This chapter focuses on the preservation of the Rural West, the area of the County outside the Planned Service Area for public water and sewer. For three decades, County plans have recommended preserving farmland and retaining the rural character of western Howard County. Land development pressures and the decreasing supply of uncommitted land in the West contribute a sense of urgency to these recommendations.

Preservation of the Rural West benefits all County residents. The rural and agricultural areas offer green space and visual variety. Farms in the Rural West contribute to the local economy, provide local produce and offer some recreational opportunities. The land areas protected by permanent environmental easements help achieve County objectives for environmental protection.

Several goals must be pursued if Howard County's vision for its rural lands is to be realized:

**Support a diversified agricultural industry.** Stewardship of farmland and protection of rural character are feasible only if farming is economically viable. Many factors affecting the farm economy are regional,

national and even international in scope. Nevertheless, the County's economic development program, in conjunction with land use regulations that reflect current farm practices and cooperation at the regional and State levels, can play an important role in strengthening the farm industry.

**Invest in farmland preservation.** Carefully targeted purchases of farmland preservation easements are needed to consolidate blocks of the most productive remaining farmland and ensure that this important

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***Vision 2:***  
*Our rural lands will be  
productive and rural character  
will be conserved.*

---

economic and natural resource is available for future generations.

**Improve design of residential growth.** New zoning regulations adopted in 1992 require cluster subdivision design for most development in the Rural West. Cluster subdivision has allowed farmland and environmentally sensitive land to be protected. However, refinements are needed to make cluster subdivision design more effective at preserving land and more compatible with rural character.

## State Planning Mandates

Maryland's 1992 Planning Act envisions that "in rural areas, growth is directed to existing population centers and resource areas are protected." Western Howard County has no traditional small towns that can provide a focus for population growth. Following adoption of the 1990 General Plan, the County Council appointed a Commission to study the feasibility of creating new growth centers in the Rural West. The Commission concluded that new rural centers were impractical and undesirable. Instead, the Commission provided guidelines for rural cluster zoning, as recommended in the 1990 General Plan.

Under Maryland's 1997 Smart Growth Act, the Rural West is not a Priority Funding Area. However, one of the major components of the Smart Growth Act, the "Rural Legacy" Program, is providing State grant funding for purchasing development rights in the Upper Patuxent Headwaters watershed of western Howard County. When development rights are purchased, the property is subject to a permanent agricultural preservation easement, and the owner can continue farming the property.

## Rural Land Use

### Existing Land Use

Western Howard County is a mosaic of farmland, woodlands and large-lot development. The final mix and pattern of land uses in the Rural West is

taking form as most land becomes committed to development or preservation.

The Rural West, defined as the area zoned Rural Conservation (RC) or Rural Residential (RR) and not served by public sewer, consists of approximately 94,900 acres of land. Approximately 75% of the land in the Rural West (71,600 acres) is already committed to either development or preservation ([Figure 3-1](#)). Residential uses, including developed and un-built lots and subdivisions in process, account for 48% of the committed land in the Rural West. Agricultural preservation easements, environmental preservation easements, parks and green spaces account for 44% of the committed land. The remaining 8% of the committed land is used for commercial, industrial, institutional, infrastructure or other uses.

The land not committed to development or preservation totals 23,300 acres. A majority of the uncommitted residentially-zoned land is still being actively farmed. [Map 3-1](#) shows the general location of the uncommitted RC and RR properties ten acres or larger. With available land diminishing, the County has limited time to pursue its land preservation goals for the Rural West.

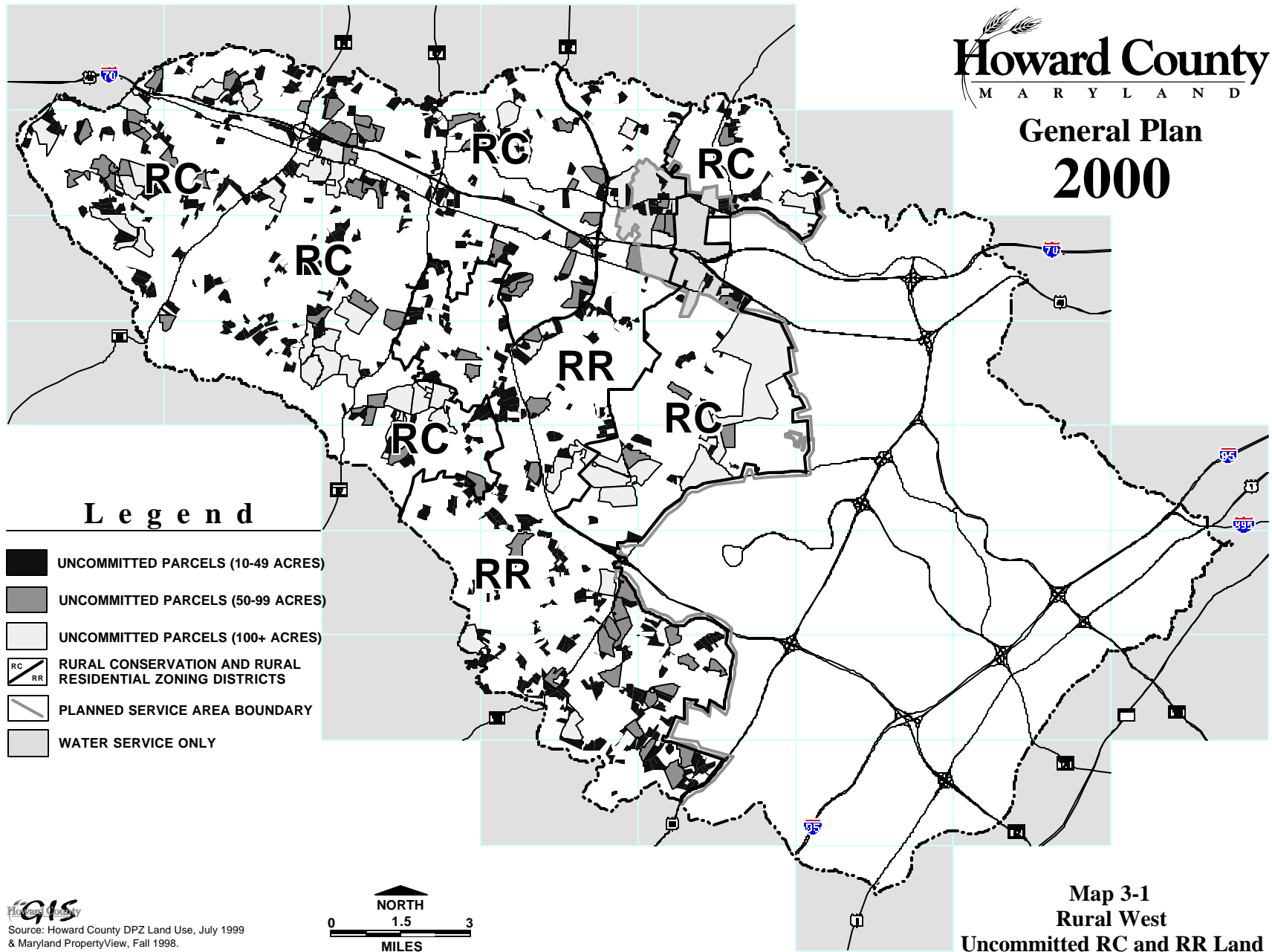
### Agricultural Context

Howard County is blessed with some of the richest farming soils in the State, good rainfall and nearby markets. The 1968 Howard County Soil Survey identified 72% of the 160,000 acres in the County as prime or productive soils suitable for intensive cropping. Of course, well drained loams make for both the most arable land and the best sites for use of septic systems for residential development.

The land in farming today exceeds 40,000 acres and accounts for \$87.6 million of the County's assessable tax base. However, the actual farming on lands owned, as opposed to rented, is much smaller – perhaps only 23,000 acres. The core of the farming industry in Howard County, counting both owned and rented land, is represented by only about 68 individuals or families.

Of the estimated 40,000 acres of farmland, about 10% is in eastern Howard

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**GIS**  
Source: Howard County DPZ Land Use, July 1999  
& Maryland PropertyView, Fall 1998.



**Figure 3-1  
Rural West Acreage Land Use Summary, 1999**

Land Use	Committed					Uncommitted	Total
	Developed <sup>1</sup>	Unbuilt	In Process	Total	Percent		
Residential Development	28,000	4,700	1,700	34,400	48.0%	0	34,400
Uncommitted (Zoned RC and RR) <sup>2</sup>	0	0	0	0	0.0%	23,100	23,100
Commercial and Industrial	300	0	0	300	0.4%	100	400
Institutional, Infrastructure and Other	5,200	0	0	5,200	7.3%	100	5,300
Preservation Easements	22,400	0	0	22,400	31.3%	0	22,400
Parks and Green Space	9,300	0	0	9,300	13.0%	0	9,300
<b>TOTAL</b>	<b>65,200</b>	<b>4,700</b>	<b>1,700</b>	<b>71,600</b>	<b>100.0%</b>	<b>23,300</b>	<b>94,900</b>

Source: Howard County DPZ, July 1999

1. Developed land also includes unbuilt areas permanently committed to agricultural, historical and environmental easements, and to parks and green space.
2. Uncommitted residentially-zoned land RC (Rural Conservation) and RR (Rural Residential) may currently be in agriculture. These lands may be converted to residential use or to permanent preservation easements, or they may remain in agriculture or other rural uses without preservation easements.

County and is not the focus of preservation efforts (Box 3-1). As of July 1999, approximately 41% of the County's farmland, a total of 16,390 acres, is subject to permanent Agricultural Land Preservation Program easements purchased by the County or the State.

Statistics for the size of farms and the number of farmers in Howard County are similar to those of surrounding Western Shore counties. According to the 1997 United States Department of Agriculture (USDA) Census of Agriculture, 43% of all farms in Maryland are 50 acres or smaller, only 51.6% of all farm operators have farming as their principal occupation and 49.7% of all farms have a value of agricultural products sold of less than \$10,000 per year. The County's average farm size (125 acres) is larger than the average farm size of some of the surrounding counties. Smaller farms are suited to many of the emerging forms of agriculture in the County. Ten percent of the certified organic farms in the State are in Howard County. With an average size of less than 20 acres, all of these farms are operated by full-time farmers.

The USDA Census of Agriculture reports that from 1987 to 1997 estimated

farmland acreage in the County declined by 26%, a loss of 14,000 acres. The number of farms (and therefore the number of farm operators) also declined by 26%.

World commodity prices for traditional farming products are the primary factors leading to the decline of traditional agriculture in this region. Non-traditional forms of agriculture, smaller farms and fewer farmers does not mean that farming is disappearing; it means that it is changing. The agricultural industry is in transition from traditional farming, based on grains, hay, beef and dairy, to higher value per acre products that benefit from proximity to metropolitan markets. The equine industry, horticultural production, and fruits and vegetables are the emerging trends in Howard County agriculture. Based upon the value of farm products, horticulture and horses are now the largest sectors of County agriculture. Vegetables and fruits are the third largest sector according to the 1996 Howard County Farm Survey. Specialty agriculture, recreation and agricultural tourism (agritourism) are smaller but growing sectors.

Common to many of these nontraditional enterprises is their ability to sup-



**Box 3-1****Agricultural Land Preservation**

Howard County initiated its voluntary Agricultural Land Preservation Program in 1980 with a goal of preserving 20,000 acres of farmland in perpetuity. By purchasing the development rights on farmland, the program removes the possibility of that land being developed and provides financial support to encourage the continuation of the farming operation. Between 1980 and 1988, the County spent \$13 million to purchase easements on approximately 7,700 acres of farmland. For farms which met the agricultural criteria, there was a cap on the amount the County could pay for the development rights. By the mid-1980s, residential development pressure in western Howard County and fast-rising land prices began taking their toll on the program's ability to attract participants.

In 1989, the cap was lifted and the financing was restructured. The new program enabled the County to leverage existing and anticipated agricultural land transfer tax and real estate transfer tax revenues by entering into installment purchase agreements with landowners for a period of 30 years. This financing arrangement reinvigorated the County's Agricultural Land Preservation Program. By the end of 1997, the County had purchased easements on 12,494 acres on 115 properties. The installment purchase agreement program committed the

available \$55 million of funding by May 1997, and the County temporarily ceased purchasing new easements until sufficient new revenue from transfer taxes accumulated to resume easement purchases.

Agricultural Land Preservation Program easements are also obtained by Howard County through dedication of easements on preservation parcels, as required by the cluster zoning and Density Exchange Option provisions. Since 1998, the County has also received \$2.48 million in funding commitments from Maryland's Program Open Space and Rural Legacy Programs, and the Federal Farmland Protection Program for easement purchases.

The Maryland Agricultural Land Preservation Foundation also holds easements on 3,900 acres of farmland in Howard County, acquired between 1980 and 1987. The State program has not purchased an easement in the County since 1988. This lack of activity is due primarily to the lesser easement purchase amounts available through the State program (compared to the market value paid by developers or the easement purchase prices paid by Howard County's program). The Foundation also imposes restrictions on secondary agricultural activities which discourage farmers from participating in that program.

port a substantial farming operation on relatively little acreage. Higher value per acre production is compelled by rising land and production costs, as well as very competitive pricing in a global economy. In response to these trends, rather than promoting traditional agriculture, the County will focus on putting in place the policies and agricultural marketing programs needed to help farmers not only survive these changes, but flourish in the new agricultural economy.

Intricately linked to broader, regional markets for land, labor, supplies, services and end products, Howard County's recent experience echoes the experience of the agricultural industry throughout the central Maryland region. As in Carroll, Frederick and Montgomery Counties, the kinds of agriculture for which the land in Howard County is being saved may be very different from the traditional farms of the County's past. However, by promoting and assisting farm enterprises that can thrive in this transition,

agriculture in Howard County is expected to be as relevant to the regional farm economy of the future as it has been in the past.

**Residential Context**

The development pressure experienced by Howard County and the zoning history of the Rural West account for the random and widespread pattern of large-lot residential development. One-acre lots were permitted until 1977 when three-acre lot zoning was implemented. In 1992, three-acre lot zoning was replaced by cluster zoning, with an allowed density of one dwelling unit for 4.25 acres. The cluster zoning provisions result in one-acre residential lots and preservation parcels of varying size that are protected by permanent easements (Box 3-2).

This General Plan does not propose any changes to the zoning categories or densities in the Rural West. The farm community has asked that no major

**Box 3-2**

**Cluster Zoning and the Density Exchange Option**

In response to recommendations of the 1990 General Plan, in 1992 three new zoning districts were created for the Rural West. Except for the small commercial and industrial areas, all land in the Rural West is zoned either Rural Conservation (RC) or Rural Residential (RR). The Density Exchange Option (DEO) District is an overlay district that provides an optional method of development for land in the RR and RC Districts. In the RC District, the emphasis is on preserving land. The RR District recognizes the primarily residential character of a portion of the Rural West that was already subdivided, to a great extent, into rural lots.

The new zoning provided three mechanisms for preserving land:

- In cluster subdivisions, residential lots averaging one acre in size are created at a maximum density of one dwelling per 4.25 acres. The remaining land is protected by permanent easements prohibiting further development. Cluster subdivision is required for subdivision of parcels larger than 20 acres in the RC District. For RR and smaller RC parcels, the alternative to cluster subdivision is conventional three-acre lot subdivision.
- The second mechanism, the Density Exchange Option, allows

landowners to send all or part of the density (dwelling unit rights) from an eligible sending parcel in the RC District to an eligible receiving parcel in the RC District or to any parcel in the RR District that is six acres or greater. A permanent easement must be placed on the sending parcel. As an incentive to preserve the eligible sending parcels, density can be sent at a rate of one dwelling per three acres. Subdivision of the receiving parcel is permitted at a maximum density of one dwelling per two acres.

- The third mechanism, the Cluster Exchange Option, is similar to the DEO. However, it is used to transfer density among parcels in the RC zone. Because the transaction occurs within the RC zone, no density incentive is provided for the receiving parcel. Receiving incentives only apply to the RR zone.

The preserved area of a cluster subdivision is divided into one or more parcels called preservation parcels. Preservation parcels are protected by Agricultural Land Preservation Program easements or other easements. Each preservation parcel must have two easement holders. Most preservation parcels have a dwelling, allowing the land to be cared for as farms or estate lots. (The zoning regulations permit a dwelling on only one preservation parcel within a subdivision).

changes be made to these zoning provisions, but that they simply be refined to improve the configuration of preservation parcels and strengthen buffers between farms and residential lots.

Downzoning to reduce development potential and land value has been tried and failed twice in Howard County. Downzoning failed due to farmers' strenuous objections and legitimate concerns that downzoning devalues farm equity and decreases their ability to borrow funds. The County has determined that downzoning would undermine farmers' ability to finance the purchase of new equipment, seed, livestock or land. Furthermore, it is counterproductive to the goal of providing support to and predictability for the agricultural community. It also penalizes those who have remained in farming, when others sold out to development.

Much of the residential development in the Rural West has occurred near

MD 32 and MD 216. In 1999, there were approximately 10,400 existing dwelling units in the Rural West. There were also an additional 2,040 recorded, unbuilt lots and another 570 lots in the subdivision review process.

The western County has been the focus of considerable development pressure since 1984 because of its location within commuting distance to jobs in Montgomery County and the Washington metropolitan area, the strong job market in the eastern portion of the County, access to State highways, rural quality and the County's excellent school system. Realtors estimate that about half of the houses sold in the West are to move-up buyers from the East. The remainder are divided among Washington-oriented buyers looking for relatively cheaper estate houses, Baltimore County expatriates, and newcomers to the region or State moving in to take nearby jobs. The market forces driving the expansion of Frederick, Sykesville and Mount Airy suggest that the current pace of demand for homes in the western



County will not slacken.

This pressure produced a steady increase in new subdivision and home construction during the 1980s (Figure 3-2). During the 1990s, new home construction dropped at the beginning of the decade then resumed a steady increase. While an average of about 320 dwellings per year were built in the Rural West from 1991-1999 (Figure 3-3), subdivision activity during the 1990s produced an average of 454 new recorded building lots per year. Although there were 2,040 recorded unbuilt lots in 1999, development pressure is likely to remain strong for the diminishing supply of uncommitted parcels.

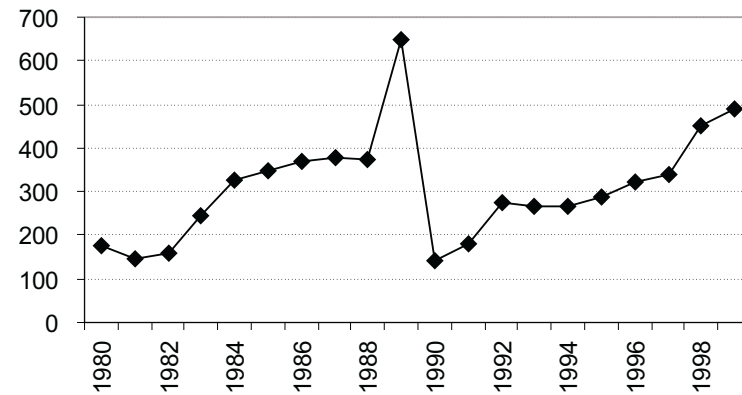
The recent rise in the number of building permits granted in the Rural West is not consistent with State Smart Growth policies, therefore, Chapter 4, *Balanced and Phased Growth*, addresses the need to slow rural residential development. This General Plan establishes a cap of 250 new lots per year in the Rural West. Slowing of rural residential growth not only recognizes Adequate Public Facilities and Smart Growth objectives, it also gives the County time to pursue easement acquisition on uncommitted lands.

Continuing development pressure on a diminishing supply of available land results in increasing land prices and competes with agricultural preservation objectives for the western County land base. This development pressure is also felt in eastern Howard County, with residential build-out under current zoning anticipated during this 20-year General Plan horizon. As build-out approaches, pressure will increase to extend water and sewer service into the Rural West via piecemeal requests. Chapter 4, *Balanced and Phased Growth*, defines the very limited conditions under which a rezoning might be considered (see Expansion of the Planned Service Area).

## Rural Land Preservation

Three resources are essential to maintain a farm economy: land, water and people. To sustain agriculture, the County must ensure that land is set aside for current and future generations of farmers.

**Figure 3-2  
Rural West Residential Building Permits  
1980-1999**



Source: Howard County DPZ

**Figure 3-3  
Rural West Building Permits Issued  
By Zone, 1991-1999**

Year	Number of Permits Issued		
	RR Zone	RC Zone	Total
1991	85	109	194
1992	129	153	282
1993	99	170	269
1994	117	152	269
1995	148	141	289
1996	156	171	327
1997	139	202	341
1998	169	285	454
1999	172	321	493
<b>TOTAL</b>	<b>1,214</b>	<b>1,704</b>	<b>2,918</b>

Source: Howard County DPZ, July 1999

Note: Rural Residential (RR), Rural Conservation (RC).

**Figure 3-4  
Preservation Easements By Type, 1999**

<b>Type</b>	<b>Acres</b>	<b>Percent</b>
County Purchased Agricultural Easements	12,453	76%
State Purchased Agricultural Easements	3,937	24%
<b>Subtotal Purchased Easements</b>	<b>16,390</b>	<b>100%</b>
Preservation Parcels - Howard County Agricultural Land Preservation Program	1,120	31%
Preservation Parcels - Audubon Society/Homeowners Associations	60	2%
Preservation Parcels - Howard County/Audubon Society	70	2%
Preservation Parcels - Howard County/Homeowners-Community Associations	1,890	53%
Preservation Parcels - Howard County/Howard County Conservancy	440	12%
<b>Subtotal Cluster, DEO and CEO Preservation Parcels</b>	<b>3,580</b>	<b>100%</b>
Permanent Historic Easements	130	12%
Environmental Easements	940	88%
<b>Subtotal Other Easements<sup>1</sup></b>	<b>1,070</b>	<b>100%</b>
<b>TOTAL EASEMENTS</b>	<b>21,040</b>	

Source: Howard County DPZ, July 1999

1. There are an additional 1,360 acres of Temporary Historic Easements in the County not included in this chart.

In 1980, Howard County established its Agricultural Land Preservation Program with a goal of preserving 20,000 acres of farmland. This was expanded in the 1990 General Plan to a goal of protecting 30,000 acres in farmland preservation or other preservation programs, such as private land trusts. The County now has 21,040 acres of Rural West lands permanently protected in agricultural, environmental, historic and other easements. The largest category is agricultural preservation, with 17,510 acres in agricultural preservation easements; of this total, 16,390 acres are in purchased easements and 1,120 acres have been designated as agricultural preservation parcels through the subdivision process. The remaining 3,530 acres are in other, primarily environmental, easements (Figures 3-4 and 3-5). Map 3-2 shows the location of preserved land.

The 1990 General Plan called for establishing a Mid-County Greenbelt along the eastern edge of the Rural Residential (RR) area to link the Middle Patuxent Greenway to urban open space within the Planned Service Area. The greenbelt also showed connections to the Patapsco and Patuxent

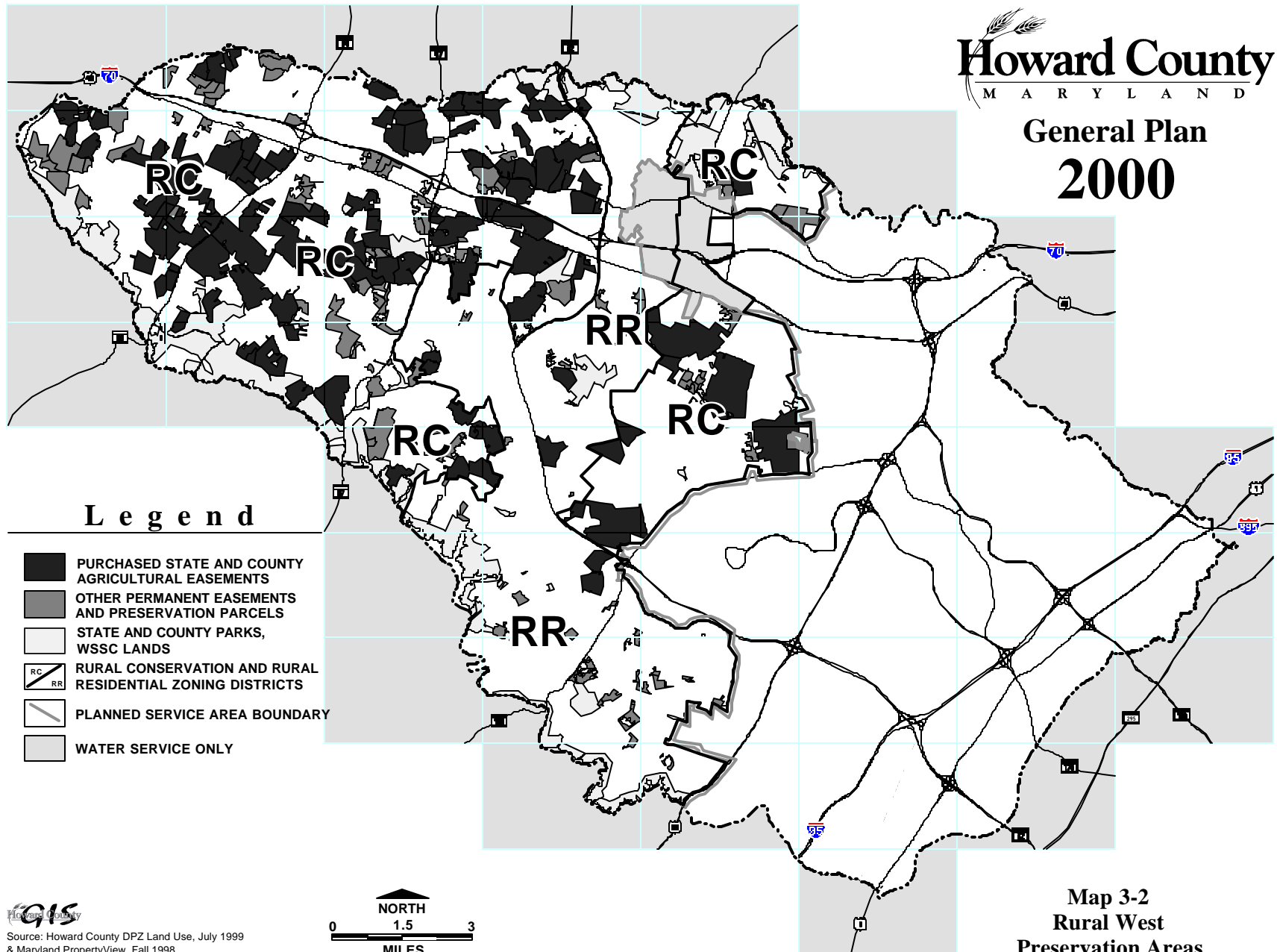
**Figure 3-5  
Preservation Easements Summary, 1999**

<b>Type</b>	<b>Acres</b>	<b>Percent</b>
Purchased Agricultural Preservation Easements	16,390	
Agricultural Preservation Parcels	1,120	
<b>Subtotal Agricultural Preservation Easements</b>	<b>17,510</b>	<b>83%</b>
Permanent Historic and Environmental Easements	1,070	
Environmental and Other Preservation Parcels	2,460	
<b>Subtotal Other Preservation Easements</b>	<b>3,530</b>	<b>17%</b>
<b>TOTAL PRESERVATION EASEMENTS</b>	<b>21,040</b>	<b>100%</b>

Source: Howard County DPZ, July 1999

Greenways. Some aspects of the greenbelt proposal were not achievable due to the existence of developed residential lots, particularly in the RR District south of MD 32.

**Howard County**  
MARYLAND  
**General Plan**  
**2000**



**Map 3-2**  
**Rural West**  
**Preservation Areas**

Source: Howard County DPZ Land Use, July 1999 & Maryland PropertyView, Fall 1998.

The General Plan 2000 does not include a Mid-County Greenbelt as a Policy and Action, but it reconfirms the two important elements of the greenbelt concept: preserving agricultural land and connecting regional green space. First, this Plan endorses preserving contiguous blocks of agricultural land and protecting the rural character in the “Near” West. The Near West is the area of the Rural West that is zoned Rural Conservation (RC) and is adjacent to the Planned Service Area. Many of the large properties within the RC District in the Near West are protected by agricultural land preservation easements; others are in institutional uses (the University of Maryland Central Maryland Research and Education Center, the Sisters of Bon Secours property and the Franciscan Friars Novitiate). The County should initiate discussions with these institutions to ensure the continuity of these valued institutional uses and their associated green spaces.

Second, this Plan identifies ways to connect regional green spaces along the Patuxent and Patapsco Rivers. Chapter 6, *Working with Nature*, recognizes the need for a greenways master plan and identifies the County greenways that might make up that system. The Long Corner, Cabin Branch and Cattail Creek Greenways each offer ways to connect the two State-wide greenways along the Patuxent and Patapsco Rivers. These connections follow routes that differ from the one envisioned by the Mid-County Greenbelt, but achieve the goal of connecting the State-wide greenways.

The County will use a variety of tools to achieve its goal of protecting 30,000 acres in the Rural West. Each of these options may have limited applicability, but together they contribute to an effective land preservation strategy. The two principal means for protecting agricultural and environmental lands are purchase of easements through the County’s agricultural land preservation program and designation of preservation parcels via the County’s cluster subdivision process. Other tools are available: purchase of land or easements using Federal and State grant funding programs; purchase or donation of easements using the State’s agricultural, environmental and historic preservation programs; and donation of land or easements to private land trusts.

Some Federal and State grant funding is available for easement acquisition,

although this funding is uncertain due to the competition among jurisdictions for limited funds. In particular, State easement purchase programs such as Rural Legacy and Program Open Space may allow the County to purchase easements. Between 1998 and 2000, the County has been designated to receive almost \$3 million in State grant funding to purchase preservation easements in the Upper Patuxent Headwaters Rural Legacy Area.

Federal, State and private land preservation programs sometimes establish preservation deeds of easement that restrict certain agricultural uses that are permitted by the County Agricultural Land Preservation Program. The County should work to ensure that granting agency program requirements and deeds of easement are consistent with County policies and regulations that foster agricultural business uses.

Between 1989 and 1997, Howard County invested \$55 million in agricultural land preservation. The American Farmland Trust ranks the County first in the nation for local dollars invested in agricultural preservation and sixth for acreage protected. These rankings are particularly impressive in light of the County’s small size. Howard County’s innovative Installment Purchase Agreement (IPA) Program has been praised nationally, copied by other jurisdictions and is featured prominently in such publications as “Saving American Farmland: What Works,” by the American Farmland Trust. As new revenues become available, additional funds will be allocated for easement purchases.

The County’s cluster zoning provisions and the Density Exchange Option (DEO) have been the County’s primary means of preserving rural land between 1997 and 2000, a period during which easement purchases were temporarily discontinued pending receipt of additional transfer taxes. If the cluster subdivision process was the only mechanism available for rural land preservation, future RC and RR cluster subdivisions could contribute enough land in preservation parcels to meet the goal of preserving 30,000 acres. However, the subdivision process does not allow the County to protect the most productive or strategically located farms. Even with improved design requirements, preservation parcels created within cluster subdivisions will be smaller and more fragmented than most purchased easements.

To maximize the amount and quality of agricultural preservation lands, the County must continue to purchase agricultural preservation easements. Placing land in agricultural preservation easements through the purchase of development rights has the added benefit of reducing the total number of lots to be created in the West, thus reducing overall residential density.

Over the next two decades, most of the 23,300 acres of uncommitted land in the Rural West will be either designated for protection or developed for residential uses using the cluster subdivision regulations. The County has developed a scenario for meeting its preservation goals using the cluster subdivision process and the Agricultural Land Preservation Program (Figure 3-6). The projections show the County expects to acquire an additional 12,580 acres (7,350 acres in agricultural preservation through the IPA and cluster subdivision process and 5,230 acres in other preservation categories). Thus about 55% of the available 23,300 acres of uncommitted land in the Rural West would be protected in a combination of agricultural and environmental easements and preservation parcels, with a total of 32% of the

uncommitted land protected for agriculture alone. The total land protected at build-out would be 33,620 acres.

Of the total 23,300 acres of uncommitted land in the Rural West, 16,480 acres are on parcels 20 acres or larger. The scenario portrayed in Figure 3-6 assumes that the County will acquire easements on 5,000 additional acres of farmland (30% of the uncommitted parcels 20 acres or larger). Furthermore, it assumes that the cluster subdivision regulations will be applied to all remaining uncommitted properties 20 acres or larger (11,480 acres). Typically, 66% of cluster subdivision land area is designated for preservation parcels. DEO sending parcels often protect rural properties in their entirety, whereas cluster subdivisions that receive density may protect less than 50% of the property in preservation parcels. Historically, 31% of the newly created preservation parcels have been placed into the Agricultural Land Preservation Program. The remaining 69% would be placed in other preservation categories. About 50% of the preservation parcels accepted into the Agricultural Land Preservation Program are intact farms, created

**Figure 3-6  
Rural West Preservation Potential (Acres)**

	<b>Agriculture</b>	<b>Other</b>	<b>Total</b>
Existing Permanent Easements and Preservation Parcels	17,510	3,530	21,040
Uncommitted Land Available for Cluster Subdivision/IPA <sup>1</sup>			16,480
Acreage Expected to Acquire through IPA	5,000		5,000
Acreage Remaining for Cluster Development			11,480
Estimated Cluster Preservation (66% x Uncommitted) <sup>2</sup>	2,350	5,230	7,580
<b>Projected Additional Preservation Acres</b>	<b>7,350</b>	<b>5,230</b>	<b>12,580</b>
<b>Total Preservation at Build-out</b>	<b>24,860</b>	<b>8,760</b>	<b>33,620</b>
Number of Lots Retired by IPA easements <sup>3</sup>			1,400

Source: Howard County DPZ, April 2000

1. Rural Conservation (RC) and Rural Residential (RR) parcels 20 acres or more, likely to meet criteria for Installment Purchase Agreement (IPA) easement.
2. 31% of preservation parcels have been designated for agricultural preservation; 69% to other categories.
3. Number of lots assumes that some parcels would be developed using Density Exchange Option (DEO) incentives. The base density of 4.25 du/ac would yield a minimum of about 1,180 units. Maximum yield using DEO could create up to 1,670 sending rights from these properties.

using the DEO sending mechanism. The other half of those agricultural preservation parcels are lands located within cluster subdivisions.

As the Rural West approaches build-out, the County must balance its financial ability to purchase easements with its commitment to agricultural preservation. Future easement purchases will be expensive, costing the County an estimated average of \$6,000 per acre. (Between 1993 and 1997, the County paid an average of \$5,000 per acre for easements.) Since 1997, sufficient additional transfer tax has been received to authorize \$15 million for purchase of agricultural preservation easements in the Fiscal Year 2001 Capital Budget. These easements purchase the development rights associated with the agricultural properties. This authorization, therefore, will protect approximately 2,500 acres and retire development rights for approximately 700 units. Continuing future purchase of development rights is critical to protecting the County's most productive and strategically located remaining farmland from development. Thus, the County's goal is to purchase agricultural preservation easements on 5,000 acres of farmland and concurrently retire development rights for as many as 1,400 dwelling units (Figure 3-6, as shown previously).

Using the strategy outlined above – purchasing easements on 5,000 acres of farmland and setting aside about 7,500 acres in preservation parcels through the cluster subdivision process – the County can achieve a total farmland preservation acreage of almost 25,000 acres and exceed the 1990 General Plan goal of protecting more than 30,000 acres of rural land.

## ***Policies and Actions***

***POLICY 3.1: Ensure that a critical mass of high quality, strategically located farmland is protected from development.***

- ◆ ***Purchase of Development Rights.*** Purchase agricultural preservation easements on at least 5,000 additional acres in the Rural West.
- ◆ ***Agricultural Preservation.*** Pursue Federal and State funding sources to supplement the County's Agricultural Land Preservation Program. Work with funding sources to ensure program requirements are consistent with County policies and regulations.

# **Residential Development**

## **Design of Cluster Subdivisions**

The Rural Conservation (RC), Rural Residential (RR) and Density Exchange Option (DEO) and Cluster Exchange Option (CEO) zoning districts were adopted in 1992, to preserve farmland and environmental resources and to encourage subdivision design that would fit better into a rural landscape. Cluster zoning has resulted in new residential developments that are more compatible with the rural landscape than the conventional three-acre lot zoning in place from 1977-1992. The clusters of one-acre lots near large preserved parcels generally require less road surface, disturb less of the site's sensitive environmental areas, and provide a more varied and attractive setting than conventional large-lot subdivision. Judging from the infrequent use of the three-acre lot subdivision option where it is allowed, builders and homebuyers appear to prefer cluster lots. The Density Exchange Option is working well to discourage fragmentation by removing the density from large parcels in the RC District and concentrating it on receiving parcels in the RR District. The preserved land in the RC district includes many large contiguous farms.

Cluster developments placed 3,580 acres in preservation between 1993 and 1999 (Figure 3-4, as shown previously). An average of 66% of the acreage in any given cluster subdivision is assigned to preservation parcels. Approximately 31% of the land placed in preservation parcels since 1993 is protected under the County's Agricultural Land Preservation Program, with 69% placed in other preservation categories. Preservation parcels located in cluster subdivisions have been put to a variety of uses. Some are actively farmed. Many protect environmentally sensitive streams, wetlands, steep slopes, forest conservation areas or stormwater management facilities, while others have limited rural recreational or rural business uses (as allowed by code). Most are privately owned or owned by homeowners associations and thus do not have public access (Box 3-3).

One goal of cluster subdivision design is to form connections between preserved parcels and to preserve corridors of environmentally sensitive land. County reviewers lack tools for reviewing subdivision proposals in rela-



**Box 3-3**  
**Preservation Parcels**

Since comprehensive rezoning of the Rural West in 1992, the cluster zoning and Density Exchange Option (DEO) mechanisms have created about 200 preservation parcels totaling 3,580 acres (Figure 3-4).

In 1994, the County issued guidelines to ensure that only preservation parcels that are valuable for farming are accepted into the County's Agricultural Land Preservation Program. Most other preservation parcels protect sensitive environmental features. A few preservation parcels, with negligible acreage, are designated for stormwater management or recreation.

Although preservation parcels are generally smaller than purchased agricultural preservation easements, the potential value of these small farm parcels to Howard County agriculture cannot be dismissed. For agricultural products that require small acreage, these parcels can support a substantial farm operation. The 1997 United States Department of Agriculture Census reported that the majority of farms in Howard County (58%) were under 50 acres in size. Even among the more substantial farms (those reporting sales of over \$10,000 per year), 28% were less than 50 acres.

Small preserved parcels can also provide a source of available land for farmers seeking to enlarge their operations. Many of the County's larger farms are made up of several parcels of varying sizes. Even preservation parcels not accepted into the Agricultural Land Preservation Program may have value for agriculture. Some of the environmental preservation parcels are active farming operations, although an exact inventory is not available.

relationship to regional environmental characteristics and preserved land. A map that provides a detailed inventory of properties with preservation easements and environmental features would be valuable for this purpose.

While cluster subdivision regulations have been very successful in protecting streams, wetlands, floodplains, steep slopes and forests, they have been only partially successful in achieving the key goal of preserving farmland. Cluster subdivision design is frequently dictated by the location of the best soils for septic systems, resulting in the best soils being used for lots. Pres-

ervation parcels are often fragmented or irregularly shaped with little practical utility. As a result, although an average of 66% of the land in cluster subdivisions is preserved, only 31% of this preserved land is offered to the County's Agricultural Land Preservation Program. Agricultural preservation parcels that are located within subdivisions are sometimes only marginally suitable for farming due to shape, small size or poor soil productivity. However, some of these parcels serve as buffers to adjacent farms or as possible additions to adjoining farm properties.

Another area of concern is the design of subdivisions that receive density using the DEO mechanism. A developer's desire to achieve the maximum possible density allowed for receiving parcels in the RR District (one lot per two acres) often results in poor lot design or decreased compatibility with adjacent properties.

The current standards for cluster and DEO subdivision designs are performance-oriented and flexible, indicating the goal of designing preservation parcels suitable for their intended use, but providing few specific requirements. Based on the County's experience with cluster design since 1992, objective standards that would address some of the frequently occurring problems should be defined. For example, the transition between subdivision lots and preservation parcels, especially preservation parcels that will be farmed, is often inadequate. In many cases, buffering between the two uses is needed.

Even with new design requirements, the amount of productive farmland that can be preserved within cluster subdivisions will be limited. Because the best farmland is also the most suitable for septic systems, cluster lots are usually located on this land. Shared septic system drainfields offer the potential for greater flexibility in locating cluster subdivision lots, allowing more of the best farmland to be preserved (Box 3-4). Since County regulations were amended to allow these systems (in response to the 1990 General Plan policies), two have been installed and three more are in the review process.

Continued use of the DEO and CEO zoning provisions will help achieve the County's agriculture preservation goals. Preservation parcels created as DEO and CEO sending parcels are generally larger and more regular



**Box 3-4**

**Shared Septic Systems**

Soils vary in their ability to “percolate” or filter waste water from septic systems before it reaches groundwater aquifers. A broad range of soil suitability for septic systems can exist within a single rural subdivision. Soils that are well suited for septic systems are often good agricultural soils as well, causing residential development and farming to compete for the same land.

The use of shared septic systems, specifically common drainfields, allows home sites to be placed in areas that are marginally or poorly suited for septic systems, but are otherwise attractive residential settings. The common drainfield is then placed on optimum soils so that the groundwater is best protected. The total amount of land used for drainfields remains the same, leaving good agricultural land, which would otherwise become a home site, free to continue being farmed.

The concept of shared septic systems was proposed in the 1990 General Plan. The proposal was implemented through County regulations that allow shared septic systems with County ownership and maintenance of the shared facilities, including the drainfield and pipes leading to individual lots. Individual wells and septic tanks remain on individual lots. Community wells are not considered viable because of the regulatory complexity, expense and liability involved. Therefore, the minimum size for lots using a shared septic system is determined by health regulations governing individual wells. This results in one-acre average lot sizes with the smallest lot in a subdivision being

no less than three-quarters of an acre.

The flexibility in site design which shared septic systems afford can enhance the goals of clustering to preserve agricultural land and minimize the impact of development on groundwater resources. Additionally, groundwater is better protected by the strict monitoring and maintenance requirements for shared septic systems, compared to individual systems controlled by individual owners. However, the expense of these systems is a deterrent to more extensive use. The average cost for a standard individual system is approximately \$5,000 per lot, while the average cost for a shared system is expected to be \$10,000 to \$15,000 per lot. A cost comparison for shared septic systems versus public sewerage is more reasonable, since both methods require moving effluent from one location to another. The cost for public sewerage service is approximately \$10,000 per lot.

Significant cost reductions for shared septic systems are not foreseen. However, the cost of individual septic systems may increase if State-wide requirements are instituted for pretreatment and maintenance to enhance nutrient removal. This may make the costs of individual and shared systems more comparable. In addition, shared drainfields may be more widely used as developers gain familiarity with this option. Stricter requirements for preservation parcel design may also encourage use of shared drainfields as developers seek to achieve the allowed number of lots.

than those preserved within cluster subdivisions, and are more likely to be accepted into the Agricultural Land Preservation Program. Some very good properties have been protected. However, use of these mechanisms alone will not be sufficient. Although the market for density rights is active, use of this option will be limited by the number and capacity of available receiving parcels. There are a greater number of density units available to send from eligible land in the RC District than can be accommodated on potential receiving parcels in the RR District. This may increase pressure to maximize receiving density in the RR District and to send density to eligible parcels within the RC District where residential development is likely to conflict with surrounding agricultural operations.

**Living in a Farming Area**

In 1989, Howard County passed a “Right to Farm” Act. Despite strong public policy support for the practice of agriculture, residential development adjacent to farms can lead to conflicts between these very different land uses. Conflicts can take the form of complaints from homeowners about noise, dust and odors from farms, and about conflicts on public roads between passenger vehicles and farm equipment. Farmers often complain about intrusions on farms by trespassers, such as users of all-terrain vehicles and horseback riders, and dumping of trash and debris on farmland. These conflicts can result in liability insurance costs for farmers and inhibit farm operations. Farm operations that are expanding or in transition from one type of agricultural product to another can raise neighbor’s concerns.

Nearby residents sometimes object to the construction of significant structures, such as greenhouses, barns or riding rings, which are farm-related uses permitted by the zoning regulations. Certain other farm-related uses are permitted by special exception (such as riding academies, retail nurseries, landscape contractors and wineries). However, if these uses might cause substantial negative impacts on adjacent residential development, the special exception could be denied.

New residents of the Rural West are often ill-informed about the status of the adjoining farmland. New owners of farm properties may be confronted by nearby residents who object to the restoration of fallow land into productive fields and pastures or the harvesting of timber. This is especially common on the agricultural and environmental preservation parcels within cluster subdivisions. Farmers of preservation parcels are more likely to have problems with dumping or trespassing due to misconceptions that preserved land is vacant and not “owned” by someone.

The County must expand efforts to educate new residents about the nature of farm operations and about the County’s “Right to Farm” ordinance. Many jurisdictions around the country have begun programs and outreach efforts to address this issue. Education tools may include the Internet, direct mailings and other means of communication, such as information statements on final plats regarding the nature and potential use of preservation parcels (including farm operations), posting “Private Preservation Parcel” signs, and encouraging new farm operators to communicate with nearby residents prior to expansion or restoration of farm properties.

Within cluster subdivisions, driveway access can create additional conflict. The subdivision regulations prohibit access to major collectors or higher classification roads for preservation parcels. As a result, the farm operator of a preservation parcel may use local subdivision streets, which can be a significant problem for some types of agricultural and agribusiness uses.

## ***Policies and Actions***

### ***POLICY 3.2: Improve cluster subdivision design to better preserve the western County’s agricultural land and rural character.***

- ◆ ***Cluster Subdivision Design.*** Establish design standards for cluster subdivision that address the relationship between lot layout and preservation parcel configuration. Require regularly shaped preservation parcels, prevent fragmentation of the preservation area and promote layouts that place productive farmland in preservation parcels.
- ◆ ***Transition between Residential Lots and Preservation Parcels or Farms.*** Require appropriate transitions between new residential lots and preservation parcels or active farm operations that are adjacent to the subdivision. Consider the use of hedgerows, fencing, setbacks and other forms of buffering or property line demarcations.
- ◆ ***Design of Receiving Parcels.*** Revise the zoning and subdivision regulations and establish performance measures for Density Exchange Option and Cluster Exchange Option receiving subdivisions to improve subdivision design and compatibility with adjacent properties. Ensure that the configurations of lots in receiving subdivisions do not hinder opportunities to preserve contiguous blocks of farmland.
- ◆ ***Shared Septic Systems.*** Refine the design and review procedures for shared septic systems to identify appropriate cost reductions and streamlining measures while protecting groundwater quality and public health. Encourage increased use of shared septic systems to protect groundwater quality and promote cluster subdivision designs that better preserve productive farmland.
- ◆ ***Preserved Land and Environmental Features Inventory.*** Prepare a comprehensive map showing environmental features and preserved land that can be used as a guide to evaluate proposed cluster subdivisions. Use this map to ensure that lot and preservation parcel layouts respond to rural preservation patterns and environmental constraints.

- ◆ **DEO and CEO Regulations.** Review the Density Exchange Option and Cluster Exchange Option regulations to determine the impact of the use of DEOs and CEOs on residential development, land preservation and public facilities.

**POLICY 3.3: Minimize conflicts between residential and agricultural land uses.**

- ◆ **Public Education about Right to Farm.** Improve public outreach efforts to educate new residents in the Rural West about the rights of farmers and about the nature of agricultural operations.
- ◆ **Road Access for Preservation Parcels.** Amend development standards so that driveways for agricultural preservation parcels are located to minimize conflict with adjacent residential lots.

## The Rural Environment

### Sensitive Environmental Features

The cluster zoning provisions adopted in 1992 have reduced the amount of grading, tree removal and clearing required for residential subdivisions in the Rural West. In most cases, environmentally sensitive areas are protected by preservation parcel easements. Other actions taken over the past decade, such as adoption of the Forest Conservation Act, have further improved the level of environmental protection. Protection of sensitive resources can be further enhanced by strengthening environmental regulations. Chapter 6, *Working with Nature*, proposes revisions to cluster subdivision design requirements and other actions to protect rural environmental resources.

Over 3,600 acres of land in the Rural West are protected by permanent environmental easements. A goal of future environmental land preservation efforts should be to protect large contiguous tracts of forests. These efforts should concentrate on connecting these areas to form protected corridors along streams or rivers, thereby providing upland and riparian, or streamside, wildlife habitat areas throughout the West.

Map 3-3 shows environmentally sensitive areas in the County, including streams, floodplains, wetlands and steep slopes. Map 3-4 shows wooded areas, based on the Maryland Department of Natural Resources (DNR) 1994-1995 Forest Resource Inventory. Many of the wooded areas, as may be expected, are found on the steepest slopes along streams. The two major rivers that bound the County are protected along most of their length by State parks. An exception is the Patapsco River from Sykesville westward, in both Howard and Carroll Counties.

### Water Resource Protection

Surface and groundwater quality are largely protected by preservation of streams, wetlands, floodplains, steep slopes and forest. However, the potential impacts of septic systems and agricultural runoff are concerns.

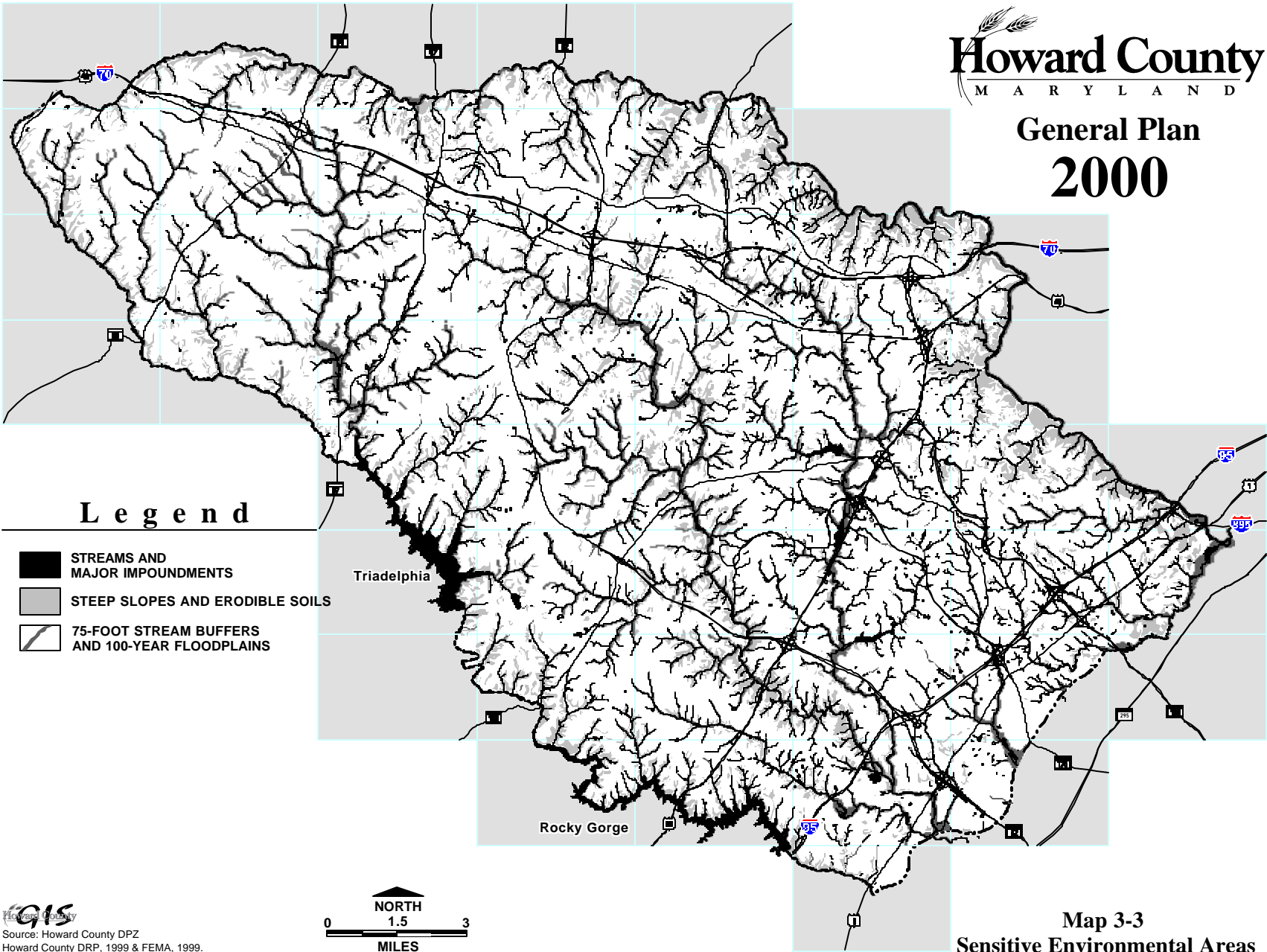
County soils have thus far proven to be capable of supporting septic fields throughout the West. The records of the Health Department show few septic field failures in the West despite the fact that many of the 20-year old one-acre lots were subject to percolation tests in accordance with much less rigorous standards than those practiced today. Well yields, which similarly have higher standards today, have generally been adequate, but vary greatly in productivity across the West.

In 1989-1990, Howard County hired a consultant to conduct a study of relative groundwater pollution potential in the western part of the County. The study used a relative ranking system based on factors such as the geologic unit, depth to groundwater and topography to determine areas of highest to lowest vulnerability to groundwater pollution within the study area. The study was meant to be a generalized planning tool, and the results were not intended as a substitute for site-specific evaluation. The results serve as a screening tool to flag various land use proposals that may warrant further investigation in those areas of the Rural West that have been identified as having a higher vulnerability to groundwater pollution.

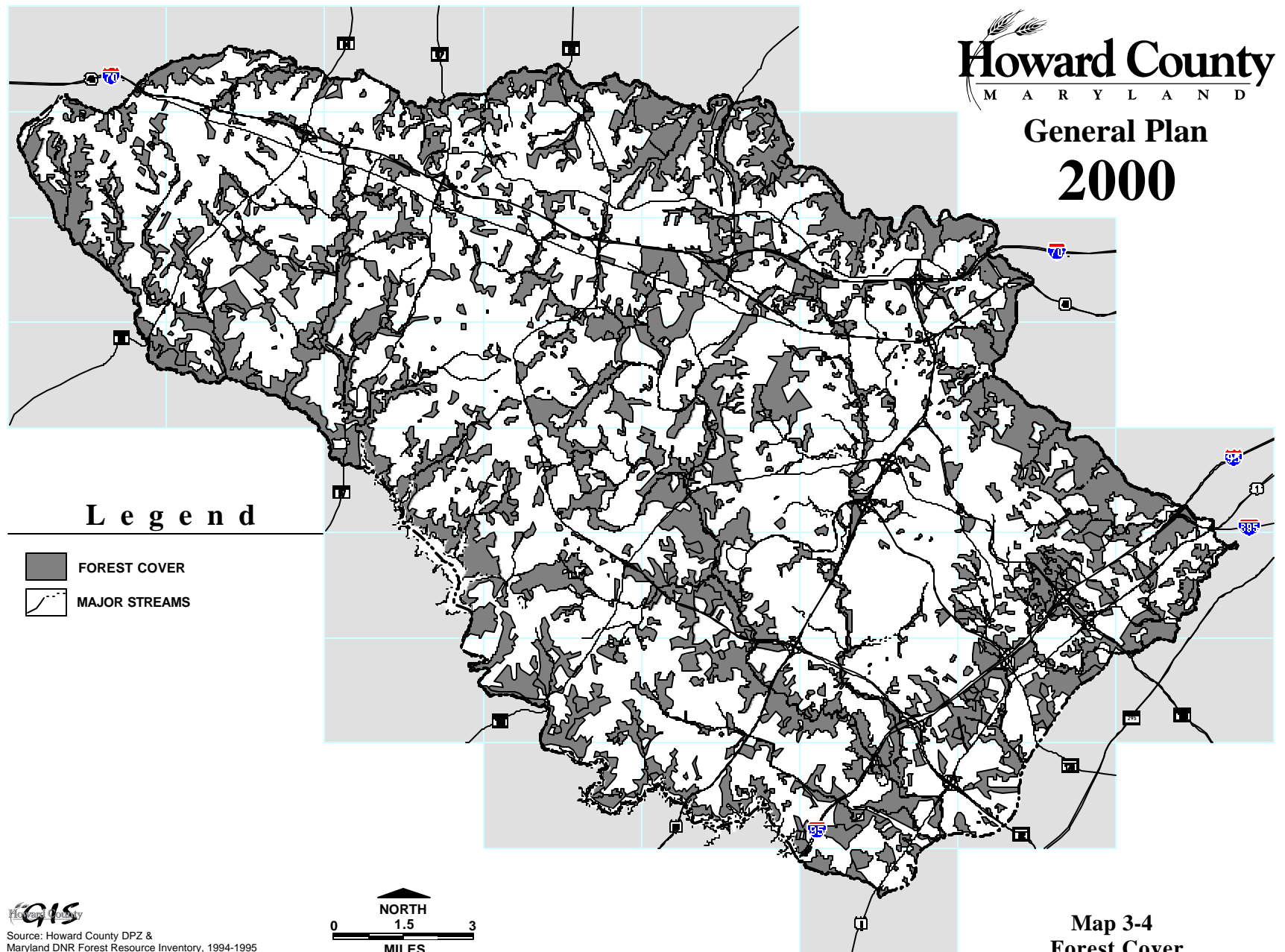
The Howard County study complements the more extensive 1995 Water Resources of Howard County Study conducted by the United States Geological Survey. This study provides information on the quantity and quality of both surface and groundwater for the County. The study indicates that

# Howard County MARYLAND

## General Plan 2000



**GIS**  
Source: Howard County DPZ  
Howard County DRP, 1999 & FEMA, 1999.



groundwater in the County is recharged through precipitation and that water quality is generally good, although somewhat acidic. Groundwater use is generally limited to domestic use, and the amount withdrawn is generally replaced by the amount discharged through septic systems.

A growing issue for septic systems is limiting the amount of nitrogen these systems discharge to groundwater. Excess nitrogen in groundwater limits the use of groundwater as a water supply source. Additionally, since groundwater is a source of base flow in streams, excess nitrogen in groundwater can also contribute to nutrient enrichment problems in streams. However, the extent to which septic systems contribute to nutrient enrichment problems in groundwater and surface water remains somewhat controversial because there is a lack of site-specific, scientific data. The Maryland Department of the Environment has proposed regulations to enhance nitrogen removal for new systems and upgrades for existing systems. These proposed revisions to septic regulations are expected to be considered by the General Assembly in future legislative sessions.

Several states have experienced significant water pollution caused by concentrated animal feeding operations (CAFO's), which typically use large holding areas to store animal waste. These operations place large numbers of animals in a relatively small area, resulting in the accumulation of large amounts of animal waste and the potential for catastrophic water pollution should the waste be released into a stream or groundwater. In addition, a CAFO that is established near an existing residential neighborhood can overwhelm the neighborhood with animal and waste odors.

The protection of subsurface aquifers is critical to the public welfare. Private wells tap these aquifers to provide drinking water to thousands of homes. These water supplies must be guarded against pollution by septic systems, underground storage tanks and improperly disposed-of waste. If the water quality impacts of septic systems are investigated in the context of planning for a watershed, the relative importance of septic systems as a potential pollution source could be compared with other nonpoint sources of pollution, such as agriculture and urban/suburban development.

The agricultural community is actively working to protect and improve water quality, primarily through the implementation of best management

practices (BMPs). BMPs help control runoff and soil loss, ensure proper disposal of animal wastes and minimize the use of fertilizers, herbicides and pesticides. Local, State and Federal agencies and programs are available to assist agricultural operators with the development of soil conservation and water quality plans, nutrient management plans and cost-share funding for BMP implementation.

The permit process associated with BMPs requires coordination among multiple agencies, and can be long and cumbersome. Because many of these practices are seasonal, the timing for permit processing can be critical. Assistance with permit processing and streamlining of the permit review process would benefit the farm community and help ensure that BMPs are implemented.

The majority of these water resource protection programs are voluntary; however, the 1998 State Water Quality Improvement Act now requires the development and implementation of nutrient management plans for agricultural properties. Voluntary programs, such as the Conservation Reserve Enhancement Program and the Wildlife Habitat Improvement Program, often include wildlife habitat and water quality improvements, such as wetlands creation and stream buffers.

## ***Policies and Actions***

### ***POLICY 3.4: Protect water resources.***

- ◆ ***Watershed Planning.*** Investigate the relative significance of water quality impacts from septic systems and agricultural runoff in the context of watershed planning. Work with the Cooperative Extension Service and Soil Conservation District to implement appropriate actions.
- ◆ ***Septic System Regulations.*** Monitor proposals by the Maryland Department of the Environment to amend septic system regulations to promote nitrogen removal. If amendments are approved by the General Assembly, work to ensure implementation of any new regulations.

- ◆ **Agricultural Best Management Practices.** Encourage the agricultural community to continue to work with local, State and Federal agencies and programs to implement best management practices.
- ◆ **Assistance with Permits.** Investigate ways to assist agricultural producers with processing of State environmental permits.
- ◆ **Concentrated Animal Feeding Operations.** Review the effects of concentrated animal feeding operations and ensure that the Zoning Regulations impose appropriate conditions.

## Transportation

### Traffic and Safety

Notwithstanding such regional through routes as I-70, MD 32, MD 94 and MD 97, the road network in western Howard County consists primarily of two-lane, undivided roadways with few access controls (traffic signals and stop signs), narrow shoulders and often limited sight distance. These two-lane rural roadways, although often considered scenic because of their winding alignments and panoramic vistas, experience a high number of accidents despite their relatively low volumes of traffic.

Overall, the West has not yet experienced severe traffic congestion, although recent increases in traffic on some roads in western Howard County are noteworthy. The amount of traffic on western roads is due not only to the residential growth in the West but also to the increase in through trips by commuters from neighboring Carroll, Frederick and Baltimore Counties bound for jobs in Anne Arundel and Montgomery Counties and Washington. In particular, peak traffic conditions on MD 97 and MD 32 result from strong regional through traffic. MD 32 currently experiences congested conditions during morning and evening peak periods. The County's 1961 General Plan proposed a connection between MD 32 and MD 97 to ease some of these regional traffic movements. This connection was removed in the 1971 General Plan. In the intervening years, development and preservation activity have rendered such an alignment infeasible.

The picture of transportation needs that emerges in the West is one of some longer-term pressure points on regional State highways, primarily because of through traffic. The need for improvements, such as widening or realignment, must be studied along the length of each individual road, and such improvements need to be balanced against the potential loss of scenic rural character. To the extent possible, efforts should be made to maintain adequate capacity on the major regional through routes with significant capacity and to manage that capacity efficiently. When the protection of scenic roads cannot be reconciled with needed improvements to the road network to accommodate traffic safely, alternative alignments may need to be considered to handle traffic demands. These alternative alignments and improvements may involve other roads in the area which are not classified as scenic roads in order to reduce the amount and type of traffic using scenic roads.

The major issue for many western County roads is not capacity, but safety. Some of the rural, two-lane roadways have narrow or no shoulders and are very winding, resulting in poor sight distances. Efforts to protect the scenic nature of these routes can sometimes conflict with the traffic-carrying function of rural roads. As the number of new residents in the West grows and as through traffic increases, safety-related improvements will become increasingly essential.

Increased demand resulting from highway expansion may negate any improvement in highway capacity or safety. Careful and credible analysis should be undertaken on the land use and traffic implications of capacity expansions on regional facilities, and on other means of alleviating congestion or safety concerns, before the final decision is made to proceed. When alternatives exist which alleviate congestion and safety concerns without negatively affecting the rural character of western Howard County, those alternatives should be adopted.

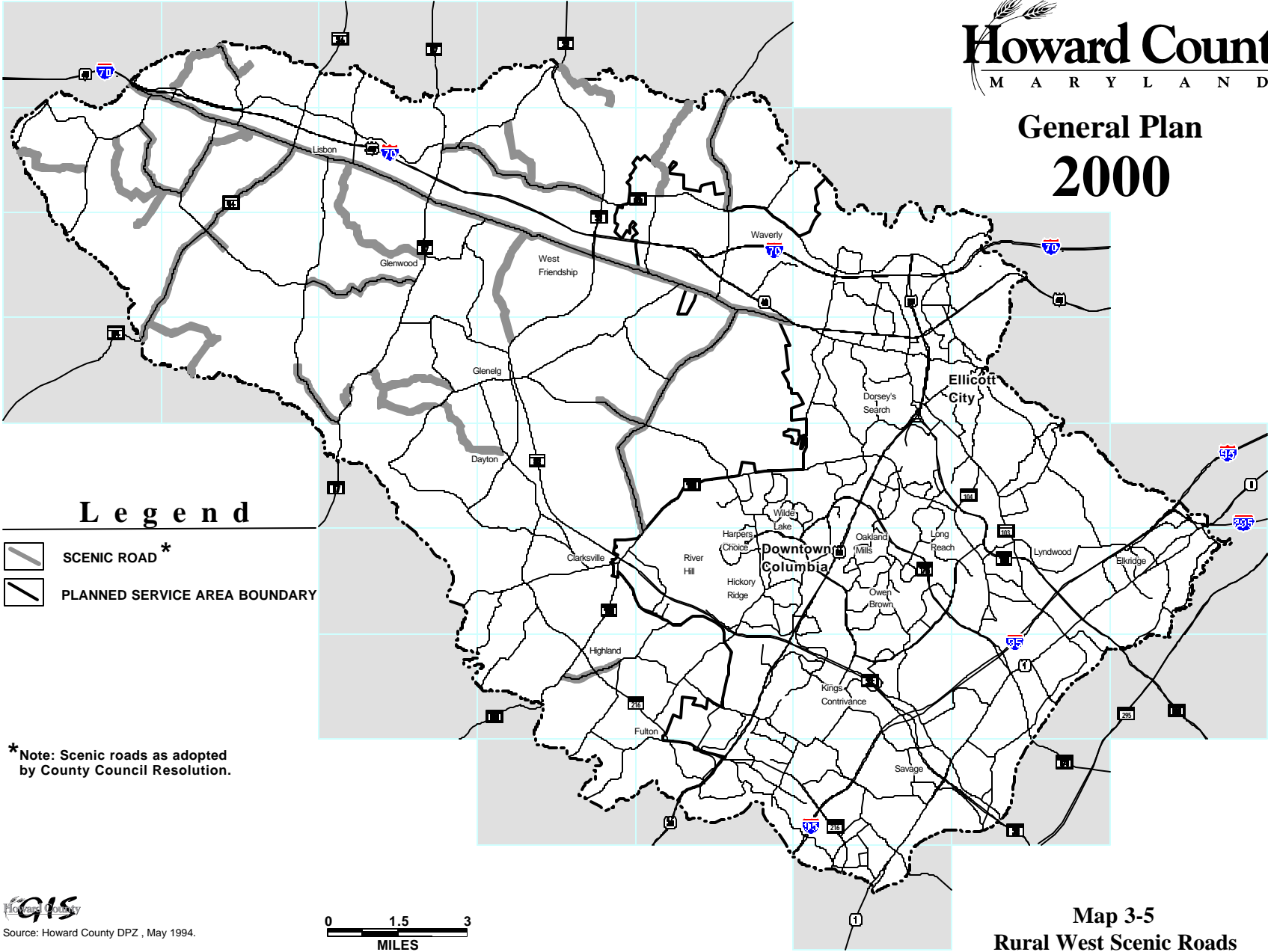
### Protection of Scenic Roads

Legislation to identify and protect the visual quality of scenic routes was enacted in 1994. [Map 3-5](#) indicates the roads in the West which have been designated scenic.



# Howard County M A R Y L A N D

## General Plan 2000

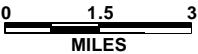


**Legend**

-  SCENIC ROAD \*
-  PLANNED SERVICE AREA BOUNDARY

\*Note: Scenic roads as adopted by County Council Resolution.

  
Source: Howard County DPZ, May 1994.



Map 3-5  
Rural West Scenic Roads

### Box 3-5

#### Protection of Scenic Roads

Scenic roads are public roads in the County which have one or more of the following characteristics:

- **Outstanding Natural Features.** Roads that pass through an area of outstanding natural environmental features, such as forests, steep topography, and stream or river valleys.
- **Outstanding Views.** Roads that provide outstanding views of rural, agricultural landscapes that include scenic elements, such as panoramic or distant views, croplands, pastures, fields, streams, ponds, hedgerows, stone or wooden fences, farm buildings or farmsteads.
- **Historic Association.** Roads that follow historic road alignments and provide views of historic resources.
- **Frontage on Preservation Easements.** Roads that have a large portion of their frontage along properties that are in historic districts or subject to perpetual or long-term agricultural, environmental or historic easements.

The three components of the Scenic Road Program are:

- **Designation of Scenic Roads.** Scenic roads are designated through adoption of a scenic road inventory by the County Council.
- **Development of Land Abutting Scenic Roads.** New development adjacent to a scenic road is permitted, but must be designed to minimize impacts on scenic views from the road. This is accomplished through the Zoning, Subdivision and Land Development, and Forest Conservation Regulations, using such mechanisms as lot clustering, open space, forest conservation, protection of slopes, wetlands and streams, and landscaping.
- **Improvements to Scenic Roads.** Improvements to scenic roads must protect the features that contribute to the road's scenic character, such as width, alignment, and vegetation or slopes within the right-of-way. The County's development regulations, capital project procedures and road design standards require that improvements within the right-of-way of scenic roads be designed to preserve the character of the road while providing safe conditions for traffic.

The aspects of a route that make it scenic may derive from the scenic character of the roadway (width, topography and roadside vegetation) and/or from the scenic landscapes visible from the road. Different kinds of scenic roads require different types of protection or enhancement.

The scenic road criteria in [Box 3-5](#) define the characteristics that make a road scenic and identify the tools that are available to protect scenic roads. Once a road corridor is designated, the goal is to preserve its characteristics when evaluating road improvements and proposed development adjacent to the road. The minimum necessary access and safety improvements are required rather than standard road improvements along the entire road frontage. The tools to minimize visual impacts of adjacent development include: easement acquisition; zoning or subdivision regulations that require

setbacks and clustering of houses to make them less obtrusive from the road; and forest conservation and landscape requirements that protect existing hedgerows and roadside vegetation, and help screen new development. The regulations requiring the minimum necessary road improvements for safety and access have been effective. However, the provisions for minimizing the impact of new development on scenic vistas are less successful, and need to be reviewed and improved.

#### *Policies and Actions*

***POLICY 3.5: Mitigate traffic congestion and improve travel safety in the West.***

- ◆ **Regional Road Capacity.** Work cooperatively with the State to identify and implement strategies that will address safety and congestion problems on regionally significant commuter routes. Careful and credible analysis should be undertaken on the land use and traffic implications of capacity expansions on regional facilities, and on other means for alleviating congestion or safety concerns, before the final decision is made to proceed. Until all noncapacity expansion actions to improve safety have been considered, capacity expansion should not be undertaken. Projects that will improve safety without expanding capacity should receive priority over projects that will expand capacity.
- ◆ **Park-and-Ride Lots.** Promote the use of existing park-and-ride lots close to I-70 interchanges to reduce through traffic. If warranted, expand the capacity of park-and-ride lots.
- ◆ **Monitor Accidents.** Monitor vehicular accident data in the West, determine priorities for safety-related improvements and, where necessary, schedule and make safety-related improvements to the County's road network.

**POLICY 3.6: Refine scenic road regulations.**

- ◆ **Enhance Protection of Scenic Vistas.** Revise scenic road regulations for development adjacent to scenic roads to strengthen guidelines for protecting scenic character and buffering requirements for view protection.

## Economic Development

### Farm Industry Economic Development

The agricultural economy of Howard County, like that of the region, has been struggling in recent years (partly because of agricultural market conditions and national policies beyond the control of the local and State governments). The 1990 General Plan noted with concern several trends reported in the 1987 USDA Census of Agriculture: declining sales value

for farm products, an increase in idle farmland and a steep decline in farms with more than \$10,000 in annual sales. A more optimistic picture of the farm industry's economic health can be provided today, due to the reversal of these trends reported in the 1992 and 1997 USDA Census of Agriculture (Figures 3-7 and 3-8). However, the continuing decline in farmland acreage and farm profitability raises concerns about the future of agriculture. In Howard County, as elsewhere in central Maryland, most farms reported a net loss of income; in 1997, only 32% of farms in Howard County reported a net gain.

Economic viability is key to the survival of farming. However, economic viability must be understood in the context of the variety of farm enterprises in the County. The 1997 USDA Census of Agriculture reports that 60% of County farmers are part-time and two-thirds of County farms had sales of less than \$10,000 annually. (These proportions have changed little since 1987). Farms with full-time farmers have decreased 28% from 177 farms in 1992 to 127 in 1997. This is not a phenomenon unique to Howard County. Howard County farmers are suffering from the same low commodity prices that affect farmers nationwide. Off-farm income is becoming a way of life throughout the farming community. Part-time farming may not have the economic impact of the more substantial operations, but it is essential to other goals of farm preservation – protection of the rural landscape and quality of life, and stewardship of agricultural land.

At the same time, information from several sources that supplement the USDA Census suggests that the economic impact of the County's farm industry has been underestimated or simply not recognized. The value of farm products sold in the County is underestimated in the 1997 USDA Census. That census does not track the sale of horses and other income derived from the equine industry, which is very large in Howard County, nor does it reflect value-added crops, agritourism and exotic vegetables. Also, the USDA figures do not include the beneficial effect on the local economy of goods and services needed by this industry. The average per farm market value of agricultural products sold has increased 24% from \$49,605 in 1992 to \$61,667 in 1997. This attests to the fact that Howard County farmers are diverting into higher valued products such as vegetables, fruit and bedding plants, and using direct marketing opportunities like the Farmers

**Figure 3-7**  
**Sales Value of Farm Products, 1987-1997<sup>1</sup>**

<b>Category</b>	<b>1987</b>	<b>1992</b>	<b>1997</b>
All Farms	432 Farms	382 Farms	318 Farms
Total Sales Value	\$18,305,000	\$18,949,000	\$19,610,000
Average Sales per Farm	\$42,373	\$49,605	\$61,667
Total Production Expenses	\$17,006,000	\$15,819,000	\$16,144,000
Ave. Production Expenses per Farm	\$36,365	\$41,303	\$50,609
Farms with Sales > \$10,000	119 Farms	114 Farms	109 Farms
Total Sales Value	\$17,550,000	\$18,170,000	\$19,094,000
Average Sales per Farm	\$147,479	\$159,389	\$175,176
Total Production Expenses	\$15,475,000	\$14,086,000	\$14,661,000
Ave. Production Expenses per Farm	\$130,042	\$119,373	\$154,326

Source: 1987, 1992, 1997 USDA Census of Agriculture

1. The data provided does not include agritourism, sales of horses and fees for horse training and boarding, therefore it is a conservative estimate of sales values.

**Figure 3-8**  
**Land in Farms by Use, 1987-1997<sup>1</sup>**

	<b>1987</b>		<b>1992</b>		<b>1997</b>	
	<b>Acreage</b>	<b>Percent</b>	<b>Acreage</b>	<b>Percent</b>	<b>Acreage</b>	<b>Percent</b>
Harvested cropland	27,810	51%	26,256	59%	23,535	59%
Cropland used for pasture	8,512	16%	6,361	14%	5,555	14%
Idle cropland	4,390	8%	1,069	2%	802	2%
Other cropland	999	2%	595	1%	717	2%
Woodland	6,137	11%	6,061	14%	4,343	11%
Other farmland	6,193	11%	4,281	10%	4,894	12%
<b>Total Acreage in Farms</b>	<b>54,041</b>	<b>100%</b>	<b>44,623</b>	<b>100%</b>	<b>39,846</b>	<b>100%</b>

Source: 1987, 1992, 1997 USDA Census of Agriculture

1. All categories contain some pasture. Orchards are included in cropland. "Other farmland" includes house lots, barn lots, ponds, roads and those acres not classified as cropland, pastureland or woodland.

Market. More opportunities exist to capture income from agritourism, processed products, cooperative marketing and natural resources utilization.

Howard County's 1996 Farm Survey by the Economic Development Authority estimated that County-grown fruits and vegetables generated more than \$2 million in annual sales. Specialty agriculture (such as hydroponics, herbs, organic farming and produce for ethnic markets) is a smaller but growing sector of County farming. A growing number of farms are also marketing less tangible products, such as scenic values and recreational opportunities, through enterprises such as pick-your-own operations, cut-your-own Christmas tree farms, picnic grounds, petting farms and educational programs.

The 1996 Howard County Farm Survey reported \$2.1 million in annual sales of horses. Neither the 1992 nor the 1997 USDA Census of Agriculture reflects the scope of the equine industry. In December 1999, the Howard County Economic Development Authority conducted a Howard County Equine Industry Survey. The results from the questionnaire affirm that the \$140 million per year equine industry is a primary contributor to the stability and growth of the County's agricultural and tourism economies.

Horticultural products (not including the value of landscape services) were estimated by the 1996 Farm Survey to generate \$20 million dollars annually in Howard County. The County's Agricultural Marketing Program estimates that the value of these products has doubled since then and opportunities for further expansion exist. According to a 1997 survey by the Maryland Nurseryman's Association and the Maryland Department of Agriculture, the Maryland nursery industry ranks as second largest of the State's agriculture commodity groups, following poultry. The central Maryland region, which includes the Baltimore, Washington, Annapolis and Frederick areas, accounts for \$550 million of this \$800 million industry. Although the Eastern Shore is the primary nursery growing area, the Baltimore-Washington corridor creates a substantial demand for horticultural goods and services.

A November 1999 study by the Maryland Horticultural Association, expected to be published in 2000, will provide new data about the "Green

Industry" in Howard County. The data from these and future surveys can help indicate the types of business resources needed by farmers, support agricultural preservation by demonstrating the economic impact of agriculture and provide insight into other issues discussed in this chapter, such as the land base needed for agriculture.

### **Agricultural Marketing Program**

As the County approaches the limit on the amount of farmland that will be preserved, it must focus on other resources needed for the farm industry, such as support services and businesses, access to markets and education. In 1996, Howard County initiated the Agricultural Marketing Program, a joint effort of the Economic Development Authority and the Department of Planning and Zoning. This program enables the County to target its economic development efforts to the changing needs of farm operators. Changes in the national and international agricultural economies and changes in the nature of farming at the urban fringe are impacting traditional agriculture in many Maryland jurisdictions, including Howard County. In acknowledgment, Montgomery, Carroll, Frederick and Howard Counties have all established agricultural economic development programs and are beginning to work together to determine how agriculture in central Maryland can best respond to changing conditions and opportunities.

The Agricultural Marketing Program's goal is to enhance the income potential of Howard County's agricultural community through promotion, education, marketing and support of agriculture as an industry. The program will concentrate resources on these identified target industries: horticulture, equine, fruits and vegetables, and agritourism. These agricultural industries represent the future of farming in Howard County. They have the highest potential for expansion and will likely result in an increase in the agricultural economic base. The program has an additional goal to double the net income per farm acre within five years. This is an achievable goal and is consistent with the pattern of increased income experienced over the past decade. Average net income is now \$492 per acre, up from \$339 in 1989 and up from \$425 in 1992. The Agricultural Marketing Program is also focusing on recruiting and training new farmers, with an emphasis on those interested in high value and high profit crops on small

farms. Howard County's Agricultural Marketing Program is committed to helping the farm community remain both sustainable and profitable. The program assists County farmers and agribusiness in promoting their products, diversifying their profit centers and expanding their markets.

The traditional market outlets for farming, such as auctions, wholesalers and farmer-to-farmer sales, do not meet the needs of many farm enterprises. Marketing for agricultural products, such as fruits and vegetables, organic produce, exotic produce and meats, and other specialty items, are more varied and not as well established. In cooperation with County farm operators, the Agricultural Marketing Program helps to market local farm products to area businesses and consumers through promotional materials, farmers markets and referrals. Potential marketing strategies include Internet or mail order networks and small farm cooperatives. Conversely, the Agricultural Marketing Program also seeks to link farmers willing to provide new products with sources of demand.

Additional processing of farm products can help to increase their value and potential markets. Howard County initiated a partnership with other agencies and received a grant to study the feasibility of establishing a food processing incubator that would allow small farmers to increase the value of their products through small processing operations. The incubator project is awaiting additional funding from the Maryland Legislature to proceed with Phase II of the study. Phase II will involve securing funding to build a prototype commercial kitchen at the Maryland Food Center Authority in Jessup.

### **Labor, Education and Services**

Respondents to the County's 1996 Farm Survey listed three resources as needing the most enhancement: labor, marketing and promotions. At a time when many County industries are having difficulty finding workers to fill lower level positions, farmers are at a particular disadvantage because of their location away from employment centers and their increasing need for trained labor. County farmers frequently go well outside the local area, hiring workers from Pennsylvania, Virginia and West Virginia.

To address the need for affordable housing for farm workers, Howard

County revised the zoning regulations in 1992 to allow a greater number of farm tenant houses (one per 25 acres). Recruitment, training and transportation are other areas that can be addressed through cooperative efforts involving farm operators, the County, local high schools and colleges, the Cooperative Extension Service and others.

As new technology and regulations increase the need for specialized knowledge, training will be an ongoing need for farm operators and managers, as well as for lower level workers. Established farmers need to learn and to implement cutting-edge technology in order to be as profitable and efficient as possible. They also need information and training about new crops and production systems to allow them to make the transition to more profitable options. New farmers need to be trained in the basics of farming (land management, equipment use and maintenance, and crop production), as well as in the specifics of their enterprises. Training can also aid the transition of farm operations from retiring older farmers to new operators and managers.

Educational opportunities and agricultural resources are available to the County farming community through the Maryland Education Center for Agriculture, the Advanced Technology Center for Agriculture and Business Development in the Carroll County Community College, the University of Maryland College of Agriculture and Natural Resources, and from land-grant colleges throughout the region. The University of Maryland Institute of Applied Agriculture offers traditional courses in a classroom setting and distance learning educational programs available through Internet access. The University of Maryland Cooperative Extension Service in Howard County provides the agricultural community with educational support and materials for all phases of agriculture. Information and seminars are also coordinated by the Soil Conservation District, Howard County Farm Bureau and various agricultural special interest groups.

Many of these educational opportunities and resources are available in the County; some are located in the Rural West. Changes in technology and information services are making many of these resources available through the Internet. However, it may be appropriate to identify space that could

serve as a Rural West meeting center, a location for agricultural and educational seminars, and an auxiliary location for County agencies to meet with individual farmers. The Glenwood Multi-Service Center, County Fairgrounds, fire stations and other sites in the Rural West offer potential gathering places for the farm community, but the merits of creating an agricultural education and service center should be given further consideration.

## Land Use Restrictions and the Agricultural Industry

Farming in Howard County has shifted from an industry dominated by grain, livestock and dairy to a more varied industry led by the horticulture and equine sectors. Uses typically ancillary to farming have also changed, with farms increasingly likely to have business components that require being open to the public. For example, horticultural farms may open a retail nursery outlet, horse farms may offer horse boarding or riding lessons, and fruit or vegetable farms may engage in direct retail sales through farmers markets or pick-your-own operations. Farms may also benefit from the opportunity to engage in limited on-farm secondary processing to increase the sale value of their product. Some types of farming, such as aquaculture, may take place entirely within buildings.

These changes in farming may require refinements to the County Code to address easement restrictions for preserved farmland and to the Zoning Regulations to address issues that impact all farms. Both the County and State have strong policy and financial commitments to retaining the productive value of farmland while allowing economic activity that will permit the farm industry to thrive. Changes to easements that lessen the agricultural value or acreage of easement properties would not be consistent with the County or State investment in those easements. However, some changes may be appropriate because of changes in agricultural practices.

For properties with agricultural easements, Howard County's Zoning Regulations and County Code provisions are among the most liberal in the State, permitting a wide variety of farm-related business activities on agricultural land. Many of these activities, such as riding academies, landscape contractors, wineries and most secondary processing of farm products, require a special exception under the Zoning Regulations. However, some of

the recreational uses that are increasingly found as accessory uses on farms close to suburban populations – hayrides, petting farms, picnic grounds – have not been clearly addressed in County regulations. In addition, the special exception requirements for some small-scale uses on farms may no longer be appropriate given the changes in agriculture.

Farms with easements held by the Maryland Agricultural Land Preservation Foundation (MALPF) are prohibited from having many ancillary farm business uses due to highly restrictive interpretations of agricultural uses. MALPF policies are based upon traditional grain, livestock and dairy farming, and do not support many types of horticultural, horse or agricultural processing operations. The policies severely inhibit or prohibit most agribusiness uses unless the land area is specifically excluded at the time the easement is recorded.

## Policies and Actions

***POLICY 3.7: Develop effective County programs to assist the agricultural industry with marketing and economic development issues.***

- ◆ ***Farm Database.*** Maintain and update information on the County farm industry, using the United States Department of Agriculture Census of Agriculture, Cooperative Extension Service, County-conducted farm surveys, studies available from industry associations, the University of Maryland and other sources.
- ◆ ***Agricultural Marketing Program.*** Expand the County Agricultural Marketing Program to increase assistance to farmers in business planning, education and training, and marketing. Encourage the State to develop programs that assist Maryland farmers in promoting their goods and services to regional, State and national markets. Encourage the State to expand its Domestic Marketing Program to support local marketing efforts.
- ◆ ***Promotion of Farm Products.*** Promote County farm products to potential consumers within the County and the region, including businesses, residents and industry. Encourage local users of agricul-



tural products to purchase from local producers. Link farmers interested in providing new products to sources of demand.

- ◆ **Increasing the Value of Farm Products.** Promote opportunities for farmers to increase the sale value of their products through “value-added” processing of farm products.

**POLICY 3.8: Initiate County programs to assist the farm industry with education and with recruitment of labor.**

- ◆ **Farm Operator Education and Assistance.** Work with State and County agencies, including the Maryland Cooperative Extension Service, to provide technical information to established farmers about the latest production and marketing techniques, to train new farmers in agricultural practices and to provide technical assistance to farmers establishing nontraditional enterprises.
- ◆ **Agricultural Technical Education.** Encourage the Howard County Community College and County high schools to initiate agricultural technical education courses. Encourage them to collaborate with Carroll County Community College, the University of Maryland and the Cooperative Extension Service for educational seminars and courses for farm laborers and managers.
- ◆ **Training and Recruitment Needs.** Work with farm operators and the Cooperative Extension Service to assess the need for training and recruitment to provide the labor and skills needed for County agricultural operations.
- ◆ **Internet Information.** Use the Internet as a resource to disperse information about sharing farm resources including labor and equipment.

**POLICY 3.9: Foster business uses ancillary to farm operations.**

- ◆ **Zoning.** Adopt appropriate modifications to the Zoning Regulations to support principal and accessory agricultural activities.
- ◆ **Special Exceptions.** Review the special exception standards for busi-

ness uses related to agriculture. Where appropriate, adopt amendments to allow these uses under an administrative permit process subject to specific standards to limit their scale and impact.

- ◆ **Maryland Agricultural Land Preservation Foundation (MALPF) Easement Restrictions.** Encourage amendments to the State Code and policies to allow a wider range of legitimate secondary agribusiness uses on farms with MALPF easements.
- ◆ **Equine Industry Recognition.** Encourage recognition of the horse industry as a component of the agricultural industry at the State and national level.

## Commercial Development

### Employment and Commercial Areas in the West

There have been proposals to intensively develop the I-70 corridor for employment similar to I-270 in Montgomery County. However, unlike I-270, I-70 is not the spine of a dense, mixed use residential and employment corridor. The development of a corridor of major employment centers along I-70 would demand extensive land use changes in order to provide for employment sites and supporting residential areas. This level of development would then require the extension of public water and sewer service. However, there are few large parcels near the interchanges on I-70 (Map 3-1, as shown previously) that are close enough to the Planned Service Area to make water and sewer extension feasible.

Economic development along the I-70 corridor has been largely preempted by residential development and permanent preservation easements. Large-scale redevelopment would be needed to establish an employment corridor. It would be difficult to limit development to a narrow corridor or a few select concentrated areas without causing additional pressure for land use changes.

Traffic on adjacent roads would also be a problem. Spillover traffic onto MD 144 and Old Frederick Road would cause those roads to need exten-

sive reconstruction to function effectively. Furthermore, nearby existing interstate service areas and major commercial centers (Mt. Airy, US 29 and US 40 in Ellicott City and the Baltimore Beltway) preclude the need for major interstate commerce and service centers along the rural section of I-70. For these reasons, this General Plan does not call for economic development along I-70.

## Commercial Crossroads

The 1990 General Plan identified several existing centers (Lisbon/Woodbine, West Friendship, Glenelg/Glenwood, Dayton and Highland) that could serve as focus points for commercial development in the Rural West. In the decade since the 1990 General Plan, some of the land that might have contributed to an economic development area in West Friendship has been developed as cluster subdivisions. Although there is uncommitted land available in the Lisbon/Woodbine area, the existing pattern of small commercial and residential lots, and the grid of narrow roads limits the opportunities to bring traffic to an economic center in or near Lisbon.

Beyond expanding existing crossroads communities, the 1990 General Plan proposed a study on the feasibility of creating new rural centers. As mentioned above, the Rural West Commission concluded that new rural centers were impractical and undesirable. In the last decade, new commercial construction in the Rural West has been limited to automobile-dependent strip retail development along the major roads. Plans for Rural West commercial development should recognize the historic and cultural traditions associated with existing communities and favor revitalization of existing centers over development of new centers. Thus, retail development should be discouraged outside the existing crossroads centers. Agribusiness uses, however, should be permitted in locations beyond rural commercial centers. Appropriate agribusiness locations may include existing farms, sites approved for the Business: Rural floating zone or properties approved for special exception uses. Proposals for expansion or redevelopment around existing commercial crossroads should give consideration to septic system capacity, traffic, non-residential vacancies, the condition of buildings and public infrastructure, and design compatibility with the rural character of the area.

Community Master Plans and Community Enhancement Programs, as described in Chapter 5, *Community Conservation and Enhancement*, are a means to address the potential for expansion, conservation or revitalization of existing Rural West crossroads centers. A variety of approaches may be needed when planning for rural communities. Some centers (Glenwood and West Friendship) are relatively new, some are older (Highland), and others combine old and new elements (Lisbon/Woodbine). Some communities may want to participate in a Community Master Plan process that addresses building renovation, new construction and public infrastructure improvements. Other communities may only seek specific enhancement programs, such as streetscape improvements. Planning efforts in the Rural West will need to involve the farm and non-farm sections of the community. The efforts can benefit from collaboration among County agencies, the Farm Bureau, the Soil Conservation District, the Cooperative Extension Service, the Agricultural Land Preservation Board, the Agricultural Marketing Program and other agencies and groups that represent the interests of the Rural West.

