

Howard County, Maryland

# The 1990 General Plan

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

Adopted July 2, 1990



---

OFFICE OF COUNTY EXECUTIVE

---

*Elizabeth Bobo, County Executive*

November 20, 1990


Dear Reader:

The adoption of the 1990 Howard County General Plan gives me great satisfaction and pride. The Plan received the prestigious 1991 American Planning Association Award for Outstanding Comprehensive Planning. It was selected for this honor by a national jury from amongst many entries.

The Plan is the culmination of a two-year effort that solicited and incorporated ideas from Howard County's many and diverse interest groups. It is a document strongly oriented towards environmental protection and growth management, but also provides for a beneficial level of economic development for the County. The Plan is regional in scope and responsibility. It is an action plan, clearly spelling out the next steps necessary for implementation.

Our Plan's success will depend ultimately on many partnerships at the local, regional and state level. We are confident that this will occur.

Sincerely,



Elizabeth Bobo  
County Executive

*Grace Kubofcik, Assistant to the County Executive*  
*Althea "Tee" O'Connor, Assistant to the County Executive*

# Amendments

Resolution 137 .....	7/30/90
Resolution 153 .....	9/4/90
Resolution 179 .....	10/1/90

For Information:  
Howard County  
Department of Planning and Zoning  
3430 Courthouse Drive  
Ellicott City, Maryland 21043  
301-992-2357

**County Council  
of Howard County, Maryland**

**Resolution No. 30**

**1990 Legislative Session**

WHEREAS, the Department of Planning and Zoning prepared a 1990 General Plan for Howard County following general guidelines promulgated by the Planning Board and adopted by the County Council; and

WHEREAS, the 1990 General Plan includes, but is not limited to plans for land use and land conservation and multiyear development plans for transportation, public facilities, water, sewerage, parkland, housing, human services, and environmental protection, plus related maps; and

WHEREAS, the Planning Board has held hearings on the 1990 General Plan and has made recommendations on it; and

WHEREAS, the County Executive has submitted to the County Council a proposed 1990 General Plan for Howard County, consisting of the 1990 General Plan reviewed by the Planning Board plus the Executive's recommended changes including updated information, clarification of issues, language corrections, and modifications based on Planning Board recommendations; and

NOW, THEREFORE, BE IT RESOLVED, by the County Council of Howard County, Maryland this 2nd day of July, 1990, that the 1990 General Plan for Howard County as attached to this Resolution and incorporated herein is hereby adopted as amended as the General Plan for Howard County to replace the 1982 General Plan for Howard County.

---

## HOWARD COUNTY

### COUNTY COUNCIL:

Shane Pendergrass, Chairperson  
Paul Farragut, Vice Chairperson  
Angela Beltram  
Charles Feaga  
C. Vernon Gray

Hugh Forton  
*Executive Secretary*

### COUNTY EXECUTIVE

Elizabeth Bobo

### PLANNING BOARD:

Sue Ellen Hantman  
Howard Harrison, III  
Kathryn Mann  
Kay B. Partridge  
Helen E. Ruther

Uri P. Avin  
*Executive Secretary*

Paul T. Johnson  
*Deputy County Solicitor*

### DEPARTMENT OF PLANNING & ZONING

Director  
Deputy Director  
Chief, Comprehensive and Transportation Planning  
Chief, Zoning Administration and Enforcement  
Chief, Community Planning and Land Development  
Chief, Agricultural and Historic Preservation

Uri P. Avin  
Joseph W. Rutter, Jr.  
Carl S. Balsler  
William F. O'Brien  
Marsha McLaughlin  
John W. Musselman

### Primary authors:

Charles Boyd  
Clive Graham  
David Holden

Donna Mennitto  
Ben Pickar

### Graphics:

Michael White

Myriam Skelly

### Contributing Staff:

Jeanette Anders  
Jill Basham  
Charlotte Cavey  
Mary Edmondson  
Mary Ford  
Shirley Gamber  
Heidi Hartmann

Elaine Hauck  
Lisa Hill  
Jane Hoffman  
Jenifer Huff  
Peter Johansson  
John Kelley  
Niva Kodollikar

Paula Martin  
Sharon Melis  
Brian Muldoon  
Jenny Plummer  
Michael Somers  
Jill Sullivan  
Sarah Turnage  
Brenda Wieland

---

---

## HOWARD COUNTY

CHIEF ADMINISTRATIVE OFFICER, Buddy Roogow

OFFICE OF BUDGET, Raymond S. Wacks, Administrator

OFFICE OF CENTRAL SERVICES, A. Roy Stecher, Chief

DEPARTMENT OF CITIZEN SERVICES, Manus J. O'Donnell, Director

HOWARD COMMUNITY COLLEGE, Dwight Burrill, President

OFFICE OF HOUSING & COMMUNITY DEVELOPMENT, Rochell Brown, Administrator

OFFICE OF ECONOMIC DEVELOPMENT, Barry Bogage, Administrator

DEPARTMENT OF EDUCATION, Michael Hickey, Superintendent

DEPARTMENT OF FIRE & RESCUE SERVICES, Richard Shaw, Director

DEPARTMENT OF HEALTH, Dr. Joyce Boyd, Health Officer

OFFICE OF LAW, Barbara Cook, County Solicitor; Paul Johnson, Deputy County Solicitor

HOWARD COUNTY LIBRARY, A. Marvin Thomas, Director

DEPARTMENT OF POLICE, Frederick Chaney, Chief

OFFICE OF PUBLIC INFORMATION, Casey Willis, Administrator

DEPARTMENT OF PUBLIC WORKS, James M. Irvin, Director

DEPARTMENT OF RECREATION AND PARKS, Jeffrey Bourne, Director

DEPARTMENT OF COUNTY ADMINISTRATION, Rosalia Feinstein, Legislative Coord.

---

---

**NON-COUNTY AGENCY CONTRIBUTORS**

BALTIMORE REGIONAL COUNCIL OF GOVERNMENTS, Guy Hager, Executive Director

**PRIMARY CONSULTANTS**

GROWTH MANAGEMENT ANALYSIS by Marty Leitner, Esq., of  
Freilich, Leitner, Carlisle & Shortlidge

FISCAL IMPACT ANALYSIS by Paul Tischler of  
Tischler & Associates, Inc.

**SUPPLEMENTARY CONSULTANTS**

HOUSING NEEDS STUDY by Morton Hoffman and Company, Inc.

DOWNTOWN COLUMBIA URBAN DESIGN by Land Design/Research, Inc.

GROUNDWATER POLLUTION POTENTIAL STUDY by Geomatrix, Inc.

**MEMBERS OF THE GENERAL PLAN GUIDELINES TASK FORCE**

Ronald Hartman, Chairman  
Earl Armiger  
John Boender  
Janis Chastant  
Edward L. Cochran  
Sydney Cousins  
Christopher Duerksen  
Charles Ecker  
Carol Filipszak  
Lisa Gosen  
Edward Huber

Louis G. Hutt  
Joyce Kelly  
William Kirkwood, III  
Robert Levan  
Kathryn Mann  
Thomas M. Mateya  
Judge James Magill  
William Newman  
John Nicolai  
Cy Paumier  
Ray Puzio

David Rakes  
Lee Rosenberg  
Alton Scavo  
James Schulte  
William Snider  
Robert Solem  
Phillip J. Tierney  
J. G. Warfield  
John S. Whiteside  
Walter Woodford, Jr.