## Policies and Actions

### ***POLICY 3.10: Direct commercial expansion and redevelopment efforts to existing commercial crossroads in the Rural West.***

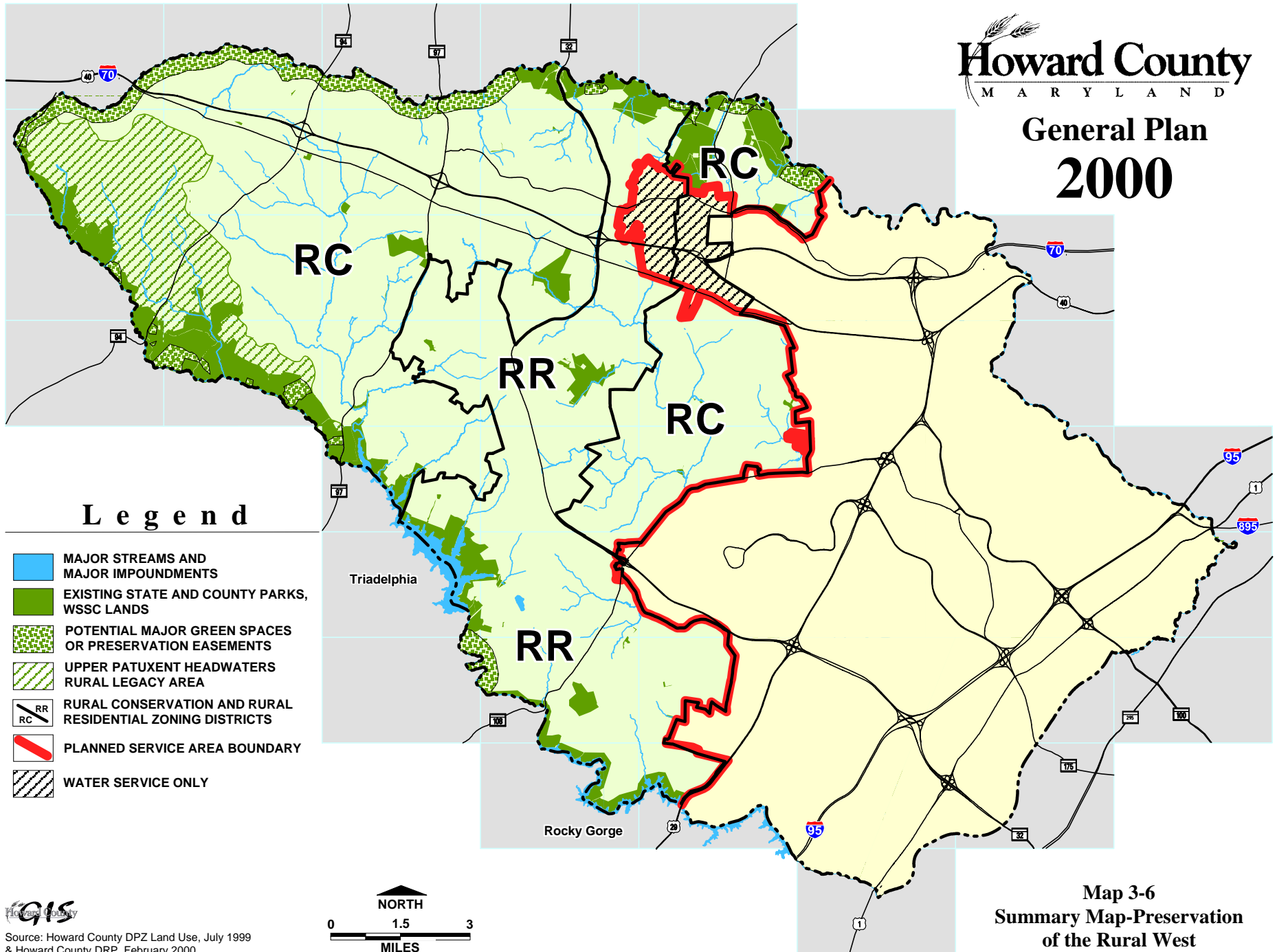
- ◆ ***Commercial Centers.*** Locate non-residential development in and around existing Rural West centers. Limit such development to a scale appropriate to serve the local needs of the surrounding community rather than the interstate traveler.
- ◆ ***Community Planning.*** Use Community Master Plans or Enhancement Programs as a means to address expansion and redevelopment of Rural West commercial crossroads and community centers.
- ◆ ***I-70 Corridor.*** Discourage economic development unless immediately adjacent to an interchange and compatible with rural agricultural and residential uses in the vicinity.

## **Summary Map**

Map 3-6, titled Summary Map – Preservation of the Rural West, summarizes and illustrates some of the policies and actions described in this chapter.

**Howard County**  
M A R Y L A N D

**General Plan  
2000**



Source: Howard County DPZ Land Use, July 1999 & Howard County DRP, February 2000.

# Balanced and Phased Growth

## Introduction

A goal of this General Plan is to have an appropriate balance of land uses. Balanced growth offers all residents opportunities for work, housing and recreation, as well as convenient access to schools, stores, services and green space. In a small county such as Howard, there are many demands on the limited amount of remaining land. Balanced growth ensures that all land use needs are met without favoring one to the detriment of another, and helps promote a healthy fiscal base for the delivery of public services needed by the County's population.

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### ***Vision 3:***

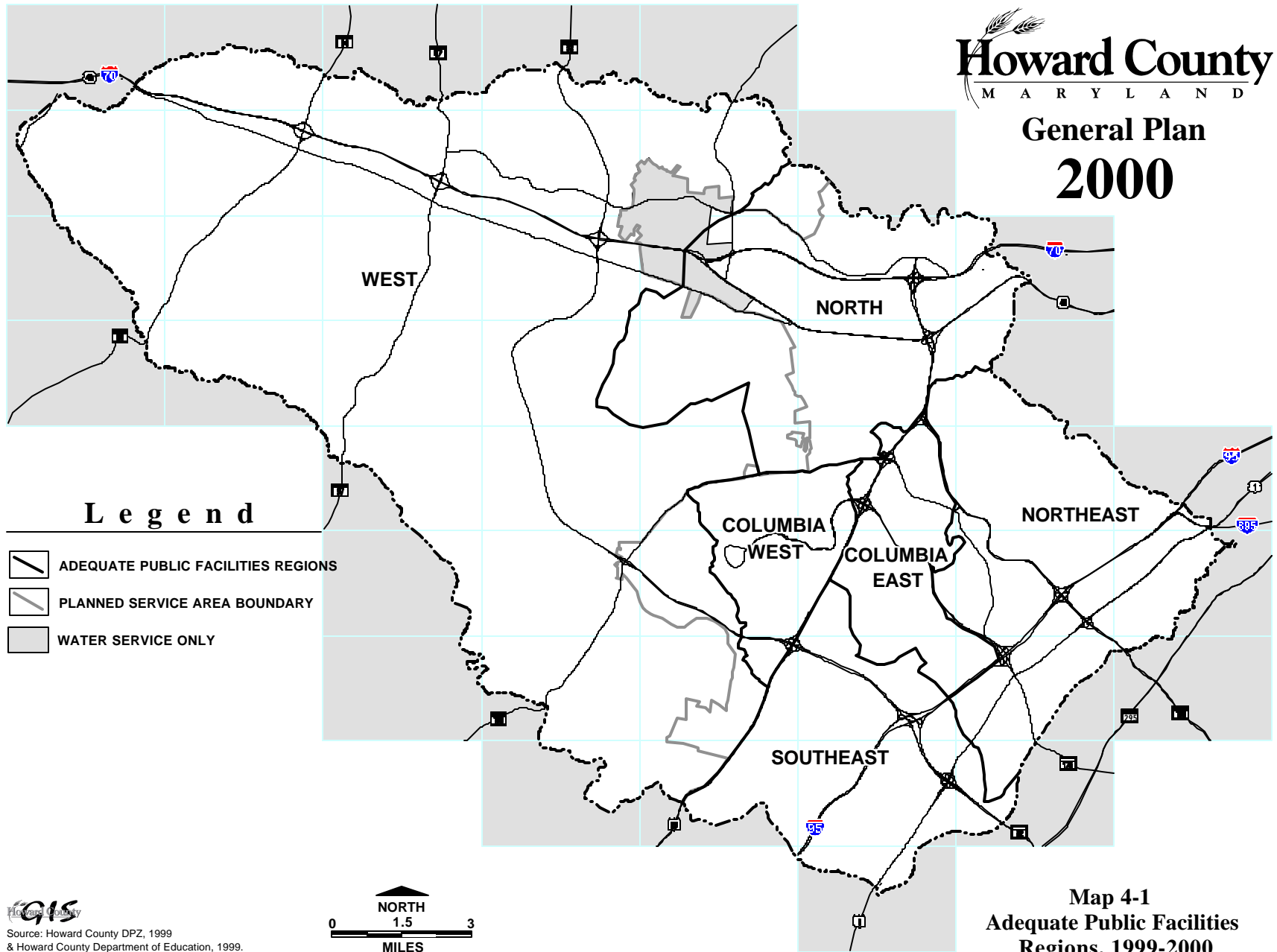
*Our development will be concentrated within a growth boundary, will be served by adequate public facilities and will encourage economic vitality.*

---

With land use patterns substantially established, this General Plan does not recommend major changes to land use designations or to the balance of opportunities for employment and housing. Instead, this chapter examines issues that are growing in importance as the County approaches build-out of its available land. The development pressure on Howard County's limited land resources increases the importance of maintaining the County's planned growth boundary. The boundary encourages more compact development patterns in eastern Howard County, allowing more efficient provision of public services and facilities.

The Adequate Public Facilities Act, passed in 1992, was designed to ensure that public schools and roads are adequate to accommodate new development in the County ([Map 4-1](#)). The Act promotes orderly growth by synchronizing new development with the availability of public facilities in order to achieve the goals and growth targets of the 1990 General Plan. The Adequate Public Facilities process requires development projects pass certain tests as a condition of subdivision or site development plan approval.

**Howard County**  
MARYLAND  
**General Plan**  
**2000**



**GIS**  
Source: Howard County DPZ, 1999  
& Howard County Department of Education, 1999.

The process also guides County planning for the timely provision of schools, road improvements and other public facilities and services.

In preparing this General Plan, a fiscal analysis was conducted that examined four growth scenarios, as described in Box 4-1. Map 4-2 shows the planning areas analyzed in that study and used to develop growth forecasts. (Refer to the final section of this chapter for the fiscal study results and new growth forecasts.) The fiscal impacts of various growth rates were of spe-

cial concern since a fundamental objective of this General Plan is to maintain the level of services the County offers today as the County accommodates expected growth. Good schools, an efficient transportation system, excellent public safety, high quality public facilities such as the library system, a broad range of human services and numerous recreation programs are all part of a high quality of life enjoyed by County residents. Balanced growth is critical to ensuring that the quality of life is maintained or even improved in the year 2020.

**Box 4-1  
Fiscal Impact Scenarios**

The 1990 General Plan expected housing growth to average 2,500 units per year for 20 years, achieving build-out in 2010. Employment forecasts in the 1990 General Plan assumed that approximately 2,750 jobs would be added on an average annual basis until 2010. During the 1990s, the pace of residential construction in the County was below the targets established by the 1990 General Plan. However, a higher ratio of single-family detached units were built than anticipated, yielding population growth that closely matches the 1990 General Plan population forecast. After a decline in jobs during the early 1990s, employment growth was strong during the late 1990s, substantially exceeding the General Plan projections.

Four growth scenarios were considered for the 2000 General Plan fiscal analysis. Each scenario is comprised of housing unit/population projections and employment/job projections:

- 1. **Modified General Plan.** This scenario assumes the same population and the same number of housing units as projected in the 1990 General Plan. The annual number of new units declines from 2,740 through the year 2005 to approximately 1,760 new units until build-out of the current zoning capacity is reached in 2015. The employment growth targeted by the 1990 General Plan, with some reallocations reflecting actual increases, averages approximately 2,410 jobs annually from 2000 to 2020. This reflects the 1990 General Plan annual growth rate of 2,860 new jobs from 2000 to 2005 and 2,260 new jobs from 2005 to 2010, with an assumption of 2,260 annual new jobs continuing thereafter to 2020.
- 2. **1990s Trends Extended.** Using the lower annual housing construction trend of the 1990s, approximately 2,000 new housing

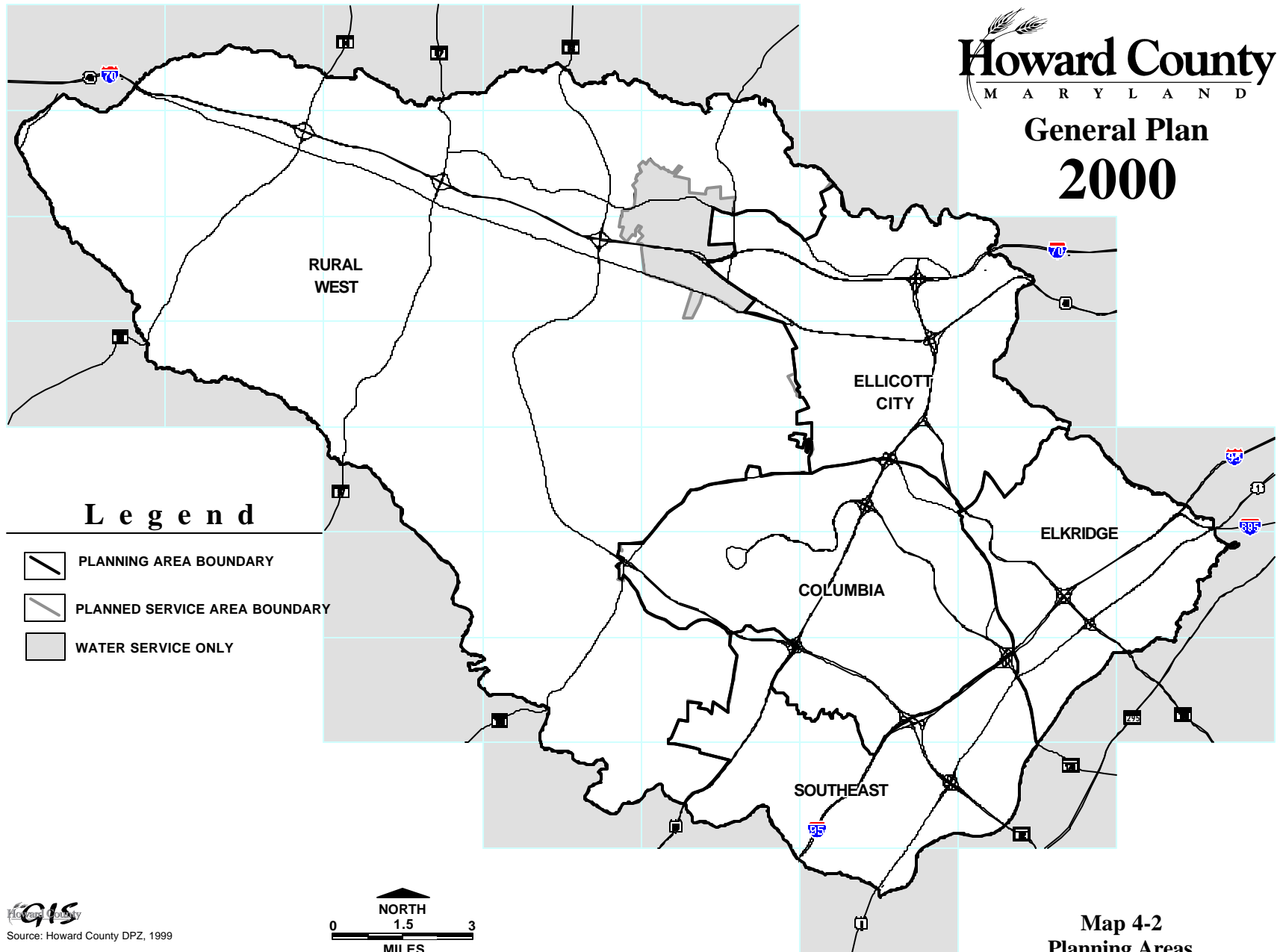
units would be built per year until 2020. Current zoning capacity would be attained in 2015, thus additional zoning capacity is required. To achieve this additional capacity, 11,000 more units were added: approximately 4,000 units in the “near” West, 6,000 units of elderly housing were assumed to be built on land currently zoned for commercial uses, and 1,000 accessory apartments were included in single-family detached units throughout the County. The employment forecast shows an increase of approximately 5,000 jobs annually from 2000 to 2020, reflecting the job growth of the late 1990s.

- 3. **Slow Population/General Plan Employment.** This scenario reflects the 1990s trend of 2,000 new housing units annually through the year 2005, declining to 1,500 units annually until 2015, and then to 1,000 units until 2020. At this pace, zoning capacity would be reached in 2021. No zoning change is required. The population is assumed to increase over the time period to approximately the same total population as the Modified General Plan projections, but at a slower pace. The Modified General Plan employment forecast (2,410 jobs annually until 2020) is used in this alternative scenario.
- 4. **Slow Population/High Employment.** This scenario uses the slow household and population forecast as reflected in the third scenario above and the employment forecast of 5,000 jobs per year.

The General Plan fiscal study evaluated the costs and revenues associated with each scenario to determine the fiscal impact on the County’s budget. Refer to the last section of this chapter for further details on the fiscal impact study results.



**Howard County**  
MARYLAND  
**General Plan**  
**2000**



**GIS**  
Source: Howard County DPZ, 1999

A number of goals must be pursued to support the General Plan vision for this chapter:

**Provide a range of housing options in appropriate locations.** This General Plan foresees the build-out of residential land use patterns that have, for the most part, been established. New housing opportunities will occur within existing mixed use districts, as infill within existing neighborhoods and within redevelopment areas. This Plan examines the importance of preserving and renovating existing housing. This Plan also addresses the need for an adequate supply of homes suited to the needs of all incomes, ages and household types, and for those with special needs.

**Pursue sustained job growth and a strong, non-residential tax base.** This General Plan calls for policies that will allow the strong employment growth experienced during the mid to late 1990s to continue, although probably at a more moderate rate. Sustained economic health requires strong, livable communities and healthy environmental resources, as described in Chapter 5, *Community Conservation and Enhancement* and Chapter 6, *Working with Nature*.

**Revitalize and redevelop existing, underused commercial and industrial areas.** A growing scarcity of raw land means that the County needs to examine the potential and conditions necessary for revitalization and redevelopment of underused properties. This will provide for future economic development, while enhancing the County's existing communities.

**Provide excellent public services for citizens.** Howard County has secured most of the land it will need for public facilities. With land resources becoming scarce, the County must quickly pursue sites for the additional facilities and green space that will be needed. In addition, the County must plan for changes in public facility and service needs that will be generated by a growing senior population, aging public facilities and infrastructure, and an increasingly diverse population.

**Develop a multimodal transportation system.** Design standards for site development and streets must encourage linkages and accessibility for all modes of travel, including auto, transit, bike and pedestrian transportation. This is necessary to provide for the travel needs of all of the County's citi-

zens and to accommodate the job growth needed to sustain the County's economic health.

**Use annual targets for employment and housing growth.** Phasing of growth is essential to planning for an appropriate balance of land uses. The 1990 General Plan analyzed the fiscal implications of alternative growth scenarios, adopted annual targets for employment and housing growth, and recommended a development monitoring system and adequate public facilities legislation. This General Plan establishes new growth targets to synchronize future development with the provision of needed public facilities.

**Recognize the fiscal impacts of growth.** The fiscal impacts of various growth rates were analyzed, since a fundamental objective of this General Plan is to maintain the level of services the County offers today as the County accommodates expected growth.

## State Planning Mandates

The County's vision for growth management echos the following visions articulated in the amended 1992 State Planning Act:

- Development is concentrated in suitable area;
- Economic growth is encouraged and regulatory mechanisms are streamlined; and
- Adequate public facilities and infrastructure under the control of the County are available or planned in areas where growth is to occur.

The 1997 Smart Growth Act, with its designation of growth areas and rural conservation areas, reinforces these ideas. Howard County's Planned Service Area for both public water and sewer has been designated the County's "Priority Funding Area" for State-funded projects. This chapter addresses the steps the County will need to take to encourage continued economic growth and the types of regulatory mechanisms and incentives that must be considered.

# Residential Land Use

## Prospects for Residential Growth

The 1990 General Plan expected housing growth to average 2,500 units per year, achieving a build-out in 2010 of 116,600 housing units. This housing capacity projection was estimated prior to the Comprehensive Zoning that followed the completion of the 1990 General Plan.

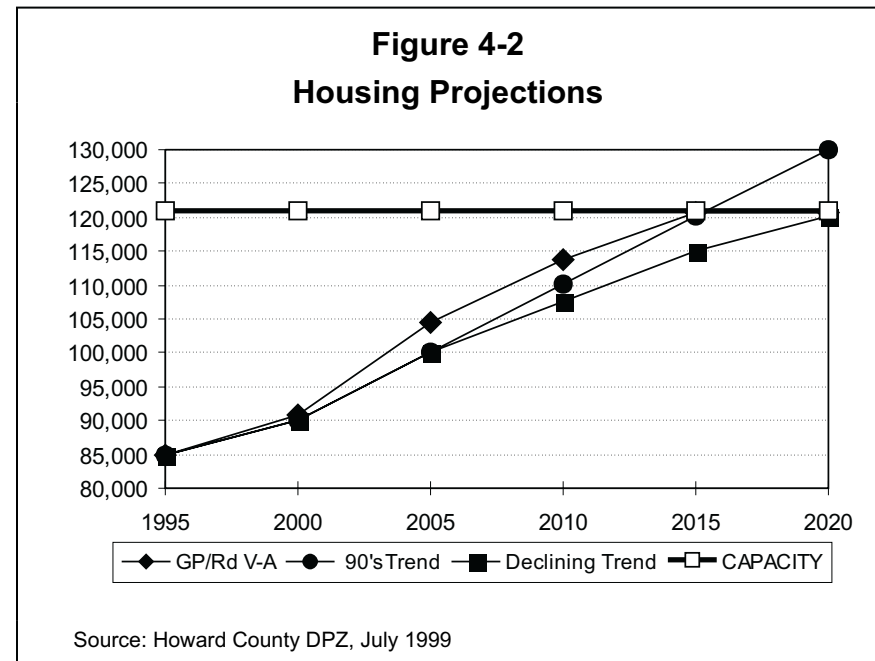
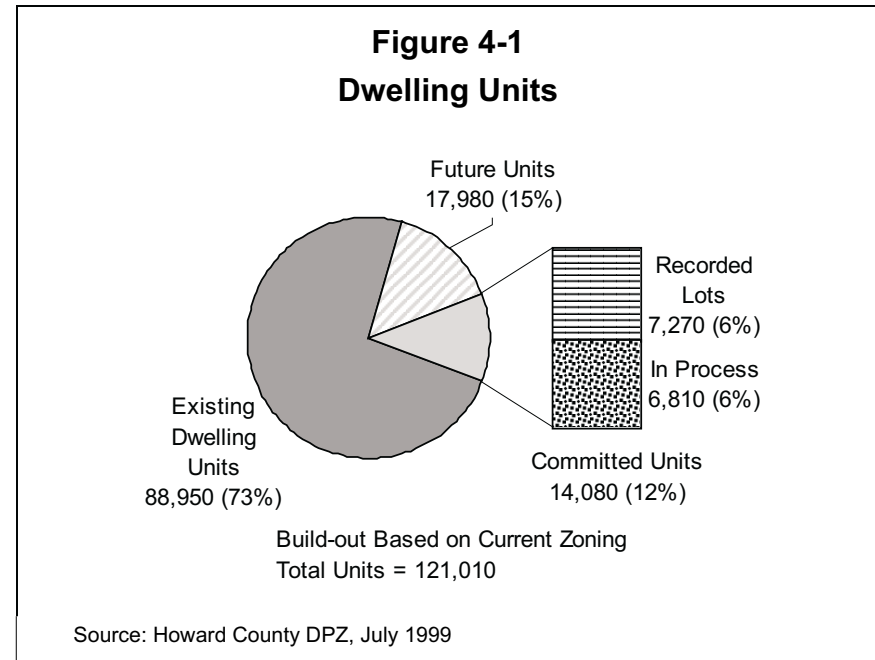
The housing capacity and build-out year has changed since the 1990 General Plan was adopted due to re-zonings and a slowing pace of growth. The present supply of land for housing, based on the latest 1993 Comprehensive Zoning, permits a total build-out of about 121,000 housing units. Of this total, 88,950 units are already built, leaving about 32,000 still to be built (Figure 4-1). However, more than 40% of the remaining units are already committed to development, being either recorded, unbuilt lots or units currently in the development review process.

Most of this decade has been very advantageous for housing development due to the strong economy and low mortgage interest rates. However, residential growth has been consistently below the 1990 General Plan anticipated growth rate. Actual growth during the 1990s approximated 2,000 new dwelling units per year. If growth continues at this rate, the potential housing supply under current zoning will be built-out in 2015 (Figure 4-2).

The slower than expected housing growth rate is largely attributable to the limited supply of undeveloped residentially zoned land. Where larger amounts of land have been available, development demand has been very strong. In the northern and northeastern portions of the County where undeveloped land has been available, the pace of development has been slowed to the number of allocations available each year under the County's Adequate Public Facilities Ordinance.

## Availability of Residential Land

The pie chart in Figure 4-1 shows that about 32,000 additional homes can be built in the County. However, about 7,270 of these homes are to be built



on lots already recorded and 6,810 are in the development process, leaving only 17,980 units to be built on land not yet committed to development. Of these 17,980 units, about 5,320 can be built in the West and 12,660 can be built in the East. Figures 4-3 and 4-4 present this information on housing units and acreage by zoning category. Figure 4-5 presents the information by area of the County.

Map 4-3 shows the location of uncommitted residential land in the County grouped by parcel size. The map was developed using Fall 1998 State Assessment data on unimproved parcels, with deductions for development proposals in the plan review process as of Spring 1999, and residential parcels less than ten acres in the Rural West and less than three acres in the East, that were considered not to have additional development potential.

Much of the remaining undeveloped residential land is already committed to either recorded, unbuilt lots or to subdivisions already in process. Of the uncommitted residential land, most of the land is in relatively small, scattered infill parcels within existing developed areas. Since neighbors are

likely to resist significant changes to existing zoning, it is likely that most of the remaining residential land will be developed as currently zoned. Thus, no major zoning changes are proposed as part of this General Plan.

It is important to note that the County must compete with residential development to obtain land for future schools, parks and other types of facilities. Due to the very high cost of land that is zoned for employment uses, the County will generally look for uncommitted residentially zoned parcels to meet future needs. As Figure 4-3 indicates, most of the uncommitted residentially zoned land is rural. Rural property is not well located to provide the diverse facilities and services for the population which lives within the Planned Service Area (PSA). Since the PSA is the County’s Priority Funding Area, State funding is generally not available for public facilities in rural areas. In the East, there are only about 5,300 acres of uncommitted residential land to satisfy future needs for housing, public facilities and green space preservation. This land is being developed at a steady pace. The County needs to assess future land acquisition needs and priorities, and implement an acquisition plan while land is still available.

**Figure 4-3  
Residential Land Use by Zoning (Acres)**

Zoning	Developed <sup>1</sup>	Recorded			Total
		Unbuilt	In Process	Uncommitted <sup>2</sup>	
Rural Density	65,360	4,730	1,740	23,130	94,960
Low Density	23,430	650	900	3,360	28,340
Medium Density	5,310	260	200	570	6,340
High Density	2,100	110	100	150	2,460
Mixed Use	0	0	310	900	1,210
New Town	10,840	190	210	330	11,570
Planned Golf Course Community	200	30	520	30	780
<b>TOTAL</b>	<b>107,240</b>	<b>5,970</b>	<b>3,980</b>	<b>28,470</b>	<b>145,660</b>
Percent	73.6%	4.1%	2.7%	19.5%	100.0%

Source: Howard County DPZ, July 1999

1. Developed land also includes areas in easements, parks and green space that will remain unbuilt.
2. Uncommitted residentially zoned land may currently be in agriculture. It may be converted to residential use, permanent preservation easements, or it may remain in agriculture or other rural uses without preservation easements.

**Figure 4-4  
Residential Units, Build-out With Current Zoning**

Zoning	Developed Recorded				Total	Potential Units	Potential Units
	Units	Unbuilt	In Process	Uncommitted		To Build-Out	Percent
Rural Density (RR, RC)	10,400	2,040	570	5,420	18,430	8,030	25%
Low Density (R-ED, R-20)	18,260	1,710	1,290	5,310	26,570	8,310	26%
Medium Density (R-12, R-SC)	11,950	1,030	410	1,830	15,220	3,270	10%
High Density (R-MH, R-SA-8, R-A-15)	16,800	1,270	820	1,490	20,380	3,580	11%
Mixed Use	0	0	1,150	2,630	3,780	3,780	12%
New Town	30,500	950	790	1,300	33,540	3,040	9%
Planned Golf Course Community	40	120	1,230	0	1,390	1,350	4%
Historic	300	10	0	0	310	10	0%
Other Zones	700	140	550	0	1,390	690	2%
<b>TOTAL</b>	<b>88,950</b>	<b>7,270</b>	<b>6,810</b>	<b>17,980</b>	<b>121,010</b>	<b>32,060</b>	<b>100.0%</b>
Percent	73.5%	6.0%	5.6%	14.9%	100.0%		

Source: Howard County DPZ, July 1999

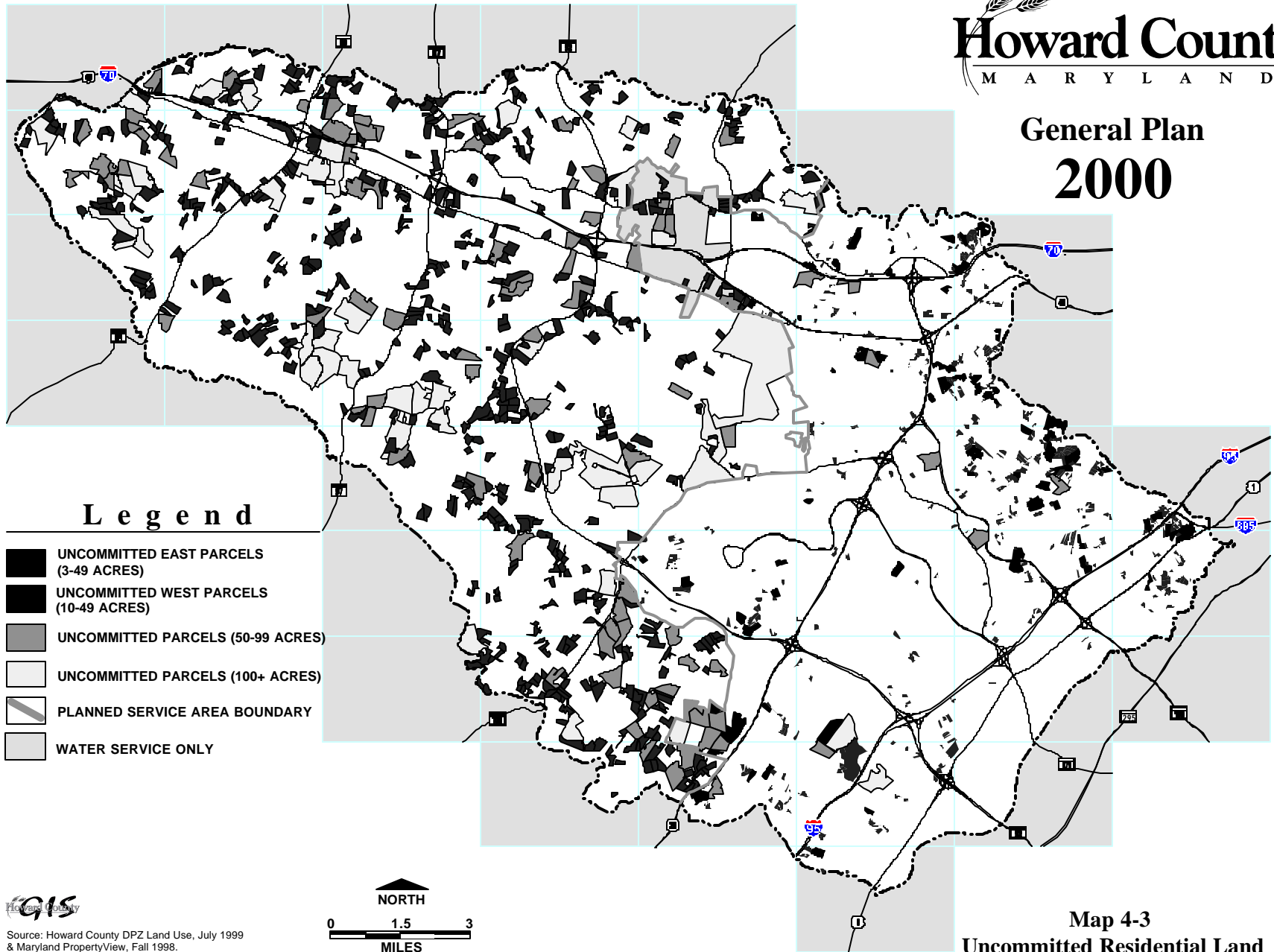
**Figure 4-5  
Residential Units By Area**

Region	Developed	Recorded		In Process	Uncommitted	Total
		Unbuilt				
Columbia	36,260	1,720		1,020	1,810	40,810
Elkridge	11,440	1,010		710	2,070	15,230
Ellicott City	17,560	1,580		3,270	3,330	25,740
Southeast	12,740	910		1,240	5,450	20,340
<b>Total East</b>	<b>78,000</b>	<b>5,220</b>		<b>6,240</b>	<b>12,660</b>	<b>102,120</b>
West	10,950	2,050		570	5,320	18,890
<b>Total County</b>	<b>88,950</b>	<b>7,270</b>		<b>6,810</b>	<b>17,980</b>	<b>121,010</b>

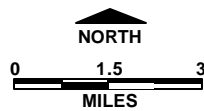
Source: Howard County DPZ, July 1999



# General Plan 2000



Source: Howard County DPZ Land Use, July 1999 & Maryland PropertyView, Fall 1998.



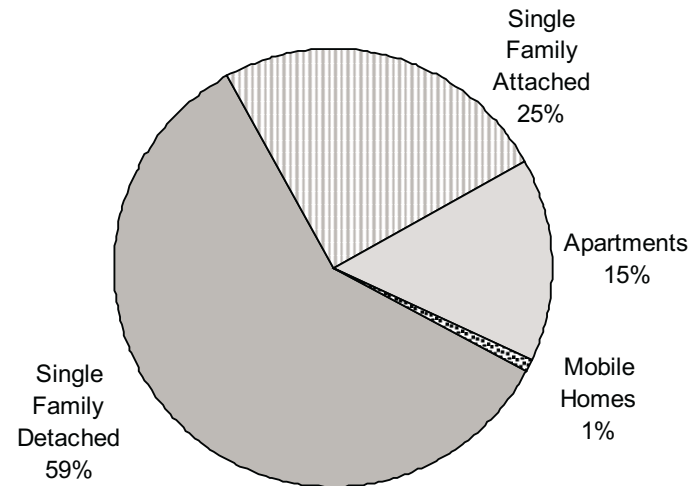
### Housing Unit Mix

The 1990 General Plan noted a strong trend, based on the zoning in place in 1989, toward a greater proportion of single-family detached housing. To establish a greater mix of housing in the future, the 1990 General Plan set a new growth target whereby slightly more than half of new units would be single-family detached, almost one-third would be single-family attached and 16% would be apartments. Since 1990, the mix of homes built has been close to this target, with slightly more single-family detached units and slightly less single-family attached units being built. As shown in Figure 4-6, 59% of new units have been single-family detached, 25% have been single-family attached and 15% have been apartments.

The zoning of the land is important since it indicates the type of units likely to be built. For example, only single-family detached homes can be built on Rural Conservation or Rural Residential zoned land. By multiplying the acreage by the density factor for each zoning category, the County’s future mix of housing units can be compared to the current housing mix (Figures 4-7 and 4-8).

In response to the 1990 General Plan, the 1993 Comprehensive Zoning resulted in additional land zoned for single-family attached and apartment development. These zoning changes have decreased the proportion of re-

**Figure 4-6  
New Dwelling Units  
Use and Occupancy Permits 1990-1999**



Source: Howard County DPZ, July 1999

**Figure 4-7  
Housing Unit Mix by Type**

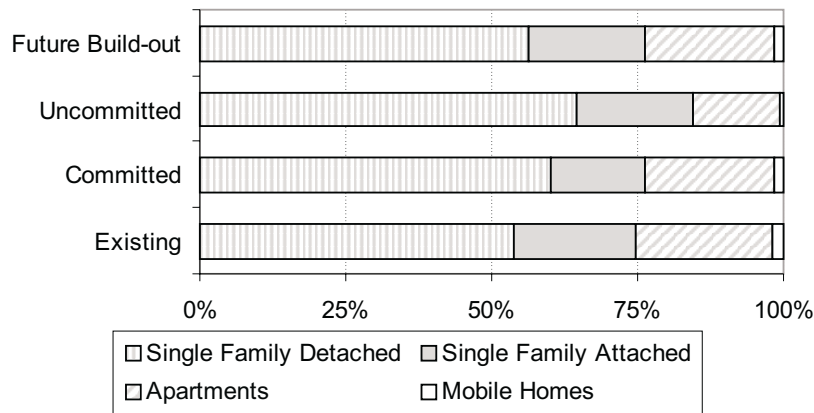
Stage	Single Family Detached	Single Family Attached	Apartments	Mobile Homes	Total Units
Existing	54%	21%	23%	2%	100%
Recorded Unbuilt	79%	12%	8%	0%	100%
In Process	39%	21%	37%	3%	100%
Committed	60%	16%	22%	2%	100%
Uncommitted	65%	20%	15%	1%	100%
<b>Future Build-out</b>	<b>56%</b>	<b>20%</b>	<b>22%</b>	<b>2%</b>	<b>100%</b>

Source: Howard County DPZ, July 1999



**Figure 4-8**

**Housing Unit Mix by Type**



Source: Howard County DPZ, July 1999

maining dwelling units (committed and uncommitted) that will be single-family detached from 70% in 1990 to 62% under current zoning. This allows the mix of housing at build-out to be close to the current mix, although with a slight increase in the proportion of single-family detached units and a slight decrease in the proportion of single-family attached and apartment units.

When the present housing mix is arrayed against other counties in the region, as in Figure 4-9, it is apparent that Howard County has a relatively low percentage of single-family detached units compared to Anne Arundel, Carroll and Harford Counties. This comparatively low percentage of detached units in Howard County is partially attributable to the presence of Columbia, which has a large proportion of single-family attached and multifamily units. The more urbanized Montgomery, Prince George's and Baltimore Counties have slightly lower percentages of single-family detached units compared to Howard County. As indicated earlier, the percentage of single-family detached units in Howard County is expected to increase slightly by build-out, based on units in the development pipeline and the current zoning of uncommitted residential land.

**Figure 4-9**

**Estimated Regional Housing Stock by Structure Type, 1999**

County	% Single-Family Detached	% Single-Family Attached	% Multi-Family	% Mobile Homes
Anne Arundel	57.1%	15.1%	26.1%	1.7%
Baltimore	47.0%	25.2%	26.9%	0.8%
Carroll	78.5%	8.2%	11.7%	1.6%
Harford	61.1%	18.3%	15.7%	4.9%
<b>Howard</b>	<b>54.0%</b>	<b>20.6%</b>	<b>23.5%</b>	<b>2.0%</b>
Montgomery	52.0%	17.6%	30.4%	0.1%
Prince George's	52.7%	10.9%	35.9%	0.5%

Source: DPZ for Howard County, M-NCPPC for Prince George's and Montgomery Counties, BMC & 1990 Census for Remaining Counties

### Affordable Housing

The employment section of this chapter indicates the need for additional affordable housing. This need is related to the County's employment growth and its demand for low and moderate income workers. To the degree that such workers can be housed in the County, economic development prospects are improved. In addition, by providing more affordable housing it becomes possible for residents' children and parents, as well as teachers, firemen and policemen to live in the County. Opportunities are also increased for residents who are now renters to become homeowners.

Affordable housing is housing that is affordable to low and moderate income households. A low income is defined as 50% or less of the median income for an area, and a moderate income is defined as up to 80% of the median. In 1998, the median household income in Howard County was estimated to be \$69,200. Compared to other counties in the region, Howard County has the highest median income, as shown in Figure 4-10. In 1998, a

**Figure 4-10**  
**1998 Median Household Income**

Jurisdiction	Median Income
Anne Arundel	\$59,500
Baltimore City	\$35,200
Baltimore County	\$48,600
Carroll	\$56,800
Harford	\$54,300
<b>Howard</b>	<b>\$69,200</b>
Frederick	\$56,700
Montgomery	\$67,300
Prince George's	\$51,100

Source: MDP

moderate income household in Howard County would have earned about \$55,360. A low income household would have earned \$34,600. These low and moderate household incomes are for a typical family of four. Housing units in the \$80,000 to \$120,000 price range are affordable to moderate income households. Housing priced below \$80,000 would be affordable to low income families but is generally unavailable in the unsubsidized, for sale housing market.

Affordable housing, however, is not limited to certain types of dwellings. It can include rental or owner-occupied units, subsidized or market-rate units, and apartment, townhouse, mobile home or single-family detached structures.

The high property values and the high proportion of recently-built homes in Howard County cause most market-rate housing to be priced out of reach of low or moderate income households. However, a rental housing survey conducted in 1998 indicates that market-rate rental units in some communities are affordable to low and moderate income households, based on the reported average monthly rent (Box 4-2). Affordable, market-rate, single-family housing can also be found within the County's mature neighborhoods in the form of older houses with modest square footage and smaller yards.

**Box 4-2**

**1998 Howard County Rental Housing Survey**

A 1998 survey of rental housing in Howard County found that there are over 22,000 rental units out of a total of 87,500 housing units. The County has 67 multifamily rental communities as well as individual homes available for rent. Some of these units receive various forms of governmental housing subsidies, while most charge market rates.

Rental units subsidized by Federal or County programs offer most of the housing that is affordable to low income households. Twenty-eight multifamily communities offer 1,782 housing units assisted through Federal or County programs. The majority of these units are located in the Columbia Villages of Long Reach, Oakland Mills and Wilde Lake. Most are one and two bedroom units in multifamily apartment communities.

The average multifamily community containing subsidized units was built approximately 19 years ago. Four subsidized housing developments with 281 housing units, primarily for the elderly, have been built since 1990. Twenty-two percent of the subsidized housing in the County is used by the elderly or disabled.

In the unsubsidized rental market, the most affordable area in Howard County is the Columbia neighborhood of Long Reach, with an average monthly rent of \$826 for 1,459 square feet. The most affordable community outside of Columbia is North Laurel, with an average monthly rent of \$886 for 1,263 square feet.

The amount of affordable housing will not be expanded significantly by new construction. As the supply of residential land diminishes, the price of land and housing is likely to increase. In zoning districts that permit a variety of unit types, builders will, in most instances, choose the most profitable type – higher priced, single-family detached units. There is little undeveloped land in the zoning districts that allow townhouses and apartments. Since much of the remaining land is relatively small infill parcels within single-family detached neighborhoods, rezoning for higher density is unlikely.

Some affordable units will be created within the major Mixed Use Districts (MXD), which permit construction of townhouses and apartments, subject

to certain limits. The MXD regulations require that 5% to 10% of the dwellings be affordable to households with incomes between 50% and 80% of the median income in the Baltimore region. In addition, the Corridor Revitalization Studies discussed in Chapter 5, *Community Conservation and Enhancement*, will evaluate the potential to use some undeveloped or underused sites as small mixed use centers which may include housing. The amount of housing that could be achieved cannot be estimated until these studies are underway.

Existing housing in older neighborhoods includes both rental and owner-occupied units. The Office of Housing and Community Development (OHCD) seeks to promote home ownership to help stabilize single-family neighborhoods where a trend towards a greater proportion of rental properties is leading to deferred maintenance, neglect and code violations. County-sponsored programs to make home ownership more affordable have been very successful. These programs offer such assistance as below market-rate mortgages, settlement/down payment loans and shared equity (co-ownership).

While it will be difficult to construct affordable new units, housing programs can more readily promote the use of older homes to meet affordable housing needs. Creative programs to make use of the existing supply of older homes are expected to be an important part of the County's affordable housing program. It is more cost efficient to establish programs that make existing older homes affordable to low and moderate income households than to subsidize the cost of expensive new housing. Incentives and/or programs to assist with maintenance and renovation would also be beneficial, especially for elderly homeowners.

The OHCD prepares a Consolidated Plan, as required by the US Department of Housing and Urban Development, in order to receive Federal funds for programs such as the Community Development Block Grant. This five-year plan provides a comprehensive strategy for addressing the housing, economic and social needs of low and moderate income individuals and the needs of special populations, such as the homeless and persons with disabilities. The current Consolidated Plan is scheduled to be updated by mid-2001. The 2001 Consolidated Plan will provide an opportunity to

specify the most effective means of providing affordable housing, such as retaining existing assisted housing projects, using existing older homes to address affordable housing needs, and providing affordable housing in small mixed use centers.

The County recently expanded the OHCD's program authority to provide funding for low and moderate income home ownership and to provide loans to encourage revitalization of existing neighborhoods. OHCD is also working with the Economic Development Authority to institute a Live Near Your Work program (similar to one component of the State Smart Growth program) in conjunction with employers in the County. This program will provide grants for home ownership to employees moving closer to their place of employment.

Home ownership programs, combined with programs which promote self-sufficiency, educational attainment, improved job skills and effective financial management, could help reduce demands for subsidized rental housing. Nevertheless, there will be a continuing need for both home ownership and rental assistance programs. Corridor Revitalization Studies and Community Master Plans can be used to identify affordable housing needs, opportunities and strategies for specific areas.

Several programs supply assisted rental housing in the County. The Federal Section 8 rental voucher and certificate program provides subsidies that help low income households rent housing in the private market. OHCD also rents County-owned housing at below market rates, including one County-owned public housing development and scattered housing units. OHCD will continue to purchase and subsidize scattered apartments, townhouses and single-family dwellings as funding levels allow. The supply of assisted or subsidized rental housing is summarized in [Figure 4-11](#). Older assisted housing projects may become eligible for conversion to market rate housing in the future. While the State is responsible for monitoring the status of Federal and State assisted projects, a clearer process for communicating with the State and a process for monitoring other assisted projects are both needed in order for the County to determine an appropriate and timely response to a conversion proposal. The County needs to develop strategies to monitor and maintain existing assisted housing projects as part

**Figure 4-11  
Howard County's Assisted Housing in 1998**

<b>Type</b>	<b>Units</b>	<b>Details</b>
<b>Owner Occupied</b>	1,015	Howard County Settlement Down Payment Loan Program (SDLP)
	54	Howard County Shared Equity Program
	36	Howard County Homeownership - Community Development Block Grant Homeownership Rental Property Conversion
	700	Variety of State Programs administered through the State Community Development Administration (CDA)
<b>Rental</b>	1,688	Section 8 Units - New Construction
	230	Howard County owned and developed housing
	246	Housing Commission owned and developed housing
	1,063	Units through Department of Finance in part by Howard County
	792	Units financed through Industrial Revenue Bonds - 792 represents 20% of all units which are set aside for moderate income households
	503	Section 8 Certificates and Vouchers
<b>TOTAL</b>	<b>6,327</b>	<b>Approximately 7% of residential units</b>

Source: Howard County Office of Housing and Community Development

of the larger affordable housing program.

Howard County discourages concentrations of subsidized rental housing. Any multifamily community with 20% subsidized housing can refuse to take additional Section 8 housing certificates. Concentrations of housing that are affordable to low income households create a localized need for social services. For example, families with subsidized housing often move to find better housing. This means the children may change schools frequently. Families and children may need more services to promote self-sufficiency, such as affordable day care, tutoring for middle and high school students, youth mentors, programs to motivate youth, health services and transportation services. Obtaining sufficient funding for these support services is an important element of an effective program to provide affordable housing. The County also provides grant-in-aid support for non-profit providers of emergency, crisis and transitional shelter and related services.

### **Housing for Seniors and the Disabled**

The Maryland Department of Planning projects that the number of County residents over age 65 will increase from 17,030 in 2000 to 47,180 by 2020, an increase from about 7% of the total population to nearly 16% (Figures 4-12 and 4-13). This increase will include both aging residents and in-migration of their elderly parents. The County will need to support the ability of seniors who desire to “age in place” in their own homes or in their own communities. Aging in place can mean different choices at different stages: perhaps initially in an existing home and later in a smaller home or in another type of housing with more support services. The County will need to consider programs to help people stay in their homes and to promote services and housing options for seniors who need help with personal or medical care.

The housing market and County Zoning Regulations have evolved to recognize that as seniors’ ability to live independently diminishes, they often need to move to housing that provides support services. A range of congre-

**Figure 4-12**  
**Howard County Population by Age, 1970-2020**

Age	1970	1980	1990	2000	2010	2020
0-4	5,702	8,224	15,352	17,690	16,950	15,770
5-19	19,961	31,791	37,275	53,740	60,410	50,940
20-44	21,894	52,064	88,243	98,600	102,980	96,420
45-64	11,027	20,412	35,128	61,890	89,130	93,150
65+	3,327	6,081	11,330	17,030	28,480	47,180
<b>TOTAL</b>	<b>61,911</b>	<b>118,572</b>	<b>187,328</b>	<b>248,950</b>	<b>297,950</b>	<b>303,460</b>
0-4	9%	7%	8%	7%	6%	5%
5-19	32%	27%	20%	22%	20%	17%
20-44	35%	44%	47%	40%	35%	32%
45-64	18%	17%	19%	25%	30%	31%
65+	5%	5%	6%	7%	10%	16%
<b>TOTAL</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: MDP, September 1999

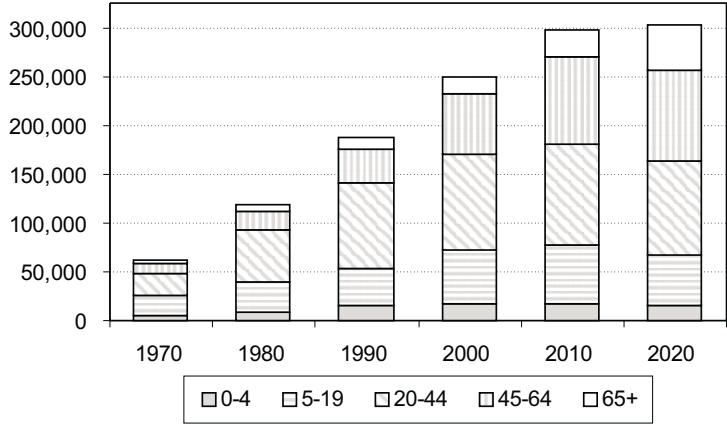
gate and group housing options for seniors exists in the County, offering varying levels of support and services:

**Acute Care.** Acute care includes nursing homes, hospices and other special care facilities. Howard County has two nursing homes with approximately 543 beds.

**Congregate Assisted Living.** Congregate assisted living units are generally rental or condominium apartments that do not have full kitchens. Residents have a full meal plan and both health and daily living support services. The County has over 500 beds in congregated assisted living.

**Assisted Living in Group Homes.** Assisted living in small group homes of 15 or fewer residents is generally more affordable than in the larger congregated facilities. The County has approximately 550 beds in about 80 licensed group homes.

**Figure 4-13**  
**Howard County Population by Age, 1970-2020**



Source: Howard County DPZ, July 1999

**Congregate Independent Living.** Congregate independent living units are generally rental or condominium apartments with full kitchens. The County has seven congregated independent living apartment communities for seniors, with a total of about 710 units. Three are low and moderate income communities and the others have some subsidized rental units.

**Continuing Care Retirement Communities.** The County has one continuing care retirement community that provides a continuum of care including independent living units, assisted living units and skilled nursing care. This community has a total of approximately 290 units. A second continuing care community is planned to add about 250 units.

**Retirement Communities.** There are two retirement communities in the County providing independent living as well as assisted living units. Although they do not provide skilled nursing services, both are adjacent to and work closely with a nursing home. These communities have a total of 476 units.

Persons with disabilities may also need specialized housing. Disabled persons may have three types of housing needs: modification of existing units for handicap-accessibility; provision of handicap-accessible units; and provision of supervised group homes for persons with developmental disabilities to live independently of their families. Special populations are often transportation-dependent to a much greater degree than the general population. Planning for housing and transportation for the elderly, persons with disabilities and lower income individuals must be closely coordinated.

With the number of seniors expected to triple by 2020, opportunities must be in place to provide for additional senior housing offering various levels of support and services. The growing scarcity of residential land will make it increasingly difficult to find sites for new senior housing. Senior housing has recently been built or approved for construction in two of the County's office/employment districts (Planned Office Research and Planned Employment Center) that permit certain types of congregate and group housing in addition to employment uses. The need for senior housing should be balanced against the County's need to reserve its employment land for economic development.

Although congregate and group home living arrangements are important, most seniors will continue to live in single-family houses, often in homes with mortgages that are substantially paid off. Several types of assistance can help prevent older residents from leaving these homes prematurely, including help with home renovations and home maintenance and transit services for seniors who can no longer drive.

Home renovations are often needed to address increasing physical limitations. "Universal design" refers to a range of design features to accommodate such limitations. Housing with universal design features is suitable for healthy, as well as frail or disabled residents. It is much less expensive to construct homes with universal design than to retrofit them later. Incorporating universal design into the design of new or renovated housing makes these units usable by all County residents, especially households that include an individual of any age with physical limitations. To the extent that these design features are built into the County's housing stock,

housing opportunities will be significantly expanded for this segment of the County's population.

County zoning regulations permit renovation of owner-occupied, single-family homes on lots of 12,000 square feet or larger to create accessory apartments. This may allow a senior homeowner to have a rental unit, which provides income and perhaps some assistance with home maintenance and errands. Accessory apartments also may allow a senior to live independently in the home of an adult child.

Many active seniors desire to sell their large family home and yard to purchase a smaller, easier-to-maintain home with a first floor bedroom. This active senior market is the largest segment of the senior housing market, according to the County's Office on Aging, but it is not well accommodated in Howard County. Many residents have expressed concern about having to move out of the County to find this type of housing. The County needs to encourage both renovation and construction of housing for active seniors. However, in light of competition for the declining residential land supply, it is likely that much of the demand for active senior housing will have to be accommodated by renovation of existing homes. Ranch and split-level homes on smaller lots are good candidates, as are two-story homes that can add a first floor bedroom through remodeling or an addition.

In terms of new construction, senior housing products are evolving rapidly and County zoning regulations do not fully reflect current market distinctions. The regulations for "housing for the elderly" were written with congregate independent and assisted living in mind, but are currently being looked to as a means of addressing the active senior segment of the housing market. Refinement of these regulations is needed to ensure that zoning requirements fit the specific type of housing being built. For example, elderly housing requires a common dining area and permits higher densities, on the outdated premise that all elderly need meal assistance, are less active and will have a limited impact on neighborhood traffic. In order to supplement the congregate and apartment housing choices now available to seniors, the County should amend the Zoning Regulations to provide other housing options for seniors, including attached and detached single story, single



family homes. Such active senior housing developments would be age-restricted and include less extensive shared community facilities than currently required for elderly housing.

In addition, the County needs to reconsider senior housing developments that are currently allowed in the Rural West. The Rural Conservation (RC) and Rural Residential (RR) zoning districts allow housing for the elderly and group assisted housing by special exception. However, the West has fewer services available and does not have transit service that could provide access to services. The regulations related to this special exception use need to be reviewed and revised while keeping in mind the County's overall goals of providing housing opportunity for special populations, including the elderly, in all parts of the County and of assisting those active seniors who wish to age in place within their own communities.

Howard County's housing is expensive, which poses difficulties for seniors on limited incomes. Although several independent living communities for low and moderate income seniors have been built using Federal, State and County financing, the amount of affordable housing built is not keeping pace with the growth of the senior population. Accessory apartments and small group homes allow some affordable housing to be created. Programs to help renovate more affordable existing homes may be an effective way to meet affordable housing needs for seniors and the disabled.

How well senior housing needs are accommodated will influence how many and which seniors retire in Howard County. This has significant implications for government services, tax revenues and the local economy. See the final section of this chapter, *Fiscal Impacts, County Services and Growth Projections*, for further discussion on this issue.

## ***Policies and Actions***

***POLICY 4.1: Ensure that the County's needs for uncommitted residential land for government facilities and land preservation are met in light of competing needs for housing.***

- ◆ ***County Facilities.*** Determine the amount, types and location of land needed for future County and public school facilities.
- ◆ ***Land Preservation.*** Determine agricultural and green space preservation priorities.
- ◆ ***Acquisition Priorities.*** Establish and implement a realistic set of land acquisition priorities through the ten-year Capital Improvement Master Plan.

***POLICY 4.2: Provide affordable housing for existing low and moderate income residents and for the diverse labor force needed for continuing economic growth. Reaffirm the County's long-standing policies of dispersing affordable housing units and providing housing for people of all income levels throughout the County.***

- ◆ ***Existing Subsidized Housing.*** Develop an effective monitoring and intervention system for Federal and State assisted housing projects to ensure compliance with all requirements concerning conversion of such units to market rental rates.
- ◆ ***Funding for New Affordable Housing.*** Seek funding sources that will enable the Office of Housing and Community Development to expand the supply of affordable housing to serve low or moderate income households, including seniors and persons with disabilities.
- ◆ ***Existing Housing Stock.*** Update the Consolidated Plan to specify the most effective means of using existing older homes as the principal means of addressing affordable housing needs. Increase funding for home ownership programs and provide incentives to convert homes from rental to ownership.
- ◆ ***Services to Promote Self-Sufficiency.*** Provide services that promote self-sufficiency for families in subsidized housing (for example, affordable day care, tutoring for students, mentoring programs for youth, health services and transportation support).
- ◆ ***Homeless Shelter.*** Maintain support for providers of emergency, crisis and transitional shelter and related services.



**POLICY 4.3: Ensure an adequate housing supply for the elderly, disabled and special populations.**

- ◆ **Congregate Living Arrangements.** Support expansion of affordable congregate housing arrangements throughout the County for the elderly, the disabled and special populations.
- ◆ **Active Senior Housing.** Amend the Zoning Regulations to better distinguish and accommodate active senior, congregate independent and assisted living developments.
- ◆ **Senior Housing in the West.** Review the elderly housing special exception to determine the most suitable criteria and requirements for this special exception use in the Rural Conservation and Rural Residential Districts and, if necessary, amend regulations as appropriate.
- ◆ **Transportation Links.** Encourage the provision of transportation services to better link housing for seniors, the disabled and special populations to services and shopping.
- ◆ **Aging in Place.** Work with the nonprofit and for-profit sectors to assist seniors wishing to remain in their homes by developing programs to assist them with universal design renovations, creation of accessory apartments and needed home maintenance (for example, grants, tax credits and assistance with contracting).
- ◆ **Universal Design.** Educate builders on the concepts of universal design, which incorporates design features that ease use by seniors and persons with disabilities. Evaluate whether revisions to the Building Code are desirable. Develop programs that encourage or require builders to use universal design concepts in new housing and in substantially renovated housing.

## Employment Land Use

### Prospects for Employment Growth

Job growth in Howard County has been strong since 1980. [Figure 4-14](#) compares job increases in Howard County with other counties in the region and indicates that from 1980 through 1998 Howard County's annual job growth has surpassed that of neighboring counties. This is particularly apparent from 1990 to 1998, when Howard County's job growth was highest of all the surrounding counties in terms of percentage increase and second highest in absolute increase.

The 1990 General Plan established the following targets for annual job growth in Howard County: 2,820 jobs annually between 1990 and 1995; 3,040 between 1995 and 2000; 2,860 between 2000 and 2005; and 2,260 between 2005 and 2010. The national and regional recession in the early 1990s resulted in a net job loss in the County. However, this loss was erased by strong job growth during the remainder of the decade. As indicated in [Figure 4-14](#), 41,200 new jobs were created between 1990 to 1998, an average of about 5,150 new jobs per year, which exceeds the 1990 General Plan projections. Using more recent data from the Maryland Department of Labor, Licensing and Regulation, job growth from 1998 to 1999 was estimated to be even higher, with 6,500 new jobs added.

The Economic Development Authority's (EDA) Strategic Plan: A Vision for 2007 seeks a 5% annual increase in job growth. During the 1990s, a 5% annual increase would have equaled an average of about 5,000 jobs. While 5,000 jobs per year has been achieved over the latter part of this decade, it is an aggressive target for the long term in light of normal business cycle fluctuations, the current low unemployment rate and the anticipated retirement rate of aging baby boomers from 2010 on. The declining availability of large, well-located parcels for new development will also likely impact economic growth rates in the long term. Renovation and redevelopment of older business properties will allow for continued economic growth, but perhaps at a slower rate.

**Figure 4-14**  
**Regional Employment (1,000's)**

Jurisdiction	1980		1990		1995		1998		1990 to 1998	
	Jobs	Percent	Jobs	Percent	Jobs	Percent	Jobs	Percent	Jobs	% Increase
Anne Arundel County	176.0	10%	251.4	11%	262.9	11%	275.3	11%	23.9	10%
Baltimore County	309.0	17%	399.6	17%	409.2	17%	433.9	17%	34.3	9%
Carroll County	36.2	2%	52.8	2%	58.7	2%	64.4	3%	11.6	22%
Frederick County	44.2	2%	72.6	3%	86.6	4%	97.2	4%	24.6	34%
Harford County	51.0	3%	75.5	3%	81.9	3%	89.0	4%	13.5	18%
<b>Howard County</b>	<b>56.9</b>	<b>3%</b>	<b>106.6</b>	<b>5%</b>	<b>125.3</b>	<b>5%</b>	<b>147.8</b>	<b>6%</b>	<b>41.2</b>	<b>39%</b>
Montgomery County	349.9	20%	516.3	22%	526.4	22%	566.6	22%	50.3	10%
Prince George's County	264.7	15%	378.4	16%	369.7	16%	393.0	16%	14.6	4%
Baltimore City	504.0	28%	514.4	22%	457.8	19%	454.6	19%	(59.8)	-12%
<b>TOTAL</b>	<b>1,791.9</b>	<b>100%</b>	<b>2,367.6</b>	<b>100%</b>	<b>2,378.5</b>	<b>100%</b>	<b>2,521.8</b>	<b>100%</b>	<b>154.2</b>	<b>7%</b>

Source: U.S. Bureau of Economic Analysis, June 2000

The EDA's Strategic Plan also establishes an annual goal of increasing the County's commercial/industrial assessable real property tax base by 2% over the Consumer Price Index. This goal is a better measure of the benefit that economic development brings to the County, because income tax revenues generated by County job growth only accrue to Howard County when workers are County residents. An increase in property tax revenues from non-residential development, on the other hand, directly benefits the County.

The fiscal study prepared for this General Plan evaluated four scenarios that vary residential and job growth rates, as described previously in [Box 4-1](#). Two scenarios use the 1990 General Plan job growth pace and two scenarios use the 1990s trend pace of 5,000 jobs per year. Refer to the final section of this chapter for a discussion on the fiscal study results and the new job growth targets.

### Availability of Employment Land

The County has about 15,000 acres of land zoned for employment uses, of which 37% or 5,470 acres, is undeveloped ([Figure 4-15](#)). However, not all of the undeveloped land is available for development. If parcels that are not

fully developed but are unavailable based on ownership (for example, the Johns Hopkins University Applied Physics Laboratory and W. R. Grace) are excluded, there are only about 3,000 acres of available uncommitted land.

The location of the available uncommitted employment land is identified in [Map 4-4](#). Similar to [Map 4-3](#) showing the uncommitted residential land, [Map 4-4](#) was developed using Fall 1998 State Assessment data on unimproved employment zoned parcels, with deductions for development proposals in the plan review process as of Spring 1999 and with deductions based on ownership.

Much of the undeveloped land is in locations considered highly desirable by developers and businesses. Proximity to I-95 is the most highly sought after location in the County. Columbia and the US 29 corridor are also highly desirable. The I-70 corridor has not been perceived to be as well located, which has slowed the development of the employment land in the Waverly mixed use community near I-70.

Most of the available employment land does not tend to have major devel-

**Figure 4-15  
Non-Residential Land (Acres)**

District	Developed/ Committed	In Process	Uncommitted	Total	Percent Undeveloped
Mixed Use	0	160	480	640	100.0%
Planned Golf Course Community	0	40	0	40	100.0%
Historic	70	0	10	80	12.5%
New Town (Columbia)	2,020	0	700	2,720	25.7%
Commercial (B-1, B-2, SC, BR, CC)	1,020	80	270	1,370	25.5%
Office/Industrial/Warehouse (PEC, M-1, M-2, POR)	6,420	840	2,890	10,150	36.7%
<b>TOTAL</b>	<b>9,530</b>	<b>1,120</b>	<b>4,350</b>	<b>15,000</b>	<b>36.5%</b>

Source: Howard County DPZ, July 1999

opment constraints. A few parcels require road extensions that will impact the economics and timing of development. Zoning setback requirements create difficulties in developing some smaller industrial (M-1 and M-2) parcels, especially those adjacent to residential uses. Development of some parcels will be constrained by stream buffers and 100-year floodplain restrictions. These constraints are more significant in the area of US 1, where the land is lower in the watershed and streams are larger, particularly Deep Run, Dorsey Run and the Little Patuxent River.

The County does face constraints, however, in terms of the amount of land available for new development. As indicated in Figure 4-16, which shows the distribution of available uncommitted parcels by size, there are only 11 available parcels that are 50 acres or larger. Over 70% of the parcels are under five acres in size, although these encompass only 13% of the acreage.

Due to the high price of commercially zoned land, there is a tendency for retail uses to be developed to the maximum amount permitted in the industrial and office-oriented zoning districts where land is cheaper. As land resources become more limited, it becomes increasingly important that the purpose of the employment zoning districts be clear and reflected in the uses permitted in those districts. Prime office and industrial land needs to

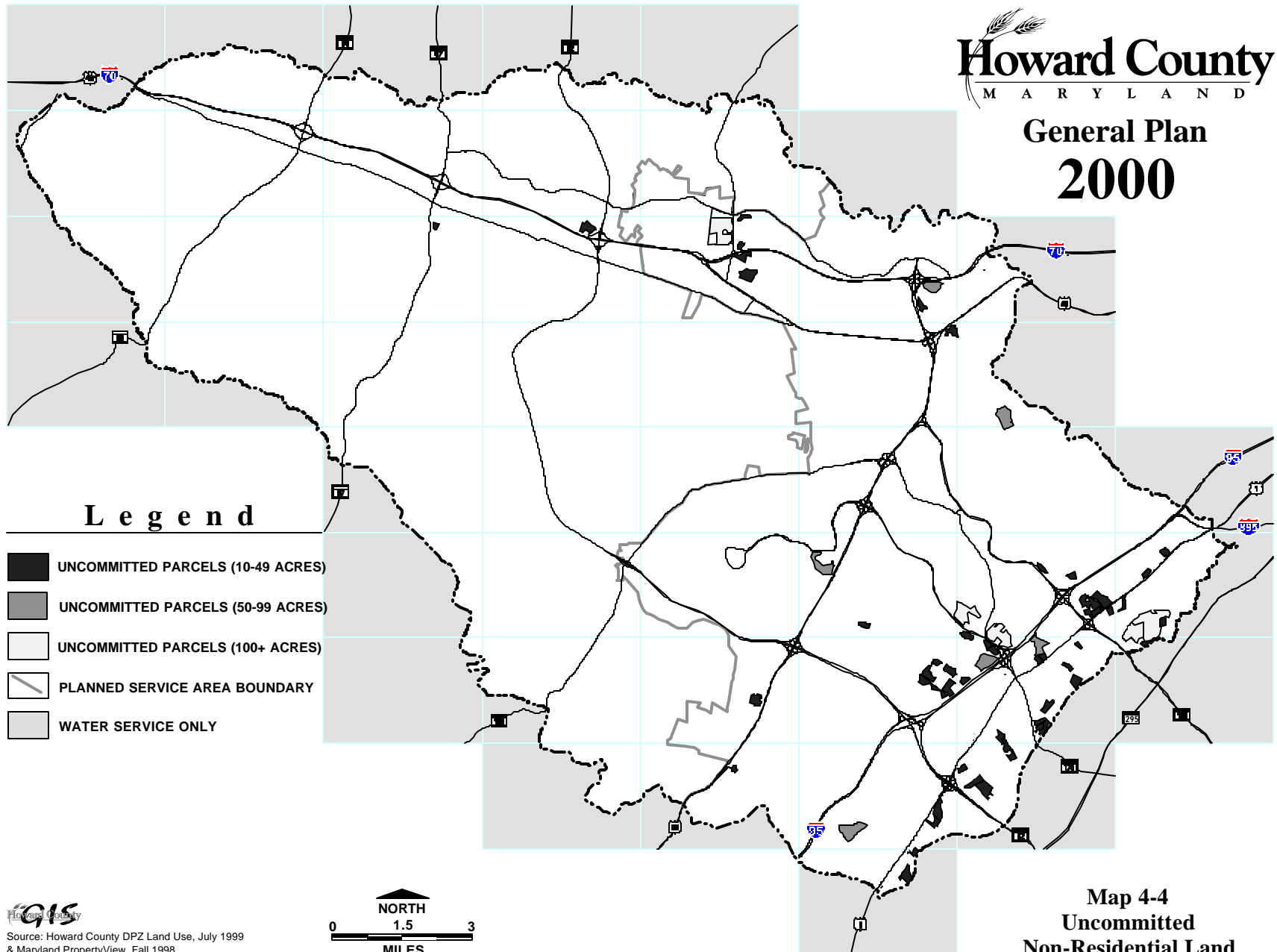
**Figure 4-16  
Available Uncommitted Non-Residential Land**

Category	Acres		Parcels	
Less than 5 acres	379	13%	281	74%
Greater than 5 acres and less than 50 acres	1,359	47%	89	23%
Greater than 50 acres	1,136	40%	11	3%
<b>TOTAL</b>	<b>2,873</b>	<b>100%</b>	<b>381</b>	<b>100%</b>

Source: Howard County DPZ, April 1999

be targeted for these employment industries rather than retail uses. This will make the best use of the limited employment land and maximize the Economic Development Authority's potential to attract target industries. Additionally, directing retail uses to retail zoned properties will support the market for space in existing retail centers and avoid the auto-truck traffic conflicts that occur when retail is located in industrial areas.

**Howard County**  
MARYLAND  
**General Plan**  
**2000**



The County's remaining uncommitted employment land could be absorbed quickly if economic growth remains strong. Between July 1997 and July 1999, a time of rapid economic growth for the County, approximately 600 acres of non-residential land were developed. At this rate, the available land would be absorbed within 10 to 12 years. It is not likely, however, that growth could be sustained at this rate over a decade. The inventory is perhaps most constrained by the limited number of large parcels that can be developed for warehousing, which is a strong market, or for planned business parks that will attract the industry sectors targeted by the Economic Development Authority (for example, high technology and corporate headquarters).

The finite supply of potential employment land points out the importance of two key sources of land for continued economic growth: first, the redevelopment and revitalization of older properties, discussed next; and second, the major mixed use centers, discussed later in this chapter.

## **Redevelopment and Revitalization of Employment Areas**

In the long term, the County's ability to accommodate new businesses and industries will depend upon revitalization and redevelopment of older properties that are underused or obsolete. Revitalization focuses on renovation and reuse of older buildings and infrastructure. Redevelopment includes demolition of existing structures, consolidation of small properties to create larger parcels, and new construction that replaces older buildings or incorporates them into new, more intensive development.

Information needs to be assembled on properties with potential for redevelopment or revitalization. An inventory of these properties is the starting point for detailed planning that examines the opportunities as well as the strategies and tools needed to encourage revitalization and redevelopment.

This General Plan calls for redevelopment/revitalization planning that focuses on employment and retail land along the US 1 and US 40 corridors, as well as older business parks and commercial centers elsewhere in the County. Detailed planning may need to focus on nodes along the transportation corridors, such as the MARC stations or highway interchanges. This

planning process will be a major component of the community planning process discussed in Chapter 5, *Community Conservation and Enhancement*. Major communities such as Elkridge, Savage, North Laurel and Ellicott City include portions of the US 1 and US 40 corridors. In addition, the County's community conservation goals encompass many small neighborhoods, mobile home parks and residential motels that are situated within an industrial or commercial context in the US 1 corridor.

Redevelopment will sometimes provide opportunities to introduce new residential uses to create small mixed use developments. These developments, discussed in more detail in Chapter 5, *Community Conservation and Enhancement*, can provide an attractive focus for a community and make efficient use of limited land resources. However, as noted earlier in this chapter, protecting the County's supply of employment land is also an important priority. Well-designed mixed use developments can combine compatible housing, employment and retail uses without requiring large setbacks that restrict development of the employment component or the use of adjacent employment land.

Redevelopment will require addressing factors that already make development difficult within sections of the US 1 and US 40 corridors. The limited availability of large parcels and the size requirements of contemporary employment facilities often inhibit redevelopment. It may be necessary to assemble multiple parcels under separate ownership, which is time-consuming and expensive. Other constraints include problematic highway access from individual parcels, the need for transit to bring workers to jobs, zoning or building code provisions, obsolete older buildings, environmental concerns, aging infrastructure and utilities, and the need for stormwater management systems.

Incentives for revitalization/redevelopment may include additional permitted uses, increased flexibility in bulk regulations, expedited processing, an alteration in the fee schedule for development review fees, tax or development financing incentives, and County capital projects to improve infrastructure. Planning for economic revitalization/redevelopment will be a joint effort of the Department of Planning and Zoning and the Economic Development Authority, with participation from business and residential

groups. Boundaries for revitalization/redevelopment areas will be defined during the planning process, but may need to be refined as individual proposals for infill or redevelopment evolve.

### Economic Development Target Industries

The “new economy” so often talked about in recent years has and will continue to create the need for more service and technical jobs and less manufacturing jobs. Figure 4-17 shows the historic and future regional outlook of employment by industry. Service jobs will continue to represent a larger percentage of the regional economy through 2020. The service sector contains a broad range of occupations including medical, legal, engineering, education, research and development, high tech, personal services, and restaurant and hotel jobs. These occupations are diverse, ranging from relatively low skill/low wage jobs to high skill/high wage jobs. As will be discussed later in this chapter, filling low skill/low wage jobs is currently a problem in the County that will need to be further addressed.

Related to the changing economy, the Economic Development Authority

recognizes two types of target employment sectors - natural target industries and outreach target industries. Natural target industries will come into Howard County on their own. These include distribution, health care support offices, and nonprofit and association headquarters. The Economic Development Authority has identified outreach target industries as those that offer high-technology jobs with high-end salaries. Outreach target industries include corporate headquarters, information technology, technology-driven manufacturing, life sciences and information processing.

The outreach target industries have a higher-than-average economic impact on the community. Given Howard County’s strategic location in the Baltimore-Washington corridor and its high quality of life, the County can realistically expect to compete for these target employment sectors. However, the County will need to assure the availability of suitable land. As noted earlier in this section, making the best use of limited land resources will require: protecting existing Light Manufacturing (M-1), Heavy Manufacturing (M-2) and Planned Employment Center (PEC) zoning;

**Figure 4-17**  
**Regional Employment by Industry (1,000's)**

Job Category	1980		1990		2000		2010		2020	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Farm employment	13.2	0.7%	10.2	0.4%	7.9	0.3%	6.8	0.2%	6.0	0.2%
Agric. and other	9.1	0.5%	19.7	0.8%	23.6	0.9%	26.3	0.9%	28.1	1.0%
Mining	1.5	0.1%	2.5	0.1%	1.7	0.1%	1.6	0.1%	1.6	0.1%
Construction	106.7	5.9%	165.0	7.0%	153.9	6.0%	166.5	5.9%	171.9	5.8%
Manufacturing	192.2	10.7%	170.8	7.2%	139.6	5.5%	134.3	4.8%	129.3	4.4%
Trans. & public utilities	80.1	4.5%	98.6	4.2%	107.6	4.2%	114.2	4.0%	119.5	4.1%
Wholesale trade	82.0	4.6%	103.0	4.3%	106.9	4.2%	114.4	4.1%	119.8	4.1%
Retail trade	308.4	17.2%	398.2	16.8%	422.0	16.6%	467.6	16.6%	491.7	16.7%
Finance, ins. & real estate	134.4	7.5%	208.6	8.8%	215.9	8.5%	238.0	8.4%	248.7	8.5%
Services	439.9	24.5%	745.8	31.5%	925.9	36.4%	1,116.7	39.6%	1,191.6	40.5%
Government	426.2	23.8%	445.9	18.8%	440.2	17.3%	435.6	15.4%	433.0	14.7%
<b>TOTAL</b>	<b>1,793.7</b>	<b>100.0%</b>	<b>2,368.3</b>	<b>100.0%</b>	<b>2,545.2</b>	<b>100.0%</b>	<b>2,822.0</b>	<b>100.0%</b>	<b>2,941.2</b>	<b>100.0%</b>

Source: U.S. Bureau of Economic Analysis (1980-1990), MDP (2000-2020)

encouraging development of the employment areas within Mixed Use Districts; redeveloping underused or obsolete properties; and promoting assembly of land to create large parcels for new development.

In addition, resources such as marketing and incentives are required to attract target industries, especially if the goal is to have these industries assemble land or locate in redevelopment areas. Incentives that Howard County can offer include financial assistance, tax incentives and capital improvements to existing infrastructure.

### **Economic Development Work Force Needs**

According to the Economic Development Authority, there is a desirable match between the skills of the County's resident work force and the white collar employment needs of outreach target industries. The County's resident work force has the education and training needed for jobs in these industries. The County also provides a housing mix and a level of service that is attractive to these employers.

As a result of the County's strong job growth since 1994, unemployment in the County was only 1.4% in January 2000, the lowest in the State. Employers are having difficulty finding workers for both low wage retail and service jobs and higher skilled technical positions. The Howard County Work Force Preparedness Committee's Needs Assessment Study (conducted Fall 1998) indicates that almost 40% of existing jobs and 25% of new jobs needed in the subsequent three years are in the categories of professional/technical. However, in the long term, the chronic shortage of entry-level and unskilled workers is a more serious issue, due to the high cost of housing in the County and lack of transit options, which may constrain the rate of job growth in the future.

The industries that generate lower paying and lower skilled jobs, such as some warehouse/distribution, service and retail businesses, are having an increasingly difficult time attracting resident workers. Many lower skilled workers are available in other parts of the Baltimore-Washington region, but often have transportation problems getting to jobs in Howard County. One evolving solution to this problem has been providing transportation to

County jobs from surrounding jurisdictions that have concentrations of residents seeking employment. Several programs have been initiated in the past few years (reverse commute, employer shuttle, transit links and transit schedule changes). Attracting a resident work force for lower skilled and lower paying jobs would require a greater supply of affordable housing.

More than two-thirds of the County work force commutes to jobs outside this jurisdiction. Attracting County residents to both blue and white collar jobs in the County is a very desirable approach to meeting employment growth targets while reducing transportation costs and commuting time and expenses. The Economic Development Authority has worked with the private sector to encourage qualified Howard County residents who are commuting to jobs outside the County to consider filling job openings within the County. A continuing challenge is to identify effective strategies to accomplish this.

Data from the 2000 Census will become available shortly after this General Plan is adopted. Analysis of this data will allow the County to better understand the characteristics of the resident labor force, to refine the types of target industries that are compatible, and to define accessibility and transportation services needed for non-resident labor.

### ***Policies and Actions***

***POLICY 4.4: Make efficient use of land resources for long-term economic growth.***

- ◆ ***Land Use and Economic Development.*** Coordinate land use policies and economic development programs to encourage both the expansion of current businesses and attraction of new ones.
- ◆ ***Limits on Retail Uses.*** Protect the supply of uncommitted land suitable for target industries by amending the Zoning Regulations to more strictly limit retail uses in the Planned Employment Center (PEC), Manufacturing: Light (M-1) and Manufacturing: Heavy (M-2) zoning districts. Ensure retail space in these districts is accessory to permitted uses only.



- ◆ **Activity Near Transportation Nodes.** Encourage intensification of economic development near transportation nodes and transit services, especially MARC stations, for efficient access.
- ◆ **Revitalization/Redevelopment Plans.** Work with the Economic Development Authority, the private sector and community groups to create revitalization/redevelopment plans for US 1, US 40 and, if appropriate, older business parks or commercial centers in other areas. Plans should identify target areas, specific strategies, appropriate zoning and the incentives necessary to encourage private sector investment in revitalization and redevelopment.
- ◆ **Coordination with Community Plans.** Coordinate planning for renovation and redevelopment of employment sites with community plans for adjacent areas.
- ◆ **Renovation and Redevelopment.** Revise zoning designations and development regulations as needed to facilitate renovation and redevelopment.

***POLICY 4.5: Encourage economic growth, provide job opportunities for County residents and ensure the County's fiscal health.***

- ◆ **Economic Development Planning.** Assist the Economic Development Authority in updating the Strategic Economic Development Plan for Howard County.
- ◆ **Target Industries.** Support the Economic Development Authority's emphasis on attracting outreach target industries to the County.
- ◆ **Recruiting Howard County Residents.** Develop and expand the Economic Development Authority's programs to recruit Howard County residents who are commuting to jobs outside the County to fill jobs created in the County.
- ◆ **Employment-Related Transportation Needs.** Pursue reverse commute transportation options that help to match available non-resident workers with County employers. Identify and provide for critical em-

ployment-related, intra-County transit service needs.

- ◆ **Employment-Related Housing Needs.** Provide housing opportunities so that people who work in the County may live near employment areas. Promote and pursue the State's "Live Near Your Work" program or a similar County-sponsored program.

## Mixed Use Development

The 1990 General Plan proposed creation of five large mixed use centers in eastern Howard County. These mixed use centers were proposed as a way to plan efficient use of the remaining large tracts of undeveloped land in key locations by combining housing, employment, and certain public facilities and services such as schools and recreation. Several of the recommended sites were to be converted from employment zoning to mixed use, to better balance residential and employment land uses and traffic in the area. Mixed use centers were also intended to provide sites for affordable housing and logical stops for public transit, as the mix of activities in these centers would enable transit to be based on a larger potential ridership than only peak hour commuters (Box 4-3). Mixed use was also proposed as a tool to promote redevelopment of smaller sites on US 1 and US 40.

In response to the 1990 General Plan recommendations, the Mixed Use District was created in 1993 to allow major (MXD-3) and minor (MXD-6) mixed use developments. MXD-3 sites are over 75 acres and may be developed at three units per gross acre; MXD-6 sites are smaller, 25 to 75 acre sites, which may be developed at six units per gross acre. The zoning regulations for mixed use centers require a mix of residential and employment uses, an affordable housing component, a community focal point, and substantial open space for environmental protection and community use. Detailed standards for design quality, including the relationship to adjacent areas, must be evaluated by the Howard County Planning Board.

MXD-3 zoning has been applied to four of the five sites proposed in the 1990 General Plan. The fifth proposed site, the Waverly site near MD 99

**Box 4-3**

**Benefits of Mixed Use Centers**

Mixed use centers make more efficient use of increasingly limited land resources by:

- allowing different but compatible uses to share the same property.
- creating more opportunities for affordable housing by absorbing land costs for such housing within a larger development and by the ability to share the same infrastructure (roads, utilities, transit).
- creating opportunities to reduce home-to-work commuter trips by providing housing and jobs within easy pedestrian access.
- mixing housing, employment and public facilities to create a more balanced traffic pattern. This makes better use of the local road network than the heavy, one-way, peak hour traffic patterns typical of large employment-only developments.
- providing needed sites for public facilities such as schools, libraries and social services in areas of the County where available land is increasingly hard to find.
- ensuring that sites at prime locations are not limited to housing or employment, which make development of such sites more vulnerable to market fluctuations.
- requiring generous open space, protecting environmental resources and creating proper buffering between mixed use centers and adjacent neighborhoods.

and Marriottsville Road, was approved prior to the 1993 Comprehensive Zoning as a mixed use community created through a composite of several zoning districts. The smallest of the MXD-3 sites, at MD 100 and Snowden River Parkway, was decreased in size and divided by the final alignment of MD 100 and will be developed using conventional zoning districts. The owners of one of the MXD-3 sites, the Chase Property, are seeking approval of plans to quarry part of the site, which will defer MXD development until after 2020. [Map 4-21](#), the summary map located at the

end of this chapter, shows all of the sites currently expected to be developed as MXD by 2020, as well as Waverly, Turf Valley and Lyndwood which used other zoning categories to achieve mixed use.

Of the five major mixed use sites from the 1990 General Plan, only Waverly is under construction. Plans for the two major MXD Districts on MD 216 are moving through the review process, which has been more complicated than anticipated. The MXD zoning provides design flexibility to meet a broad range of performance standards. There has been extensive debate about how these standards are met. These two developments encompass the County's largest remaining tracts of available land within the Planned Service Area. As they develop over the next 10 to 15 years, they will provide valuable land resources to accommodate the demand for employment and residential growth. Based on initial plans, these MXD Districts will provide an estimated 432 acres of residential land, 232 acres of employment land and 361 acres of open space (some of which will be used for public or community facilities). Parcels which have MXD zoning, but have not yet sought to use this zoning option, such as the Price property, should be encouraged to do so by increasing the employment acreage of the major mixed use developments.

The 1990 General Plan also recommended creation of smaller mixed use developments that could provide community centers or focal points within existing communities. The 1993 Comprehensive Zoning approved two MXD-6 sites. One of these MXD-6 sites, Cherrytree, will develop as mixed use. Plans have been submitted and are under review. As for the MXD-3 District, the plan review process has been contentious and protracted.

The County's land use inventory shows few undeveloped properties in the 25 to 75 acre range. However, one intent of the MXD-6 District is to encourage assemblage and redevelopment of obsolete or underused parcels. The complexity, length and unpredictability of the current MXD approval process is a major deterrent to using mixed use on small parcels, which can be more easily developed as a single use. Other strategies are needed to provide small mixed use opportunities that can encourage redevelopment and provide suitable locations for employment and higher density housing.

The Community Master Planning process described in Chapter 5, *Communi-*

nity Conservation and Enhancement, as well as the Corridor Revitalization Studies process described earlier in this chapter will provide opportunities to identify potential sites for small mixed use development. If potential sites and parameters for development of these sites are identified in Community Master Plans or Corridor Revitalization Studies, it should be possible to simplify the subsequent zoning process.

## ***Policies and Actions***

***POLICY 4.6: Encourage development of the existing major mixed use districts and provide opportunities for creation of small mixed use centers.***

- ◆ ***Mixed Use District.*** Amend the Mixed Use District (MXD) regulations to streamline the approval process, particularly for the small Mixed Use District (MXD-6). Alternatively, create a new zoning option that provides a flexible approach and simpler approval process for mixed use development on smaller sites.
- ◆ ***Creation of Small Mixed Use Centers.*** Identify properties suitable for development as small mixed use centers through Community Master Plans and Corridor Revitalization Studies. Rezone the properties as part of a comprehensive zoning plan that will accompany approval of the Community Master Plan or Corridor Revitalization Study.

# **Public Sewer and Water**

## **Introduction**

The pace of residential and employment growth in the County is directly related to the need for additional public water and sewer service. It is important to maintain a growth rate that does not exceed the sewage treatment capacity of the Little Patuxent and Patapsco Wastewater Treatment Plants and the Baltimore City and Washington Suburban Sanitary Commission (WSSC) water supply systems that serve eastern Howard County.

## **Timing of Sewer and Water Service Priorities**

This General Plan incorporates by reference the Master Plan for Water and Sewerage adopted by the County Council on December 6, 1999. Any proposed future amendments to the Master Plan for Water and Sewerage must be reviewed by both the Department of Planning and Zoning and the Maryland Department of Planning for consistency with the General Plan before they are adopted by the County and approved by the Maryland Department of the Environment. Under State law the Water and Sewerage Master Plan must be updated every three years.

The County, in adopting the Master Plan for Water and Sewerage, delineates service priorities within the Planned Service Area as existing, 0-5 years, 6-10 years, and comprehensive (beyond 10 years). In accordance with State regulations, a State permit is required for the construction of sewerage facilities (Box 4-4). This permit may only be obtained if a property is in the 0-5 year priority service area.

The priority service area classification is changed when the development process begins, typically when a Sketch Plan is submitted. This change from the comprehensive or 6-10 year priority to the 0-5 year priority is pro forma. Every six months all such category shifts are batched and approved by the County Council as part of the semi-annual update of the Master Plan for Water and Sewerage. The shifting of property into the 0-5 year priority service area should be a planning function based on the amount of capacity the County is able to allocate at a given time, rather than in response to initial plan submission.

## **Financing Water and Sewer System Extensions**

The County, through the self-sustaining Enterprise Fund, pays most of the construction costs for the public water and sewerage system. Payment is made directly, as in capital projects, or indirectly by reimbursing developers through developer agreements for extensions to new subdivisions. A developer agreement is a contract between the County and a developer under which the developer constructs system extensions for the subdivision. The County reimburses the developer for the cost of the system extensions as properties in the subdivision connect to the system. Reimbursements to the developer are financed by County bond sales. These bonds are retired

**Box 4-4**

**The Water and Sewerage Master Plan**

The State mandates that local authorities may not issue building permits unless the water supply and sewerage systems are adequate to serve the proposed development, taking into account all existing and approved developments within the service area. Nor may local authorities record or approve a subdivision plat unless water and sewerage systems would be adequate and completed in time to serve the proposed development. In Howard County, water and sewer capacity is formally allocated to development at the end of the subdivision or site development plan review process.

Howard County has an adopted Master Plan for Water and Sewerage, which must be approved by the Maryland Department of the Environment. This Master Plan establishes and delineates a water and sewerage service area and identifies the remainder of the County as a “no planned service” area.

Prior to the provision of public water or sewer service, a property must be included in the Planned Service Area and must enter the County’s Metropolitan District. Within the service area, service expansion is dependent on the County capital projects construction schedule or, in response to a development proposal, by a Developer Agreement to make needed system improvements. This sequence of events presupposes that the proposed sewer or water improvement represents an orderly extension of service and is consistent with the General Plan and subdivision regulations. Therefore, orderly extension of the public water and sewer system is controlled through the County Capital Budget and ten-year Capital Improvement Master Plan, the Metropolitan District entry process, the subdivision plan review process, and the water and sewer capacity allocation procedures.

using revenues collected from property owners by means of front foot benefit assessments.

Because the County spreads the cost of these sewer extensions across all current sewer construction costs, it is able to finance sewer and water extensions in the East that are necessary because of failing septic systems and/or bad wells, at a low cost to the homeowner. To date, these extensions to replace failing septic systems have generally been to older homes built

prior to construction of the public water and sewer systems. These homes are typically on small lots and were built when septic system standards were less rigorous than today.

Various other methods of financing the extension of service to new subdivisions are used in the region. Several neighboring counties require developers to build extensions to new subdivisions but do not reimburse the developer, while other counties build the extensions themselves using bonds to finance the construction. These bonds are then retired with revenue from front foot benefit assessments. The choice of method to finance system extensions for new development is related to the county’s land use goals and fiscal situation at different stages in its development.

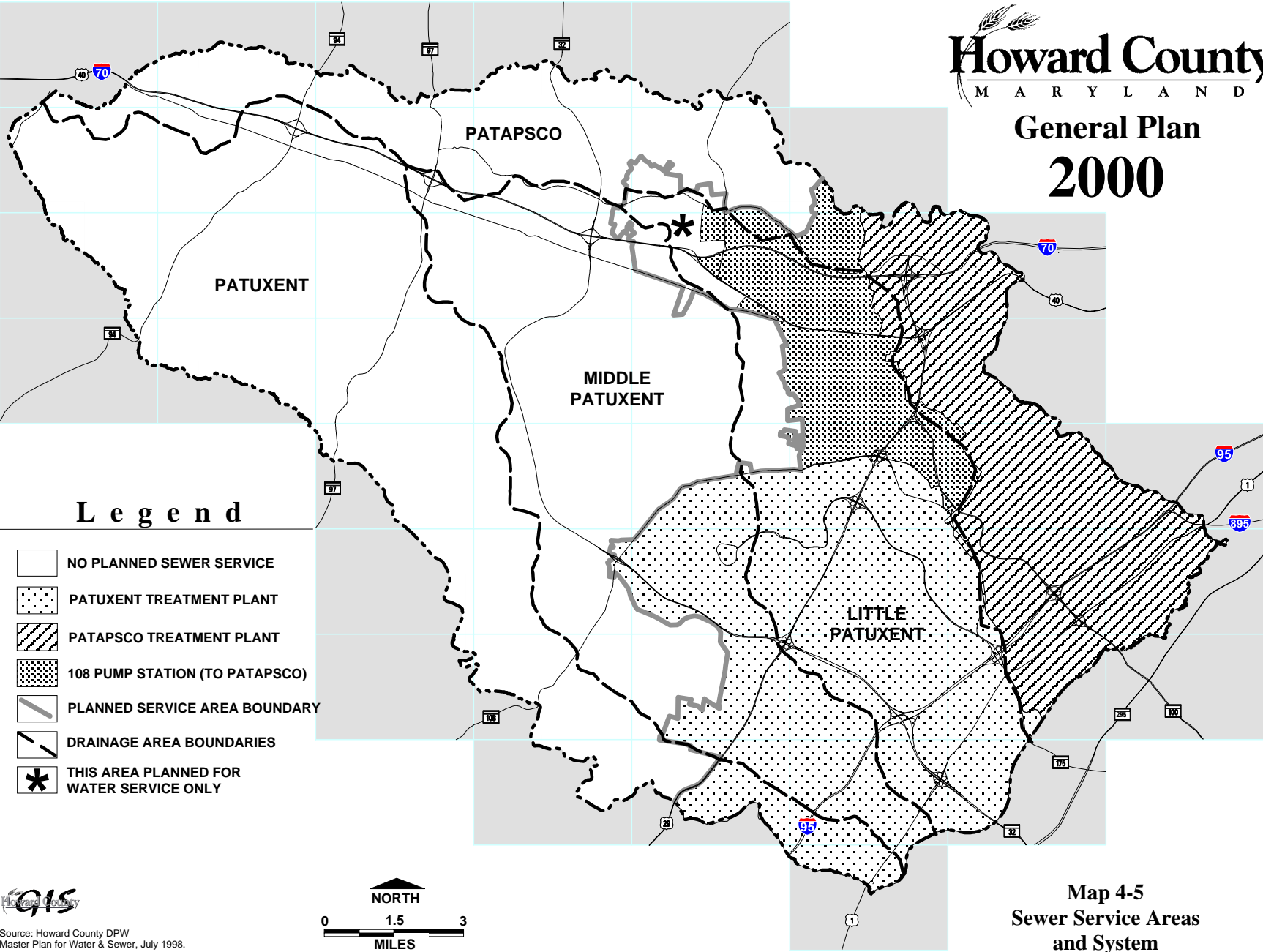
Two potential problems would surface if Howard County were to modify the present financing method and not reimburse developers for sewer and water extensions. First, the cost to individual homeowners petitioning for sewer or water service because of septic/well problems would increase dramatically, since the cost would no longer be spread across the entire system. This problem may be insoluble. In fact, in other jurisdictions that finance sewer and water extensions differently, the extensions to serve houses with septic and well problems are costly. This results in homeowners being reluctant to petition for necessary sewer/water extensions because of the cost. Frequently, the Health Department then steps in to require extension, and the County bears the cost of these extensions.