---



**This Plan has won  
the American Planning Association  
1991 National Planning Award  
for Outstanding Comprehensive Planning**





# TABLE OF CONTENTS

<b>CHAPTER ONE:</b>		
<b>INTRODUCTION</b> .....	1	
<b>CHAPTER TWO:</b>		
<b>HOW TO READ THIS PLAN</b> .....	3	
<b>CHAPTER THREE:</b>		
<b>RESPONSIBLE REGIONALISM</b> .....	7	
<b>INTRODUCTION</b> .....	9	
<b>LAND USE</b> .....	9	
History of Regional Growth Patterns .....	9	
The County's Role in Regional Patterns .....	15	
<i>Policies &amp; Actions</i> .....	17	
<b>TRANSPORTATION</b> .....	18	
The Relationship Between Land Use and Traffic .....	18	
The Relationship Between Land Use and the BWI Airport .....	20	
<i>Policies &amp; Actions</i> .....	23	
<b>AGRICULTURE</b> .....	25	
Trends in Regional Agriculture .....	25	
<i>Policies &amp; Actions</i> .....	25	
<b>ENVIRONMENT</b> .....	27	
Linkage Between Local and Regional Environmental Issues .....	27	
<i>Policies &amp; Actions</i> .....	27	
<b>SUMMARY MAP</b> .....	30	
<b>CHAPTER FOUR:</b>		
<b>PRESERVATION OF THE RURAL WEST</b> .....	31	
<b>INTRODUCTION</b> .....	33	
<b>LAND USE</b> .....	34	
Rural Residential Setting .....	34	
Agricultural Context .....	37	
<i>Policies &amp; Actions</i> .....	44	
<b>THE RURAL ENVIRONMENT</b> .....	49	
Resources Protection and Water Quality .....	49	
<i>Policies &amp; Actions</i> .....	50	
<b>TRANSPORTATION</b> .....	57	
Roads in the West .....	57	
<i>Policies &amp; Actions</i> .....	58	
<b>HOUSING</b> .....	59	
Housing Values .....	59	

# TABLE OF CONTENTS

---

ECONOMIC DEVELOPMENT .....	59	HOUSING .....	103
Jobs in the West .....	59	Introduction .....	103
<i>Policies &amp; Actions</i> .....	61	Establishing Low/Moderate Housing Needs .....	103
SUMMARY MAP .....	61	The Potential for Meeting the County's Low/Moderate Housing Needs .....	105
<b>CHAPTER FIVE:</b>		<i>Policies &amp; Actions</i> .....	109
<b>BALANCED GROWTH</b> .....	63	SCHOOLS AND EDUCATION .....	114
INTRODUCTION .....	65	Introduction .....	114
THE BALANCE BETWEEN JOBS AND HOUSING .....	67	Status of School Planning Efforts .....	114
Prospects for Employment Growth .....	67	Overcapacity School and Future School Needs .....	115
Prospects for Housing Growth .....	73	School Site Needs .....	119
LAND USE .....	75	Financial Impacts .....	120
Housing Areas .....	75	Higher Education .....	121
Employment Areas .....	77	<i>Policies &amp; Actions</i> .....	122
<i>Policies &amp; Actions</i> .....	85	LIBRARIES .....	126
TRANSPORTATION .....	87	Organization of the Library System .....	126
Highways .....	87	Demand for Services and Need for Facilities .....	126
Transit .....	98	Criteria for Site Selection .....	130
<i>Policies &amp; Actions</i> .....	101	<i>Policies &amp; Actions</i> .....	130

# TABLE OF CONTENTS

POLICE PROTECTION .....	132	HEALTH SERVICES .....	152
Organization of the Police Function .....	132	Health Care Needs, Services and Programs .....	152
Demand for Services and Need for Facilities .....	132	The Needs of Special Populations .....	152
Criteria for Site Selection .....	134	Clinical Services and Accessibility .....	153
<i>Policies &amp; Actions</i> .....	136	<i>Policies &amp; Actions</i> .....	153
FIRE AND RESCUE SERVICES .....	137	SUMMARY MAP .....	154
Organization of the Department of Fire and Rescue Services .....	137	<b>CHAPTER SIX: WORKING WITH NATURE</b> .....	157
Demand for Services and Need for Facilities .....	137	INTRODUCTION .....	159
Criteria for Site Selection .....	141	WATERWAYS AND WETLANDS .....	159
<i>Policies &amp; Actions</i> .....	141	Role of the Chesapeake Bay Agreement .....	159
RECREATION FACILITIES .....	143	Streams and Rivers .....	160
Introduction .....	143	Bay Clean Up Initiatives and Stream Valley Restoration Activities .....	160
Planning and Management of Recreation Services .....	144	<i>Policies &amp; Actions</i> .....	161
<i>Policies &amp; Actions</i> .....	145	WOODLANDS .....	166
HUMAN SERVICES .....	148	Woodlands and Natural Plant Communities .....	166
Introduction .....	148	<i>Policies &amp; Actions</i> .....	167
Human Service Needs .....	149		
<i>Policies &amp; Actions</i> .....	150		

# TABLE OF CONTENTS

---

OPEN SPACE .....	169	SUMMARY MAP .....	188
Open Space as a Resource Protection Network .....	169	<b>CHAPTER SEVEN: COMMUNITY ENHANCEMENT</b> .....	191
Different Needs of East and West .....	171	INTRODUCTION .....	193
Open Space Planning: West .....	171	PHYSICAL SETTING AND SENSE OF COMMUNITY .....	193
<i>Policies &amp; Actions</i> .....	172	NEED FOR COMMUNITY FOCUS .....	194
Open Space Planning: East .....	172	MIXED USE AS THE BASIS OF ENHANCED COMMUNITIES	194
<i>Policies &amp; Actions</i> .....	174	<i>Policies &amp; Actions</i> .....	195
DEVELOPMENT ISSUES .....	176	DOWNTOWN COLUMBIA .....	196
Working with Nature in Development Areas .....	176	<i>Policies &amp; Actions</i> .....	197
Deficiencies in Existing Regulations .....	178	PUBLIC TRANSIT .....	200
<i>Policies &amp; Actions</i> .....	179	<i>Policies &amp; Actions</i> .....	200
PARKWAYS, GREENWAYS AND BOULEVARDS .....	181	PUBLIC FACILITIES .....	202
<i>Policies &amp; Actions</i> .....	182	<i>Policies &amp; Actions</i> .....	202
ENERGY CONSERVATION .....	183	PUBLIC SPACE .....	203
<i>Policies &amp; Actions</i> .....	183	<i>Policies &amp; Actions</i> .....	203
ENVIRONMENTAL IMPLICATIONS OF COUNTY SERVICES .....	185	COMMERCIAL CENTERS: ADEQUACY AND ACCESSIBILITY .....	204
<i>Policies &amp; Actions</i> .....	185	<i>Policies &amp; Actions</i> .....	204
MINERAL RESOURCES .....	186		
WORKING WITH NATURE AND COMMUNITY ENHANCEMENT .....	188		

# TABLE OF CONTENTS

<p>COMMERCIAL CENTERS: DESIGN COMPATIBILITY WITH ADJACENT COMMUNITIES . . . 206</p> <p style="padding-left: 40px;"><i>Policies &amp; Actions</i> . . . . . 206</p> <p>STRIP COMMERCIAL AREAS . . . . . 207</p> <p>REDEVELOPMENT OF AGING STRIP COMMERCIAL AND INDUSTRIAL CORRIDORS . . . . . 207</p> <p style="padding-left: 40px;"><i>Policies &amp; Actions</i> . . . . . 208</p> <p>PARKING AND LOADING REQUIREMENTS . . . . . 210</p> <p style="padding-left: 40px;"><i>Policies &amp; Actions</i> . . . . . 211</p> <p>COMMUNITY ENHANCEMENT OF NEW NEIGHBORHOODS . . . . . 211</p> <p style="padding-left: 40px;"><i>Policies &amp; Actions</i> . . . . . 214</p> <p>COMMUNITY ENHANCEMENT OF EXISTING RESIDENTIAL NEIGHBORHOODS . . . . . 217</p> <p style="padding-left: 40px;"><i>Policies &amp; Actions</i> . . . . . 217</p> <p>HISTORIC PRESERVATION AND COMMUNITY ENHANCEMENT . . . . . 218</p> <p style="padding-left: 40px;"><i>Policies &amp; Actions</i> . . . . . 219</p> <p>CULTURE AND THE ARTS . . . . . 220</p> <p style="padding-left: 40px;"><i>Policies &amp; Actions</i> . . . . . 220</p> <p>COMMUNITY PLANNING AS A PLANNING RESPONSIBILITY . . . . . 221</p> <p style="padding-left: 40px;"><i>Policies &amp; Actions</i> . . . . . 222</p>	<p>SUMMARY MAP . . . . . 225</p> <p><b>CHAPTER EIGHT: PHASED GROWTH</b> . . . . . 227</p> <p>INTRODUCTION . . . . . 229</p> <p>THE NEED FOR PHASED GROWTH . . . . . 229</p> <p style="padding-left: 40px;"><i>Policies &amp; Actions</i> . . . . . 231</p> <p>TRANSPORTATION . . . . . 234</p> <p style="padding-left: 40px;">Roads . . . . . 234</p> <p style="padding-left: 40px;">Transit . . . . . 236</p> <p style="padding-left: 40px;">Bicycle Travel . . . . . 238</p> <p style="padding-left: 40px;"><i>Policies &amp; Actions</i> . . . . . 238</p> <p>SCHOOLS AND EDUCATION . . . . . 246</p> <p style="padding-left: 40px;"><i>Policies &amp; Actions</i> . . . . . 252</p> <p>PUBLIC SEWER . . . . . 254</p> <p style="padding-left: 40px;">Development in the "Pipeline" . . . . . 254</p> <p style="padding-left: 40px;">Organization of the Sewer Service System . . . . . 254</p> <p style="padding-left: 40px;">Financing Water and Sewer Service Systems Extension . 254</p> <p style="padding-left: 40px;">Timing of Sewer and Water Service Priorities . . . . . 257</p> <p style="padding-left: 40px;"><i>Policies &amp; Actions</i> . . . . . 258</p> <p>PUBLIC WATER . . . . . 259</p>
--	--

# TABLE OF CONTENTS

---

SOLID WASTE ..... 260

*Policies & Actions* ..... 260

CAPITAL IMPROVEMENT PROGRAM ..... 261

    Project Selection ..... 261

    Project Priority ..... 261

*Policies & Actions* ..... 262

THE AUTHORITY OF THE GENERAL PLAN ..... 263

*Policies & Actions* ..... 263

FUTURE GROWTH AND ITS MONITORING ..... 264

*Policies & Actions* ..... 266

THE YEAR 2000 GENERAL PLAN POLICIES MAP ..... 267

*Policies & Actions* ..... 267

FISCAL IMPACTS OF THE GENERAL PLAN ..... 268

    Summary of Analysis ..... 268

**CHAPTER NINE:**  
**HOW THE SIX POINTS COMBINE** ..... 269

INTRODUCTION ..... 271

GENERAL PLAN POLICIES MAP FOR 2000/2010 ..... 272

GENERAL PLAN LAND USE MAP ..... 273

GENERAL PLAN HIGHWAYS MAP ..... 275

**CHAPTER TEN:**  
**NEXT KEY STEPS** ..... 271

KEY STEPS ORGANIZED IN RELATIONSHIP TO  
 TO SIX POINTS OF THE GENERAL PLAN ..... 274

KEY STEPS ORGANIZED IN RELATIONSHIP TO  
 THE MAJOR ELEMENTS OF THE GENERAL PLAN ..... 277

KEY STEPS REQUIRING CHANGES TO  
 HOWARD COUNTY LAWS OR REGULATIONS ..... 280

**BIBLIOGRAPHY** ..... 291

**INDEX** ..... 299

**CHAPTER THREE:  
RESPONSIBLE REGIONALISM**

3-1 Regional Context ..... 10

3-2 Urbanized Areas ..... 11

3-3 Regional Development ..... 14

3-4 Regional Growth Pressures ..... 16

3-5 Regional Farmland Protection Areas ..... 22

3-6 1988 BWI Airport Noise Zone ..... 26

3-7 Major Parks and Green Spaces in Region ..... 28

3-8 Summary Map - Responsible Regionalism ..... 30

**CHAPTER FOUR:  
PRESERVING THE RURAL WEST**

4-1 Existing Patterns of Residential Development  
in the West ..... 35

4-2 Development Status in the West ..... 36

4-3 Protected and Uncommitted Areas in the West ..... 41

4-4 Preservation Areas ..... 51

4-5 Principal Woodlands ..... 52

4-6 Groundwater Pollution Potential ..... 54

4-7 Candidate Scenic Routes in the West ..... 55

4-8 I-70 Corridor Land Use ..... 60

4-9 Summary Map - Preservation of the Rural West ..... 62

**CHAPTER FIVE:  
BALANCED GROWTH**

5-1 Uncommitted Residential Zoned Land in  
Eastern Howard County 1989 ..... 78

5-2 Residential Development in Eastern  
Howard County 1989 ..... 79

5-3 Uncommitted Employment Zoned Land  
in Eastern Howard County 1989 ..... 80

5-4 Developed Employment Zoned Land in  
Eastern Howard County 1989 ..... 82

5-5 Existing Roadway Level of Service  
E & F 1986/1988 ..... 88

5-6 2010 Roadway Level of Service E & F  
No Growth ..... 90

5-7 2010 Roadway Level of Service E & F  
"Existing Plus Committed" Network ..... 92

5-8 General Plan Highway Network Key  
Improvements 1990 - 2010 ..... 94

5-9 Reduced Congestion due to General  
Plan Network Improvements ..... 96

5-10 2010 Roadway Level of Service  
E & F General Plan Network ..... 97

# TABLE OF MAPS

---

5-11	Proposed Washington Bypass .....	98
5-12	Transit/HOV Corridors .....	99
5-13	Howard County Elementary Schools by Region .....	116
5-14	Howard County Middle Schools by Region .....	117
5-15	Howard County High Schools by Region .....	118
5-16	Service Areas Outlined by Long Range Facilities Plan Howard County Library 1986 - 2000 .....	127
5-17	Library Service Areas (2005) .....	129
5-18	Howard County Election Districts 1989 .....	135
5-19	Fire Districts and Stations .....	138
5-20	Mutual Aid Fire Stations in Adjacent Jurisdictions ....	139
5-21	Summary Map - Balanced Growth .....	155

## CHAPTER SIX: WORKING WITH NATURE

6-1	Major Stream Systems .....	162
6-2	Preservation Areas .....	163
6-3	Principal Woodlands .....	168
6-4	Main Open Space Holdings .....	170
6-5	Main Future Open Space Acquisitions: West .....	173
6-6	Proposed Environmental Zoning .....	180