The second potential problem is that developers will likely add the cost of paying for the sewer and water extension to the price of the house, increasing the price by several thousand dollars. One could argue that houses will sell for what the market will bear and that sewer and water costs will be absorbed. However, the average cost of housing in Howard County is already high. Despite these problems, the logic of the County paying developers for sewer and water extensions and then recouping these costs from the homeowner over time bears further scrutiny.

**The Sewer Service System**

Map 4-5 shows the sewer service areas and system, and these are further described in Box 4-5. The County will rely on expansions at its Little

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Map 4-5  
Sewer Service Areas  
and System



### Box 4-5

#### Public Sewer System in Brief

The public sewerage system serves that portion of the County known as the Metropolitan District and is divided into two major service areas, the Patuxent and the Patapsco. The Patuxent Service Area serves the Columbia and Savage sections of the Metropolitan District. The Patapsco Service Area covers the remainder of the Metropolitan District, including the Ellicott City and Elkridge areas, along with the Route 108 Pumping Station Service Area. The Route 108 Pumping Station Service Area is a third large service area which provides system flexibility. This area is north of Route 108 and west of US 29, and was originally part of the Patuxent Service Area. The Route 108 pumping station gives the County the option of diverting flow from this area to the Patapsco Service Area (Map 4-5).

#### The Patuxent Service Area

The wastewater generated from the Patuxent Service Area is treated at the Little Patuxent Water Reclamation Plant, which is owned and operated by Howard County. The capacity available at any time at this plant is dependent on the schedule of capacity expansion improvements and on the ability of Howard County to acquire the necessary permits from the State of Maryland for discharging increased quantities of treated effluent into the Little Patuxent River, which is a tributary to the Chesapeake Bay.

The Little Patuxent Water Reclamation Plant, located in Savage, currently has a capacity of 18 million gallons per day (mgd) and has allocated approximately 17.5 mgd of its capacity. Note that this current usage includes flows from the Route 108 Pumping Station Service Area. Plans to upgrade and expand the plant to a capacity of 25 mgd are currently underway. Construction of the 25 mgd expansion should be completed by 2002. Each mgd of treatment capacity is sufficient to serve approximately 4,000 homes. The County plans to further expand the plant to a capacity of 29 mgd after 2010, with ex-

pansion to be completed by 2015. Biological nutrient reduction and enhanced phosphorus removal have been added to the plant as a pilot demonstration project, with full implementation scheduled to be complete by 2002. The successful implementation of these processes is key to any expansion of the plant.

#### The Patapsco Sewer Service Area

For the treatment of sewage from the Patapsco Service Area, Howard County is dependent on the Patapsco Wastewater Treatment Plant, which is owned and operated by Baltimore City. Howard County's share of the treatment capacity at the Patapsco plant is dependent on two factors: (1) agreements with the other jurisdictions sharing the plant—Baltimore City, Baltimore County and Anne Arundel County; and (2) Howard County's contribution to the cost of constructing or expanding the plant. Capital costs are shared among contributing jurisdiction's in proportion to each jurisdiction's share of capacity.

Howard County's share of the plant's current 63 mgd capacity is 10.37 mgd. Current usage by the County approximates 6.3 mgd. Further expansion of the plant to a capacity of 87.5 mgd should be completed by 2005. At that time, Howard County's share of the 87.5 mgd will be at least 12.4 mgd. The actual amount is currently under negotiation.

The Patapsco plant expansion beyond 87.5 mgd will require a new discharge permit from the State. This permit is subject to the same rigorous review process and similar uncertainties as the expansion of the Little Patuxent plant, but to an even greater degree because of the plant's scale and the significance of the Patapsco River's impact on the Chesapeake Bay. Any increase in Howard County's share of the Patapsco plant would require higher costs as well as competition for the available capacity with other jurisdictions experiencing growth pressures.

Patuxent Water Reclamation Plant to provide the majority of the County's future treatment requirements and will minimize use of Baltimore City's Patapsco Wastewater Treatment Plant to remain below the future allowable capacity of 12.4 million gallons per day (mgd).

The County's current growth rate will absorb all of the Little Patuxent plant's planned capacity of 25 mgd by 2005. The County could divert ex-

cess flows to the Patapsco plant, since the total planned capacity from the two plants will be adequate for total projected use. After 2010 however, total projected use will begin to exceed total planned capacity. Therefore, the County plans an additional expansion of the Little Patuxent plant to 29 mgd after 2010, with the expansion to be completed by 2015.

While the County has the financial and engineering capability to expand

the capacity of the Little Patuxent plant, all increases in treatment capacities depend on receiving State discharge permits. A moratorium on sewer allocations could be imposed if plant expansions are delayed or limited.

The ultimate planned expansion for the Little Patuxent Water Reclamation Plant will accommodate the flows from planned future growth in the Little Patuxent sewershed, provided growth phasing is consistent with plant expansion. Planned future growth in the Patapsco sewershed will be accommodated by the County's increased share of the capacity of Baltimore City's plant, once it is expanded in 2005.

### **The Water Service System**

The water for the County's public water supply system is purchased from Baltimore City and from WSSC through a series of negotiated legal agreements (Map 4-6). More than 95% of the County's public water supply is provided through the Baltimore City Central System. In addition to supplying water to Baltimore City and Howard County, the Central System also provides water to Anne Arundel, Baltimore, Carroll and Harford Counties. The Central System's water sources include Loch Raven, Prettyboy and Liberty Reservoirs and the Susquehanna River.

Less than 5% of the County's public water is provided by WSSC. In addition to supplying water to the County, WSSC also provides water to Montgomery and Prince George's Counties. Water sources for WSSC are the Patuxent River reservoirs and the Potomac River. The water from WSSC is normally used in the County's water pressure zone located east of I-95 between Laurel and Jessup. In an emergency, the County system can pump water from WSSC to other areas of the County.

Howard County's water system is currently divided into six pressure zones. An additional seventh water pressure zone is planned in the southern portion of the County for the Hammond Branch Extended area. This area is located west of US 29 between MD 216 and Johns Hopkins Road.

Future water supply needs will place major capital improvement requirements on Howard County. The Baltimore Central System will require major new facilities to provide for the future water needs of Howard

County. The County does not plan to seek additional capacity from the WSSC supply system because this water is more costly than the water from the Baltimore Central System.

The supply of water is not expected to be a constraint on projected growth and development through the year 2020. Some acceleration of improvements to the conveyance and storage facilities will be needed at the County level, but these do not present unusual problems.

### **Expansion of the Planned Service Area**

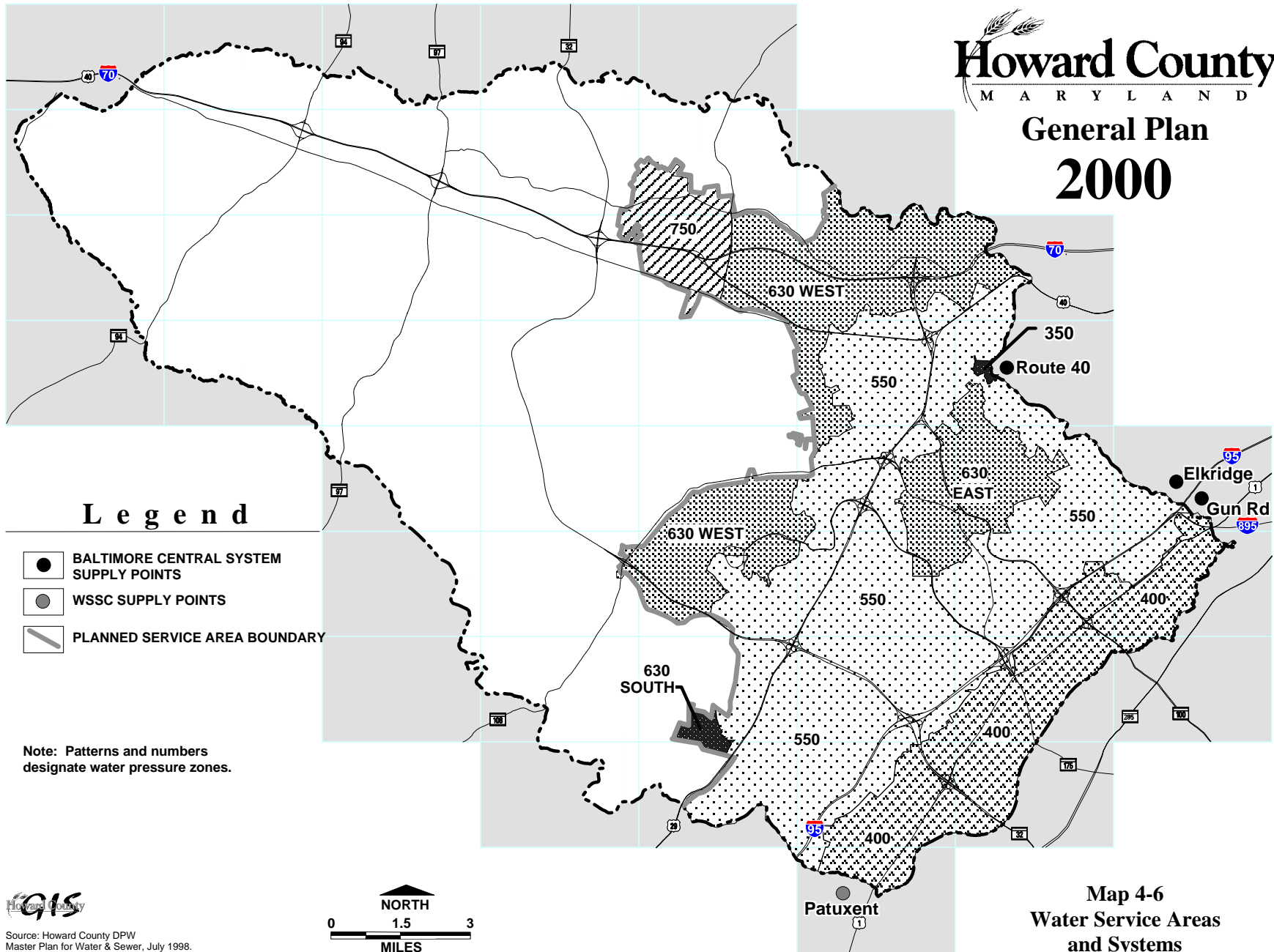
Most expansions to the Planned Service Area (PSA) since 1990 have occurred on a site-specific basis to address failing septic systems, potential well contamination and a few changes in land use. In July 1993, the County Council voted to extend the PSA to include the area around the Alpha Ridge Landfill. This extension was done solely out of concern for potential future groundwater contamination originating from the Alpha Ridge Landfill, therefore, only water service is provided in this area. No change from rural land uses or zoning is intended. Sewer service may be provided in this area only for qualifying parcels and under certain conditions. A qualifying parcel is one that is owned by either the Howard County Government or the Board of Education of Howard County and that adjoins another parcel where sewer service is available. Sewer service to a qualifying parcel may be extended only if sewer service can be extended without making sewer service available to any intervening non-qualifying parcel not owned by Howard County Government or the Board of Education of Howard County. *[Amended per CB 18-2006, Effective June 7, 2006]*

As discussed in Chapter 2, *Responsible Regionalism*, the boundary of the PSA is important not only to determine which parcels will be served by public water and sewer service, but also because the PSA is Howard County's designated growth area (Priority Funding Area). As such, adjustments to the PSA have major ramifications in terms of both permitted development intensity and the level of other County and State services.

Howard County is expected to continue to experience strong demand for economic and residential growth due to its prime location and high quality of life. However, residential land in the PSA is quite limited. One of the



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four growth scenarios described previously in **Box 4-1** included consideration of an expansion of the present water and sewer service area boundaries to accommodate additional residential units. Based on the fiscal analysis, there is no compelling fiscal need for additional growth that justifies an expansion of the PSA boundary.

Although this General Plan does not propose an expansion of the Planned Service Area to accommodate future residential or commercial growth, it should be anticipated that in the future there may be isolated situations where minor adjustments may be appropriate. Any requests for a General Plan amendment for expansion of the Planned Service Area should be denied unless the following minimum criteria are met: the proposed expansion of the Planned Service Area is part of a proposed zoning and is consistent with the General Plan and Smart Growth policies, or the proposed expansion of the Planned Service Area is intended to provide for a public or institutional use such as a religious facility, charitable or philanthropic institution, or academic school. In each case sewer and water infrastructure capacity [Amended per CB 44-2002, Effective July 2, 2002] and costs shall be analyzed to confirm the feasibility and availability of scheduled capacity. Institutional or public use expansions of the Planned Service Area boundary are limited to institutional or public properties adjoining the existing boundary of the Planned Service Area without including an intervening privately owned parcel currently not located in the Planned Service Area. [Amended per CB 18-2006, Effective June 7, 2006] An amendment to the Planned Service Area for an institutional use shall only include the minimum parcel size necessary to serve the proposed use. Subdivision of the parcel consistent with the Planned Service Area boundary amendment shall occur subsequent to the Council Bill approving the amendment and prior to the inclusion of the parcel into the Metropolitan District. Any proposed institutional use for the remaining parcels not included in the Planned Service Area may be the subject of an additional amendment at a subsequent date. If an amendment to the Planned Service Area is approved for a public or institutional use, it shall be approved with conditions limiting the expansion to the particular use proposed at the time of expansion and providing a deadline by which the improvements for the proposed use must be completed and connected to the public water and/or sewerage system. If the parcel is not used for the public or institutional use

proposed at the time of passage of the Bill and is not actually constructed and connected to the public water and/or sewerage system by the deadline specified in the Bill, the Planned Service Area expansion and the Metropolitan District inclusion, if applicable, shall be null and void and the Planned Service Area as it relates to the parcel shall revert to that in place prior to the Council Bill approving the expansion, without any additional action of the Council. [Amended per CB 44-2002, Effective July 2, 2002]

## ***Policies and Actions***

### ***POLICY 4.7: Ensure the adequacy of water and sewer services.***

- ◆ ***Plant Capacity Expansion.*** Accommodate flows from projected growth in the Planned Service Area by constructing the planned expansion of the Little Patuxent Water Reclamation Plant.
- ◆ ***Master Plan for Water and Sewerage.*** Do not include capital projects for capacity expansion beyond the needs of the current Planned Service Area.
- ◆ ***Priority Category Shifts.*** Defer shifts into the 0-5 year priority status for development proposals until they have received Adequate Public Facilities Ordinance approval.
- ◆ ***Developer Agreements.*** Assess the merits of refining the current method of financing water and sewer extensions through developer agreements.

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## Transportation

### Highways

Transportation strategies in the 1990 General Plan focused on ways to address rapidly increasing traffic demands. A top priority was placed on planning for and funding Howard County's portion of a highway grid system serving the Baltimore-Washington region. Many of the highway

projects identified in the 1990 General Plan are now open to traffic or are well along in the planning and engineering process.

The transportation challenges for this General Plan are broader. As the County matures, the sustainability and redevelopment of the County's existing communities and infrastructure will assume more importance. Rather than simply building more and bigger roads, the County must look at ways to make transportation infrastructure and programs more efficient, more diverse and more responsive to environmental and community concerns. The County and State must also place a high priority on adequately maintaining existing infrastructure and operating programs.

Between 1990 and 1999, traffic increased by about 40% on Howard County roadways. Most of this travel is accounted for by personal vehicles with only one occupant. The increase in auto use in Howard County and throughout the region during this period has been due to many factors, including population growth, County residents' higher per capita rate of automobile ownership, relatively low gasoline prices and growth in the labor force. Also, since 1990, a higher proportion of trips are non-work related and by senior citizens. Unavoidably, traffic volumes in Howard County will continue to rise and traffic congestion will continue to worsen during peak traffic periods at some locations. Continuing population and employment growth, as well as such factors as changes in travel behavior (for example, more two-earner families commuting to work), increasing through traffic (resulting from regional growth) and the limited options for expansion of highway capacity are the causes.

The 1992 Adequate Public Facilities legislation was enacted to aid in ensuring that the road network would meet future needs and to require new development to test and, if necessary, improve critical intersections. The Adequate Public Facilities legislative package has allowed Howard County to fulfill many of the 1990 General Plan's objectives with regard to controlling the pace and location of development. Through associated State legislation, the County gained approval to levy an excise tax on all new building construction, in order to fund and/or leverage State funding for high priority roadway improvements. Between April 1992 and June 1998, approximately \$33.8 million in excise tax revenues was collected.

The County Capital Improvement Program (CIP) has programmed highway projects through the year 2003, using \$84 million in excise taxes and excise tax funded bonds. Many of these projects are part of a prioritized and phased road improvement plan set forth in the County's 1996 Comprehensive Transportation Plan. Nonetheless, traffic volumes, especially on our major highways, are increasing faster than the ability to add highway capacity.

The highway network serving Howard County consists of local roads, collectors, arterials and freeways (also referred to as principal arterials). Each roadway type has a defined traffic carrying function, and depends on the others to carry its share of total network traffic. The entire highway network depends upon the regionally significant highways, typically those roads with the greatest traffic carrying capacity, operating efficiently and effectively. If I-95 is gridlocked during the morning rush hour, for instance, some motorists divert to other routes while other motorists back up on the ramps entering and exiting the highway. As a result, traffic becomes congested on the lower classification roads, such as MD 175, MD 216 and US 1, which feed into or run parallel to I-95. Clearly, therefore, high priority must be given to maintaining adequate capacity on the regional travel corridors and to keeping these roads free of delaying incidents.

Data provided by the Baltimore Metropolitan Council (BMC) indicates that between 1999 and 2020, travel on roadways in Howard County will increase by nearly 28%, from just over one million vehicle miles of travel (VMT) per day to nearly 1.3 million VMT. Regional through traffic, which makes up about one-sixth of this total, is projected to grow even faster, by 37%. [Map 4-7](#) shows expected growth in through traffic. Clearly, the County has no control over growth in through traffic, which has its origins and destinations outside Howard County, but must nonetheless accommodate it.

[Map 4-8](#) depicts locations within the highway network that have deficient levels of service during the evening peak period ([Box 4-6](#) explains the level of service concept). This map also provides guidance as to where improvements need to be made soon. While the evening peak hour was selected for this analysis, it is important to recognize that the patterns and locations of

congestion often differ during the morning and evening peak periods. For example, I-95 within Howard County functions at generally acceptable levels during the evening peak, but experiences frequent southbound back-ups in the morning peak. Additionally, peak period traffic often lasts for two or more hours, reflecting motorist attempts to travel during the least congested commute times.

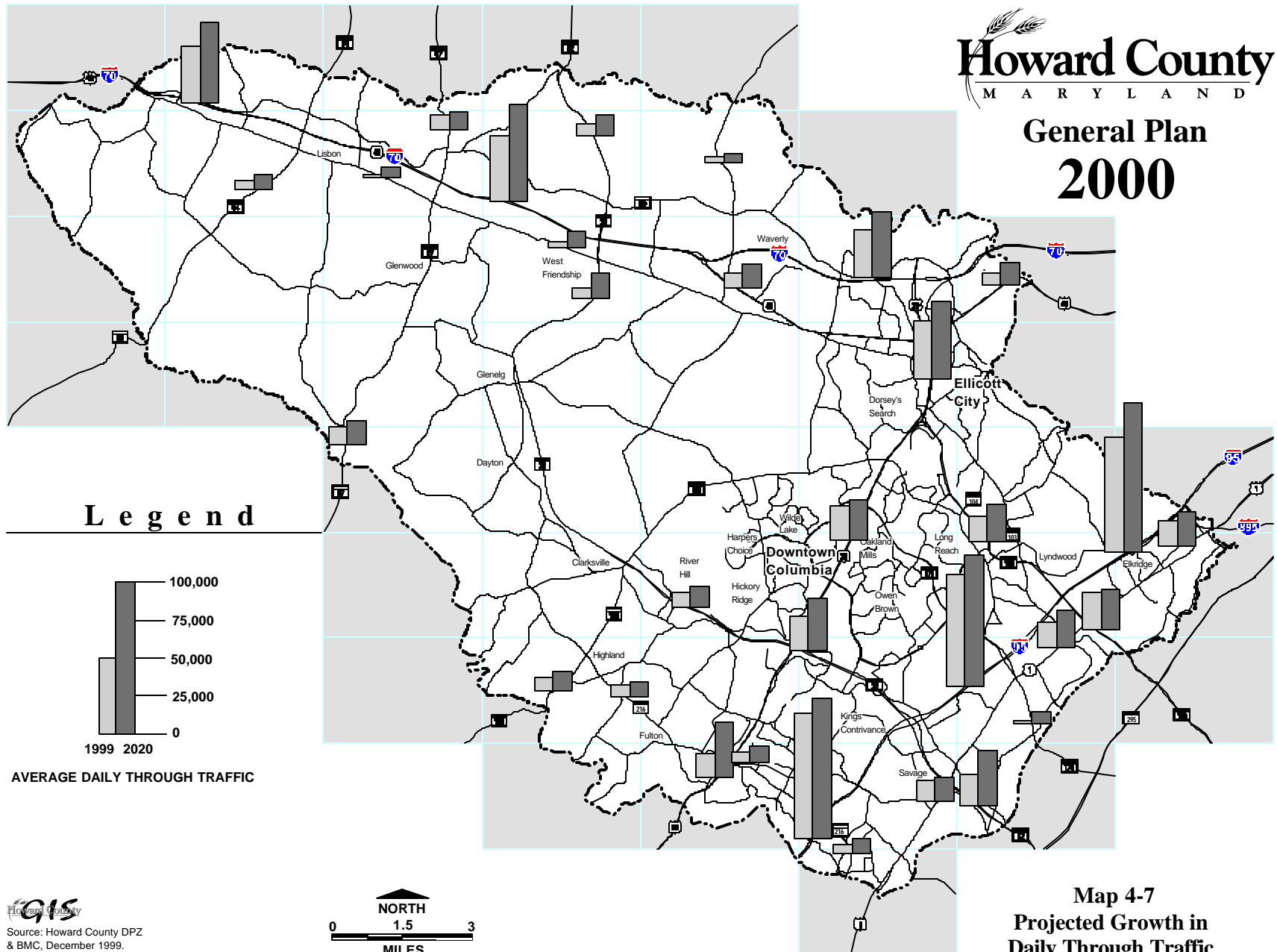
[Map 4-8](#) indicates that most roads in the County currently function acceptably during the peak hours. Peak period traffic congestion (level of service E or F) occurs in a limited number of locations in Howard County (for example, US 29, MD 175, MD 32 and MD 100), primarily in commuter travel corridors that carry a significant proportion of through traffic. For most of these locations, mitigating improvements are either under construction (for example, MD 175/Snowden River Parkway interchange, US 29/MD 216 interchange); programmed for construction (for example, widening of eastbound MD 32 between US 29 and Broken Land Parkway); or are in the planning and design phases (for example, MD 32 from MD 108 to I-70).

The analysis underlying [Map 4-8](#) also reveals that for most signalized arterials, the through movement at successive intersections typically operates at acceptable levels. However, a number of signalized intersections do not have sufficient physical capacity to accommodate total peak period demand. By providing sufficient "green time" along the arterials, some of the secondary roads which cross these arterials experience congestion or delay during peak hours.

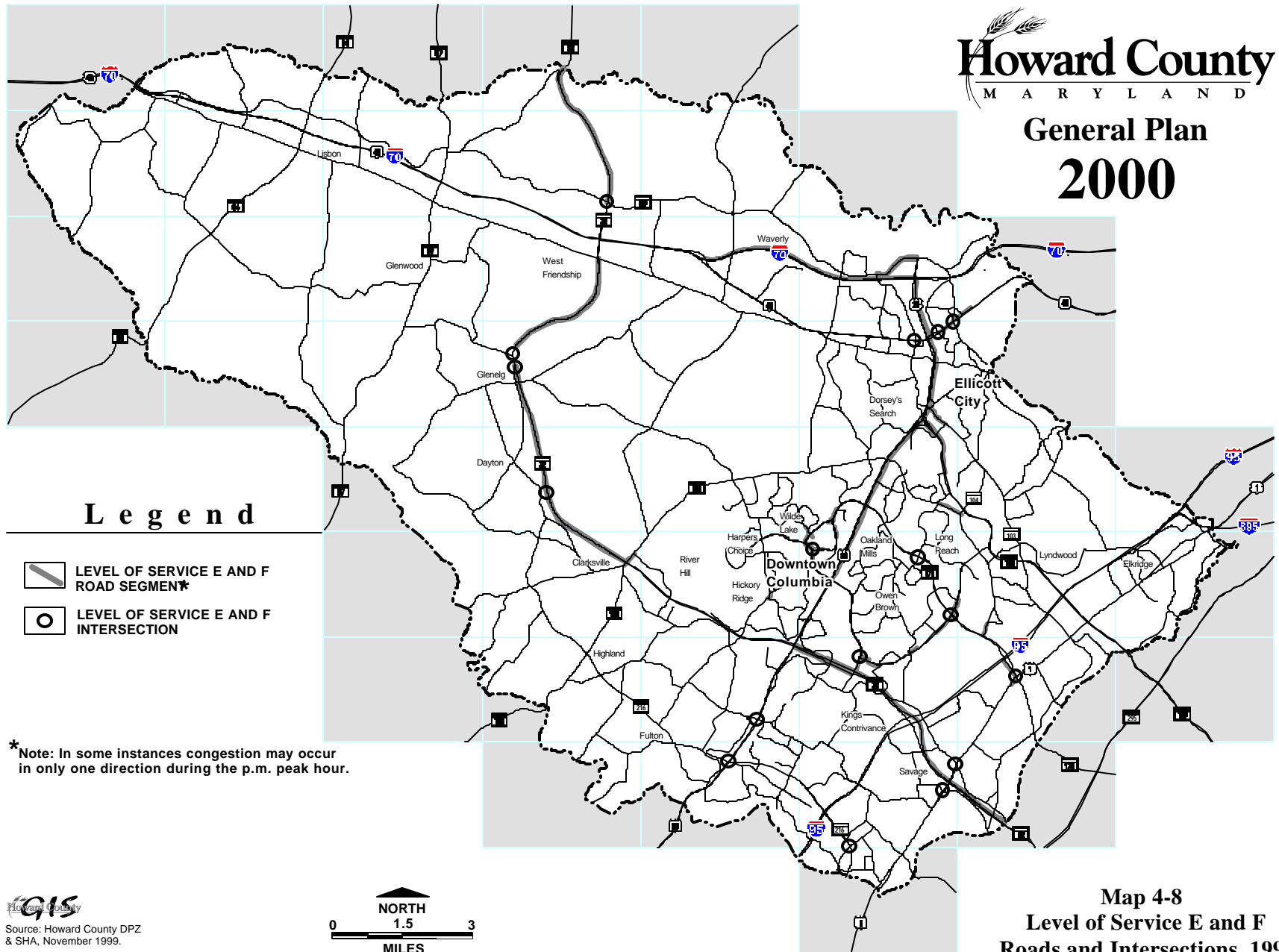
As a result of long-term planning by the State, Howard County and the BMC, many of the observed changes in travel demand and travel patterns were foreseen. In response, capacity has been added to major roads in the County such as I-95, MD 32 and US 29. The process of planning and funding new highway capacity, however, has become increasingly difficult. The cost in time and money to avoid wetlands, reduce noise impacts and acquire rights-of-way are substantially higher now than when those roads or road expansions were initially conceived. Also, there are practical limitations to how much further individual facilities can be expanded without incurring excessive costs or causing excessive environmental and/or community impacts.

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**GIS**  
 Source: Howard County DPZ & SHA, November 1999.



**Box 4-6**

**Highway Level of Service**

Highway Level of Service (LOS) is a quantitative and qualitative measure of how well traffic flows on a given street or highway. Level of Service relates to such factors as highway width, number of lanes, percentage of trucks, total traffic volume, turning movements, lateral clearances, grades, sight distance and other factors which affect the quality of flow.

Level of Service can be described as follows:

**Level A** is a condition with low traffic volumes, high speeds and free-flow conditions.

**Level B** is a condition with light traffic volumes, minor speed restrictions and stable flow.

**Level C** is a condition with moderate traffic volumes, where speed and maneuvering are restricted to a limited degree by the amount of traffic.

**Level D** is a condition with heavy traffic operating at tolerable speeds, although temporary slowdowns in flow may occur.

**Level E** is a condition of very heavy flow and relatively low speeds. Under Level E the traffic is unstable and short stoppage may occur.

**Level F** is a condition of extremely heavy flow, with frequent stoppage and very slow speeds. It is an unstable traffic condition under which traffic often comes to a complete halt.

If the State and County are limited in their abilities to provide new capacity at the pace at which demand is growing, then it seems inevitable that motorists must learn to adjust to gradually increasing congestion, not just in Howard County, but as a fundamental fact of living in the Baltimore-Washington region. There are, however, a number of ways to mitigate at least some of the adverse impacts of increased travel demand.

Increasingly, State and local governments are considering the expansion of highway capacity as just one strategy in an arsenal of multimodal approaches that include bus, rail, park-and-ride, congestion management and

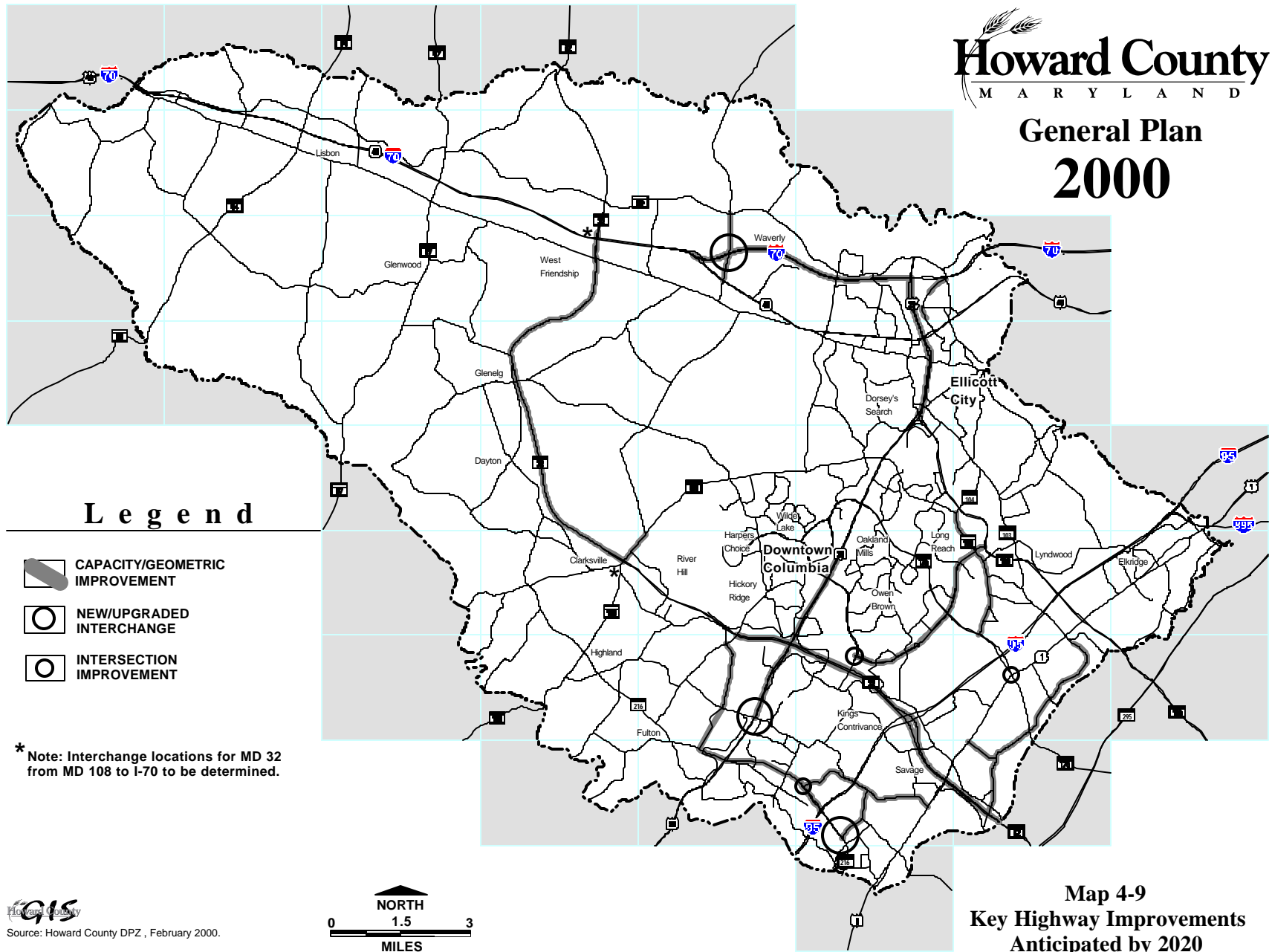
other strategies. In addition, the County must focus on increasing the efficiency of existing facilities. Relatively inexpensive strategies, such as traffic signal coordination, often can enhance the traffic carrying ability of roads and defer the need for more costly and potentially disruptive highway improvements.

The highest priority highway projects, therefore, are those which bring benefit to the greatest number of motorists and which enhance the efficiency and effectiveness of the overall transportation network serving the Baltimore-Washington region. Howard County works in coordination with the Maryland Department of Transportation (MDOT), BMC, the Metropolitan Washington Council of Governments (MWCOCG) and surrounding jurisdictions to identify these regionally significant, high priority improvements within a multimodal context, and to develop a phased approach to implementing those initiatives.

To plan for traffic demands in the future, assumptions regarding future land uses, demographics and transportation improvements are fed into a regional computer model which simulates traffic volumes for the Baltimore-Washington area. In 1996 and 1997, the County developed traffic forecasts for the year 2010 as part of the Comprehensive Transportation Plan. The Plan tested the effectiveness of a variety of highway network improvement scenarios that were deemed feasible within anticipated funding constraints. The analysis concluded that future highway resources should be directed primarily toward correcting existing and projected deficiencies on the major regional highways and secondarily to improving the lesser State and County arterials which serve those facilities. That finding was reaffirmed in the 1998 Baltimore Regional Transportation Plan (BRTP). [Map 4-9](#) and [Figure 4-18](#), which were derived from those two studies as well as continuing discussions with MDOT and BMC, show key highway improvements, which are anticipated by 2020 to address projected demand within projected funding constraints.

MDOT's decision-making about regional highway improvements is also guided by the State's Smart Growth policies. For example, MD 32 between I-70 and MD 108 is outside the County's approved Priority Funding Area (PFA). However, this highway segment connects the road network within

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**Figure 4-18  
Key Highway Improvements Anticipated By 2020**

<b>Interchange/Intersection</b>	<b>Description</b>		
I-70/Marriottsville Rd	Interchange, (add ramps to facilitate all movements)		
US 29/Gorman/Hopkins Rd	Interchange		
MD 32, I-70 to MD 108 <sup>1,4</sup>	Interchanges		
MD 216/Loop Rd East <sup>2</sup>	Interchange		
MD 216/Loop Rd West <sup>2,4</sup>	Interchange/intersection		
MD 175/US 1	Intersection, (capacity improvement)		
Broken Land/Snowden River Pwky	Intersection, (capacity improvement)		
<b>Roadways</b>	<b>Description</b>	<b>From</b>	<b>To</b>
I-70	Expand to 6 Lanes	US 40	US 29
US 29	Expand to 6 Lanes	Gorman Rd	Pedestrian Bridge
US 29	Expand to 8 Lanes	I-70	MD 100
MD 32 <sup>1</sup>	Expand to 8 Lanes	US 29	A A Co. Line
MD 32	Expand to 6 Lanes	US 29	Cedar La
MD 32 <sup>5</sup>	Expand to 4 Lanes	MD 108	Carroll Co. Line
MD 108 <sup>3</sup>	Expand to 4 Lanes	Trotter Rd	MD 32
MD 108 <sup>3</sup>	Expand to 4 Lanes	MD 100/MD 104	MD 175
MD 216	Expand to 4 Lanes	US 29	Sanner Rd
MD 216	New 6 Lane Roadway	US 29	I-95
Dorsey Run Rd	New 2 Lane Roadway	MD 176	MD 175
Dorsey Run Rd	Expand to 4 Lanes	MD 175	MD 32
Gorman Rd <sup>3</sup>	Expand to 3 Lanes	Stephens Rd	US 1
Loop Rd <sup>2</sup>	New 4 Lane Roadway	MD 216 W. of I-95	MD 216 W. of All Saints Rd
Marriottsville Rd <sup>2</sup>	Expand to 4 Lanes	MD 99	MD 144
North Ridge Rd	New 2 Lane Roadway	Carls Ct.	Rogers Ave.
Patuxent Range Rd	Expand to 4 Lanes	US 1	Dorsey Run Rd
Sanner Rd	Expand to 4 Lanes	J. Hopkins Rd	Pindell School Rd
Sanner Rd <sup>2</sup>	New 4 Lane Roadway	J. Hopkins Rd	MD 216
Snowden River Pkwy	Expand to 6 Lanes	MD 100	Broken Land Pkwy

1. Anticipate partial completion by 2020.  
 2. Expect partial or full developer funding  
 3. Equivalent lane capacity ( includes acceleration, deceleration, turn and bypass lanes)  
 4. Interchange/intersection option(s) under study  
 5. See text on Page 106

Source: Howard County DPZ, March 2000

the PFA to the Interstate system. In recent years there has been a rapid increase in interstate and regional traffic, creating peak hour congestion and many serious accidents along this segment. MDOT has studied many options for improving safety and expanding capacity, however, these have generated heated public debate about whether improvements to this segment of MD 32 are consistent with Smart Growth policies. Safety improvements must be addressed in the short term, however, if capacity improvements are not made, increasing traffic will spill over onto adjacent rural roads causing new safety and congestion problems. MDOT is appointing an expert panel to review how Smart Growth should apply to such projects.

Because of the long lead time required for planning, engineering and construction, not all of the needed regionally significant highway improvements can be constructed within the timeframe of this General Plan. [Figure 4-19](#) indicates several regionally significant highway improvements which are anticipated to be completed after 2020.

In addition, other goals of this Plan, such as protection of the rural character of Western Howard County, along with the growing statewide priority to conserve rural areas, should be taken into account before proceeding with highway capacity expansion. The potential for highway expansion to increase development, which could ultimately exacerbate traffic congestion in Howard County, should be taken into account. Careful and credible analysis should be undertaken on the land use and traffic implications of such capacity expansions (for example, MD 32 from MD 108 to I-70) and on other means of alleviating congestion or safety concerns, before the decision is made to proceed with capacity expansion.

## **Transit**

The 1990 General Plan identified the need for expanded local transit service and better coordination with regional transit services. To address these needs as part of the Comprehensive Transportation Plan, the County undertook an intensive, two-year consultant study of transit needs, organizational issues and funding options. That study was completed in 1996.

As a result of this study, the County created a new transit system known as Howard Transit (formerly called the Howard Area Transit Service or HATS). Howard Transit has restructured and coordinated transit services in the County to better meet client needs and operate more cost effectively. The restructured transit system has a fixed route bus service operating in the more populated portions of the County, including Columbia, Ellicott City, Dorsey, Savage and North Laurel (as shown previously in [Map 2-5](#)). The system also includes a demand responsive (by request) curb-to-curb paratransit service which serves clients of various County social service programs for the elderly, low income and disabled. This service also responds to the requirements of the Federal Americans with Disabilities Act (ADA). The County has also instituted a morning and evening peak period shuttle bus operation, known as the Spirit Shuttle, that provides free bus service between the MARC rail system and employment sites in the I-95/US 1 corridor and western Anne Arundel County.

Ridership on the Howard Transit system has been growing steadily since its inception. From fiscal year (FY) 1997, the first year of the Howard Transit system, through FY 1999, ridership on the fixed route service component grew by 56% to nearly 192,000 trips per year. During this same period, paratransit service increased more than 50% to almost 96,000 trips in FY 1999. Unfortunately, attempts to provide transit service to western Howard County have been less successful due to the lower densities of residential and commercial development. In response to passenger surveys and evaluations of services provided to date, a number of improvements have been implemented or are underway to meet passenger requests for both local and regional transit services ([Box 4-7](#)). In addition, a comprehensive, systemwide analysis of the Howard Transit services and operations will be undertaken in FY 2001, with Federal and State funding assistance through a Transit Development Program grant.

Public transit has the potential to alleviate some of the impacts of growth. Additional buses can be put into service more easily than additional lanes or roads can be added to the road network. As the transit and high occupancy vehicle (HOV) systems mature, growth management tools should recognize and reinforce the potential of transit and HOV improvements to partially mitigate traffic congestion. Furthermore, as population and em-

**Figure 4-19  
Key Highway Improvements Anticipated To Be Completed After 2020**

<b>Interchange/Intersection</b>	<b>Description</b>		
US 29/Rivers Edge Rd	Interchange		
MD 32, I-70 to MD 108 <sup>1</sup>	Interchanges (Under Study by SHA)		
<b>Roadways</b>	<b>Description</b>	<b>From</b>	<b>To</b>
I-70 <sup>2</sup>	Expand to 8 Lanes	US 29	Balt. Co. Line
I-95 <sup>2</sup>	Expand to 10 Lanes	Balt. Co. Line	P.G. Co. Line
US 29 <sup>2</sup>	Expand to 6 Lanes	MD 216	Mont. Co. Line
MD 32 <sup>3</sup>	Expand to 4 Lanes	I-70	Carroll Co. Line
MD 32 <sup>1</sup>	Expand to 8 Lanes	US 29	A.A. Co. Line
MD 100 <sup>2</sup>	Expand to 6 Lanes	I-95	A.A. Co. Line

1. Improvement expected to be partially completed prior to 2020
2. Project limits extend beyond County boundaries.
3. See text on Page 106.

Source: Howard County DPZ, March 2000

**Box 4-7**

**Short-Term Transit Initiatives**

Over the past three years, the County has conducted passenger surveys, formed a Passenger Advisory Group and tested new transit options. As a result of these efforts, the County has implemented or is currently in the process of implementing the following short-term improvements to the Howard Transit Service:

- Expanding and upgrading the fleet.
- Expanding route coverage to include new areas within the County as well as locations in neighboring jurisdictions.
- Increasing service frequency.
- Expanding service hours.
- Providing additional transfer opportunities to other local (Connect-A-Ride) and regional (MTA bus and MARC rail) transit services.
- Providing more frequent scheduled paratransit service to medical centers.
- Expanding the range of eligible trip purposes for paratransit service.
- Providing additional passenger amenities, such as shelters and benches.
- Expanding public outreach and marketing programs including the development of Howard Transit and Commuter Solutions Internet sites.

ployment densities increase in developing areas of the County, it may become practical and desirable for the County to extend local Howard Transit bus service to currently unserved areas of the County.

Demand for public transportation is expected to grow significantly by 2020, in part, as a result of the County's growing senior citizen population. While many seniors will continue to drive, a growing number will rely on public transit, whether fixed route public transportation (such as bus or rail) or curb-to-curb paratransit services.

Another factor impacting transit demand is Howard County's strong economy. Many County employers have difficulty finding employees for entry level and lower skilled jobs, especially for second and third shift positions. At the same time, there are citizens living in the County, as well as other parts of the region, who are unable to work because transit service does not exist to provide connections to job sites. Therefore, as Howard County's job base continues to grow, there will be an ongoing need for transit connections from residential areas to employment sites.

Planning for transit and other non-single occupant vehicle modes of travel (such as ridesharing and HOV lanes) is an essential aspect of planning for balanced growth. Transit service, however, requires significant public sector subsidies. To achieve even seemingly modest shifts from autos to transit requires a serious commitment of capital and operating funds from both the local and State governments. Increasingly, the private sector may also need to bear some of this burden.

The amount of traffic diverted to higher occupancy vehicles depends, in part, on whether HOV lanes are used (Box 4-8), or whether transit is provided via buses, light rail or heavy rail. Each of these modes provides for progressively greater ridership. Each, however, is progressively less flexible in routing and frequency of stops, and increasingly costly. During the 20-year time frame for this General Plan, Howard County will not likely achieve the population or traffic densities necessary to justify new rail service. Nonetheless, it is important that we preserve the necessary rights-of-way in some of our regional travel corridors, as identified on Map 4-10, so as not to preclude these options from future plans. During the next twenty years, the County's efforts in these corridors should focus on ex-

### Box 4-8

#### High Occupancy Vehicle Lanes

High Occupancy Vehicle (HOV) lanes are lanes of a highway that have restricted or controlled access reserved for buses, vanpools and carpools, usually carrying three or more persons per vehicle:

The advantages of HOV lanes include:

- Additional person-carrying capacity for congested highway corridors.
- Deferral of the need to construct additional highway capacity (lanes).
- Enhancement of public transit schedule reliability and reduction of transit travel times.
- Reduction of energy consumption and environmental pollution by reducing the number of vehicles on the road and improving the overall efficiency of the highway system.

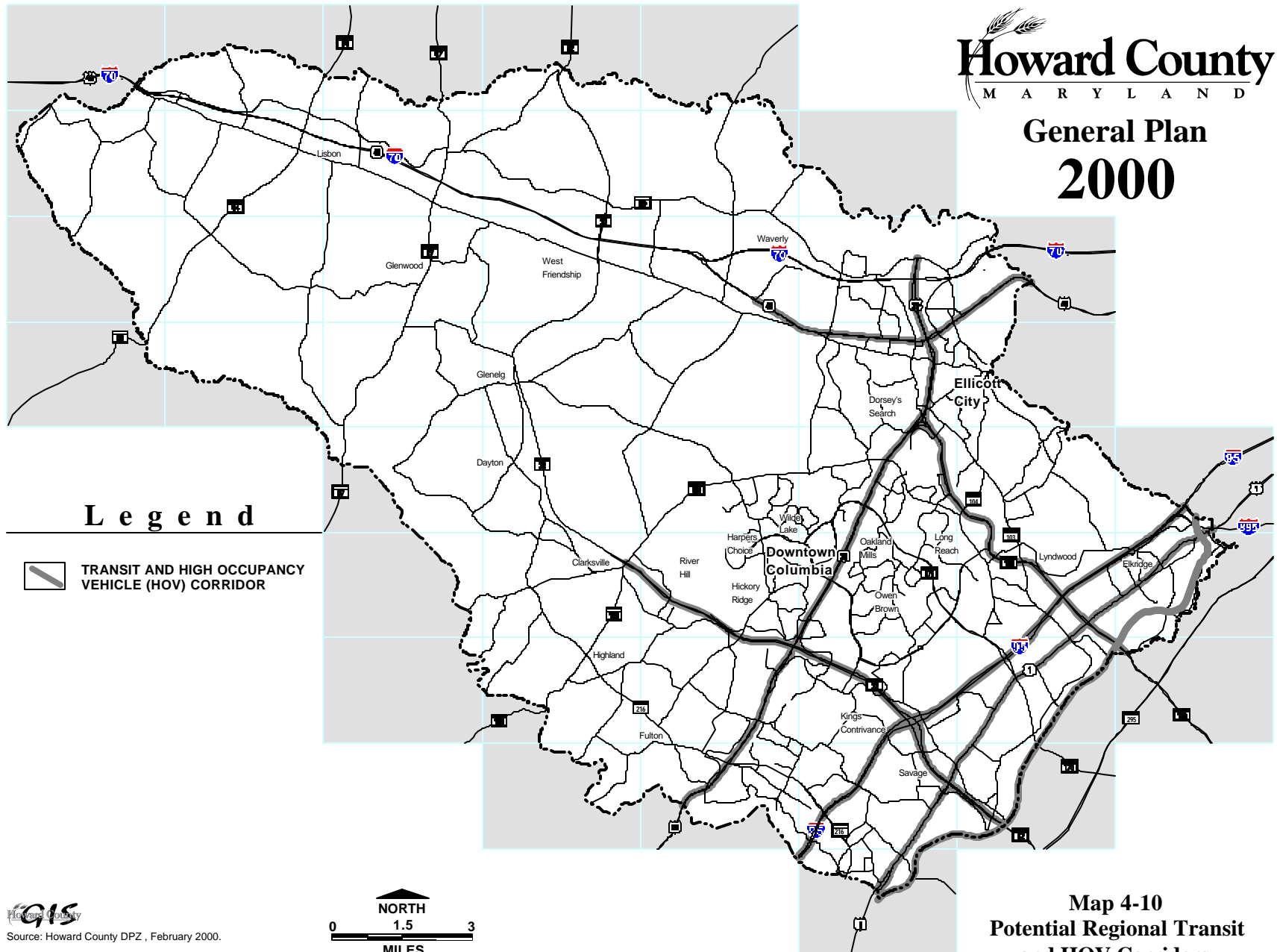
panding local and regional bus route coverage, increasing bus service frequency (especially for reverse commute services) and adding HOV lanes.

Park-and-ride lots are necessary to support ridesharing and transit. Existing park-and-ride lots are shown on Map 4-11. Since 1990, four new park-and-ride lots were built in the County and several existing lots were expanded, increasing capacity by more than 2,000 spaces. However, use of these lots has only increased slightly during this time period, demonstrating how difficult it is to convince motorists to switch to other travel modes (Figure 4-20).

Public transportation and land use strategies can be integrated to increase transit ridership. Land use strategies which may have positive impacts on transit use include: employer funded shuttle services; path and sidewalk linkages to connect transit facilities to major employment sites and residential areas; transit-oriented development, with new development or

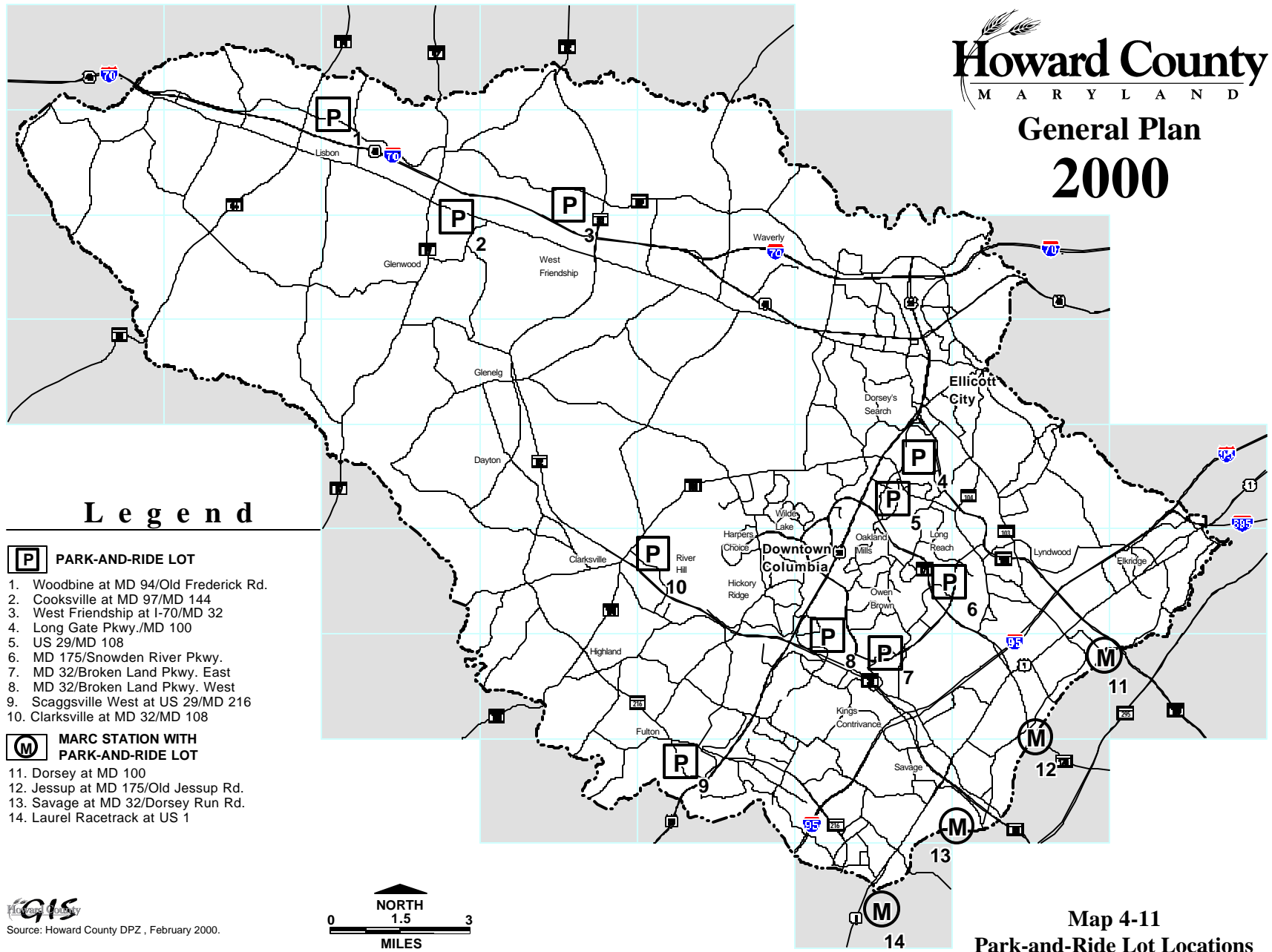


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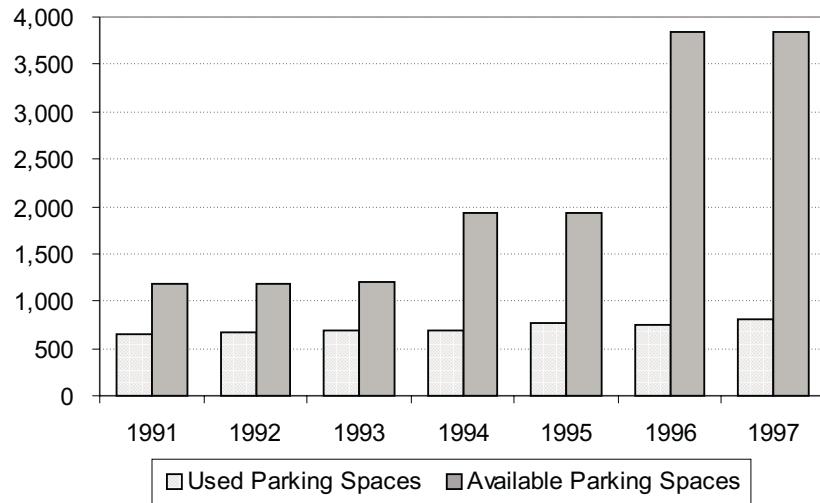




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**2000**



**Figure 4-20**  
**Park-and-Ride Usage, 1991-1997**



Source: Howard County DPZ

redevelopment focused around rail stations and major bus transfer points; and new park-and-ride lots located near the periphery of the County to capture possible carpoolers and transit patrons before they reach areas of higher traffic congestion. Such strategies can also assist in meeting the County's job creation and job retention objectives.

Other techniques can also be marginally effective in improving traffic situations and encouraging a shift to higher-occupancy vehicles. These include flexible work hours, reducing the required parking requirements for developers who commit to carpooling/vanpooling programs or to Transit Management Associations, and charging for parking. These approaches are difficult to monitor and enforce, and the notion of parking fees does not yet have broad applicability in a moderate density area like Howard County, except in very specific places like the historic commercial area of Ellicott City.

It is important to use each mode or transportation strategy to its maximum efficiency and cost effectiveness. This is particularly true of intra-County bus service which, in addition to serving the general population, provides an essential service to a number of transportation-dependent populations (including the elderly, lower income individuals, persons with disabilities and youths). In addition, a number of the County's goals and policies on affordable housing, workforce placement and retention, and human services are dependent upon public transportation. A viable intra-County transit system facilitates employment, stimulates economic development and increases the opportunities for transportation-dependent persons to be fully participating members of the community.

Despite increased marketing and public outreach efforts, citizens are often unaware of the many public transportation opportunities available in Howard County. This is due, in part, to the diversity of fixed route and providers. In particular, many of the services (especially nonprofit human service agency providers) offer service only to a limited clientele and/or encompass service areas beyond Howard County. Because routes, schedules, fares and other transit information change frequently, up-to-date information on public transportation is essential, especially for transit dependent residents. Howard Transit will provide information regarding its services and the transit services it connects to. However, creating a single, up-to-date point of contact for information on all transit resources is extremely difficult. Since the Internet provides opportunities for improved information exchange, Howard Transit will make a concerted effort to link Howard County's website with those of other public and private transit providers.

### **Bicycle Travel**

Bicycles are an energy efficient, environmentally sound alternate means of transportation. Surveys conducted in 1996 and again in 1997/1998 indicated that cycling for recreational purposes is prevalent in Howard County. Cycling to work, school and shopping also occurs, but not to the same degree as for recreation.

While some roads or roadway shoulders in the County may serve as safe bike routes for recreational uses, the lack of bike routes and/or bike lanes

on collector and arterial roads discourages cycling as an alternate means of transportation, especially for commuting. Where sufficient right-of-way does exist on collectors and , roadway shoulders are frequently unpaved or are in poor condition. Where shoulders are paved and roads are regularly used by bicyclists, the routes are generally not signed for bicycle use. Motorists unaware of bicycle traffic may, therefore, present a hazard to cyclists and vice versa. The lack of bicycle storage facilities at most commercial and employment facilities and transit stops also discourages bike travel.

As part of the Comprehensive Transportation Plan, a County-wide assessment was undertaken of pedestrian/bicycle facilities. The study identified gaps in the network of sidewalks, paths and roadways that serve cyclists. Additionally, an inventory was developed of paved shoulders, curb lane widths, posted speed limits and other roadway conditions, to assess the suitability of various roadways for bicycle travel and to identify and prioritize improvements which could enhance bicycle travel in the County. Since that time, a number of these options have been implemented or programmed in the County's Capital Improvement Program. County and State capital projects for road improvements can provide opportunities to add bike lanes, adequate paved shoulders and/or sidewalks. The Design Manual standards for County roads should be reviewed to consider pedestrian/bicycle use.

Howard County also participates in Federally-funded safety programs run by the State Highway Administration which, in addition to many other traffic safety issues, address bicycle and pedestrian safety. Howard County's program, operated under the auspices of the County Executive's Office, is the Traffic Action Group for Safety and has regional and state-wide counterparts.

## ***Policies and Actions***

### ***POLICY 4.8: Maintain acceptable traffic conditions through 2020.***

- ◆ ***Adequate Public Facilities Ordinance (APFO).*** Review periodically and revise, as necessary, all aspects of the County's Ade-

quate Public Facilities legislation.

- ◆ ***Major Road Improvements.*** Pursue the construction of road improvements shown on the Transportation Map 2020 of this General Plan.
- ◆ ***Other Road Improvements Priorities.*** Evaluate and prioritize other potential highway improvement options through an update of the 1996 Comprehensive Transportation Plan. Emphasize capacity improvements on the regionally significant through routes and efficiency improvements to the local network to mitigate traffic through neighborhoods.
- ◆ ***Excise Taxes.*** Continue to use APFO-generated excise tax revenues to fund and/or leverage State and Federal funding for highway capacity improvements, particularly on priority through routes.

### ***POLICY 4.9: Reduce dependence on the automobile for inter-County travel.***

- ◆ ***Alternatives.*** Promote the use of transit, ridesharing, bicycling and other alternatives to single occupant vehicles to reduce regional highway travel demand.
- ◆ ***Regional Transit Corridors.*** Seek to initiate or increase regional and local transit service in the corridors identified on Map 4-10 of this General Plan and ensure that future highway improvements in transit corridors do not preclude transit service.
- ◆ ***Land Use/Transit Coordination.*** Coordinate land use changes along existing and planned transit corridors to support and reinforce ridership potential. Provide transit connections between residential areas within and outside Howard County to employment sites in the County.
- ◆ ***New Development to Accommodate Transit.*** Promote increases to transit ridership potential by reviewing new developments for their ability to accommodate buses. Encourage the reservation of space for

sheltered transit stops in major employment and mixed use centers.

- ◆ **Park-and-Ride Lots.** Promote greater use of existing park-and-ride lots through transit connections and the rideshare program. Identify and assist in the acquisition or lease of new park-and-ride lots to support transit corridors. Such actions may include cooperative arrangements with private development, such as shared use of shopping center parking lots.
- ◆ **Bikeways and Bike Stations.** Provide bike paths to rail stations and/or park-and-ride lots, with bike racks or lockers.

**POLICY 4.10: Reduce dependence on the automobile for travel within the County, and serve the needs of transit-dependent populations.**

- ◆ **Transit Development Program.** Prepare a Transit Development Program in fiscal year 2001, to evaluate and prioritize a range of transit improvements to improve mobility within Howard County and connections to regional transit.
- ◆ **Howard Transit Fixed Route Coverage.** Expand fixed route coverage of the Howard Transit system to incorporate unserved areas of greatest existing residential and employment density (such as Elkridge), and plan for potential future routes to anticipated growth areas (for example, North Laurel and Fulton) without downgrading existing fixed routes where ridership is sustainable or growing.
- ◆ **Quality of Fixed Route Service.** Implement strategies which make the use of Howard Transit's fixed route service more reliable (upgrading the fleet), more convenient (more frequent service, longer hours and greater route coverage) and generally a more pleasant travel experience (added patron amenities such as shelters and benches).
- ◆ **Paratransit.** Expand Howard Transit's paratransit services to medical facilities, job sites and other areas of highest demand requested by the County's elderly, disabled and low income populations.
- ◆ **Funding.** Use the Transit Development Plan to evaluate the costs of

projected expansions and other improvements to the Howard Transit system to address the needs of transportation dependent populations and determine what resources can be utilized to meet these costs. Explore additional public and private funding sources to improve the level and quality of fixed route and paratransit service.

- ◆ **Transit Outreach.** Develop a central County clearinghouse to provide greater ease of access to, and better information about, all publicly provided transit services. Increase marketing and public outreach programs to educate the public on the availability and benefits of Howard Transit and other public transportation services.

**POLICY 4.11: Enhance and encourage walking and bicycling.**

- ◆ **Pedestrian/Bicycle Improvement Priorities.** Prioritize potential pedestrian and bicycle facility improvements through an update of the 1996 Comprehensive Transportation Plan. Emphasize improving safety, eliminating system gaps, creating consistency with or enhancement of community character, and providing connections to such uses as bus and rail stops, libraries, shopping, schools, employment centers and government services.
- ◆ **Community Planning.** Evaluate and prioritize pedestrian/bicycle facility needs for communities or subareas within the County, and seek to link these community systems to the regional pedestrian/bicycle network.
- ◆ **Capital Projects.** Implement priority pedestrian and bicycle improvements. When planning for road construction or reconstruction through the State's Consolidated Transportation Program and the County's Capital Improvement Program, encourage the construction of sidewalks, designated bike lanes and/or the use of paved roadway shoulders for bike routes, as appropriate.
- ◆ **Regulatory Revisions.** Explore potential revisions to the Howard County Design Manual and the Subdivision and Land Development Regulations to encourage and accommodate bicycling as both a recreational and commuter-oriented activity

# Schools

## Introduction

The excellence of the Howard County Public School System (the Public School System) is integral to the County's quality of life and fiscal health. Many residents move to or remain in the County because of the quality of the Public School System, and businesses find that the Public School System makes a Howard County location attractive to potential employees. For the past ten years the Howard County Public School System has ranked among the top systems in the State, according to the annual Maryland School Performance Program Report.

School enrollments are projected to level off, and in some areas decline, over the next 10 to 15 years. As the need to build new schools diminishes, the County will have an opportunity to focus on improving programs, upgrading facilities and renovating aging buildings. The cost of building and opening new schools over the past decade limited the Public School System's ability to meet new program and service needs. New issues will be raised in the future by the need to address declining enrollments in some schools, to maintain an increasing number of aging school buildings and to sustain the excellence of school programs in a time of slower growth.

## Status of School Planning

The Public School System receives most of its funding from Howard County government. However, it operates under the authority of State law and under the direction of the elected Board of Education.

The Public School System initiated community-based strategic planning in 1985. In 1995, the Board of Education approved an updated strategic plan entitled *Beyond the Year 2000*. School Improvement Teams, with the help of staff, implement the strategic plan at the school level. School Improvement Teams include the school principal, teachers, staff, parents, community members and, sometimes, students, and have existed in all County schools since the 1995-96 school year.

Planning for school construction, renovation and maintenance is accom-

plished through the capital budget process. The Public School System annually approves a Proposed Capital Budget, a five-year Capital Improvement Program (CIP) and a ten-year Long Range Master Plan.

The other primary planning document is the Howard County Public School System Master Plan, updated annually, as required by the State Department of Education. This plan compiles data on current and projected school capacities, enrollment, construction plans and renovations.

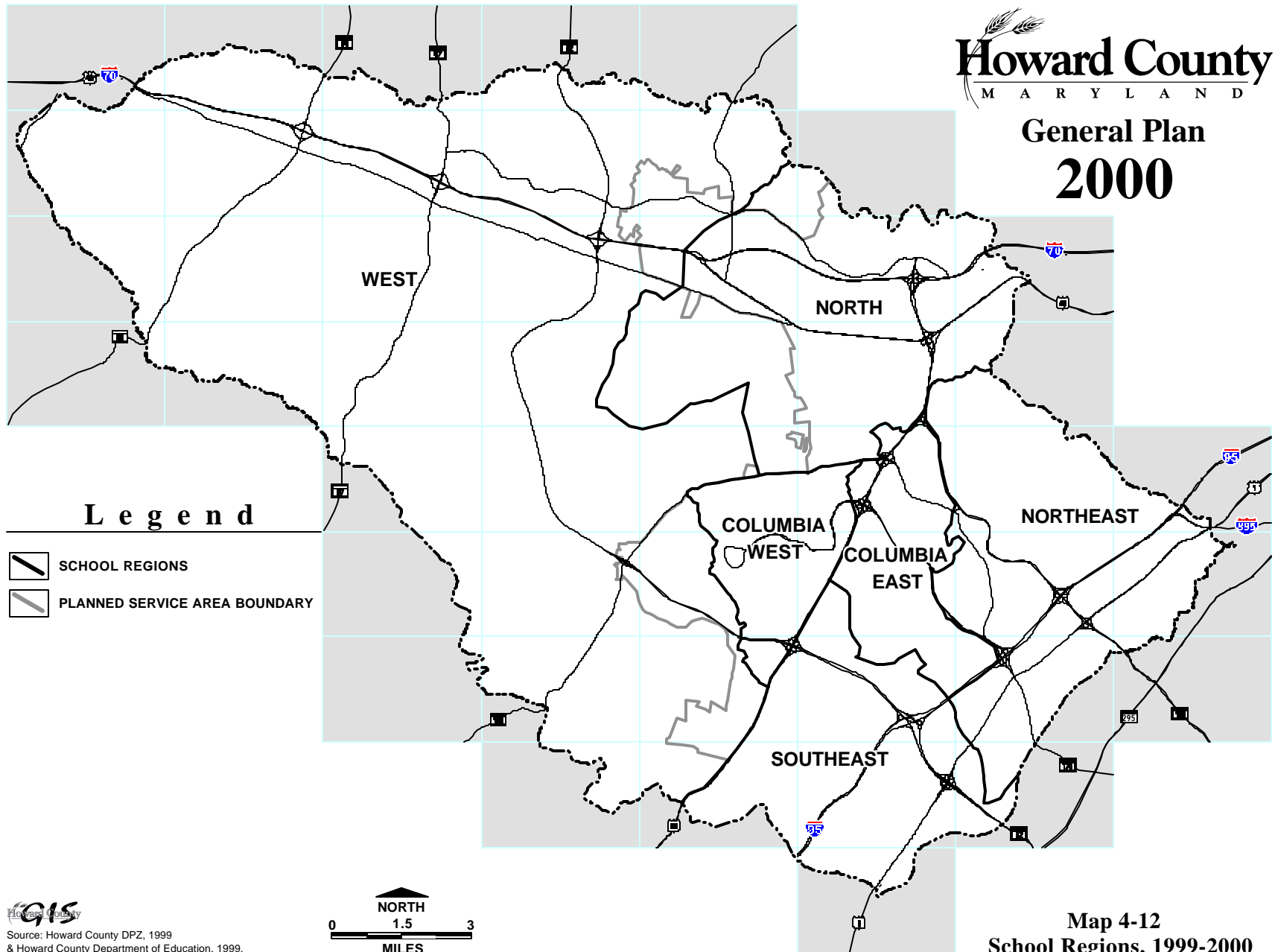
## Adequate Public Facilities Ordinance

Howard County's Adequate Public Facilities Ordinance (APFO) requires that roads and schools are adequate to serve new development and that the pace of residential growth does not exceed the rate recommended in the 1990 General Plan. The APFO postpones the approval of new housing if adequate school capacity is not available, providing the predictability needed for planning and building additional school capacity.

The APFO measures adequacy of school capacity at the elementary school level. School capacity is measured for both individual schools and for six school regions, each consisting of several contiguous elementary school districts. School district boundaries are subject to change annually, which may also alter regional configurations. The regions for the 1999-2000 school year are shown on [Map 4-12](#).

Although growth in enrollment is expected to slow dramatically over the next ten years, the APFO will still be needed to pace residential growth and ensure that adequate school capacity is available. An Adequate Public Facilities Committee was formed in 1991 to develop the County's initial adequate public facilities ordinance. This Committee has reconvened twice, in 1995 and 1999-2000, to evaluate the ordinance's effectiveness and recommend refinements. Amendments approved in March 2000 included reducing the threshold for closing an elementary school district to new development when the affected school is over capacity from 120% to 115%, and limiting the number of housing allocations that can be granted in a single school district in any one year to 300, if the school region exceeds 100% of capacity. Amendments will be submitted in the Fall of 2000 to add a school capacity test at the middle school level. This will require re-

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structuring the allocation areas since elementary and middle schools regions are different. Periodic review and adjustments will likely be needed as enrollment conditions change.

### **Enrollment Growth and School Capacity**

The Public School System experienced rapid growth during the 1990s, building 20 new schools, replacing two schools and expanding several others. This construction allowed the Public School System to provide for enrollment increases of more than 11,000 students from 1990 through 1998. (By comparison, enrollment grew by approximately 5,000 students during the 1980s and 6,000 during the 1970s.) The expansion also alleviated a shortage of about 1,100 seats in 1990. [Maps 4-13, 4-14 and 4-15](#) show the County's elementary, middle and high schools, and school district boundaries.

The aggressive school construction program in the 1990s enabled the Public School System to accommodate enrollment growth. As of April 2000, the Public School System as a whole had enough seats for students. However, student population was not evenly distributed among school districts. In three of the six school regions – North, Northeast and West – enrollment exceeded 100% of available capacity. The other three school regions – Columbia East, Columbia West and Southeast – had space available for additional students ([Figure 4-21](#)). Elementary schools have greater capacity problems than middle and high schools. The capacity for elementary schools in four of the six regions – North, Northeast, West and Columbia West – exceeded 100% as of April 2000. However, capacity concerns are anticipated to shift from elementary to middle and high schools in the future, due to changing demographics.

Enrollment increases in the County will slow over the next decade as the County's population ages. The Public School System projections show increases of about 4,600 students between 1999 and 2007, reaching a peak of 47,100 students. The projections for 2008 and 2009 show a slight decline of about 400 students. Beyond 2010, continuing slight declines in the school age population are projected by the Maryland Department of Planning ([Box 4-9](#)).

Elementary school enrollment in the County is expected to begin a slow decline as early as 2003. Middle school enrollment is expected to peak in 2007 and high school enrollment is expected to peak in 2010. By 2009, most of the projected growth will be at the high school level, with an additional 4,000 high school students in the system ([Figure 4-22](#)).

Based on expected enrollment, new school construction will slow dramatically. The County's approved FY 2001-2006 Capital Improvement Program proposes funding for construction of only three additional schools, a high school in 2002, a middle school in 2004 and an elementary school in 2003. The CIP also calls for additions to expand the capacity of many of the County's high schools and elementary schools, and replacement/expansion of one middle school. Based on current enrollment projections, the Public School System's ten-year plan proposes no new schools beyond the five-year horizon of the CIP. This situation could change if future enrollments do not decline as anticipated.

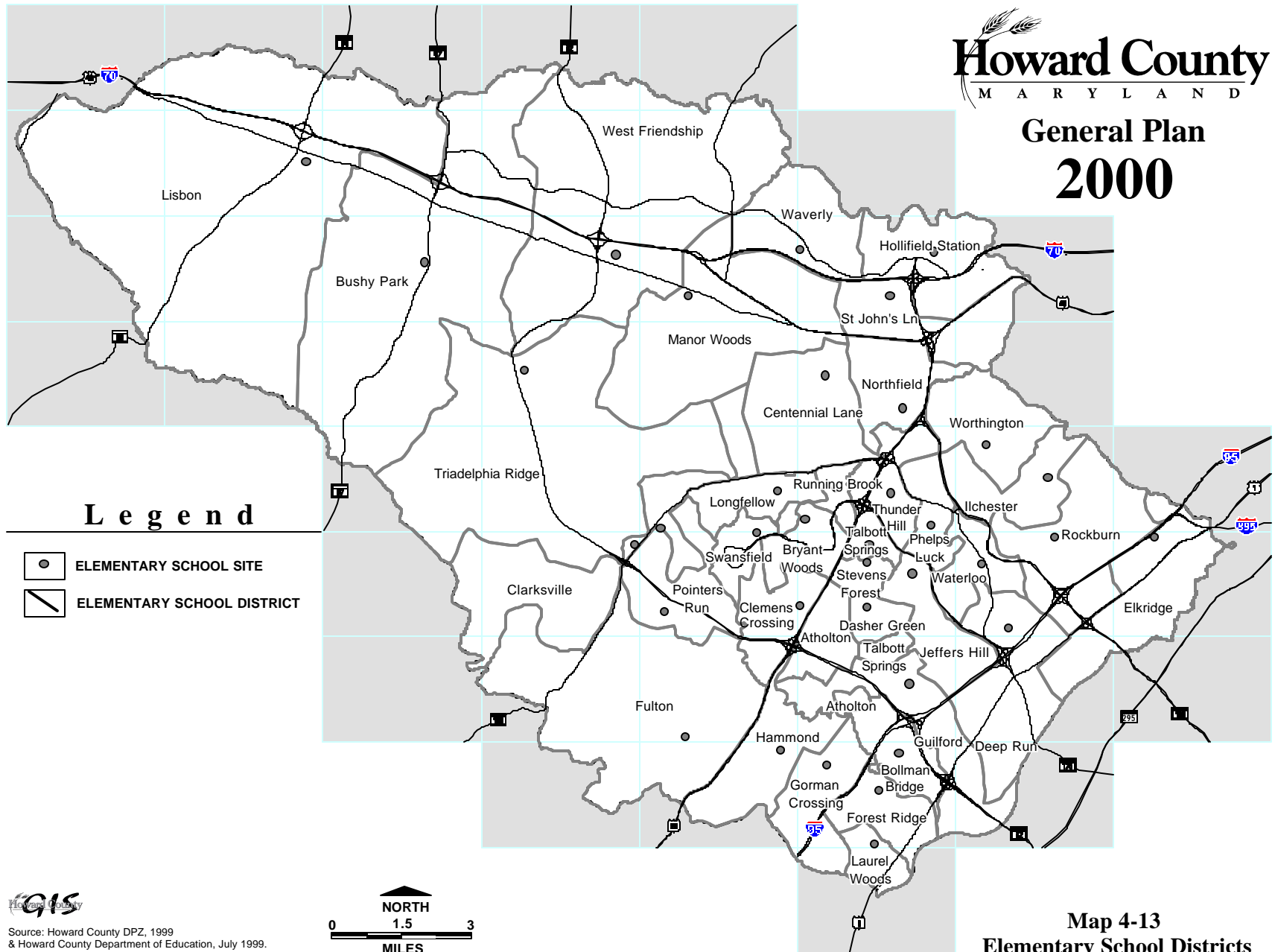
Projecting enrollments is complex. While short-term County-wide estimates have been fairly accurate, projections for individual schools have often not been. This has contributed to schools which are significantly under or over capacity. Such errors have generated unanticipated budget requests and undermined public confidence in school facility planning. Due to the high cost of school construction and the need to budget for other public facilities, the Public School System needs to be accountable for the accuracy of enrollment projections and budget requests. The Public School System has been investigating alternate projection methodologies in order to generate more reliable enrollment projections.

The currently planned high school and middle school construction is driven by the expected enrollment increases. However, school capacity is also impacted by the Public School System's programmatic decisions. Some of the elementary school expansions are needed due to the Public School System's decision to reduce class sizes for first and second grades. Reducing class size to 19 students generated a need for additional classrooms to accommodate 2,300 students.



Effective school planning not only requires projecting and providing for expected increases in enrollment, but also making the best use of existing



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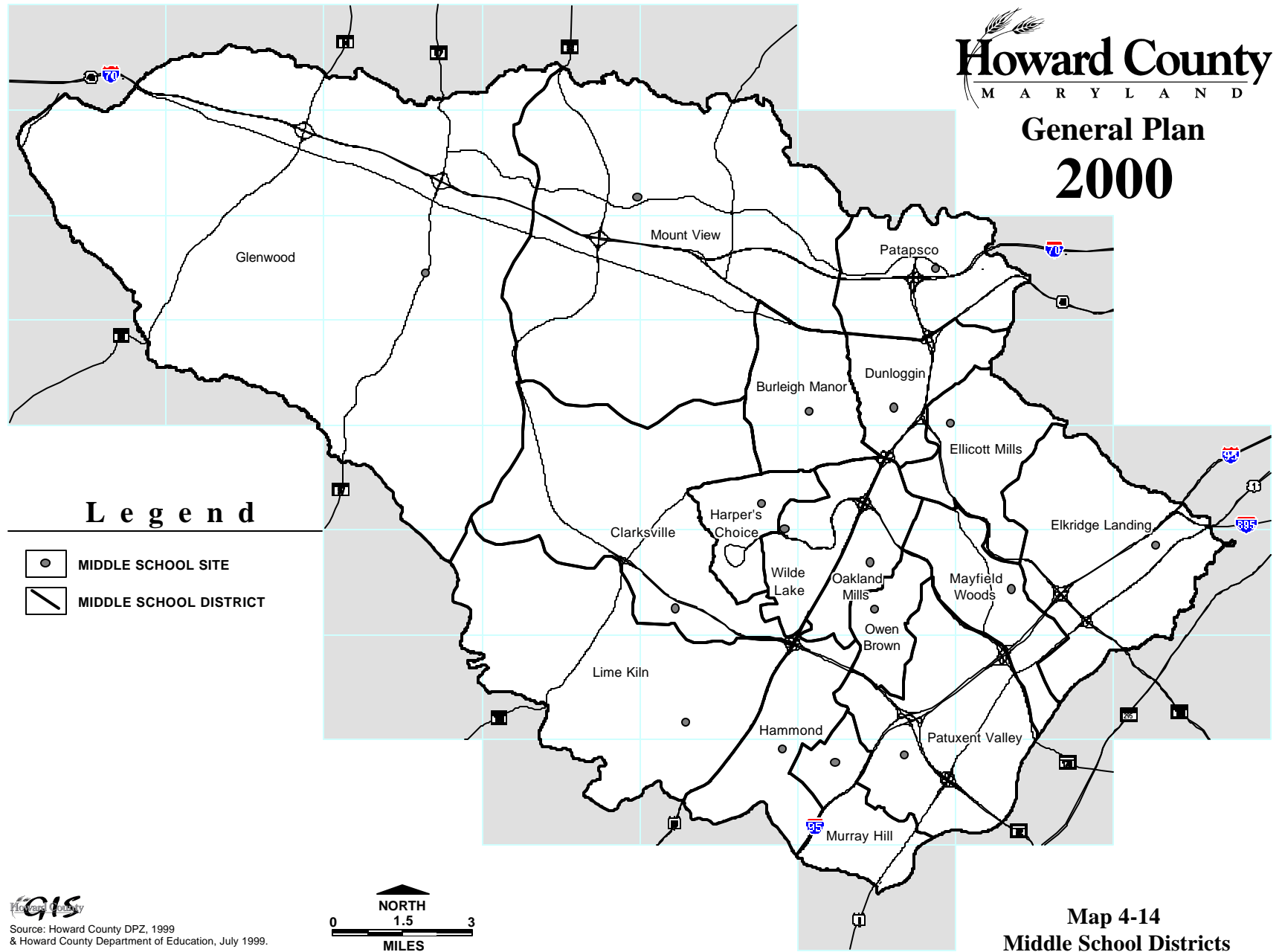
**Legend**

-  ELEMENTARY SCHOOL SITE
-  ELEMENTARY SCHOOL DISTRICT

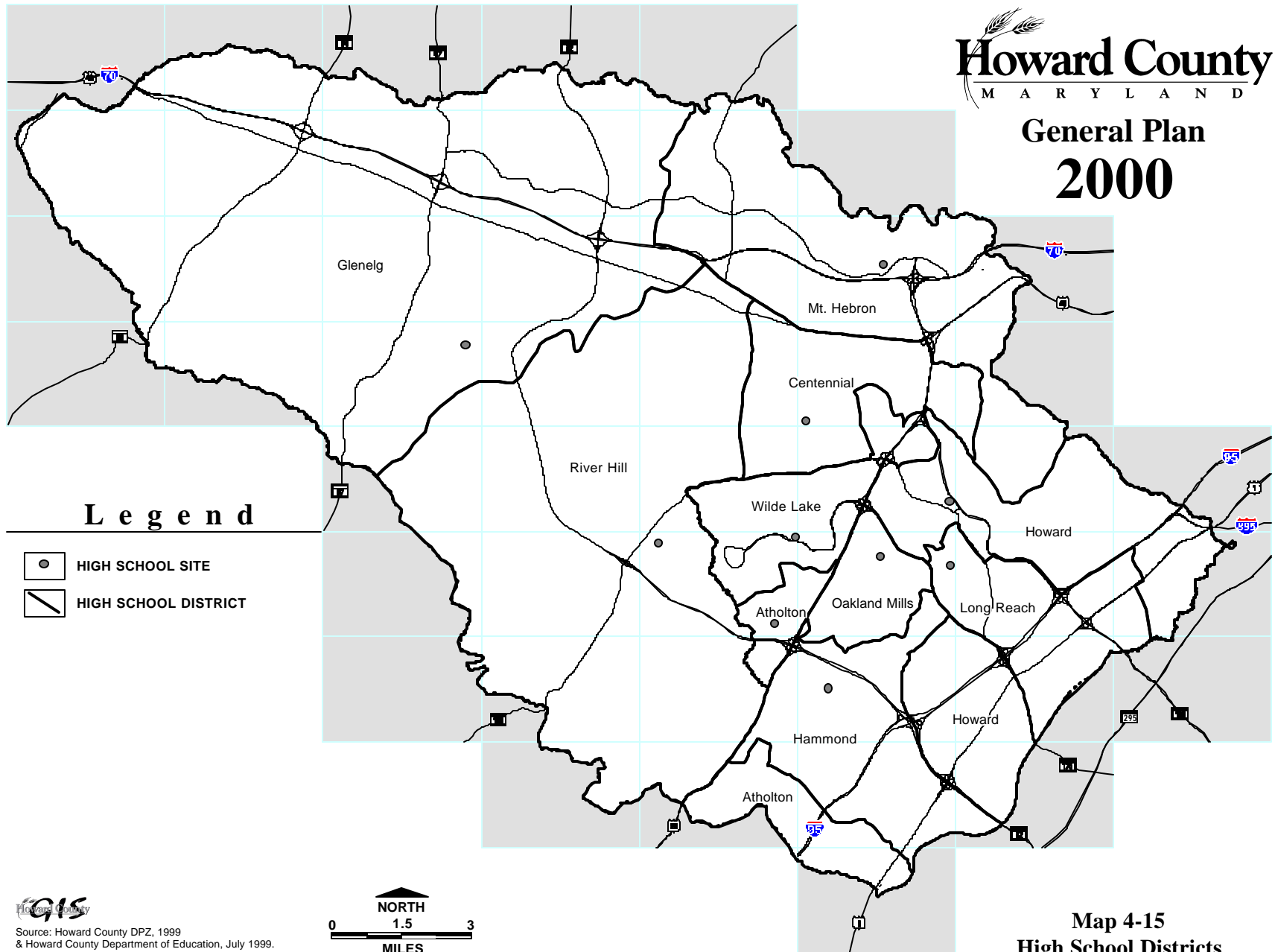
**GIS**  
 Source: Howard County DPZ, 1999  
 & Howard County Department of Education, July 1999.



**Map 4-13**  
**Elementary School Districts**



**Howard County**  
M A R Y L A N D  
**General Plan**  
**2000**



Source: Howard County DPZ, 1999  
& Howard County Department of Education, July 1999.



**Figure 4-21  
School Enrollment and Capacity by Region**

School Region/ Level	F.T.E. Program Capacity	F.T.E. Enrollment	Percent Capacity Utilized	School Region/ Level	F.T.E. Program Capacity	F.T.E. Enrollment	Percent Capacity Utilized
<b>COLUMBIA EAST</b>				<b>NORTHEAST</b>			
Elementary	2,470	2,385	96.6%	Elementary	3,518	3,897	110.8%
Middle	1,140	970	85.1%	Middle	1,951	1,934	99.1%
High	1,157	970	83.8%	High	2,655	2,736	103.1%
<b>TOTAL</b>	<b>4,767</b>	<b>4,325</b>	<b>90.7%</b>	<b>TOTAL</b>	<b>8,124</b>	<b>8,567</b>	<b>105.5%</b>
<b>COLUMBIA WEST</b>				<b>SOUTHEAST</b>			
Elementary	2,106	2,129	101.1%	Elementary	3,618	3,583	99.0%
Middle	1,107	1,088	98.3%	Middle	2,013	1,902	94.5%
High	1,422	1,395	98.1%	High	1,382	1,140	82.5%
<b>TOTAL</b>	<b>4,635</b>	<b>4,612</b>	<b>99.5%</b>	<b>TOTAL</b>	<b>7,013</b>	<b>6,625</b>	<b>94.5%</b>
<b>NORTH</b>				<b>WEST</b>			
Elementary	3,377	3,532	104.6%	Elementary	3,513	3,662	104.2%
Middle	1,814	1,801	99.3%	Middle	2,568	2,582	100.5%
High	2,130	2,513	118.0%	High	3,596	3,548	98.7%
<b>TOTAL</b>	<b>7,321</b>	<b>7,846</b>	<b>107.2%</b>	<b>TOTAL</b>	<b>9,677</b>	<b>9,792</b>	<b>101.2%</b>
Source: Program capacity from Superintendent's Proposed Capital Budget FY 2001. Enrollments from Howard County Public School System Enrollment Report, 4/30/00. Percent of Capacity Utilized = enrollment divided by capacity. F.T.E. = Full Time Equivalent. Data includes special education but does not include pre-K.				<b>COUNTYWIDE</b>			
				Elementary	18,602	19,187	103.1%
				Middle	10,593	10,277	97.0%
				High	12,342	12,302	99.7%
				<b>TOTAL</b>	<b>41,537</b>	<b>41,766</b>	<b>100.6%</b>

school facilities and balancing enrollments among schools. Neighborhoods generally have a life cycle that influences the number of children at any given time. Depending on the type and cost of housing, young families with children move in and, over time, the neighborhood population matures. Inevitably, there will be fluctuation in neighborhood school enrollment over time.

As County growth slows, neighborhood cycles and demographic shifts will become more important to predict accurately in order to minimize future imbalances between the location of schools and student populations. Be-

cause enrollments are declining in some older neighborhoods in the Columbia East and Southeast regions, some schools are expected to be significantly under-capacity in these areas, based on current school district boundaries. At the same time, rising enrollments will continue to strain the capacity of schools in the Northeast and West school regions, which have a large proportion of newer neighborhoods dominated by larger single-family homes. Eventually, declining enrollments are predicted to reverse over-capacity in some of these schools, especially at the elementary school level.

**Box 4-9****Projecting School Enrollment**

The Howard County Public School System projects school enrollments using a cohort survival method, which analyzes historic trends to predict the percentage of infants born in the County that will enter school five years later, the percentage of children in the first grade that will progress to second grade and so on. Regional projections of household growth based on development trends are used as control totals. The cohort survival method works well for communities that are not experiencing either much new construction or changes in household size and age characteristics. These factors can significantly impact the accuracy of projections particularly in individual school districts. Enrollment projections for some areas of the North, Northeast and West have been too low in recent years, resulting in school capacity shortfalls.

Current projections use the Baltimore Metropolitan Council's (BMC) Round V-A forecasts of growth as control totals. The Round V-A forecasts for Howard County are based on the 1990 General Plan growth target of 2,500 new dwellings per year. Two additional residential growth rates were examined as part of the fiscal analysis of four growth scenarios for this General Plan update (See [Box 4-1](#)). One variation assumes that the actual growth rate of the 1990s, about 2,000 units per year, will continue. The other two alternatives reflect a declining pace of growth, assuming that housing construction will slow as land becomes scarcer and more costly. Both variations could result

in slower enrollment growth, with peak enrollment achieved later than predicted using the BMC's Round V-A forecasts.

Beyond 2010, Maryland Department of Planning population projections show a decline in the County's total school age population (5-19 years). However, because of the uncertainty of long-range forecasts, the Howard County Public School System considers only a ten-year window for school planning. Numerous factors affect the accuracy of long-range projections, such as the mix of unit types constructed and the demographic composition of families moving to the County. As residential construction slows, school enrollments will be strongly affected by the individuals and families who move into existing neighborhoods. The County will be shifting from a growing jurisdiction, in which most newcomers move into new housing, to a maturing jurisdiction, in which turnover of existing housing stock will be the primary factor in determining demographic changes.