6-7	Potential Mineral Resources In Howard County .....	187
6-8	Summary Map - Working With Nature .....	188

## CHAPTER SEVEN: COMMUNITY ENHANCEMENT

7-1	Summary Map - Community Enhancement .....	226
-----	---	-----

## CHAPTER EIGHT: PHASED GROWTH

8-1	Statewide APFO/Impact Fee Regulations .....	230
8-2	Transit/HOV Corridors .....	237
8-3	1990-1995 Key Land Use Changes and Roadway Improvements .....	293
8-4	1995-2000 Key Land Use Changes and Roadway Improvements .....	244
8-5	2000-2010 Key Land Use Changes and Roadway Improvements .....	245
8-6	Sewer Service Areas and System .....	255



**CHAPTER THREE:  
RESPONSIBLE REGIONALISM**

3-1	Population in the Region .....	12
3-2	Wedges & Corridors .....	13
3-3	Percent Population Increases 1990-2020 .....	15
3-4	Sewer and Non-Sewer Service Area Densities .....	18
3-5	Projected Corridor Congestion .....	20
3-6	Commuters Between Baltimore and Washington .....	20

**CHAPTER FOUR:  
PRESERVING THE RURAL WEST**

4-1	Residential Permits in the West .....	34
4-2	Land Development Status in Western Howard County .....	37
4-3	Trends in Agricultural Land .....	37
4-4	Farmland Owner/Renter Proportions .....	38
4-5	Individual or Family Owned Farms .....	39
4-6	Cropland by Use .....	39
4-7	Protected Land in Western Howard County .....	40
4-8	Roadway Level-of-Service in the West 2010 .....	57
4-9	General Plan Highway Safety Projects .....	58

**CHAPTER FIVE:  
BALANCED GROWTH**

5-1	Assessable Base by Land Use Type Howard County .....	67
5-2	Regional Employment 1970-1990 .....	68
5-3	Regional Employment 1970-2010 .....	69
5-4	Jobs in the Baltimore/Washington Corridor .....	69
5-5	Jobs in the Baltimore/Washington Corridor (with Howard County Preliminary Projections) .....	70
5-6	Labor Force; Commutation Shares; and Labor Force Availability to Howard County .....	71
5-7	Howard County Labor Force by Age Group 1980-2010 .....	71
5-8	Dwelling Unit Buildout Pie Chart Under Current Zoning .....	73
5-9	Howard County Jobs to Households Ratio 1970-1990 .....	74
5-10	Howard County Household Projections (Based on Current Zoning) .....	74
5-11	Regional Jobs to Households Ratios 1970-2010 .....	74
5-12	Howard County Percent of Developed, In Process and Undeveloped Residential Zoned Land - January 1, 1989 .....	75

## TABLE OF FIGURES

---

5-13	Howard County Potential Buildout in Selected Zoning Districts .....	75	5-26	Howard County's Assisted Housing in 1989 .....	103
5-14	Howard County Current Housing and Buildout Under Current Zoning .....	76	5-27	Howard County's Unmet Housing Needs in 1989 .....	105
5-15	Regional Housing Stock by Structure Type .....	77	5-28	Howard County Current Housing Mix, Buildout Under Current Zoning and Buildout Under 1990 General Plan .....	107
5-16	Major Evaluation Criteria for Residential Area Designation .....	77	5-29	Overcapacity Schools, March 1989 .....	115
5-17	Howard County Percent of Developed, In Process and Undeveloped Employment Zoned Land .....	81	5-30	Board of Education School Site Size Policy Guidelines .....	119
5-18	Developed, in Subdivision Process and Undeveloped Land by Zoning Category .....	81	5-31	Average Annual Per Pupil Costs for Selected Jurisdictions 1988 .....	120
5-19	Major Evaluation Criteria for Mixed-Use Area Designation .....	84	5-32	Average Construction and Operating Costs for New Schools in FY 90 .....	121
5-20	Roadway Levels of Service 1986/88 .....	87	5-33	Enrollment at Institutions of Higher Education in Howard County .....	122
5-21	Roadway Levels of Service Existing & 2010 No Growth .....	89	5-34	Years of College Completed, Howard County and the Baltimore Region .....	122
5-22	Highway Travel Versus Capacity Baltimore Region 1980-1987 .....	89	5-35	Enrollment by Place of Residence at Maryland Institutions of Higher Education .....	123
5-23	Baltimore Regional Growth Indices 1980-87 .....	91	5-36	Hierarchy of Library Facilities .....	128
5-24	Roadway Levels of Service 2010 Existing Plus Committed Network with General Plan Land Use .....	91	5-37	Planned Service Area: Current Long Range Facilities Plan (1989) (Excluding Central Library) .....	128
5-25	Comparative Levels of Service 2010 E + C Versus 2010 General Plan Networks .....	93	5-38	Sworn Officers Per 1,000 Population FY 1980-FY 1990 .....	132

## TABLE OF FIGURES

5-39	Calls for Service: Per Capita and Sworn Officers 1980-1989 .....	133
5-40	Severity of Crimes and Total Arrests .....	134
5-41	Distribution of Calls for Service by Election District .....	134
5-42	Incidents & Responses 1980-1988 .....	137
5-43	Fire & Rescue Capital Improvement Schedule .....	140
5-44	Station Responses: 1980 .....	141
5-45	Station Responses: 1988 .....	142
5-46	Existing & Future Age Distribution: Howard County .....	148

### CHAPTER SIX: WORKING WITH NATURE

6-1	Bay Clean Up Initiative .....	161
6-2	Best Management Practices .....	164
6-3	Habitat Types .....	166
6-4	Urban Forestry Gains Ground .....	167
6-5	Comparison of Open Space Holdings in New Town and Outside New Town .....	171
6-6	Continuity of Open Space Corridors in Development is High Priority .....	174
6-7	Analysis of Stream Valley Corridors .....	175

6-8	Protected Habitats Can Survive Near Development .....	176
6-9	Need For Variety in Roadside Landscape Edges .....	183
6-10	Energy Conscious Site Planning Balances Needs of All Seasons .....	184

### CHAPTER SEVEN: COMMUNITY ENHANCEMENT

7-1	Renewed Interest in Earlier Models of Community Design .....	194
7-2	Mixed Use Center: Early 20th Century Planned Community .....	195
7-3	Floor Area Ratio (F.A.R.) Concept .....	196
7-4	Downtown Columbia: Planning Concepts (1967; 1990) .....	198
7-5	Downtown Columbia: Initial Results 1989-1990 Study .....	199
7-6	Pedestrian Pocket Concept Centered on Transit: Perspective .....	200
7-7	Pedestrian Pocket Concept Schematic Plan of Basic Concepts .....	201
7-8	Architecture as Public Edge Along Roads and Streets .....	204
7-9	Typical Landscape and Site Design Problems: Older Strip Commercial Corridors .....	207

# TABLE OF FIGURES

7-10	Typical Improvements to Strip Commercial Image .....	208	8-3	State Highway Administration Capital Program .....	235
7-11	Redevelopment of Strip Commercial Site into Mixed-Use Center .....	209	8-4	Maryland Department of Transportation Capital and Operating Program .....	236
7-12	Suburban Cluster Neighborhood Model .....	212	8-5	Transit/HOV Corridors - Phasing .....	236
7-13	Streets as Public Environments as well as Circulation .....	213	8-6	Adequate Public Facilities Standards - Residential Development .....	239
7-14	Traditional Use of Public Space as Community Focus .....	215	8-7	Howard County Household Size .....	246
7-15	Revival of Street Grids as Basis for Community Planning .....	216	8-8	Trends in the Howard County Birth Rate 1960-2010 .....	247
7-16	Small Lot Development with Central Open Space Focus .....	216	8-9	School Enrollment Projections .....	248
7-17	Multi-Family Site Planning .....	217	8-10	Projected Timing of New School Openings .....	248
7-18	Ellicott City Historic District .....	218	8-11	Comparison of Different School Enrollment Projections .....	249
7-19	Howard County Statistical Areas .....	223	8-12	School Acreage Needs Based on 1988/89 and General Plan Projections .....	251
7-20	Howard County Neighborhoods .....	224	8-13	Residential Subdivisions in Process - October 1989 .....	254
<b>CHAPTER EIGHT: PHASED GROWTH</b>			8-14	Patapsco Wastewater Treatment Plant .....	257
8-1	Comparative Level of Service: 1986/88 versus 2010 E+C and General Plan Networks .....	234	8-15	1990 General Plan Estimates of Future Population, Household and Employment Growth .....	265
8-2	Maryland Department of Transportation Capital Program .....	235			

## TABLE OF FIGURES

---

8-16	Household Size by Dwelling Unit Type 1985-2010 .....	265
8-17	Comparison of Population Projections in the 1982 and 1990 General Plans .....	266

# TABLE OF BOXES

---

## CHAPTER THREE: RESPONSIBLE REGIONALISM

3-1	The 2020 Report .....	13
-----	-----------------------	----

## CHAPTER FOUR: PRESERVING THE RURAL WEST

4-1	Agricultural Land Preservation Program .....	38
4-2	Agriculture in Howard County .....	39
4-3	Density Exchange Option Criteria .....	42
4-4	Guidelines for Clustering .....	43
4-5	Protection and Use of Cluster Remainders .....	45
4-6	Types of Clustering .....	46
4-7	Clustering - Case Study .....	47
4-8	Shared Septic Systems .....	50
4-9	Groundwater Protection .....	53
4-10	Protection of Scenic Routes .....	56

## CHAPTER FIVE: BALANCED GROWTH

5-1	Hypothetical Fiscal Impact Analysis .....	68
5-2	Employment Sector Growth .....	72

5-3	Affordability of Housing in Howard County .....	76
5-4	Differences between Residential and Employment Traffic Generation .....	83
5-5	Benefits of Mixed-Use Centers .....	84
5-6	Level-Of-Service (LOS) .....	87
5-7	Roadway Safety Improvements in the East .....	93
5-8	High Occupancy Vehicle Facilities .....	100
5-9	Short-Term Transit Initiatives .....	100
5-10	Housing Policy of the Howard County Administration .....	104
5-11	Howard County Needs Estimates for Low and Moderate Income Housing .....	105
5-12	Rehabilitation of Substandard Housing Units .....	106
5-13	Existing Supply of Low and Moderate Income Housing at Risk .....	106
5-14	Potential Future Annual Low and Moderate Income Housing Yield from a Range of Programs .....	108
5-15	Employer Assisted Housing Potential Techniques .....	111
5-16	Review of the Education Element of the 1982 General Plan .....	114

5-17 Decreasing State Role in Education  
Funding ..... 121

5-18 Components of Proposed School  
Facilities Master Plan ..... 125

**CHAPTER SIX:  
WORKING WITH NATURE**

6-1 Stream Valley Greenway System ..... 165

6-2 Common Environmental Losses  
Associated with Site Development ..... 177

6-3 Zoning Districts That Address  
Environmental Concerns ..... 178

6-4 Potential Scenic Roads in the East ..... 182

**CHAPTER SEVEN:  
COMMUNITY ENHANCEMENT**

7-1 System of Commercial Centers ..... 205

7-2 Cluster Neighborhood Model:  
Typical Drawbacks ..... 213

7-3 Alternate Community Design  
Models ..... 213

7-4 Basic Principles of Traditional  
Neighborhood Design ..... 214

7-5 Problems of Past Attempts  
to Define Local Areas ..... 222

**CHAPTER EIGHT:  
PHASED GROWTH**

8-1 Development Agreement ..... 232

8-2 Existing Plus Committed Network ..... 234

8-3 Non-Residential Zoning Districts  
For Which PEC - Type Zoning  
Regulations Are Needed ..... 241

8-4 Birthrates ..... 247

8-5 School Enrollment Projections  
Based On Different Growth  
Rate Projections ..... 250

8-6 Public Sewer System In Brief ..... 256

8-7 The Water and Sewer Master Plan ..... 258

8-8 Summary Of The 1990 Capital  
Budget ..... 261

---

**INTRODUCTION**

---



# Chapter One

---

## INTRODUCTION

---

In September of 1989, the County presented a series of alternative development scenarios for public discussion. These portrayed six contrasting versions of the County in the year 2010. These scenarios varied both in extent and intensity of development.

In general, public sentiment was against any significant expansion or intensification of the County's suburban development area, and for preservation of the rural West and enhanced environmental protection. This response reflects the top priorities of the General Plan Guidelines.

Several public opinion polls confirm that the concerns expressed by these priorities are widespread and run deep.

In proposing these priorities, the Task Force was reflecting public concern about the potential negative effects of rapid growth on the quality of life. The Issue Papers concluded that while levels of service were high today and while no critical problems yet existed, the next five years could see a rapid erosion in the quality of life if present growth trends continued.

It is important to note that in opinion polls, County residents were moderate in their views on growth management. For example, in a June 1989 survey by Mason-Dixon Opinion Research, Inc., published by the *Howard County Times*, over two-thirds of respondents selected the following statement on growth and development in Howard County as best reflecting their views: "Some limits are needed, but it is important to have some development to help keep taxes from increasing." Only 17% selected the strictest statement: "Strict limits should be placed on future development, even if that means higher property taxes." Similarly, a majority of respondents did not favor a halt or moratorium on all residential and commercial activity. Overwhelming support was expressed for stricter rural zoning, adequate facilities legislation, and impact fees.

In addition to public sentiment, the County has evaluated numerous other factors in developing its General Plan. These factors include the relative balance between growth in jobs and housing, the impact of rates of growth on facilities and on fiscal resources, the potential for sustained agriculture, and the constraints imposed by sewage treatment.

In this Plan, the Planned Service Area for sewer and water is essentially held intact and reaffirmed. Within the East, several major undeveloped parcels have their designations changed, some of them to a mixed-use category. Key roadway improvements are identified and an ambitious long-term transit strategy is mapped out. Environmental protection is extended to large undeveloped areas. Some additional housing is provided, especially of the more affordable housing types, but employment acreage countywide is held constant.

In the West, clustering in a rural conservation area will be set at a density of one unit per five net acres. Incentives will be provided to allow densities of one unit per three net acres if, in so doing, large areas of contiguous farm land are protected. The existing "corridor" of developed rural/suburban land remains in its current three-acre lot status, but a cluster option is provided in this area as well. Two sites for potential economic development are identified along the I-70 corridor, but this freeway is not planned to be the spine of a future development area. Areas with high potential for water pollution in the West are highlighted as a guide to Land Use planning. A key next step after the Plan's adoption is a comprehensive rezoning of the western part of the County to implement these concepts.