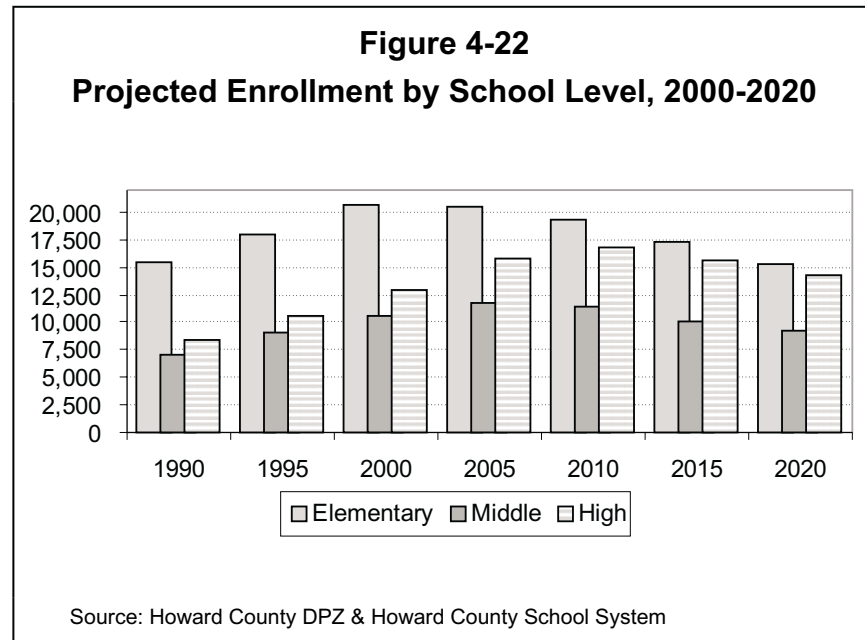
Projections of declining enrollments in the future, which are based in part on predictions for birthrate and household size, need to be monitored. They could prove to be misleading if turnover in the County's maturing neighborhoods leads to a new influx of families with young children or if the County's birthrate and average household size prove to be higher than indicated by current forecasts.

Redistricting allows the Public School System to shift school population from an overcrowded school to nearby schools with excess capacity. However, redistricting is often disruptive for students, parents and the Public School System. Redistricting is more controversial when there are concerns about older schools in mature neighborhoods that have capacity to receive redistricted students. Public perceptions of older school facilities and/or school performance, have been studied by the Leadership Committee on School Equity. The importance of addressing school equity and of addressing concerns about older schools is discussed in Chapter 5, *Community Conservation and Enhancement*. Rapid growth and school construction in some areas have already resulted in frequent redistricting. Where redistricting is used to balance enrollments, the redistricting plan needs to be coordinated with the General Plan's growth projections and Public School System enrollment projections to achieve the goal of

long-term stability in school district boundaries.

Relocatable classrooms are often used as an interim solution until a new school is justified. In some areas of Howard County, enrollments may begin to decline, especially in elementary schools, before a new school is justified. In these cases, relocatable classrooms will provide short-term capacity while enrollment peaks.

Other tools are available to balance enrollments among schools. The Public School System plans to increase middle and high school capacity by expanding many of the County's middle and high schools rather than building new schools. If enrollment does decline, these additions can be used for other educational or community programs. Some jurisdictions use magnet schools at all levels to encourage a voluntary balancing of enroll-



ments among schools, as well as to provide students with some additional program options.

These strategies need to be weighed against school construction projects that will be needed only during the period of highest enrollment, or that add schools in one area of the County while schools in other areas have excess capacity. It will be important for the Board of Education and the County to continue to monitor enrollment trends while choosing short-term and long-term actions that provide sufficient capacity, maintain the high quality of County schools and recognize the County’s fiscal constraints.

### School Sites

The Public School System owns sites for the planned new high school and middle school, but has had difficulty finding a new elementary school site in the Northeast School Region. There are few sites within the Planned Service Area large enough to accommodate the minimum acreage requirements of new schools. Effective use of existing school capacity during the period of peak enrollment will be especially important, as sites for

new schools may simply not be available. If additional schools need to be built in the future, the limited land supply may increase the price of the land and provide additional challenges during site design.

The Public School System owns five unused sites and has eight additional reserved sites in Columbia. Nine of these 13 sites are 11 acres or smaller, making them inadequate based on current acreage policy guidelines shown in Figure 4-23. Nevertheless, it is advisable for the Public School System to maintain these land holdings until the projected enrollment declines materialize. When enrollments stabilize, the Board of Education can work with the County and communities through the Community Master Planning process (described in Chapter 5, *Community Conservation and Enhancement*) to consider alternative uses for these parcels.

### Design and Use of School Facilities

The 1990 General Plan recommended that new schools be designed for greater flexibility, including such changes as increasing the size of school sites to accommodate recreation programs; designing facilities to allow sharing of space with other public services; and increasing the size of core facilities, such as gyms and cafeterias. These design changes would allow greater community use and provide greater flexibility for accommodating relocatable classrooms.

Some of these recommendations were implemented. Nine schools built during the 1990s included expanded space for recreation programs, with funding for these additional spaces from the County’s Department of Recreation and Parks budget. However, these multiuse spaces were included in

**Figure 4-23**  
**Board of Education School Site Size Policy Guidelines**

School Type	Student Capacity	Range in Usable Acres
Elementary	up to 660	10 acres + 1 acre per 100 pupils
Middle	600-700	20 acres + 1 acre per 100 pupils
High	1,200-1,500	30 acres + 1 acre per 100 pupils

Source: Board of Education Policy #1611, School Site Selection & Acquisition

fewer than half of the new schools built during the 1990s. In general, the size of new elementary and middle schools decreased, rather than increased, to limit school construction costs.

Although few new schools are planned during the next decade, there will be ongoing opportunities to build flexibility into school design. Additions, renovation and sometimes replacement of aging schools will be increasingly important. These projects will allow design improvements to meet educational or community objectives.

To enhance educational opportunities, the Maryland State Department of Education (MSDE) published *Conserving and Enhancing the Natural Environment: A Guide for Planning, Design, Construction, and Maintenance of New and Existing School Sites*, in 1992. The manual endorses the use of native plants on school sites, and the preservation or creation of habitat areas such as forests, meadows and wetlands. The intent is to enhance educational curriculum with outdoor learning, encourage student participation in environmental restoration projects, protect the environment, and reduce the cost of mowing and school site management.

Educational objectives have first priority in the design and use of schools. Nevertheless, schools are and will continue to be community resources. During non-school hours, schools are used for a variety of recreational programs and community meetings. Where school design can incorporate storage space, extra athletic fields or other spaces to support these community uses, these functions can be enhanced while minimizing interference with school programs.

The Public School System anticipates using any space which may become available due to an enrollment decline to both improve and add to existing instructional programs. These programs could include class size reduction, full day kindergarten, pre-kindergarten, or expanded media center or computer lab space. There may also be potential to allow more use of space for other community purposes.

The Public School System does not expect to close schools due to declining enrollments. In fact, if community planning efforts are successful at implementing neighborhood conservation programs, patterns of declining

enrollment in older neighborhoods may be reversed. If neighborhoods are revitalized, young families may be attracted into the area, restoring school enrollments to a higher level.

If school closings do, however, become necessary, school buildings should be converted to public or community uses rather than nonprofit or private sector residential or commercial uses. Appropriate uses could include senior centers, recreation centers, adult education centers, and satellite offices for health and human services. Leasing for supportive nonprofit or private sector uses may be appropriate in some instances; however, sale or major alterations of school buildings should be avoided until long-term enrollment patterns are clear.

### **School Maintenance and Renovation**

As County schools age, renovation of older schools will become a greater portion of the Public School System's budget. Renovation of older schools can be complex. Needed renovations may involve heating and air conditioning systems; roof replacement; renovations of classrooms, media centers, gymnasiums and other core facilities; and technology upgrades. Requirements to accommodate special education students have produced needs for access improvement and equipment. Participation in planning by principals, parents and teachers has resulted in more comprehensive but costly renovations. Adequate funding for maintenance, technology upgrades and other renovations to older schools is critical if school equity is to be achieved.

Complete renovation of outdated school facilities can be costly (Figure 4-24). The \$25.9 million replacement of Wilde Lake High School, completed in 1996, and the planned \$11.7 million replacement of Ellicott Mills Middle School in 2001, were both initially conceived as building renovations at a significantly lower cost. Two renovation projects for elementary schools built in the 1970s are projected in the FY 1999 Capital Budget to cost about \$3 million each. Neither project will expand the size of the school. While these costs could decrease as detailed plans are prepared, the projected cost, close to 40 % of the cost of new elementary schools recently completed, illustrates the upcoming expense of maintaining the County's aging schools.



**Figure 4-24**

**School Renovation and Maintenance Costs, 2000-2009**

<b>Category</b>	<b>10-Year Capital Budget Total</b>	<b>Average Annual Expenditures</b>
Systemic Renovations	\$91,500,000	\$9,150,000
Replacement/Renovation	\$12,003,000	\$1,200,300
Roofing Projects	\$10,000,000	\$1,000,000
Partitions	\$1,250,000	\$125,000
Barrier Free Projects	\$1,150,000	\$115,000
<b>TOTAL</b>	<b>\$115,903,000</b>	<b>\$11,590,300</b>

Source: Howard County FY2000 Capital Budget

**Figure 4-25**

**Per Pupil Expenditures for Selected Jurisdictions**

<b>County</b>	<b>Expenditures</b>
Anne Arundel	\$6,629
Baltimore	\$6,918
Carroll	\$6,066
Frederick	\$6,116
<b>Howard</b>	<b>\$7,190</b>
Montgomery	\$8,287
Prince George's	\$6,585

Source: MD State DOE, Maryland School Performance Program Report 1999

**Financial Impacts**

The Public School System is the largest element of the County's budget, accounting for over half of the County government's operating expenses.

The following data indicates the impact of the school system on the County's budget:

- The average per pupil cost for the 1998-1999 school year was \$7,190. Howard County's per pupil expenditure was the highest in the Baltimore region and the second highest in the State, after Montgomery County (Figure 4-25).
- In FY 2000, the operating budget for public education was \$273 million. Of this, the County's share was \$199 million (73%) and the State's contribution was \$69 million (25%), with other sources accounting for 2%. The County's share of the Public School System's budget represented 55.5% of the total Howard County Operating Budget, up from 51% in 1989.
- School operating costs increased 76% over the past decade, from \$155 million in FY 1990 to \$273 million in FY 2000.
- The County's FY 2000 Capital Budget allocates \$36.2 million for schools, 32% of the total Capital Budget. From FY 1992 through FY 1999, the capital budget allocation for schools ranged from \$28 to \$45 million and represented an average of 40% of the County's annual capi-

tal expenditures. The FY 2001 through 2005 Capital Improvement Program shows expenditures remaining high, between \$28 and \$39 million, for the next three years as the new high school and middle schools are built.

As the need for new construction lessens, renovation projects will be an increasingly larger proportion of the capital budget for schools. Renovation projects, especially replacement of obsolete facilities, can approach the cost of building a new school. However, as growth slows, the County will have a smaller influx of new taxpaying homeowners to fund these costs.

The operating expense of opening new schools during the 1990s, combined with budget constraints, kept new program initiatives to a minimum. The Public School System's FY 1999 Operating Budget listed ten key areas of need for additional funds. These areas include initiatives to address disruptive behavior, respond to the needs of aging schools, expand health services, increase technology resources (hardware, software and technical support), improve reading performance, address the needs of underachieving students and provide additional staff training. Reducing class sizes for first and second grades has also become a Public School System priority. In the long term, funds for program initiatives must be available if the quality of the Public School System is to be maintained and enhanced.

## ***Policies and Actions***

### ***POLICY 4.12: Enhance predictability of school planning.***

- ◆ ***Accuracy of Enrollment Projections.*** Work with the Public School System to improve the accuracy of enrollment projections by adopting a methodology that more effectively weighs the varying impacts of growth and neighborhood population cycles on individual schools.
- ◆ ***Coordination of Program and Facility Planning.*** Work with the Public School System to provide greater predictability and accountability regarding school capacity and budget needs by closely coordinating planning for school facilities and implementation of program enhancements.

### ***POLICY 4.13: Work with the Public School System to adequately accommodate future school population in ways that minimize the need to construct new schools.***

- ◆ ***Full Use of School Facilities.*** Balance enrollment between under- and over-capacity schools by redistricting or alternative strategies such as magnet schools, special academic or after school programs, to encourage full use of schools that have additional capacity.
- ◆ ***New School Construction Minimized.*** Accommodate the expected short-term peak enrollments, where necessary, by using modular classrooms and additions.
- ◆ ***Funding for Maintenance, Renovation and Program Initiatives.*** Provide sufficient funding to maintain and renovate school facilities and to allow program initiatives that will sustain and enhance the quality of the Public School System.

### ***POLICY 4.14: Use space in schools with declining enrollments for school programs and other uses that support community conservation.***

- ◆ ***School Use.*** Return current classrooms originally designed as special

purpose rooms to their original purpose. Accommodate programmatic changes such as reduced class sizes, expanded kindergarten and pre-school programs, and expanded media centers or computer labs.

- ◆ ***Community Use.*** Expand the use of schools for other programs that benefit the community such as civic, educational, recreational and family support activities.

### ***POLICY 4.15: Enhance design and use of school facilities.***

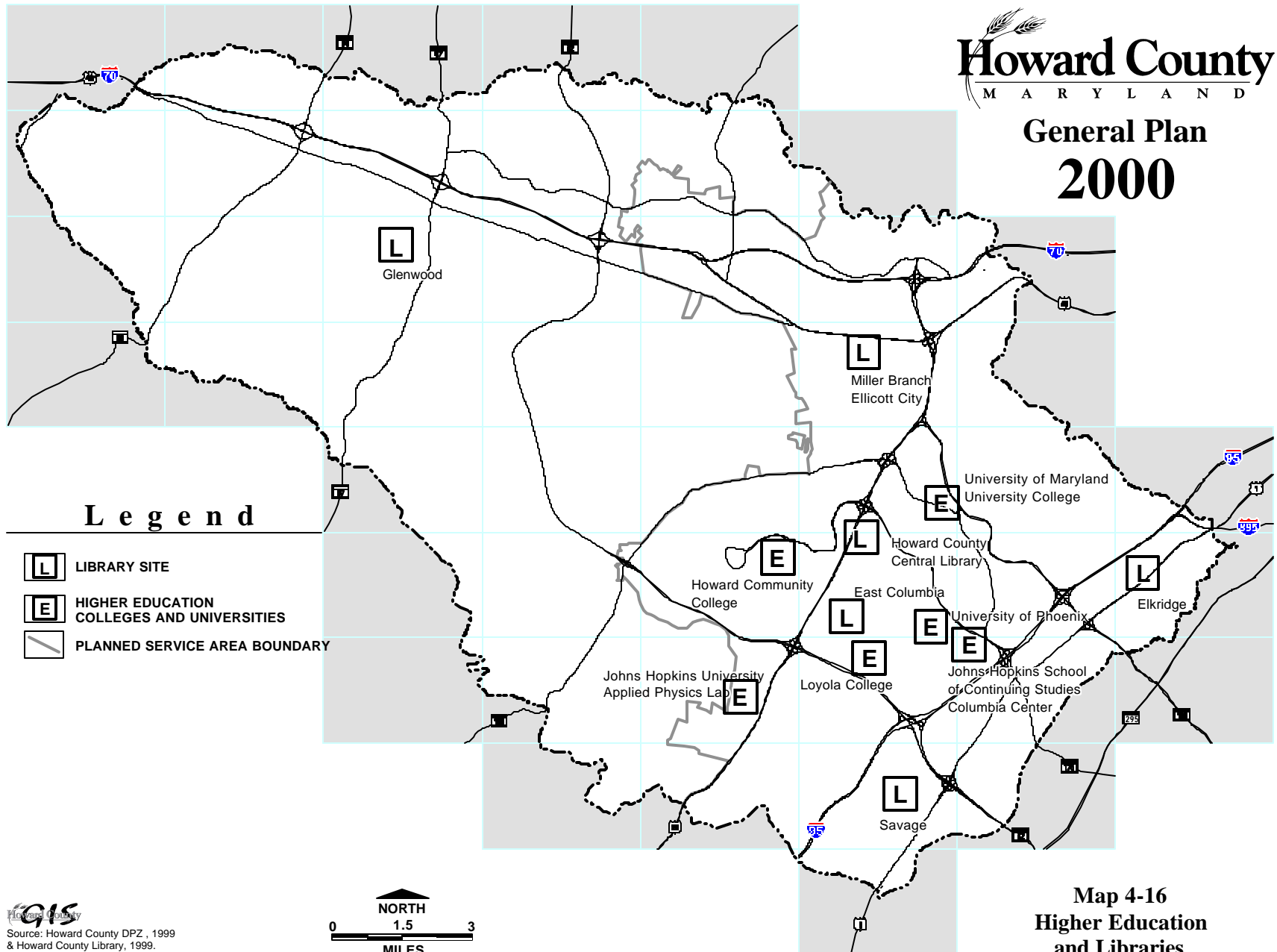
- ◆ ***Flexibility in School Design.*** Consider options that increase flexibility in the design of new or renovated schools, to allow accommodation of relocatable classrooms for fluctuating school populations or to provide for community needs.
- ◆ ***Natural Environmental Areas.*** Conserve and enhance the natural environment on school sites to create schoolyard habitat for outdoor learning.
- ◆ ***School Sites.*** Work with the Public School System and community to determine the best use for sites owned by or reserved for the Public School System that are too small or poorly located for school sites or that will not be needed for future schools. Defer decisions on these sites until enrollments have stabilized and it is clear that there is no long-term need for schools at these locations.

## **Higher Education**

In 1999, Howard Community College had enrollment in credit and non-credit classes of approximately 20,000. This is the largest enrollment of institutions for higher and continuing education in the County. Other institutions include the Johns Hopkins University Applied Physics Laboratory, the Johns Hopkins School of Continuing Studies' Columbia Center, Loyola College, the University of Phoenix and the University of Maryland University College ([Map 4-16](#)).

Howard Community College (HCC) has seen a steady increase in enrollment since it was established in 1970 and is the leading choice of County

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**2000**



**Legend**

- L** LIBRARY SITE
- E** HIGHER EDUCATION COLLEGES AND UNIVERSITIES
- PLANNED SERVICE AREA BOUNDARY

**GIS**  
 Source: Howard County DPZ, 1999  
 & Howard County Library, 1999.



**Map 4-16**  
**Higher Education**  
**and Libraries**

residents enrolled as undergraduates in a Maryland college. The proportion of graduating Howard County high school students who enroll at Howard Community College has increased from 15% of high school graduates in 1992 to 20% in 1998. From 1990 to 1999, enrollment in credit classes increased 19% from 6656 to 7902. Enrollment in non-credit classes was stable over this period at approximately 12,500. HCC projects enrollment to increase 25-35% over the next ten years.

Howard Community College operating funds come from several sources. In 1998, about 37% of HCC's operating funds came from tuition and fees, 36% came from Howard County government, 17% came from the State of Maryland and 10% came from other sources. State support has declined from 20% of the operating funds in 1989, and from about 40% earlier in the College's history. The College's budget request for Fiscal Year 2001 proposes tuition increases for students from outside Howard County and a funding increase of 7.5% from the County, to fund increased staff and operating costs associated with enrollment increases.

The College has built no new buildings since 1989 and is experiencing space shortages. New construction is necessary if the College is to accommodate future enrollment increases. The current capital program calls for one new building to be built in FY 2003, with classrooms, office space and a child care facility. A Facilities Master Plan completed in 2000 addresses the College's long-term needs. The plan shows an ultimate development of ten new buildings to join the current five buildings on the College's 120-acre campus. Expansion will proceed incrementally based on enrollment increases and availability of funding, however, this long-range plan will guide decisions on placement and design of buildings.

One factor that may influence the pace of building expansion is technology-mediated education. In the distance learning area, "online" instruction will become the preeminent mode. In addition to the current three online degrees in General Studies, Liberal Arts and Business Administration, HCC foresees making all non-clinical instruction in the allied health programs available online. The new CampusWeb mode, where half of the course is taught on site and the other half online, is the possible model of the future. Over the long term, online will cease to be a distinguishing fac-

tor among courses.

Howard Community College makes a significant intellectual, cultural and economic contribution to community life. As part of its State-mandated role, HCC strives to provide training in skills important to the business community, as well as continuing education courses and public services that benefit the community's citizens. As such, and especially given HCC's technological capabilities, the College can play a role in economic and community development. Complementing economic development through education and training (including technical training for skilled workers) will become increasingly significant as employers seek to maximize a shrinking labor pool. Additionally, with many students already enrolled on a non-credit basis, HCC clearly promotes life-long learning. As the population ages, many seniors will take advantage of opportunities for the non-credit pursuit of intellectual and cultural interests.

### ***Policies and Actions***

#### ***POLICY 4.16: Support and enhance Howard Community College's role in the community.***

- ◆ ***Expansion of Howard Community College.*** Continue the strong County commitment to Howard Community College (HCC). As feasible, provide funding for expansion necessary to support enrollment growth. Support HCC in obtaining funds from the State or other sources.
- ◆ ***Howard Community College as a Community Resource.*** Encourage HCC to strengthen its role as a resource for community development, especially through its technology expertise and infrastructure, research capability, faculty expertise, ties to the County's neighborhoods, and diverse student and staff population.
- ◆ ***Work Force Training.*** Encourage HCC to work with the Economic Development Authority and the private sector to develop programs to meet work force development and retraining needs, especially in technology related fields.

# Libraries

Like the Public School System, the Howard County Library is outside the system of agencies and services directly responsible to the County Administration or County Council. Although the County Administration and the County Council must approve all capital improvements and the annual budget of the library system, the scope of operations, long-term planning and programming of new services are carried out by the Director and a Board of Trustees.

Strategies for improving library services and promoting life-long learning and enrichment are contained in the current Howard County Libraries Strategic Plan, published in 1999. Ongoing strategies include offering training in library resources and taking annual surveys of library users. The library system also plans to continue to expand its online resources.

The Howard County library system consists of six facilities: the Central Library in Columbia Town Center, two major branch libraries (East Columbia and the Miller Library in Ellicott City) and two branch libraries (Elkridge and Savage). Three of these facilities (East Columbia, Elkridge and Savage) have been built since 1990. An additional major branch library will open this year in the Glenwood Multi-Service Center, replacing the Lisbon library (Map 4-16, Figure 4-26). Given the locations of existing and planned growth, two additional major branch libraries are being considered. However, the need for additional library capacity must be assessed in light of the rapid evolution of the Internet and other technologies for accessing information. If any additional library capacity is determined to be needed, it should be provided in the East to accommodate growth within the Planned Service Area, via additions to existing libraries or as new facilities.

The construction phase of library development will conclude with the build-out of land in the County. Renovation projects will be an increasingly larger proportion of the capital budget for libraries. Howard County Libraries Strategic Plan recommends that the County’s libraries be completely renovated – including roofing and heating, air conditioning and electrical systems – on a 20-year cycle. Between those renovations, build-

**Figure 4-26**  
**Library Facilities**

Name	Type of Facility	Square Feet	Year Built	Renovation Programmed
Central	Central	46,000	1981	2001
East Columbia	Major Branch	40,000	1994	2014
Miller	Major Branch	28,000	1986	2003
Glenwood	Major Branch	30,000	2000	2020
Elkridge	Branch	14,700	1993	2013
Savage	Branch	14,700	1991	2011
Lisbon (leased)	Community	1,200	1981	To Close 9/30/00

Source: Howard County Library Strategic Plan, November 1999

ings should also be recarpeted and repainted on a 20-year cycle.

Libraries are one of the key community building blocks that the public sector provides. Their placement should strive to establish a strong civic presence in harmony with complementary land uses such as other public services, recreation facilities or, possibly, commercial or institutional uses. Pedestrian access from nearby neighborhoods is also an important consideration.

The concept of combining various community-serving functions such as senior centers, health clinics and indoor recreation centers with libraries has merit; it increases the critical mass of complementary uses and benefits from economies of scale. A senior center, for example, can make use of community meeting rooms associated with the library. The location of the and Savage Libraries in conjunction with a senior center has proven to be very effective. A senior center is being constructed next to the Miller Library in Ellicott City in FY 2001.

## *Policies and Actions*

**POLICY 4.17: Enhance residents’ access to library resources.**

◆ **Expansion Needs.** Evaluate the need for additional library capacity to

serve growth areas in light of the Internet and other evolving means of accessing information. Provide necessary expansion via additions or new facilities within the Planned Service Area.

- ◆ **Libraries as Community Focal Points.** Enhance the design of existing and any future libraries to help create a civic focal point. Where feasible, integrate libraries with complementary public uses, open space and other community uses.

# Parks and Recreation

## Introduction

Parks, open space and varied types of recreation, from organized sports to arts and crafts, contribute to the high quality of life County residents enjoy. But this variety requires many different types of facilities, and makes planning and managing the parks and recreation system quite challenging. Recreation areas, parks and open space are often incorrectly referred to as interchangeable aspects of the same service to the public. However, they serve different purposes and have different characteristics. Parks or open space acquired to protect environmental resources may not be suitable for intensive recreation facilities. The recreation potential of such areas may be limited to low intensity or passive activities such as hiking or nature studies.

The Howard County 1999 Comprehensive Recreation, Parks and Open Space Plan (the R & P Plan) is the County’s primary vehicle for determining needs for parkland, open space and recreation. The 1999 R & P Plan analyzes future needs based on expected population growth, demographic characteristics, the acreage needed for anticipated facilities and the land resources needing protection.

The 1999 Comprehensive Recreation, Parks and Open Space Plan and any subsequent revisions are incorporated into this General Plan by reference. The detailed projections of future needs are not replicated here. However, this General Plan does address some key issues the County will face over the next 20 years in planning for and providing the open space, parks and

recreation facilities that will enable Howard County to maintain and enhance its high quality of life.

## Parkland Acquisition Goals

The Maryland Department of Natural Resources (DNR) helps local jurisdictions acquire parkland through Program Open Space, which is funded by property transfer taxes. To qualify for Program Open Space funds, the County must demonstrate that it is working to meet the State standard of 30 acres of County-owned parkland for each 1,000 residents. Since 1970, Howard County has received \$28 million in Program Open Space funds, and the current allocation to the County is \$2.5 million per year.

The State parkland standard is difficult to meet, and is not met by any central Maryland jurisdiction. Assessing how close Howard County is to meeting this goal is a somewhat complicated issue (Figure 4-27). Currently, County parkland totals 3,387 acres, which is only 13 acres per 1,000 residents. However, the County also owns 1,711 acres in natural resource areas and 2,410 acres of open space dedicated through the subdivision process, which would bring the total holdings to 7,508 acres, or 30 acres per 1,000 residents. However, the State does not allow dedicated open space to count towards meeting the parkland standard. If the quasi-public Columbia Association holdings of 3,180 acres and the 706 acres of athletic fields on

**Figure 4-27**  
**Public and Quasi-Public Green Space**

Ownership	Acres
County Parks	3,387
County Natural Resource Area	1,711
County Owned Open Space	2,410
School Athletic Fields	706
Columbia Association Open Space	3,180
HOA Open Space	780
State Parks	9,752
WSSC Lands	2,200
<b>TOTAL</b>	<b>24,126</b>

Source: Howard County Department of Recreation and Parks, 1999



public school sites are added to this total, the County exceeds the State standard. The appropriateness of only considering County purchased parkland to count towards meeting the State standard should be reconsidered.

Given the rapidly decreasing amount of undeveloped land in the urban areas of the County, if the State standard is used, it is not certain that future sites can be acquired to keep pace with the growth in population. Based on 30 acres for every 1,000 residents, a total of 9,105 acres of County parkland would be needed by 2020, using the current official Round V-A forecasts of the County's population in 2020 of 303,500.

To achieve the goals of providing an acceptable level of service for parks and recreation and locating recreation facilities close to people, most of the acquisition and development of park and recreation facilities should be in the East. This acquisition strategy is also consistent with Smart Growth policies to provide a higher level of service within Priority Funding Areas than in outlying rural areas. A crucial planning question is where such facilities are to be located in the more urban East, which has limited undeveloped land, pressure for more housing and employment, and a need to protect the remaining environmental and landscape resources. Funding is also a critical consideration. In light of the high cost of land in the East and competing budget priorities, it will be difficult to achieve parkland acquisition priorities. Creative funding alternatives should be explored.

### Balancing Preservation and Active Recreation

The State standard for parkland of 30 acres per 1,000 residents does not specify the proportion that should be developed for active recreation. The 7,508 acres of County-owned parks and green space are weighted heavily towards passive environmental holdings. Most of this land (55%) is natural resource areas and open space dedicated through the subdivision process. Of the 3,387 acres (45%) that are within County parks, only 889 acres are developed for active recreation. (Figure 4-28)

The standard established by the National Recreation and Parks Association (NRPA) for land set aside for environmental preservation is 60 acres for every 1,000 population. Howard County exceeds this standard, due primarily to the large amount of State parkland and land owned by the

Washington Suburban Sanitary Commission (WSSC) along the rivers that form the County's boundaries (Map 4-17, Figure 4-27). Most of the green space in the County, which totals 24,126 acres, is in passive recreation or environmental conservation.

At this time, the percentage of land developed for active recreation in the County is disproportionately low compared to total park and open space holdings. There is a pressing need for the County to develop realistic goals for future parkland acquisition and development of active recreation sites, based on current holdings, potential land availability and funding constraints. Such goals must be developed with participation from citizen organizations that represent both environmental preservation and active recreation interests.

Residents and community organizations also need to be involved in the detailed planning for active recreation facilities. As the County's population has grown, the location and design of County parks with active recreation areas has become more contentious. Nearby residents often express concerns about lighting and noise from athletic fields designed for evening use, as well as more generalized safety concerns due to the proximity of publicly-accessible parkland close to their homes. The development of Community Master Plans, as discussed in Chapter 5, *Community Conservation and Enhancement*, will provide a forum for the Department of Recreation and Parks (DRP) and community organizations to identify ap-

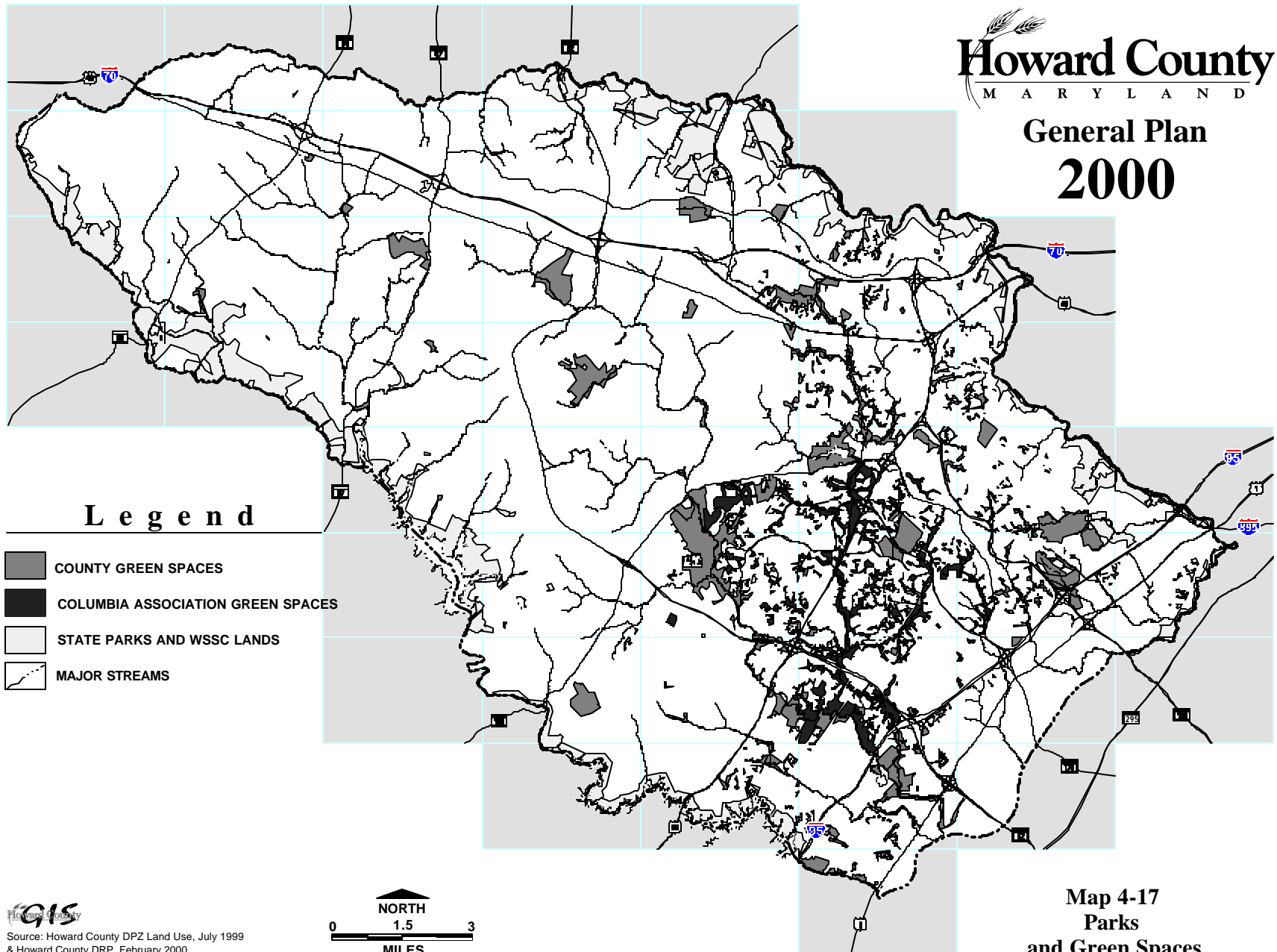
**Figure 4-28**  
**Inventory of County Parks**

	Developed Parkland	Undeveloped Parkland	Total Parkland
West	144	1,066	1,210
Columbia	139	369	508
Ellicott City	355	213	568
Elkridge	145	652	797
Southeast	106	198	304
<b>TOTAL</b>	<b>889</b>	<b>2,498</b>	<b>3,387</b>





Source: Howard County Department of Recreation and Parks, 1999




**Howard County**  
MARYLAND  
**General Plan**  
**2000**



**Legend**

-  COUNTY GREEN SPACES
-  COLUMBIA ASSOCIATION GREEN SPACES
-  STATE PARKS AND WSSC LANDS
-  MAJOR STREAMS

  
Source: Howard County DPZ Land Use, July 1999  
& Howard County DRP, February 2000.

NORTH  
0 1.5 3  
MILES

**Map 4-17**  
**Parks**  
**and Green Spaces**

appropriate locations for parks and recreation facilities, and to discuss means to mitigate any negative impacts of park design on adjacent communities.

## **Open Space and Pathway Networks**

A challenge for the County in the next decade is linking parkland and open space holdings. Land set aside for environmental or landscape protection has rarely been purchased; most of the County's open space holdings have been acquired through dedication during the subdivision process. Except in Columbia, the lack of an open space plan and of funding for open space acquisition are two reasons that the County's open space holdings do not form a continuous and extensive network of open spaces.

As discussed in Chapter 6, *Working with Nature*, interconnected networks of open space and parkland allow better protection of the County's streams, rivers and forest corridors, provide wildlife habitat and corridors, and offer opportunities for pathway and trail systems. These goals have strong support from County residents. In 1994, the DRP conducted a survey of County residents to determine their recreational preferences. In the 5,848 questionnaires returned, the top four public preferences were for wildlife areas, hiking, scenery and stream conservation. The 1999 R & P Plan identifies a proposed system of County greenways. The DRP in cooperation with other County agencies should develop a detailed greenway master plan to identify specific environmental features and land that should be in either public ownership or under permanent protective easements. Such a plan would be helpful in evaluating the design of open space created through the development process and in determining County open space and park land acquisition priorities.

In 1999, there were 20 miles of bike trails, 13 miles of equestrian trails and 34 miles of hiking trails on County-owned or leased land. In addition, Columbia has over 80 miles of pathways on Columbia Association land. Howard County is evaluating potential pathway alignments that could link Alpha Ridge and David W. Force Parks to the County's spinal pathway, which is nearly completed from Centennial Park to Savage Park. If the extension to Alpha Ridge Park can be accomplished, the spinal pathway will cover a distance of approximately 30 miles. In addition, Howard County has coordinated extensively with the Columbia Association (CA) to link

County paths with the existing Columbia network, to map the pathway systems, and to clarify ownership and responsibility for maintenance. (A map of pathways in Columbia and Howard County is available from the CA or DRP.) As discussed in Chapter 2, *Responsible Regionalism*, the County is also working with the Baltimore Metropolitan Council and with adjacent jurisdictions to develop a plan for linking Howard County trails to a regional network of pedestrian and bicycle facilities.

As the County's trail and pathway system develops, common guidelines for signs need to be established for Columbia and County pathway systems. In addition, signs throughout the County need to be coordinated to enable users to easily identify and locate recreational opportunities.

Although County development regulations require the provision of open space, the open space generally has limited value for recreation. Open space areas frequently include environmentally sensitive land, stormwater management facilities and sewer or drainage easements, and may include some unusable disconnected fragments of land. Refinements to the open space standards are needed and are discussed in Chapter 5, *Community Conservation and Enhancement*.

## **Facility, Program and Budget Needs**

Public parks, open space, recreation facilities and recreation programming are primarily the responsibility of the Department of Recreation and Parks. In 1999, DRP, with an annual operating budget of \$14.2 million, had 121 full-time staff, and 471 part-time staff.

Park and recreation facilities require funds for acquisition, site development and operation. Acquisition funding has come from several sources: Program Open Space, Transfer Tax, the County General Fund and General Obligation Bonds. The extent to which parks and recreation facilities are developed is closely correlated with funding needed to maintain and operate these facilities. Many of the needs indicated in the 1995 Comprehensive Recreation, Parks and Open Space Plan have not been achieved due to restrictions in operating funds.

DRP currently offers an extensive array of recreation programs. Changing

demographics will create a need for programs for groups that are increasing or that may currently be underserved, such as seniors, persons with disabilities and youth at risk. Currently, the most frequently expressed concern of residents is that the demand for youth activities outweighs the supply. This problem is more a result of facility shortages than lack of programming.

In 1976, DRP began charging user fees for recreation programs. This policy was instituted to allow program expansion based on population growth and demand for services, without increasing tax revenue or competing with other County services for available funds. In FY 1976, the budget from user fees was approximately \$50,000. In FY 2000 this budget has risen to approximately \$8.3 million (\$2 million of which is from the Timbers at Troy Golf Course). Approximately 55% of the DRP budget comes from user fees. While user fees are sufficient to cover program expenses, most recreation programs are not “profitable” and are not likely to be provided by the private sector. Those that do generate surplus income enable the Department to provide subsidies to individuals and groups that could not otherwise afford to participate.

Planning for recreation facilities and programs is made more complex by the variety and number of organizations providing recreation services in the County. In evaluating the need for facilities and programs, the Department of Recreation and Parks must be aware of services being provided by others. To this end, the 2003 update of the Comprehensive Recreation, Parks and Open Space Plan will include a more complete inventory of private and public recreational facilities and services than has been included in the past.

In Columbia, the Columbia Association operates an independent system of open space and recreation facilities. Although this system is supported by a special homeowner’s fee paid by Columbia residents, many of CA’s facilities are open to County residents. Recreation programs are also provided by many other public and private organizations, including the Office on Aging, hospitals, schools, the Cooperative Extension Service, Howard Community College, 4-H, Boys and Girls Clubs, Boy Scouts, Girl Scouts, Camp Fire Girls, the YMCA, churches, synagogues, and apartment and housing complexes. Commercial recreation facilities include community

swimming pools, health and tennis clubs, ice rinks, golf courses, visual art centers and outdoor/environmental education or nature centers.

The Department of Recreation and Parks will continue to build partnerships with other public and private interests so that the Department is not competing with, but rather is complementing the efforts of other groups. The County may be able to enhance its ability to provide recreation facilities through partnerships with the private sector. For example, the Department of Recreation and Parks might provide training and expertise to private organizations that are willing to dedicate space, funding, and/or personnel to a recreational program. The Department of Recreation and Parks will review the need for a central information clearinghouse that identifies what opportunities are available through public, quasi-public and private organizations, as more nonprofit and private enterprises participate in providing recreational and leisure opportunities.

School sites are obvious locations for many recreation facilities, especially athletic fields and gymnasiums. However, planning for the use of school facilities for other public recreation programs has been difficult. This is especially true when school sites have barely adequate land to meet their own needs much less the space to accommodate additional recreation uses. During the 1990s, several schools were developed with additional space for community recreation needs. Few new schools are projected to be needed, diminishing the opportunity to develop community recreation facilities on school sites. However, the ongoing need for renovation of older schools will provide the opportunity to add recreation facilities for community use where school sites have enough space to support these uses.

Effective planning for the County’s recreation and parks system will require analysis of the needs of an aging and more diverse population, clearer acquisition priorities, adequate funding and close coordination with other balanced growth policies.

### ***Policies and Actions***

***POLICY 4.18: Enhance the County park system and recreational facilities.***

- ◆ **Acquisition Goals.** Establish specific, realistic goals for acquisition of land for environmental conservation and active recreation in the 2003 update to the Comprehensive Recreation, Parks and Open Space Plan (2003 R & P Plan). Involve organizations that represent environmental preservation and active recreation interests in developing these goals.
- ◆ **Acquisition Schedule.** Accelerate acquisition of land to meet the County's long-term recreation needs since suitable sites are disappearing rapidly. Priority for park acquisition should be directed inside the Planned Service Area where population is greatest.
- ◆ **Greenway Systems.** Develop a detailed greenway plan to create continuous greenways that preserve environmental and landscape resources, protect water quality and habitat corridors, and provide trail or path access in appropriate areas. Incorporate this greenway plan into the 2003 R & P Plan.
- ◆ **Trails and Pathways.** Develop a County-wide plan for trails and pathways with an emphasis on connecting the existing system with other areas of the County. Incorporate the trail and pathway plan into the 2003 R & P Plan and prioritize future funding requests.
- ◆ **Community Planning.** Refine County-wide objectives for acquisition of parkland, restoration or improvement of open space, and development of recreation programs or facilities. Look for opportunities within existing neighborhoods to develop neighborhood parks, recreation facilities or green space.
- ◆ **Design of Active Recreation Sites.** Design facilities for active recreation with input from community residents and organizations, using design features that mitigate potential visual and noise impacts and address safety concerns.

**POLICY 4.19: Improve management and delivery of recreational services.**

- ◆ **Identifying Needs.** Use demographic studies and/or surveys to iden-

tify the need for future programs or recreational facilities to meet the needs of an aging and more diverse population.

- ◆ **Coordination with Columbia Association.** Continue to facilitate and encourage cooperation and coordination between the Columbia Association and the Department of Recreation and Parks in recreational planning and programming.
- ◆ **Cooperation with Howard County Public School System.** Improve cooperative agreements between the Department of Recreation and Parks and the Public School System for the joint use of school and recreation facilities. Consider County funding for school sites that exceed the Public School System's acreage requirements and that provide facilities for community usage. Improve cooperation on the design, development, management and maintenance of recreation facilities on school sites.
- ◆ **Partnerships with Public and Private Organizations.** Build partnerships with commercial and nonprofit providers so that the Department of Recreation and Parks programs complement and support efforts by alternative providers. Review the need for a central information clearinghouse that identifies what opportunities are available through public, quasi-public and private organizations.

## Police Protection

Police protection is the most visible component of the criminal justice system. In Howard County, the Department of Police is the primary provider of police protection. The State Police is responsible for police coverage on the two interstate highways traversing the County (I-95 and I-70), and has investigative authority at State-owned/leased facilities (Patuxent Institute and Clifton T. Perkins Hospital).

## Organization and Operations

In 1996, the Department of Police instituted a comprehensive reorganization to enhance the efficiency of personnel and resource management. A

fundamental change involved shifting from an organizational structure comprised of three Bureaus to operating under two Commands, the Operations Command and the Administration Command.

The Operations Command, which includes Patrol, Criminal Investigations and the Special Operations Division, requires the majority of the Department’s resources. The Administration Command provides necessary support services and includes the Human Resources Bureau, the Management Services Bureau, the Automated Enforcement Division and the Budget/Fiscal Section. Realigning nonenforcement tasks to an Administration Command lightens the management load for the Operations Command and allows it to better concentrate on patrol operations and investigations.

All functions of the Police Department were housed in the Warfield Building at the Police Headquarters in Ellicott City until 1994, when the Southern District Station was opened (Map 4-18). With the opening of the new station, the Department’s patrol function was divided into the Northern and Southern Districts, each headed by a District Commander who holds the rank of Captain. The vast majority of the 109,076 calls for service in 1999 were handled by the two Patrol Districts. The Districts also manage the Department’s K-9 teams, bicycle patrol and telephone reporting operations. The new Southern District Station made it possible to cover more area with the same number of staff. Sixty percent of the calls for service received by the Police Department are now in the Southern District.

The Education and Training Division, located in the Gateway Building, is responsible for a wide range of training. Training includes entry-level academy classes for recruit officers, simulated police academy training for adults and high school students, as well as mandated and specialized training for veteran police officers.

A commonly used measure of police service is the number of sworn police officers in relation to the population. Figure 4-29 shows this relationship for Howard County from 1994 to 1998. The ratio of sworn officers per 1,000 population varies significantly among communities in the region, depending upon the nature of coverage, density and overall population of the community. For example, the ratio for Carroll County is about 1.07 of officers per 1,000 population while for Baltimore County it is about 1.97 officers per 1,000 population. The national average is 2.7 officers per 1,000 population.

A better understanding of service needs is gained when the increase in calls for service is related to population growth and police officers. Figure 4-29 shows a clear increase (+9% over five years) in the number of calls per sworn officer. The number of calls is an indicator of police activity for not only call-related police services, but also other activities, such as routine patrolling, crime follow-up and police support services. Increases in support services, such as crime lab work and criminal investigation, are often the direct result of increased calls to the Police Department.

**Figure 4-29**  
**Police, Calls for Service, Authorized Strength and Budget**

	1994	1995	1996	1997	1998
Population	211,983	218,626	226,594	231,722	237,372
Calls for Service	96,692	99,469	106,928	107,174	105,738
Calls for Service per 1,000 Population	456	455	472	463	445
Police Officers	315	340	327	315	313
Police Officers per 1,000 Population	1.49	1.56	1.44	1.36	1.32
Annual Budget (millions)	\$22.9	\$24.3	\$24.1	\$24.1	\$25.6

Source: Howard County Police Department

**Howard County**  
 M A R Y L A N D  
**General Plan**  
**2000**

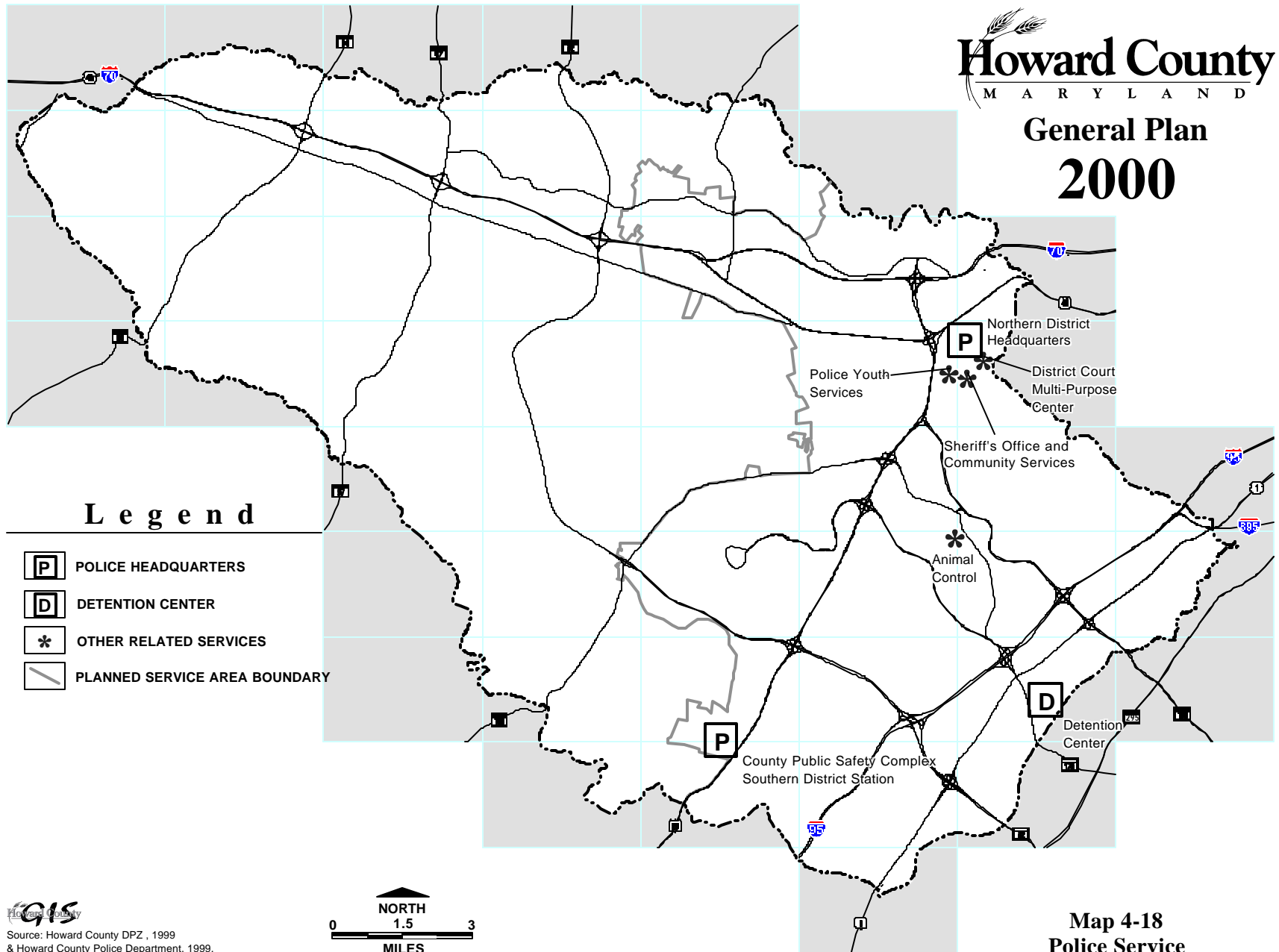


Figure 4-30 shows that the number of severe crimes reported in Howard County decreased 13% between 1994 and 1998. Other less severe crimes increased 6% and arrests increased 2% during the same five-year period. Since 1994, the number of officers per 1,000 population has decreased while the number of calls for service per officer has increased. However, other key variables influence police service needs, including economies of scale, organizational structure, density of population, socioeconomic factors and crime trends. Changes in the Police Department, especially the opening of the Southern District Station and increased automation, have increased its efficiency. The Police Department leadership reports that if all positions were filled, the number of officers authorized for 1999 would be sufficient to address calls for service.

### Service and Facility Needs

As County population continues to grow, some expansion of police facilities and personnel will be needed. A detailed projection of future police facility and service needs is beyond the scope of this General Plan. The Police Department analyzes demand for services regularly in order to configure police beats and to assess facility and personnel needs. However, several trends noted in this General Plan indicate important priorities for police programs over the next 10 to 20 years:

- Initiated in 1993, community policing is a top priority of the Police Department and complements the emphasis of this General Plan on community conservation and community planning. The community policing program includes a Police Foundation (composed of business leaders) and a Citizen’s Advisory Council that advise the Police Chief. The program also includes a Citizens Police Academy and six satellite offices located within communities in storefronts or apartment complexes. Officers generally remain stationed in the same area so they become familiar with the community.
- A related issue is assistance to communities experiencing particular problems with crime. Howard County is participating in the Federal Hot Spot Program, which seeks to reduce crime within targeted communities through grant funding for satellite office expansion and additional staffing. In the Village of Long Reach, Howard County’s first Hot Spot location, a 17% reduction in calls for service has occurred since the

**Figure 4-30**  
**Severity of Crimes and Total Arrests**

	1994	1995	1996	1997	1998
Total Arrests	7,126	7,899	8,185	8,094	7,242
UCR Part I Crimes	8,802	9,217	8,978	8,694	7,676
UCR Part II & III Crimes	10,793	11,291	12,841	12,865	11,484

Source: Howard County Police Department

Note: Uniformed Crime Reporting (UCR) Part I Crimes include: murder, theft, assault, robbery, burglary, auto theft and rape. UCR Part II & III Crimes include: forgery, fraud, embezzlement, vandalism, sex offenses, drug violations, DWI and family child neglect or abuse.

opening of the neighborhood satellite office in April 1998. The community views the Hot Spot designation as a valuable resource for their community. A second Hot Spot grant was approved for the Village of Harper’s Choice. North Laurel also applied for funding, but was not approved. However, the Horizon Foundation has earmarked \$105,000 for North Laurel to establish a community policing program similar to those in the Columbia Villages of Long Reach and Harper’s Choice.

- In the past five years, the Police Department reports an increase in juvenile arrests for crimes such as simple assault, vandalism or disorderly conduct. Police officers coordinate or assist with several programs aimed at preventing juvenile crime. Nine police officers funded by a Federal grant are stationed throughout County high schools. Youth programs, such as Drug Abuse Resistance Education (DARE) and Gang Resistance Education and Training (GREAT), have been instituted in high schools and middle schools. Ideally, school liaison programs would be extended into all high schools and middle schools. The Police Department is studying the effectiveness of their youth programs to see if funding should be reallocated.
- Police services will need to accommodate a changing population with a higher proportion of elderly residents and an increase in Asian and Hispanic populations.

Regarding future facility needs, no additional police stations are currently projected. However, if calls for service in western Howard County increase



with population growth, additional police resources may be necessary. In the long term, provision of additional service in the West may need to be considered. There is a need for a Police Training Center (including a shooting range, pursuit driving track, classrooms and other related police academy activities) to provide for the comprehensive training of new officers and to continue in-service training of personnel. A joint Police – Fire Training Center is being considered.

## ***Policies and Actions***

### ***POLICY 4.20: Enhance police protection.***

- ◆ ***Adequate Resources.*** Ensure that public safety agencies are staffed to provide adequate resources based on levels of crime and demand for services.
- ◆ ***Automated Systems.*** Continue to improve the automated police information and record management system, enabling police personnel to handle more calls for service while minimizing the need for more personnel.
- ◆ ***Community Policing Programs.*** Continue to focus on crime prevention and community policing programs that allow police officers to work in partnership with communities to solve crime and improve the quality of life.
- ◆ ***Youth Programs.*** Dedicate appropriate resources to expand school liaison programs into all high school and middle schools and to strengthen other proactive programs.
- ◆ ***Demographic Changes.*** Adjust services and programs to accommodate an increasingly elderly and diverse population.
- ◆ ***Traffic Enforcement.*** Provide additional traffic enforcement resources to address the increase in traffic in residential communities and on major through roads.

# **Fire and Rescue Services**

## **Organization and Operations**

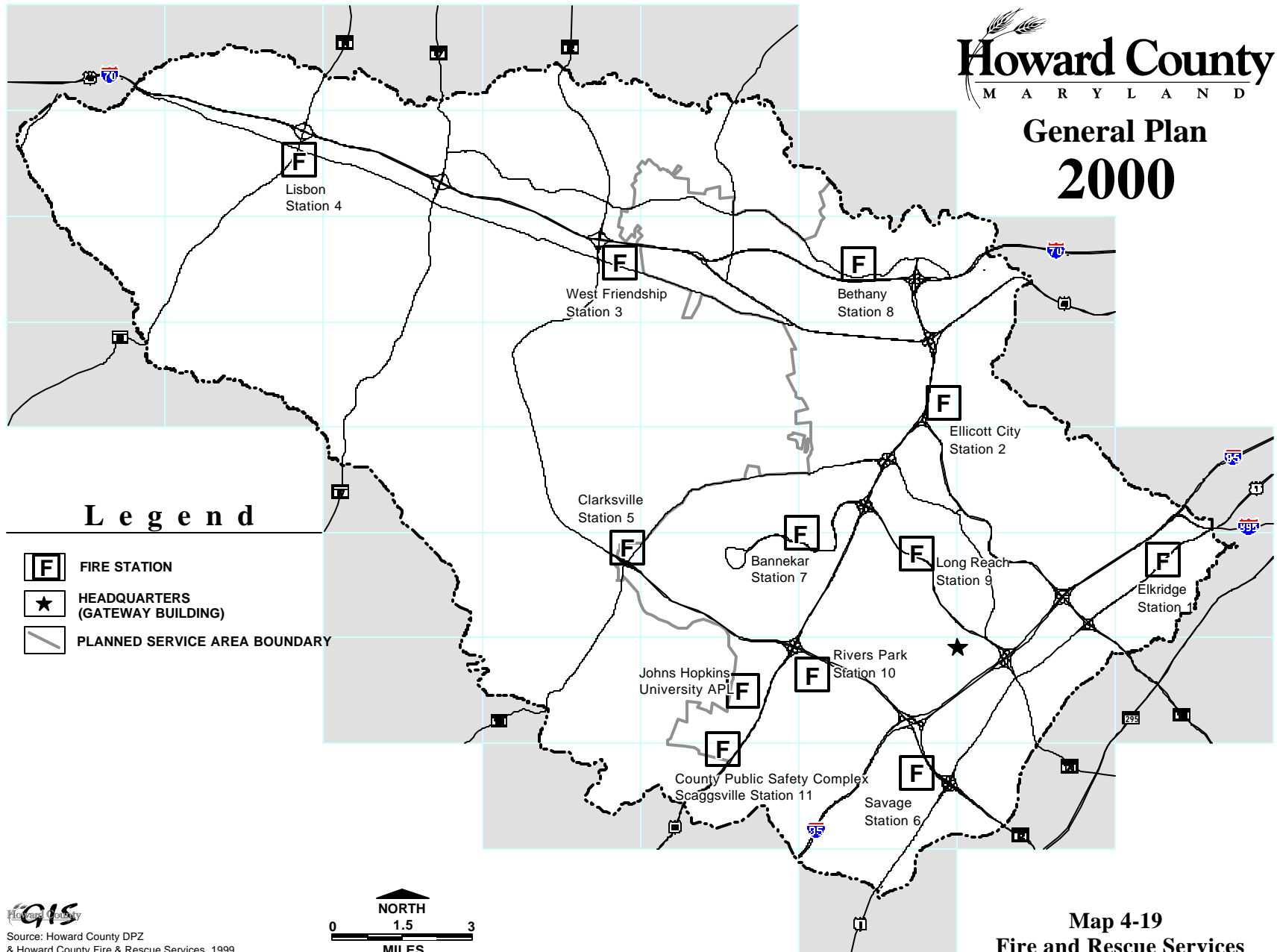
Howard County's Department of Fire and Rescue Services is responsible for emergency medical services (EMS), fire suppression and prevention, emergency services training, emergency management and rescue services. In addition, the Department is responsible for the Office of Emergency Management. Arson investigation is handled by the State Fire Marshall's office, but representatives from the County Police and Fire and Rescue Services Departments are part of an Arson Task Force that works closely with the State Fire Marshall's office. Howard County's Department of Fire and Rescue Services is one of only 27 agencies throughout the world accredited by the Commission on Fire Accreditation International.

The Department of Fire and Rescue Services is a combination career and volunteer department. Staffing for Fiscal Year 2000 consists of approximately 175 operationally active volunteers and 263 career personnel, all of whom participate in emergency operations. Additionally, there is an administrative staff of 18 uniformed personnel and 14 civilians.

The Department operates 11 fire stations ([Map 4-19](#)), with over 100 emergency vehicles. Volunteers manage seven of the 11 stations (Elkridge, Ellicott City, West Friendship, Lisbon, Clarksville, Savage and Bethany). The Banneker, Long Reach, Rivers Park and Scaggsville Stations are County- managed. Nine of the 11 stations have a complement of full-time career employees. The West Friendship and Lisbon Stations have two contingent employees assigned to supplement volunteer staffing. Supplemental resources are provided through Mutual Aid Agreements with each of the surrounding jurisdictions, as well as a private fire station at the Johns Hopkins Applied Physics Laboratory.

The County is divided into the Metropolitan and Rural fire tax districts. The boundary between the two districts is the same as the Planned Service Area boundary for public water and sewer. Funding for fire and rescue services is provided by the Fire Tax, Transfer Tax, grants and, occasionally, the General Fund.

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**Legend**

- FIRE STATION
- HEADQUARTERS (GATEWAY BUILDING)
- PLANNED SERVICE AREA BOUNDARY

**GIS**  
 Source: Howard County DPZ  
 & Howard County Fire & Rescue Services, 1999.



**Map 4-19**  
**Fire and Rescue Services**

## Service and Facility Needs

The Department of Fire and Rescue Services responded to 20,670 emergency incidents in 1998. (An incident is a fire, rescue, request for emergency medical service or other related emergency request to which the Department responds.) Seventy percent of these incidents were for emergency medical service (EMS), 4% were fire-related, and 26% were other calls. Other calls may include hazardous materials or technical rescues. Since an incident may elicit a response from one or more stations, the responses exceed the incidents. The incidents in 1998 required 47,806 responses, and for 1999 required 50,461 responses.

Emergency incidents increased 73% between 1988 and 1998 (Figure 4-31). The proportion of calls that are for emergency medical services increased from 66% of all incidents in 1988 to 70% in 1998 (Figure 4-32). The proportion of emergency medical calls is likely to increase further as the County's elderly population increases.

The increase in population and calls for service has led to a need for expanded fire and rescue facilities. A new, larger fire station for Ellicott City opened in 1997 and a joint fire/police station in southern Howard County opened in 1994. The Capital Improvement Program calls for two new fire and/or EMS stations, one planned for western Howard County (Glenwood) and another station is under consideration in the Elkridge area. The Glenwood Station is to be funded in the FY 2003 budget, with a projected completion date of 2004. The Elkridge area station is to be funded in the FY 2005 budget, with a projected completion date of 2007. After these two stations are built, there is no anticipated need for additional stations. If call volumes indicate a need for additional capacity, new fire or rescue units would be added through expansion of the existing stations.

An increase of 15 firefighters has been included in the FY 2001 budget. The increase should adequately cover the proposed new station at Glenwood. It is critical to meet staffing needs before opening a new station. Additional staff are also needed within the Department's Life Safety Bureau, which handles the Fire Safety Inspection Program. The program needs to have sufficient staffing to allow one uniformed individual to be assigned to each shift to handle arson reports and coordinate inspections. In

addition, a combined fire/police arson task force needs to be established.

Since 1990, the Department's volunteer force has declined from approximately 200 to about 175 active volunteers. The County needs to enhance its retention and recruitment program for volunteers. Unless the Department can recruit more volunteers and retain its experienced, trained volunteers, it will need to hire more career personnel.

**Figure 4-31**  
**Fire & Rescue Incidents and Responses**

	1988	1998	Percent Increase
Population	167,300	237,372	42%
Total Responses	16,791	47,806	185%
<b>Responses per 1,000 population</b>	<b>100.4</b>	<b>201.4</b>	<b>101%</b>
Total Incidents	12,058	20,670	71%
<b>Incidents per 1,000 population</b>	<b>72.1</b>	<b>87.1</b>	<b>21%</b>

Source: Howard County Department of Fire & Rescue Services

**Figure 4-32**  
**Fire & Rescue Incidents by Station, 1998**

Station #	Station Name	Fire	EMS	Other	Total
1	Elkridge	124	1,307	641	2,072
2	Ellicott City	87	1,922	564	2,573
3	West Friendship	31	589	233	853
4	Lisbon	26	634	235	895
5	Clarksville	42	497	234	773
6	Savage	147	1,941	787	2,875
7	Banneker	138	2,846	723	3,707
8	Bethany	56	867	325	1,248
9	Long Reach	133	2,527	952	3,612
10	Rivers Park	51	637	332	1,020
11	Scaggsville	53	711	278	1,042
<b>TOTAL</b>		<b>888</b>	<b>14,478</b>	<b>5,304</b>	<b>20,670</b>

Source: Howard County Department of Fire & Rescue Services

Training facilities for the Department of Fire and Rescue Services are located at the Gateway Building and at other off-site locations. Long-term fire and rescue training facilities are needed that include specialized facilities such as live fire, hazardous materials and driver training. There has been consideration of a joint Police and Fire Training Center.

Replacement of aging equipment will be a major issue in the next few years. To replace the aging vehicle fleet will cost approximately \$7 to \$9 million.

The last and perhaps most important aspect of fire prevention is public awareness. The Department of Fire and Rescue Services wants to enhance its prevention outreach program to further educate the public on fire prevention and safety techniques. It would be desirable to adopt code changes to require early detection and suppression systems in more structures, especially historic structures and small commercial structures under 5,000 square feet in size which are not currently required to have sprinklers. A program of post-occupancy inspections of commercial structures to identify code violations or other potential hazards is also being considered.

### ***Policies and Actions***

***POLICY 4.21: Minimize loss of property, loss of life and injury due to fire or medical emergencies.***

- ◆ ***New Fire Stations.*** Construct and staff the two new fire and/or EMS stations (Glenwood and Elkridge area) in the current Capital Improvement Program.
- ◆ ***Fire and Rescue Vehicles.*** Provide funding to update the fleet of fire and rescue vehicles.
- ◆ ***Training Center.*** Determine and implement the best solution for fire and rescue training needs.
- ◆ ***Volunteer Program.*** Enhance the volunteer recruitment program and

examine ways to increase retention of trained and experienced volunteers.

- ◆ ***Public Education.*** Expand public education programs.
- ◆ ***Fire Safety Inspection Program.*** Strengthen the Fire Safety Inspection Program to provide for a more efficient inspection program.
- ◆ ***Post-Occupancy Inspection.*** Initiate post-occupancy inspections for commercial uses.
- ◆ ***Fire Sprinklers in Small Commercial Buildings.*** Investigate costs and benefits of requiring fire sprinkler systems in commercial buildings of any size (currently required in businesses 5,000 square feet or more). Alternatively, the County could promote the use of sprinklers through public information or incentives in buildings less than 5,000 square feet.
- ◆ ***Historic Structures.*** Examine methods of protecting historic structures from fire damage through such means as encouraging installation of sprinklers and using fire suppression techniques that minimize damage to historic materials.

## **Health and Human Services**

As Howard County looks to the next ten to twenty years it must continue to improve the health and well-being of all of its residents. To accomplish this goal, County government will need to think and act in new ways that result in stronger and more productive partnerships with business, not-for-profit service providers and capacity building organizations, and the many community based groups concerned with quality of life issues. Changing demographics and a dynamic economic environment can be expected to present new and challenging problems and issues. The County's effectiveness in addressing the residents' health and human service needs will contribute to meeting other important General Plan objectives.

## Human Service Needs

Human services enhance the quality of life for the entire community by promoting social and economic well-being for individuals, families and groups. The need for human services is universal and not limited to a few segments of society. Human services may include, but are not limited to, physical and mental health, social, legal, employment, transportation, childcare and continuing education services operated by governmental, nonprofit and for-profit organizations. The local human services system includes a diverse array of public and private providers. It is a complex, interconnected delivery system that depends upon the resources of many different organizations (Map 4-20 shows some of the health and human service facilities in the County):

- Howard County's Department of Citizen Services encompasses the Offices on Aging, Consumer Affairs, Children's Services, Disabilities Service, the Commission for Women and other County human services. The Department operates the County's ten senior centers. The Department also administers the Community Services Partnerships under which the County purchases human services.
- The Department of County Administration manages the Employment and Training Center and the Office of Housing and Community Development.
- The Howard County Department of Health operates three health centers, and the Department of Social Services manages welfare programs. Both are State agencies that receive some County funding.
- The State Department of Labor, Licensing and Regulations operates the Job Services and Unemployment Insurance Programs. The State Department of Juvenile Justice operates programs for delinquent youth. The Cooperative Extension Service, which is involved in nutrition programs, is also a State agency.
- The Federal Social Security Administration administers retirement programs.
- There are over 200 nonprofit providers such as Grassroots, Domestic Violence Center, The ARC of Howard County, Development Services Group, Urban Rural Transportation Alliance, STARR Center, Winter Growth and the Howard County General Hospital (a member of Johns Hopkins Medicine), to name a few. Many belong to the Association of

Community Services.

- Private for-profit providers include Taylor Manor Hospital, two nursing homes, six large assisted living facilities and over 80 small assisted living group homes.

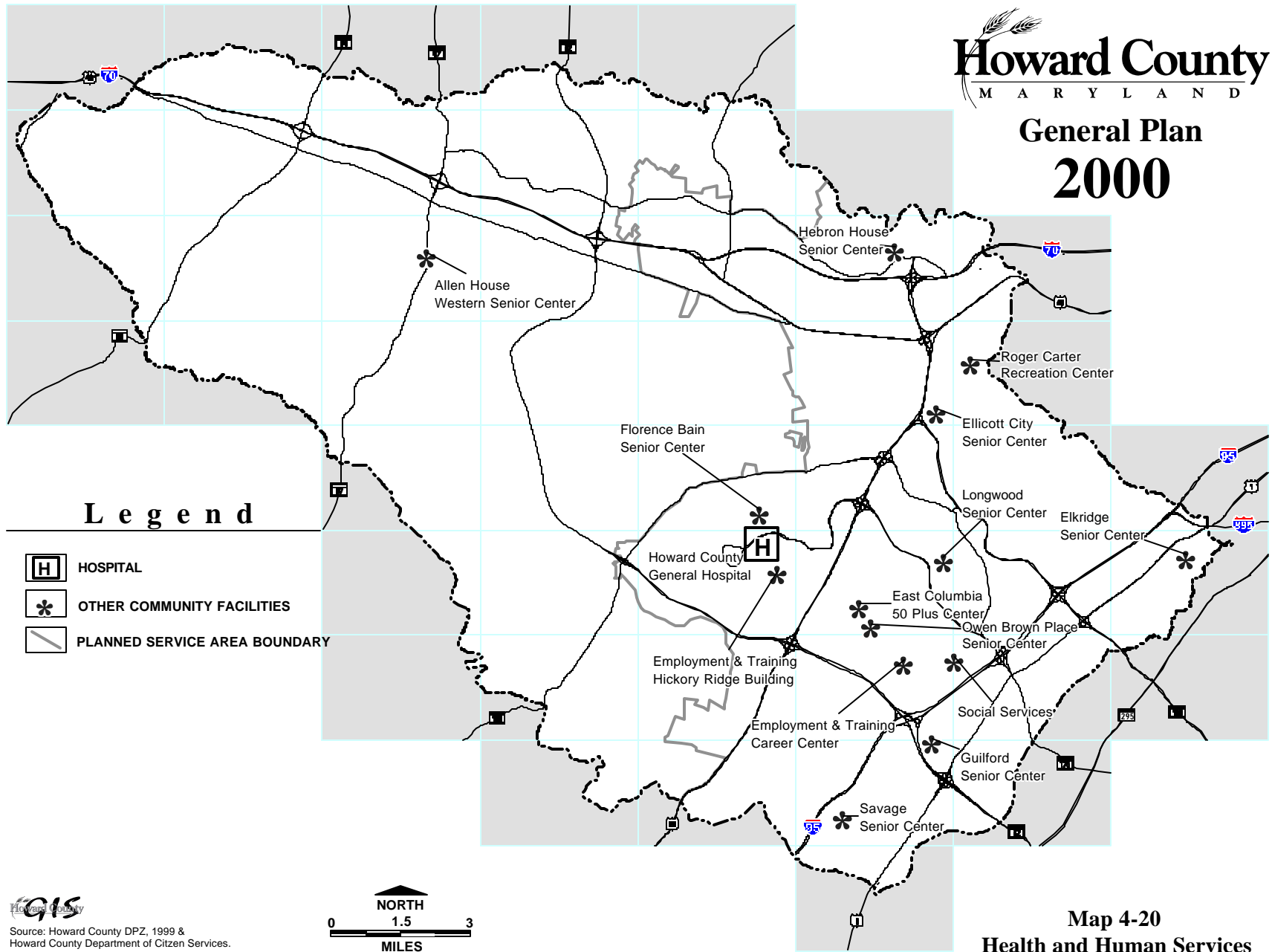
People of all ages and socioeconomic groups require human services. However, population characteristics, especially age and income, have an important direct effect on the need for services and the population's ability to obtain them.

Aging of the population is already a significant factor in planning for human services and it will become increasingly important. The population of those over 65 will more than triple from 14,700 in 1995 to about 47,000 in 2020. Within this population the percentage of those over 85 will increase, along with a disproportionate need for human services. The growth in the elderly population will result in increased needs for health services, personal care services, senior centers, day care, nutrition sites, specialized housing, home maintenance assistance and other services addressing the needs of this population. The housing needs of seniors, the disabled and special needs population, as well as low and moderate income households, are discussed in the previous section on Residential Land Use.

The youth and families of Howard County will also require human services in increasing numbers, as the population grows and two-income or single parent families require child care, before and after school activities, and parent substitute services such as transportation to activities. Parenting skill support for some families will help prevent future need for some types of services. An emphasis on after school activities is especially important for "latch key" children (ages 10-15), who are left alone at home until their parents return from work.

Howard County currently has a low unemployment rate of 1.4%. It is difficult for businesses to fill entry-level jobs, and with continuing strong job creation anticipated, this problem will intensify. People previously considered to be outside the work force will be hired to fill some critical labor shortages. These include people with disabilities, retired people, welfare recipients, foreign-born individuals and underemployed people. Employment training is important to people leaving welfare and entering the work

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force, persons with disabilities seeking an independent life, new job seekers and the retired re-entering the work force. As the shift from an industrial to an information economy continues, retraining the work force with new job skills becomes a necessity for displaced workers, as well as the work force as a whole.

## **Health Service Needs**

Howard County residents benefit from a wide variety of local health care providers and services, and from being in close proximity to health care facilities and academic medical centers in the Baltimore and Washington regions. As with human services, the health care delivery system is complex and depends upon the resources of many organizations, such as:

- Walk-in clinics, health maintenance organizations, preferred provider organizations and numerous private providers.
- Howard County General Hospital is licensed for 233 beds. These beds are assigned to serve patients in the following categories: 29 obstetric, 35 psychiatric, 4 pediatric, 12 critical care, 36 intermediate care and 117 medical/ surgical. In addition, the hospital provides care in 30 normal newborn bassinets and 18 neonatal intensive care bassinets.
- St. Agnes Nursing and Rehabilitation Center in Ellicott City (182 beds) and Lorien Nursing Home (311 beds) and five home health agencies serve the County's disabled and senior citizens. There are two for-profit and one nonprofit adult day care centers in the County. Many County residents are also served by nursing homes and home health care providers in other jurisdictions.
- Hospice Services of Howard County provides the terminally ill and their families with nursing care and support services within patients' homes. In addition, one inpatient hospice bed is provided at Howard County General Hospital. Twenty-four additional inpatient hospice beds are available in Towson.
- The Howard County Health Department provides a variety of clinical services to County residents, including maternity, family planning, child health, communicable disease and addictions treatment and education. The Health Department privatized mental health services in 1999, through Sheppard Pratt Health System. The Health Department also provides addictions services at the Howard County Detention Center, where

an estimated 80% of inmates have addictions problems.

- The AIDS Alliance of Howard County coordinates services for people with HIV/AIDS who live or work in the County. The Howard County Health Department provides HIV/AIDS Counseling and Testing Services.
- Vantage Place serves Howard County residents with chronic mental illness (71 beds). Vantage Place also provides 13 beds for persons with head injuries.
- The Howard County Association of Retarded Citizens Community Choice Program provides 140 beds for developmentally disabled citizens through a combination of group homes, alternative living units (including apartments), independent homes and community supported living arrangements.

In 1997, the Howard County Health Department prepared an assessment of present and future health care needs of County residents, demographics and the special needs of uninsured individuals. The priorities identified as important for most residents were heart disease, cancer (especially breast and lung), drug abuse and alcoholism, AIDS, health insurance for the uninsured, and assurance of access to services for low income and senior citizens. This report was recently updated and is the most comprehensive analysis of health-related data for Howard County available. Cancer and heart disease remain the top two priorities for Howard County in terms of leading causes of death and of Years of Potential Life Lost (a weighted measure for the age of death of an individual in relation to average life expectancy).

Because seniors have more chronic health problems, they require a broad range of health services – inpatient, outpatient and in the home. As the County's population increases and ages, additional beds and facilities will be required. Although three adult day care centers are located in Columbia, other day care centers will likely be needed in other parts of the County. There is a need for more homebound care for the elderly and people with disabilities. Homebound care would include personal care, in-home nursing, housekeeping, grocery and meal assistance, and respite for care givers.



## **Access to Health and Human Services**

Barriers that hinder people's use of the services they need include lack of transportation, inconvenient or limited hours of service, cultural barriers and financial constraints. Most of the clients who use Health Department services have a low income or are above medical assistance guidelines but below 150% of the poverty level. Since many people who use clinics do not have cars, the location and accessibility of clinics is paramount. Health Department services are not currently easily accessible to County clients. Department services are located in Ellicott City, Columbia and Savage, which have limited transit access. Additional clinics should be located in areas with concentrations of low income residents. Based on a review of schools with large numbers of children eligible for free lunch, an indicator of low income families, additional health services in the northeast portion of the County may be needed.

The low income population in the western portion of the County is sparse and widely distributed. To be able to reach and provide services to these residents, a small satellite facility in the western part of the County, preferably located in a multipurpose center, may be needed in the future.

Many human service providers are concentrated in Ellicott City and Columbia, leaving some areas of the County underserved, especially the communities along US 1 and in the West. Ideally, service providers would be located on transit routes or within walking distance for many clients. For many types of services, full-time operations in numerous satellite locations are not warranted, but there may be a need for part-time outreach operations. Portions of public or private facilities, such as schools, libraries or churches, may make ideal satellite locations during hours when they are not otherwise fully used for their normal operations. This may be appropriate in the Rural West, which should be served at a different level than the East, which encompasses the Planned Service Area.

While there is value in having part-time facilities, even for very limited hours on evenings and weekends, it is important to offer services at a specified, regular time and place. It can be difficult for people to learn of and use services that vary in the time and place of availability.

The 1990 General Plan endorsed policies of decentralizing health and human service delivery systems, locating services close to those who need them, and establishing multi-service centers to allow convenient access and efficient use of space and resources. This General Plan reinforces these policies and emphasizes that services should be concentrated within the Planned Service Area. Since 1990, the County has developed sites in which senior centers, health centers and/ or libraries have shared sites. Most of the County's senior centers are or will be located with other uses. The centers are accessible by paratransit, but most are not on the fixed route bus schedule. Transit services to meet the needs of seniors, disabled and other transit-dependent individuals are discussed in the Transportation section of this chapter.

The elderly, teens and foreign-born individuals are often reluctant to seek certain services. Cultural and language differences also pose barriers to effective knowledge, use and delivery of health and human services. The 2000 Census is expected to document the significant growth in Howard County's teens, elderly and foreign-born population since 1990. Age, cultural and ethnic diversity is expected to continue to increase rapidly over the next two decades and should be anticipated in planning for future service delivery.

## **Planning and Coordination**

In Maryland and in Howard County there are dual systems for policy making, funding and the provision of health services and for the array of services and programs generally referred to as human services. It is important to emphasize the essential interrelatedness and interdependence of these service delivery systems.

Coordinating health and human services for greater efficiency and effectiveness is a high priority. The organization and development of integrated services is crucial to maximizing resources and coordinating help to people needing more than one form of assistance.

Howard County lacks a comprehensive system for health and human services. Development of such a system would improve coordination among service providers and optimize the use of resources. Important elements in

a comprehensive health and human services system include: a needs assessment (what the community is lacking in services); a service providers database (who is providing services); a service delivery database (what services are delivered to what number and types of people); and a health and human services master plan. Such a comprehensive system requires an integration of the existing health and human service organizations and that they jointly develop the system. Implicit in this model is the shared responsibility for the performance of the system (as defined by performance criteria) and the seamless sharing of information and data (excluding confidential client information).

The most complete, currently existing element is the human service providers database. The inventory is available to citizens in several locations, including the Department of Citizen Services, Howard County Library, United Way Community Partnerships, Howard County Information & Referral, and the Association of Community Services. However, using the database is not easy for the average citizen. It is primarily used as a resource for service providers. Optimally, a comprehensive, citizen friendly information service would be available to residents, providers and emergency workers on a 24-hour basis in a variety of formats (telephone, websites). Such a service would need to involve all of the current information providers and a clear strategy for updating the information.

A great deal of effort is made to keep updated information about all the human service providers, but there are over 200 nonprofit, for-profit and government providers in the County. The number of providers increases considerably if human service assistance provided by faith organizations such as churches and synagogues is included. Data collection and management is difficult because most of the providers are relatively small. Of the nonprofit agencies, 55% have from 1 to 120 paid staff, and 45% are operated entirely by volunteers.

Health and human services do not currently have defined client to staff ratios, which would need to vary by service type. However, some standards would help in planning and service delivery. Unlike schools and roads, which are reviewed for adequacy at the time of subdivision plan review, no mechanism exists to review human service needs or the relationship of ser-

vice needs to community growth and change.

Human service providers have used the limited available data and projections to anticipate the impact of future growth and demographic shifts on various populations. A comprehensive plan could help identify and fill deficiencies in the available data and assess the potential impact of growth and changing demographics. Such a plan could target the County government's approach to providing services and to distributing grant funds. The plan should address coordination of services among providers, missing components or redundancies in the system of care, means of addressing service gaps or duplication, accessibility of services, means of improving cost effectiveness and an ongoing process of evaluating implementation. There is significant competition for grants through the Department of Citizen Services' Community Services Partnership Program. A comprehensive plan would help the Department of Citizen Services evaluate and target grant distribution to fill gaps, encourage more effective service delivery, be responsive to emerging needs, promote healthy competition and allow for demonstration programs.

The Health Department has initiated the development of a ten-year Comprehensive Health Improvement Plan (CHIP). It is being drafted with the active participation of health groups and agencies, as well as a large group of diverse citizen volunteers. Six focus areas have been identified: Cancer, Tobacco Control, Substance Abuse, Mental Health, Injury and Violence Prevention, and Health Issues of the Aging Population. Goals, detailed actions with designated lead agencies and an implementation strategy will be developed. An annual progress report is anticipated to address accountability.

The Howard County – A United Vision Report, issued in 1999, recommended that the County “develop a viable community action plan to improve health and human services”. The Health Department's CHIP should be a major component of a Comprehensive Health and Human Services Plan. Coordination between the Department of Health and the Department of Citizen Services will be critical to this effort as will other groups such as the Children's Board, the Mental Health Authority and the Association of Community Services. The human services component of

the Comprehensive Health and Human Services Plan has not been started, but should be developed as soon as possible. It is not critical that planning for health and human services be undertaken as a single project. The health and human services components of the plan can be developed as separate studies as long as the key services and issues requiring coordination are addressed in a consistent, integrated manner and key stakeholders are involved in both planning efforts.

Corridor Revitalization Studies and Community Master Plans, as discussed in Chapter 5, *Community Conservation and Enhancement*, can be appropriate vehicles to examine the health and human service needs and opportunities for particular areas in greater detail.

### **Capacity Building with Not-for-Profits for Health and Human Services**

Since the adoption of the 1990 General Plan, a new force has appeared in the health services field that is expected to exert a major influence on health services offered in the County. The Horizon Foundation, established in 1998, is the largest, independent, nonprofit public charity in Howard County. Formed after the merger of Howard County General Hospital and Johns Hopkins Medicine, the Horizon Foundation has an endowment of \$72 million. The Foundation's mission is to fund a variety of programs to promote the health and well-being of the Howard County community. The Horizon Foundation has set the following goals to be achieved over the next several years: solidify and expand Howard County's health/wellness infrastructure; improve social and environmental conditions within the County; increase access to health and health-related human services and strengthen the integrity of local safety net programs; and address specific community health issues in a manner that enables the County to substantially exceed national state-level health/wellness targets.

County government should develop a solid working relationship with the Horizon Foundation as it has traditionally done with the United Way, the Columbia Foundation and other not-for-profit capacity building organizations. Capacity building organizations such as these provide critical funding to help the public sector and the many non-profit health and human service providers enhance and expand both programs and operating capa-

bilities. These capacity building organizations should be actively involved in developing the Comprehensive Health and Human Services Plan.

### ***Policies and Actions***

#### ***POLICY 4.22: Develop a Comprehensive Health and Human Services Plan.***

- ◆ ***Health Services Improvement Plan.*** Support efforts by the Health Department, together with the Horizon Foundation, the Department of Citizen Services and health service providers, to develop a ten-year Comprehensive Health Services Improvement Plan.
- ◆ ***Comprehensive Health and Human Services Plan.*** Use the Comprehensive Health Services Improvement Plan as a major component of a Comprehensive Health and Human Services Plan for the County. This Plan should reflect a comprehensive assessment of needs, resources, proposed actions and an implementation strategy with a clear identification of leadership roles, as well as assurances of accountability as measured by performance criteria.
- ◆ ***Community or Corridor Plans.*** Use Community Master Plans and Corridor Revitalization Studies to help identify health and human service needs and appropriate means of improving access to services in particular areas.
- ◆ ***Capacity Building.*** Continue to build positive, collaborative relationships with the Horizon Foundation, United Way, the Columbia Foundation and other capacity building organizations, as well as the for-profit business community, as essential resources for achieving the goals set out in the Comprehensive Health and Human Services Plan.
- ◆ ***Adequacy of Hospital and Nursing Home Beds.*** Assist public and private providers to ensure that adequate hospital and nursing home beds are available to meet the current and future needs of the County. The County will work with Howard County General Hospital and the

State Office of Health Care Quality to ensure that there are an adequate number of hospital beds to serve the County's future projected population growth.

- ◆ **Health and Human Service Care Programs.** Encourage and, where possible, assist the provision of adequate inpatient, outpatient and in-home health and human services care programs to County residents, including treatment for seniors, those in need of addictions services, the mentally ill, and the chronically and terminally ill.
- ◆ **Residential Opportunities.** Meet the needs of special populations in a more traditional residential neighborhood setting. Work cooperatively with the State and the private sector to provide a variety of residential options.

***POLICY 4.23: Enhance the delivery and accessibility of health and human services.***

- ◆ **Data Sharing.** Assist service providers by analyzing and distributing 2000 census data, Horizon Foundation database, and local and national data repositories.
- ◆ **Technology Enhancement.** Enhance information technology to show program availability and coordination of agencies to strengthen health and human service delivery systems.
- ◆ **Funding Distribution.** Review the current Community Service Partnerships grants distribution system to determine its effectiveness in targeting County assistance for services needs, and adjust as appropriate.
- ◆ **Partnerships for Health and Human Services Delivery.** Promote partnerships among government, business and nonprofit sectors for the networking and coordination of health and human services delivery. Incorporate the human services component of the faith community.

- ◆ **Multi-Service Centers.** Establish multi-service centers where feasible, in visible, frequently used locations within the Planned Service Area. These centers should be used as focal points for the distribution of health and human services information through the use of enhanced technology. Consider the use of convenient, decentralized facilities with limited hours to make services more readily accessible.
- ◆ **Transit and Pedestrian Access.** Locate health and human service facilities in buildings that are on transit routes and that are accessible by pedestrian connections and/ or reroute transportation to service centers. Promote the provision of fixed route and paratransit services to increase accessibility for transit-dependent individuals to health and human service care facilities.
- ◆ **Services to Low Income Populations.** Expand the scope of public health and human services to low income households and uninsured individuals, and support private health and human service provider efforts to serve these populations.

***POLICY 4.24: Expand employment development programs for minorities, elderly, disabled, welfare recipients and youth.***

- ◆ **Employment Development Program.** Expand employment development programs directed toward minorities, elderly, disabled and youth, as well as those leaving public support systems. Enhance training programs and work-referral systems.
- ◆ **Coordination of Job Training Opportunities.** Continue cooperation among the Employment and Training Center, Economic Development Authority, Public School System, Howard Community College, and the Departments of Citizen Services and Social Services to identify employers' needs for trained workers and to develop appropriate training programs.

***POLICY 4.25: Assure a comprehensive health and human services system is supported by a sufficient number of health and human service professionals.***

- ◆ **Promotion of Health Care and Human Service Professions and Opportunities.** Assist with the promotion of health care and human service professions and educational opportunities at high schools, local universities, the Howard Community College and the Public School System.

## Solid Waste

### Solid Waste Management System

A significant shift in solid waste management has occurred since 1990, when Alpha Ridge Landfill was the destination for most of Howard County's solid waste. Solid waste management has become a more dynamic and complex issue. Howard County and neighboring jurisdictions are increasingly dependent on private industry or regional organizations for services ranging from markets for recycled goods to processing and disposal of waste. As noted in Chapter 2, *Responsible Regionalism*, these changes have made regional cooperation essential for cost effective and environmentally sound solid waste management. It has also become increasingly important for the County to be able to respond effectively to changes in industries, markets and technology.

The County's 1993 Solid Waste Management Plan, adopted after two years of study by an advisory committee, called for the County to develop an integrated solid waste management system using a combination of programs and facilities including source reduction and reuse, recycling, composting, waste-to-energy and landfill disposal. Since adoption of this plan by the County Council in 1994, many facets of this integrated system have been implemented.

The 1990 General Plan estimated that Howard County's Alpha Ridge Landfill would reach capacity by 2003 under the management practices then in effect. Since 1990, the landfill's operating life has been extended significantly. The landfill's currently active cell is now predicted to reach capacity after 2010. Alpha Ridge has room for two additional cells which could provide capacity until some time after 2080. This dramatic extension of the landfill's operating life has been accomplished primarily by divert-

ing the County's solid waste to private, out-of-state landfills. Recycling and, to a lesser extent, composting of yard waste have also significantly reduced the volume of solid waste.

### Landfill Disposal of Solid Waste

In 1990, tipping fees at Alpha Ridge increased from \$18 to \$40 per ton, in response to new Federal and State landfill regulations that increased costs for operation, construction, remediation and closure. Fees increased again in 1994 to \$60 per ton to cover increasing costs and to discourage the disposal of private waste at Alpha Ridge. As a result, most of the County's private solid waste stream (waste from businesses) is now transported by commercial waste hauling firms to less expensive private facilities in Virginia and Pennsylvania. Flows of private solid waste to Alpha Ridge are now approximately 10% of 1994 levels.

The County is also exporting its municipal solid waste (that is, waste from residences and public uses) to a private landfill. In 1996, the County contracted with a private firm to transport its municipal solid waste to a private waste transfer station in Anne Arundel County and then to a landfill in Virginia. This waste export agreement was to expire in 2003; however, the County recently accepted an option for annual renewal to 2013, which was offered as a condition of a corporate merger involving the contracted solid waste disposal firm.

### Reduction, Reuse and Recycling

The County's waste reduction program includes public outreach and education about changes in purchasing practices and product reuse, grass recycling and backyard composting, and salvage and reuse programs. The County also has a fully implemented recycling program, and a number of materials are now recycled. Through these recycling efforts, Howard County has increased its recycling rate from approximately 13 % of total waste in 1992 to approximately 36 % in 1998 (Figure 4-33).

The County's 1999 Solid Waste Management Plan calls for increasing recycling to 40% of the County's solid waste stream. Increases will be accomplished through continuing public education programs as well as by new technologies and markets that may add to the list of recyclable materi-

**Figure 4-33**  
**Recycling Program Growth, 1992-1998**

Year	Residential		Commercial		Total Tons	Overall Recycling Rate
	Residential Tons	Residential Recycling Rate	Commercial Tons	Commercial Recycling Rate		
1992	15,571	15.60%	8,082	8.60%	23,653	12.60%
1993	21,891	19.70%	27,929	24.30%	49,820	22.10%
1994	32,799	25.70%	39,890	34.40%	72,689	29.80%
1995	30,268	23.00%	52,658	41.20%	82,926	31.60%
1996	34,617	27.90%	47,601	37.30%	82,218	32.30%
1997	37,605	29.10%	49,042	39.40%	86,646	34.20%
1998	39,245	30.40%	52,964	42.10%	92,209	36.20%

Source: Howard County Recycling Program - 1997 & 1998 Annual Reports

als. Markets exist or can be established for some materials not currently targeted for recycling; however, source separation difficulties limit the ability to recycle these materials. Other materials, such as construction, demolition and land clearing debris, need more fully developed markets before recycling efforts for those materials can be expanded.

The County's recycling program is very close to reaching the 40% goal of the Solid Waste Management Plan, which is a rate almost double the State-mandated rate of 20% and slightly above the State average. This success is due in no small part to the County's continuing public education programs on recycling. One of the ways in which recycling benefits the County is a reduction in the amount of solid waste generated and the resultant reduction in tipping fees paid to dispose of waste. Another cost savings in this regard is waste reduction. The County's current waste reduction efforts include effective programs such as backyard composting, grasscycling and distribution of information on household hazardous waste reduction. Building on the existing public education program to promote solid waste reduction has the potential to reduce further the amount of solid waste generated in the County.