A major concept in the Plan is the creation of a mid-County Greenbelt that bestows the benefits of the County's rural character

# INTRODUCTION

---

along its suburbanized boundary. This Greenbelt does not preclude low intensity development, but will be a target of easement acquisition, directed clustering, and fee simple acquisitions to protect existing environmental and landscape resources in conjunction with related programs such as greenway planning.

In addition to the presentation of alternative Land Use Scenarios, the County produced a series of Issue Papers in the Fall of 1989 which dealt with the impacts of development on roads, schools, agriculture, fiscal and budget resources, and sewer capacity. These data-heavy products responded to the General Plan Guideline Task Force's priorities for study.

The General Plan spells out five significant growth management measures. In these, the County is to:

- **Stabilize western Howard County.**  
Encourage the continuation of farming; Preserve the existing rural character
- **Establish a more definitive suburban/rural demarcation.**  
Limit expansion of sewer service area; Establish a "mid-County greenbelt."
- **Take advantage of regional location for job growth and corresponding housing opportunities.**  
Ensure adequate sites for non-residential development; Advance housing programs to maximize housing opportunities for all segments of the public.
- **Establish public facilities level of service standards to ensure that new growth does not contribute to future facility deficiencies.**  
Utilize adequate public facility provisions in the existing Planned Employment Center (PEC) zone for all non-residential development.
- **Commit to a strong capital budget to provide adequate public facilities.**  
Pursue advance acquisition of public facility sites; Expand the role and function of the County capital budget and five-year capital program to expedite expenditure of funds

toward provision of public facilities; Ensure that new growth pays its fair share towards public facilities whose need is attributable to such development.

These growth management measures ensure that Howard County, while still absorbing a significant amount of regional growth over time, will remain a moderate density jurisdiction and will provide for the type of housing necessary to support its job base expansion for a healthy economy.

Because of the effects of the Growth Management Act of 1989 and of a proposed Adequate Public Facilities Ordinance, this Plan forecasts an annual average residential growth rate of about 2,500 units over the next 20 years. The Plan proposes that a Development Monitoring System be put in place so that if residential growth significantly exceeds the forecasts, which provide the basis for calculating future infrastructure and services needs, measures to limit growth will be taken.

The Plan is based on maintaining existing adopted levels of service in infrastructure and services. Because of the probable dwindling of State monies for roads and schools, this maintenance of service levels will be costly, particularly since the County plans to contribute selectively to State road building to accelerate essential improvements. Fiscal analysis of the Plan shows that, as long as our employment and residential growth can meet forecasted levels, the net cost of new growth will be marginal over the Plan's lifetime. While the Plan does not set a timetable for implementation of impact fees, it suggests that this equitable method of expanding the County's budget to handle the effects of new development will be needed.

This twenty year Plan is organized around six themes. These are: Responsible Regionalism, which relates the County to its region and develops policies relevant to this inescapable reality; Preservation of the Rural West, which treats all the issues of the West as a whole; Balanced Growth, which covers the gamut of land use and service relationships to provide for a well-balanced Plan; Working with Nature, which treats environmental issues from a wide variety of perspectives; Community Enhancement, which focuses on how to design better communities and enhance those that we have; and Phased Growth, which deals with matters of growth management and the Plan's implementation.

The next section of this Plan briefly explains how this document is formatted so as to ease the reader's passage.

---

**HOW TO READ THIS PLAN**

---

---

## Chapter Two

# HOW TO READ THIS PLAN

---

This Plan is organized around six points or themes. These six points – Responsible Regionalism, Preservation of the Rural West, Balanced Growth, Working With Nature, Community Enhancement, and Phased Growth – were used as a framework for developing the Plan because they encompass major concerns voiced by residents over the County's future. Each theme generates a range of policies and actions that flow from the discussion and analysis. Where possible, these policies and actions are collected and mapped in a summary map at the conclusion of the chapter.

Each theme in the main section of this document is discussed from numerous points of view. Thus, under Responsible Regionalism, Land Use is reviewed from the perspective of land use trends and patterns in the Baltimore-Washington region and the Land Use policies recommended are those that impact on our neighbors. Under Balanced Growth, employment and residential Land Uses are analyzed from the viewpoint of their overall capacity and interdependence; policies and actions are derived that affect the location and amount of land devoted to those uses. In the chapter on Phased Growth, the Land Uses are discussed in terms of their impact on roads and schools over time and the policies and actions that result are the parameters of an adequate public facilities ordinance.

The major headings within each chapter reflect this cumulative structure – Land Use appears as a heading in several chapters. The reader of General Plans who is accustomed to their organization according to traditional elements (Land Use, Transportation, Public Facilities, Housing, Environment, etc.) and who wants to know all that is said in the Plan about Transportation, can read all the Transportation headings for an overview of the topic. Certain topics less complex and interdependent than Transportation are discussed only once. Most of the services that support population and development such as libraries, police, fire and recreation facilities, fall into this category. These services are discussed under Balanced Growth.

The adoption of a thematic format has made it easier to treat issues as a whole. An inherent problem of the traditional organization of General Plan documents is that an element such as Transportation is discussed in its own right, and becomes divorced from its relationship with other elements. The hope is that this Plan's format is better able to integrate such discussions.

After the six points are presented, Chapter Nine: *How the Six Points Combine as a Plan*, ties them together by describing how they combine in a series of three maps – a Policies Map for 2000 and 2010, a Land Use Map for 2010, a Highway Map for 2010. The maps, along with the policies and actions, are the key products of this Plan. The maps are combined on a large multi-color poster.

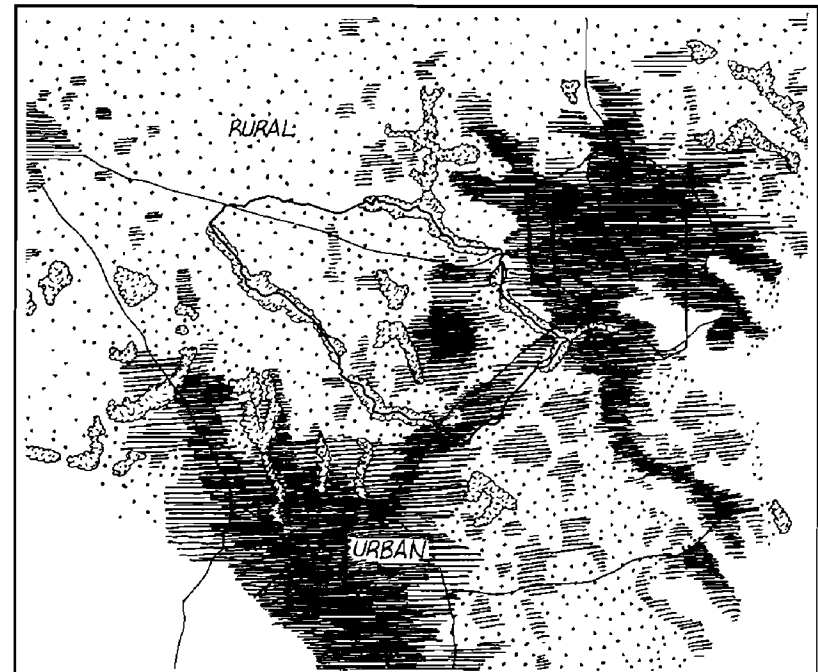
Chapter Ten: *Next Key Steps* identifies those policies and actions that need to be implemented over the next two years. In many cases this will require legislation and such items are highlighted. It is particularly important that several initiatives be implemented over the next year, prior to the lifting of the interim growth controls in March, 1991.

This Plan contains a substantial amount of supporting data. Much of it has been separated out of the running text into boxes so that the reader can review it without interrupting the flow of the presentation. Further background material is provided in the 1990 General Plan Appendices. This separately-published document is a compendium of materials, including the Guidelines for the General Plan adopted by the County Council in January 1989, which set out the issues to be explored in the Plan, a description of the General Plan Scenarios which were the basis for public discussion of land use and transportation policy options in September and October 1989, a series of Issue Papers associated with General Plan topics, and a listing of the miscellaneous studies conducted by consultants and the County over the past year that relate to the General Plan.

---

# RESPONSIBLE REGIONALISM

---



## Chapter Three

---

# RESPONSIBLE REGIONALISM

---

## Introduction

Howard County's relatively small size and location between two major metropolitan areas makes examination of our regional context extremely important. We are part of a dynamic regional economy, transportation network, agricultural land base, and natural resource system. We are affected by regional trends and conditions which do not heed political boundaries. We are influenced by the decisions of neighboring jurisdictions and we, in turn, influence our neighbors and the region. (See Map 3-1.)

This chapter places Howard County in the context of regional issues as they relate to land use, transportation, housing, agriculture and the environment. It outlines the policy decisions and actions to be taken that have ramifications beyond the County's borders.

## 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 or surpassed 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 seventies.

In the mid-to-late 1970s, when the effects of this massive growth were clearly apparent in newly-gridlocked roads and development on farmland, some of these counties took the first steps

towards growth management. These steps took the form of more restrictive zoning (Baltimore and Montgomery Counties, for example, lowered densities in their rural hinterlands) and the development of adequate public facilities ordinances (Prince George's and Montgomery County in 1970 and 1968, respectively), which typically required that schools and roads have capacity to accommodate development. (See Map 3-2.)

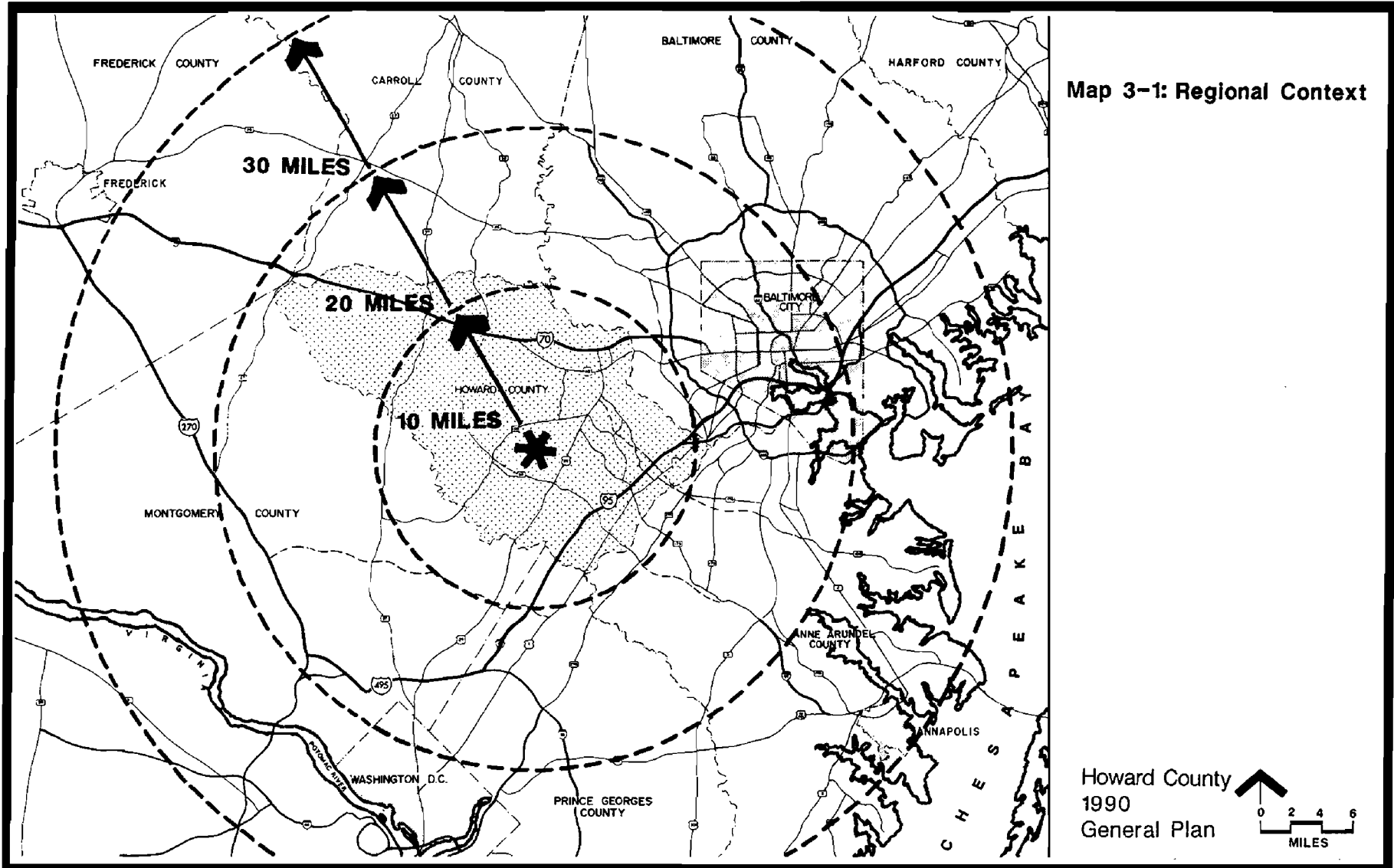
These fledgling efforts helped moderate some of the effects of growth, but, in many cases, it was too little, too late. These after-the-fact efforts to deal with some of the negative effects of rapid growth (especially environmental impacts) have nevertheless caused growth rates to slow in these closer-in metropolitan counties as they have matured. The growth controls, the high cost and short 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 3-1 illustrates the earlier waves of growth rising and subsiding as growth in the closer-in counties gave way to growth in the outlying counties in the 1960s and 1970s.