### **Future Planning for Solid Waste Management**

It is unlikely that another County-operated landfill will be sited in Howard

County, due to the lack of an appropriate 400 to 500-acre site. The County must prepare for long-term reliance on source reduction and reuse, recycling, composting and waste export, either to a landfill or a waste-to-energy (WTE) facility. A combination of local and regional or out-of-region facilities will continue to be needed.

Currently, substantial capacity exists at private, out-of-State landfills. The relatively low cost of disposal at these facilities makes this the most cost effective approach at this time. A contract with a regional WTE facility (such as the BRESKO plant in Baltimore City) would be more costly based on current fees, and may require landfill disposal of the ash residue (approximately 10 to 20% of the original volume of waste) if not recycled or landfilled by a WTE facility.

Although there is significant competition among out-of-region disposal facilities at this time, there is less competition locally among private export haulers. This lack of local competition, evidenced by the limited number of waste transfer stations convenient to Howard County, may limit the County's options for waste export agreements. The County's current contractor is the only private firm that has a large-scale transfer station located in close proximity to the County. The County will need an alternate transfer station, whether operated by the County or a private firm, if it ever

wishes to use a different private hauler.

Alpha Ridge Landfill is the County's back-up disposal site if out-of-County options fail. Approximately two years would be required to design and build a new fill cell at the Alpha Ridge Landfill. The County must ensure, therefore, that the capacity of the current cell is at all times adequate for disposal of the County's municipal solid waste for at least two years. The Solid Waste Management Plan proposes an annual evaluation of the current cell, with a capital project to build a new cell initiated when available capacity is projected to drop below a two-year capacity.

If waste export options fail and the County once again becomes dependent on Alpha Ridge, other solutions would need to be developed before the total capacity at Alpha Ridge is depleted. The 1999 Solid Waste Management Plan estimates that the landfill capacity would be fully used in 2027 if Alpha Ridge became the sole disposal site for the County's municipal waste in 2003. Planning for alternate facilities should begin at least ten years before the predicted end of the operating life of Alpha Ridge. As discussed in Chapter 2, *Responsible Regionalism*, an alternate disposal site is more likely to be a regional facility than a facility solely for County use. Based on this discussion, solid waste disposal will not be a constraint on the County's projected growth through 2020. Waste disposal will require a combination of recycling, composting and waste export to an out-of-state or regional facility. If export options fail, the County has sufficient capacity at Alpha Ridge Landfill to dispose of its municipal waste while alternate facilities are planned and built.

### ***Policies and Actions***

***POLICY 4.26: Provide for environmentally sound and cost effective solid waste management.***

- ◆ ***Planning for Future Capacity.*** Use the County's annual option to extend its current contract for solid waste export until 2013 if this is deemed the most cost effective solution. During the contract period, explore waste-to-energy and other options.

- ◆ ***Promoting Solid Waste Reduction.*** Continue to expand programs for solid waste reduction, reuse, recycling and composting. Pursue expansion of the recycling program to include additional materials as technologies and markets become available. Build on the existing public education program to promote solid waste reduction, with the goal of establishing and achieving further specific, numeric reductions in the amount of solid waste generated in the County.
- ◆ ***Waste Transfer Station.*** Monitor the need for a waste transfer station within Howard County or close enough to the County boundary to be used for Howard County's waste transport needs.
- ◆ ***Maintaining Capacity at Alpha Ridge.*** Evaluate the need for a new cell at the Alpha Ridge Landfill on an annual basis. Initiate design and construction of a new cell when available space is projected to drop below a two-year capacity.
- ◆ ***Timing of Solutions.*** Ensure that the County has reliable options for solid waste processing and disposal that allow a lead time of ten years for planning and construction of new facilities or development of new programs.

## **Fiscal Impacts, County Services and Growth Projections**

The previous sections discussed many issues regarding the relationships among land use, growth, and the need for County facilities and services. It is important to determine an appropriate balance between competing land use to be accommodated in the relatively limited amount of available land. This balance and the pace of growth must take into consideration future infrastructure and service needs. Infrastructure and services should be properly phased, financed and planned for new growth, but this should not be done at the expense of existing infrastructure and services.



As the County approaches build-out, the maintenance of existing infrastructure and services will become of increasing importance while planning for new growth will become less of a concern. After 2010, residential and employment growth is expected to slow, given the shrinking land supply, and this shift in priorities will come to the forefront. As the County matures over the next 20 years, service demands and budget conditions are likely to be quite different than those experienced over the last 30 years. Planning for this transition is critical to maintaining the health of the County as it matures.

### Fiscal Impacts of Growth

Fiscal impact analysis is a tool that can be used to learn about the impacts new growth has on the County’s services and budget. Box 4-1, shown at the beginning of this chapter, described the four scenarios analyzed as part of

this General Plan update. Each of the four growth scenarios represents a possible future. The scenarios were derived based on growth trends, available land capacity, current zoning and existing policies and regulations, as well as possible future needs such as an increase in senior housing.

The results of the fiscal analysis, as summarized in Box 4-10, have helped develop a better understanding of how the quantity and pace of residential versus employment growth impact the demand for County services and facilities and, thereby, the County’s budget. Based, in part, on these results, future residential and employment growth projections are proposed in this Plan for 2000 to 2020. The proposed growth targets are described later in this section.

An important and primary assumption used in the fiscal analysis is the maintenance of current levels of service. As part of the fiscal study, current

#### Box 4-10

#### Fiscal Impact Study Results

As described in Box 4-1, four growth scenarios were analyzed for the fiscal study. The goal of the scenarios was to produce a wide range of growth possibilities, taking market realities and land capacity into account. In this way, a wide range of fiscal results would be produced allowing a clear understanding of differences between the type, pace and amount of growth.

#### 1990 to 2020 Average Annual Fiscal Results FY 2000 Budget -- \$439.5 million

Scenario	Average Annual Net Revenues (millions)	Percent of 2000 Budget
Modified Plan	\$9.1	2.07%
90s Trend	\$3.9	0.89%
Slow Pop./GP Emp.	\$2.5	0.57%
Slow Pop./High Emp.	\$1.6	0.36%

Source: Tischler & Associates, Inc., March 2000

The biggest difference between the four scenarios was the amount of jobs projected. Two of the scenarios, 1990s Trend and Slow Population/High Employment, projected about 5,000 new jobs per year. The other two scenarios, Modified General Plan and Slow Population/General Plan Employment, projected about half as many jobs (an average of 2,410 jobs per year). Another difference is the amount and pace of residential development. However, the residential variation between scenarios was not as great as the employment variation given the relatively limited amount of residential capacity.

The overall conclusion of the fiscal study is that the four scenarios generate slightly positive, but essentially fiscally neutral results. All scenarios generate net surpluses, indicating that new growth pays for itself. However, the net surpluses are relatively modest, leaving little room for any level of service increases. Compared to the current General Fund budget of \$439.5 million, the net surpluses range from 0.36% of the budget for the Slow Population/High Employment scenario to 2.07% of the budget for the Modified General Plan scenario. These differences are relatively small and allow the County the flexibility to set growth policy regarding the amount, type and pace of development without major financial constraints.

levels of County services have been analyzed and new growth is projected to receive these same service levels. Therefore, equity is built into the results because new growth does not receive, nor is expected to provide, higher levels of service than existing development. New growth, however, should not occur at the expense of existing communities. Hence, the question of whether or not new growth pays for itself is of vital concern.

The results of the fiscal study indicate that the fiscal impact of new growth is positive and that there is not a significant difference between growth scenarios. The County is therefore in the fortunate position to choose growth targets independent of major fiscal constraints.

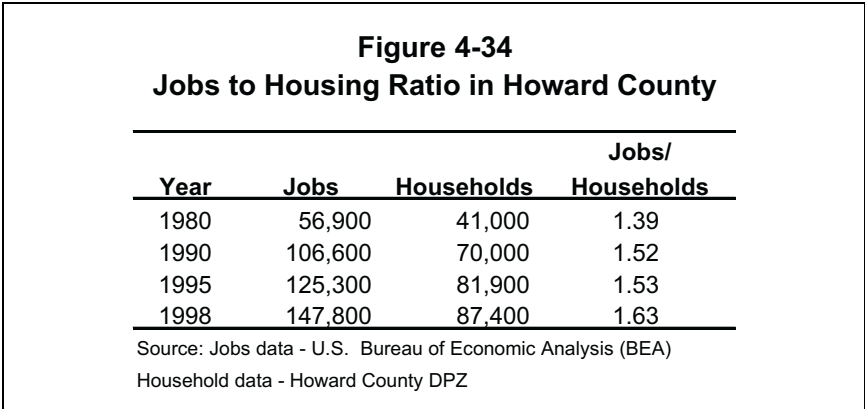
The results clearly indicate that new growth pays for itself. Therefore, the existing tax base in the County is not subsidizing growth. It is also clear, however, that the surpluses generated are relatively small, which indicates that new growth is not subsidizing existing services. This is just as important and indicates that as growth slows and eventually stops due to build-out, the existing fiscal structure of the County will not suffer. However, the existing budget does not take into account the changing needs of a maturing County, such as the cost of replacing existing public facilities and infrastructure, the impacts of an aging housing stock or the needs of an aging population. These issues are discussed at the end of this chapter.

### Balancing Jobs and Housing Growth

Since the fiscal study determined that there is a minimal fiscal difference among the growth scenarios, other policy considerations must be weighed. One is the appropriate balance between housing and job growth.

A common measure of how growth has been progressing is the ratio of jobs to housing. Figure 4-34 shows the most recent jobs to housing ratio, based on 1998 US Bureau of Economic Analysis (BEA) employment data. The 1980, 1990 and 1995 ratios are also shown for comparison. The jobs to housing ratios have been increasing over time. Since 1990, this has resulted from slower than expected housing growth and faster than expected employment growth.

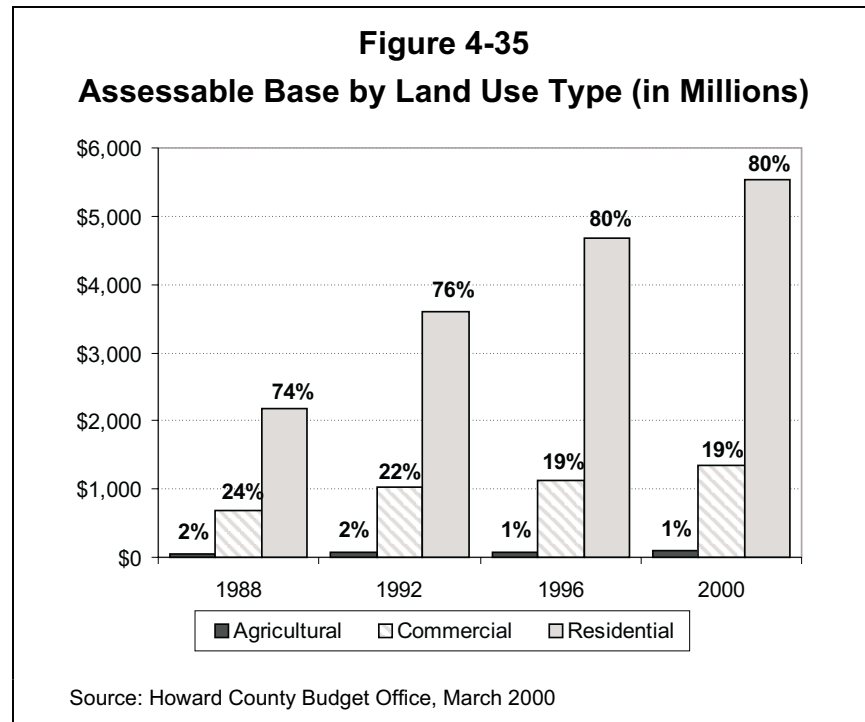
While a high jobs to housing ratio is generally desirable, an important con-



sideration is the ratio of jobs held by County residents. This has a significant impact on both where income taxes are paid and on the amount of traffic generated. In 1990, 36% of the County resident labor force worked in the County, 64% commuted to areas outside the County, and 58% of jobs in the County were filled by non-County residents.

Another indicator related to the balance of jobs and housing is the relative property tax assessment value. Figure 4-35 shows the assessable base by land use type, comparing residential, commercial and agricultural values for various years. The residential percentage of the total assessable base in the County has increased slightly since 1988. In 1988, residential development was 74% of the total assessable base compared to 24% for commercial properties. By 1996, the residential percentage increased to 80% while the commercial percentage declined to 19%. Since 1996, however, this percentage has stabilized, mostly due to the increased levels of non-residential growth in the late 1990s.

The residential versus non-residential values are not only impacted by the relative amount of development, but also by fluctuations in the residential and commercial real estate markets. In general, it is good for the fiscal health of the County to have a reasonable balance between the residential and non-residential tax base. This allows for more diversification of tax revenues, dampening negative impacts of a decline in the residential or employment markets. For example, if the County has a relatively high reliance on residential property tax revenues (such as the current 80%), a decline in



housing values will have a large negative impact on the budget. As residential growth slows, if employment growth continues at a relatively fast pace, the non-residential tax base percentage should increase.

### 2000 to 2020 Growth Projections

Employment, housing and population growth projections for this General Plan have been developed based on historic and current growth trends, available land capacity, current zoning, rural land preservation policies, shifting County demographics, and goals for housing and employment. The projections also reflect citizens' comments about how they envision the County's future. In large part, development policies are not significantly different from those of the 1990 General Plan, which guided subsequent comprehensive zonings and development of the Adequate Public Facilities Act. There are, however, significant differences in growth pace and distribution.

Employment growth targets in this General Plan are higher than in the 1990 General Plan, given recent trends of higher than expected employment growth due to the strong economy and the County's prime location in the Baltimore-Washington corridor. For housing, the 1990 General Plan expected build-out in 2010. Build-out is now expected in 2018 in the East, due to a small amount of additional capacity from comprehensive zoning and slower than expected housing growth during the 1990s. Build-out in the Rural West will occur after 2020, based on proposed development limits discussed below.

### Employment Growth

Figure 4-36 shows the projected employment targets at five-year intervals, beginning in 2000. Actual job growth from 1990 to 2000 is also shown for comparison. These projections assume that the strong economy, which has created significant job growth particularly during the later part of the last decade, will continue into the next decade. From 1990 to 2000, an estimated 53,400 jobs, or an average of 5,340 jobs per year, were added to the County. It is assumed that this trend will continue at a lower average annual rate of about 4,000 jobs per year from 2000-2010. After 2010, job growth will slow to an average of 3,000 new jobs per year. This slowdown is antic-

**Figure 4-36**  
**Howard County Employment Growth Targets**

Year	Job Increases	Total Jobs
1990 <sup>1</sup>		106,600
2000 <sup>2</sup>	53,400	160,000
2005	20,000	180,000
2010	20,000	200,000
2015	15,000	215,000
2020	15,000	230,000
<b>20 Year Job Growth</b>		<b>70,000</b>

1. Source: U.S. Bureau of Economic Analysis (BEA)  
2. 2000 Job estimate based on 1998 BEA actual value of 147,800 jobs plus job increase estimates by the MD Dept. of Labor, Licensing, & Regulation

**Figure 4-37  
Housing Forecasts Annual Intervals**

Year	Housing Units in East				Units in Rural West		Total Housing Units	
	Senior Unit Set-Aside	Other Unit Increase	Total Unit Increase	Cumulative Total	Increase	Cumulative Total	Total Unit Increase	Cumulative Total
2000 (1)				79,550		11,400		90,950
2001	250	1,500	1,750	81,300	250	11,650	2,000	92,950
2002	250	1,500	1,750	83,050	250	11,900	2,000	94,950
2003	250	1,500	1,750	84,800	250	12,150	2,000	96,950
2004	250	1,000	1,250	86,050	250	12,400	1,500	98,450
2005	250	1,000	1,250	87,300	250	12,650	1,500	99,950
2006	250	1,000	1,250	88,550	250	12,900	1,500	101,450
2007	250	1,000	1,250	89,800	250	13,150	1,500	102,950
2008	250	1,000	1,250	91,050	250	13,400	1,500	104,450
2009	250	1,000	1,250	92,300	250	13,650	1,500	105,950
2010	250	1,000	1,250	93,550	250	13,900	1,500	107,450
2011	250	1,000	1,250	94,800	250	14,150	1,500	108,950
2012	250	1,000	1,250	96,050	250	14,400	1,500	110,450
2013	250	1,000	1,250	97,300	250	14,650	1,500	111,950
2014	250	1,000	1,250	98,550	250	14,900	1,500	113,450
2015	250	1,000	1,250	99,800	250	15,150	1,500	114,950
2016	250	750	1,000	100,800	250	15,400	1,250	116,200
2017	250	750	1,000	101,800	250	15,650	1,250	117,450
<b>2018</b>	<b>250</b>	<b>750</b>	<b>1,000</b>	<b>102,800</b>	250	15,900	1,250	118,700
2019	250	750	1,000	103,800	250	16,150	1,250	119,950
2020	250	500	750	104,550	250	16,400	1,000	120,950
<b>20 Year Growth</b>	<b>5,000</b>	<b>20,000</b>	<b>25,000</b>		<b>5,000</b>		<b>30,000</b>	

Source: Howard County DPZ

(1) Total housing units in 2000 estimated based on actual units as of end of 1999 plus estimated increase to July 1, 2000.

Note: Housing unit forecasts by planning area are based on aggregation of statistical areas (Map 4-2). The planning areas closely approximate the division between the East and the Rural West as defined by all areas zoned RC or RR and not served by public sewer.

ipated to result primarily because of a declining land supply, as well as an increase in traffic congestion. An increasingly tight labor market, as the baby boom generation retires, may also slow employment growth. Average annual growth over 20 years is, therefore, 3,500 jobs per year, totaling 70,000 new jobs. At this rate, Howard County will have an estimated 230,000 jobs by 2020.

These employment projections do not impose a limit on job growth. Rather they are an estimate based on realistic expectations of what the economy can sustain and available employment land capacity. Job growth may exceed these expectations, particularly if revitalization and redevelopment of older employment properties occurs. Higher job growth is generally positive from a fiscal standpoint, particularly if jobs can be filled by County residents rather than commuters.

### Housing Growth

Housing growth, unlike job growth, is phased by the County’s Adequate Public Facilities Act. Because of the higher service demands of residential development, it is important that housing does not grow at a faster pace

than anticipated. General Plan 2000 housing forecasts will be used to develop the Adequate Public Facilities housing allocation chart, which controls the pace of residential development.

Figure 4-37 shows the housing unit growth forecasts for the Rural West and the East, beginning in 2000. These forecasts have been developed for the five areas shown previously on Map 4-2. The East includes Ellicott City, ElkrIDGE, Columbia and Southeast, which are within the Planned Service Area for sewer service. The Rural West is outside the PSA for sewer service. The water service only area around the Alpha Ridge Landfill will be part of the Rural West. To integrate General Plan 2000 housing forecasts into the Adequate Public Facilities (APF) allocations chart, allocations should be established among these five planning areas – the four in the East plus the Rural West. This is a change from the current APF regulations which establish the allocations by six school regions as shown previously in Map 4-1. Unlike the current school regions, which change over time and are hard to understand, these new regions would be fixed and relate to recognizable area boundaries. Most importantly, these planning areas, which will clearly distinguish the East and Rural West, are necessary

**Figure 4-38  
Housing Forecasts, Five Year Summary**

Year	Housing Units in East				Units in Rural West		Total Housing Units	
	Senior Unit Set-Aside	Other Unit Increase	Total Unit Increase	Cumulative Total	Cumulative Increase	Cumulative Total	Total Increase	Cumulative Total
2000 (1)				79,550		11,400		90,950
2005	1,250	6,500	7,750	87,300	1,250	12,650	9,000	99,950
2010	1,250	5,000	6,250	93,550	1,250	13,900	7,500	107,450
2015	1,250	5,000	6,250	99,800	1,250	15,150	7,500	114,950
2020	1,250	3,500	4,750	104,550	1,250	16,400	6,000	120,950
<b>20 Year Growth</b>	<b>5,000</b>	<b>20,000</b>	<b>25,000</b>		<b>5,000</b>		<b>30,000</b>	

Source: Howard County DPZ

(1) Total housing units in 2000 estimated based on actual units as of end of 1999 plus estimated increase to July 1, 2000.

Note: Housing unit forecasts by planning area are based on aggregation of statistical areas (Map 4-2). The planning areas closely approximate the division between the East and the Rural West as defined by all areas zoned RC or RR and not served by public sewer.

to implement a limit of 250 housing allocations per year in the Rural West, as well as the set-aside of 250 senior housing allocations per year in the East, as discussed later in this section.

The housing forecast establishes a net increase of 30,000 units in the County from 2000 to 2020, at an average of 1,500 new units a year. This average annual rate is 1,000 units less than the 2,500 average annual rate as forecast in the 1990 General Plan and 500 units less than the actual 1990s trend of about 2,000 new units per year. These forecasts reflect the slowing pace of housing growth in the County. It is interesting to note that the average growth in the late 1980s was about 4,300 units per year. Figure 4-38 summarizes the forecasts at five-year intervals.

The amount of new units permitted will vary at different intervals. From 2000 to 2003, a growth rate of 2,000 units per year will be maintained. From 2003 to 2015, the growth will slow to 1,500 new units per year. From 2015 to 2019, the pace of growth will slow further to 1,250 new units per year. To complete the 30,000 unit net increase from 2000 to 2020, an additional 1,000 new units will be added in 2020. These projections assume no changes to the Planned Service Area boundary and no zoning map amend-

ments. The current pace of 2,000 units per year continues to 2003 due to the strong economy and the amount of units currently in the allocation pipeline. (Allocations are granted based on an anticipated average of three years before housing completion, so developments under review in 2000 are given allocations for 2003.) Housing unit growth after 2003 declines as the residential land supply diminishes.

As shown in Figures 4-37 and 4-38, housing growth forecasts are also allocated between the East and the Rural West portions of the County. The growth targets establish a limit of 250 new units per year in the Rural West from 2000 to 2020. In the East, this allows for 1,750 new units per year from 2000 to 2003, 1,250 new units per year from 2003 to 2015, 1,000 new units per year from 2015 to 2019 and 750 new units in 2020. These allocations yield an additional 5,000 new units in the West and 25,000 new units in the East from 2000 to 2020.

As reflected in Figures 4-37 and 4-38, the growth targets also establish a set-aside of 250 units per year in the East for senior housing. Senior housing units will be eligible for the pool of allocations reserved for senior housing, regardless of the project’s geographic location in the East. Any

**Figure 4-39  
Total Housing Forecasts in the East**

Year	Columbia		Elkridge		Ellicott City		Southeast		TOTAL EAST	
	Increase	Cumulative Total	Increase	Cumulative Total	Increase	Cumulative Total	Increase	Cumulative Total	Increase	Cumulative Total
2000 (1)		36,920		11,730		17,960		12,940		79,550
2005	1,930	38,850	910	12,640	1,950	19,910	1,710	14,650	6,500	86,050
2010	1,100	39,950	650	13,290	1,740	21,650	1,510	16,160	5,000	91,050
2015	790	40,740	820	14,110	1,790	23,440	1,600	17,760	5,000	96,050
2020	70	40,810	770	14,880	1,190	24,630	1,470	19,230	3,500	99,550
<b>TOTAL INCREASE</b>	<b>3,890</b>		<b>3,150</b>		<b>6,670</b>		<b>6,290</b>		<b>20,000</b>	

Source: Howard County DPZ

(1) Housing units in 2000 estimated based on actual units as of end of 1999 plus estimated increase to July 1, 2000.

Note: Housing unit forecasts by planning area are based on aggregation of statistical areas (Map 4-2). The planning areas closely approximate the division between the East and the Rural West as defined by all areas zoned RR or RC and not served by public sewer. Forecasts do not include 5,000 senior set-aside units.



**Figure 4-40  
Housing Forecasts in the East by Unit Type**

COLUMBIA	Single Family Detached		Single Family Attached		Apartments		Mobile Homes		TOTAL COLUMBIA		
	Year	Increase	Cumulative Total	Increase	Cumulative Total	Increase	Cumulative Total	Increase	Cumulative Total	Increase	Cumulative Total
2000 (1)			14,850		10,080		11,990		0		36,920
2005	510		15,360	300	10,380	1,120	13,110	0	0	1,930	38,850
2010	280		15,640	290	10,670	530	13,640	0	0	1,100	39,950
2015	190		15,830	340	11,010	260	13,900	0	0	790	40,740
2020	70		15,900	0	11,010	0	13,900	0	0	70	40,810
<b>TOTAL INCREASE</b>	<b>1,050</b>			<b>930</b>		<b>1,910</b>		<b>0</b>		<b>3,890</b>	

ELKRIDGE	Single Family Detached		Single Family Attached		Apartments		Mobile Homes		TOTAL ELKRIDGE		
	Year	Increase	Cumulative Total	Increase	Cumulative Total	Increase	Cumulative Total	Increase	Cumulative Total	Increase	Cumulative Total
2000 (1)			5,500		2,450		2,670		1,110		11,730
2005	700		6,200	30	2,480	0	2,670	180	1,290	910	12,640
2010	560		6,760	0	2,480	0	2,670	90	1,380	650	13,290
2015	540		7,300	250	2,730	10	2,680	20	1,400	820	14,110
2020	470		7,770	300	3,030	0	2,680	0	1,400	770	14,880
<b>TOTAL INCREASE</b>	<b>2,270</b>			<b>580</b>		<b>10</b>		<b>290</b>		<b>3,150</b>	

ELLCOTT CITY	Single Family Detached		Single Family Attached		Apartments		Mobile Homes		TOTAL ELLICOTT CITY		
	Year	Increase	Cumulative Total	Increase	Cumulative Total	Increase	Cumulative Total	Increase	Cumulative Total	Increase	Cumulative Total
2000 (1)			11,610		2,200		4,150		0		17,960
2005	720		12,330	670	2,870	560	4,710	0	0	1,950	19,910
2010	570		12,900	360	3,230	810	5,520	0	0	1,740	21,650
2015	650		13,550	210	3,440	930	6,450	0	0	1,790	23,440
2020	650		14,200	260	3,700	280	6,730	0	0	1,190	24,630
<b>TOTAL INCREASE</b>	<b>2,590</b>			<b>1,500</b>		<b>2,580</b>		<b>0</b>		<b>6,670</b>	

SOUTHEAST	Single Family Detached		Single Family Attached		Apartments		Mobile Homes		TOTAL SOUTHEAST		
	Year	Increase	Cumulative Total	Increase	Cumulative Total	Increase	Cumulative Total	Increase	Cumulative Total	Increase	Cumulative Total
2000 (1)			6,150		3,920		2,240		630		12,940
2005	1,000		7,150	660	4,580	50	2,290	0	630	1,710	14,650
2010	610		7,760	650	5,230	250	2,540	0	630	1,510	16,160
2015	610		8,370	580	5,810	340	2,880	70	700	1,600	17,760
2020	720		9,090	500	6,310	250	3,130	0	700	1,470	19,230
<b>TOTAL INCREASE</b>	<b>2,940</b>			<b>2,390</b>		<b>890</b>		<b>70</b>		<b>6,290</b>	

Source: Howard County DPZ

(1) Housing units in 2000 estimated based on actual units as of end of 1999 plus estimated increase to July 1, 2000.

Note: Housing unit forecasts by planning area are based on aggregation of statistical areas (Map 4-2). The planning areas closely approximate the division between the East and the Rural West as defined by all areas zoned RR or RC and not served by public sewer. Forecasts do not include 5,000 senior set-aside units.



additional senior housing beyond the 250 unit per year set-aside could seek available allocations for the area in which the project is located. The senior housing allocation set-aside is intended to be an incentive to construct more senior housing.

The forecasts assume that an additional 5,000 acres will be preserved in the Rural West through the Agricultural Land Preservation Program. Based on the current average density realized from cluster, non-cluster and density exchange subdivisions, the purchase of development rights on 5,000 acres will reduce the capacity of the West by about 1,400 single-family units. This will reduce capacity in the West from about 18,900 units to 17,500 units. With this reduction in housing capacity and the 250 unit per year limit, build-out in the Rural West will not occur until 2025.

The housing unit capacity in the East, based on current zoning, is about 102,100 units. Based on the growth targets, the East is expected to reach existing zoned capacity by around 2018. However, some additional capacity may be created via redevelopment and/or special exceptions for senior housing. Based on the growth forecasts and the estimated capacity in the East, about 2,400 additional units would have to be accommodated in order to continue developing at the forecast pace to 2020. These units could re-

sult from additional senior housing units permitted in some employment zoning districts or by special exception in residential zoning districts, as well as additional units created by redevelopment of older employment areas.

Figure 4-39 shows the more detailed projections for the East’s four planning areas. The forecasts by planning area were determined based on the recent historical pace of growth, the current number of housing unit allocations granted, known projects in the development pipeline, existing zoning and available land capacity. From 2000 to 2020, a total of 20,000 units are forecast. This does not include the 5,000 senior set-aside units, which are not allocated to particular planning areas. The housing unit forecasts by planning area as shown in Figure 4-39, as well as the 250 annual units in the West (Figure 4-38), will serve as the basis for determining the annual Adequate Public Facilities allocation chart. Appendix A provides information on the methodology and the statistical area base data used to determine the housing allocation forecasts for each of the five planning areas, as well as projections of housing unit mix and population.

Figure 4-40 shows a more detailed breakdown by type of unit for planning areas in the East (the Rural West will only have single-family detached

**Figure 4-41  
Housing Forecasts in the County by Unit Type**

<b>TOTAL COUNTY</b>	<b>Single Family Detached</b>		<b>Single Family Attached</b>		<b>Apartments</b>		<b>Mobile Homes</b>		<b>TOTAL COUNTY</b>	
<b>Year</b>	<b>Increase</b>	<b>Cumulative Total</b>	<b>Increase</b>	<b>Cumulative Total</b>	<b>Increase</b>	<b>Cumulative Total</b>	<b>Increase</b>	<b>Cumulative Total</b>	<b>Increase</b>	<b>Total</b>
2000 (1)		49,510		18,650		21,050		1,740		<b>90,950</b>
2005	4,180	53,690	1,660	20,310	1,730	22,780	180	1,920	<b>7,750</b>	<b>98,700</b>
2010	3,270	56,960	1,300	21,610	1,590	24,370	90	2,010	<b>6,250</b>	<b>104,950</b>
2015	3,240	60,200	1,380	22,990	1,540	25,910	90	2,100	<b>6,250</b>	<b>111,200</b>
2020	3,160	63,360	1,060	24,050	530	26,440	0	2,100	<b>4,750</b>	<b>115,950</b>
<b>TOTAL INCREASE</b>	<b>13,850</b>		<b>5,400</b>		<b>5,390</b>		<b>360</b>		<b>25,000</b>	

Source: Howard County DPZ

(1) Housing units in 2000 estimated based on actual units as of end of 1999 plus estimated increase to July 1, 2000.

Note: Forecasts do not include 5,000 senior set-aside units.

**Figure 4-42**  
**Household Population Projections**

<b>Region</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
Columbia	94,980	95,040	95,660	95,660	93,900
Elkridge	31,220	32,430	33,700	35,280	36,640
Ellicott City	49,760	52,390	55,320	58,170	59,910
Southeast	35,080	38,350	41,530	44,730	47,530
Rural West	35,680	37,870	40,810	43,660	46,410
New Senior Housing	0	1,500	3,000	4,500	6,000
<b>TOTAL</b>	<b>246,720</b>	<b>257,580</b>	<b>270,020</b>	<b>282,000</b>	<b>290,390</b>

**Figure 4-43**  
**Group Quarters Population**

<b>Region</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
Columbia	1,380	1,380	1,380	1,380	1,380
Elkridge	1,260	1,320	1,370	1,420	1,440
Ellicott City	860	870	870	880	880
Southeast	300	310	310	310	310
Rural West	200	200	200	200	200
<b>TOTAL</b>	<b>4,000</b>	<b>4,080</b>	<b>4,130</b>	<b>4,190</b>	<b>4,210</b>

Source: Howard County DPZ

**Figure 4-44**  
**Total Population**

<b>Region</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
Columbia	96,360	96,420	97,040	97,040	95,280
Elkridge	32,480	33,750	35,070	36,700	38,080
Ellicott City	50,620	53,260	56,190	59,050	60,790
Southeast	35,380	38,660	41,840	45,040	47,840
Rural West	35,880	38,070	41,010	43,860	46,610
New Senior Housing	0	1,500	3,000	4,500	6,000
<b>TOTAL</b>	<b>250,720</b>	<b>261,660</b>	<b>274,150</b>	<b>286,190</b>	<b>294,600</b>

Source: Howard County DPZ

**Figure 4-45  
Persons per Household**

Unit Type	Current	2005	2010	2015	2020
Single Family Detached	3.1298	2.9916	2.9374	2.8832	2.8290
Single Family Attached	2.5797	2.5065	2.4798	2.4531	2.4264
Apartments	1.8711	1.7563	1.7045	1.6526	1.6008
Mobile Homes	2.4029	2.2970	2.2506	2.2041	2.1576
New Senior Housing		1.2000	1.2000	1.2000	1.2000

Source: Howard County DPZ

units). These detailed forecasts were determined based on the factors mentioned above, in particular existing zoning, which dictates the type of development and densities allowed in certain areas. Figure 4-41 shows the resulting total County-wide forecast by housing unit type including the Rural West. This does not include the 5,000 senior set-aside units, which will most likely be predominantly apartment units, but could also be townhouses or detached units.

**Population Growth**

The estimated household population in 2020, based on these growth assumptions, is 290,400 (Figure 4-42). Including an estimated group quarters (institutional and group home) population of about 4,200 in 2020, the total County-wide population is projected to be 294,600 (Figures 4-43 and 4-44). Population in 2020 is based on the mix of current and future units reflected under current zoning and the household growth assumptions outlined above. The projections also take into account the anticipated decline in average household size due to the aging population. Household sizes by unit types are the same as in the current Baltimore Metropolitan Council’s official Round V-A population projections (Figure 4-45).

The General Plan’s housing and employment projections are important. They will be used when the Baltimore Metropolitan Council next updates the official regional forecasts. These official forecasts are used by County and State agencies in planning and budgeting for facilities and services to meet future County needs.

**Policies and Actions**

**POLICY 4.27: Use General Plan forecasts to guide County and regional decision-making.**

- ◆ **Regional Forecasts.** Incorporate General Plan housing, population and job forecasts into the Baltimore Metropolitan Council’s official regional forecasts.
- ◆ **Adequate Public Facilities.** Incorporate the General Plan housing forecasts into the Adequate Public Facilities Housing Allocations Chart.
- ◆ **Development Monitoring System.** Monitor the amount and type of actual housing and job growth for comparison with General Plan forecasts.

**Fiscal Impacts of a Maturing County**

The fiscal study for General Plan 2000 has two parts. The first part examined the fiscal impacts of alternative growth scenarios, as discussed earlier. The second part will investigate the fiscal implications of the County’s transition to a more mature jurisdiction. The complete results for part two

will be available when the General Plan 2000 is considered by the County Council in September. The issues being examined are presented below.

### **Maintenance and Replacement of Aging Facilities**

As the County's neighborhoods mature, so will existing infrastructure including roads, water and sewer lines, and stormwater management facilities, as well as public buildings and other facilities. The costs of maintaining and replacing existing facilities will need to be balanced with the cost of new facilities to accommodate growth.

As growth slows and as facilities age, more emphasis will have to be placed on these maintenance and replacement costs. The County should be proactive in anticipating this shift and set up renovation and replacement programs. As bonds for growth-related facilities are paid off, the County will have additional bonding capacity to help finance maintenance and/or replacement. Proper phasing of facility replacement will help the County better accommodate these needs in the future.

### **Other Potential Fiscal Implications**

In terms of both tax revenues and changing public service needs, there are a number of other aspects of the County's maturing that may impact the County's future fiscal situation. As growth slows, one important question is the relation of property values to a dwindling land supply over time. Changes in real property values are difficult, if not impossible, to predict. It is likely, however, that as the land supply diminishes property values will increase, particularly if community conservation and enhancement programs are effective and Howard County's aging communities continue to be highly desirable places to live and work. Any increase in property values will certainly help the future fiscal picture in Howard County. Given that property taxes are almost half of General Fund revenues and about one-third of total County revenues, even a relatively small increase in real property taxes will have a large and positive impact on the budget.

Although a decrease in land supply may likely have a positive impact on real property values, there are numerous other unpredictable factors that influence property values. The most important factor is the state of the national, regional and local economies. A recession, like the one that oc-

curred in the early 1990s, may cause a decrease in property values followed by an unknown recovery time, depending on the extent of the economic downturn. Another factor is how the amount, pace and type of new development in surrounding counties, such as Anne Arundel, Carroll and Frederick, will impact the regional housing and employment land supply and, thereby, County property values. Additionally, the aging of the housing stock may impact property values negatively. Therefore, it cannot be assumed that property values will automatically increase as the County approaches build-out.

Another important related issue is housing affordability. As discussed previously, providing affordable housing for existing low and moderate income residents to support economic development goals is already a challenge. Although higher property values are beneficial from a fiscal standpoint, they would make it more difficult to meet affordable housing needs.

There is generally a strong connection between income tax revenues and residential property tax revenues. More expensive homes require a higher household income. Therefore, an increase in real property values will, presumably, also result in an increase in income tax revenues. Income tax revenues are another large revenue source for the County, representing about one-third of General Fund revenues and about 20% of total County revenues. Property and income tax revenues combined represent about 80% of General Fund revenues and slightly more than 50% of total County revenues. Therefore, any change in real property tax revenues typically has a big impact on the County budget.

Howard County's population is aging, but it is not known how many seniors will remain in the County. Assuming the population of the County ages in place, there may be an increase in the number of households with relatively lower, fixed retirement incomes compared to their incomes during peak earning years. As a result, the relationship between high property values and high income tax revenues may be less closely linked in the future. If retirees continue to live in the County, there will be significantly increased demand for services to meet seniors needs, such as health and emergency services, human services, housing, recreation and transit. How-

ever, the number of school age children will decline, potentially making more budget funds available to address senior needs. Conversely, if a larger percentage of seniors retire outside the County and their homes are filled by families with school age children, a very different service and budget situation will result.

A preliminary assessment of these issues is being undertaken in part two of the fiscal study. These evolving trends should be further studied in the years following adoption of this General Plan. Given the complexity of the variables and the highly speculative nature of assumptions, key indicators

should be monitored and reviewed periodically. The transition from a fast growing County to a maturing built-out County is just beginning. Over time, these trends will become clearer.

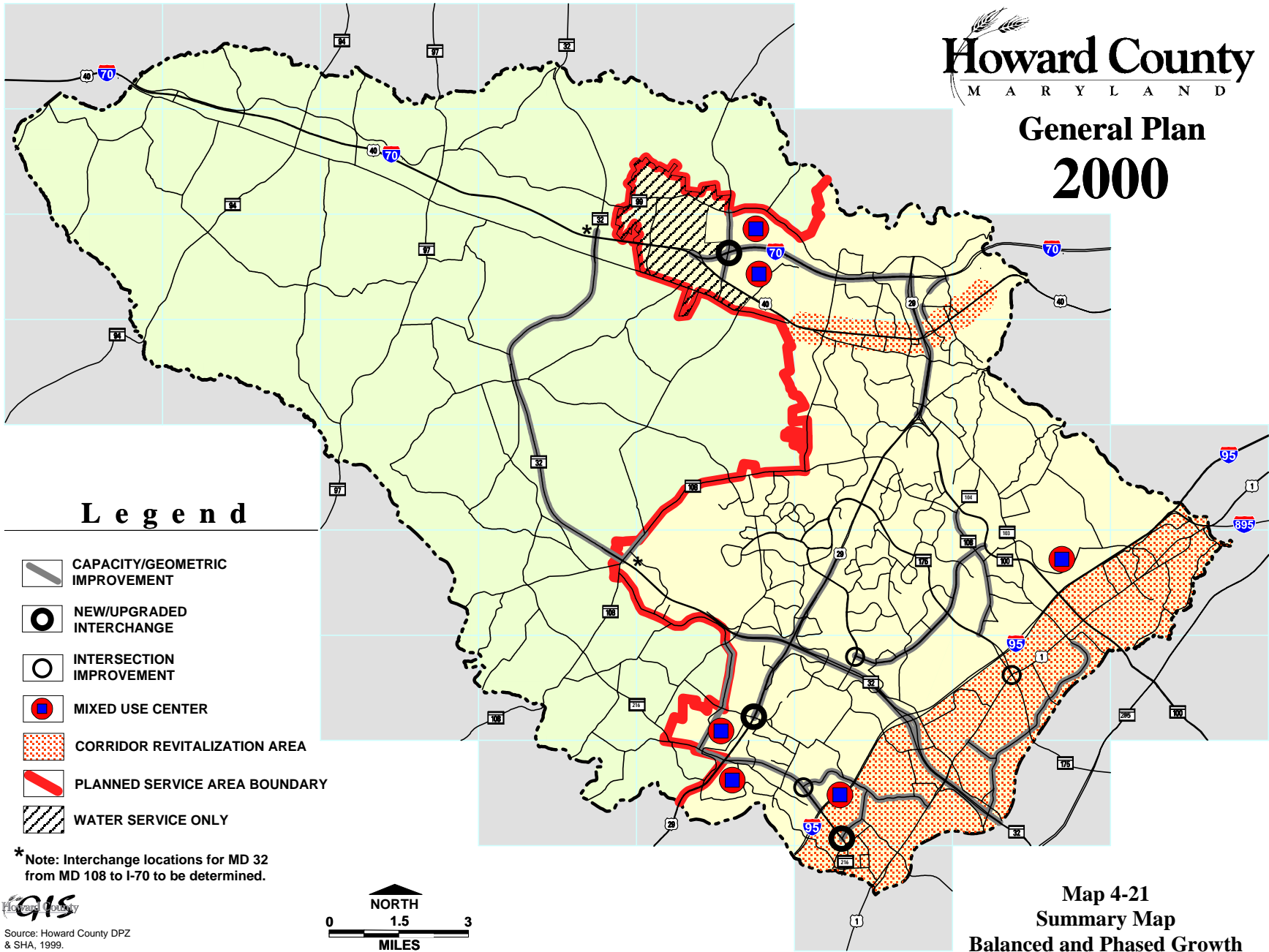
## **Summary Map**

[Map 4-21](#), Summary Map – Balanced and Phased Growth, summarizes and illustrates some of the policies and actions described in this chapter.










# Howard County MARYLAND

## General Plan 2000



### Legend

-  CAPACITY/GEOMETRIC IMPROVEMENT
-  NEW/UPGRADED INTERCHANGE
-  INTERSECTION IMPROVEMENT
-  MIXED USE CENTER
-  CORRIDOR REVITALIZATION AREA
-  PLANNED SERVICE AREA BOUNDARY
-  WATER SERVICE ONLY

\* Note: Interchange locations for MD 32 from MD 108 to I-70 to be determined.



Source: Howard County DPZ & SHA, 1999.



Map 4-21  
Summary Map  
Balanced and Phased Growth



# Community Conservation and Enhancement

## Introduction

This chapter focuses on sustaining or renewing the qualities that make the County's communities attractive and livable, enhancing amenities within specific areas and helping to give each community a strong local identity.

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***Vision 4:***  
*Our communities will be livable, safe  
and distinctive.*

---

Since the 1960s, much of Howard County's planning and budgeting, as well as the attention of citizen groups, has been focused on growth. As residential growth slows over the next two decades, the County will have an increasing proportion of older homes, commercial centers and employment sites. The County needs to ensure that these remain high quality places to live and work. The General Plan must lay the groundwork for future efforts to enhance, stabilize and revitalize the County's existing communities and to improve the quality of new development. To achieve Vision 4 for the County's communities, several goals must be pursued:

**Form sustainable communities.** The concepts and goals of sustainable development, described in more detail in Chapter 1, *Introduction*, can guide efforts to nurture communities where the natural environment is biologically healthy, the social environment is supportive and the economy is vigorous (Box 1-1, as shown previously).

**Develop attractive, identifiable communities.** Design requirements for new development, including landscape and open space standards, need to be refined to improve design quality. In addition, existing communities will benefit from specific enhancements that improve public areas and the natural environment.

**Revitalize older communities.** Older communities must not be allowed to deteriorate. Many of the County’s older communities are attractive, well-maintained and healthy. Where problems exist, it is important to address them before they become entrenched.

**Develop infill sites carefully.** As undeveloped land becomes scarce, more of the available residential land is located on infill sites. Because many of these infill sites have environmental and other constraints, particular attention must be paid to the regulations that govern their development to ensure that the new development will be an asset to the adjacent neighborhoods.

**Reinforce commercial, employment and civic centers.** Major centers – the County seat in Ellicott City and Downtown Columbia – and smaller centers that serve as focal points for surrounding communities and neighborhoods can be a source of community identity.

**Enhance communities through public facilities and services.** Public facilities that are well-maintained and services that provide for current community needs can help maintain a high quality of life and encourage continued private investment in a community.

**Develop an effective community planning program.** Translating the goal of a high quality of life into strong local communities requires more detailed planning than can be done at the General Plan scale. Active, sustained involvement by residents, businesses and organizations is essential for effective community planning and implementation.

## State Planning Mandates

The themes of community conservation and enhancement are strongly reinforced by the 1997 Smart Growth and Neighborhood Conservation Act,

which includes several components to strengthen, stabilize and revitalize existing neighborhoods. The 1992 Planning Act also requires that County plans encourage regulatory streamlining, innovation and flexibility. The policies of this chapter recognize the need for innovation and flexibility in addressing infill development, redevelopment and revitalization.

## Community Structure and Focus

Communities are social entities. Their vitality and cohesion stem primarily from the ways in which neighbors join together to promote their common interests and share in the effort to sustain a healthy social and physical environment. The physical environment alone cannot create such relationships, but a poor physical setting can diminish opportunities for social contacts and fail to create a strong sense of belonging to a specific place.

### Community Structure

Communities have many components – housing, stores and services, streets, pathways and sidewalks, natural areas, recreation facilities and public or civic buildings, such as schools, places of worship, libraries, fire stations and community centers. Many communities are a blend of modern and historic components, while others date from a single time period.

**Box 5-1** outlines five key concepts that are central to planning for Howard County’s neighborhoods and communities. Most of this chapter discusses the individual concepts that together organize our communities. **Maps 5-1 and 5-2** depict the places – neighborhoods, communities and areas – that shape the County. Numerous opportunities can be found to introduce or strengthen these concepts in the County’s communities, whether through design of new subdivisions or plans for improving or restoring portions of existing neighborhoods. As the County approaches build-out and its old and new neighborhoods become more tightly interwoven, these concepts can help unify the County’s communities.

## Community Focus

One of the basic concepts of communities, identified in [Box 5-1](#), is nodes or focal points, recognizable gathering places or landmarks that reinforce identity and community pride. In the 1990 General Plan, a major emphasis of the Community Enhancement Chapter was the need for active community centers that would provide a local focus. The lack of active local community centers is one of the main ingredients missing from most suburban environments. The village center system which helps structure Columbia provides many of these functions, but most areas outside Columbia lack a strong local focus.

The suburban land use practice of separating land uses is largely responsi-

ble for the lack of multipurpose community centers with active public spaces where people can meet and interact. In this respect, suburbs are quite different from traditional small towns where Main Street was a social and civic environment as much as the commercial core of a community. In the suburbs, many of the institutions, civic functions and community services that would also be part of traditional small town commercial centers are scattered on their own sites, perhaps miles away from the shopping district.

Community focus can be provided by an attractive center that combines stores, services, civic uses and green space. This General Plan recognizes that other amenities can also provide a focal point. A small park may pro-

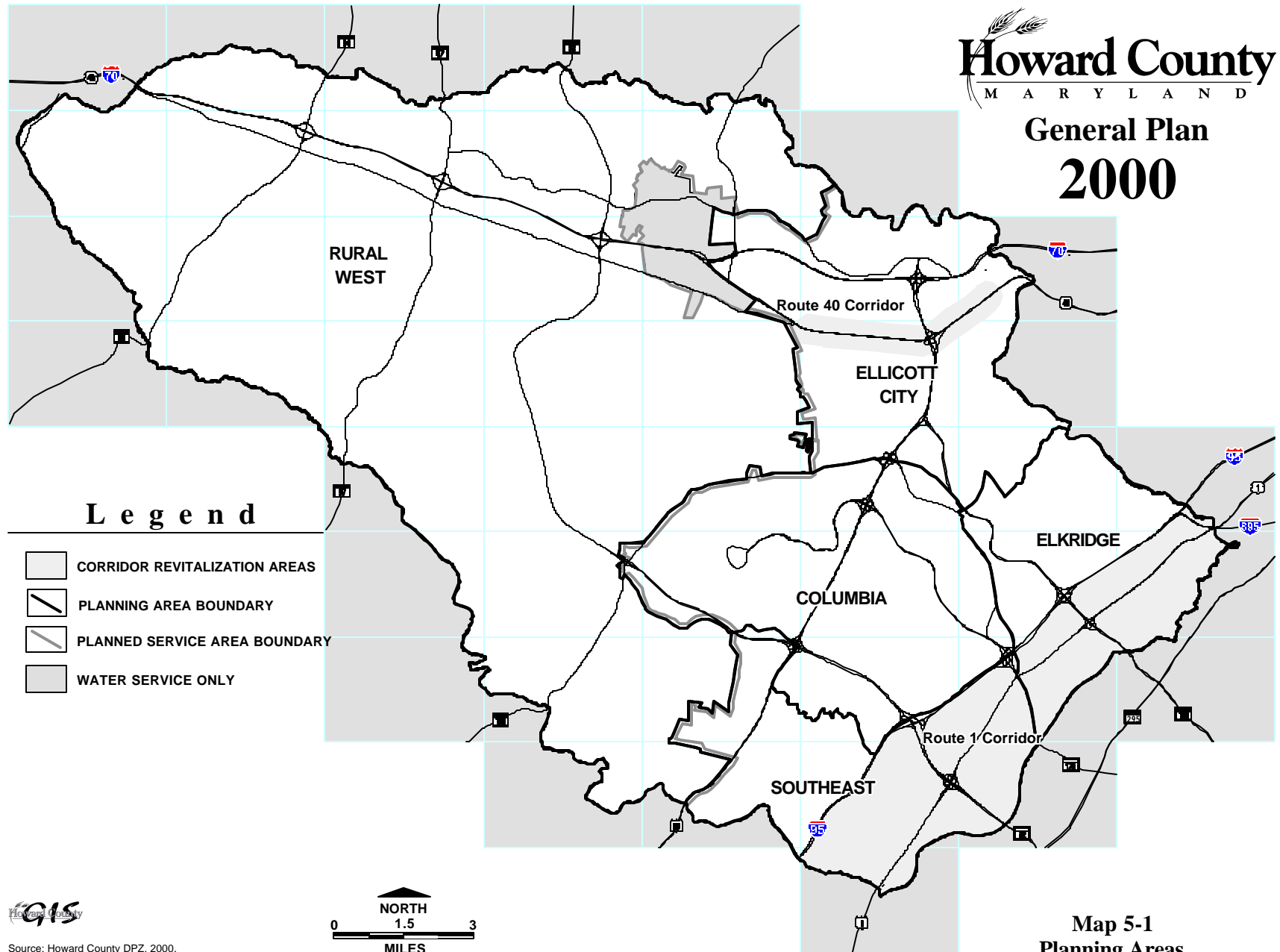
### Box 5-1

#### Key Concepts that Define Community Structure

Five planning and design concepts should guide community planning:

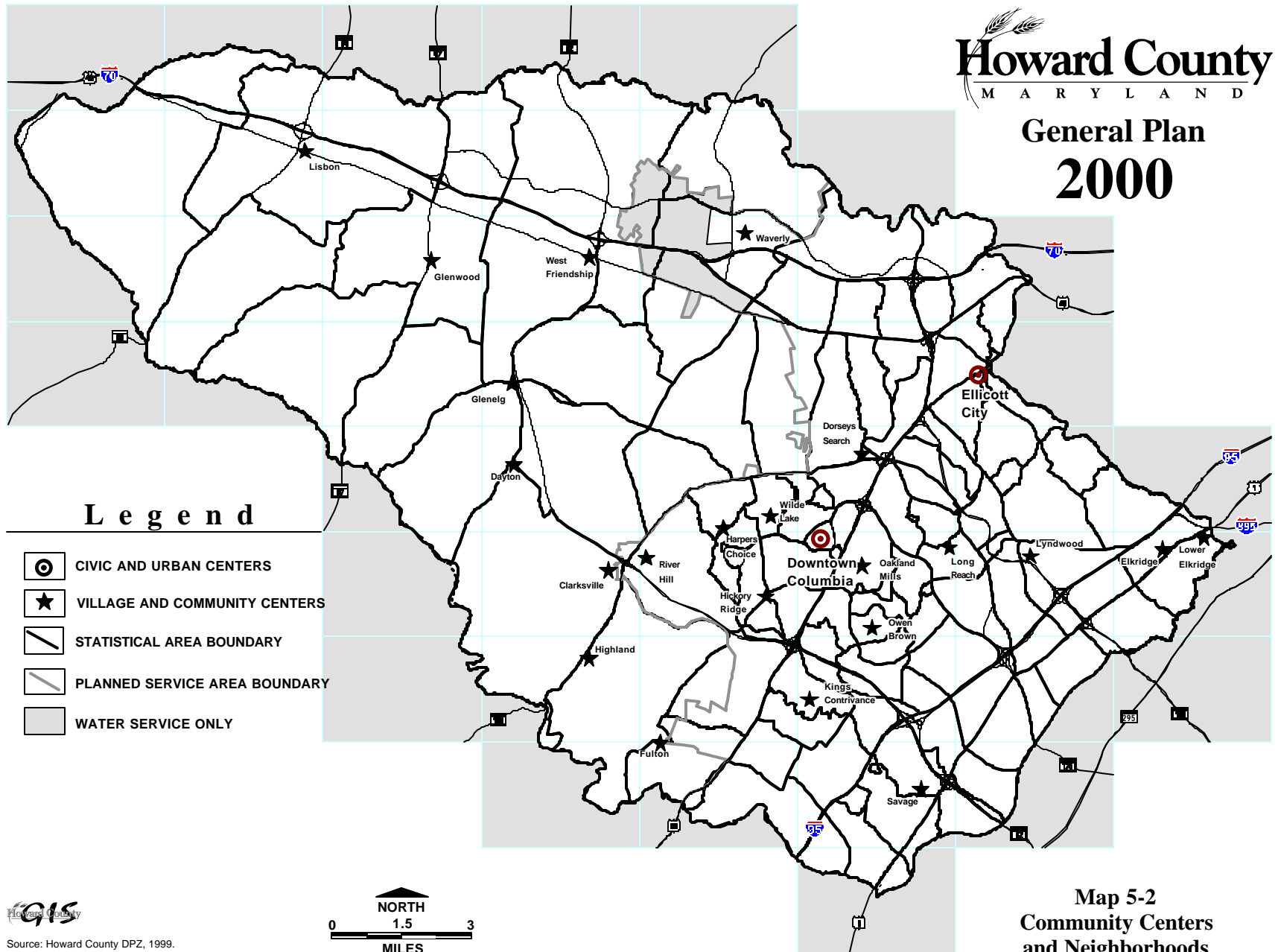
1. **Places.** The County should be seen or understood as a series of places that have a strong sense of identity, and shared interests and goals. These places occur at three different scales and are the “building blocks” that organize the landscape:
  - Neighborhoods or subdivisions (for example, Hammond Village, Dunloggin, Stevens Forest). Neighborhoods, although primarily residential, should ideally have a school, park, convenience shopping and a civic gathering area within walking distance. The goal for neighborhoods, over time, is to include more diverse uses so that daily needs are met closer to home.
  - Communities or villages (for example, Savage, Elkridge, Ellicott City, Owen Brown, Wilde Lake, Lisbon). Several neighborhoods should be linked to each other to form a community that shares everyday activities such as schools, parks and shopping areas.
  - Areas (Rural West, Columbia, Southeast, Greater Elkridge, Greater Ellicott City). This represents a division of the County into several generalized localities, composed of several communities.
2. **Nodes or focal points.** The County, and each of the Areas, Communities and Neighborhoods within it, should have recognizable gathering places or landmarks that reinforce identity and community pride. These sites can be civic buildings or commercial centers. Meaningful symbols can be natural or built.
3. **Edges.** Edges are generally strong or visible boundary lines such as major roads; others may be less distinct, softer edges such as stream valleys. Boundaries are important to defining places. The Planned Service Area will be a visually recognizable edge that defines the extent of urban development and the transition to the rural landscape. Within each level of places – neighborhoods, communities and areas - some edges will be permanent separators, while others may be more flexible and adjustable to respond to changing conditions.
4. **Travel corridors.** Major and minor travel corridors link destinations and activities and make it possible to move within and between places using various means of transportation (automobile, bus, rail, bicycle, foot).
5. **Green Corridors.** A comprehensive network of greenways linking natural areas, parks, recreation areas, wildlife corridors and community facilities should weave its way along major stream valley systems. Some of these corridors can be pedestrian or bicycle routes that link recreational places with employment and residential places.

**Howard County**  
M A R Y L A N D  
**General Plan**  
**2000**








Source: Howard County DPZ, 2000.

**Howard County**  
 M A R Y L A N D  
**General Plan**  
**2000**



**Legend**

-  CIVIC AND URBAN CENTERS
-  VILLAGE AND COMMUNITY CENTERS
-  STATISTICAL AREA BOUNDARY
-  PLANNED SERVICE AREA BOUNDARY
-  WATER SERVICE ONLY



Source: Howard County DPZ, 1999.



**Map 5-2**  
**Community Centers**  
**and Neighborhoods**

vide a gathering place for a subdivision or neighborhood. For a larger community, a school, historic site or community park may provide a gathering place and source of community identity. Attractive public spaces, such as squares or central greens, in visible locations can provide spaces for informal gatherings or community events and can include amenities, such as tot lots and picnic areas. With development patterns substantially established, the number of new neighborhoods and commercial centers to be built in Howard County are quite limited. Nevertheless, opportunities will be available to strengthen or create focal points through a variety of means that may include renovation of commercial centers, redevelopment of older employment sites, restoration of neighborhood open space areas and reuse of historic buildings.

### **Mixed Use Development as a Community Focus**

The 1990 General Plan pointed out the value of mixed use development as a way of creating attractive, new communities with strong identities, as well as enhancing the County's suburban areas that lack a focus or sense of community. Howard County has several good examples of mixed use development. One is the very traditional Main Street environment of Ellicott City. Another is the contemporary Downtown of Columbia, which has a mix of shops, offices, cultural activities and housing. Although smaller and less diverse, Columbia's Village Centers and sections of other older communities, such as Elkridge, Savage and Lisbon, are also examples of mixed use focal points.

The 1990 General Plan called for creating opportunities for other forms of mixed use, including major mixed use centers as large as several hundred acres, as well as smaller mixed use developments that could fit within and create a community focus for the County's existing neighborhoods.

Major mixed use developments were proposed as a means of ensuring efficient use of key remaining undeveloped tracts of land in the East (as discussed in more detail in Chapter 4, *Balanced and Phased Growth*). The major centers can provide a variety of housing choices and the opportunity to live and work within the same area. The 1990 General Plan called for these major centers to provide adequate common public space and sites for civic facilities and social institutions, such as schools, churches and com-

munity centers.

Small mixed use developments were proposed to provide a stronger local identity and public environment for new or existing communities, and as a tool for revitalization of underused or obsolete sites along Route 1 and Route 40. These smaller mixed use centers would include such uses as stores, services, public and civic uses, recreation areas, green space and residences.

In response to the 1990 General Plan, the County's 1993 Comprehensive Zoning Plan created Mixed Use (MXD) Districts. Two variations, MXD-3 and MXD-6, offer different densities and standards for large (75 acres or more) and small (25 to 75 acres) MXD sites. Plans proposed for MXD development have been controversial, but Preliminary Development Plans for two MXD sites have been approved, with a third under review. These MXD developments should create a community focus for the surrounding neighborhoods.

This General Plan affirms the value of mixed use development, both for the large tracts of land in eastern Howard County designated as mixed use centers and for small sites, particularly along Route 1 and Route 40. Several zoning amendments increased the complexity of the requirements and review process for MXD Districts. In fact, this process has become onerous for small MXD-6 Districts. The approval process must be streamlined or an alternate zoning approach must be devised.

It may be helpful to further clarify how small mixed use developments should differ from the major MXD-3 properties. The small mixed use development sites would likely be identified through Corridor Revitalization Studies or Community Master Plans. On smaller sites, the mixed use development may take many forms and may not have all uses (retail, residential, employment) within a particular development. A mixed use development does not necessarily mean forcing employment and residential uses onto the same lot. One example of a small mixed use development could be an area with shops or offices and apartments above, as was typical in older, developed retail areas. Another example of smaller mixed use development sites could be a mix of uses, such as office, green space and residential, centered around a transit stop or on a cleared site elsewhere. A



third might be adding office or residential uses to replace part of an existing retail center.

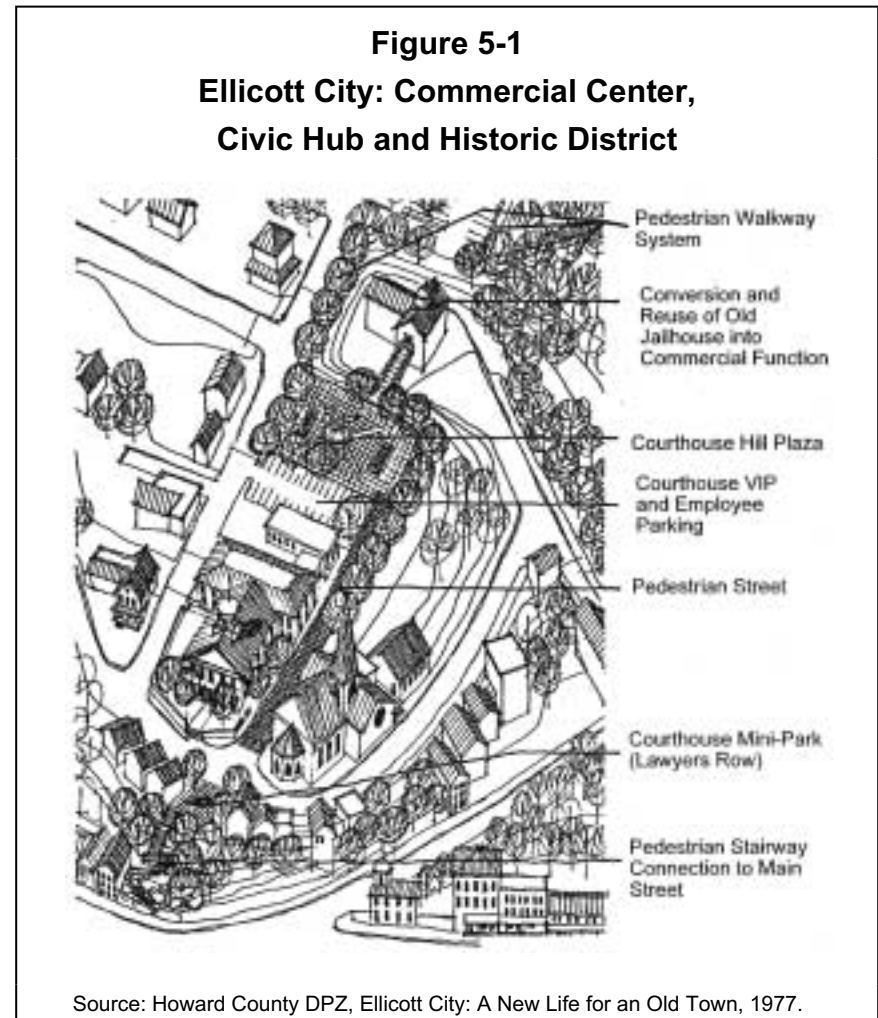
### Ellicott City – The County Seat

Ellicott City was founded in 1772 as the tiny trade center of “Ellicott’s Mills.” Ellicott City reflects the rich history of this region, from its founding as a mill center and its importance in the birth of the railroad in the 1830s, to its role as the commercial center for a prosperous farming and manufacturing area. By the 1860s, Ellicott City was named the Howard County seat and became the site of the County courthouse.

After two decades of decline following World War II and the rise of competing commercial areas, such as Route 40, revitalization efforts were inspired by Ellicott City’s Bicentennial celebration. To a large extent, revitalization has been guided by the 1976 Master Plan, *Ellicott City: New Life for an Old Town* (Figure 5-1). Since 1978, Ellicott City has been listed on the National Register of Historic Places, a designation that helps to preserve and encourage restoration of its old structures. The character of Ellicott City has continued to experience a gradual change in the 1990s. The City has become a thriving mix of shops, restaurants, government buildings, offices and apartments surrounded by attractive, historic, residential neighborhoods and the dramatic landscape of the Patapsco River valley. Using the Historic District Design Guidelines, the Historic District Commission plays a major role in protecting the heritage of the community. Active civic, historic and business organizations promote Ellicott City as a unique, attractive place to live, work and visit.

For many years there was little new construction within the Historic District. However, the diminishing supply of undeveloped land in the East led to concerns among residents about the intensity and types of residential development permitted under the current zoning. Residents also expressed concerns about the compatibility and sensitivity of development along the scenic roads that lead into and out of Ellicott City. These concerns about infill development, which are shared by residents in other neighborhoods, are discussed later in this chapter.

Ellicott City’s narrow, steep roadways are very constrained and have al-



ways posed congestion and parking problems. Pass-through commuter traffic further compounds peak hour congestion. Maintaining the pedestrian ambiance of the Historic District is a continuing concern.

### Downtown Columbia

Downtown Columbia is evolving as the County’s largest and most urban mixed use center (Figures 5-2 and 5-3). Development since 1990 has rein-

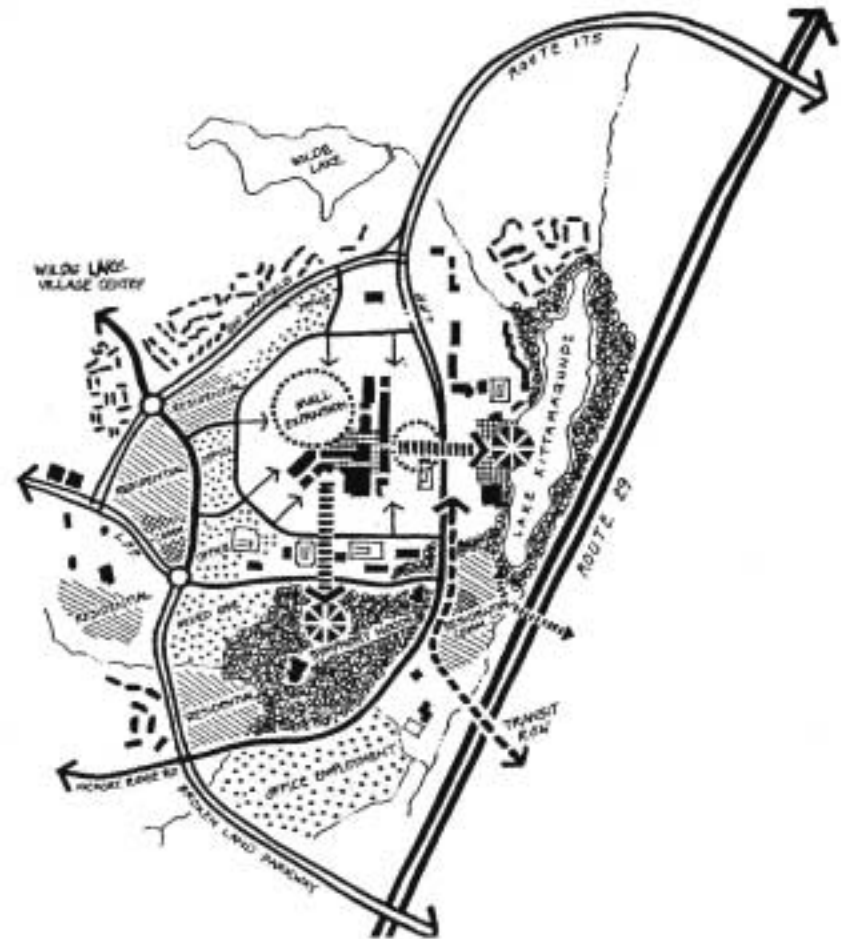


forced this role. The addition of four new housing developments has resulted in a more balanced mix of residential and employment uses. The completed residential projects have added 100 townhouses, 216 condominium apartments and 210 rental apartments. An additional 550 apartment units have been approved for construction. Since 1990, three buildings with 390,000 square feet of office space have been constructed and a fourth is in the review process. The Mall has been expanded to add two more anchor department stores and smaller shops. Four restaurants and a multiplex theater have also been approved, bringing the retail expansion to 475,000 square feet and the total Mall to 1,264,000 square feet. Additionally, six parking decks have been built to serve the Mall and adjacent offices. These changes to the Mall, including the theaters and restaurants, make it more active as an evening and weekend entertainment center. In addition to its function as an employment and retail center, Downtown Columbia should also be encouraged to develop further as an artistic, cultural and civic center, with both indoor and outdoor facilities and activities.

Downtown Columbia includes not only the Lakefront and Mall areas, but also the adjacent Howard County General Hospital and Howard Community College. Additions to these two institutions since 1990 also reinforce Downtown Columbia's role as a medical services, educational and cultural center.

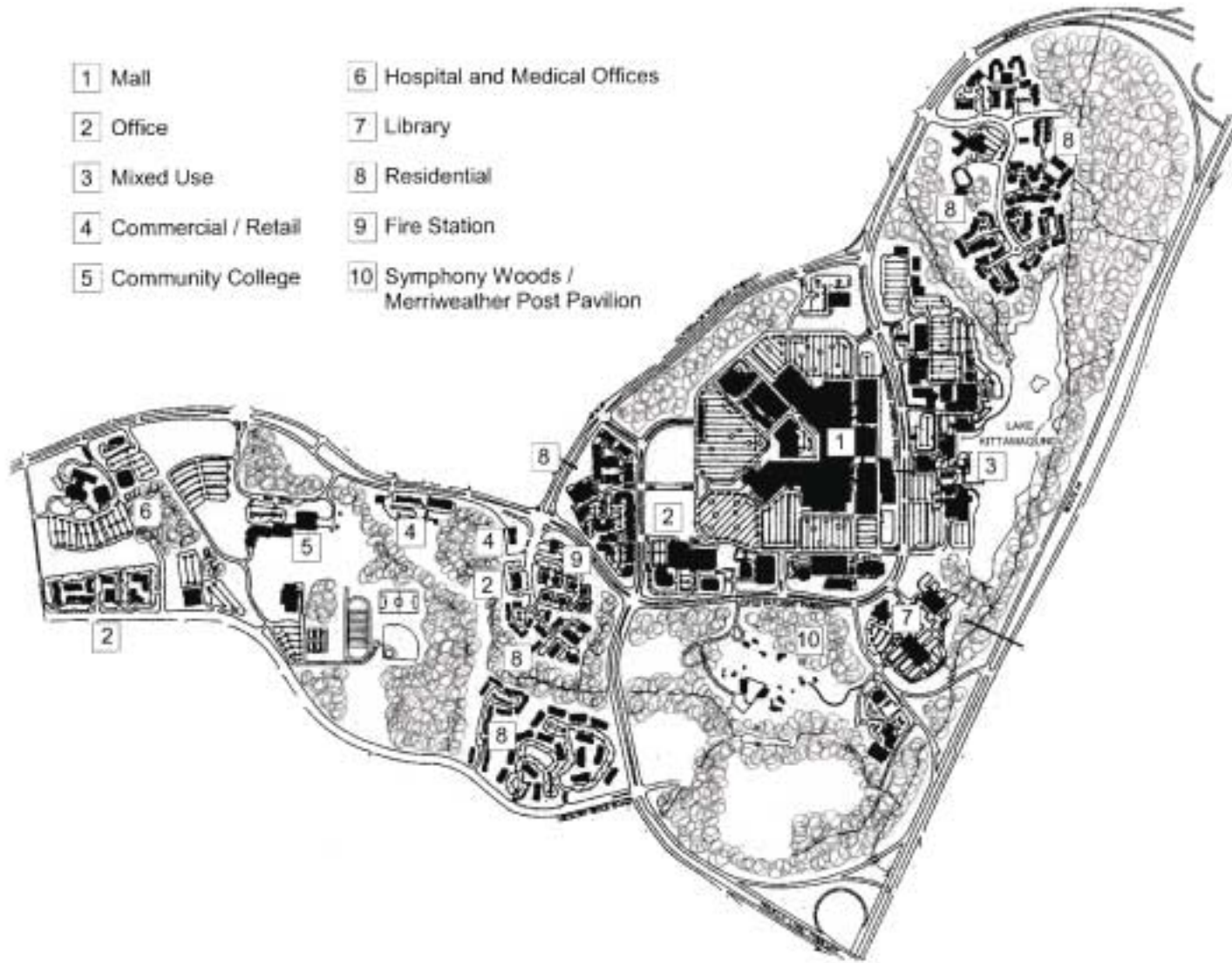
To accommodate Downtown growth, the planned road network has been completed, including a major entrance to Downtown via Broken Land Parkway and road extensions within the Mall area. The South Entrance Road, which connects US 29 and the Little Patuxent Parkway, is included in the capital budget as a joint County and State project to be rebuilt at a higher profile to reduce the likelihood of flooding. Although it is located in the floodplain and frequently floods, this point of access onto US 29 cannot be eliminated because it is needed to balance traffic loads and turning movements at intersections along the Little Patuxent Parkway and because its elimination would force the capacity of the ramp from southbound US 29 to Broken Land Parkway to be exceeded. The County will periodically review the use of the South Entrance Road to see whether it is contributing to the needed balance of traffic loads and turning movements.

**Figure 5-2**  
**Downtown Columbia Planning Concept, 1990**



Source: LDR International, Inc.

**Figure 5-3**  
**Downtown Columbia, 2000**



Source: The Howard Research and Development Corporation and Howard County DPZ

Initial development of the 929-acre Downtown Columbia is almost complete. Excluding open space, only about 75 acres remain undeveloped. However, the potential for redevelopment of some parcels will continue to affect the mix of land uses in the future. A number of well-located buildings, with relatively low intensity uses, are almost 30 years old. If the current dynamic economy continues, it is likely that such buildings, alone or in combination, will be redeveloped for higher intensity uses. An example is the current plan to demolish the Rusty Scupper Restaurant and replace it with a new 74,000 square foot office building. Renovation and redevelopment will be important to maintaining Downtown's continuing vitality and growth. At the same time, when viewed as a maturing mixed use community, special attention needs to be paid to evolving infrastructure needs and to the continuation of high standards of maintenance in the Downtown area.

Both the remaining undeveloped sites and redevelopment opportunities should be used to reinforce the Downtown's evolving, urban mixed use character. The Town Center area of the New Town District has a wide range of permitted uses, as approved in the Final Development Plans for each Phase of the Town Center. In order to reinforce the urban character of Downtown Columbia, Howard Research and Development Corporation and other property owners should be encouraged to consider vertical mixed use structures for Lakefront redevelopment projects and for currently undeveloped infill sites. In particular, the incorporation of residential uses into mixed use structures should be explored. To the maximum extent possible, all development should include well-designed open space and pedestrian links to strengthen connections between Downtown buildings and uses.

A 1987 study of the Lakefront area recommended several projects to make the area a more active public space. Most of these projects have been completed. They include a pathway extension to the east side of the lake, improvements to the Lakefront public spaces on the west side of the lake, redefinition and reconstruction of the shoreline to make it more accessible, and improvements to the landscape design of the Little Patuxent Parkway. An important connection, the proposed path on the north side of the lake, has not been completed.

To make the Downtown more pedestrian-friendly, additional sidewalks were built in connection with recent development projects, but a more pedestrian-oriented street system is still needed. Improved pathway or sidewalk connections between the Lakefront and Mall and between the Library and adjacent housing are desirable. Also, the pedestrian crossings on Little Patuxent Parkway and the existing sidewalks on a portion of Broken Land Parkway should be extended to connect Downtown to the villages east of US 29. To improve the appearance of Downtown Columbia, the asphalt walk at the perimeter of the Mall should be replaced with concrete.

To help keep Downtown Columbia attractive, high standards of maintenance of the outdoor areas, including streets, pedestrian ways, landscaped areas and street furniture, need to be upheld by the Columbia Association, the Howard Research and Development Corporation and the County. A well-designed system of directional signs would aid wayfinding to various sites and facilities in Downtown Columbia.

Downtown public spaces can also be made more functional and active. Symphony Woods is an attractive open space resource that could be used more fully. Its natural beauty within an urban setting makes it an attractive resource that should be augmented for Columbia residents and for all those who come to Downtown Columbia to work, shop or spend leisure time.

### ***Policies and Actions***

***POLICY 5.1: Promote focal areas that will strengthen existing communities and provide attractive landmarks or gathering places.***

- ◆ ***Community Focal Points.*** Identify and enhance existing resources (commercial centers, open space, parks, historic sites and public buildings) that can provide community or neighborhood gathering places and sources of identity.
- ◆ ***Commercial Focal Points.*** Encourage neighborhood or community commercial centers to provide public spaces and more diverse uses, such as public and private community-oriented services like day care or human service providers.

***POLICY 5.2: Encourage the use of public space in commercial developments, public facilities and small mixed use developments.***

- ◆ ***Public Space to Define Centers.*** Promote the creation of parks, plazas or other green spaces as central focal points.
- ◆ ***Design Amenities.*** Establish design criteria for amenities to promote use of public space by including adequate shade, seating, a focal point, ease of pedestrian access and tempering of the impacts of parked and moving cars.
- ◆ ***Architecture as Public Edge.*** Establish design guidelines that encourage placing buildings closer to the front of properties so that they frame streets, public spaces and important views.

***POLICY 5.3: Promote new mixed use focal areas that are in scale and character with their context.***

- ◆ ***Small Mixed Use Developments.*** Consider revisions to the Mixed Use District (MXD) or the establishment of alternate new zoning provisions to encourage small, well-designed mixed use developments of housing, commercial and community facilities on Route 1 and Route 40, as well as in existing communities.
- ◆ ***Major Mixed Use Centers.*** Encourage the major mixed use sites designated on the General Plan Policies Map 2020 to be developed with a broad mix of housing choices and prices, public transit facilities, and sites for major civic facilities such as schools, day care, recreation or churches. Link these facilities with civic open space.
- ◆ ***Transit-Oriented Mixed Use Centers.*** Use the limited opportunities to create centers, with a mix of housing, jobs, stores and public space, around commuter rail stations.

***POLICY 5.4: Reinforce Ellicott City's role as the County's civic and historic mixed use center.***

- ◆ ***Civic and Government Complex.*** Concentrate County office and

support services within the County seat by creating a new government complex in Ellicott City.

- ◆ ***Preservation and Revitalization.*** Work with the Historic District Commission, civic, historic, business and community organizations, and the Howard County Tourism Council to ensure Ellicott City's continued vitality, while protecting the area's historic and natural resources.
- ◆ ***New Residential Development.*** Review zoning in the Historic District. Evaluate and, if appropriate, amend the residential provisions to ensure that new development will be compatible.
- ◆ ***Ellicott City Master Plan.*** Update the 1976 plan, Ellicott City: New Life for an Old Town, with particular attention to traffic, parking and pedestrian enhancements.

***POLICY 5.5: Encourage Downtown Columbia's continuing evolution and growth as the County's urban center.***

- ◆ ***More Downtown Residential Units.*** Increase the number of housing units and people living Downtown to maintain activity and support restaurants, shops and entertainment uses after normal office hours. Consider, in particular, the potential to address the growing market for active seniors.
- ◆ ***Redevelopment of Older Properties.*** Encourage the selective redevelopment of obsolete or underused properties for additional office, housing, retail, entertainment and cultural uses. Encourage property owners to seek vertical mixed uses, including residential, for Lakefront redevelopments as well as for currently undeveloped infill sites.
- ◆ ***Improve Pedestrian Connections.*** Design new development and redevelopment to strengthen the connections between the Lakefront, the Mall and Downtown housing. Relieve traffic congestion without degrading pedestrian use or further dividing the Downtown into isolated pockets. Replace the asphalt walkway around the outer perimeter of

the Mall, Little Patuxent Parkway and Governor Warfield Parkway with a concrete sidewalk to improve pedestrian convenience and safety and to enhance the urban Downtown “look.” Use a joint public-private effort to replace this walkway.

- ◆ **Transit Integration.** Improve the bus transfer point at the Mall to complement the Mall’s design and to better serve transit patrons.
- ◆ **Open Space.** Enhance Downtown open space, such as the edges of Lake Kittamaquidi and Symphony Woods, to promote enjoyment by the growing numbers of Downtown residents and visitors. Work with Howard Research and Development Corporation, Columbia Association and the Town Center Village Board to continue the lakeside path either as a full loop around the lake or through bridge connections at “Nomanisanisland.”
- ◆ **Cultural Center.** Encourage efforts to develop Downtown Columbia as an art, cultural and civic center (including indoor facilities and outdoor/open space activities) in addition to its function as an employment and retail focal point.
- ◆ **Infrastructure.** Foster high maintenance standards for streets, medians, pedestrian ways, landscaped areas and street furniture by the Columbia Association, Howard Research and Development Corporation, and other private property owners. Encourage them to develop a program of well-designed directional signage to aid orientation to Downtown sites, facilities, amenities and activities.
- ◆ **Symphony Woods.** Encourage measures that enhance Symphony Woods as an attractive, inviting open space resource for families and individuals to enjoy natural beauty within the urban setting.

## Residential Neighborhoods

### New Neighborhoods

Most new Howard County neighborhoods contain houses of high quality;

however, their settings have not always been complementary. To create better community settings, the design of neighborhoods must go beyond meeting market demand for certain types of housing and the minimum requirements of the Zoning and the Subdivision and Land Development Regulations.

One way to improve neighborhood design is to preserve the original, often subtle, sense of place a development site may have that is attributable to the existing landscape and environmental resources. This concern will be described in some detail in Chapter 6, *Working With Nature*. Greater attention must also be paid to the quality of what is often called the built environment — the buildings, streets, parking areas and other elements of a development that together constitute an overall setting.

Once a neighborhood is fully developed, it is difficult to readjust the balance of various design decisions that give the local area its character. Therefore, the best opportunities to create well-designed, new neighborhoods will be within the larger remaining undeveloped areas, especially the mixed use sites. These areas are becoming scarce as the County approaches residential build-out.

Design of neighborhoods is usually based on a model or image that the developer, the designer or the zoning, subdivision and site development regulations seek to carry out. Two development patterns shape Howard County’s current communities and serve as alternative approaches for planning future communities:

1. **Traditional Neighborhood Design.** This pattern, established in the County’s traditional communities of Ellicott City, Elkridge, North Laurel, Savage, Lisbon and others during the County’s early history, is based on a compact network of connected streets with a mix of residential, commercial and civic uses (Box 5-2 and Figure 5-4).
2. **Contemporary Cluster Development.** The County’s dominant pattern, however, is the contemporary cluster development. This pattern was the framework for laying out the residential areas in Columbia and has been adapted to most subdivisions during the last three decades of suburban development. A typical development has a

relatively small number of lots (commonly 20 to 100) of uniform size, with a circulation system of curving cul-de-sacs feeding into one or two collector roads. Open space is generally the only other land use within the development (Box 5-3 and Figure 5-5).

Both of these patterns of development have advantages and disadvantages. New development, particularly infill on vacant or underused parcels within established communities, should respect the surrounding patterns of use. However, in creating new communities and retrofitting older ones, rather than simply repeating old forms, developments should be made more pedestrian-friendly and more ecologically sensitive.

Much of the available residential land in eastern Howard County consists of relatively small infill sites surrounded by developed land. Development on infill parcels needs careful design because of its impact on the existing neighborhood. Often these infill sites were not developed earlier because of difficult conditions, such as environmental constraints or a location adjacent to a busy highway. Neighbors may object to development of these remaining woodland or green areas that they perceive as open space. In older neighborhoods (especially those developed prior to the establishment of zoning), current zoning and land development regulations often require patterns of development that differ from established patterns. How well these challenges are addressed over the next 20 years will be important to many existing neighborhoods.

Because proposed infill development may face opposition from the residents of the surrounding developments, it would be helpful for the developer of the infill site to discuss the proposed development with interested residents before seeking formal approval from the County. A pre-submission meeting with the community could ensure residents have correct information, identify concerns that can be addressed and, hopefully, allay fears of the development. The use of meeting facilitators or mediators may be worth considering for major developments that are controversial.

To promote sensitive development of infill sites, a balance of flexibility and added controls will be needed. Flexibility in some zoning requirements can help to lessen environmental disturbance and increase green space,

while additional requirements can address enhanced buffers or design features that will make an infill project an asset to the neighborhood. Flexibility does not imply any compromise of the environmental or community standards. Instead, it provides alternative ways to meet the regulations and to create a more appropriate design for a particular site.

According to the State publication, *Infill Development and Smart Neighborhoods*, infill development means “new development on vacant, bypassed, and underutilized lands within existing developed areas.” However, in order to deal effectively with infill sites, a more explicit definition will need to be established. The definition of infill, and the criteria upon which infill proposals will be evaluated, may vary depending on the intent of the regulations – if the purpose is to promote infill or to influence its design. Furthermore, the criteria for evaluating infill may vary depending on the type of land use proposed and the character of the surrounding land uses. A possible definition of residential infill sites could include those sites, located in the Planned Service Area, that are at least 60% surrounded by developed residential lots of one acre or smaller. Residential infill sites often have difficulty continuing the existing community development pattern, because of the site’s location, topography or configuration. Because infill sites have the potential to differ from existing residential development patterns, County regulations should be amended to require pre-submission community meetings for certain types of subdivision and site development projects, with requirements that may vary depending on the characteristics of infill sites. In these meetings, interested residents could receive information and comment on the compatibility of the proposed development.

More thoughtful use of open space needs to be encouraged in all new residential development, whether infill, larger subdivisions or residential areas of MXD Districts. Open space has generally not been used as a design element to create a strong public environment or community focus within residential developments. Open space is used primarily for environmental protection, stormwater management, as buffers between clusters or as extensions of private back yards. In townhouse and apartment developments, most open space is used to mitigate the impacts of parking lots and to meet required setbacks between buildings or as buffers along property edges.



## Box 5-2

### Traditional Neighborhood Design: Principles, Advantages and Disadvantages

#### Principles

- **Civic Buildings and Features.** Public spaces and buildings reinforce community identity and neighborhood pride. Schools, post offices, libraries, churches and plazas can all be focal points for gathering. Older structures (homes, accessory buildings, walls) and special natural features (specimen trees, farm ponds) serve as meaningful community symbols and a connection to the past history of a site.
- **Range of Uses.** A mix of uses (housing, office/employment, shops, public facilities, recreation) is established in a dense community. Different housing types and lot sizes are juxtaposed; small yards force people into public spaces; and buildings have shallow setbacks so they form edges for streets and squares.
- **Streets and Streetscape.** Streets serve pedestrians and automobiles equally, with a goal to reduce car use. Connected streets provide a comprehensive internal ordering pattern, often using a modified grid layout. Street systems may include a combination of streets and alleys (that serve garages), boulevards and one-way or single-loaded roads. Streets are narrow, lined with trees, have low design speed and sidewalks, and are punctuated by parks and public places. Streets are enhanced by plantings, lights, benches, fences and street furniture. Streets offer vistas so people can see their destination and can see open space, which reduces the appearance of density.
- **Parking.** Parallel on-street parking is provided. Off-street parking (including garages) is unobtrusive; parking lots are small. In dense town centers, structured parking may be needed to minimize walking distances between parking and businesses.
- **Open Space.** Squares and parks are visually prominent and clearly defined as community focal points. They tend to be formal, traditional, geometrical and tree-lined, and offer passive visual spaces for walking and sitting. Active recreation is concentrated in community-oriented gathering places (schools or recreation centers). Pedestrians use sidewalks in visible locations, rather than isolated or hidden pathways.
- **Architectural and Landscape Character.** Design character is based on regional styles and materials. New communities have strong design controls to ensure compatibility.

#### Advantages of Traditional Neighborhood Design

- Grid-like pattern creates a comprehensible internal structure. Circulation pattern is easier for traffic and pedestrians to understand, provides alternative routes and allows for greater choices in movement.
- Typically more compact and, therefore, more walkable.
- A more efficient way of distributing multiple uses and achieving higher density. Mixed uses on a grid look familiar to people. It's easy to expand a grid.
- Communities have strong design controls to ensure compatibility. It is easier to create "districts", which may create a better sense of community.
- There is a strong distinction between public and private space, with both lots and open spaces clearly defined and differentiated.
- Open spaces are more visible, therefore access may be easier. Formal design implies expectations for proscribed use or behavior.

#### Disadvantages of Traditional Neighborhood Design

- Grid-like system may not work with topography or natural features, can be monotonous and may limit the size or shape of lots.
- Connected streets and alleys may require more pavement. Straight roads may lend themselves to speeding. Emergency and service vehicles may have more difficulty maneuvering.
- More pavement may increase stormwater management concerns, with fewer options for natural drainage systems.
- A lack of connection to the natural landscape can occur, and open spaces can be constrained.
- Density is generally high with minimal private green space. Yards are small with a lack of privacy.
- Costs are generally higher due to increased infrastructure and amenities. Construction staging may be difficult.



**Figure 5-4  
Traditional Neighborhood Design Patterns**



Livable traditional communities have roads that are laid out using a modified grid pattern. Civic buildings are important focal points. Park land is nearby and in prominent locations. Different sized lots provide for a variety of housing types.



Traditional rural communities cluster housing tightly in a compact village arrangement of connected streets. The transition from small commercial and residential lots to large farms or estate lots is abrupt with a distinct difference between "town" and "country."



When grid street layouts are an extensive pattern of similarly sized lots they can become monotonous. Gathering places and open spaces are needed to provide focal points and links to the natural landscape.



New subdivisions that use the principles of neotraditional design have connected roads with some lots served by alleys. Open space includes small centrally-located formal parks or village greens and preserved natural areas.

Source: Howard County DPZ.

### Box 5-3

## Contemporary Cluster Development: Principles, Advantages and Disadvantages

### Principles

- **Land Use.** Land uses are separated. The major land use is typically single-family detached homes. Cluster, planned unit developments may feature a variety of single-family detached, attached and multifamily units. Lot sizes are smaller than in conventional development, and units are clustered in the areas most suited for development. Lot layouts respond to land features. Clustering helps achieve allowable density while saving natural features in open space areas.
- **Circulation and Streets.** Cul-de-sacs are used to provide privacy, reduce disturbance of natural features and reduce impervious paving. Vehicular and pedestrian traffic are separated, and a hike-bike system may supplement the street travel network.
- **Open Space.** Public or homeowners association open space weaves throughout the development. Pedestrian paths occur in the open space. Small, usable open space areas within semi-private clusters of residences provide safe play areas for children.

### Advantages of Contemporary Cluster Subdivisions

- At lower densities, curving streets give a balance of views of landscape and buildings. Views to natural open spaces help make the landscape look more appealing, with a more rural design. The intent is to be energy efficient, reducing paving and other infrastructure, thus reducing resource consumption.
- Building location can respond to landform and special features.
- Typically enclosed or inwardly focused for community feel, appears more private.
- Cul-de-sac says "private" to the outsider, but it is communal to the insider. Cul-de-sac protects homeowners from through traffic.
- Spine road typically provides easy access to cul-de-sacs.

- Open space layout is responsive to sensitive natural areas, protects the environment by leaving more of the earth undisturbed, keeps natural setting and provides animal habitat, wetlands and forests.
- Often features stormwater pond as amenity for entire community. Added natural areas provide space for infiltration of runoff (bioretention).

### Disadvantages of Contemporary Cluster Subdivisions

- Dead end roads (cul-de-sacs) mean limited choices of movement. Roads, especially cul-de-sac circles, become prominent.
- Lack of connected streets makes destination further away, greater tendency to use car.
- Access for public service vehicles can be difficult in cul-de-sacs.
- Curving streets are less attractive at higher densities, with reduced green space and awkward building relationships.
- Residential focus with uniform housing can become monotonous.
- Small lots mean less private yard space and lack of privacy because of views from open space into private yards and houses.
- Usually no prominent focal points or landmarks.
- Lacks organizational hierarchy; nature's order or organic layouts are hard to understand.
- Fragmented open space or loss of optimal location for open space.
- Green space may be hidden or less accessible. Focus is on protected areas and passive recreation rather than usable, visible space for active uses and social gathering.
- Open space can be hard to patrol.

**Figure 5-5**  
**Contemporary Cluster Development Patterns**



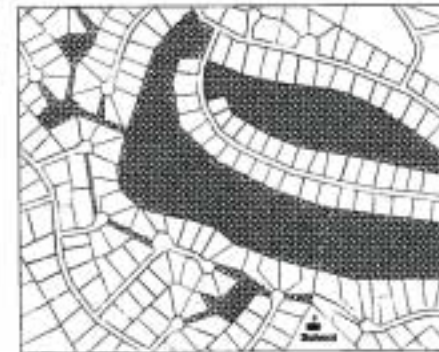
Homes on lots of varying sizes and shapes are concentrated along connected roads and short cul-de-sacs. Extensive open space provides green corridors for pedestrians and wildlife. Open space is visible from roads and gives a sense of identity to the community.



Networks of cul-de-sacs can make wayfinding confusing and difficult. Open space preserves natural features, defines edges of neighborhood and provides buffer to major road.



Some cul-de-sacs are overly long. Connecting some roads would make pedestrian travel distances between homes easier. Open space is limited to the edges of the community. A centrally located green space would provide visual relief and a place for gathering.



Long roads, uninterrupted by cross streets, may encourage speeding. Narrow fragmented slivers of open space do not connect and may serve merely as extensions of rear yards. Large open space areas are an amenity but have limited visibility.

Source: Howard County DPZ

Current regulations properly emphasize the environmental and recreational benefits of open space. As indicated previously in [Box 5-1](#), one key concept that should shape and link all County neighborhoods is a network of natural areas along major stream valley systems. Linking green space is a primary way to form this network. Natural areas within neighborhoods are highly valued by County residents.

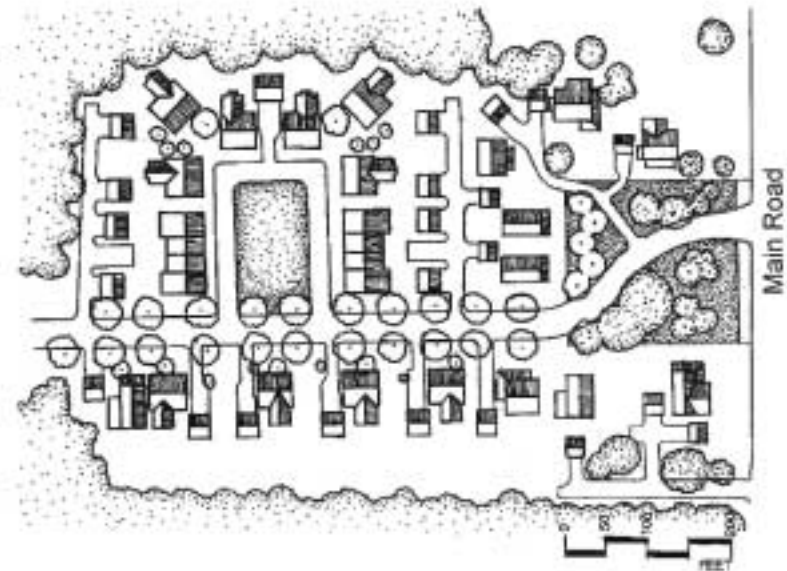
Green space networks should also include neighborhood recreation areas. An increase in the amount and type of required open space is needed (that is, land that is flat to gently sloping and dry), as the current recreational open space requirement in the Subdivision and Land Development Regulations is too low to generate enough usable area for active recreation. Areas for active recreation are needed within the neighborhoods, especially in developments with small lots and limited yard space.

In some cases, the minimum required open space is simply not sufficient. Especially on infill sites with environmentally sensitive features, it may not be possible to protect natural features, provide usable community open space and provide any required perimeter buffers along the boundary of existing neighborhoods with only the minimum required open space. This may become even more difficult with the State's impending new stormwater management requirements, as discussed in Chapter 6, *Working with Nature*, which will increase the area needed for stormwater management. In the zoning districts where these difficulties are most likely to be encountered, the Residential: Single (R-20 and R-12) and the Residential: Environmental Development (R-ED) Districts, increased open space requirements in combination with tighter clustering of lots may allow more attractive and environmentally sensitive design.

In addition to the required open space, thoughtful design can provide traditional open spaces, such as squares, crescents or central greens, that are the focus of the public environment along streets. Such open space is important for all housing types, but especially for townhouses and apartments. In higher density communities, homes on small lots can be placed close together so that they define the edges of a common open space; thus they enclose and frame these formal village greens ([Figure 5-6](#)).

In the design of new neighborhoods, the effects of noise pollution should

**Figure 5-6**  
**Public Space as Community Focus**



Green space along main road preserves existing trees and provides an attractive entrance feature. Small village green surrounded by homes offers a place for gathering and play.

Source: Arendt, R. *Crossroad, Hamlet, Village, Town*, 1999.

be reduced through better site design. The Design Manual requires a noise analysis if the proposed residences are located within a specified number of feet from a roadway or a rail line, or if the location is within an airport noise zone. The Design Manual also requires noise mitigation through the use of buffers, barriers or acoustical insulation, or through building orientation. Secondly, dense evergreen landscaping and berms should be used. To avoid the need for structural mitigation of noise, the Subdivision and Land Development Regulations should be amended to promote better site layout



and building orientation that would minimize the effects of noise pollution on the site.

## **Existing Neighborhoods**

As the County matures, sustaining and enhancing the quality of its existing neighborhoods will become increasingly important. With fewer new homes being built, housing needs will increasingly be provided by the existing housing stock. The County's fiscal health depends largely on revenue from property taxes and income taxes. Consequently, averting declines in the value and livability of older neighborhoods is a fiscal as well as a quality-of-life issue.

Several factors can potentially lead to decline in older neighborhoods. Market obsolescence is an important factor. Older communities compete for homebuyers with new subdivisions that have the latest features and housing styles. New subdivisions are likely to be close to newer schools, shopping centers and other amenities. Older housing requires repairs and perhaps significant renovation to maintain quality and property values.

Some of the neighborhoods built in the 1970s are especially difficult to renovate. Construction techniques and materials used in some areas of Columbia and other neighborhoods built in the 1970s have resulted in houses that require considerable maintenance and renovation. In these areas, repair and upkeep is expensive. Some of these homes are small by current standards and are on small lots, making additions very difficult.

Sometimes the age or income of neighborhood residents is an impediment to maintaining older homes. In some older Howard County neighborhoods, an increasing number of rental units is also a concern because the rented units are not maintained as well as the owner-occupied homes.

The perceptions of the quality of public facilities and services, especially schools, are critical to Howard County's older neighborhoods. As discussed later in this section, some County neighborhoods have become less desirable to families with children because the public schools are perceived to be of lesser quality than schools in newer neighborhoods. Perceptions of public safety can also strongly influence neighborhood stability.

The availability and condition of open space and community-owned facilities is another factor. Within many older communities, open space, recreation areas and pathways are limited or completely lacking. In newer subdivisions, open space and other community property is usually the responsibility of a homeowners association (HOA). As the subdivision ages, the HOA may not remain active or may have difficulty raising funds for substantial repairs (for example, resurfacing a parking lot). Delayed maintenance of open space and community facilities can lead to a general decline in the neighborhood's appearance.

When an area is perceived to be less desirable, it takes a concerted effort to reverse this image. If a neighborhood is allowed to lose its livability and vitality, people and businesses begin to move away, thus affecting community stability. It is important to address problems early before they become entrenched.

Examples can be found in other jurisdictions in the Baltimore-Washington area of older suburbs that decline as new developments are built. As the supply of residential land diminishes in Howard County, its neighborhoods will compete with new developments in neighboring counties, especially those with significant undeveloped land such as Carroll, Frederick and Anne Arundel Counties. However, decline of older neighborhoods is far from inevitable. Many neighborhoods benefit from characteristics of maturity, including mature trees and landscaping, solidly built housing and the stability and commitment of long-time residents.

Many strategies can be used to stabilize, improve and revitalize older neighborhoods. Community planning is needed to identify the revitalization tools and enhancements suitable for a particular neighborhood. For communities that clearly need conservation and reinvestment, a comprehensive planning effort leading to a Community Master Plan is recommended. Other communities may wish to address the need for specific improvements, such as infrastructure or property maintenance, improved landscaping or open space, new pathway connections, new recreation facilities or programs, restored historic resources or other specific projects. For these areas, more narrowly focused Community Conservation Committees will be appropriate. These types of planning efforts are de-

scribed in more detail in the last section of this chapter.

While it is not possible to list all the potential strategies for enhancing or revitalizing communities, many are mentioned in the *Policies and Actions* of this and other sections of this chapter. Improved public facilities and services and additional new amenities, such as open space, recreation areas, landscaping, paths, sidewalks, street trees, improved lighting, restored natural areas and other improvements, can enhance older neighborhoods.

It will also be important to have an array of tools available to address issues of property maintenance and use, a key issue for older areas. [Boxes 5-4 and 5-5](#) list tools that are commonly used to encourage or require property maintenance and improvement.

These tools are not limited to residential neighborhoods. Many apply also to commercial or industrial properties, as discussed in the next section. The Columbia Association and many homeowners associations are responsible for enforcing private covenants regarding property maintenance. The County needs to explore ways to work with the Columbia Association and other homeowners associations to improve enforcement of private covenants. If the County adopts maintenance codes for the exteriors of single-family residences, then public regulations may address many of the problems of covenants. Consideration should be given to a range of approaches to provide help. These approaches may include education, inspections, warnings, incentives, grant and loan programs, and other avenues.

The property maintenance code currently applies to rental residential properties. If the code is expanded to apply to other structures, additional staff for inspection and enforcement will be required as well as training for existing inspectors. An education program may be helpful to acquaint landlords and tenants with their responsibilities and to provide information on property maintenance.

As the County embarks on community planning, a comprehensive review

of the Zoning and the Subdivision and Land Development Regulations will be needed to put in place some of the tools that will be needed for community enhancement. Provisions that ensure appropriate development of infill sites will be needed, as well as potential amendments to open space requirements, landscaping standards, perimeter setbacks and clustering provisions. The scale and intensity of uses allowed in residential areas by special exception will also need review.

In some cases, redevelopment will be a possible strategy. Redevelopment of sites with obsolete or dilapidated buildings can involve clearing and rebuilding or renovating existing buildings and infrastructure. It will most often be a strategy for commercial or industrial areas and, therefore, is discussed in more detail in the next section. Nevertheless, it also has potential for improving residential property and providing new infill housing in established residential neighborhoods. However, incentives may be needed to overcome some of the barriers to redevelopment. Redevelopment is usually more costly than building on raw land and often requires land assembly and demolition. Aging infrastructure, building codes that require renovated structures to be brought up to current standards, zoning and land development regulations that are incompatible with existing structures and difficulties in obtaining financing can hinder these proposals.

Depending on the barriers, incentives may be needed to make redevelopment feasible, such as expedited plan review, financing assistance, capital projects to upgrade infrastructure, design flexibility and density bonuses. Because of the commitment needed by the County to provide such incentives, any redevelopment projects to be undertaken will need to be identified by the County and the community as high priorities. There is also a State incentive program to support older neighborhoods, the Maryland Department of Housing and Community Development program that approves “Designated Neighborhoods.” These are existing residential and/or commercial areas in need of revitalization. This program establishes eligibility to obtain State funds to implement community conservation strategies. A number of State agencies, such as the Maryland Department of Transportation, offer community enhancement grants to these “Designated Neighborhoods.”

**Box 5-4**

**Incentives for Property Maintenance, Renovation and Redevelopment**

Incentives to encourage owners to reinvest in older properties may be available from Federal, State or County governments. Grant funds from private foundations and community organizations are other potential sources. Revitalization often involves partnerships among a number of agencies and commitments from both the public sector and private property owners. Some of the most common incentives are:

- **Property Tax Incentives** - can encourage property owners to fix building or property maintenance code violations, or to make defined property improvements. Tax incentives could be available on a County-wide basis or in defined community revitalization areas. They can be income/age restricted or available to all property owners.
- **Revolving Loan Fund** - can provide low interest financing to encourage correction of code violations or other defined improvements by eligible property owners, or possibly by community organizations. The Columbia Association has a Revolving Loan Fund Program for correction of covenant violations for the exterior of the home. The State has loan programs, such as the MD Housing Rehabilitation Program, to correct code violations for owner-occupied single-family homes.
- **County Grant Program** - can provide matching grants to encourage community organizations to undertake community improvements that meet defined criteria. For example, Montgomery County has a Storefront Canopy and Signage Grant Program for designated revitalization areas.
- **County Capital Improvement Program** - should address public infrastructure and facility maintenance needs, as well as specific improvements identified through Community Master Plans. Examples might include improvements such as curbs and sidewalks, lighting and street trees.
- **County Operating Budget** - can address service needs identified in Community Master Plans (for example, schools, public safety, recreation, human services).
- **Revitalization Tax District** - can explore the possibility of instituting special assessment districts for revitalization efforts in specific areas. Typically, these types of districts are used to aid redevelopment of commercial or industrial areas.
- **Programs to Convert Homes from Rental to Ownership** - can help stabilize and improve an area. The County can use Housing and Community Development funding to buy, renovate and sell vacant or rental homes to income-eligible owners. The State's 404 Program provides low interest loans to encourage reinvestment in neighborhoods that are predominantly rental.
- **Assistance with Contracting for Common Repairs** - community groups, perhaps with County assistance, can facilitate contracting for common repairs (for example, roof, siding and driveway replacement, painting, addressing overgrown landscaping). Both older and busier working property owners may defer improvements because of the effort required to identify reputable contractors, solicit bids and review work contracts. By offering assistance with these tasks, community groups would encourage property owner improvements and could perhaps negotiate group discounts.
- **County-Community Cooperative Efforts and Assistance** - County agencies can offer assistance in obtaining low interest financing, serving as liaison to State and Federal grant sources, sponsoring a community clean-up day and other assistance.
- **Outreach and Education** - the County and community organizations can work to communicate the importance of property maintenance and reinvestment to sustaining older communities, property values and public safety. Information about requirements and incentives should be widely available.



**Box 5-5**

**Requirements for Property Maintenance and Renovation**

- **Property Rehabilitation Code** - can establish standards for renovation of older noncomplying buildings. For homeowners and small businesses, upgrading to full Building Code compliance can be very costly and a deterrent to desirable renovations. The County's current Code provides some flexibility, but perhaps not enough. The State approved Smart Codes legislation to create a model Rehabilitation Code that defines five categories of requirements from simple repair through change in occupancy. The State intends to offer incentives for jurisdictions to adopt the model Rehabilitation Code.
- **Property Maintenance Regulations** - can be established for single-family and/or commercial properties to address routine maintenance and appearance. Currently, the County has property maintenance standards only for rental property.
- **Code Enforcement** - is an important strategy to improve deteriorating areas and combat decline. Strengthening code enforcement may be as important as implementing new codes.
- **Covenant Enforcement** - Columbia and many residential developments have property maintenance covenants, as do many business parks. The County cannot enforce private covenants, but may be able to assist in other ways.

**Policies and Actions**

**POLICY 5.6: Promote better design of new neighborhoods.**

- ◆ **Open Space Requirements.** Revise open space and lot size requirements in the Subdivision and Land Development and the Zoning Regulations to reduce the limits of disturbance, retain natural features and the site's essential character, provide more area for new storm-water management requirements and increase the usable area for

active recreation.

- ◆ **Formal Public Space.** Encourage part of the open space requirement for residential subdivisions to be used to create more formal public spaces, such as greens, squares, boulevard medians or landmark settings, to create community focal points and to meet traffic calming requirements.
- ◆ **Connections Between Neighborhoods.** Promote open space, road and pedestrian connections within and between individual neighborhoods, as well as links to shared community focal points or commercial centers. Use these connections to impart a sense of community organization and to improve views of natural features or public uses.
- ◆ **Traditional Neighborhood Design.** Encourage use of the existing zoning provisions that allow new development based on Traditional Neighborhood Design principles.
- ◆ **Single-Family Detached Site Planning.** Revise County development regulations to improve subdivision design, especially for small-lot, single-family detached housing, by using house types that fit existing topography, improving the orientation of adjacent houses and enhancing landscaping.
- ◆ **Multifamily Site Planning.** Establish design standards for apartments, condominiums and townhouses to set them within a local network of streets rather than oriented to parking lots. Discourage large, common parking lots in front of units along main streets; disperse parking to small lots at the side and rear of units.

**POLICY 5.7: Ensure infill development will be compatible with existing neighborhoods.**

- ◆ **Pre-Submission Community Meeting.** Require developers to hold a pre-submission community meeting for certain types of subdivision and site development projects proposed for infill sites.

- ◆ **Relationship to Adjacent Neighborhoods.** Amend the Zoning and the Subdivision and Land Development Regulations to ensure infill development is compatible with adjacent neighborhoods through such measures as landscaping, forest conservation buffers and pedestrian connections. Increase perimeter setbacks for infill subdivisions that differ from adjacent development in use or intensity.
- ◆ **Special Exceptions.** Review and amend, as needed, special exception regulations to ensure that the scale and intensity of the permitted special exception uses are appropriate in residential districts.
- ◆ **Design Flexibility.** Consider zoning provisions that promote compatible infill development by providing increased design flexibility in exchange for additional open space or amenities.

***POLICY 5.8: Establish the tools needed to implement community conservation and revitalization programs.***

- ◆ **Incentives for Reinvestment.** Adopt an appropriate property reinvestment incentive program (tax incentives, loans and/or grants). Inform homeowners about Federal, State and County programs that provide assistance for revitalizing individual properties.
- ◆ **Model Rehabilitation Code.** Adopt the Maryland Smart Codes Model Rehabilitation Code to encourage the stabilization, repair and revitalization of deteriorating structures.
- ◆ **Code Enforcement.** Increase the effectiveness of County Code enforcement, especially in areas where community conservation is an issue. Encourage homeowners and business associations to enforce existing covenants.

## Commercial and Industrial Areas

### Commercial Centers

Part of maintaining a high quality of life is providing residents and workers easy access to the goods and services they need as part of their normal activities. The location of larger commercial centers and the types of stores and services offered should be appropriate to definable markets (Box 5-6). The inventory of commercial property must be reasonably in balance with the need for commercial services. An overabundance of commercial space within a community can lead to deterioration of some commercial properties, which can contribute to the deterioration of surrounding areas.

As residential growth in the County slows, fewer new commercial projects will be built. The County will increasingly need to rely on existing commercial sites to provide its retail and service needs. Fifteen years ago, the primary retail centers in the County were the Columbia Mall and strip commercial shopping areas along Route 40. Today, a new generation of shopping centers featuring “big box” stores has been constructed in such locations as Snowden River Parkway and Long Gate on MD 103. In addition, new enclaves of stores, services and entertainment (including movies and restaurants) have been built in some office parks. These pose serious competition to the older commercial centers.

Older, community-oriented commercial centers, usually anchored by a supermarket, also face an uncertain future as supermarket chains adopt larger store plans that do not fit into these centers. The small businesses that share these centers depend heavily on the traffic generated by the anchors. These community commercial centers often provide a focus for the surrounding neighborhood. If the commercial center declines, surrounding residential areas may suffer erosion of their livability and, perhaps, their property values. The major reconstructions recently completed at three Columbia Village Centers to expand the grocery stores are examples of the reinvestment sometimes necessary for older commercial sites to remain competitive.

**Box 5-6**

**Types of Commercial Centers**

**Local Convenience Centers.** These convenience centers serve nearby residential areas and give many residents pedestrian access to essential retail stores. Pedestrian access can help keep trips for very basic needs off the main road network. A floating zone category in which locational and design issues are addressed as part of the approval is the best means to find sites for these centers.

**Community Level Centers.** These centers serve areas beyond a single neighborhood and thus can include supermarkets and numerous non-retail services such as branch banks and medical offices. These centers must be located on roads that give them easy access from areas other than their immediate neighborhood.

**Regional and Subregional Centers.** These centers contain a greater variety and number of stores and services, including highly specialized ones. These centers must have direct access to arterial roads to be successful, since most of their market is not from surrounding neighborhoods and may even attract out-of-County residents.

**Retail and Services in Employment Areas.** Commercial uses in employment areas serve the concentration of businesses in significant employment developments where there is a distinct market for certain retail stores and services (for example, meals, copy services, office supplies, express shipping services). The commercial needs of these employment centers and a growing work force must be met in ways that do not compromise the functions of other retail and service centers, or increase mid-day or post-working day traffic on the road network.

**Specialized Centers.** These centers are based on the clustering of highly specialized and compatible retail or services into well-managed and well-designed commercial developments. The auto repair center on Dobbin Road near Columbia is an example of this type of center. Such centers can decrease the tendency to locate such stores and services randomly along main roads. Such centers could also make it easier to regulate nuisances specific to such uses (for example, solid waste). Redevelopment of existing strip commercial corridors to accommodate such centers may be appropriate.

Another threat to existing commercial centers is the continued illegal establishment of retail stores within employment zoning districts, specifically the Manufacturing: Light (M-1), Manufacturing: Heavy (M-2) and Planned Employment Center (PEC) Districts. In addition to displacing potential industrial or employment uses, these stores also lead to greater vacancy rates in older commercial centers. This, in turn, affects the vitality and reinvestment potential of areas designated for retail activity. Revisions to restrict retail uses in the M-1, M-2 and PEC zoning regulations are needed, along with an effective enforcement program.

As the County matures, today's new commercial centers will also age and may eventually be perceived as outdated and less desirable. New trends, such as the growth of Internet-based retailing, will affect consumer shopping habits. To remain competitive, existing centers will need to respond to changing consumer demands. Promoting the redevelopment and renovation of existing commercial centers will need to be an ongoing priority for the County.

Various tools to guide and expedite the renovation or redevelopment of older centers are needed to minimize periods of decline. Instituting a commercial property maintenance code and enforcing it is a means of ensuring areas don't decline. Incentives (tax credits, low interest loans or grants) might be offered to encourage renovation or redevelopment in some instances. The formation of local merchants associations may help foster pride and cooperation in improving commercial properties in some areas. Based on research and input received during the Route 1 Corridor Revitalization Study, decisions about which tools to use will be made.

The Community Master Plans will include commercial centers within the communities being studied. These plans can examine ways that improvement, renovation or revitalization of centers can be encouraged or assisted by the County and the community. Many of the incentives and requirements listed previously in [Boxes 5-4 and 5-5](#) can also apply to neighborhood and community commercial areas.

The appearance of commercial centers and their impact on adjacent communities are important community enhancement issues. Local and community commercial centers are often sited within or adjacent to resi-

dential areas and need to blend in as much as possible. Redevelopment or renovation of aging commercial centers can lead to significant improvements in design and appearance. Commercial centers can be animated, active community amenities and can provide a community focus if more attention is given to building and landscaping design, to green areas or plazas that offer seating and other amenities, and to pedestrian connections to neighborhoods. The community focus is strengthened by providing connections to parkland or civic uses.

The 1990 General Plan addressed many issues of commercial design. Those that are still relevant or were only partially implemented are retained in this Plan. Although landscaping standards were enacted in response to the 1990 General Plan, a recent survey demonstrated that these standards are inadequate. They require considerably less than the standards in Columbia and in some surrounding counties. In addition, enforcement is a problem, as dead landscape material is often not replaced. The *Policies and Actions* of this section also identify additional tools and regulations needed to address issues of scale, parking, relationship to nearby residences and pedestrian circulation.

### Commercial and Industrial Corridors

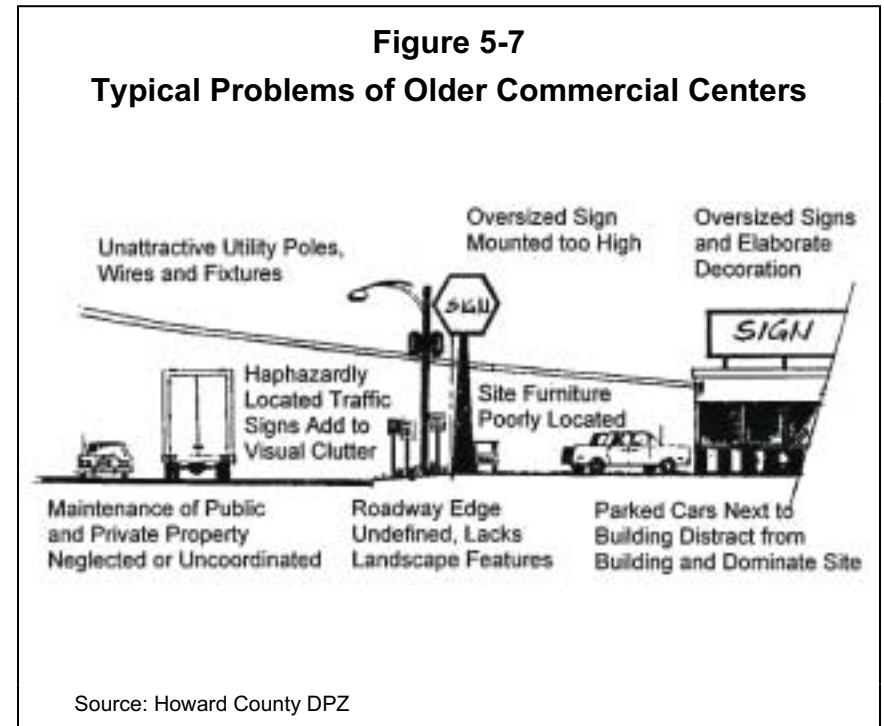
Route 40 and Route 1 are Howard County’s primary commercial and industrial corridors. Residential neighborhoods abut the narrow strip of commercial zoning along the highways. In a few locations, office/retail parks extend further back from Route 40. Route 1 is more varied, with a mix of commercial and industrial uses. The commercial strip sections of the Route 1 corridor are most concentrated near the communities of Elkridge, North Laurel and Savage. Other parts of the Route 1 corridor are primarily industrial. Route 1 serves as the access road to the County’s large industrial areas east and west of the highway.

Commercial strips are perhaps the most well-known, negative image associated with the growth of bedroom communities after World War II. The stores and services were spread along the arterial roads that led to metropolitan employment areas. These strips were designed to be accessible only by automobile.

Commercial strips often replaced the commercial main streets or downtowns of traditional small towns, such as Elkridge, Savage and Ellicott City. Commercial strips were seldom planned to accommodate any civic presence, social institutions, open space or public spaces. They became extremely hostile environments for pedestrians and allowed no direct access to adjacent residential communities (Figure 5-7).

Since 1971, the County’s General Plans have emphasized the need for conveniently located commercial areas without further expansion of strip commercial development along main roads. Commercial strips will not be expanded, but they will remain an important part of the County’s commercial land uses. They offer many opportunities for businesses with large markets and the need for direct access to arterial highways.

Both the Route 1 and Route 40 corridors, as well as the industrial areas along Route 1, need revitalization/redevelopment planning to sustain con-



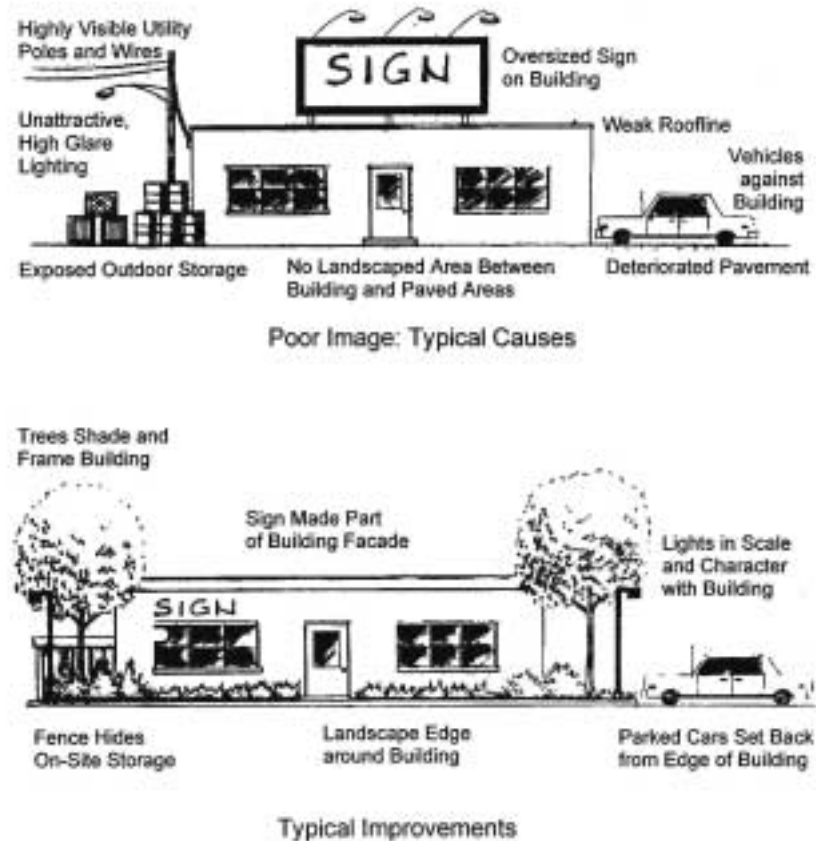
tinuing, long-term economic development. The County's ability to accommodate new businesses and industries will depend upon renovation of older buildings and redevelopment of properties that are underused or obsolete.

The focus on the Route 1 and Route 40 corridors is important not only for their long-term economic development potential but also to improve the appearance and function of these corridors. Redevelopment of these areas on a significant scale could create stronger community centers, a better mix of stores and services to serve nearby communities, some opportunities for small-scale mixed use developments, improved traffic circulation patterns and a vast improvement in the image and quality of the public environment along these highways. The appearance of older strip commercial centers can be enhanced to make them more attractive, and redevelopment can convert the single-use strip centers into mixed use centers (Figures 5-8 and 5-9).

Many aging areas along Route 40 and Route 1 are dominated by uses that may not survive the life of this General Plan. Some sites are too small for the intensity of the uses on them. Others may be underdeveloped – a small building and parking lot on a relatively large lot. Also, the *ad hoc* pattern of development on a site-by-site basis has created numerous redundancies. Each business has its own access to the main arterial, its own parking lot (often half empty) and its own building. The only green space on such sites is created by required landscaped areas and setbacks. The normal attrition rate of businesses guarantees that, throughout the next 20 years, obsolete or uncompetitive businesses will close, creating numerous opportunities for reuse of sites along Route 40 and Route 1.

Along the industrial portion of the Route 1 corridor, warehouse-distribution centers have become a dominant land use. Some older warehouse-distribution sites are outmoded due to their physical design, including such features as low ceiling heights and smaller truck bays, that make it difficult to convert these structures to other uses. Property suitable for new, large warehouse facilities is limited and is becoming relatively expensive in comparison to values found in other jurisdictions. The declining availability of sites and a continued increase in land values could provide

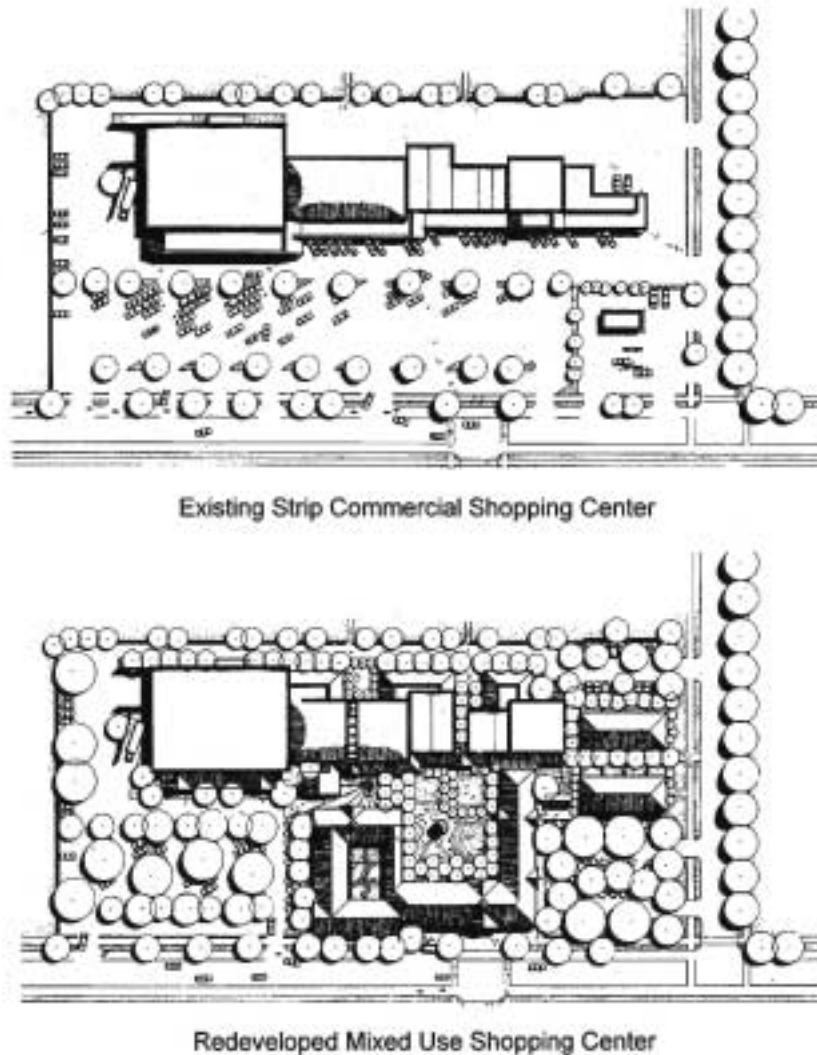
Figure 5-8  
Potential Improvements to Strip Commercial Image



Source: Howard County DPZ



**Figure 5-9**  
**Redevelopment of Strip Commercial Site**  
**into Mixed Use Center**



Source: Corbett, M.N. A Better Place to Live, 1981.

an impetus for redevelopment of obsolete warehouse and manufacturing properties. When such sites are large or numerous, they offer the opportunity for redevelopment to be well-planned and attractive.

To address the economic development and community enhancement potential of Route 1 and Route 40, Corridor Revitalization Studies must be developed. Additional revitalization or redevelopment plans could be developed for older business parks in other parts of the County, if needed. Planning for the Route 1 and Route 40 corridors will be closely related to the Community Master Plan process, because major communities, such as Elkridge, Savage, North Laurel and Ellicott City, include portions of the Route 1 and Route 40 corridors. The planning process is described in more detail at the end of this chapter.

Factors that make development difficult within sections of the Route 1 and Route 40 corridors, as discussed in Chapter 4, *Balanced and Phased Growth*, are the limited availability of large parcels, the need for land consolidation, problematic highway access, zoning or building code provisions, obsolete older buildings, environmental concerns, aging infrastructure and utilities, and lack of stormwater management.

Incentives for revitalization/redevelopment may include additional permitted uses, increased flexibility in bulk regulations, expedited processing, lower development review fees, and tax or development financing incentives. Local business improvement associations could help to implement and manage coordinated improvements in landscaping, access, signs and facades. County or State capital projects to improve infrastructure can encourage and support private investment.

### ***Policies and Actions***

***POLICY 5.9: Allow for the appropriate size, location and purpose of commercial centers.***

- ◆ ***Definition of Centers.*** Use the categories of commercial centers defined in Box 5-6 to guide land use decisions affecting existing and future commercial needs. Ensure that the size and location of new, ex-

panded or redeveloped commercial centers will be in keeping with the road capacities and their surroundings.

- ◆ **No Extension of Commercial Strips.** Reaffirm the policy of past General Plans to not extend strip commercial development areas on major roads beyond their present limits.

**POLICY 5.10: Improve the design of commercial areas.**

- ◆ **Scale of Buildings.** Adopt standards that require commercial structures to be in scale with adjacent residences. Reduce the scale and uniform appearance of commercial buildings, by using techniques such as articulating facades and roof lines, having multiple entrances and locating smaller retail stores in larger centers for variety.
- ◆ **Multiple Facades.** Require that all facades of a commercial building that are visible from surrounding roads, residential or public properties be similar in design to the front facade. Prohibit the use of blank rear or side walls in locations visible from roads.
- ◆ **Parking Locations.** Encourage the dispersal of parking into small, heavily landscaped lots and discourage large parking lots in locations that dominate the public image of the site along the main roads leading to the site. Increase the requirements for internal parking lot landscaping to visually break up large parking lots, provide more shade and improve the pedestrian environment.
- ◆ **Landscaping.** Improve landscape design standards and strengthen enforcement to better mitigate the visual impacts of commercial properties. Require heavily landscaped buffers along the sides and backs of commercial structures and along the perimeters of commercial centers to screen large parking lots, provide shade along sidewalks and offer an attractive streetscape. Apply, where feasible, new landscape design standards to commercial properties that are undergoing renovation.
- ◆ **Pedestrian Improvements.** Install sidewalks along roads that provide access to commercial centers and connect store entrances to street

crossings, transit stops and focal points for increased safety and convenience for pedestrians. Adopt standards that encourage provision of pedestrian-scale features and spaces, such as landscaped plazas and sitting areas.

- ◆ **Sign Code.** Review the County Sign Code for possible revisions to commercial signs.

**POLICY 5.11: Make existing commercial centers and strip commercial-industrial corridors more efficient and attractive, and give them a more positive role in communities.**

- ◆ **Older Commercial Properties.** Develop strategies to encourage renovation or redevelopment of older commercial centers, particularly those showing indications of decline. Make local commercial centers more positive community focal points through design improvements and renovation.
- ◆ **Corridor Revitalization Studies.** Develop Corridor Revitalization Studies for Route 1 and Route 40 in partnership with representatives of affected businesses, industries and communities.
- ◆ **Redevelopment Strategies.** Define potential redevelopment sites through the corridor planning process. Identify planning goals, potential barriers and strategies to promote redevelopment for these sites. Establish appropriate, cost effective incentive mechanisms, including incentives to encourage consolidation of small properties for more effective redevelopment.
- ◆ **Redevelopment Standards.** Assess current zoning and land development standards as they apply to strip commercial and industrial areas. Provide revised or alternative standards to encourage redevelopment with improved building, site and landscape design.
- ◆ **Public Environment.** Improve the public environment along the right-of-way through consolidation of access driveways, screening of exposed storage, unified designs of signs and landscaping, and other means. Promote joint improvements (for example, shared entrance



and parking) where small, separate businesses predominate.

- ◆ **Mixed Use Opportunities.** Evaluate the potential of using the Mixed Use (MXD) District or other mixed use planning approaches for appropriate sites along Route 40 or Route 1, where the desirability and viability of these sites continuing as strictly commercial or industrial properties is questionable.
- ◆ **Public Facilities.** Seek appropriate locations for public facilities and services, and use these to anchor redevelopment or enhance the overall image of adjacent areas.

## Public Facilities, Infrastructure and Services

### County Buildings

Howard County's public buildings, such as schools, recreation centers, senior centers and libraries, play an important role in community enhancement. Well-maintained public buildings enhance and sustain the community's quality of life and encourage a high level of private investment by property owners. Conversely, facilities that are neglected, obsolete or in need of repair will make a community less attractive and discourage private investment.

The County's public buildings will age along with the neighborhoods they were built to serve. While the last decade was marked by much new school construction, 43 of the County's 66 school buildings were built before 1980. By 2020, these buildings will be more than 40 years old, with 18 buildings being more than 50 years old. Schools, libraries and recreation facilities are all heavily-used facilities that need constant maintenance, functional upgrades and eventual replacement, leading to substantial outlays of public money. Technological changes also require costly upgrades of equipment and infrastructure, especially for schools and libraries.

Capital costs for maintenance, renovation and replacement of facilities and

infrastructure will be an increasing focus of the County's operating and capital budgets, as discussed in Chapter 4, *Balanced and Phased Growth*. Although expensive, these projects are important to sustain the quality of life and desirability of older neighborhoods.

Schools hold a place of particular importance among the public services and facilities that sustain and strengthen communities. Many families have chosen to live in Howard County because of its excellent school system. However, some older neighborhoods are at a competitive disadvantage for new with school age children because of public perceptions of the schools. Compared to newer communities in the County, these neighborhoods, primarily in Columbia and the Southeast, generally have older schools, a mixture of housing types and values, and a higher proportion of low- to moderate-income families. The urgent need during the 1990s to build new schools to keep pace with population growth limited the school system's ability to keep up with needed renovations. The Howard County Public School System has a systematic renovation plan, however, renovations and improvements are contingent upon funding availability. These schools are often perceived as less desirable because of their older facilities, lower results on measures of student performance, such as standardized test scores and attendance rates, more diverse student population and higher proportion of low-income and transient students.

Although school quality is not always considered a land use issue, it becomes an important one if families avoid or move from certain neighborhoods because of the reputation of neighborhood schools. Realtors report that this is occurring in some County neighborhoods. Over time, this will undermine the levels of investment and property values in these neighborhoods. If a negative perception of schools is combined with other problems, such as higher crime rates or deferred property maintenance, a neighborhood can rapidly lose its value and livability. The County, the Howard County Public School System and communities need to work together to address the interrelated problems of negative perceptions of schools and other early indicators of neighborhood decline.

As County communities age in the coming years, school quality may become a greater concern in older neighborhoods. County communities will

compete for homebuyers with newer developments in neighboring counties. With few new schools being built in Howard County, keeping the existing schools in excellent condition and updating school programs and facilities, as needed, will be increasingly important. To address this important issue, the County Executive and the Howard County Public School System formed the Leadership Committee on School Equity. [Box 5-7](#) summarizes the Committee's findings and recommendations.

While the need for new public buildings will lessen as growth slows, the County will need some new public facilities to serve new development and/or to address deficits in services. With careful attention to location and design, recreation centers, senior centers and other public buildings can bring a sense of public purpose to what might otherwise be a strictly commercial or strictly residential context. Their civic significance can be greatly increased by location within or near public spaces that both enhance the setting for such facilities and are amenities in their own right. The ability of new or replacement public facilities to play a role in community enhancement depends on whether decentralized services are appropriate in a specific community. Often, services such as senior centers, athletic fields, tot lots, parks, other recreation facilities and libraries should be decentralized.

As the County approaches build-out, it is critical to ensure that necessary public facilities and services can be provided within communities with little undeveloped land. It will become more difficult to site new facilities, especially those that should be located where transit service can be provided. Redevelopment of commercial or industrial sites may provide opportunities to locate public services in a mixed use setting.

## **Infrastructure**

Much of the County's public infrastructure, including roads, sidewalks, stormwater management and water and sewer, was built over the past 30 years during the County's period of rapid growth. Extensive repair and replacement of much of this aging infrastructure will be needed over the next 20 years. Capital projects to repair and replace infrastructure may be temporarily disruptive, but are important to sustaining the value and attractiveness of a neighborhood. These projects can also provide opportu-

nities for other improvements, such as new sidewalks, landscaping or restoration of natural areas.

Coordinated planning for repair and replacement of infrastructure will be essential to avoid repetitive disruptions and unnecessary costs. For example, sidewalks and roads should not be repaired just before a project to replace water or sewer lines is undertaken. The County currently lacks an adequate method of coordinating these projects.

Older areas are sometimes missing infrastructure and amenities common to newer subdivisions, such as sidewalks, curbs and gutters, street trees, street lights and open space. Certain types of infrastructure may benefit some neighborhoods, but may be out of character or not desired by the community in other areas. Development of Community Master Plans or establishment of Community Conservation Committees will allow infrastructure needs to be identified and prioritized.

Stormwater management is another component of public infrastructure. Many older communities were developed prior to the adoption of stormwater management regulations and now have problems with drainage, and stream bank erosion and water quality. Other communities are experiencing similar problems due to the age and lack of maintenance of their stormwater management facilities. Building new facilities and retrofitting existing facilities in these areas will be difficult if there is little or no available public land. New stormwater management regulations and the need for a comprehensive stormwater management program with ongoing maintenance are discussed in Chapter 6, *Working with Nature*.

Providing new infrastructure is costly, but grant programs are available to assist with some of these projects. For example, the Federal government provides grants through the Transportation Equity Act for the 21st Century (TEA-21) to fund development of key pedestrian linkages. Also, limited grant funds are available from the Maryland Department of the Environment for stream restoration projects.

## **Public Services**

Public services, including schools, police, fire and rescue services, health

### Box 5-7 School Equity

High quality education is the primary reason families choose Howard County as a place to live. The continued success of the County's public school system is also a key to continued economic growth.

Despite the overall excellence of education in Howard County, significant inequities exist. Schools with disproportionate numbers of children with multiple needs have lower performance scores, higher rates of staff turnover, higher percentages of teachers that are new and non-tenured, and higher rates of student mobility than other schools.

The Leadership Committee on School Equity defines "equity" as fairness to all children. Equity requires that each student be provided with the resources, support and instruction necessary to achieve academic success. Schools with disproportionate numbers of children with multiple needs require more support than schools with fewer such children.

The Committee made 70 specific recommendations. Some of the most significant are:

#### Factors Affecting Equity

- The school system should replace the annual, ad hoc and contentious exercise of redistricting with a comprehensive districting plan that creates a stable path for children from kindergarten through high school.
- In conjunction with the County-wide districting plan, all schools should be protected from open enrollment for three years to allow new school communities the opportunity to unite and function cohesively.
- The \$2.1 million in equity funding proposed in the Superintendent's Proposed Operating Budget for Fiscal Year 2001 should be more clearly linked to plausible, demonstrable improvements in equity.
- The school system budget for Fiscal Year 2002 should include

information on how overall funding will be allocated to each school in the County and provide a credible rationale for that allocation methodology.

#### Resources and Programs

- The school system's Fiscal Year 2002 Capital Budget should reflect systematic planning for capital improvements, showing when renovation is scheduled for each school in the County.
- Each school that consistently underperforms should be required to prepare, with assistance from the school system, an improvement plan.
- The term "focus school" should be eliminated and replaced by a formula for allocating resources to schools based upon a continuum of needs.
- The school system and Howard Community College should jointly develop a new model for assuring that children, who do not go on to college, graduate from high school with skills that are marketable and needed by the County's business community.

#### Staffing

- The school system should develop improved procedures for evaluating the performance of school administrators.
- The school system should develop strategies to reduce teacher and staff turnover at high-need schools.

#### Accountability

- Centralized, computerized and detailed portfolios should be developed to follow students from year to year and from school to school.
- The school system and County government should jointly fund an independent performance review of the school system in the Fiscal Year 2001 Operating Budget.

Source: The Leadership Committee on School Equity Report, 2000.

and human services, recreation programs and libraries, are important to the quality and vitality of County communities. Where there is a need specific to a local area, the agencies providing these services should be actively involved in the community planning process, to help identify and determine options for meeting the need. Some services that are discussed in Chapter 4, *Balanced and Phased Growth*, have particular importance for community conservation. These include the community policing program, programs directed at crime prevention among youth, assistance with home maintenance and home ownership, services that enable elderly residents to “age in place,” human services that are accessible to those who need them and transit services.

### ***Policies and Actions***

***POLICY 5.12: Use public infrastructure, buildings and services to enhance older communities.***

- ◆ ***Public Facilities Maintenance and Replacement.*** Develop maintenance and replacement programs to maintain the quality of County public facilities. Use the ten-year Capital Improvement Master Plan to prioritize and schedule maintenance, renovation and replacement to avoid the unnecessary disruption and expense caused by consecutive projects that disturb the same location.
- ◆ ***Community Planning.*** Use community planning to determine how best to enhance each community, through new or improved public infrastructure, facilities and services.
- ◆ ***Public Schools.*** Support the Howard County Public School System in addressing perceptions of public schools that result in some neighborhoods being less desirable to families with children. Encourage the Public School System to implement appropriate recommendations of the Leadership Committee on School Equity.
- ◆ ***Stormwater Management.*** Plan for needed stormwater management in developed areas that lack these facilities or need retrofitting of existing facilities. Seek solutions that enhance natural areas within

existing communities.

- ◆ ***Grant Funding.*** Seek grant funding to provide and improve public infrastructure and restore natural environments within existing communities.
- ◆ ***Public Facilities as Focal Points.*** Seek sites for new or replacement public facilities within or adjacent to commercial centers, when uses will be compatible, to increase the accessibility of public services to the local population. Locate and design public buildings to stress their civic role, for example, use public buildings as landmarks at the intersections of streets or as an edge to a formal public space.

## **Transportation and Community Enhancement**

### **Traffic on Local Roads**

Residents are often concerned about the volume and speed of traffic on neighborhood roadways, especially pass-through traffic. This is perceived as both a safety and quality-of-life issue.

Two approaches are available to reduce inappropriate pass-through traffic. The first approach, which is to provide sufficient capacity on the arterial highway network, deals with the cause of community pass-through traffic. If traffic flows quickly and efficiently on such high volume roadways as US 29, US 40, MD 32 and MD 175, the need for shortcutting through neighborhoods is reduced. This is clearly the preferable method for dealing with this issue.

The second approach is to selectively retrofit community roadways to reduce their attractiveness for pass-through traffic. There are a number of “traffic calming” strategies that may be applied, including narrowing the roadway cross-section, restriping for narrower lanes and encouraging on-street parking. While such strategies may discourage some pass-through traffic, they also inhibit the movement of appropriate local

traffic. Traffic calming as a retrofit strategy in older neighborhoods can be difficult and should only be applied in appropriate situations after considering potential traffic impacts.

## Scenic Roads and Greener Highways

The scenic road policies described in Chapter 3, *Preservation of the Rural West*, also apply to designated scenic roads in the East (Map 5-3 and Box 5-8). The County has regulations intended to help preserve the scenic character of the landscape viewed from these roads and the features of the road right-of-way that contribute to the road's scenic character. However, the regulations to reduce the visual impact of adjacent development have not worked well, and residential development in many instances has had a negative impact on the character of scenic roads.

Preservation of scenic roadways can conflict with the need for safety or capacity-related improvements. These improvements should be restricted to carefully designed spot improvements which retain the scenic qualities of a road. In cases where capacity and safety improvement needs are significant, new road alignments may be needed. Case-by-case review of each of the roads listed in Box 5-8 will determine how potential conflicts between scenic road preservation and traffic safety and efficiency can be best resolved.

Although most of the roads in the County are not designated as scenic roads, the environmental and landscape character of the main State and local roads should not be ignored. The landscape character of main roads should vary with the context, but all should be of the highest possible quality. This requires careful planning to retain natural features, such as woodlands or hedgerows, and to include landscape design that complements the natural areas that remain along key arterials. This landscape design can also benefit wildlife by creating new habitat areas.

To further these goals, the Federal Highway Administration has instituted a Roadside Vegetation Program that endorses energy conscious and environmental practices of sensitive roadside management, such as retaining existing vegetation along roadways and in medians, reducing mowing to promote meadow habitats and planting native vegetation. These principles

### Box 5-8

#### Scenic Roads in the East

The following roads, or sections of these roads, are presently of high scenic quality and are part of the County-wide scenic road program.

Beechwood Road	Maryland Avenue
Bonnie Branch Road	Merryman Street
Church Road	Mullican Hill Lane
College Avenue	Murray Hill Road
Court Avenue	New Cut Road
Court Place	Norris Lane
Daniels Road	Old Columbia Pike
Emory Street	Old Lawyers Hill Road
Fells Lane	Park Avenue
Hill Street	Park Drive
Gorman Road	River Road
Harding Road	Rockburn Hill Road
Ilchester Road	St. Paul Street
Landing Road	Sylvan Lane
Lawyers Hill Road	Tiber Alley
Main Street (Ellicott City)	Trotter Road

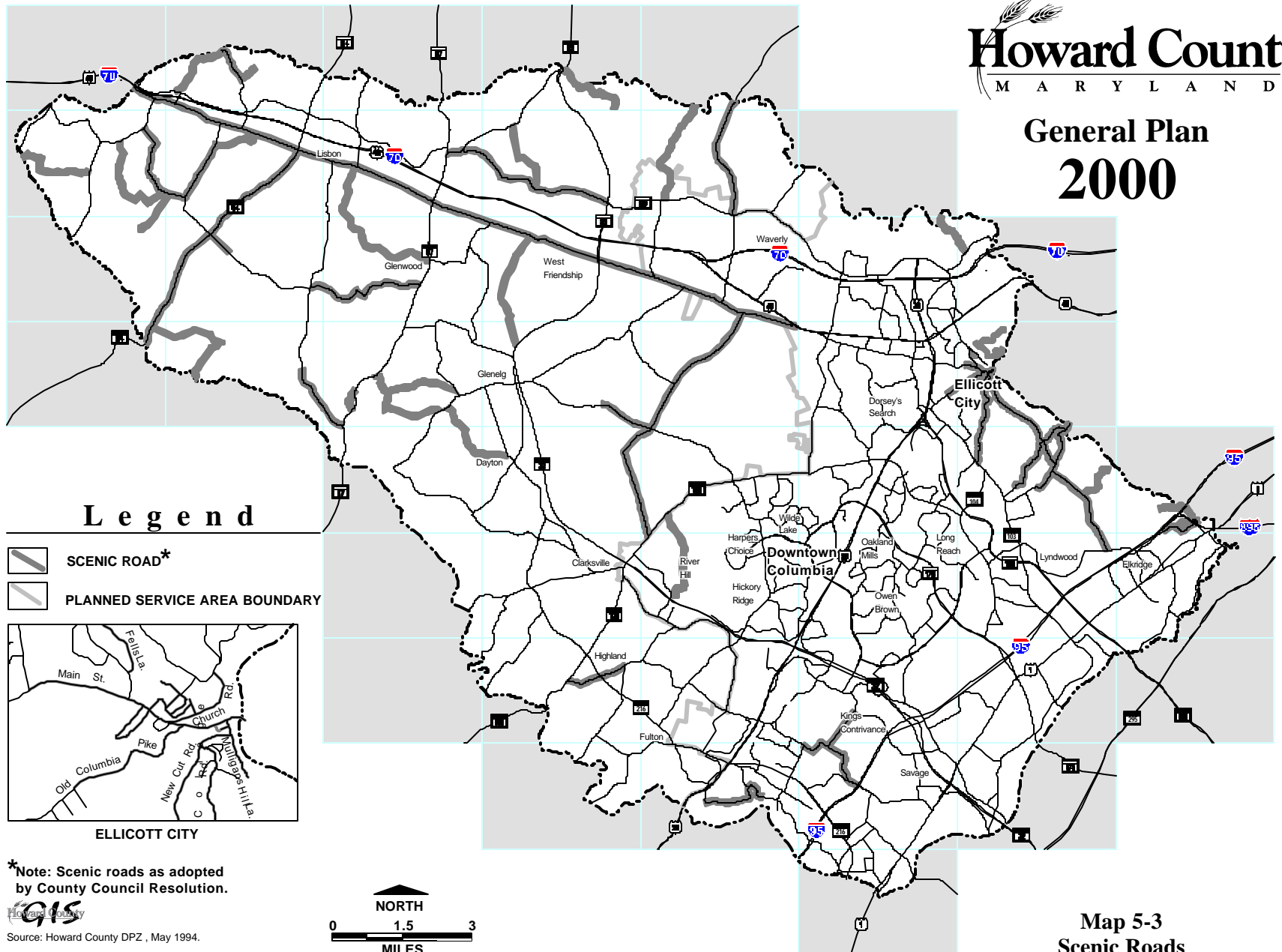
can be adapted to State highways and County with large rights-of-way. Even within the most intensely developed employment and commercial areas, rights of way and roadside areas should landscaped to demonstrate concern for environmental and landscape quality.

Recently the State Highway Administration unveiled plans to showcase scenic byways in Maryland. Main Street in Ellicott City is included in the Scenic Byways Program because of its location on the National Road, the first Federally funded highway in the United States. Portions of other roads in Howard County are also included in the Scenic Byways Program. The program selects roads not only for their scenic qualities, but also for their historical, cultural and recreational aspects. Federal grants are available to develop management plans and to improve the byways for such items as tourism centers and sign consolidation.

# Howard County

M A R Y L A N D

## General Plan 2000



## The Design Character of Local Streets

Subsequent to the 1990 General Plan, the Department of Public Works' Design Manual was amended. Road design standards were revised to reduce right-of-way and paving widths and to permit steeper road grades. These changes were intended to lessen site disturbance, reduce impervious surfaces and stormwater runoff, and make roadways more pedestrian-friendly.

Streets must, of course, be safe and functionally adequate for vehicles, but they should also be designed to recognize human needs. Streets should be designed to keep the driver's attention, make movement easy and enjoyable, and have an underlying order in their layout so that wayfinding is easy. The visual aspects of roads are important. Focal points are helpful for orientation and to establish a sense of place or identity.

Residential design affects the visual quality of streets. Traditionally, the fronts of houses have faced the street to form an attractive edge to the roadway. When houses or townhomes are "backed" onto a street, the private side of the house becomes oriented to noise and traffic. The view of the rear of a house and of a back yard creates a less attractive streetscape than does the more formal front facade. Orienting the back of the house to the road also triggers the need for intensive and costly screens or berms.

Street systems can include a variety of different types of roads. Boulevards and parkways are an underused design approach. The wide landscaped strips between lanes that are common to boulevards and parkways can be used to reduce the visual impact of multiple lanes of traffic. Narrow one-way streets are another way to reduce paving width and reduce or slow through traffic.

In addition to making the roads more pedestrian-friendly, reducing road widths and calming traffic have environmental and circulation benefits. Designing streets as a community amenity means addressing the need for street trees. Trees shade sidewalks and roadways, reduce heat and glare, and provide scale and visual interest. Other elements (lighting, bus stops with seating and trash receptacles), if well-designed, add to the character of the community. Attractive streets are inviting to pedestrians and become

public places for community interaction (Figure 5-10).

## Pedestrian and Bicycle Facilities

Howard County has an extensive system of facilities for use by pedestrians and bicyclists. Unfortunately, this network does not always provide continuous links between residential neighborhoods and destinations such as employment sites, shopping centers, schools and libraries. Nor do these fa-

**Figure 5-10**  
**Streets as Public Environments**



Many factors combine to make streets public amenities: focal points provide orientation and a sense of identity; wide sidewalks offer space for community interaction; good signage, lighting and trees make streets inviting to pedestrians.

Source: Chesapeake Bay Foundation. A Better Way to Grow, 1996



cilities adequately serve most commuters who want to walk or cycle to rail stations, bus stops or park-and-ride lots. The more extensive the network, the greater the possibility these pedestrian and bicycle paths could be used to provide energy efficient commuting to and from jobs, as well as more recreational travel for visiting and exercise.

Within established communities, residents do not always agree that sidewalks or pathways should be installed. In many instances, the desire by some to provide safe, off-street pedestrian/bicycle connections is countered by others who raise concerns about liability and property rights. To bring order to the decision-making process, the County Administration recently appointed a citizen task force to explore the issues and formulate a policy that would be used to evaluate and prioritize sidewalk extension projects.

## Public Transit

Public transit can enhance the County's neighborhoods, commercial centers and mixed use developments in several ways. Transit provides access to services and stores for those who are beyond comfortable walking distances. Bus service also provides greater mobility to residents, especially the elderly and school-age children. Bus stop amenities, such as shelters, lighting and landscaping, help stimulate and may serve as part of a focal point within a community.

## Policies and Actions

**POLICY 5.13: Reduce inappropriate pass-through traffic in residential communities.**

- ◆ **Arterial Network Capacity.** Seek to provide adequate capacity on arterial highways to lessen the motivation for pass-through traffic within residential communities.
- ◆ **Local Road Networks.** Evaluate and selectively implement traffic calming strategies on a case-by-case basis.

**POLICY 5.14: Maintain or enhance the landscape character of roads.**

- ◆ **Scenic Roads in the East.** Strengthen requirements for view protection.
- ◆ **Highway Landscape.** Work with the State Highway Administration to establish planting and management programs endorsed by the Federal Highway Administration's Roadside Vegetation Program.
- ◆ **Right-of-Way Landscape Guidelines.** Establish landscape design guidelines for County rights-of-way that stress protection of existing vegetation and landscape features, and that identify appropriate materials for roadway planting.
- ◆ **Streetscape.** Establish design guidelines for streetscape elements such as sidewalk materials, light fixtures, signage and sitting areas at transit stops, to enhance or, where appropriate, reinforce the distinctive character of communities.
- ◆ **Retrofitting Existing Roads.** Establish joint public/private programs for streetscape enhancement to create a more consistent and attractive image, especially in strip commercial areas.

**POLICY 5.15: Serve community needs for pedestrian/bicycle facilities.**

- ◆ **Design Manual and Subdivision and Land Development Regulations.** Review and revise, as appropriate, the Howard County Design Manual and the Subdivision and Land Development Regulations to ensure that needed connections are incorporated into the plans for both new development and redevelopment projects.
- ◆ **Pedestrian and bicycle connections.** Identify and urge construction of missing pedestrian and bicycle linkages that would connect contiguous communities and would connect with other local and regional pedestrian and bicycle paths. Assist in identifying appropriate resources for the needed improvements.
- ◆ **Community Planning.** Involve community residents in evaluating the need for and desirability of implementing community sidewalk/pathway improvements. Use established criteria to resolve disagreements.

- ◆ **Retrofitting existing pedestrian and bicycle routes.** Identify existing sidewalks and pathways that need replacement or upgrading. Assist in identifying funding resources.

**POLICY 5.16: Use transit as a means of community enhancement.**

- ◆ **Transit Services.** Explore the feasibility of expanding transit services to make existing commercial areas accessible to those who do not have or wish to use autos, during development of the Transit Development Program.
- ◆ **Transit in Employment and Mixed Use Areas.** Encourage the reservation of space for transit stops and transit transfer points in major employment, mixed use and commercial centers.
- ◆ **Bus Stop Design.** Design bus stops to be wheelchair accessible and to incorporate amenities such as shelters, benches, landscaping and lighting, as appropriate.

## Culture and the Arts

The wide variety of activities collectively discussed under the topic of culture and the arts is important to the quality of life for County residents. [Map 5-4](#) depicts some of the major arts and cultural facilities in the County. As might be expected, Howard County's well-educated, largely professional and relatively affluent population takes an active part in cultural activities and educational programs.

An important factor affecting the cultural and artistic scene in Howard County is the County's location between two major metropolitan centers with a variety of first-rate, long-established cultural institutions. Howard County residents have tended to use the concert halls, theaters, galleries and museums of Baltimore and Washington as their prime cultural resources. However, the artistic and cultural resources of Howard County are more vital to the quality of life in the County than ever before. Today, most households are supported by two incomes and many of the wage earners

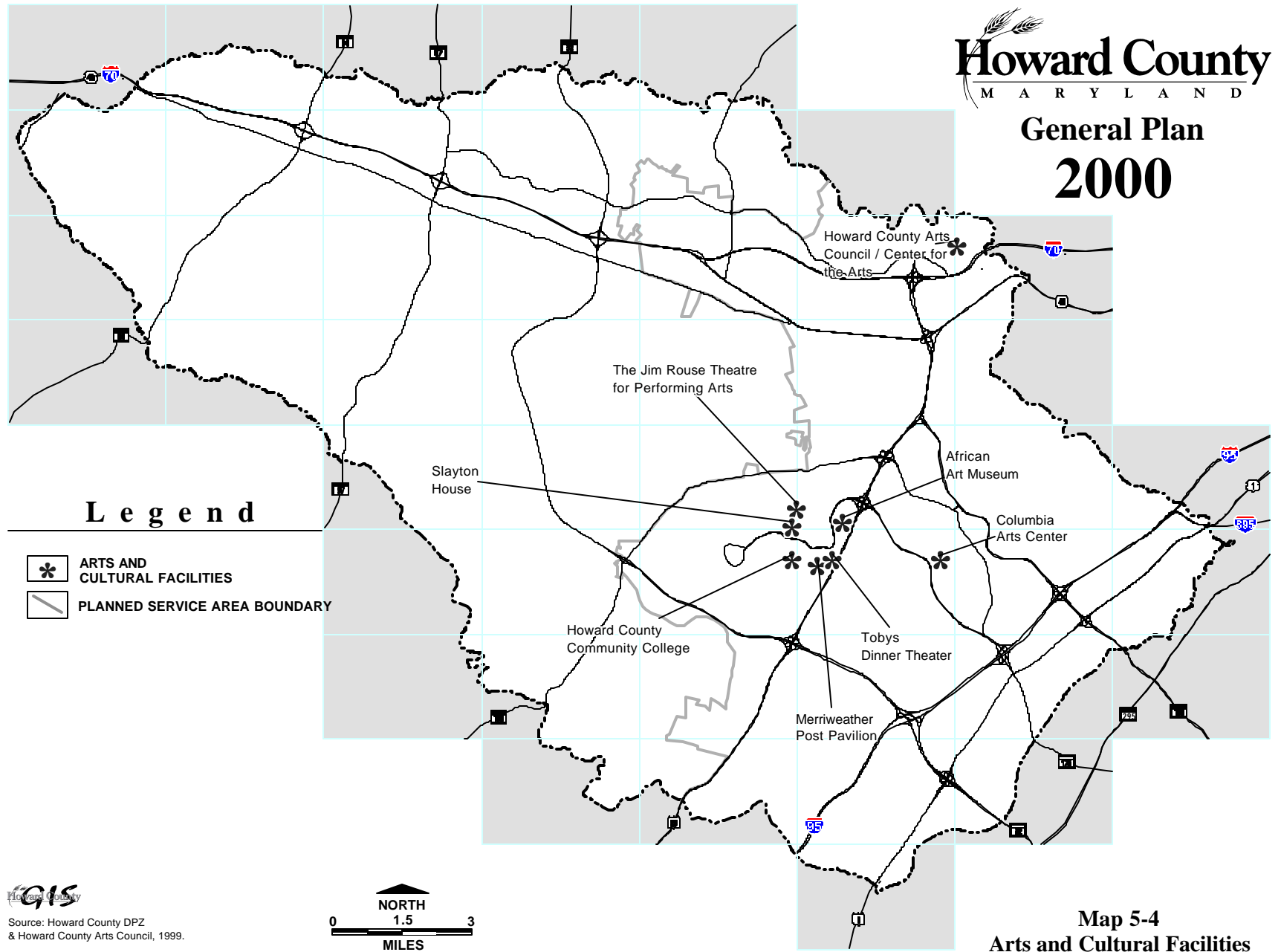
are commuting to Baltimore or Washington to work. Residents are increasingly looking to spend their non-work hours closer to home. In addition, many of Howard County's cultural events and historic sites attract visitors and tourism dollars to the County.

Nonprofit groups present the majority of the dance programs, concerts, plays, readings and art exhibits County residents enjoy. They offer workshops, performances and instruction in the arts for children and adults – making the arts accessible to all Howard Countians. The Columbia Festival of the Arts, begun in 1989, is a major component of cultural life in the County, showcasing local and national performers. Howard County public schools, the Department of Recreation and Parks, Howard Community College and the Columbia Association also provide art and cultural programs.

Nonprofit organizations provide a wide range of programs and services on very modest budgets, relying on the enthusiasm and dedication of volunteers. Many receive support from Howard County through a grant program administered by the Howard County Arts Council. In 1999, arts organizations generated \$2.6 million in revenues. About 21% of the revenues came from corporations, 6% from individuals, 9% from foundations, 7% from Federal and State governments, 9% from Howard County government and the remaining 48% came from earned income sources, such as ticket sales, class fees, rentals and special events.

Since 1990, several important steps have been taken to support the arts. In 1992, the Howard County Arts Council published Arts Vision 2001, a planning document for the arts and culture in Howard County. Four themes – location, space, funding and education – continually recurred in discussions and surveys. As a result, a private/public partnership was established to create the Jim Rouse Theater for Performing Arts at the Wilde Lake High School.

In 1996, the Howard County Center for the Arts (formerly known as the Rockland Arts Center) was renovated. The Center for the Arts now contains visual arts studios, a small theater, gallery spaces for display of artwork and space for solo or group performances. Three resident art groups, 16 visual artists and 15 other art groups have space at the Center.



A 1999 survey of arts groups cited funding, affordable space for exhibitions and performances, office space and rehearsal space as their major issues. The Howard County Arts Council needs additional meeting and office space for local arts organizations, to better coordinate activities, promotions and funding alternatives. In light of these articulated needs, funding constraints and the many groups involved in providing arts and cultural programs, the development of a new Comprehensive Plan for Arts and Culture would be useful. The new Plan could establish facility and program needs, set priorities and identify potential funding sources.

### ***Policies and Actions***

***POLICY 5.17: Encourage a wide variety of arts and cultural activities for County residents.***

- ◆ ***Planning for Arts and Culture.*** Assist the Howard County Arts Council, in cooperation with the Columbia Festival of the Arts and other community arts organizations, in developing a Comprehensive Plan for Arts and Culture.
- ◆ ***Regional Financial Support.*** Continue to support regional cultural activities to reflect County residents' use of these activities.
- ◆ ***Local Financial Support.*** Continue to support the Howard County Arts Council and the programs it administers with local government contributions.
- ◆ ***Staff Support and Volunteer Support.*** Support the Arts Council, especially its volunteer workers, by sending government workers for occasional support services and encouraging businesses to act similarly.
- ◆ ***Exhibition Opportunities.*** Encourage the use of public buildings and corporate offices for display of art work in areas easily accessible for public viewing.
- ◆ ***Public/Private Partnerships.*** Encourage private/public partnerships

in support of the arts. Consider offering challenge grants to assist in fund-raising or initiating other partnerships that would increase the availability of affordable exhibition and performance space.

## **Historic Preservation**

Howard County has many historic sites. If properly preserved, these sites can provide neighborhoods with local landmarks, a stronger identity and a sense of rootedness. When numerous historic resources are close together, they can be the basis for revitalization of an entire neighborhood or community, as a distinctive built environment.

Since 1990, the County has taken several steps to protect historic resources. These steps include designating Lawyers Hill as an historic district, with strong support from community residents; producing new design guidelines for both of the County's locally designated historic districts (Ellicott City and Lawyers Hill); enacting property tax credits to assist property owners who renovate or improve historic buildings according to approved guidelines; and creating an inventory of cemeteries and regulations to protect historic cemeteries from disturbance.

The County also added guidelines to the Subdivision and Land Development Regulations for the treatment of historic sites in the subdivision and site development plan review process. However, these guidelines are not in effect until the County Council adopts a list of historic sites to which these guidelines would apply. To date, such a list has not been prepared.

These actions provide some additional assistance to those seeking to preserve historic resources. County property tax credits, enacted in 1995, were approved for work on 22 historic buildings through 1999. The new design guidelines for Ellicott City, completed in 1998, were written to be more specific and more easily understood and interpreted by property owners. However, rapid growth and the lack of adequate protection continue to result in the destruction or degradation of some historic resources and their settings. The loss of landmarks, such as Woodlawn (Papillon Restaurant), Montpelier and Moundland, and the alteration of settings for properties,

such as Temora, demonstrate the vulnerability of historic resources. Outside the two historic districts, Howard County lacks a comprehensive preservation strategy.

The basis for a comprehensive preservation strategy is the Historic Sites Inventory. Howard County has inventoried approximately 640 historic sites (Map 5-5). Much of the County's early inventory, begun in the mid-1970s, is rudimentary and not to current standards. An update is needed to identify historic buildings listed on the inventory that have been demolished or irredeemably altered. An even more important need is identifying and surveying the many historic properties not included on the Historic Sites Inventory. Unless these sites are added to the inventory, they are not eligible for the County's historic preservation property tax credit or for Federal and State income tax credits. In addition to the Historic Sites Inventory, the preparation of an action plan that lists the strengths and weaknesses of historic preservation in the County would be useful in developing a comprehensive preservation strategy. The plan would list historic preservation goals according to their priority, list the actions to be taken to meet the goals and establish criteria for the regular review of all local preservation initiatives.

Updating and expanding the Historic Sites Inventory is a high priority that presents challenges in providing the necessary staffing resources. The County will seek grants from State and Federal programs to assist in these efforts. Obtaining a funding source for historic preservation experts in updating the inventory is encouraged. The County will cooperate with private entities and non-governmental organizations and encourage them to apply for grants that will assist in preserving the County's historic sites generally and updating the Historic Sites Inventory in particular. Possible avenues for updating the Historic Sites Inventory include using qualified volunteer surveyors, graduate students under the direction of qualified professors, or temporary or consulting staff.

County-owned historic properties should all be placed under the jurisdiction of one department, such as the Department of Recreation and Parks, since they already oversee several historic properties. Adequate funding needs to be provided to preserve these properties. To supplement County

funds, grants should be sought that could provide additional resources to protect and restore these properties. Furthermore, the County should actively seek economically viable uses to occupy these properties. These uses could help defray the cost of the properties' upkeep.

Because the Historic District Commission's jurisdiction covers the exterior appearance of structures but does not supersede the Zoning Regulations, conflicts may arise when the Commission believes that proposed development, which meets zoning requirements, does not fit the character of the historic district. To strengthen the protection the historic district designation gives to an area, it may be prudent to periodically evaluate both the Zoning Regulations and the regulations governing the Historic District Commission.

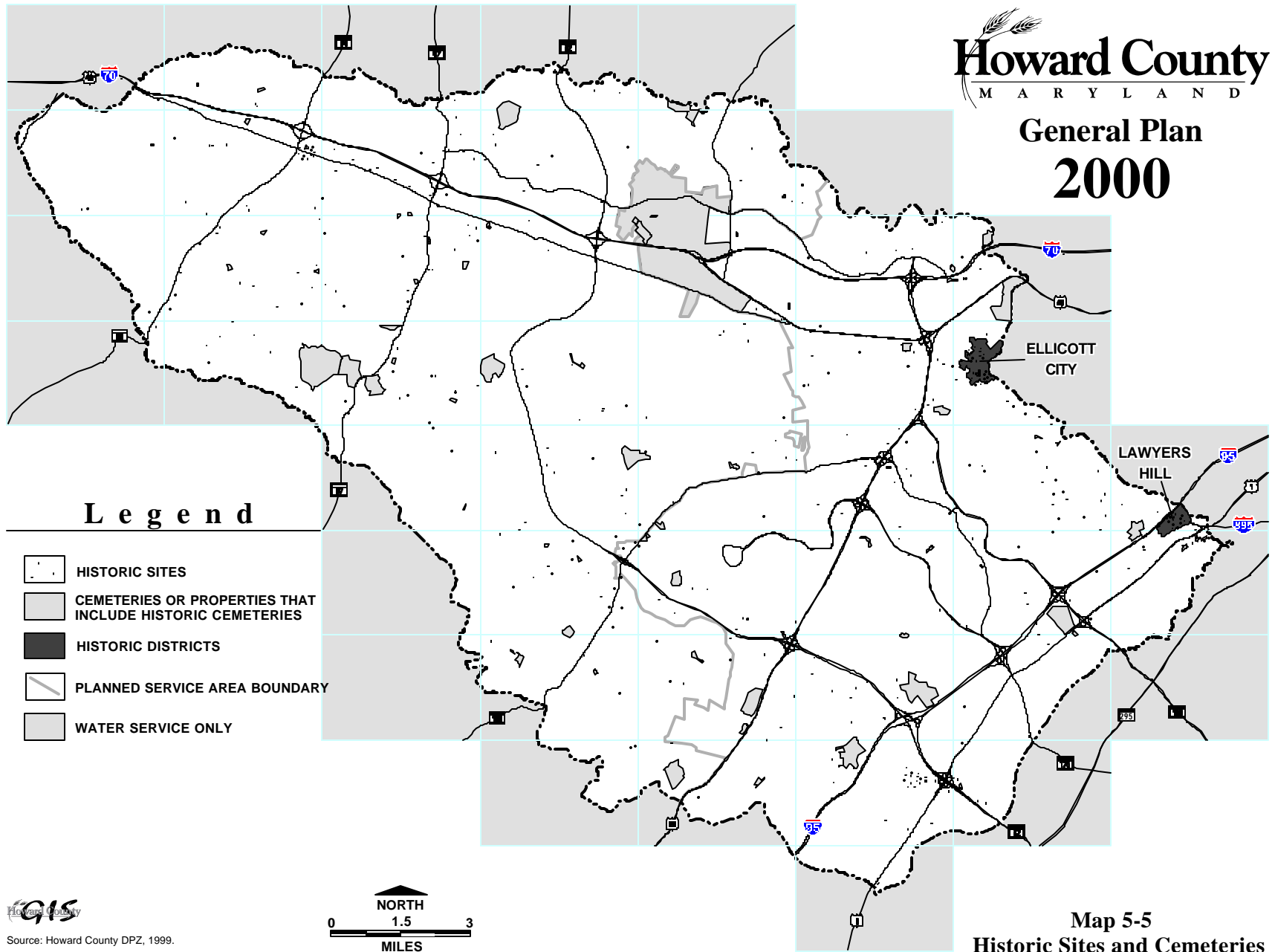
The success of preservation and the adaptive use of historic resources within Ellicott City demonstrates how well concerted historic preservation planning can work as a means of community revitalization and enhancement, and as the context for a successful mixed use environment. There is a need to strengthen residents' understanding of the County's history in order to build pride in the County's heritage and support for historic preservation. This can be done most effectively by improving coordination among County agencies and nonprofit historic organizations, and by using Federal and State grant programs.

## ***Policies and Actions***

***POLICY 5.18: Establish a comprehensive County-wide historic preservation program.***

- ◆ ***Official Inventory of Resources.*** Give high priority to reviewing, expanding and updating the Historic Sites Inventory; to implementing existing guidelines in the Subdivision and Land Development Regulations related to historic sites; and to ensuring that all significant historic sites qualify for the Historic Preservation Property Tax Credit Program. Document and evaluate special resources, such as vernacular and other significant architecture, historic cemeteries, archeological sites and historic landscapes.

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- ◆ **Historic Preservation Plan.** Draft an action plan that details the strengths and weaknesses of historic preservation in the County, lists and prioritizes local historic preservation goals, and clearly states actions the County will take to reach those goals.
- ◆ **Loss of Resources.** Prevent loss of historic resources from “demolition by neglect” by encouraging use of the existing Federal, State and County tax credit programs and informing owners of special exception uses for historic properties that may provide an economically viable use for the property.
- ◆ **Protection of County-Owned Historic Resources.** Protect County-owned historic properties and maximize their potential by placing all such properties under the jurisdiction of a single department, such as the Department of Recreation and Parks. Provide adequate funds and seek grants to preserve these properties. Select economically viable uses for the properties that promote their historical integrity.
- ◆ **Assistance to Owners.** Expand public outreach initiatives about Federal, State and County tax credit programs for historic sites. Provide information on financial assistance and technical matters to owners of historic resources to encourage improvements that do not impair the historic integrity of these resources.
- ◆ **Development Impacts.** Adopt a list of properties from the Historic Sites Inventory that have additional development potential and should be subject to the historic sites guidelines of the Subdivision and Land Development Regulations. Establish subdivision and site planning guidelines to protect historic resources when nearby, off-site development could adversely impact historic properties.
- ◆ **Property Tax Credits.** Support amendments to the State enabling legislation for property tax credits that would increase the potential value of tax credits and would allow credits for certain interior improvements.
- ◆ **Historic Districts.** Assist local communities wishing to establish or expand County, State or national historic districts or easements.

- ◆ **Historic District Commission.** Review and evaluate on a regular basis the regulations governing the Historic District Commission.
- ◆ **Broadening of Participation.** Coordinate County historic preservation initiatives and programs with State and Federal programs, and with historic preservation and interpretative programs of local non-profit organizations.
- ◆ **Coordination with Other Community Enhancement Programs.** Incorporate historic preservation goals into Community Master Plans and Community Conservation Committee initiatives.

## Community Planning

### Community Planning Program

During the life of this General Plan, community planning will be a prime concern of County government. Community planning will allow the County to work with residents and businesses to monitor trends, identify strengths and weaknesses, and make needed interventions in small areas of the County. Past General Plans looked at specific communities or redevelopment issues as the need arose. In the future, sustaining and enhancing existing communities will be a more pressing and ongoing concern.

Community plans can be the bridge between such General Plan goals as well-maintained housing, environmental protection and high-quality built environments, and their application within specific neighborhoods. Community plans also provide a context for the review of subdivision or site plans to see how well they serve the needs of the larger local community or fit into the wider environmental and landscape setting. Conversely, community planning can enable people to relate their most immediate concerns to a context larger than their particular street or subdivision. Community planning can establish a shared understanding about community concerns and goals that will enable residents to participate more effectively in land use decisions, the budget process and other actions affecting their community.



A community planning program should be established upon adoption of this General Plan. Three different types of planning activities are appropriate to meet the needs of different parts of the County:

1. **Corridor Revitalization Studies.** The initial target area will be Route 1, but redevelopment plans are also needed for Route 40 and for some areas that include older commercial centers or business parks. Planning will be comprehensive in nature and might include proposals for rezoning, designation of infill and redevelopment opportunities, identification of renovation and redevelopment incentives, improvement of the natural environment and commitment for public and private investments in infrastructure.
2. **Community Master Plans.** Plans will be developed for communities that need a comprehensive conservation strategy. These communities may contain aging housing and infrastructure or have public facilities that need maintenance or renovation. They may suffer from environmental degradation or possess areas with potential for infill development or redevelopment. Addressing concerns about school performance, public safety, recreational facilities and other community services may be important in some areas. These areas may need reinvestment or expanded services to revitalize the community.
3. **Community Conservation Committees.** Many communities may not want a comprehensive Community Master Plan, but may be interested in ensuring that their neighborhood remains healthy and attractive by undertaking specific revitalization or enhancement projects. Community Conservation Committees will provide a flexible way for the County and community members to work together to identify and address specific means of undertaking Community Conservation programs. Ideally, Community Conservation programs will be ongoing, formalized, broad-based efforts whose focus is maintaining quality, desirable communities. Key activities include: a community priority setting process, continuous monitoring of the natural aging of public infrastructure and private business and residential properties, support for “community-spirit building” activities, and preventive actions to address emerging problems and issues identified

by the community. To provide communities access to the information and to the tools and support necessary to achieve these objectives, regular interaction with senior-level County personnel and other organizational and business decision-makers is required. Good models for community conservation are the Village Revitalization Committees that formed initially in the Villages of Wilde Lake and Harpers Choice. Each Village Revitalization Committee provides strong oversight to subcommittee work groups that are action-oriented and have been very successful in accomplishing many enhancement projects in a short period of time.

Some communities may be interested in specific enhancement projects. Community Conservation Committees can also be a means for the County to help communities address their needs for specific improvements to enhance the quality of their physical environment. Enhancement programs might include a community clean up campaign, the construction of sidewalks or pathways, the planting of street trees or stream buffers, and the renovation or construction of play areas or community gathering places. Good examples for community enhancement programs are the traffic advisory committees that have worked with the Department of Public Works and the community participation policies now in place for determining the appropriateness of traffic calming devices, street lights and sidewalk linkages.

Local area plans were completed in the late 1970s and early 1980s for Ellicott City, Guilford, Elkridge and North Laurel-Savage. The Elkridge plan was updated by a study of revitalization potential for Route 1 and lower Elkridge in 1990, but the others have not been updated. Implementation of these plans often lagged and recommendations were often carried out in an uncoordinated fashion. One reason for this was that community planning was not a well-established function of the County government. Therefore, sustained channels for monitoring implementation and for local community communication with planning staff were lacking.

Many changes have occurred in these areas of the County since the current plans were written. The changes have, in many cases, been positive, result-

ing in renovated buildings and historic resources, new public facilities and increasingly vibrant commercial areas. Nevertheless, the plans for these areas are increasingly out-of-date, and new issues call for updates of these plans. As the County establishes an ongoing community planning function, these plan updates should also result in sustained communication with local community organizations.

Boundaries for these and other communities will need to be established to define the limits of community plans. Boundaries can be natural or built features; highways, stream valleys, wooded areas or large institutions can all provide a definable edge. Government-defined boundaries such as census tracts, zoning districts, elementary school districts, statistical areas or historic districts may be helpful, but are often artificial. Frequently, community associations have defined their boundaries in their by-laws. Thus, researching the boundaries of several contiguous associations may be useful in delineating community boundaries.

For example, boundaries for the Route 40 Corridor Revitalization Study area might extend from Patapsco Valley State Park west to the MD 144 intersection. The study's primary focus is expected to be on commercial uses along the road and on the transition area between commercial and residential uses. The study's goals would be to ensure compatibility between the uses, to address needed buffers and to look at visual, noise, lighting and other influences along the road.

Although Howard County is a relatively small jurisdiction, the character and needs of its communities are varied. To respond to these variations, the County's community planning program needs to be flexible in defining:

1. **The County's role.** For Community Master Plans and Corridor Revitalization Studies, the Department of Planning and Zoning staff will coordinate the planning process and develop the plan with necessary support, input and direction from representatives of diverse interests. Another option is for Community Conservation Committees to be more proactive in development of enhancement programs, with information and advice provided by County staff. For ongoing community revitalization initiatives, the Columbia Revitalization Planning Committee provides an excellent model for County involvement. County

department heads and other appropriate County personnel meet regularly with leaders of community organizations and business decision-makers to identify issues and achieve community priority objectives.

2. **Scope of study.** All Community Master Plans do not need to address the same topics. Some communities will have a wider range of issues to be addressed than others.
3. **Recommended strategies or actions.** Strategies to address each community's issues will vary depending on the resources found within the community. Communities have economic, organizational, social, environmental, historic and other resources that can provide unique opportunities for community conservation and enhancement.

### **Participation in Community Planning**

Effective community planning requires active and sustained participation by those who have a stake in the local community. Stakeholders can include government agencies, residents, businesses, property owners, local institutions and community organizations.

Most properties in local communities are privately owned, and most decisions regarding use and investment are made by the property owners. Attractive, livable communities require commitments from property owners who maintain, renovate and improve their properties, and take an interest in the community. The active participation of community organizations is also important, to provide a forum for expressing community concerns and goals, to organize community participation and to provide a contact point for the County. Communities are also affected by the decisions of financial institutions, homeowners associations, major businesses/employers and other stakeholders, including places of worship, local recreation associations and environmental groups.

Planning teams for development of Corridor Revitalization Studies and Community Master Plans need to be involved throughout the planning process. They should participate in defining a work program that clearly describes how the specific plan will be developed, in preparing flexible, ac-

tion-oriented community plans that can be revised and updated as needed, and in enlisting the energy and resources of diverse stakeholders in plan implementation.

To ensure effective and timely implementation of priority projects the County needs to review and streamline its project implementation process. The goals are to streamline individual steps and to set up internal tracking and communications procedures among the various departments that are likely to be involved. Community planners should monitor the major projects and periodically report progress to keep citizens informed, especially on long-term projects.

## ***Policies and Actions***

***POLICY 5.19: Establish an effective, inclusive community planning process.***

- ◆ ***Pilot Project.*** Use the Route 1 Corridor Revitalization Study as a pilot project to develop and test the community planning process.
- ◆ ***Community Needs.*** Identify areas of the County that would benefit from development of a Community Master Plan, a Corridor Revitalization Study or a more focused community conservation program.
- ◆ ***Priorities for New Community Master Plans and Community Conservation Committees.*** Establish criteria for selection of areas that will receive priority for development of Community Master Plans and for formation of new Community Conservation Committees. Consider the areas' needs for a comprehensive versus a focused approach to issues of property maintenance, land use, public facilities, neighborhood viability and quality of life. Consider economic revitalization goals and especially the community's willingness to participate in and support planning and implementation; without the community's willingness to participate, the community planning process cannot proceed.
- ◆ ***Update Existing Community Master Plans.*** Work with stakeholders

to update existing plans for Ellicott City, Elkridge, North Laurel-Savage and Guilford.

- ◆ ***Support Existing Community Conservation Committees.*** Continue to involve County department heads, other appropriate County personnel, community stakeholders and business decision-makers in existing, ongoing Community Conservation programs to achieve priority objectives.
- ◆ ***Coordinate Programs.*** Emphasize community conservation and enhancement benefits in all new programs or initiatives regarding historic preservation, commercial development or redevelopment, mixed use opportunities, and revision of both the Zoning and the Subdivision and Land Development Regulations.

***POLICY 5.20: Improve communication between citizens and County agencies and encourage active, sustained public participation.***

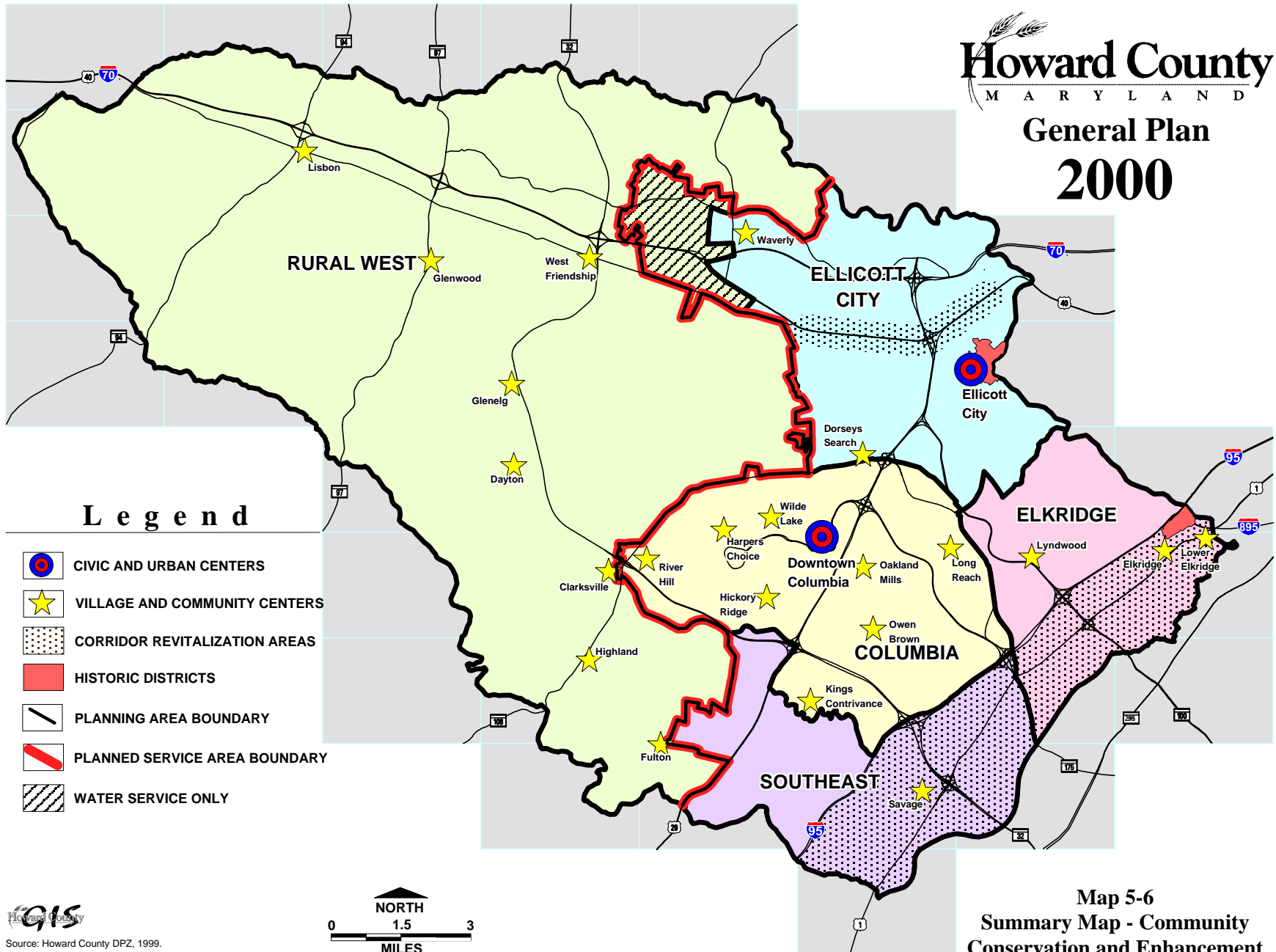
- ◆ ***Public Involvement.*** Establish planning teams consisting of residents, business owners, community and nonprofit organizations, and pertinent agencies to assist in developing and implementing Community Master Plans and Corridor Revitalization Studies.
- ◆ ***Community Self-Help.*** Offer assistance to local community groups to develop self-directed community enhancement initiatives.
- ◆ ***Monitoring Implementation.*** Establish mechanisms to provide feedback on implementation and results of Community Master Plans. Encourage continuing involvement of the planning team and other stakeholders.

## **Summary Map**

Map 5-6, Summary Map – Community Conservation and Enhancement, summarizes some of the policies and actions described in this chapter.



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Source: Howard County DPZ, 1999.

# Working With Nature

## Introduction

The desire for a high quality of life includes a high quality environment in which to live and work. As part of a large metropolitan region, Howard County will continue to develop, but this does not mean that unnecessary losses of landscape resources and environmental quality must be accepted.

One way to protect such resources is to set them aside as parks, open space or conservation easements. Practically and financially, this can only be done for the most valuable or sensitive resources. The crucial problem is how to protect environmental and landscape resources within developed areas – in neighborhoods, office parks, and commercial, manufacturing and warehouse areas. The following goals are central to realizing the General Plan vision for this chapter:

hoods, office parks, and commercial, manufacturing and warehouse areas. The following goals are central to realizing the General Plan vision for this chapter:

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### ***Vision 5:***

*Our environmental resources will be protected, used wisely and restored to health.*

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**Protect natural resources.** Public acquisition, easements and regulations are tools for protecting Howard County’s river and stream valleys, wetlands, floodplains, steep slopes, forests and wildlife habitats. The natural resource protection policies of this Plan focus on water resources, forests and contiguous tracts of undisturbed natural environments.

**Restore natural resources.** Many areas of the County were developed before current protections were in place, and much of the original streamside tree cover, wetlands and buffers were lost. Restoring these elements will do much to improve water quality and reestablish ecological continuity along these streams.

**Connect protected natural areas in a comprehensive greenway network.** A greenway network can sustain critical ecosystem functions and link valued natural, historic and cultural resources. Such a network can provide continuous protected areas along streams and rivers, create habitat and travel corridors for wildlife, connect existing forest areas to create forest interior habitat, and provide areas for public access and recreation.

**Encourage resource conservation.** Because of the broad scope of this topic, some actions are addressed in other chapters (increasing the proportion of solid waste that is recycled, improving opportunities for bicycle or pedestrian travel, and encouraging use of transit and ridesharing). This chapter addresses possible strategies for providing more energy efficient development and retaining or enhancing environmental resources through land use planning, site design and management of developed areas.

## State Planning Mandates

In 1983, Maryland became a signatory to the Chesapeake Bay Agreement (the Agreement) and pledged to help clean up and restore the Chesapeake Bay. In 1987 and 2000, the Agreement was revisited and strengthened by adding specific goals and actions for restoring the Chesapeake Bay. With the 1987 renewal, the focus for action moved beyond the shoreline of the Bay to focus on actions needed throughout the Bay's watershed. The 2000 Agreement continues to recognize that the health of the Bay is dependent on the health of its entire watershed and promotes an ecosystem-based approach to resource protection throughout the watershed.

Four of the eight visions of the amended 1992 Planning Act specifically address protection of the State's natural resources:

- Sensitive areas are protected;
- In rural areas, growth is directed to existing population centers and resource areas are protected;
- Stewardship of the Chesapeake Bay and the land is a universal ethic; and
- Conservation of resources, including a reduction in resource consump-

tion, is practiced.

The methods by which western Howard County can remain largely rural and the environmental protection issues specific to the West are covered in detail in Chapter 3, *Preservation of the Rural West*. This chapter focuses on land use problems in the County's suburban development areas that must be resolved if the County is to realize these visions.

In 1999, to better establish environmental protection as a central County function, the County created a new Division of Environmental and Community Planning within the Department of Planning and Zoning. The Division's mission is to formulate and implement plans that foster the conservation of environmental resources and the enhancement of the County's communities.

## Environmental Stewardship

Individual stewardship of the land is essential to meet resource protection goals because the majority of the land in the County is privately owned and already developed. If streams and wetlands are to be restored, forests replanted, and resources conserved and protected for future generations, individual land owners must be willing participants. Public outreach and education are important to raise awareness about the cumulative positive or negative impacts individual lifestyle choices can have on the environment. The County can encourage individual stewardship by informing citizens about resource protection agencies and programs that offer assistance.

### *Policies and Actions*

#### *POLICY 6.1: Encourage individual environmental stewardship.*

- ◆ **Environmental Stewardship Education.** Conduct public outreach and education to encourage individuals both to be good stewards of their own property and to participate in community environmental enhancement efforts.



# Waterways and Wetlands

## Streams and Rivers

Howard County lies within the watersheds of two major tributaries to the Chesapeake Bay – the Patuxent and the Patapsco Rivers. Approximately three-quarters of Howard County lies within the Patuxent watershed and the remaining quarter lies within the Patapsco watershed (Map 6-1).

The main stems of these rivers have many tributary streams which drain large areas of the County. Numerous smaller streams feed into the main stems and tributary streams. These streams are often associated with wetlands and are contained within narrow valleys defined by adjacent steep slopes. Stream valleys are extensive and encompass many of the most important of the County's natural resources – the waterways themselves, wetlands, floodplains, forests, adjacent steep slopes and wildlife habitats (Map 6-2). Degradation of any of these elements harms the environmental and landscape integrity of the others.

Much of the land along the main stems and key eastern tributary streams of the Patuxent and the Patapsco is now under permanent public ownership, but significant gaps exist. Ownership of land adjacent to western tributary streams and feeder streams is generally private.

The 1992 Planning Act requires that local governments adopt a Sensitive Areas element in their Comprehensive Plans. This element requires protection of four sensitive environments – streams and buffers, 100-year floodplains, steep slopes, and habitats for threatened and endangered species.

County regulations adopted in December 1988 require undisturbed streamside buffer areas of 75 feet along perennial streams within residential zoning districts. In 1992, regulations were added to require undisturbed streamside buffers of 50 feet along intermittent streams and along perennial streams in non-residential zoning districts. In 1988, Howard County also instituted wetland protection by requiring a 25-foot undisturbed buffer around nontidal wetlands. Additionally, most wetlands in the County are found within the 100-year floodplain, and the County has prohibited devel-

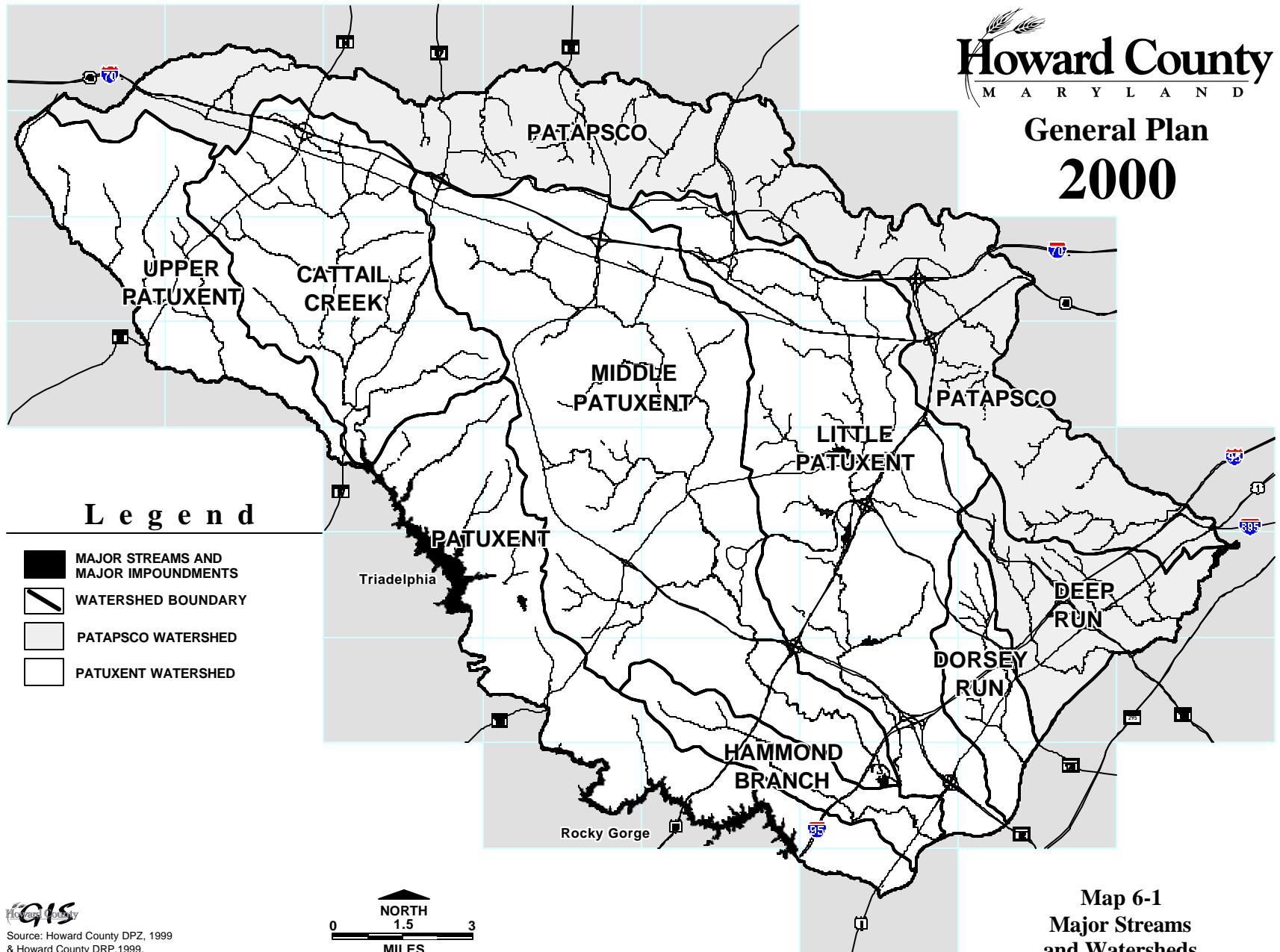
opment within the 100-year floodplain since the 1970s.

The effectiveness of stream and wetland buffers depends on the buffer width, vegetation and management practices. To provide the greatest benefit, buffers should be wide enough to allow adequate filtering of overland runoff and include adjacent, steep slopes and highly erodible soils. A forested buffer provides the greatest benefits in terms of filtering pollutants, nutrient uptake through plant roots, erosion prevention, species habitat and shading to keep water temperatures cool. Current buffer requirements could be strengthened to enhance protection of streams and wetlands. This could include increasing buffer width requirements, ensuring that buffers are located in open space or within protective easements and, if possible, establishing buffers on lands that are not addressed through the subdivision review process.

Since 1989, County regulations have prohibited the disturbance of larger areas of steep slopes, which are defined as contiguous areas greater than 20,000 square feet, with a slope of 25% or greater. Steep slope areas often provide diverse, unique habitats for a variety of plant and animal species. Disturbance of these areas generates excessive erosion and sedimentation that can be difficult to prevent even with enhanced sediment and erosion control practices. Once disturbed, steep slopes are often difficult to stabilize. When steep slopes occur in conjunction with erodible soils, these erosion and sedimentation problems are intensified. There are currently no protections for highly erodible soils in areas of less than a 25% slope. It is particularly important to protect steep slopes and erodible soils when they are adjacent to water resources because of the increased potential for direct harm to water quality and habitat.

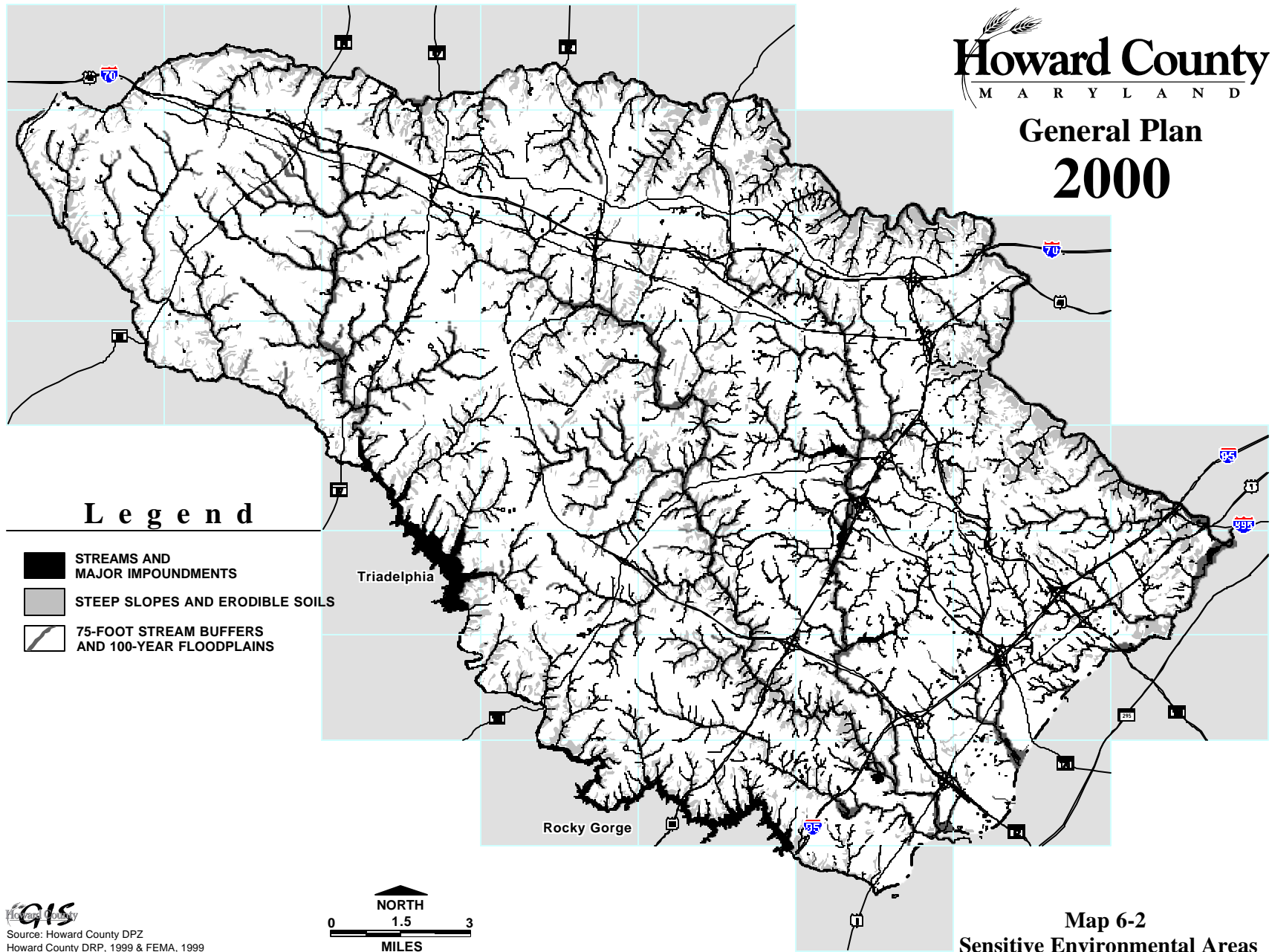
## Migratory Fish and Native Trout

Historically, the Patuxent and Patapsco Rivers provided spawning grounds for migratory or anadromous fish throughout their reach. However, populations of migratory fish declined significantly throughout the Chesapeake Bay during the 1970s and 1980s. This decline resulted from a combination of factors, including pollution and siltation of spawning areas, overharvesting, and construction of dams and other obstructions which prevented the fish from returning to historic spawning grounds.



**GIS**  
Source: Howard County DPZ, 1999  
& Howard County DRP, 1999.

**Howard County**  
MARYLAND  
**General Plan**  
**2000**



Map 6-2  
Sensitive Environmental Areas

**GIS**  
Source: Howard County DPZ  
Howard County DRP, 1999 & FEMA, 1999

The 2000 Chesapeake Bay Agreement reaffirms the 1987 Agreement's commitment to restore the Bay's fisheries, including restoring passage for migratory species. The Maryland Department of Natural Resources (DNR) has removed or modified dams and other obstructions on the Patuxent and Patapsco Rivers. However, the DNR has no current plans to address the dams for the Rocky Gorge and Triadelphia Reservoirs, which are major blockages on the upper Patuxent River, or blockages on streams above these dams in the Patuxent reservoirs watershed.

The upper reaches of the Patuxent and Patapsco Rivers in Howard County support native trout populations. Wild trout require streams with cool, well-oxygenated water and a gravel stream bed with little sediment, so the presence of trout indicates very good water quality and habitat conditions. Trout also support an important recreational sport.

The removal of fish passage blockages not only helps migratory fish species, but also contributes to the health of resident fish species by allowing resident species a greater range of habitat. Possible fish passage blockages have been identified by the County in the Patuxent reservoirs watershed; however, an assessment of the significance of these blockages and their potential for removal has not been conducted.

## **Patuxent Reservoirs**

The Rocky Gorge and Triadelphia Reservoirs, located along Howard County's southern boundary, supply water for the region's public water systems. Approximately half of the watershed for these reservoirs lies within Howard County, and the remainder lies predominantly within Montgomery County. As a signatory to the 1996 Patuxent Reservoirs Watershed Protection Agreement, the County works with neighboring jurisdictions and the Washington Suburban Sanitary Commission to protect the health of this watershed.

An important tool to protect water resources is to limit the amount and intensity of development within a watershed, because this limits land disturbance, vegetative removal and impervious cover. In particular, the use of land closest to a water body can have a significant impact on its water quality. This is because pollutants generated from the land have little

time to be filtered, treated or diluted before entering the water.

The majority of land within the Patuxent reservoirs watershed is zoned Rural Conservation (RC) and Rural Residential (RR), with a Density Exchange Option (DEO) Overlay District. Developments in the RC and RR Districts are served by individual septic systems. Septic systems are not effective at removing nitrogen from the treated effluent, but little is known about the site-specific impacts from septic system loadings to groundwater and, subsequently, to surface water.

To better protect the reservoirs, the County recently amended the Zoning Regulations to prohibit density exchange to lands within 2,500 feet of the normal water level of the reservoirs. An assessment of the Zoning and the Subdivision and Land Development Regulations may provide additional opportunities to enhance protection of the Patuxent reservoirs. This may include promoting density exchange away from lands directly adjacent to the reservoirs and ensuring that preservation parcels created through the rural cluster subdivision process are located to enhance the existing buffer adjacent to the reservoirs.

## **Watershed Planning and Management**

The health of streams is directly linked to the use of land within their watersheds. For this reason, a holistic approach to protecting, restoring and improving streams should be based on a comprehensive assessment of land use, water quality and habitat conditions for the entire watershed. Watershed-based plans also provide a framework to address other resource issues such as forest and wildlife habitat protection and creation in an integrated, comprehensive manner.

The multistate effort to restore the Chesapeake Bay has been and continues to be a strong influence in promoting watershed-based planning and management efforts to protect not only the Bay, but also the Bay's numerous tributary rivers and streams. The Bay restoration effort has been predominantly focused on achieving a goal of the 1987 Agreement to reduce nitrogen and phosphorus loadings to the Bay by 40%, using 1985 as a baseline year. This reduction is to be achieved by 2000 and then held as a cap on subsequent loadings to the Bay.

In 1992, the 1987 Agreement was amended to apportion this 40% reduction among each of the Bay's major tributary watersheds. In Maryland, nutrient reduction strategies were developed for each of the State's ten major tributary watersheds. These Tributary Strategies include diverse efforts such as improving treatment processes at wastewater treatment plants, installing agricultural best management practices, retrofitting stormwater management facilities and planting buffers.

In 1995, Governor Glendening appointed a Tributary Team for each watershed to coordinate State and local efforts to implement the strategy. The Tributary Teams are made up of representatives of the business and agricultural communities, environmental organizations, State and local governments and agencies, and private citizens. Howard County participates in the Tributary Team for the Patapsco River and the Patuxent River Commission, which is the Tributary Team for the Patuxent River.

The 2000 Chesapeake Bay Agreement reaffirms the 40% nutrient reduction commitment and further commits to define the additional nutrient and sediment reductions necessary to protect aquatic living resources in the Bay and its tributaries. The Tributary Strategies will be revised to achieve and maintain these new loading goals.

The County has only recently begun conducting watershed studies to develop basic information on water quality and habitat conditions in local streams. The County is currently conducting a comprehensive assessment for the Patuxent reservoirs watershed, which will direct future efforts for more detailed subwatershed studies, and more limited studies in the Little Patuxent River, Deep Run and Tiber-Hudson watersheds. These more limited studies have focused primarily on stream corridor conditions.

A comprehensive approach to protect, restore and improve the County's water resources involves analyzing conditions and designing and implementing improvements on a systematic, watershed basis. A watershed management plan should be developed for each watershed in the County (as shown previously on [Map 6-1](#)) to characterize existing watershed conditions, establish restoration objectives, identify restoration options, evaluate implementation feasibility and prioritize restoration projects. For larger watersheds, such as the Little Patuxent River watershed, it may be

preferable to prepare plans for smaller, more manageable subwatershed units.

Watershed protection and restoration goals may vary by watershed in relation to existing stream conditions and current and future land use. For example, in a watershed with a healthy stream system, the goal may be to protect and maintain current conditions through appropriate best management practices, while in a watershed with a degraded stream system, the goal may be to actively restore and improve conditions. Watershed management plans should be used as a tool to guide development review to ensure protection of sensitive resources. To ensure watershed goals are being met, all watershed management plans should be completed, then revisited and updated as needed, on a regular cycle.

It is especially important that areas along streams that have already been disturbed, that have limited buffers or that are cut off from other natural stream corridors be restored and enhanced. Many areas in the East were developed before current protections were in place, and much of their original tree cover, wetlands and streamside buffers were lost. Restoring these elements will do much to improve water quality and reestablish ecological continuity along these streams. Community planning, as described in Chapter 5, *Community Conservation and Enhancement*, is also a means to identify restoration opportunities and involve communities in stewardship activities.

Watershed-based planning will also provide a framework for the County to coordinate environmental expertise and environmental protection among the various County agencies. An example of this approach can be seen in Montgomery County's Countywide Stream Protection Strategy, which assigned watersheds to specific management categories, based on existing conditions and current and future land use. These management categories and their associated management tools are used to target interagency resources to address stream restoration efforts.

Watershed-based planning could also help the County address the regulatory requirements of the Federal Clean Water Act. One such requirement is the Total Maximum Daily Load (TMDL). TMDLs require an assessment of the total point and nonpoint source pollutant loads to a water body and a

management plan to bring the water body into compliance with water quality standards for each pollutant that exceeds the standards. Management plans may apportion loads among the various pollutant sources in the watershed and may require a reduction or a cap on the amount of pollutant produced. In the past, Federal oversight of State actions to comply with the Clean Water Act allowed the TMDL requirement to be addressed indirectly. More direct, formal compliance has only recently moved forward, so the impacts of TMDL management plans on future growth and watershed restoration efforts remain uncertain.

## **Stormwater Management**

Since 1974, Howard County has required stormwater management to mitigate some of the environmental impacts caused to water bodies by development. The original impetus for stormwater management was to control the increased rate of runoff flow generated by development, to reduce damage from flooding and to prevent stream channel erosion.

Stormwater runoff also carries many pollutants from the land, including oil, grease and metals from roads and driveways; sediment, fertilizers and pesticides from lawns and agricultural fields; and nutrients and metals deposited from air pollution. These pollutants degrade water quality and habitat in our local streams and, subsequently, in the Chesapeake Bay.

As more is learned about the negative impacts stormwater runoff can have on water quality and habitat conditions in waterways, the requirements for stormwater management have increased. Federal, State and local regulations for stormwater management have been expanded to add pollutant removal requirements.

Stormwater management requirements are currently undergoing a shift at the State level towards a new approach that seeks to better integrate stormwater management design into site design. The new approach emphasizes reducing the amount of stormwater runoff generated through site design techniques. Runoff that is generated is treated by a number of small facilities located throughout a site, rather than collecting and channeling all runoff to one or two large facilities. This new approach, often known as low impact development, is intended to better maintain pre-development

runoff patterns and provide additional water quality protections for streams.

Low impact development can include: using cluster development and reducing road widths and parking requirements to limit site disturbance and impervious surfaces; preserving sensitive natural areas such as forests and nontidal wetlands; directing runoff from impervious surfaces such as rooftops to pervious surfaces such as lawns, to slow the flow of runoff and allow the runoff to filter through vegetation and soak back into the ground; and building smaller, on-site quality treatment facilities often called bioretention facilities. Bioretention facilities are small holding areas that treat runoff through natural processes, including soil filtration and nutrient uptake by vegetation.

The State is also moving towards strengthening stormwater management requirements for redeveloping sites. Requiring stormwater management for redevelopment sites offers an important opportunity to improve water quality and quantity controls for stormwater runoff in areas that were developed prior to current stormwater management regulations. However, redevelopment sites are often very constrained, making it difficult to design effective stormwater management.

As a requirement of the Federal Clean Water Act, Howard County has obtained a National Pollutant Discharge Elimination System (NPDES) permit for discharges from the County's stormwater management system. The NPDES permit has significant requirements for maintaining and improving the County's stormwater management system. Improvements to stormwater management systems can include retrofits of existing facilities to add water quality treatment and building new facilities to serve older areas built without stormwater management. NPDES permit requirements have placed and will continue to place substantial staff and financial demands on the County.

Older areas of the County often require specialized stormwater management studies to address unique conditions and site constraints. Densely developed older areas were largely developed prior to stormwater management requirements. In addition, development has often occurred in the 100-year floodplain; furthermore, most of the streams in the County are

privately owned. These constraints mean there is a lack of available land to install drainage systems and stormwater management facilities, so planning, land acquisition and construction become difficult, time-consuming and expensive.

The County's NPDES stormwater discharge permit for 2000-2005 includes new requirements for watershed restoration. Within the time frame of the permit, the County must prioritize all watersheds in the context of water quality, complete assessments on two watersheds and begin restoration for one watershed. In addition to stormwater management, restoration activities can include a variety of actions, such as reducing the application of fertilizers, pesticides and herbicides, planting forested buffers along streams, creating wetlands, stabilizing stream channels and restoring instream habitat. These improvements will not only provide environmental benefits for local streams and rivers and the Chesapeake Bay, but they will also help the County address flooding concerns for roads and older neighborhoods.

Stormwater management systems must be regularly inspected and maintained and, as they age, deteriorated systems must be upgraded or replaced. The County is required by both State and local legislation to conduct regular inspections of stormwater management facilities.

In general, the County shares maintenance responsibilities with homeowners associations for residential facilities, while non-residential facilities are privately maintained. There are increasing concerns that the owners of privately maintained facilities may not be aware of their responsibilities or be financially prepared for the long-term maintenance and replacement costs associated with these facilities. The County may need to enforce these private party maintenance responsibilities, which could be very time-consuming, costly and contentious.

The County should prepare fiscal and budget analyses of projected future inspections and maintenance costs and evaluate current policies assigning private and public maintenance responsibilities, including an evaluation of policies on ownership. These analyses should be used to assess whether changes to current policies would improve or decrease the County's ability to maintain and improve the stormwater management system, and how any

changes would impact the County's costs.

Currently, stormwater management is at a competitive disadvantage for funding when compared with other more widely recognized areas of public need such as schools and roads. To assure adequate and sustained funding for the stormwater management program, funding options should be reexamined, including the possibility of a dedicated fund.

All property owners are responsible for some degree of runoff, both from their individual properties and from public lands that serve the general public such as roads and schools. All property owners would benefit from a comprehensive watershed planning program to address stormwater management, flooding and water quality and habitat improvements in local streams. Therefore, a funding approach that would apply to all property owners should be considered.

In addition to local funding, the County should continue to pursue Federal and State grant and cost-share opportunities. Grant and cost-share programs can provide funding for activities such as watershed planning, wetland creation, stream channel restoration, riparian forest buffer plantings, public outreach and education, and stormwater management.

### ***Policies and Actions***

#### ***POLICY 6.2: Ensure the environmental integrity of streams and wetlands.***

- ◆ ***Stream and Wetland Buffers.*** Strengthen buffer requirements to enhance protection of stream and wetland resources.
- ◆ ***Steep Slopes and Erodible Soils.*** Strengthen current steep slope protection requirements and institute protections for less steep but highly erodible soils, particularly in areas adjacent to water resources.

#### ***POLICY 6.3: Safeguard the environmental integrity of the Patuxent reservoirs.***

- ◆ ***Patuxent Reservoirs Protection Regulations.*** Enhance protection of



the Patuxent reservoirs through appropriate changes to the Zoning and/or the Subdivision and Land Development Regulations.

- ◆ **Interjurisdictional Patuxent Reservoirs Protection.** Continue participation and leadership in interjurisdictional efforts to protect the Patuxent reservoirs, including the Patuxent River Commission and the 1996 Patuxent Reservoirs Watershed Protection Agreement.

**POLICY 6.4: Restore and protect stream valley environments.**

- ◆ **Watershed Planning and Management.** Prepare comprehensive watershed management plans for all watersheds, to guide efforts to protect, restore and improve the County's water resources. Complete and update all watershed management plans on a regular cycle.
- ◆ **Restoration as a Component of Community Planning.** Make restoration of degraded or threatened areas along streams a prime element of community planning efforts.
- ◆ **Individual and Community Participation.** Encourage active participation of individuals and local community and environmental organizations in restoration activities.
- ◆ **Resources for Restoration.** Pursue Federal and State grant and cost-share opportunities to secure additional resources for restoration efforts. Apply jointly with community and environmental organizations and with neighboring jurisdictions, as appropriate.
- ◆ **Stormwater Management for Redevelopment.** Strengthen the stormwater management requirements for redevelopment, in coordination with State requirements.
- ◆ **Stormwater Management Retrofits.** Ensure that the retrofit program adequately addresses stormwater management needs in older communities.
- ◆ **Stormwater Management Program Funding.** Ensure adequate and sustained funding for the stormwater management program.

- ◆ **Migratory Fish and Trout.** Work with the Maryland Department of Natural Resources to continue the removal of fish passage blockages, where feasible, including blockages within the Patuxent reservoirs watershed, if warranted.

## Woodlands

### Woodlands and Other Native Plant Communities

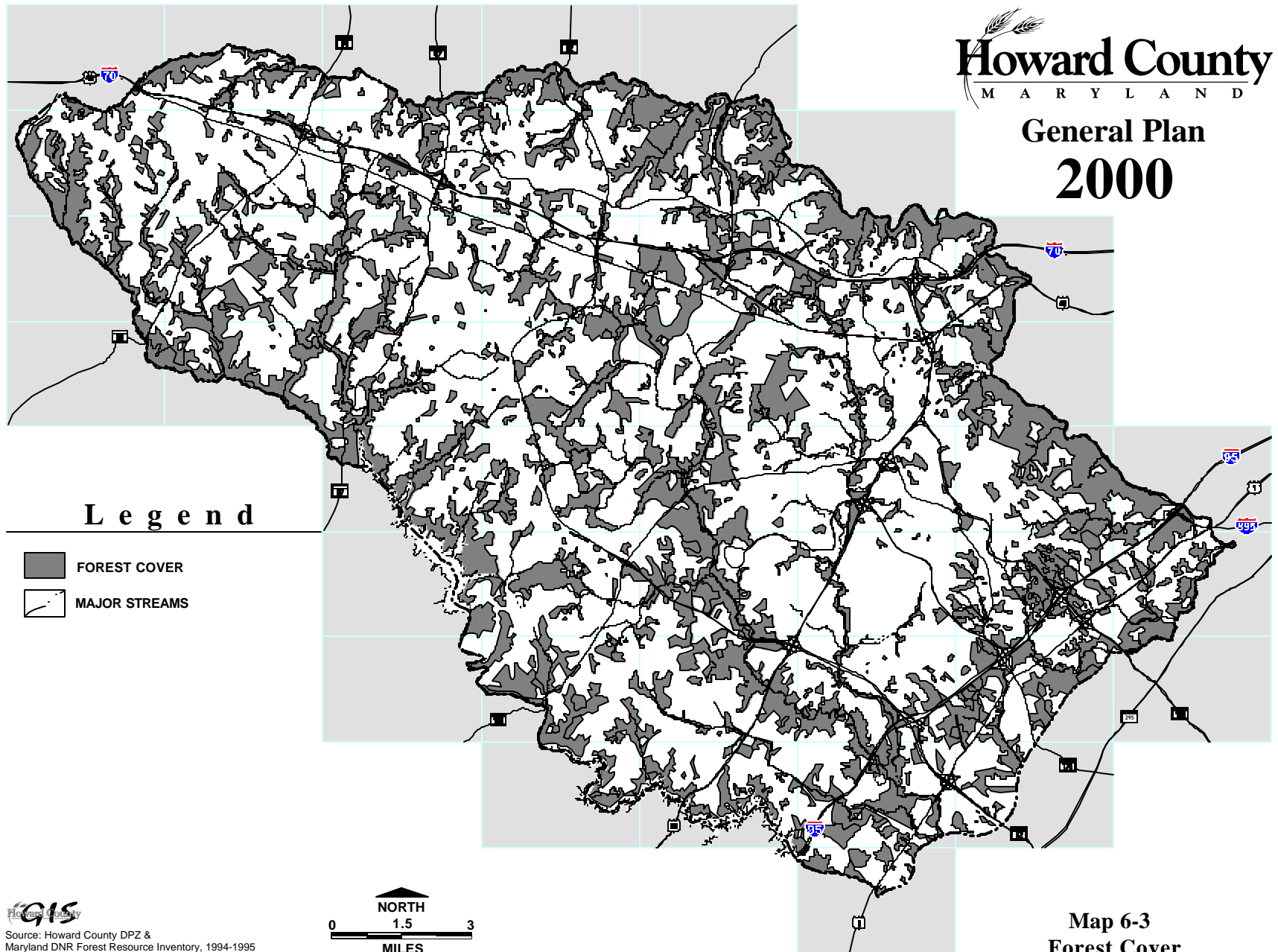
Mixed hardwood forest cover is the condition that would prevail in most of Howard County if nature were allowed to take its course. Agricultural practices were the main cause of the loss of the original forest cover in the County through the mid-20th century. Today, development for new homes, stores and workplaces poses the biggest threat to the remaining woodlands.

Woodlands are perhaps our most conspicuous and most easily appreciated environmental and landscape resource. When trees are cleared for development, the vulnerability of the environment in suburban areas is suddenly and starkly emphasized.

The Maryland Department of Natural Resources 1994-1995 Forest Resource Inventory indicates that the County has approximately 52,500 acres or one-third of the County in forest cover (Map 6-3). Woodlands in the East are prevalent primarily within stream valley areas where sensitive resources have discouraged development or where they have been included in publicly-owned conservation areas, such as the land surrounding the Patuxent reservoirs. In the West, upland and stream valley forests are more extensive than in the East.

Although there is a significant amount of forest cover left, continuing loss threatens this habitat. Scrub-shrub habitat, which is dominated by low-growing trees and shrubs, and grasslands are other plant communities that need protection.

Loss or destruction is not the only problem threatening our plant communities; loss of diversity, forest fragmentation and degradation by invasive exotic species are also concerns. Invasive exotic species are non-native



plants that pose a threat to native plant communities because their vigorous growth habit, prolific fruit or dense shade prevents desirable native plants from germinating.

There are many benefits derived from maintaining large tracts of undisturbed woodlands or other native vegetation within developments (Figure 6-1). Such stands help reduce stormwater runoff, minimize erosion and sedimentation of streams, provide wildlife habitats and provide shade to help moderate local temperatures. They form visual buffers and are scenic in their own right. Trees and woodlands are the most efficient means to control and mitigate the most common sources of water quality degradation and the problems this degradation causes for the Bay. Additionally, unlike some resources, trees have been given an explicit economic value – wooded lots for homes usually command more money than unwooded, open lots.

### Forest Interior Habitat

Forest loss and fragmentation result in a continuing decline in forest interior habitat, which is usually defined as forest at least 300 feet from the forest edge. Forest interior habitats have moist soils and shade, whereas

forest edge habitats have drier soils and more light.

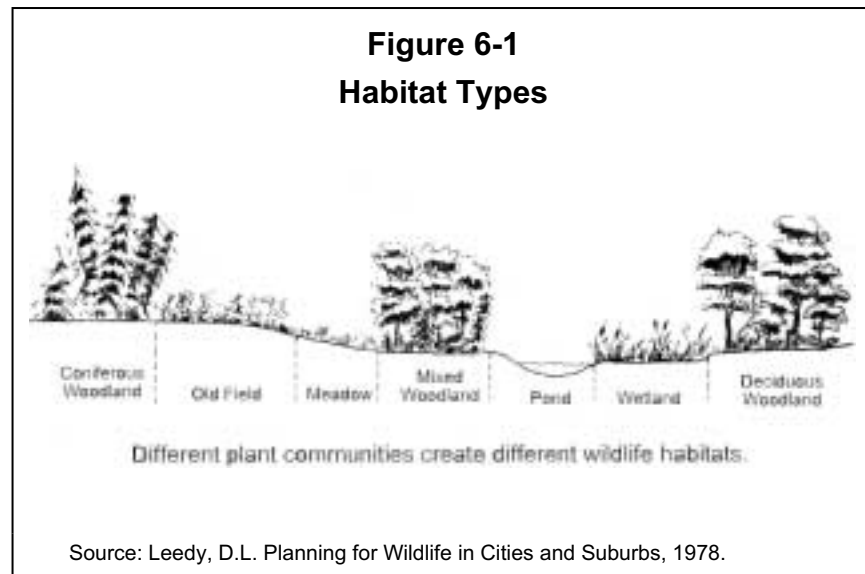
The loss of forest interior habitat threatens the survival of species requiring this type of habitat, such as reptiles, amphibians and migratory birds. Forest interior species are often unable to survive in forest edge habitats and are not adapted to the presence of species that live in edge environments. Edge species can include crows, jays, opossums, raccoons, skunks, and domestic dogs and cats. These edge species are often predatory and can reduce the populations of forest interior species, such as low-nesting birds. Forest interior species benefit from protective measures for forest resources when a concerted effort is made to minimize forest fragmentation and preserve or create large tracts of forest.

### The Forest Conservation Act

Since 1993, Howard County’s Forest Conservation Act has attempted to mitigate forest loss caused by development (Figure 6-2). This Act works to limit the area of forest that is cleared for new development and includes reforestation requirements for forest that is cleared, although not on an equal area basis. Afforestation (that is, the planting of forest on an area that is presently without forest cover) is also required on sites that do not meet a minimum forest cover specification.

The Forest Conservation Act has been in place for seven years but there has been no comprehensive assessment of the effectiveness of the program. Forests throughout Howard County are still being lost to development, and remaining forests are often fragmented into small disconnected areas. Fragmented forests have reduced habitat value, particularly for sensitive species that require large areas of forest interior habitat.

An inventory of existing forest cover is needed that is more detailed than the DNR inventory. This detailed inventory will enable the County to prioritize retention and reforestation areas to minimize and correct forest fragmentation. This inventory could be used to direct the efforts of existing State programs to preserve forest land, to direct the efforts of private landowners and organizations, and to enhance implementation of the Forest Conservation Act. The inventory could also be used to extend protection to individual trees of historic significance.



**Figure 6-2**  
**Forest Conservation Achievements, 1993-1999**

	1993/94	1995	1996	1997	1998	1999	Total
Number of Projects Subject to Act	39	69	45	47	51	77	<b>328</b>
Acres in Subject Projects	N/A	1,380	1,180	880	830	1,190	<b>5,460</b>
Acres of Existing Forest before Development <sup>1</sup>	250	490	470	280	360	500	<b>2,350</b>
Acres of Forest Retained after Development	141	260	260	160	160	240	<b>1,221</b>
Acres of Forest Cleared by Development	97	205	220	100	183	237	<b>1,042</b>
Acres of Forest Planted <sup>2</sup>	29	84	80	40	110	60	<b>403</b>
<b>Acres of Forest Protected<sup>3</sup></b>	<b>170</b>	<b>340</b>	<b>310</b>	<b>180</b>	<b>240</b>	<b>430</b>	<b>1,670</b>

Source: Howard County DPZ

N/A Information not available.

- Existing forests may include floodplain or preservation parcel forests that are not included in forests retained or cleared.
- Forests planted are minimum acreages required to meet the Forest Conservation Act to compensate for clearing. Planting requirements vary based on land use, existing site conditions and amount of forest cleared.
- Forests protected are actual acreages in forest conservation easements. Easement acres may exceed the minimum Forest Conservation Act requirements for retention and planting when property owners or developers elect to protect additional areas.

In addition to promoting forest conservation and reforestation, the use of native species for landscaping in residential and commercial developments should also be encouraged. Native plants are often hardier because they are adapted to local growing conditions and provide food and habitat for a variety of wildlife species. Because native species are often distinctive to a region, they can also promote a unique sense of place.

Protecting remaining native vegetation and creating new plant communities within and near developments requires many different techniques. Urban forestry principles are the basis for new approaches to landscape design and preservation in residential, commercial and employment areas. Urban forestry principles stem from an awareness that conditions in such areas are often greatly changed from the original natural processes that prevailed before development occurred. Techniques of preservation or mitigation in suburban developments must take fully into account different, often quite harsh, conditions such as the heat build-up near large paved areas.

## Scrub-Shrub and Grassland Habitat

Scrub-shrub habitat, which may be either successional or permanent, is becoming less common in Maryland, since rural areas generally tend to be either forest or agricultural lands. The loss of this habitat is an important factor contributing to a significant population decline for migratory songbirds.

Grasslands were not extensive in precolonial times, but there was enough of this habitat to support a persistent population of grassland-dwelling birds. Grasslands can occur in naturally barren areas and may also have resulted from large forest fires, grass fires set by Native Americans, or flooding of riparian or streamside areas by beaver dams, which would have killed nearby affected trees. Since many of these processes no longer occur, this habitat has declined significantly and grassland-dwelling birds have suffered greater population declines than any other habitat-specific bird group.

Significant opportunities exist to create additional scrub-shrub habitat along utility corridors and along the edges between forests and fields. Forest and field often occur together along roads and in parks, farms, and urban and suburban backyards. A transition zone of scrub-shrub habitat can be created along the edges between forest and field which will provide the added benefit of reducing invasion by edge species into the forest.

Grassland birds require areas of at least 100 acres or more of grassland, which presents significant challenges to protecting this habitat type. However, management techniques such as locating smaller tracts of grassland close together with connecting strips between areas can protect and create larger areas of grasslands. Additionally, opportunities exist to establish grasslands on locations such as reclaimed sand and gravel mining areas and closed landfills.

## Deer Management

In addition to the direct loss of forest acreage, an area of increasing concern is damage caused to existing forests by an overpopulation of deer. When deer exceed the carrying capacity of a forest, they eat the majority of understory vegetation, which consists of understory trees, shrubs and herbaceous vegetation. Impacts from this overgrazing of the understory can include a shift in understory species composition towards plants less favored as a food source by the deer, elimination of shrub and herbaceous species, a reduction in the populations of bird species that nest within understory habitat, and damage to the ability of the forest to regenerate. Additional problems associated with an overpopulation of deer can include damage to agricultural crops, commercial and residential landscaping, and an increase in deer-vehicle accidents.

Various management options exist for controlling deer populations, including fencing, using repellents, planting deer-resistant plants, hunting and contraception. These management options vary in effectiveness, cost and public acceptance.

In response to an increase in the deer population in Howard County, the County Council formally established a Deer Management Task Force in 1996. In July 1999, the Task Force issued a report that included findings about the deer situation in the County and the following recommendations

for a comprehensive deer management program:

- Develop and implement a public outreach and education campaign about deer issues.
- Encourage private property owners to take appropriate actions to manage deer populations.
- Manage deer populations at acceptable levels on public lands.
- Address human safety and health concerns.

## *Policies and Actions*

### *POLICY 6.5: Protect and restore woodlands and other native plant communities.*

- ◆ **Forest Resource Inventory.** Develop an inventory of existing forest cover to prioritize retention and reforestation areas, to minimize and correct forest fragmentation. Use the inventory to guide implementation of the Forest Conservation Act.
- ◆ **Forest Interior Habitat.** Prioritize forest retention and reforestation areas, with a focus on maximizing forest interior habitat. Implement a program to establish and protect wildlife corridors that include forest interior habitat.
- ◆ **Scrub-Shrub and Grassland Habitat.** Initiate a program to establish and protect scrub-shrub and grassland habitat.
- ◆ **Mitigation of Losses.** Institute a restoration program based on principles of urban forestry and agricultural best management practices. Target efforts towards establishment of riparian forest buffers.
- ◆ **Native and Invasive Exotic Plants.** Endorse the use of native plants and discourage or prohibit the use of invasive exotic plants when landscape planting is required for new development.
- ◆ **Deer Management.** Institute a comprehensive deer management program, based on the recommendations of the July 1999 Deer Management Task Force report.

# Threatened and Endangered Species

The 2000 Maryland Department of Natural Resources list of threatened and endangered species identifies 48 species within Howard County. Of these 48 species, 5 are animals and 43 are plants. The loss of species is primarily caused by habitat destruction, particularly of wetlands, riparian areas, steep slopes and forests. Therefore, protective measures for these important habitats also benefit these threatened and endangered species.

The DNR mapped the known habitat areas for the species in Howard County, and this map is used by the County for initial screening of development proposals. If this screening indicates that habitat for threatened and endangered species may be present, the developer is referred to the DNR for guidance on protecting the species and the associated habitat.

The DNR habitat map is based on information recorded from the mid-1980s to the present and may not have been field confirmed by DNR staff. Changes in habitat as a result of development may mean that currently mapped habitat may no longer be viable. Conversely, there may be areas of viable habitat that have not been delineated for protection.

## *Policies and Actions*

### ***POLICY 6.6: Enhance protection of threatened and endangered species.***

- ◆ ***Threatened and Endangered Species List.*** Adopt the Maryland Department of Natural Resources (DNR) list of threatened and endangered species known to be found in Howard County. Work with the DNR to update information on threatened and endangered species currently present within the County.
- ◆ ***Development Regulations.*** Modify and better coordinate current regulations on forest conservation, wetlands, stream buffers and steep slopes, and criteria for open space acquisitions, to enhance habitat protection. Amend the review process to ensure that all proposed de-

velopments are screened for potential habitat, using the available DNR mapped information.

- ◆ ***Habitat Buffers.*** Work with the DNR to develop criteria to determine when species habitats are likely to be present and whether additional buffering beyond the protections provided by current regulations is appropriate. Refine the development regulations, where feasible, to ensure habitat, including any required buffer area, is included in protective easements or open space.

# Green Space and Greenways

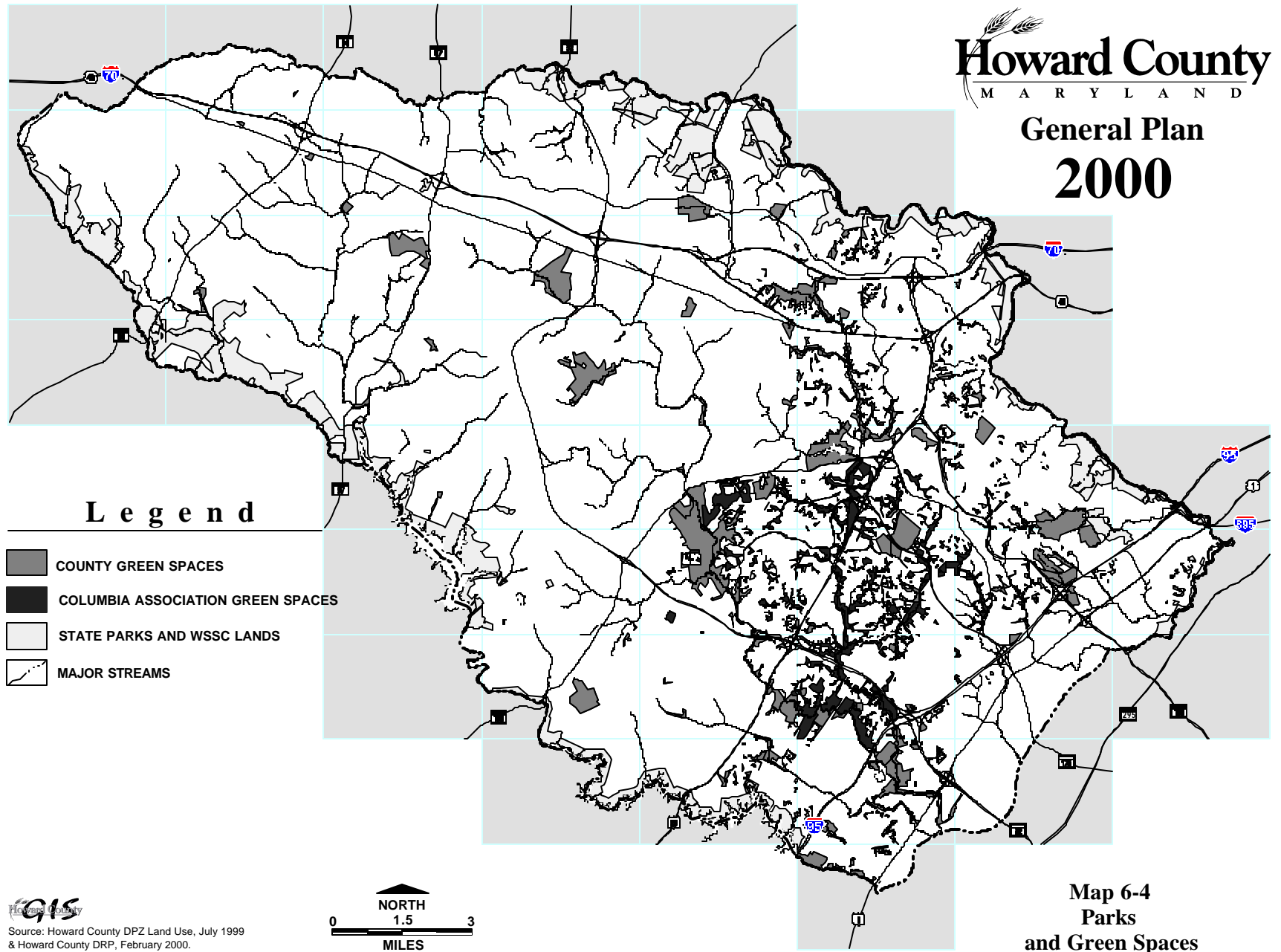
## **A Resource Protection Network**

Several types of open space, easements, parks and other types of conservation areas have been designated within the County to protect specific environmental or landscape resources (Map 6-4). Ideally, the location and size of such protected “green space” areas should result in an extensive and continuous network of natural resources that protects critical ecosystem functions. Such a resource protection network should also be the basis for well-planned greenways. Greenways are protected corridors of green space maintained in a largely natural state for a variety of purposes, including safe passage for people and wildlife.

Within the Columbia New Town Zoning District, there is an extensive network of green spaces running through and between all neighborhoods, a system that fully incorporates many stream valley environments and gives the New Town much of its landscape character. In the rest of the County, however, no equivalent system has yet been completed. The main stems of the Patuxent and Patapsco Rivers and some of their key tributaries are fairly well protected. Other areas, however, lack an extensive green space network that incorporates all sensitive environments in a consistent way.

There is currently a lack of complete, well-developed information on the natural resources present within the County. This lack of data makes it difficult to assess the environmental value of these resources and establish environmental preservation goals and priorities. A County-wide environ-







mental resource inventory is needed to guide development and implementation of resource protection networks.

Howard County is committed to looking at natural resource protection through a multifaceted system of protected areas. In planning and mapping for the system, the County will consider not only publicly owned acreage, but also historic and environmental easements, farmland easements, community association open space, reservoir areas and other privately owned protected areas. Planning for this system will include classification by type (for example, natural areas and passive recreation areas), as well as by community planning areas, so that demographic data can be related to green space and recreation needs.

The 1999 Howard County Comprehensive Recreation, Parks and Open Space Plan (R&P Plan), prepared by the Department of Recreation and Parks, guides green space planning. The 1999 R&P Plan identifies two regional greenways, the Patuxent and the Patapsco, and the following seven primary County greenways (Map 6-5):

- Long Corner Connector
- Cabin Branch
- Cattail Creek
- Middle Patuxent
- Little Patuxent
- Hammond Branch
- Deep Run

These primary greenways are located wholly within the County, predominantly along the County's major stream valley corridors. The development status of these greenways varies from potential to partially established. The regional greenways are partially established.

The 1999 R&P Plan includes a recommendation to develop a detailed greenway master plan, which could be used to guide the development review process. A detailed greenway master plan would identify and place priorities on specific lands and features to be included in the greenway system. The greenway master plan could enhance natural resource protection by identifying significant lands to achieve goals such as creating travel cor-

ridors for wildlife, connecting existing forest areas to create forest interior habitat, and protecting habitat for threatened and endangered species. The greenway master plan could also identify appropriate areas for public access and recreation. Increasing public access to natural areas can help build public appreciation and support for environmental protection.

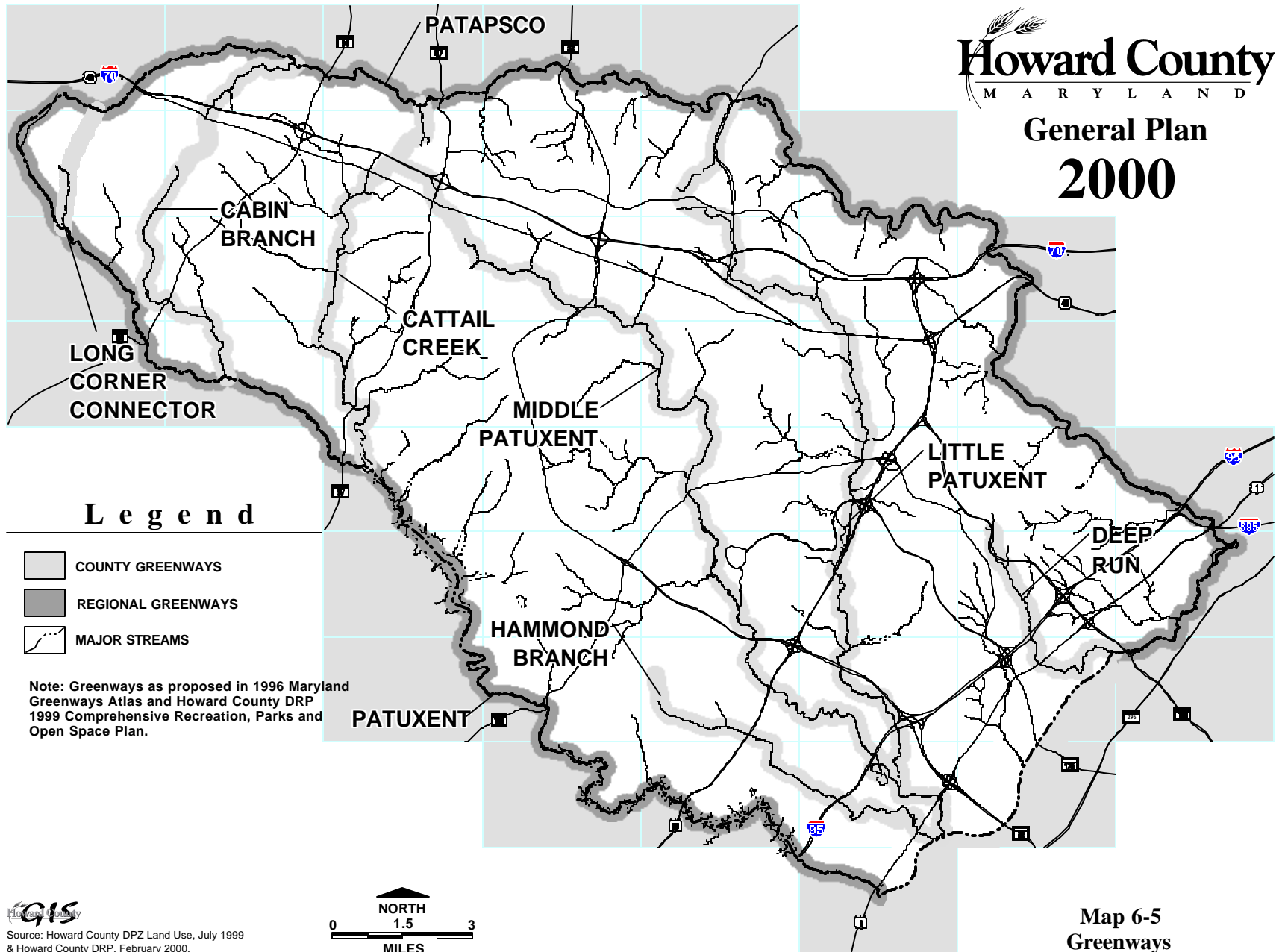
The 1999 R&P Plan also includes a recommendation to acquire upland green space. Upland green space would accommodate the creation of upland wildlife corridors and the development of recreational trails outside sensitive resource areas such as 100-year floodplains and stream and wetland buffers.

### **Green Space Planning in the Rural West**

The Rural West, with its limited types and intensities of land uses, and remaining agricultural and woodland areas, forms a far different context and set of needs than the East. A basic General Plan commitment is to maintain the rural environment of the West. Green space planning strategies suited for the East will not maintain a rural environment. The clustering and agricultural and landscape preservation requirements described in Chapter 3, *Preservation of the Rural West*, provide a different approach in the West.

The rural clustering requirements are intended to protect the most significant agricultural, environmental and landscape resources during development. Still, there is the need to secure substantial green spaces in the West that are not protected through the subdivision of specific parcels. The acreages involved in green space preservation in the West are large and land costs are high. Creative use of purchased agricultural preservation easements, historic preservation easements, private donations to land trusts and the Conservation Reserve Enhancement Program can help this effort. The County has been successful in competing for funding for easement purchases through the State's new Rural Legacy Program and will continue to pursue grant funding in the future.

Because the majority of green space in the West is privately owned, public access for recreational use will be very limited. Public access can only be provided on lands that are in public ownership, unless the County obtains a right of public access from the homeowners association or from the private property owners.



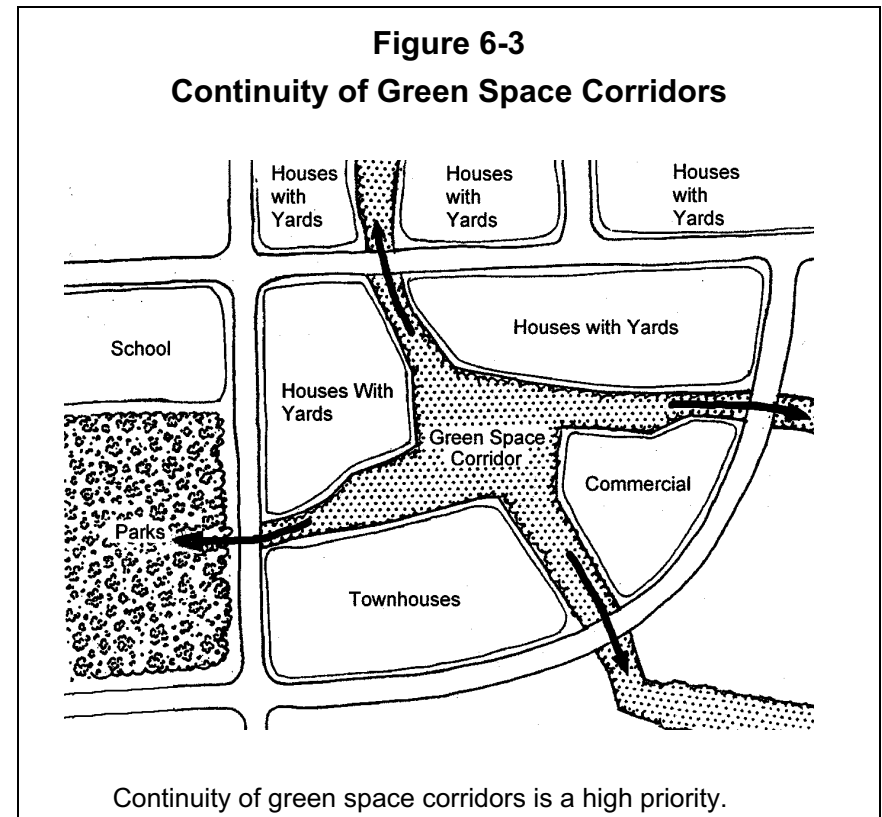
## Green Space Planning in the East

Nearly all of the County-owned green space is in the East. This makes good policy sense since most of the present and future population of the County will be living in the East, and one goal of the General Plan is to provide environmental and landscape resources close to people. Excluding the larger parks acquired as recreation or natural areas, existing green space holdings have generally been acquired through the subdivision process, in which separate open space lots are created and dedicated to the County for public use. Many resources have been protected, largely in stream valleys, but there is little continuity and few clear distinctions between open space acquired for resource protection and open space acquired for recreation needs.

The rapidly escalating cost of land in Howard County, especially in the East, further exacerbates the difficulties of the County's open space and parkland acquisition program. The shortage of land and the high price of available, appropriate acreage make it doubly important to pursue such acquisition aggressively. Two mechanisms which will be used to support these purchases are the County's reservation authority, which gives the County a three-year option on the purchase of parcels created through the subdivision process, and the State's Program Open Space fund. These mechanisms will be used to the maximum advantage for open space and parkland purchases in both the East and the West. Program Open Space funds are quite limited however, so pursuing an aggressive acquisition program will require additional sources of funding.

In the East, the main need is to fill in existing gaps in the current green space corridors along major streams and to bring resource areas of high value under public protection. As a priority, the County will investigate the opportunities for locating new County green space adjacent to existing public green spaces, such as the Patuxent River and Patapsco Valley State Parks. In addition to direct purchase and acquisition by dedication during subdivision, areas can also be acquired by donation, protected by easements or protected by long-term management agreements with private owners (Figure 6-3).

The East will have most of the County's present and future population, in



addition to having almost all of the commercial, industrial and office development in the County. Even if environmental and landscape resources are set aside as green space holdings, they will remain under immense ecological pressure from adjacent or nearby development. Working with nature to mitigate impacts after as well as during development is crucial.

## Policies and Actions

### **POLICY 6.7: Meet County-wide green space needs.**

- ◆ **Environmental Resource Inventory.** Develop a County-wide environmental resource inventory to guide development and implementation of environmental preservation goals and priorities.

- ◆ **Greenway Master Plan.** Develop a detailed greenway master plan to identify and place priorities on specific lands and features to be included in the County's greenway system. The plan should distinguish between portions of the network to be protected for environmental values and those that may have limited development for trails or other specific public uses.
- ◆ **Environmental Analysis by Community Planning Areas.** Use analysis of existing environmental and landscape resources and existing land use patterns within community planning areas to determine the best strategy for green space preservation for that area.
- ◆ **Land Trusts for Environmental Protection.** Encourage formation of local land trusts to protect environmental and landscape resources on private property.
- ◆ **County-State Cooperation.** Encourage State and County cooperation and funding to expand State and County green space adjacent to the Patapsco Valley and Patuxent River State Parks.
- ◆ **Preservation Priorities for the Rural West and the East.** In the Rural West, establish priorities for easement acquisition to fill gaps between existing protected areas, to increase continuity and to establish a critical mass of protected areas. In the East, establish priorities for fee simple acquisition to fill gaps in green space corridors and to protect sensitive resource areas.
- ◆ **Conservation Easement Purchase Program.** Examine ways of establishing a conservation easement purchase program to acquire easements in all regions of the County on land that may not qualify for the agricultural land preservation program but nevertheless merits preservation due to significant environmental or conservation value.

## Development Issues

### Working With Nature in Developing Areas

One underlying assumption of the General Plan is that development does not in and of itself mean the irretrievable loss of environmental and landscape resources. This assumption recognizes that suburban growth requires some alteration of the existing environment, but that the built environment can be designed and managed to retain or even enhance valuable environmental and landscape resources.

A key to the overall environmental health of the County is landscape design and engineering that works with nature to minimize the loss of resources, to reduce the off-site impacts of development, and to restore, where necessary, the environmental and landscape quality that may have been destroyed by past actions. Much of the environmental losses associated with development stem from two primary causes – removal of existing vegetation and changes in existing topography. The disturbances associated with clearing and grading lead to the most common environmental problems associated with development – increased runoff, accelerated erosion, transportation of sediments and nutrients into streams and rivers, and loss of wildlife habitats. Minimizing the need to clear and grade is, therefore, one of the keys to maintaining the environmental quality of developed areas (Box 6-1).

### Existing Regulations

It would be unfair to blame all the problems cited in Box 6-1 on developers and site planners. Although the developer of houses on hilly terrain can choose housing types that better fit the topography, the road grade limitations also require extensive alterations of existing topography. Because of minimum lot widths required by the Zoning Regulations, roads may have to be longer to accommodate the number of units needed to make the project economically sound. Because houses are sited to fit the road network and in some cases are tightly clustered to minimize site disturbance, the result may be houses that are poorly oriented to the sun. Other examples can be cited.

**Box 6-1****Common Environmental Losses From Site Development**

This issue is perhaps best illustrated by citing common situations which, while meeting all current regulations such as minimum stream and wetland buffers, do not work well with nature:

- Although a site is relatively flat, the desire to market large houses with walkout basements leads to much cutting and filling of the existing topography. While an effort is made to save the best of the tall oaks and tulip trees that are on the site, compaction and filling around the roots and altered drainage patterns gradually lead to the weakening, death and removal of these trees.
- Residential development in hilly terrain uses the same popular house types that are originally designed for flat or less sloping land. The existing topography has to be greatly altered to accommodate these homes. In the process, much existing natural vegetation is lost.
- Although a dense stand of trees and underbrush could be saved, the developer removes much of the shrubbery and smaller trees to make the project “more attractive” with large open lawns and some ornamental flowering trees and shrubs. A valuable local habitat is lost. There is also a noticeable increase in stormwater runoff.
- Regrading a site to collect and direct stormwater runoff to a large stormwater management facility alters existing hydrology and increases downstream erosion.
- Although total open space acreage requirements are met on a project, construction activities, clearing and regrading, introduction of stormwater management facilities, setback requirements and poor distribution of the required open space within the development eliminate most of the original environmental and landscape character that existed.
- Road layout of a new subdivision forces houses to be oriented so their main rooms face north or west, making the houses colder in winter and hotter in the summer than they need be. No attempt is made to coordinate landscape design and orientation for greater comfort and light.

Since 1990, the development regulations have been revised to address some of these concerns. The Zoning Regulations now permit somewhat decreased minimum lot widths. Residential road design standards have been revised to increase the maximum allowable grade of a road and to permit narrow streets and smaller turning radii. These revised regulations help reduce the disturbance of natural features during construction and reduce roadway impervious surfaces. Additionally, stream and wetland buffer requirements, protections for steep slopes, the Forest Conservation Act and rural cluster development have helped reduce the removal or drastic modification of original environmental and landscape elements.

Zoning and development requirements originated from concepts of land use regulation based on the goals of maintaining property values and establishing equitable regulation of similar properties. These goals are to be achieved by requiring consistency in the allowed uses and in the size and location of improvements on individual lots within a given zoning district. Minimum lot sizes, minimum lot widths, minimum setbacks and other bulk

regulations are imposed to achieve this end. However, uniformity ignores the fundamental premise of working with nature – that no two sites are exactly alike. Indeed, even adjacent properties can have sharply different existing conditions.

Zoning, subdivision and site development requirements in the County Code must protect the environment, while also providing flexibility to allow developers and builders to better match their proposals to the environmental and landscape resources of their sites. Three residential zoning categories presently address environmental and green space concerns (Box 6-2). These categories should be refined to further enhance their effectiveness in protecting resources. Each of these residential zoning districts promotes tightly clustered lots to limit site disturbance. This type of clustering provision may also be appropriate to enhance environmental protection in other residential zoning districts.

Much of the remaining undeveloped residential land in the East is located

**Box 6-2**

**Residential Zoning Districts That Address Environmental Concerns**

The Residential - Environmental Development (R-ED) zoning district was adopted in 1982 as a substitute for conventional half-acre minimum lot zoning in the environmentally sensitive areas surrounding Ellicott City. Developers in the R-ED zone are permitted only two units per net acre and are allowed to cluster units on smaller lots to keep development impacts such as clearing and grading away from sensitive steep slopes and stream valleys. In 1993, this district was also placed along the main stem of the Patapsco River between Ellicott City and Elkridge, south of the Middle Patuxent River near I-95, and on a few smaller infill parcels located elsewhere in the East to protect environmentally sensitive and historic features.

In 1993, two new zoning districts were established in the Rural West to specifically address agricultural lands and natural resource protection. The Rural Conservation (RC) zoning district was established to conserve farmland and natural resources, while allowing low density, clustered residential development. The Rural Residential (RR) zoning district was established to allow low density residential development to continue within an area already largely subdivided. Cluster subdivision is allowed to protect natural resources and agricultural lands.

These western zoning districts also have a Density Exchange Option (DEO) overlay district. This zoning overlay district allows the exchange of residential density between parcels in the RC-DEO and RR-DEO Districts, to encourage the clustering of residential development outside agricultural lands and natural resource areas.

in small, infill sites that are surrounded by adjacent development. These sites are often still undeveloped because they contain numerous environmentally sensitive features such as steep slopes, streams, wetlands and forest. The current zoning on these sites may not afford adequate protection for environmental resources or ensure that the new development is compatible with surrounding development. Use of Residential-Environmental Development (R-ED) zoning provisions should be considered for these areas.

Development requirements and/or incentives should also be instituted for better resource protection in higher density residential developments and commercial, office and manufacturing areas. These could include limits on the amount of disturbed area, enhanced design of stormwater management, phasing of construction and/or a maximum percentage of impermeable surfaces.

The Subdivision and Land Development Regulations contain a series of separate protection measures for individual resources. However, guidance is not provided for resolving conflicts that may occur between these individual measures and other development requirements such as the provision of stormwater management. Natural resource protection in the County could be enhanced by the development of an environmental guidelines handbook that provides one source to list and explain all policies and guidelines for the protection of natural resources. The handbook could also provide technical guidance, including detailed criteria and methods for implementing resource protection, and comprehensive guidance for coordinating natural resource protection issues and resolving conflicts. Such a handbook would be a valuable source of information for County staff, consultants, developers and citizens, and provide guidance in the application of natural resource protection policies, based on the type and value of the resource present.

### **Inspection and Enforcement**

Inspection and enforcement to ensure regulatory compliance is a key component of environmental protection, particularly during initial site development. Limits of disturbance must be strictly observed to protect on-site resources such as wetlands, streams and forest. Sediment and erosion control measures must be properly installed and maintained to protect both on- and off-site water resources.

Construction site inspections are currently performed by five divisions in three agencies, with each division assigned to review a specific component of the development, such as sediment and erosion control or stormwater management. This distribution of inspection responsibilities is not efficient and has created gaps in the construction inspection process.



There are also gaps in the construction completion inspection process. For example, inspections to ensure compliance with required plantings for the Forest Conservation Act and the Landscape Manual rely on self-certification by the developer. This system is not consistently reliable. These gaps and deficiencies in the County's site inspection and enforcement system need to be analyzed in greater detail to specify the problems and define the most appropriate solutions.

## ***Policies and Actions***

***POLICY 6.8: Secure better protection of environmental and landscape resources within new developments.***

- ◆ ***Expansion of Residential-Environmental Development Zoning.*** Refine the Residential - Environmental Development (R-ED) zoning district requirements and expand the use of this district in the eastern portion of the County, particularly on infill parcels, to enhance sensitive resource protection.
- ◆ ***Environmentally Sensitive Development in other Single-Family Residential Zoning Districts.*** Encourage more environmentally sensitive design in residential zoning districts other than the R-ED District. Promote the use of smaller, tightly clustered lots to limit site disturbance and maximize open space for natural resource protection.
- ◆ ***Higher Intensity Development.*** Institute development requirements and/or incentives for better resource protection in higher density residential developments and commercial, office and manufacturing areas.
- ◆ ***Environmental Guidelines.*** Prepare an environmental guidelines handbook to provide comprehensive guidance on resource protection.
- ◆ ***Enforcement of Environmental Protection Regulations.*** Conduct a performance audit of the site inspection and enforcement process to better define enforcement problems and implement measures to address these problems.

## **Energy Conservation**

Although the oil crises of the 1970s and early 1980s have faded, energy conservation is still an important issue. Past attention centered on the availability of gasoline. Current concerns focus on fossil fuel combustion as a major source of air pollution and “greenhouse gases” such as carbon dioxide. Although research is not conclusive, there is widespread concern that the build-up of greenhouse gases in the upper atmosphere may lead to global warming and climate change.

Air pollution can cause health problems for humans and animals, crop damage and the destruction of the ozone layer in the upper atmosphere, which shields the earth from harmful ultraviolet radiation. In addition, air pollution contributes to nutrient and toxic pollution in the Chesapeake Bay. It is estimated that air pollution contributes 25% of the nitrogen that enters the Bay.

The northeastern portion of Maryland, including Howard County, is designated as a severe nonattainment area for ozone. Under the requirements of the Federal Clean Air Act, this region has until 2005 to achieve substantial reductions in air pollution emissions. These reductions must be achieved even as emissions increase as a result of population growth and development.

Conserving fossil fuel resources increases our options for meeting future energy needs while reducing both current expenditures for energy and environmental impacts. For example, reducing private automobile use means less gasoline is burned, which also reduces air pollution. Improving opportunities for bicycle and pedestrian travel, encouraging the use of transit and ridesharing, and reducing commuter traffic by encouraging County residents to fill job openings within the County are addressed in Chapter 2, *Responsible Regionalism*; Chapter 4, *Balanced and Phased Growth*; and Chapter 5, *Community Conservation and Enhancement*.

Land use planning and site design can work with nature to create more energy efficient development. Actual cost reductions may not necessarily be spectacular, but more comfortable homes and outdoor activity areas can be



secured thanks to proper sun orientation, significant windbreaks, shading of buildings and streets in summer, and advantageous use of natural breezes (Figure 6-4). Street patterns, existing topography, adapting the type of architecture used to the site, and retention or selective clearing of vegetation all affect the ability to design energy conscious developments.

The Maryland Department of Natural Resources recently developed a Green Building Program to encourage the use of environmentally responsible construction. The program promotes the conservation of energy, water and other natural resources through the use of energy and water efficient products and designs, alternative recycled building materials and low impact site designs. The program promotes a Green Building Certification Program in collaboration with the Suburban Maryland Building Industries Association, and conducts training workshops and educational seminars for developers, architects and local government officials. The County may wish to consider working with the DNR to promote the Green Building Program within Howard County, as a means to encourage the use of energy conscious site planning and design practices.

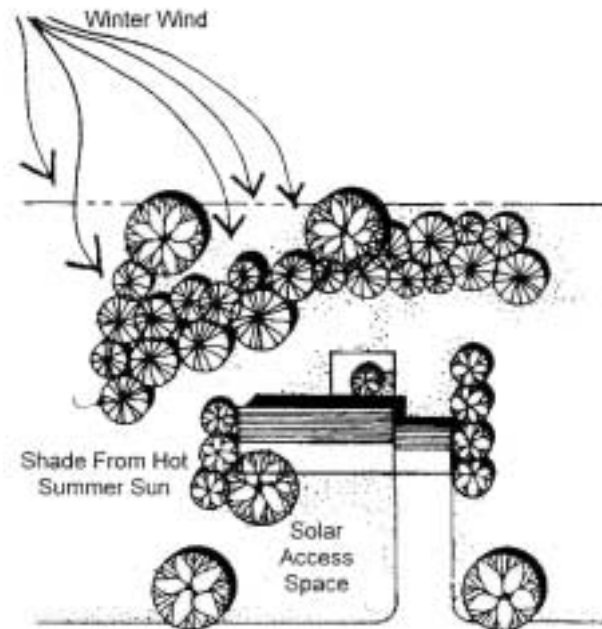
Significant energy conservation can also be achieved through the cumulative effect of many small measures in individual daily lives. These measures can range from planting trees to providing shade for homes to choosing energy efficient appliances. While most energy conservation decisions will be made by private individuals and businesses, the County can set an example and provide information and perhaps incentives to encourage others.

## ***Policies and Actions***

***POLICY 6.9: Promote the use of energy conscious planning and design, and secure the environmental benefits of energy conservation, including a reduction in air pollution.***

- ◆ ***Transit's Conservation Benefits.*** Make energy conservation part of all cost/benefit evaluations of proposals for public transit service expansion.

**Figure 6-4**  
**Energy Conscious Site Planning**



Source: Energy-Conscious Development: Options for Land Use and Site Planning Regulations, 1981.

- ◆ ***Regulations to Encourage Conservation.*** Review the Zoning and the Subdivision and Land Development Regulations to incorporate energy conscious land use and site planning practices.
- ◆ ***Energy Conservation Landscaping.*** Incorporate energy conscious landscape design principles into the Landscape and Forest Conservation Manuals.
- ◆ ***Green Building Program.*** Identify measures to encourage building design and construction that conserves energy, water and natural resources.

- ◆ **Public Outreach and Education.** Work with regional and State agencies and organizations to conduct public outreach and education on the importance of energy conservation.

## Environmental Implications of County Actions

Responsibility for using more environmentally conscious facility design, construction and management practices also applies to the activities of local government agencies. By implementing environmentally sensitive site development and property management practices, and demonstrating their effectiveness, the County can also encourage their use by others. These practices can include a variety of activities, such as using integrated pest management on County-owned sites to reduce the use of pesticides and herbicides, retrofitting environmental and landscape resources on select County-owned sites that have been greatly disturbed or lack environmental features, such as stormwater management or minimum stream buffers, and incorporating energy conservation site planning and design techniques in County projects.

### *Policies and Actions*

**POLICY 6.10: Incorporate environmentally sensitive site development and property management practices into County activities.**

- ◆ **Site Development Criteria.** Make environmental sensitivity a key concern in the selection and development of sites for future County facilities such as schools, recreation facilities, libraries and government offices. Incorporate Green Building practices into facility design and construction.
- ◆ **Stormwater Management.** Use low impact development practices, including bioretention facilities, when designing new stormwater management and retrofitting stormwater management for County facilities.

- ◆ **Land Management Practices.** Incorporate environmentally conscious landscape management practices for County facilities, open space and parkland.
- ◆ **Restoration and Enhancement of Water Quality and Wildlife Habitat.** Undertake water quality and wildlife habitat restoration, creation and enhancement activities on County-controlled land.
- ◆ **Demonstration Projects.** Promote environmentally sensitive County projects to demonstrate the effectiveness of environmentally sensitive management practices and to encourage their use by others.
- ◆ **Limits to Right-of-Way Disturbance.** Limit the right-of-way disturbance for installation and maintenance of utilities and roads.
- ◆ **Road Cleaning.** Expand the road cleaning program, which reduces the amount of debris, sediment, nutrients and pollutants that may be washed into streams and rivers, from twice a year to six times a year by 2010.

## Mineral Resources

A study completed in 1981 by the Maryland Geological Survey identified Howard County's principal mineral resources as sand and gravel, materials of great importance to the construction industry. A map produced as part of the Maryland Geological Survey study (dated 1979 and still the most accurate map available) illustrated locations which have the potential for sand and gravel resource development. These resources are confined, for the most part, to the Coastal Plain portion of the County. This resource area stretches from the Howard and Anne Arundel County border westward to a line running northeast to southwest, approximately midway between MD 29 and I-95. The Maryland Geological Survey also indicates that there is potential for crushed stone production west of I-95, based on mineral resources endemic to the Piedmont region of Howard County, but the locations of the deposits have not been identified, mapped or mined.

The 1981 study identified a number of factors which served to constrain or limit the mining industry in Howard County, including urbanization, prohibitive property values, incompatible zoning, legal restrictions, easements and the environmental concerns associated with surface mining. The report indicated that as these influences continued to affect the industry, closings would take place and the County's sand and gravel needs would eventually be met by importing the materials from other counties. That, in fact, has occurred.

The Water Management Administration of the Maryland Department of the Environment, which issues mining permits under the jurisdiction of the Surface Mining Act of 1975, currently identifies only one mining operation in Howard County. That facility, which quarries natural building stone, had less than seven acres in operation as of February 2000. Sand and gravel are no longer quarried in Howard County, however, a special exception was recently granted for a stone mining operation in an area east of I-95. This business is still seeking additional Federal, State and County approvals prior to beginning operation.

There are perhaps a few areas in the East presently not developed that have sand and gravel resources which potentially could be mined. While the extraction of the mineral resources would provide needed raw materials for the construction industry, such operations would have to be conducted in an environmentally sensitive fashion, cognizant of the impacts on the surrounding community.

Restrictions on mining operations are incorporated in State permitting pro-

cedures and in the County's Zoning Regulations, which allow sand and gravel operations only as special exceptions in rural and industrial areas, subject to extensive conditions. Mining operations are not permitted in residential districts other than rural districts. Proper pre-and post-extraction planning, in addition to proper ongoing management, is required to ensure that mining operations do not negatively affect the quality of life of the immediate neighborhood and that existing infrastructure (such as roads) can accommodate the increased demand. Final use of a mined site must be considered and planned prior to initiation of extraction. If the above conditions are met, the extraction of sand and gravel resources could be the first phase in the overall development of a site.

### ***Policies and Actions***

#### ***POLICY 6.11: Balance mineral extraction with other land uses.***

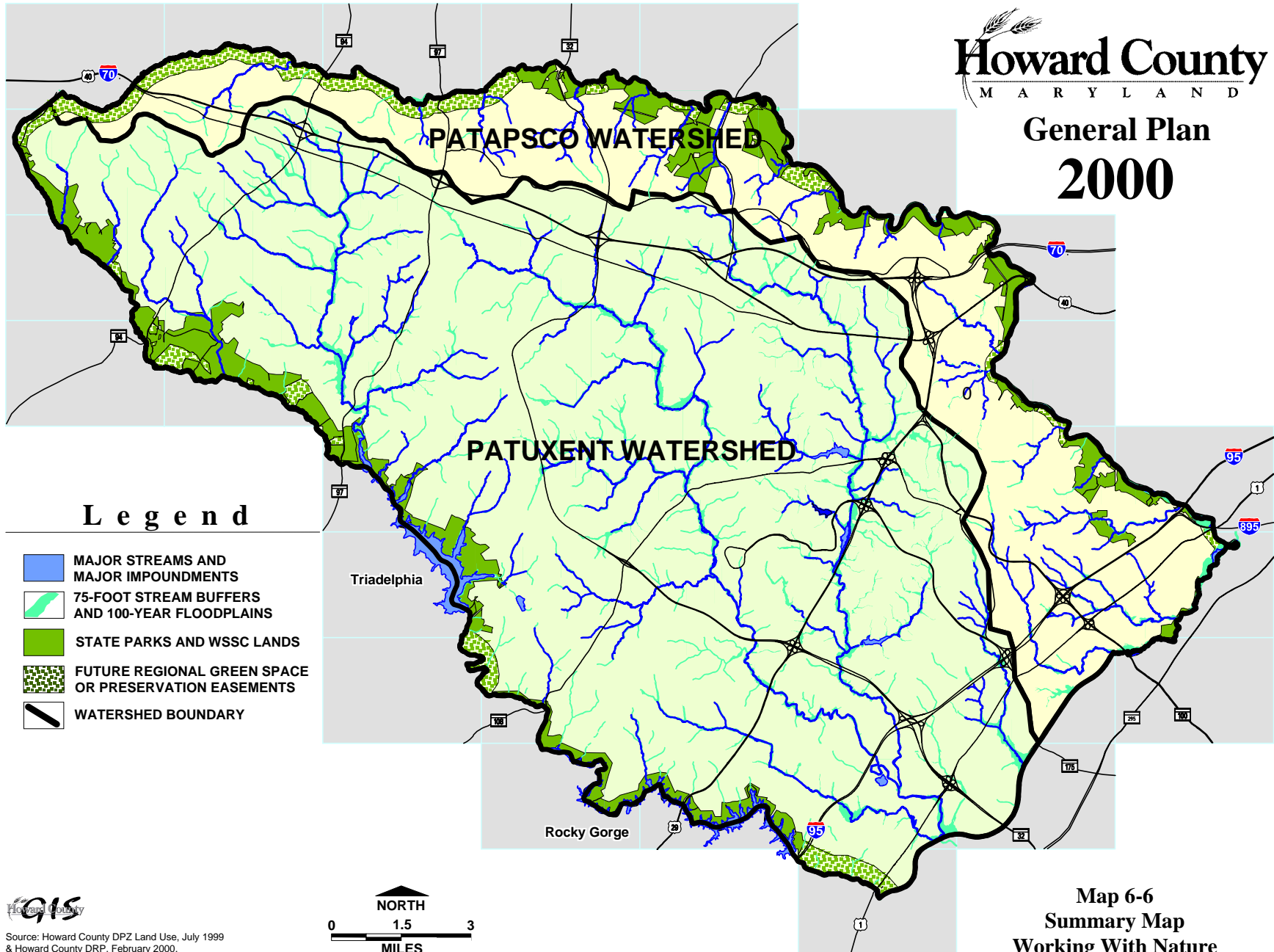
- ◆ ***Mineral Resource Inventory.*** Compare the location of known mineral resources with undeveloped parcels, analyze the value and accessibility of the resource, and determine measures to prevent pre-emption of extraction, where warranted.

## **Summary Map**

Map 6-6, titled Summary Map – Working with Nature, summarizes and illustrates some of the policies and actions described in this chapter.

**Howard County**  
MARYLAND

**General Plan  
2000**



Source: Howard County DPZ Land Use, July 1999  
& Howard County DRP, February 2000.

# Implementation

## Introduction

This chapter addresses three key components of General Plan implementation – priorities, funding and monitoring. It also focuses on the need for improved communication between County government and citizens. The following goals will enable the County to achieve Vision 6:

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***Vision 6:***  
*Our citizens will take part in the decisions and actions that affect them.*

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**Enhance communication between citizens and County decision-makers.** Open and ongoing channels of communication are needed to enable citizens to effectively make their views known and influence implementation of the policies and actions that affect them. In addition, the County will need to provide opportunities for public education so that citizens are knowledgeable about planning, development and budget decision processes.

**Encourage stakeholder participation.** This General Plan calls for Corridor Revitalization Studies, Community Master Plans, and Community Conservation Committees. Many of the recommended strategies will depend on cooperative efforts involving the County, property owners, residents, business owners and community organizations. Both planning and implementation will require the input and commitment of many community stakeholders.

**Establish achievable implementation priorities.** The General Plan identifies numerous, desirable new initiatives, many of which will require additional funding sources. Implementation priorities are identified.

**Monitor and evaluate General Plan implementation.** A formal reporting process will provide regular opportunity for public discussion and feedback on General Plan implementation, promoting refinement of policies or actions when appropriate.

## State Planning Mandates

The final vision of the 1992 Planning Act requires that the County address funding mechanisms to achieve the other State visions. The fiscal impact analysis for the General Plan 2000 concluded that the County's growth targets will generate sufficient revenues to cover the cost of public facility and service needs at the levels currently provided. Funding constraints, however, will certainly limit the pace or degree to which the County can meet all of its goals for enhancing existing facilities and services. For example, the acquisition of agricultural preservation easements in the Rural West, additional parkland in the East, or the development of a comprehensive watershed monitoring and improvement program will be limited by the available funds and staff resources. The County will need to find creative ways to overcome funding constraints to implement the policies of this Plan.

## Communication with Citizens

In meetings held during the development of this General Plan, citizens and community organizations expressed great interest in improving communication with County government and increasing citizen participation. Active, informed citizen involvement will benefit the entire County by improving the quality of planning decisions and increasing the commitment of residents to their communities. This General Plan identifies initial strategies to enhance communication and involve citizens in government decisions that impact their communities.

If citizens want to influence land use decisions, it is critical that they participate in development of the General Plan and its implementation through

Comprehensive Zoning, development regulation amendments, Community Master Plans and the budget process. Once fundamental decisions are made, there is relatively little latitude for making land use and design changes on specific development projects. The limited opportunity to influence projects that are being developed in accordance with County regulations can be very frustrating for citizens. The community planning and neighborhood enhancement programs described in Chapter 5, *Community Conservation and Enhancement*, will significantly expand opportunities for citizens to participate in the early stages of County planning and decision-making in the areas of greatest concern to them.

Many members of the General Plan Task Force and other citizens have recommended a formal Citizen Advisory Council to advise the County on major planning, zoning or land use proposals and assist community organizations in participating in local land use matters. The County Code assigns these responsibilities to the Planning Board. However, the Planning Board currently spends the majority of its time on the review of certain types of development proposals. The Planning Board's work load should be adjusted to enable it to serve as the formal, County-sponsored forum for citizen input on General Plan implementation, planning, amendments to zoning and development regulations, and providing information and assistance to citizens about how to participate in government decision-making processes.

Several of the surrounding jurisdictions use a Hearing Examiner to hold public hearings and make decisions about certain types of development proposals. There are several advantages to this approach for the County, one of which might be to reallocate some of the Planning Board's work load so that it may function more effectively as the forum for public input on General Plan implementation activities. A major advantage of having a Hearing Examiner is that the decisions are made by an attorney who is experienced in land use law, which should make the hearing process more efficient and predictable. The County Council adopted a resolution in July 2000 proposing an amendment to the Howard County Charter to authorize the County Council to appoint hearings examiners to make decisions on certain matters within the jurisdiction of the Board of Appeals. This Charter amendment must be approved by Howard County voters and will be on

the ballot in November, 2000.

The Department of Planning and Zoning (DPZ) recently began meeting with an informal group of citizens representing various community associations to seek advice for the new Division of Environmental and Community Planning. This group can also advise the Department and the Planning Board on strategies for better informing and involving citizens. Other ad hoc groups of citizens representing the views of residents, the private sector, property owners or other interests can provide a forum, as needed, for discussion of particular General Plan implementation actions.

The *Policies and Actions* below are placed in this chapter because communication and citizen involvement are overarching concerns that influence all General Plan implementation activities.

## ***Policies and Actions***

### ***POLICY 7.1: Improve public information and involvement.***

- ◆ ***Hearing Examiner.*** Establish a Hearing Examiner to assume appropriate elements of the Board of Appeals' responsibilities and to improve the efficiency and predictability of the decision-making process.
- ◆ ***Planning Board.*** Adjust the Planning Board's work load to enable it to more effectively serve as the formal mechanism for public involvement in reviewing the General Plan monitoring report, reviewing community plans, advising on revisions to zoning and development regulations, and assessing means of improving communication with citizens.
- ◆ ***Informal Ad Hoc Citizen Advisory Committees.*** Create informal citizen committees to provide advice to the Planning Board and the Department of Planning and Zoning on implementation of specific General Plan policies and actions, as well as on strategies to inform and involve citizens.

- ◆ ***Citizens Implementation Monitoring Committee.*** Convene a Citizens Implementation Monitoring Committee at least every two years to provide advice to the Planning Board and the Department of Planning and Zoning on the implementation of General Plan policies and actions, as well as on strategies to inform and involve citizens.
- ◆ ***Disseminating Information.*** Improve communication, using the County web site and printed materials, to inform and involve citizens regarding planning issues and development proposals. Ensure information is provided in an easy-to-read and use format.
- ◆ ***Annual Workshop.*** Organize an annual County-wide workshop to explain land use decision-making processes and to assist citizens interested in participating more effectively. Use the workshop as an opportunity for citizens to discuss planning issues of concern. Similar sessions might be held at meetings hosted by community organizations.

## **General Plan Policy Maps**

The *Policies and Actions* of the previous chapters and their Summary Policies Maps are the essence of the General Plan 2000. There are two General Plan Maps which synthesize these earlier products. The General Plan Policies Maps are shown at the end of this chapter in the section entitled *Summary Maps*.

### **Policies Map 2000 - 2020**

Map 7-1 presents those *Policies and Actions* that are geographically specific and can be mapped. It best explains the key physical initiatives of this Plan. Other *Policies and Actions* that are not physical concepts are understood to accompany the Policies Map.

### **Transportation Map 2000 - 2020**

Map 7-2 shows the current and proposed system for addressing the



County's diverse transportation needs, including functional classifications of existing and future roads, major road improvements, proposed interchanges, park-and-ride lots, transit and high occupancy vehicle corridors, and MARC rail stations.

## Key Implementation Priorities

The General Plan is a blueprint for Howard County over the next twenty years. Once the General Plan is adopted, steps must be taken to implement it. Some steps can be taken seven or ten years from now, while others need to be initiated sooner.

The key priorities are those which must be undertaken in the next five years. Many of these measures involve changes to County law or administrative action by the County government. However, a considerable number require coordination between the Howard County government and other entities, such as the Howard County Public School System, Howard Community College, Howard County Library, State agencies, nonprofit organizations and the private sector.

These key priorities have been organized by the six Visions and Chapters of the General Plan.

### Responsible Regionalism

**Vision 1:** Our actions will complement State and regional initiatives in resource and growth management.

#### Smart Growth

- Confirm that the Planned Service Area and growth projections meet State Priority Funding Area requirements.
- Use the County's growth boundary in decision-making regarding the provision of public facilities and services.

#### Regional Coordination

- Provide leadership to the Baltimore Metropolitan Council (BMC), en-

couraging a higher standard of member participation in BMC. Promote closer cooperation with the Metropolitan Washington Council of Governments in forecasting and transportation planning.

- Expand collaboration with neighboring jurisdictions on growth management, community revitalization, agricultural economic development, watershed management and land preservation issues of mutual concern.

#### Transportation

- Use County funds to selectively leverage additional Federal and State funds to accelerate regionally important highway improvements in Howard County.
- Work with the Maryland Mass Transit Administration, the Washington Metropolitan Area Transit Administration and neighboring jurisdictions to improve coordination and implement priorities for improved regional transit service.

### Preservation of the Rural West

**Vision 2:** Our rural lands will be productive and rural character will be conserved.

#### Preservation of Rural Land

- Purchase development rights on at least 5,000 additional acres in the Rural West.

#### Rural Development

- Amend the Rural Conservation, Rural Residential and Density Exchange Option zoning regulations to improve the design of cluster and density receiving subdivisions.
- Amend Scenic Road regulations to better mitigate views of development.

#### Economic Development

- Expand the Economic Development Authority's Agricultural Marketing Program to increase assistance to farmers with marketing, business planning, training and recruitment, and value added production.
- Encourage the State to allow secondary agricultural processing on State agricultural easement properties.

### **Environment**

- Work with the Maryland Department of the Environment, the Patuxent and Patapsco Tributary Teams, and the Patuxent Reservoirs Watershed Protection Group to investigate the relative water quality impacts from rural land uses and implement any appropriate actions.

### **Balanced and Phased Growth**

**Vision 3:** Our development will be concentrated within a growth boundary, will be served by adequate public facilities and will encourage economic vitality.

### **Growth Management**

- Incorporate General Plan housing and job growth forecasts into the Baltimore Metropolitan Council's official regional forecasts.
- Incorporate the General Plan housing growth targets into the Adequate Public Facilities Housing Allocations Chart.
- Work with the Howard County Public School System to plan for program and construction needs, using General Plan forecasts and changing enrollment patterns, in order to provide greater predictability regarding school capacity and budget needs.
- Ensure County needs for future facilities and land preservation are met by establishing and implementing land acquisition priorities via the ten-year Capital Improvement Master Plan.

### **Housing**

- Revise the Consolidated Plan to include specific strategies for providing affordable housing by retaining existing assisted housing projects, using the existing housing stock to meet affordable housing needs by expanding programs to promote home ownership and including affordable housing in small mixed use centers.
- Amend the Zoning Regulations and establish programs to better accommodate the diverse housing needs of seniors.

### **Economic Development**

- Identify target areas and adopt specific strategies, including zoning and incentives, to encourage private sector investment in renovation and re-development of obsolete or underused properties.

- Meet the need for a diverse work force via a combination of transit and affordable housing initiatives. Institute programs to encourage more Howard County residents to fill jobs within the County.

### **Sewer**

- Accommodate sewerage flows from projected growth in the Planned Service Area by constructing the planned expansion of the Little Patuxent Water Reclamation Plant.

### **Transportation**

- Update the 1996 Comprehensive Transportation Plan to prioritize improvements and include them in the County's ten-year Capital Improvement Master Plan.
- Prepare and implement a Transit Development Program to prioritize transit improvements to meet the needs of transit-dependent populations and to reduce dependence on single occupant automobiles.

### **Schools**

- Encourage the Howard County Public School System to minimize new school construction to accommodate what is expected to be a short-term peak in enrollments by using renovations, additions, modular classrooms, redistricting and/or specialized programs to attract students to schools with available capacity.

### **Lifelong Learning**

- Encourage Howard Community College to work with the Economic Development Authority and the business community to develop appropriate programs to meet the needs for work force development, continuing education and retraining, especially in technology fields.
- Evaluate the need for additional library capacity, considering the Internet, as well as other evolving formats and means of accessing information.

### **Recreation and Parks**

- Update the Comprehensive Recreation, Parks and Open Space Plan to define more specific priorities for land acquisition for both active recreation and environmental conservation. Incorporate priorities into the ten-year Capital Improvement Master Plan.

- Develop a detailed greenway plan to identify lands and features to be included in the County's greenway system, as well as protection and management strategies.

#### **Police, Fire and Rescue Services**

- Ensure that public safety agencies have adequate resources to maintain existing levels of service, to expand community policing and youth programs, and to respond to the needs of an aging and increasingly diverse population.

#### **Health and Human Services**

- Develop a Comprehensive Health and Human Services Plan to address service needs, coordination among service providers, funding and implementation priorities.

#### **Solid Waste**

- Expand programs for solid waste reduction, reuse and recycling.
- Monitor evolving waste disposal options to confirm the merit of annual extensions of the current waste disposal contract until 2013, and to ensure the County has ten years lead time for development of new facilities or programs.

#### **Fiscal Health**

- Monitor evolving trends related to the maturing of the County to assess how changing service demands, costs and revenues will impact the County's fiscal health.

### **Community Conservation and Enhancement**

**Vision 4:** Our communities will be livable, safe and distinctive.

#### **Community Planning**

- Initiate Corridor Revitalization Studies, beginning with Route 1. Amend the Zoning Regulations to create provisions that encourage small mixed use redevelopment projects on Route 1 and Route 40, near commuter rail stations and in other appropriate locations.
- Define priorities and initiate the Community Master Plan Program for communities that would benefit from a comprehensive community conservation plan.

- Assist communities wishing to establish Community Conservation Committees.

#### **Residential Development**

- Amend development regulations to improve the quality of new residential development through adequate open space, protection of natural and historic resources, and attractive street-parking relationships, as well as compatibility with and connection to adjacent uses.
- Adopt property maintenance standards and incentives to promote renovation of older residential properties.
- Increase the effectiveness of enforcement for zoning, property maintenance, building code and sign regulations.

#### **Commercial and Industrial Development**

- Revise development regulations to address scale and orientation of buildings and parking lots, ensure adequate landscaping and buffers, and provide pedestrian amenities.
- Adopt alternative standards and provide incentives, as needed, to encourage redevelopment of aging commercial and industrial areas.

#### **Public Facilities and Services**

- Develop maintenance, renovation and replacement programs for all types of County facilities.
- Use the ten-year Capital Improvement Master Plan to prioritize and schedule maintenance, renovation and replacement of aging County facilities.
- Use community planning programs to determine how to enhance communities through improved public facilities and services.
- Encourage the Howard County Public School System to implement appropriate recommendations by the Leadership Committee on School Equity to reduce disparities in facilities and performance ratings among County schools.
- Target expanded community policing and youth programs, as well as health and human services, to the areas with the greatest community conservation needs.

#### **Arts and Culture**

- Participate in funding the development of a comprehensive plan for arts and culture.

### Historic Preservation

- Update the County Historic Sites Inventory to ensure all significant historic sites qualify for the historic property tax credit program and inform property owners of historic tax credit opportunities.

### Working With Nature

**Vision 5:** Our environmental resources will be protected, used wisely and restored to health.

### Development Regulations

- Amend the Zoning and the Subdivision and Land Development Regulations to enhance protection of water resources, steep slopes, erodible soils, forests, and threatened and endangered species.

### Enforcement

- Undertake a performance audit of the site development inspection and enforcement process to better define environmental enforcement problems and to identify solutions that need to be implemented.

### Resource Protection Programs

- Develop a detailed inventory of environmental features and preserved land that will guide the implementation of environmental preservation goals and programs.
- Prepare watershed management plans for priority watersheds to guide protection and restoration programs.
- Evaluate alternatives and adopt a funding strategy for the stormwater management program.

### Implementation

**Vision 6:** Our citizens will take part in the decisions and actions that affect them.

### Public Information and Involvement

- Amend the County Charter to establish a Hearing Examiner and to modify the responsibilities of the Board of Appeals, as appropriate.
- Adjust the Planning Board's work program to enable it to more effectively serve as the formal means of public involvement in General Plan

implementation and monitoring.

- Conduct annual workshops and hold periodic work sessions with ad hoc groups of citizens to improve communication between the County government and citizens, and to provide advice on specific General Plan implementation activities.

## Funding Plan Implementation

### Fiscal Health

While funding and resources to implement General Plan *Policies and Actions* will be contributed by many stakeholders, the County's financial health and ability to fund key actions is obviously critical. Howard County currently enjoys a sound fiscal posture to provide County services and facilities. This is largely due to the County's strong assessable base, property value appreciation and high household income. Long-term planning for County operating and capital budgets requires careful consideration of future revenue sources balanced against the need for facilities and services associated with a growing and changing population and employment base.

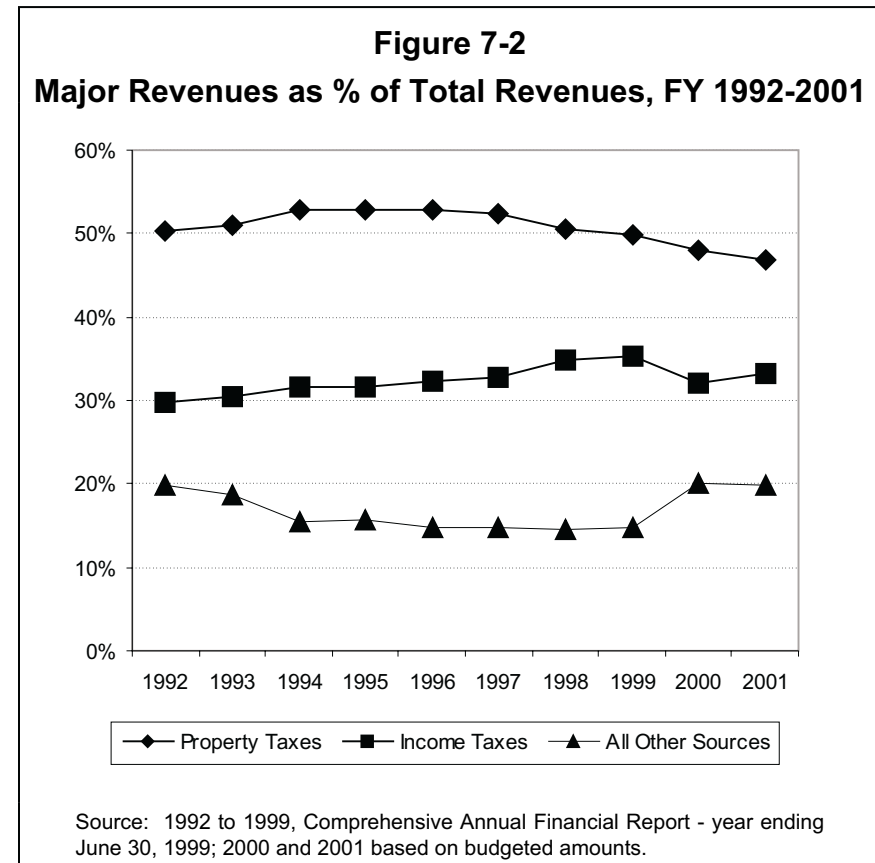
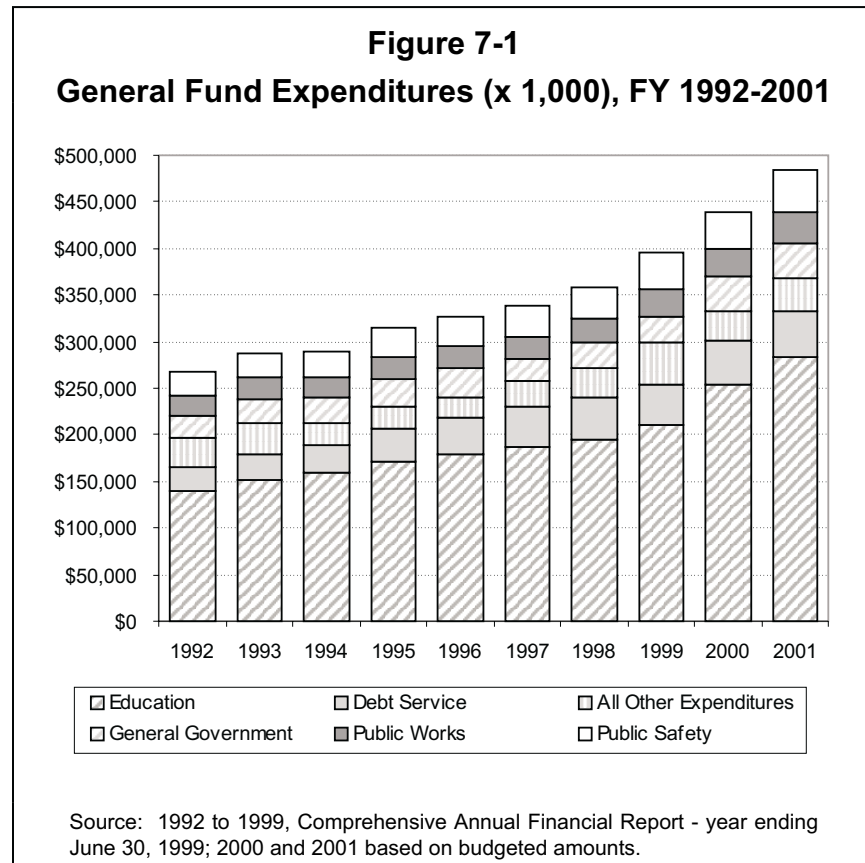
As the County matures, the dynamics of this balance will continue to change as the need for services continues to evolve. There are three important trends that will influence revenues and expenditures over the General Plan period. First, the long term demographic composition of the County population is changing, creating increased service needs for an aging and more diverse senior population and decreased service needs for the declining proportion of school age children. Second, the County's public buildings and infrastructure, such as highways, stormwater management, and water and sewer systems, will continue to age, thereby increasing maintenance and replacement costs. Finally, as the supply of undeveloped land declines, there will be a decrease in development related revenues and the potential for upward or downward changes in property values and tax revenues. The potential fiscal impacts of these evolving trends are discussed at the end of Chapter 4, *Balanced and Phased Growth*.

## Operating Budget Issues

The County's operating budget incorporates the revenues and expenditures to fund the day-to-day operations of the County. The size of the County's operating budget is strongly influenced by the number of children in the public school system, as well as growth in households and employment in the County. Since the County's last General Plan, the growth in households with school age children has resulted in continuing increases in public school enrollments. From fiscal year (FY) 1992 to FY 1999, over 50% of the County's operating budget was used to operate the public school system. In recent years, FY 2000 and FY 2001, the percentage has increased to almost 60% (Figure 7-1). Given future demographic and development projections, it appears that the public schools will continue to absorb a high

proportion of the County's operating budget into the next decade. However, after 2010, as residential development slows and the County eventually reaches build-out, and as the demographic shift to more seniors and fewer school age children evolves, it is likely that the operating costs for schools will become proportionately less. These trends should be monitored in order to anticipate changing cost structures.

Furthermore, as development slows so will the increase in property and income tax revenues. Figure 7-2 shows that property and income taxes are a significant portion of County operating revenues, accounting for more than 80% of the total revenues. The fiscal analysis discussed in Chapter 4, *Balanced and Phased Growth*, concludes that, based on current service levels,



existing development does not subsidize new growth nor does new growth subsidize existing development. That is, new growth pays for itself and only itself. This indicates that as new growth slows, the impact on the operating budget's ability to pay for services will be minimal, assuming current service levels. However, the funding of maintenance and replacement of existing infrastructure may present difficulties, as discussed in the following section.

As mentioned in Chapter 4, *Balanced and Phased Growth*, an important question is the relation of property values to a declining land supply. As undeveloped land diminishes, property values will likely increase, particularly if Howard County continues to be a highly desirable place to live and work. Any increase in property values will certainly help the future fiscal picture in Howard County. There are numerous potential offsetting influences, however, including the amount, pace and type of new development in surrounding counties, the aging of the housing stock and the effectiveness of community conservation initiatives in older communities. These offsetting factors may lessen any potential increase or perhaps even decrease the tax base, depending on the extent of their impact. These competing trends should be monitored to determine any impact they may have on the budget.

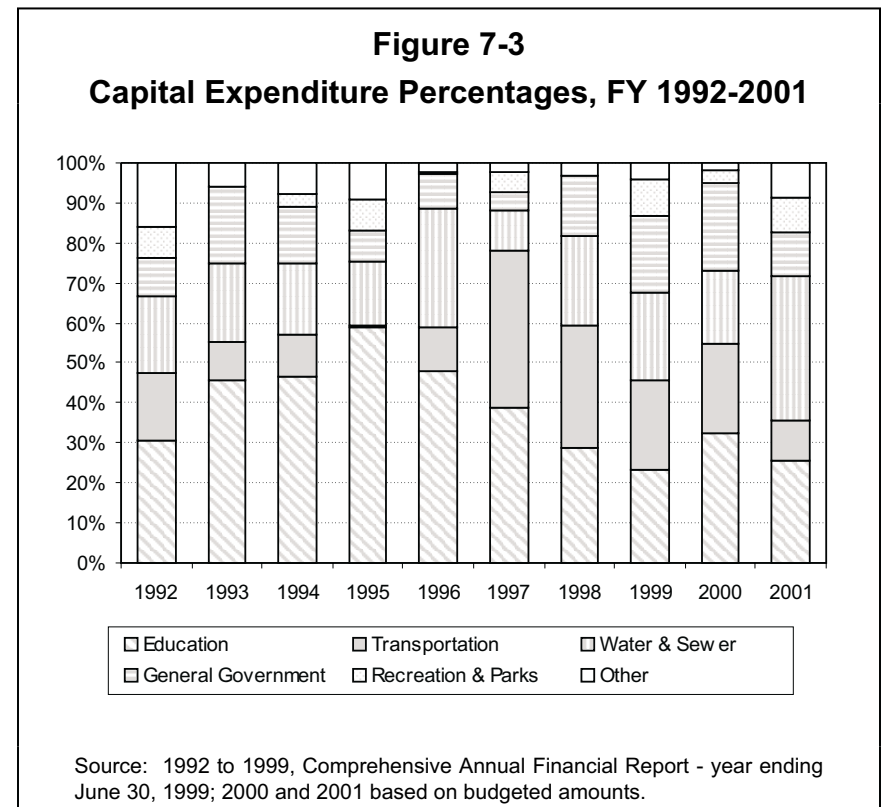
Furthermore, Howard County's population is aging, but it is not known how many seniors will remain in the County. As the population of the County ages, there may be an increase in the number of households with relatively lower fixed retirement incomes. As a result, the close relation between high property values and high income tax revenues may weaken in the future. At the same time, however, if retirees continue to live in the County, the number of school age children will be reduced, thereby lowering the school budget needs. These evolving trends should also be monitored to better understand, anticipate and plan for budgetary changes.

### Capital Budget Issues

The capital budget allocates revenues to purchase land and construct or renovate County facilities. Capital facilities are usually large, costly and have a long useful life. They include schools, libraries, fire stations, roads, parks, community centers, water and sewer systems and other facilities.

Consistently, the most significant portion of the capital budget has been devoted to construction of schools. From FY 1992 to FY 2001, capital expenditures for schools have ranged from a low of 23% of the FY 1999 Capital Budget to a high of 59% in FY 1995 (Figure 7-3). These figures reflect the substantial school construction and renovation program which has been necessitated by the continued growth in the number of school age children. Indeed, over the last 12 years alone, 24 new schools have been built in the County, in addition to numerous renovations. Other consistently large capital budget categories include water and sewer systems and the County's transportation system of roads and bridges.

Similar to operating costs discussed above, as development slows and the County reaches build-out and as the population ages, there will be a clear shift in capital funding priorities and needs. School expansion needs will be



less while facility needs for a growing senior population may grow. Along with this shift in funding priorities will be another very important trend – the aging of the County’s existing infrastructure and buildings. Over the period of this Plan, funding needs for the maintenance and replacement of the County’s existing infrastructure will come to the forefront. Many of the County’s current facilities are already showing signs of aging. The repair and replacement of existing infrastructure and buildings will continue to become more of a priority.

As indicated earlier, the fiscal study shows that new growth pays for itself. That is, new growth generates sufficient revenues to pay for necessary operating and capital needs, based on current service levels. Just as importantly, the fiscal study also shows that the net revenues generated from new growth, over and above initial capital costs and ongoing operating costs, are minimal. Therefore, it is clear that new development, like existing development, does not generate sufficient revenue to pay for infrastructure maintenance and replacement and/or increases in service levels. The current budget does not include major expenditures for the replacement and/or maintenance of existing facilities. As this need increases over the next 20 years, some difficult choices will need to be made, including decisions about creating additional dedicated funding sources for facility maintenance and replacement. The County should be proactive in anticipating this shift and setting up capital replacement programs.

Maintenance and replacement needs (which will increase as growth slows) may be accommodated as bonds for new growth-related facilities are paid off, giving the County additional bonding capacity to finance maintenance and/or replacement. Careful phasing of facility maintenance and replacement will help the County in budgeting for these needs. The positive influence of slower growth resulting in fewer new capital expenditures, particularly for schools, must be weighed in relation to the changing property and income tax base, on the one hand, and the extent of capital replacement/maintenance needs of existing infrastructure, on the other.

## Budget Transition

The County’s transformation over the next 20 years will be unlike anything experienced over the last 30 years. As growth slows and build-out becomes

a reality, and as the County’s population and infrastructure age, budget priorities and funding mechanisms will change as well. The County is in the fortunate position to prepare for this shift with foresight. Evolving trends should be monitored to better understand, anticipate and address any negative budgetary implications and to take advantage of positive ones.

## Policies and Actions

### **POLICY 7.2: Monitor evolving trends.**

- ◆ **Trend Monitoring Report.** Monitor trends that will impact the County budget, including demographic shifts, changing property values and changing household income characteristics. Periodically prepare a report that provides trend information and assesses potential impacts on future revenues, and operating and capital costs.

## Monitoring Implementation

Prior to the 1990 General Plan, Howard County had no formal mechanism for monitoring implementation of General Plan policies. The 1990 General Plan led to the establishment of the Development Monitoring System, which provides yearly feedback on the number of new jobs created, number and types of dwelling units approved and built, housing allocations, school capacity and amount of acreage placed in preservation. These are compared with the General Plan growth targets and are used in establishing the annual housing allocations that can be approved under the Adequate Public Facilities Ordinance.

The Development Monitoring System is an effective means of monitoring growth and helping the County to achieve the General Plan growth targets. However, other *Policies and Actions* have no feedback mechanism. This General Plan recommends that a broader General Plan monitoring program be established with several purposes:

- Allow the citizens, the Planning Board and County government to monitor progress in implementing the General Plan.



- Disseminate this information to community organizations and interested citizens and provide an opportunity for public comment and discussion.
- Recognize accomplishments, establish or modify priorities and identify where adjustments to *Policies and Actions* are needed.

**Implementation Indicators.** Implementation indicators are concrete measures of progress toward established goals. This General Plan establishes implementation indicators for key *Policies and Actions*. Most of the indicators chosen rely on data that is available and reliable, so that real progress can be evaluated. However, some important *Policies and Actions* require qualitative rather than quantitative measures. These indicators will need to be reported in a narrative format.

**Trend Indicators.** Trend indicators are quantitative measures that are intended to help track the evolving trends that will most shape our transition to a maturing County. The intent is to monitor the assumptions that underlie some key *Policies and Actions* in order to help determine whether adjustments are needed.

Limited staff time and resources make it infeasible for a monitoring report to cover all of the General Plan's *Policies and Actions* and critical trends. The indicators listed in [Figures 7-4](#) and [7-5](#) have been chosen based on their importance and their ability to be evaluated. A manageable number of indicators will allow the most important goals and trends to be monitored with a reasonable amount of time, effort and cost. It is anticipated that the list of indicators will need to be refined over time based on experience and changing implementation priorities. Recommendations for any revisions should be set forth in the General Plan Monitoring Report for discussion and approval by the Planning Board.

## ***Policies and Actions***

### ***POLICY 7.3: Monitor implementation of General Plan 2000.***

- ◆ ***Development Monitoring System.*** Continue to maintain the Development Monitoring System and to produce the annual Development Monitoring System Report.
- ◆ ***Citizens Implementation Monitoring Committee.*** Convene a Citizens Implementation Monitoring Committee (appointed jointly by the County Executive and County Council) at least every two years to evaluate the progress in implementing the General Plan.
- ◆ ***General Plan Monitoring Report.*** Every two years, have the Citizens Implementation Monitoring Committee prepare a report that provides a brief overview of the steps that have been taken to implement General Plan *Policies and Actions* and tracks progress based on the indicators listed in [Figure 7-4](#).
- ◆ ***Evaluation and Refinements.*** Present the General Plan Monitoring Report to the Planning Board at a public meeting to obtain public comments on the implementation progress, adjustments to implementation strategies and/or refinements to implementation or trend indicators.

## **Summary Maps**

[Map 7-1](#), Policies Map, 2000 - 2020 and [Map 7-2](#), Transportation Map, 2000 - 2020, synthesize the Summary Maps from the previous chapters.

**Figure 7-4  
Implementation Indicators for General Plan 2000**

Chapter	Policy/Action	Implementation Indicator	Measurement	When
<b>Responsible Regionalism</b>	Priority Funding Area	<ul style="list-style-type: none"> <li>Confirmation that Planned Service Area meets Priority Funding Area requirements</li> </ul>	<ul style="list-style-type: none"> <li>Approved by the Maryland Department of Planning</li> </ul>	1
	Interjurisdictional Cooperation	<ul style="list-style-type: none"> <li>Interjurisdictional initiatives expanded</li> </ul>	<ul style="list-style-type: none"> <li>Number and types</li> </ul>	0
	Funding for Regional Transportation Improvements	<ul style="list-style-type: none"> <li>Federal and State dollars spent for regional highway and transit improvements in the County</li> </ul>	<ul style="list-style-type: none"> <li>Highway budget amount</li> <li>Transit budget amount</li> </ul>	0 0
<b>Preservation of the Rural West</b>	Rural Land Preservation	<ul style="list-style-type: none"> <li>Number of acres in preservation easements increases</li> </ul>	<ul style="list-style-type: none"> <li>25,000 acres of agricultural easements and 30,000 acres protected by all methods</li> </ul>	0
	Design of Cluster and Density Receiving Subdivisions, and Scenic Road View Protection	<ul style="list-style-type: none"> <li>Regulations improved</li> </ul>	<ul style="list-style-type: none"> <li>Code revisions adopted</li> </ul>	1
	Agricultural Marketing Program	<ul style="list-style-type: none"> <li>Assistance to farmers through County and State programs increases</li> <li>Value of agricultural production increases</li> </ul>	<ul style="list-style-type: none"> <li>Number of farmers and type of assistance</li> <li>Amount or percent of increase</li> </ul>	0 0
<b>Balanced and Phased Growth</b>	General Plan Housing and Job Growth Forecasts	<ul style="list-style-type: none"> <li>Forecasts are incorporated into Adequate Public Facilities Housing Allocation chart</li> </ul>	<ul style="list-style-type: none"> <li>Chart amended</li> </ul>	1
		<ul style="list-style-type: none"> <li>Development Monitoring System tracks development activity</li> <li>Forecasts incorporated into official Baltimore Metropolitan Council (BMC) regional forecasts</li> </ul>	<ul style="list-style-type: none"> <li>Report produced annually</li> <li>New BMC forecasts adopted</li> </ul>	0 1
	Land Acquisition and Construction of New Public Facilities	<ul style="list-style-type: none"> <li>Ten-year Capital Improvement Master Plan becomes a meaningful tool for County planning, budget priority setting and construction</li> </ul>	<ul style="list-style-type: none"> <li>Predictable implementation schedule</li> </ul>	0
	Senior Housing and Affordable Housing	<ul style="list-style-type: none"> <li>2001 Consolidated Plan includes strategies to retain existing assisted housing, make existing units affordable to low and moderate income households and include affordable housing in small mixed use centers</li> </ul>	<ul style="list-style-type: none"> <li>Plan amended</li> </ul>	0
		<ul style="list-style-type: none"> <li>More senior housing units constructed or renovated</li> </ul>	<ul style="list-style-type: none"> <li>Minimum of 250 new units/year</li> </ul>	1
When:	0 = ongoing progress in all reporting periods 1 = completed or significant progress in first reporting period 2 = completed or significant progress in second or later reporting period			
Measurement:	County agencies and stakeholders to determine appropriate quantitative measures of achievement. Measures of achievement are qualitative and difficult to document. Surveys or informal feedback mechanisms need to be established.			

**Figure 7-4**  
**Implementation Indicators for General Plan 2000**

<b>Chapter</b>	<b>Policy/Action</b>	<b>Implementation Indicator</b>	<b>Measurement</b>	<b>When</b>
<b>Balanced and Phased Growth</b>	Economic Development	• Annual job target met or exceeded	• 4,000 jobs/yr. (2000-2010)	0
		• Number of County jobs filled by County residents increases	• To be determined*	2
		• Value of assessable base for non-residential property increases	• 2% over the Consumer Price Index	1
		• Strategies to encourage private reinvestment in underused property adopted	• Number or value of building permits for renovation	2
	Sewage Treatment Capacity	• Planned expansion of Little Patuxent Water Reclamation Plant constructed	• Date completed	2
	Transportation Priorities	• Transit Development Plan completed	• Priorities in 10-year Capital Improvement Master Plan	1
		• Comprehensive Transportation Plan of highways updated	• Priorities in 10-year Capital Improvement Master Plan	2
	Road Improvements	• Federal, State and County dollars spent	• Average of \$35 million per year	0
	Transit Use	• Passengers served by fixed route and paratransit increase	• Amount of increase over previous year	0
	School Capacity	• School overcrowding reduced	• Number of schools operating over-capacity by level	2
		• Expenditures for new construction are minimized to meet short term needs for additional capacity	• Budget for new school construction	0
	School Equity	• Funding is available for school equity initiatives	• Approved budget	1
		• Performance differences among schools diminish	• To be determined*	2
	Lifelong Learning	• Volume of County library circulation/services provided increases	• Amount of increase	0
		• Howard Community College enrollment in credit and non-credit classes increases	• Amount of increase	0
	Recreation and Parks	• Comprehensive Recreation, Parks and Open Space Plan is updated, including specific land acquisition, greenway and trail priorities	• Priorities incorporated into 10-year Capital Improvement Master Plan	2
		• Priority actions implemented	• Number and types of actions	2
	Police Services	• Number of crimes per 1,000 population remains stable or reduced	• Equal to or less than 445 per 1,000 (1998 level)	0
	Fire and Rescue Services	• Average response time in minutes	• To be determined*	0

**Figure 7-4  
Implementation Indicators for General Plan 2000**

Chapter	Policy/Action	Implementation Indicator	Measurement	When
<b>Balanced and Phased Growth</b>	Health and Human Services	• Comprehensive Health and Human Services Plan	• Completed	1
		• Priority actions implemented	• Number and type	2
	Solid Waste	• Amount of residential and non-residential waste recycled increases	• 40% of total volume	0
<b>Community Conservation and Enhancement</b>	Regulations for Small Mixed Use Redevelopment, Special Exceptions and Quality of New Development	• Regulations improved	• Code revisions adopted	1
	Corridor Revitalization Studies and Community Master Plans	• Plans underway or completed	• Number and types	1
		• Implementation of priority actions	• Numbers and types	2
	Community Conservation	• Community Conservation Committees established and supported	• Numbers and types	0
		• Projects underway or completed	• Numbers and types	
	Property Maintenance and Reinvestment	• Regulations and/or incentives adopted and funded	• Number or value of building permits for renovations	2
	Aging Public Facilities and Infrastructure	• Maintenance and replacement schedules for all types of facilities completed	• Incorporated into 10-year Capital Improvement Master Plan	2
	School Equity	• Differences between schools are not a significant factor in home purchase decisions	• To be determined*	2
Crime	• Perceptions of crime are not a significant factor in home purchase decisions	• To be determined*	2	
Historic Preservation	• Sites added to the historic inventory or updated	• Number of sites	2	
	• Use of historic preservation tax credits increases	• Value of projects approved	0	
<b>Working With Nature</b>	Regulatory Protection of Environmentally Sensitive Features	• Regulations improved	• Code revisions adopted	1
	Environmental Enforcement	• Performance audit of development inspection and enforcement	• Completed and actions taken	1
	Environmental Inventory	• Environmental inventory prepared and guiding environmental protection programs	• Initial mapping completed	1
	Watershed Management Plans	• Watershed plans prepared for priority watersheds	• Complete 2 within 5 years	2
		• Priority restoration projects in progress or completed	• Number and types of projects	2
Stormwater Management	• Funding strategy to meet Federal, State and County requirements adopted	• Funding in budget	2	

**Figure 7-4**  
**Implementation Indicators for General Plan 2000**

Chapter	Policy/Action	Implementation Indicator	Measurement	When
<b>General Plan Implementation</b>	Public Information and Involvement	• Hearing Examiner established	• Code revisions adopted	1
		• Planning Board effective as a forum for meaningful citizen involvement	• To be determined**	0
		• Informational materials on the web and/or in print expanded	• Volume and types of materials	0
		• Workshops and meetings with citizen groups effective in improving communication and involvement	• To be determined**	0

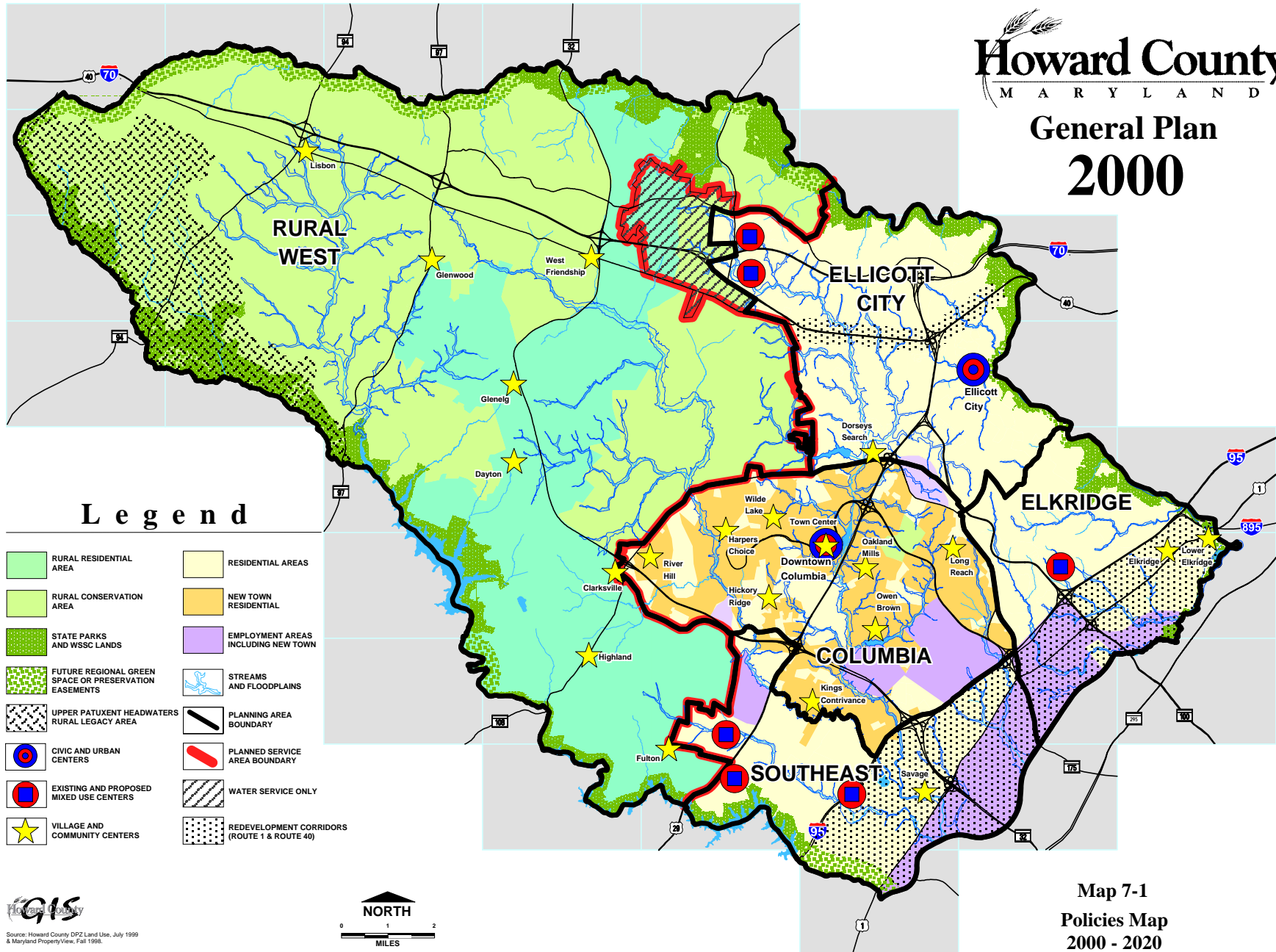
**Figure 7-5**  
**Evolving Trends**

Evolving Trends	Trend Indicator
Change in residential property values	• Average sale price of new homes and older homes (by unit type and geographic area)
Growth of residential property tax and income tax revenues	• Residential assessed value per capita • Income tax and revenues per capita
Growth of non-residential property tax revenues	• Non-residential assessed value per employee • Percentage of total property tax revenues (target 25%)
Declining work force availability	• Unemployment rate • Work force participation rate
Declining school enrollment	• Numbers of students enrolled in elementary, middle and high school
Growing senior population	• Numbers of residents 65 and older • Average household income
Growing population diversity	• Number of students in English as a Second Language programs



# Howard County M A R Y L A N D

## General Plan 2000



### Legend

- |   |  |
|---|--|
| RURAL RESIDENTIAL AREA                                | RESIDENTIAL AREAS                            |
| RURAL CONSERVATION AREA                               | NEW TOWN RESIDENTIAL                         |
| STATE PARKS AND WSSC LANDS                            | EMPLOYMENT AREAS INCLUDING NEW TOWN          |
| FUTURE REGIONAL GREEN SPACE OR PRESERVATION EASEMENTS | STREAMS AND FLOODPLAINS                      |
| UPPER PATUXENT HEADWATERS RURAL LEGACY AREA           | PLANNING AREA BOUNDARY                       |
| CIVIC AND URBAN CENTERS                               | PLANNED SERVICE AREA BOUNDARY                |
| EXISTING AND PROPOSED MIXED USE CENTERS               | WATER SERVICE ONLY                           |
| VILLAGE AND COMMUNITY CENTERS                         | REDEVELOPMENT CORRIDORS (ROUTE 1 & ROUTE 40) |

**GIS**  
Source: Howard County DPZ Land Use, July 1999 & Maryland PropertyView, Fall 1998.



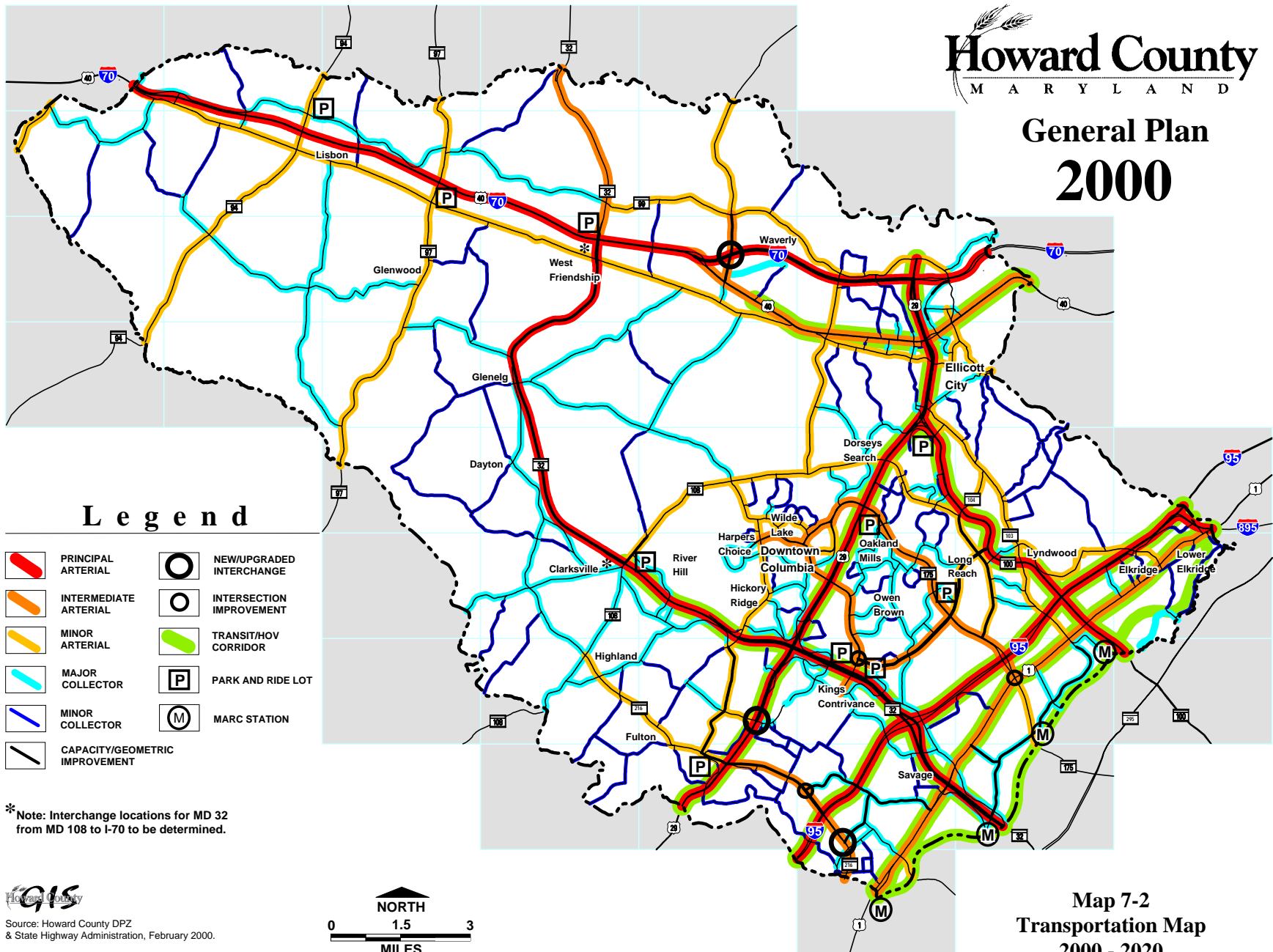
Map 7-1  
Policies Map  
2000 - 2020
















# Howard County MARYLAND

## General Plan 2000



### Legend

-  PRINCIPAL ARTERIAL
-  INTERMEDIATE ARTERIAL
-  MINOR ARTERIAL
-  MAJOR COLLECTOR
-  MINOR COLLECTOR
-  CAPACITY/GEOMETRIC IMPROVEMENT
-  NEW/UPGRADED INTERCHANGE
-  INTERSECTION IMPROVEMENT
-  TRANSIT/HOV CORRIDOR
-  PARK AND RIDE LOT
-  MARC STATION

\*Note: Interchange locations for MD 32 from MD 108 to I-70 to be determined.

 Source: Howard County DPZ & State Highway Administration, February 2000.



Map 7-2  
Transportation Map  
2000 - 2020



# List of Acronyms

<b>ACS</b>	Association of Community Services	<b>MALPF</b>	Maryland Agricultural Land Preservation Foundation
<b>ADA</b>	Americans with Disabilities Act	<b>MARC</b>	Maryland Rail Commuter Service
<b>ANZ</b>	Airport Noise Zone	<b>MCOG</b>	Metropolitan Washington Council of Governments
<b>APFO</b>	Adequate Public Facilities Ordinance	<b>MDE</b>	Maryland Department of the Environment
<b>APT</b>	Apartment	<b>MDOT</b>	Maryland Department of Transportation
<b>B-1</b>	Business: Local Zoning District	<b>MDP</b>	Maryland Department of Planning
<b>B-2</b>	Business: General Zoning District	<b>MH</b>	Mobile Homes
<b>BAZA</b>	Board of Airport Zoning Appeals	<b>M-NCPPC</b>	Maryland National Capital Park and Planning Commission
<b>BEA</b>	United States Bureau of Economic Analysis	<b>MTA</b>	Mass Transit Administration
<b>BMC</b>	Baltimore Metropolitan Council	<b>MXD</b>	Mixed-Use Development Zoning District
<b>BMPs</b>	Best Management Practices	<b>NPDES</b>	National Pollutant Discharge Elimination System
<b>BR</b>	Business: Rural Zoning District	<b>OHCD</b>	Office of Housing and Community Development
<b>B RTP</b>	Baltimore Regional Transportation Plan	<b>PEC</b>	Planned Employment Center Zoning District
<b>BWI</b>	Baltimore Washington International Airport	<b>PGCC</b>	Planned Golf Course Community Zoning District
<b>CA</b>	Columbia Association	<b>POR</b>	Planned Office Research Zoning District
<b>CC</b>	Convenience Center Zoning District	<b>PSA</b>	Planned Service Area
<b>CDBG</b>	Community Development Block Grant	<b>R&amp;P Plan</b>	Comprehensive Recreation, Parks and Open Space Plan
<b>CEO</b>	Cluster Exchange Option	<b>R-20</b>	Residential: Single Zoning District
<b>CIP</b>	Capital Improvement Program	<b>R-12</b>	Residential: Single Zoning District
<b>DEO</b>	Density Exchange Option	<b>R-SC</b>	Residential: Single Cluster Zoning District
<b>DNR</b>	Maryland Department of Natural Resources	<b>R-SA-8</b>	Residential: Single Attached Zoning District
<b>DPZ</b>	Department of Planning and Zoning	<b>R-A-15</b>	Residential: Apartments Zoning District
<b>DRP</b>	Department of Recreation and Parks	<b>RC</b>	Rural Conservation Zoning District
<b>EDA</b>	Economic Development Authority	<b>R-ED</b>	Residential - Environmental Development Zoning District
<b>EMS</b>	Emergency Medical Services	<b>RR</b>	Rural Residential Zoning District
<b>FEMA</b>	Federal Emergency Management Administration	<b>SC</b>	Shopping Center Zoning District
<b>GBA</b>	Greater Baltimore Alliance	<b>SF</b>	Single Family
<b>GBC</b>	Greater Baltimore Committee	<b>SFA</b>	Single Family Attached
<b>HCC</b>	Howard Community College	<b>SFD</b>	Single Family Detached
<b>HOA</b>	Homeowner's Association	<b>SHA</b>	State Highway Administration
<b>HOV</b>	High Occupancy Vehicles	<b>TDM</b>	Transportation Demand Management
<b>IPA</b>	Installment Purchase Agreement	<b>TIP</b>	Transportation Improvement Program
<b>ITS</b>	Intelligent Transportation Systems	<b>TSC</b>	Transportation Steering Committee
<b>LOS</b>	Level of Service	<b>TSM</b>	Transportation Systems Management
<b>M-1</b>	Manufacturing: Light Zoning District	<b>USDA</b>	United States Department of Agriculture
<b>M-2</b>	Manufacturing: Heavy Zoning District	<b>WMATA</b>	Washington Metropolitan Area Transit Authority
<b>MAA</b>	Maryland Aviation Administration	<b>WSSC</b>	Washington Suburban Sanitary Commission



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For information or alternative formats contact:

**DEPARTMENT OF PLANNING AND ZONING**

3430 Courthouse Drive  
Ellicott City, Maryland 21043  
410-313-2350  
[www.co.ho.md.us](http://www.co.ho.md.us)

# Appendix A

## Appendix A: Housing and Population Forecasting Methodology

The Howard County forecasts are based on current estimates of households and population and the proposed increment of growth forecast by the General Plan 2000.

### Base Numbers:

Acres and units by type were compiled by statistical area, by zoning category from the land use database dated July 1, 1999. Non-conforming use dwellings were totaled under their appropriate zones. The July 1, 1999 base was brought up to a July 1, 2000 estimate based on an extrapolation of the six-month increment of growth between July 1999 and January 2000 from building permit completions.

### Future Units/Capacities:

#### Recorded Unbuilt Lots

Acres and units were calculated from the land use database. Recorded unbuilt lots were compiled by statistical area. A recorded unbuilt lot was defined based on the following method. In the RR-DEO and RC-DEO zoning districts any lot less than 5.00 acres was considered unbuilt. In all other residential zones, any lot less than 1.00 acre was considered unbuilt. Unit counts for multi-family units were identified by using the apartment/townhouse listing and the land use database.

#### In Process Lots

Acres and unit counts were compiled from the Subdivisions in Process database as of July 1, 1999 database.

#### Uncommitted Land

Units for uncommitted land were calculated based on remaining acreage totals by statistical area. The following factors were used to calculate densities and unit mix. These typical yield factors were generated based on an analysis of recorded subdivision plans and allowable densities.

Typical Yield Factors by Zoning					
Zoning	Density	SFD	SFA	APT	MH
RR-DEO	0.2353	100%			
RR-MXD-3	3.0000	35%	35%	30%	
RC-DEO	0.2353	100%			
R-ED	1.7000	50%	50%		
R-20	1.5100	100%			
R-20-MXD3	3.0000	35%	35%	30%	
R-12	2.5200	100%			
R-SC	3.7200	50%	50%		
R-SC-MXD3	3.0000	35%	35%	30%	
R-SA-8	7.6500		75%	25%	
R-SA-8-MXD-3	3.0000	35%	35%	30%	
R-A-15	13.0000			100%	
R-MH	5.9500				100%
POR-MXD-6	6.0000	35%	35%	30%	
M-1-MXD-3	3.0000	35%	35%	30%	

#### Capacity

A capacity for each statistical area was established by combining existing units, recorded unbuilt lots, in process lots and undeveloped land. It was assumed that maximum capacity will be achieved.

### Annual Household Growth Projections:

Years	East	West	Total
2000-2003	1,750	250	2,000
2003-2005	1,250	250	1,500
2005-2010	1,250	250	1,500
2010-2015	1,250	250	1,500
2015-2019	1,000	250	1,250
2019-2020	750	250	1,000



**Pace of Development/Staging:**

Building permits issued by statistical area over the past five years were examined to identify growth trends by statistical area. Housing unit allocations and the proposed unit mix was examined and staged in the appropriate year. Phased projects were staged according to their phasing plan. Remaining growth was allocated based on availability of recorded unbuilt lots followed by lots in the subdivision process and finally units on uncommitted land.

**Average Household Size:**

Average household sizes are expected to decline over time.

**HOUSEHOLD SIZE**

Unit Type	2000	2005	2010	2015	2020
SFD	3.12980	2.99160	2.93740	2.88320	2.82900
SFA	2.57970	2.50654	2.47981	2.45308	2.42635
APT	1.87110	1.75632	1.70448	1.65264	1.60080
MH	2.40290	2.29704	2.25056	2.20408	2.15760
Senior Housing	1.20000	1.20000	1.20000	1.20000	1.20000

**Note:** 5,000 senior units are not allocated by statistical area. See General Plan 2000 Proposed for details on the proposed set-aside of 250 senior units per year in the East.

**Household Population:**

Household population was determined by multiplying projected units by type by the estimated household sizes.

**Group Quarters Population:**

A group quarters database is maintained to project group quarters population. Development plans were analyzed to determine additional group quarters locations.

**Total Population:**

Total population was determined by adding household and group quarters populations.

## GENERAL PLAN - AUGUST 2000

### Households By Region

2000					
Region	SFD	SFA	APT	MH	TOTAL
Columbia	14,850	10,080	11,990	0	36,920
Elkridge	5,500	2,450	2,670	1,110	11,730
Ellicott City	11,610	2,200	4,150	0	17,960
Southeast	6,150	3,920	2,240	630	12,940
West	11,400	0	0	0	11,400
Senior Housing	0	0	0	0	0
<b>TOTAL</b>	<b>49,510</b>	<b>18,650</b>	<b>21,050</b>	<b>1,740</b>	<b>90,950</b>

2005					
Region	SFD	SFA	APT	MH	TOTAL
Columbia	15,360	10,380	13,110	0	38,850
Elkridge	6,200	2,480	2,670	1,290	12,640
Ellicott City	12,330	2,870	4,710	0	19,910
Southeast	7,150	4,580	2,290	630	14,650
West	12,650	0	0	0	12,650
Senior Housing	0	0	0	0	1,250
<b>TOTAL</b>	<b>53,690</b>	<b>20,310</b>	<b>22,780</b>	<b>1,920</b>	<b>99,950</b>

2010					
Region	SFD	SFA	APT	MH	TOTAL
Columbia	15,640	10,670	13,640	0	39,950
Elkridge	6,760	2,480	2,670	1,380	13,290
Ellicott City	12,900	3,230	5,520	0	21,650
Southeast	7,760	5,230	2,540	630	16,160
West	13,900	0	0	0	13,900
Senior Housing	0	0	0	0	2,500
<b>TOTAL</b>	<b>56,960</b>	<b>21,610</b>	<b>24,370</b>	<b>2,010</b>	<b>107,450</b>

2015					
Region	SFD	SFA	APT	MH	TOTAL
Columbia	15,830	11,010	13,900	0	40,740
Elkridge	7,300	2,730	2,680	1,400	14,110
Ellicott City	13,550	3,440	6,450	0	23,440
Southeast	8,370	5,810	2,880	700	17,760
West	15,150	0	0	0	15,150
Senior Housing	0	0	0	0	3,750
<b>TOTAL</b>	<b>60,200</b>	<b>22,990</b>	<b>25,910</b>	<b>2,100</b>	<b>114,950</b>

2020					
Region	SFD	SFA	APT	MH	TOTAL
Columbia	15,900	11,010	13,900	0	40,810
Elkridge	7,770	3,030	2,680	1,400	14,880
Ellicott City	14,200	3,700	6,730	0	24,630
Southeast	9,090	6,310	3,130	700	19,230
West	16,400	0	0	0	16,400
Senior Housing	0	0	0	0	5,000
<b>TOTAL</b>	<b>63,360</b>	<b>24,050</b>	<b>26,440</b>	<b>2,100</b>	<b>120,950</b>

GENERAL PLAN - AUGUST 2000  
Households By Statistical Area

Statistical Area	2000					2005				
	SFD	SFA	APT	MH	TOTAL	SFD	SFA	APT	MH	TOTAL
1-01	70	0	0	0	70	70	0	0	0	70
1-02A	630	50	790	0	1,470	650	60	790	0	1,500
1-02B	0	0	0	0	0	0	0	0	0	0
1-03	950	0	0	0	950	1,140	0	0	0	1,140
1-04	50	0	0	0	50	50	0	0	0	50
1-05A	520	1,060	920	680	3,180	540	1,080	920	680	3,220
1-05B	30	0	0	0	30	30	0	0	0	30
1-06	1,000	510	0	0	1,510	1,120	510	0	0	1,630
1-07	300	480	640	0	1,420	350	480	640	0	1,470
1-08	120	0	0	240	360	220	0	0	420	640
1-09A	350	350	310	190	1,200	350	350	310	190	1,200
1-09B	0	0	0	0	0	0	0	0	0	0
1-10	950	0	10	0	960	1,060	0	10	0	1,070
1-11	40	0	0	0	40	40	0	0	0	40
1-12	130	0	0	0	130	160	0	0	0	160
1-13	360	0	0	0	360	420	0	0	0	420
2-01	1,720	0	0	0	1,720	1,800	0	0	0	1,800
2-02	260	90	0	0	350	350	120	0	0	470
2-03	710	20	200	0	930	780	140	200	0	1,120
2-04	880	0	0	0	880	900	0	0	0	900
2-05	580	0	410	0	990	590	0	410	0	1,000
2-06	40	190	1,380	0	1,610	40	330	1,610	0	1,980
2-07	330	0	0	0	330	350	0	0	0	350
2-08	1,140	0	0	0	1,140	1,190	0	0	0	1,190
2-09	1,470	0	0	0	1,470	1,490	0	0	0	1,490
2-10	1,040	220	0	0	1,260	1,040	220	0	0	1,260
2-11	480	180	180	0	840	490	180	180	0	850
2-12A	480	170	340	0	990	480	170	420	0	1,070
2-12B	20	0	0	0	20	20	0	0	0	20
2-13A	400	590	130	0	1,120	410	590	130	0	1,130
2-13B	0	0	0	0	0	0	0	0	0	0
2-14A	140	60	1,230	0	1,430	150	60	1,230	0	1,440
2-14B	60	0	10	0	70	60	0	10	0	70
2-15	230	0	0	0	230	240	0	0	0	240
2-16	680	130	0	0	810	710	130	0	0	840
2-17	490	30	20	0	540	710	50	20	0	780
2-18	40	0	0	0	40	50	0	0	0	50

GENERAL PLAN - AUGUST 2000  
Households By Statistical Area

Statistical Area	2000					2005				
	SFD	SFA	APT	MH	TOTAL	SFD	SFA	APT	MH	TOTAL
2-19	250	0	0	0	250	250	0	0	0	250
2-20	650	80	0	0	730	660	80	0	0	740
2-21	520	240	190	0	950	530	240	190	0	960
2-22	0	90	0	0	90	0	90	0	0	90
3-01	750	0	0	0	750	840	0	0	0	840
3-02	370	0	0	0	370	430	0	0	0	430
3-03	110	200	50	0	360	200	450	110	0	760
3-04	380	0	0	0	380	430	0	0	0	430
3-05	250	0	0	0	250	280	0	0	0	280
3-06	300	0	0	0	300	370	0	0	0	370
3-07A	30	0	10	0	40	30	110	200	0	340
3-07B	0	0	0	0	0	0	0	0	0	0
3-08A	740	0	0	0	740	790	0	0	0	790
3-08B	10	0	0	0	10	10	0	0	0	10
3-09	260	0	0	0	260	290	0	0	0	290
4-01	100	0	0	0	100	110	0	0	0	110
4-02	410	0	0	0	410	470	0	0	0	470
4-03	160	0	0	0	160	190	0	0	0	190
4-04	660	0	0	0	660	740	0	0	0	740
4-05	640	0	0	0	640	710	0	0	0	710
4-06	590	0	0	0	590	680	0	0	0	680
4-07	340	0	0	0	340	360	0	0	0	360
4-08	330	0	0	0	330	410	0	0	0	410
4-09	440	0	0	0	440	480	0	0	0	480
5-01	440	0	0	0	440	500	0	0	0	500
5-02	430	0	0	0	430	460	0	0	0	460
5-03	170	0	0	0	170	190	0	0	0	190
5-04	1,470	0	0	0	1,470	1,570	0	0	0	1,570
5-05	1,630	80	0	0	1,710	1,920	120	0	0	2,040
5-06	390	220	120	0	730	400	230	120	0	750
5-07A	510	810	1,020	0	2,340	510	810	1,020	0	2,340
5-07B	10	0	0	0	10	10	0	0	0	10
5-08A	220	0	0	0	220	220	0	0	0	220
5-08B	170	0	0	0	170	170	0	0	0	170
5-09	370	360	1,620	0	2,350	370	360	1,620	0	2,350
5-10	280	440	1,080	0	1,800	280	440	1,080	0	1,800
5-11	0	240	430	0	670	0	240	770	0	1,010

GENERAL PLAN - AUGUST 2000  
Households By Statistical Area

Statistical Area	2000					2005				
	SFD	SFA	APT	MH	TOTAL	SFD	SFA	APT	MH	TOTAL
5-12A	580	830	1,080	0	2,490	590	830	1,080	0	2,500
5-12B	660	390	420	0	1,470	670	390	420	0	1,480
5-12C	130	0	0	0	130	130	0	0	0	130
5-13A	630	440	730	0	1,800	640	440	730	0	1,810
5-13B	0	0	0	0	0	0	0	550	0	550
5-14	770	0	0	0	770	770	50	0	0	820
5-15A	1,020	0	0	0	1,020	1,150	0	0	0	1,150
5-15B	0	0	0	0	0	0	0	0	0	0
5-16A	690	0	0	0	690	930	50	0	0	980
5-16B	60	0	0	0	60	70	0	0	0	70
5-17	190	0	0	0	190	370	50	0	0	420
6-01A	1,070	0	0	0	1,070	1,070	0	0	0	1,070
6-01B	30	0	0	0	30	30	0	0	0	30
6-02	760	490	0	0	1,250	770	490	0	0	1,260
6-03	1,020	610	1,210	0	2,840	1,030	610	1,210	0	2,850
6-04	530	540	440	0	1,510	610	540	440	0	1,590
6-05	310	650	1,420	0	2,380	310	650	1,420	0	2,380
6-06	450	0	0	0	450	460	0	0	0	460
6-07A	520	360	30	0	910	520	360	30	0	910
6-07B	350	0	0	0	350	350	0	0	0	350
6-08	210	1,120	490	0	1,820	220	1,120	490	0	1,830
6-09A	0	0	0	0	0	0	0	0	0	0
6-09B	0	0	0	0	0	0	0	0	0	0
6-10	610	490	210	0	1,310	650	590	310	0	1,550
6-11A	520	0	0	0	520	520	0	0	0	520
6-11B	200	190	0	0	390	210	190	0	0	400
6-12A	170	100	0	0	270	180	100	0	0	280
6-12B	590	100	60	0	750	590	100	60	0	750
6-12C	0	0	0	0	0	0	0	0	0	0
6-13	0	130	190	0	320	0	220	320	0	540
6-14A	540	420	1,040	0	2,000	540	420	1,040	0	2,000
6-14B	0	0	0	0	0	0	0	0	0	0
6-15A	540	440	340	0	1,320	540	440	340	0	1,320
6-15B	60	150	0	0	210	60	150	0	0	210
6-16	20	390	60	0	470	20	400	60	0	480
6-17	200	80	0	0	280	250	80	0	0	330
6-18	70	0	10	250	330	70	0	10	250	330

GENERAL PLAN - AUGUST 2000  
Households By Statistical Area

Statistical Area	2000					2005				
	SFD	SFA	APT	MH	TOTAL	SFD	SFA	APT	MH	TOTAL
6-19	300	0	0	0	300	310	0	0	0	310
6-20	770	360	0	0	1,130	780	360	0	0	1,140
6-21	10	0	0	0	10	200	250	50	0	500
6-22A	750	200	370	0	1,320	760	200	370	0	1,330
6-22B	0	280	200	0	480	0	280	200	0	480
6-23	540	100	190	0	830	550	100	190	0	840
6-24	10	0	0	0	10	10	0	0	0	10
6-25	1,000	0	0	0	1,000	1,080	160	0	0	1,240
6-26A	540	1,020	770	90	2,420	580	1,080	770	90	2,520
6-26B	0	0	0	0	0	90	80	0	0	170
6-27A	10	0	0	0	10	10	0	0	0	10
6-27B	10	0	0	0	10	10	0	0	0	10
6-28	380	570	0	0	950	400	580	0	0	980
6-29	600	1,310	700	0	2,610	660	1,310	700	0	2,670
6-30	10	0	0	100	110	10	0	0	100	110
6-31	10	0	0	190	200	10	0	0	190	200
Senior Housing	0	0	0	0	0	0	0	0	0	1,250
<b>Total</b>	<b>49,510</b>	<b>18,650</b>	<b>21,050</b>	<b>1,740</b>	<b>90,950</b>	<b>53,690</b>	<b>20,310</b>	<b>22,780</b>	<b>1,920</b>	<b>99,950</b>

GENERAL PLAN - AUGUST 2000  
Households By Statistical Area

Statistical Area	2010					2015				
	SFD	SFA	APT	MH	TOTAL	SFD	SFA	APT	MH	TOTAL
1-01	70	0	0	0	70	120	50	0	0	170
1-02A	690	60	790	0	1,540	750	60	790	0	1,600
1-02B	0	0	0	0	0	0	0	0	0	0
1-03	1,330	0	0	0	1,330	1,420	0	0	0	1,420
1-04	60	0	0	0	60	110	0	0	0	110
1-05A	570	1,080	920	680	3,250	620	1,170	920	680	3,390
1-05B	30	0	0	0	30	30	0	0	0	30
1-06	1,190	510	0	0	1,700	1,220	570	0	0	1,790
1-07	370	480	640	0	1,490	390	500	650	0	1,540
1-08	320	0	0	510	830	420	0	0	530	950
1-09A	350	350	310	190	1,200	350	350	310	190	1,200
1-09B	0	0	0	0	0	0	0	0	0	0
1-10	1,120	0	10	0	1,130	1,180	30	10	0	1,220
1-11	40	0	0	0	40	40	0	0	0	40
1-12	190	0	0	0	190	200	0	0	0	200
1-13	430	0	0	0	430	450	0	0	0	450
2-01	1,850	0	0	0	1,850	1,890	30	0	0	1,920
2-02	410	120	0	0	530	490	120	0	0	610
2-03	800	140	230	0	1,170	810	140	230	0	1,180
2-04	910	0	0	0	910	930	0	0	0	930
2-05	600	0	410	0	1,010	610	0	410	0	1,020
2-06	40	470	1,890	0	2,400	60	470	1,970	0	2,500
2-07	370	0	0	0	370	380	30	0	0	410
2-08	1,230	0	0	0	1,230	1,260	0	0	0	1,260
2-09	1,510	0	0	0	1,510	1,550	0	0	0	1,550
2-10	1,050	220	0	0	1,270	1,080	220	0	0	1,300
2-11	500	180	180	0	860	530	180	180	0	890
2-12A	490	170	420	0	1,080	510	170	420	0	1,100
2-12B	20	0	0	0	20	20	0	0	0	20
2-13A	420	590	130	0	1,140	450	620	130	0	1,200
2-13B	0	0	0	0	0	0	0	0	0	0
2-14A	160	60	1,230	0	1,450	170	60	1,250	0	1,480
2-14B	60	0	10	0	70	60	0	10	0	70
2-15	250	0	0	0	250	280	0	0	0	280
2-16	740	130	0	0	870	780	130	0	0	910
2-17	810	100	70	0	980	890	190	280	0	1,360
2-18	130	0	0	0	130	150	20	0	0	170



GENERAL PLAN - AUGUST 2000  
Households By Statistical Area

Statistical Area	2010					2015				
	SFD	SFA	APT	MH	TOTAL	SFD	SFA	APT	MH	TOTAL
2-19	260	0	0	0	260	270	0	0	0	270
2-20	670	80	0	0	750	690	80	0	0	770
2-21	540	240	190	0	970	600	250	390	0	1,240
2-22	10	90	0	0	100	10	100	0	0	110
3-01	910	0	0	0	910	990	0	0	0	990
3-02	480	0	0	0	480	520	0	0	0	520
3-03	280	620	120	0	1,020	320	620	120	0	1,060
3-04	470	0	0	0	470	520	0	0	0	520
3-05	300	0	0	0	300	310	0	0	0	310
3-06	460	0	0	0	460	490	0	0	0	490
3-07A	30	110	640	0	780	30	110	1,060	0	1,200
3-07B	0	0	0	0	0	0	0	0	0	0
3-08A	830	0	0	0	830	860	0	0	0	860
3-08B	10	0	0	0	10	10	0	0	0	10
3-09	310	0	0	0	310	330	0	0	0	330
4-01	120	0	0	0	120	150	0	0	0	150
4-02	560	0	0	0	560	650	0	0	0	650
4-03	240	0	0	0	240	290	0	0	0	290
4-04	790	0	0	0	790	840	0	0	0	840
4-05	770	0	0	0	770	830	0	0	0	830
4-06	730	0	0	0	730	770	0	0	0	770
4-07	400	0	0	0	400	460	0	0	0	460
4-08	490	0	0	0	490	570	0	0	0	570
4-09	530	0	0	0	530	610	0	0	0	610
5-01	550	0	0	0	550	610	0	0	0	610
5-02	520	0	0	0	520	570	0	0	0	570
5-03	220	0	0	0	220	260	0	0	0	260
5-04	1,710	0	0	0	1,710	1,850	0	0	0	1,850
5-05	2,070	120	0	0	2,190	2,180	150	0	0	2,330
5-06	400	230	120	0	750	400	230	120	0	750
5-07A	510	810	1,020	0	2,340	510	810	1,020	0	2,340
5-07B	10	0	0	0	10	10	0	0	0	10
5-08A	220	0	0	0	220	220	0	0	0	220
5-08B	170	0	0	0	170	170	0	0	0	170
5-09	370	360	1,620	0	2,350	370	360	1,620	0	2,350
5-10	280	440	1,080	0	1,800	280	440	1,080	0	1,800
5-11	0	240	1,070	0	1,310	0	240	1,320	0	1,560

GENERAL PLAN - AUGUST 2000  
Households By Statistical Area

Statistical Area	2010					2015				
	SFD	SFA	APT	MH	TOTAL	SFD	SFA	APT	MH	TOTAL
5-12A	600	830	1,080	0	2,510	610	850	1,080	0	2,540
5-12B	670	390	420	0	1,480	670	390	420	0	1,480
5-12C	140	0	0	0	140	160	0	0	0	160
5-13A	640	440	730	0	1,810	640	440	730	0	1,810
5-13B	0	0	550	0	550	0	0	550	0	550
5-14	770	90	0	0	860	780	90	0	0	870
5-15A	1,270	0	0	0	1,270	1,400	0	0	0	1,400
5-15B	0	0	0	0	0	0	0	0	0	0
5-16A	1,140	220	0	0	1,360	1,230	290	60	0	1,580
5-16B	70	0	0	0	70	80	0	0	0	80
5-17	460	240	50	0	750	560	370	330	0	1,260
6-01A	1,070	0	0	0	1,070	1,070	0	0	0	1,070
6-01B	30	0	0	0	30	30	0	0	0	30
6-02	770	490	0	0	1,260	770	490	0	0	1,260
6-03	1,040	610	1,210	0	2,860	1,050	610	1,210	0	2,870
6-04	660	540	440	0	1,640	660	540	440	0	1,640
6-05	310	650	1,420	0	2,380	310	650	1,420	0	2,380
6-06	470	0	0	0	470	480	0	0	0	480
6-07A	520	360	30	0	910	520	360	30	0	910
6-07B	350	0	0	0	350	350	0	0	0	350
6-08	230	1,120	490	0	1,840	230	1,120	490	0	1,840
6-09A	0	0	0	0	0	0	0	0	0	0
6-09B	0	0	0	0	0	0	0	0	0	0
6-10	650	820	540	0	2,010	650	1,100	540	0	2,290
6-11A	520	0	0	0	520	520	0	0	0	520
6-11B	210	190	0	0	400	210	190	0	0	400
6-12A	190	100	0	0	290	200	100	0	0	300
6-12B	590	100	60	0	750	590	100	60	0	750
6-12C	0	0	0	0	0	0	0	0	0	0
6-13	0	220	320	0	540	0	220	320	0	540
6-14A	550	420	1,040	0	2,010	560	420	1,040	0	2,020
6-14B	0	0	0	0	0	0	0	0	0	0
6-15A	540	440	340	0	1,320	540	440	340	0	1,320
6-15B	60	150	0	0	210	60	150	0	0	210
6-16	20	420	60	0	500	20	420	70	0	510
6-17	290	80	0	0	370	310	110	0	0	420
6-18	70	0	10	250	330	70	0	10	320	400

GENERAL PLAN - AUGUST 2000  
Households By Statistical Area

Statistical Area	2010					2015				
	SFD	SFA	APT	MH	TOTAL	SFD	SFA	APT	MH	TOTAL
6-19	320	0	0	0	320	370	0	0	0	370
6-20	780	360	0	0	1,140	790	360	0	0	1,150
6-21	330	470	250	0	1,050	430	570	250	0	1,250
6-22A	770	200	370	0	1,340	790	200	370	0	1,360
6-22B	0	280	200	0	480	0	280	200	0	480
6-23	570	100	190	0	860	610	150	190	0	950
6-24	10	0	0	0	10	10	0	0	0	10
6-25	1,080	160	0	0	1,240	1,120	160	0	0	1,280
6-26A	650	1,150	770	90	2,660	690	1,160	770	90	2,710
6-26B	90	80	0	0	170	90	80	0	0	170
6-27A	10	0	0	0	10	10	0	0	0	10
6-27B	10	0	0	0	10	10	0	0	0	10
6-28	410	580	0	0	990	460	700	0	0	1,160
6-29	680	1,310	700	0	2,690	720	1,380	700	0	2,800
6-30	10	0	0	100	110	10	0	0	100	110
6-31	10	0	0	190	200	10	0	0	190	200
Senior Housing	0	0	0	0	2,500	0	0	0	0	3,750
<b>Total</b>	<b>56,960</b>	<b>21,610</b>	<b>24,370</b>	<b>2,010</b>	<b>107,450</b>	<b>60,200</b>	<b>22,990</b>	<b>25,910</b>	<b>2,100</b>	<b>114,950</b>

GENERAL PLAN - AUGUST 2000  
Households By Statistical Area

Statistical Area	2020				TOTAL
	SFD	SFA	APT	MH	
1-01	230	180	0	0	410
1-02A	750	60	790	0	1,600
1-02B	0	0	0	0	0
1-03	1,500	0	0	0	1,500
1-04	140	100	0	0	240
1-05A	660	1,170	920	680	3,430
1-05B	30	0	0	0	30
1-06	1,240	570	0	0	1,810
1-07	410	570	650	0	1,630
1-08	420	0	0	530	950
1-09A	350	350	310	190	1,200
1-09B	0	0	0	0	0
1-10	1,310	30	10	0	1,350
1-11	40	0	0	0	40
1-12	220	0	0	0	220
1-13	470	0	0	0	470
2-01	1,960	30	0	0	1,990
2-02	530	180	0	0	710
2-03	820	140	230	0	1,190
2-04	960	0	0	0	960
2-05	620	0	410	0	1,030
2-06	80	500	1,970	0	2,550
2-07	400	30	0	0	430
2-08	1,300	0	0	0	1,300
2-09	1,590	0	0	0	1,590
2-10	1,110	220	0	0	1,330
2-11	560	200	210	0	970
2-12A	530	170	420	0	1,120
2-12B	20	0	0	0	20
2-13A	480	680	130	0	1,290
2-13B	0	0	0	0	0
2-14A	170	70	1,300	0	1,540
2-14B	60	0	10	0	70
2-15	320	0	0	0	320
2-16	830	160	0	0	990
2-17	1,000	190	280	0	1,470
2-18	170	70	0	0	240

GENERAL PLAN - AUGUST 2000  
Households By Statistical Area

Statistical Area	2020				TOTAL
	SFD	SFA	APT	MH	
2-19	290	0	0	0	290
2-20	710	80	0	0	790
2-21	640	250	590	0	1,480
2-22	10	100	0	0	110
3-01	1,080	0	0	0	1,080
3-02	550	0	0	0	550
3-03	320	620	120	0	1,060
3-04	590	0	0	0	590
3-05	320	0	0	0	320
3-06	510	0	0	0	510
3-07A	30	110	1,060	0	1,200
3-07B	0	0	0	0	0
3-08A	880	0	0	0	880
3-08B	10	0	0	0	10
3-09	350	0	0	0	350
4-01	190	0	0	0	190
4-02	740	0	0	0	740
4-03	340	0	0	0	340
4-04	880	0	0	0	880
4-05	890	0	0	0	890
4-06	790	0	0	0	790
4-07	520	0	0	0	520
4-08	660	0	0	0	660
4-09	690	0	0	0	690
5-01	670	0	0	0	670
5-02	620	0	0	0	620
5-03	300	0	0	0	300
5-04	1,990	0	0	0	1,990
5-05	2,200	150	0	0	2,350
5-06	400	230	120	0	750
5-07A	510	810	1,020	0	2,340
5-07B	10	0	0	0	10
5-08A	220	0	0	0	220
5-08B	170	0	0	0	170
5-09	370	360	1,620	0	2,350
5-10	280	440	1,080	0	1,800
5-11	0	240	1,320	0	1,560

GENERAL PLAN - AUGUST 2000  
Households By Statistical Area

Statistical Area	2020				TOTAL
	SFD	SFA	APT	MH	
5-12A	620	850	1,080	0	2,550
5-12B	670	390	420	0	1,480
5-12C	170	0	0	0	170
5-13A	640	440	730	0	1,810
5-13B	0	0	550	0	550
5-14	790	90	0	0	880
5-15A	1,530	0	0	0	1,530
5-15B	0	0	0	0	0
5-16A	1,280	290	60	0	1,630
5-16B	90	0	0	0	90
5-17	620	370	330	0	1,320
6-01A	1,070	0	0	0	1,070
6-01B	30	0	0	0	30
6-02	770	490	0	0	1,260
6-03	1,050	610	1,210	0	2,870
6-04	660	540	440	0	1,640
6-05	310	650	1,420	0	2,380
6-06	490	0	0	0	490
6-07A	520	360	30	0	910
6-07B	350	0	0	0	350
6-08	230	1,120	490	0	1,840
6-09A	0	0	0	0	0
6-09B	0	0	0	0	0
6-10	650	1,100	540	0	2,290
6-11A	520	0	0	0	520
6-11B	210	190	0	0	400
6-12A	210	100	0	0	310
6-12B	590	100	60	0	750
6-12C	0	0	0	0	0
6-13	0	220	320	0	540
6-14A	560	420	1,040	0	2,020
6-14B	0	0	0	0	0
6-15A	540	440	340	0	1,320
6-15B	60	150	0	0	210
6-16	20	420	70	0	510
6-17	450	240	110	0	800
6-18	70	0	10	320	400

GENERAL PLAN - AUGUST 2000  
Households By Statistical Area

Statistical Area	2020				TOTAL
	SFD	SFA	APT	MH	
6-19	410	50	0	0	460
6-20	800	360	0	0	1,160
6-21	500	670	250	0	1,420
6-22A	800	220	370	0	1,390
6-22B	0	280	200	0	480
6-23	740	350	330	0	1,420
6-24	10	0	0	0	10
6-25	1,170	160	0	0	1,330
6-26A	720	1,160	770	90	2,740
6-26B	90	80	0	0	170
6-27A	10	0	0	0	10
6-27B	10	0	0	0	10
6-28	520	700	0	0	1,220
6-29	780	1,380	700	0	2,860
6-30	10	0	0	100	110
6-31	10	0	0	190	200
Senior Housing	0	0	0	0	5,000
<b>Total</b>	<b>63,360</b>	<b>24,050</b>	<b>26,440</b>	<b>2,100</b>	<b>120,950</b>



GENERAL PLAN - AUGUST 2000  
Household Population By Region

<b>Region</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
Columbia	94,980	95,040	95,660	95,660	93,900
Elkridge	31,220	32,430	33,700	35,280	36,640
Ellicott City	49,760	52,390	55,320	58,170	59,910
Southeast	35,080	38,350	41,530	44,730	47,530
West	35,680	37,870	40,810	43,660	46,410
Senior Housing	0	1,500	3,000	4,500	6,000
<b>TOTAL</b>	<b>246,720</b>	<b>257,580</b>	<b>270,020</b>	<b>282,000</b>	<b>290,390</b>

**GENERAL PLAN - AUGUST 2000**  
**Household Population By Statistical Area**

<b>Statistical Area</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
1-01	220	210	210	470	1,090
1-02A	3,580	3,480	3,530	3,620	3,530
1-02B	0	0	0	0	0
1-03	2,970	3,410	3,910	4,090	4,240
1-04	160	150	180	320	640
1-05A	7,710	7,510	7,450	7,680	7,650
1-05B	90	90	90	90	80
1-06	4,450	4,630	4,760	4,920	4,890
1-07	3,380	3,370	3,370	3,420	3,580
1-08	960	1,620	2,090	2,380	2,330
1-09A	3,040	2,910	2,860	2,800	2,750
1-09B	0	0	0	0	0
1-10	2,990	3,190	3,310	3,490	3,800
1-11	130	120	120	120	110
1-12	410	480	560	580	620
1-13	1,130	1,260	1,260	1,300	1,330
2-01	5,380	5,380	5,430	5,520	5,600
2-02	1,040	1,350	1,500	1,700	1,940
2-03	2,640	3,030	3,090	3,060	3,020
2-04	2,750	2,690	2,670	2,680	2,720
2-05	2,590	2,490	2,460	2,440	2,410
2-06	3,200	3,780	4,510	4,580	4,590
2-07	1,030	1,050	1,090	1,170	1,200
2-08	3,570	3,560	3,610	3,630	3,680
2-09	4,600	4,460	4,440	4,470	4,500
2-10	3,820	3,660	3,630	3,650	3,670
2-11	2,300	2,240	2,230	2,270	2,410
2-12A	2,580	2,610	2,580	2,580	2,580
2-12B	60	60	60	60	60
2-13A	3,010	2,940	2,910	3,030	3,220
2-13B	0	0	0	0	0
2-14A	2,890	2,760	2,720	2,710	2,730
2-14B	210	200	200	190	190
2-15	720	720	730	810	910
2-16	2,470	2,450	2,490	2,570	2,740
2-17	1,650	2,290	2,750	3,500	3,740
2-18	130	150	380	480	650

**GENERAL PLAN - AUGUST 2000**  
**Household Population By Statistical Area**

<b>Statistical Area</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
2-19	780	750	760	780	820
2-20	2,240	2,170	2,170	2,190	2,200
2-21	2,610	2,520	2,510	2,980	3,360
2-22	230	230	250	280	270
3-01	2,350	2,510	2,670	2,850	3,060
3-02	1,160	1,290	1,410	1,500	1,560
3-03	950	1,920	2,560	2,640	2,600
3-04	1,190	1,290	1,380	1,500	1,670
3-05	780	840	880	890	910
3-06	940	1,110	1,350	1,410	1,440
3-07A	110	720	1,450	2,110	2,050
3-07B	0	0	0	0	0
3-08A	2,320	2,360	2,440	2,480	2,490
3-08B	30	30	30	30	30
3-09	810	870	910	950	990
4-01	310	330	350	430	540
4-02	1,280	1,410	1,640	1,870	2,090
4-03	500	570	700	840	960
4-04	2,070	2,210	2,320	2,420	2,490
4-05	2,000	2,120	2,260	2,390	2,520
4-06	1,850	2,030	2,140	2,220	2,230
4-07	1,060	1,080	1,170	1,330	1,470
4-08	1,030	1,230	1,440	1,640	1,870
4-09	1,380	1,440	1,560	1,760	1,950
5-01	1,380	1,500	1,620	1,760	1,900
5-02	1,350	1,380	1,530	1,640	1,750
5-03	530	570	650	750	850
5-04	4,600	4,700	5,020	5,330	5,630
5-05	5,310	6,040	6,380	6,660	6,580
5-06	2,010	1,990	1,940	1,910	1,880
5-07A	5,600	5,350	5,250	5,150	5,040
5-07B	30	30	30	30	30
5-08A	690	660	650	630	620
5-08B	530	510	500	490	480
5-09	5,120	4,860	4,740	4,630	4,510
5-10	4,040	3,840	3,750	3,670	3,590
5-11	1,420	1,950	2,420	2,770	2,690

**GENERAL PLAN - AUGUST 2000**  
**Household Population By Statistical Area**

<b>Statistical Area</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
5-12A	5,980	5,750	5,660	5,630	5,540
5-12B	3,870	3,720	3,660	3,580	3,520
5-12C	410	390	410	460	480
5-13A	4,480	4,290	4,210	4,140	4,050
5-13B	0	970	940	910	880
5-14	2,410	2,430	2,480	2,470	2,450
5-15A	3,190	3,440	3,730	4,040	4,330
5-15B	0	0	0	0	0
5-16A	2,160	2,910	3,900	4,360	4,420
5-16B	190	210	210	230	250
5-17	590	1,240	2,040	3,070	3,180
6-01A	3,350	3,200	3,140	3,090	3,030
6-01B	90	90	90	90	80
6-02	3,640	3,530	3,480	3,420	3,370
6-03	7,020	6,740	6,620	6,530	6,390
6-04	3,870	3,940	4,030	3,950	3,880
6-05	5,310	5,050	4,940	4,830	4,730
6-06	1,410	1,380	1,380	1,380	1,390
6-07A	2,620	2,510	2,470	2,430	2,390
6-07B	1,100	1,050	1,030	1,010	990
6-08	4,470	4,330	4,300	4,220	4,150
6-09A	0	0	0	0	0
6-09B	0	0	0	0	0
6-10	3,560	3,960	4,860	5,460	5,370
6-11A	1,630	1,560	1,530	1,500	1,470
6-11B	1,120	1,110	1,090	1,080	1,050
6-12A	790	790	810	830	830
6-12B	2,220	2,130	2,080	2,050	2,010
6-12C	0	0	0	0	0
6-13	700	1,110	1,100	1,070	1,040
6-14A	4,720	4,500	4,430	4,360	4,260
6-14B	0	0	0	0	0
6-15A	3,470	3,320	3,260	3,200	3,140
6-15B	580	560	550	540	530
6-16	1,180	1,170	1,200	1,210	1,190
6-17	840	950	1,050	1,160	2,030
6-18	840	800	790	930	910

**GENERAL PLAN - AUGUST 2000**  
**Household Population By Statistical Area**

<b>Statistical Area</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
6-19	940	930	940	1,070	1,280
6-20	3,340	3,230	3,180	3,160	3,130
6-21	30	1,320	2,570	3,050	3,440
6-22A	3,560	3,420	3,390	3,380	3,380
6-22B	1,090	1,050	1,030	1,020	1,000
6-23	2,310	2,230	2,240	2,440	3,470
6-24	30	30	30	30	30
6-25	3,130	3,630	3,570	3,620	3,700
6-26A	5,980	6,010	6,270	6,310	6,270
6-26B	0	470	460	460	440
6-27A	30	30	30	30	30
6-27B	30	30	30	30	30
6-28	2,660	2,650	2,640	3,050	3,170
6-29	6,570	6,480	6,440	6,630	6,680
6-30	270	260	260	250	250
6-31	490	470	460	450	440
Senior Housing	0	1,500	3,000	4,500	6,000
<b>Total HH Pop.</b>	<b>246,720</b>	<b>257,580</b>	<b>270,020</b>	<b>282,000</b>	<b>290,390</b>

GENERAL PLAN - AUGUST 2000  
Group Quarters Population By Region

<b>Region</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
Columbia	1,380	1,380	1,380	1,380	1,380
Elkridge	1,260	1,320	1,370	1,420	1,440
Ellicott City	860	870	870	880	880
Southeast	300	310	310	310	310
West	200	200	200	200	200
Senior Housing	0	0	0	0	0
<b>TOTAL</b>	<b>4,000</b>	<b>4,080</b>	<b>4,130</b>	<b>4,190</b>	<b>4,210</b>

**GENERAL PLAN - AUGUST 2000**  
**Group Quarters Population By Statistical Area**

<b>Statistical Area</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
1-01	0	0	0	0	0
1-02A	0	0	0	0	0
1-02B	0	0	0	0	0
1-03	0	0	0	0	0
1-04	0	0	0	0	0
1-05A	0	0	0	0	0
1-05B	0	0	0	0	0
1-06	20	20	20	20	20
1-07	0	0	0	0	0
1-08	0	0	0	0	0
1-09A	0	0	0	0	0
1-09B	0	0	0	0	0
1-10	0	0	0	0	0
1-11	1,240	1,300	1,350	1,400	1,420
1-12	0	0	0	0	0
1-13	0	0	0	0	0
2-01	10	10	10	10	10
2-02	0	0	0	0	0
2-03	10	10	10	10	10
2-04	0	0	0	0	0
2-05	0	0	0	0	0
2-06	540	540	540	540	540
2-07	20	20	20	20	20
2-08	0	0	0	0	0
2-09	20	20	20	20	20
2-10	0	0	0	0	0
2-11	0	0	0	0	0
2-12A	110	110	110	110	110
2-12B	0	0	0	0	0
2-13A	0	0	0	0	0
2-13B	0	0	0	0	0
2-14A	0	0	0	0	0
2-14B	0	0	0	0	0
2-15	0	0	0	0	0
2-16	0	0	0	0	0
2-17	130	140	140	150	150
2-18	0	0	0	0	0



**GENERAL PLAN - AUGUST 2000**  
**Group Quarters Population By Statistical Area**

<b>Statistical Area</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
2-19	0	0	0	0	0
2-20	0	0	0	0	0
2-21	0	0	0	0	0
2-22	0	0	0	0	0
3-01	20	20	20	20	20
3-02	30	30	30	30	30
3-03	0	0	0	0	0
3-04	20	20	20	20	20
3-05	0	0	0	0	0
3-06	10	10	10	10	10
3-07A	0	0	0	0	0
3-07B	0	0	0	0	0
3-08A	40	40	40	40	40
3-08B	0	0	0	0	0
3-09	0	0	0	0	0
4-01	0	0	0	0	0
4-02	10	10	10	10	10
4-03	0	0	0	0	0
4-04	10	10	10	10	10
4-05	0	0	0	0	0
4-06	0	0	0	0	0
4-07	0	0	0	0	0
4-08	0	0	0	0	0
4-09	0	0	0	0	0
5-01	20	20	20	20	20
5-02	10	10	10	10	10
5-03	0	0	0	0	0
5-04	40	40	40	40	40
5-05	0	0	0	0	0
5-06	0	0	0	0	0
5-07A	30	30	30	30	30
5-07B	0	0	0	0	0
5-08A	0	0	0	0	0
5-08B	0	0	0	0	0
5-09	0	0	0	0	0
5-10	20	20	20	20	20
5-11	290	290	290	290	290

**GENERAL PLAN - AUGUST 2000**  
**Group Quarters Population By Statistical Area**

<b>Statistical Area</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
5-12A	620	620	620	620	620
5-12B	20	20	20	20	20
5-12C	70	70	70	70	70
5-13A	10	10	10	10	10
5-13B	0	0	0	0	0
5-14	10	10	10	10	10
5-15A	40	40	40	40	40
5-15B	0	0	0	0	0
5-16A	10	10	10	10	10
5-16B	0	0	0	0	0
5-17	20	20	20	20	20
6-01A	0	0	0	0	0
6-01B	0	0	0	0	0
6-02	60	60	60	60	60
6-03	20	20	20	20	20
6-04	10	10	10	10	10
6-05	10	10	10	10	10
6-06	10	10	10	10	10
6-07A	0	0	0	0	0
6-07B	0	0	0	0	0
6-08	10	10	10	10	10
6-09A	0	0	0	0	0
6-09B	0	0	0	0	0
6-10	0	0	0	0	0
6-11A	0	0	0	0	0
6-11B	0	0	0	0	0
6-12A	20	20	20	20	20
6-12B	100	100	100	100	100
6-12C	0	0	0	0	0
6-13	0	0	0	0	0
6-14A	20	20	20	20	20
6-14B	0	0	0	0	0
6-15A	0	0	0	0	0
6-15B	0	0	0	0	0
6-16	0	0	0	0	0
6-17	0	0	0	0	0
6-18	0	0	0	0	0

**GENERAL PLAN - AUGUST 2000**  
**Group Quarters Population By Statistical Area**

<b>Statistical Area</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
6-19	0	0	0	0	0
6-20	0	0	0	0	0
6-21	0	0	0	0	0
6-22A	10	10	10	10	10
6-22B	0	0	0	0	0
6-23	20	20	20	20	20
6-24	250	260	260	260	260
6-25	0	0	0	0	0
6-26A	0	0	0	0	0
6-26B	0	0	0	0	0
6-27A	0	0	0	0	0
6-27B	0	0	0	0	0
6-28	10	10	10	10	10
6-29	0	0	0	0	0
6-30	0	0	0	0	0
6-31	0	0	0	0	0
<b>Total Group Quarters</b>	<b>4,000</b>	<b>4,080</b>	<b>4,130</b>	<b>4,190</b>	<b>4,210</b>