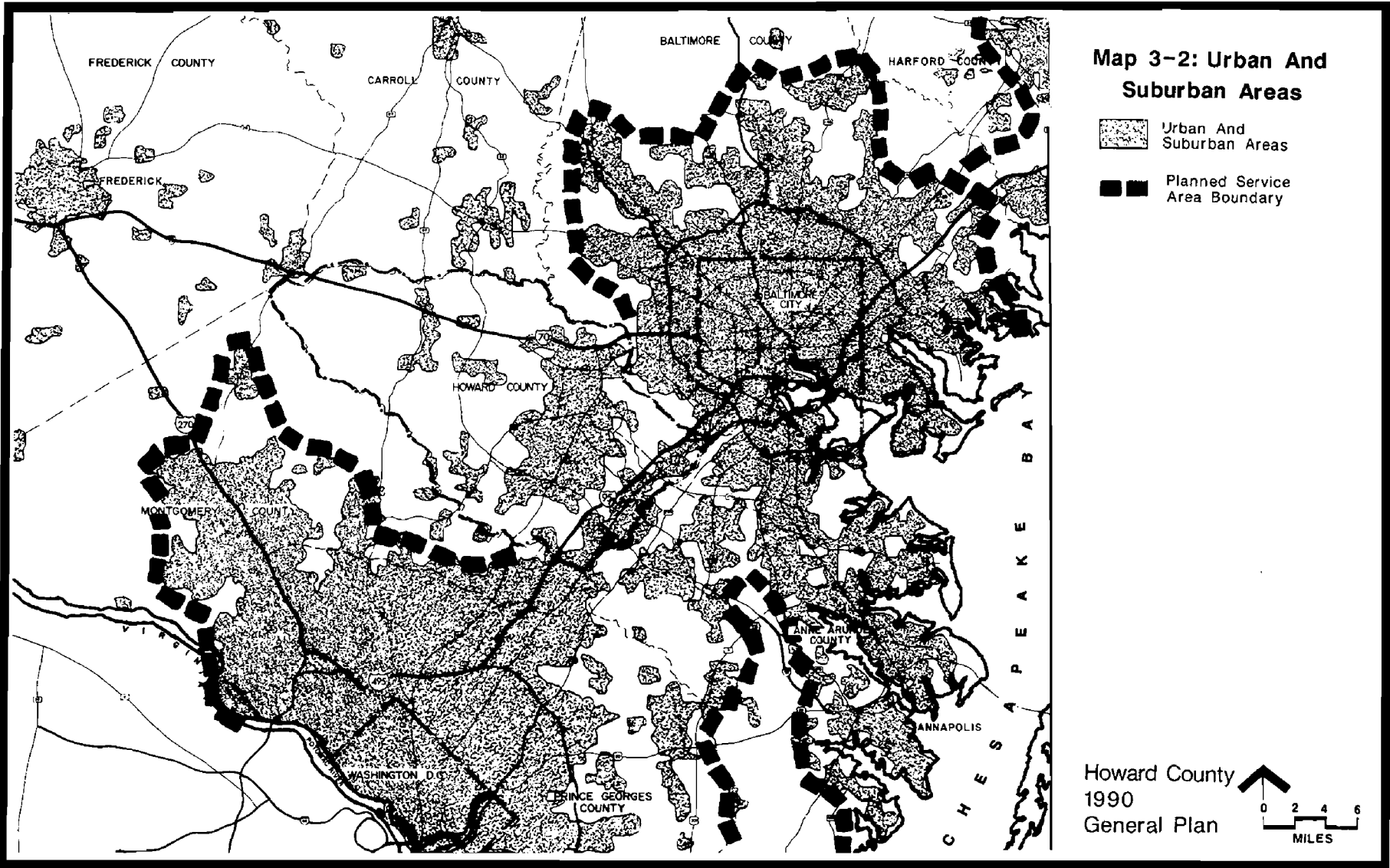
The county most squarely in the path of the growth from both the Baltimore and Washington areas is, of course, Howard County. This reality, so obvious today, was but a gleam in Jim Rouse's eye in 1965, when he envisioned and founded a planned city between Baltimore and Washington, "in the middle of nowhere." This city, Columbia, was meant to absorb growth within a planned framework and was to be a sharply defined urban place amidst a rural setting.

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. However, the

# RESPONSIBLE REGIONALISM



Map 3-1



Map 3-2



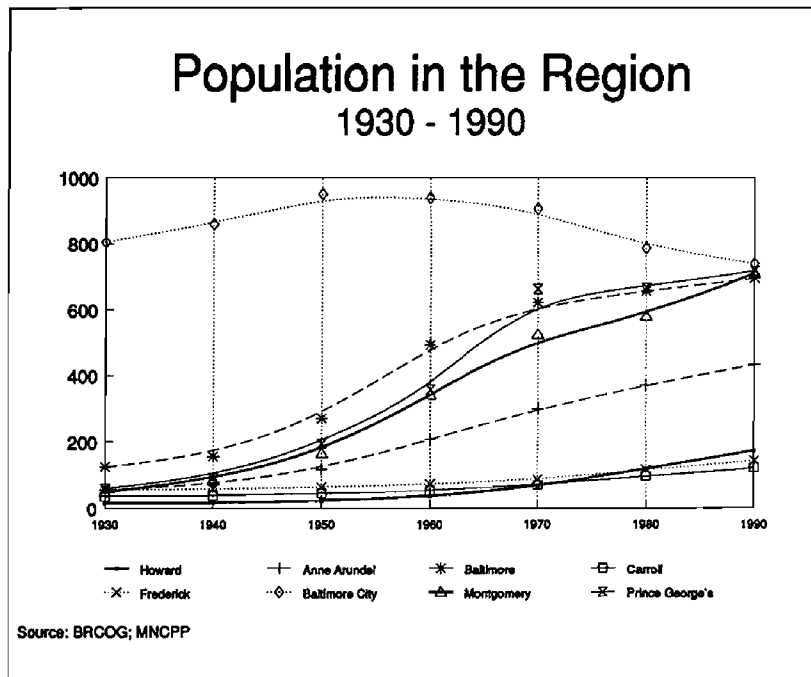


Figure 3-1

extension of I-270 and I-70 to Frederick created a "golden triangle." East-west movements became much easier, and suddenly Frederick and even Westminster were closer to the beltway job centers than ever before. (Map 3-3 shows employment areas.)

Indeed, these beltway centers themselves began to expand along the new radial highways. The growth of BWI 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 main street of regional traffic.

Small wonder then, that Howard County's growth trajectory, which increased in the 1970s, continues while that of older metropolitan counties is leveling off.

While the entire region is enjoying a boom in employment, the engine most furiously fueling this growth roars out of Washington, D.C. Will the Baltimore region become the bedroom community to Washington? Certainly, regional commuting patterns

and projections suggest that this is likely to occur. However, the pressures on the road network to accommodate this movement will be such that jobs will inevitably decentralize and move out of the D.C. orbit to reach closer to their workers.

Howard County's commuting patterns over the past decade show two trends: a stable orientation towards Washington and, more significantly, an increase in at-place employment (31% in 1980 to 39% in 1989) as more jobs and workers have moved here. Market projections suggest that the next twenty years will continue the pattern of the past twenty years.

In addition to some of the zoning and growth management tools adopted by various counties in the face of these growth pressures, counties also adopted master plans to guide growth. The D.C. Region Plan, famous in the 1960s, was known as the "Wedges and Corridors" plan because of the proposed radial development along highways that would be separated by regional-scale open space large enough to sustain farming. (See Figure 3-2.)

The Baltimore region's counties also adopted such a plan. To some degree, the plan simply ratified the status quo. However, as development threatened to fill in the wedges, the urgency to strengthen zoning tools to preserve them grew. Thus, Baltimore County in 1979 adopted 50-acre rural zoning for much of its "wedges"; Montgomery County developed a Transfer of Development Rights (TDR) program which sought to preserve its "wedges" by "sending" rural growth demand into designated urban "receiving" areas.

In recognition of the relationship between the region's most important natural resource, the Chesapeake Bay, and the region's prosperity, the Chesapeake Bay Agreement was signed by the Governors of Virginia, Maryland, Pennsylvania, and the Mayor of the District of Columbia in 1987. It was a key step in regional cooperation to revitalize the Bay and to reverse trends that contribute to its degradation. A panel, appointed by the region's leaders, published a report in 1988 called "Population Growth and Development in the Chesapeake Bay Watershed to the Year 2020." Commonly known as the "2020 Report", it examines the role of growth and development patterns in the Bay region, envisions alternatives to present trends, and makes recommendations to the region's leaders in the form of action agendas designed to protect the

Bay. Box 3-1 identifies the Report's key concepts. Map 3-4 and Figure 3-3 depict regional growth pressures.

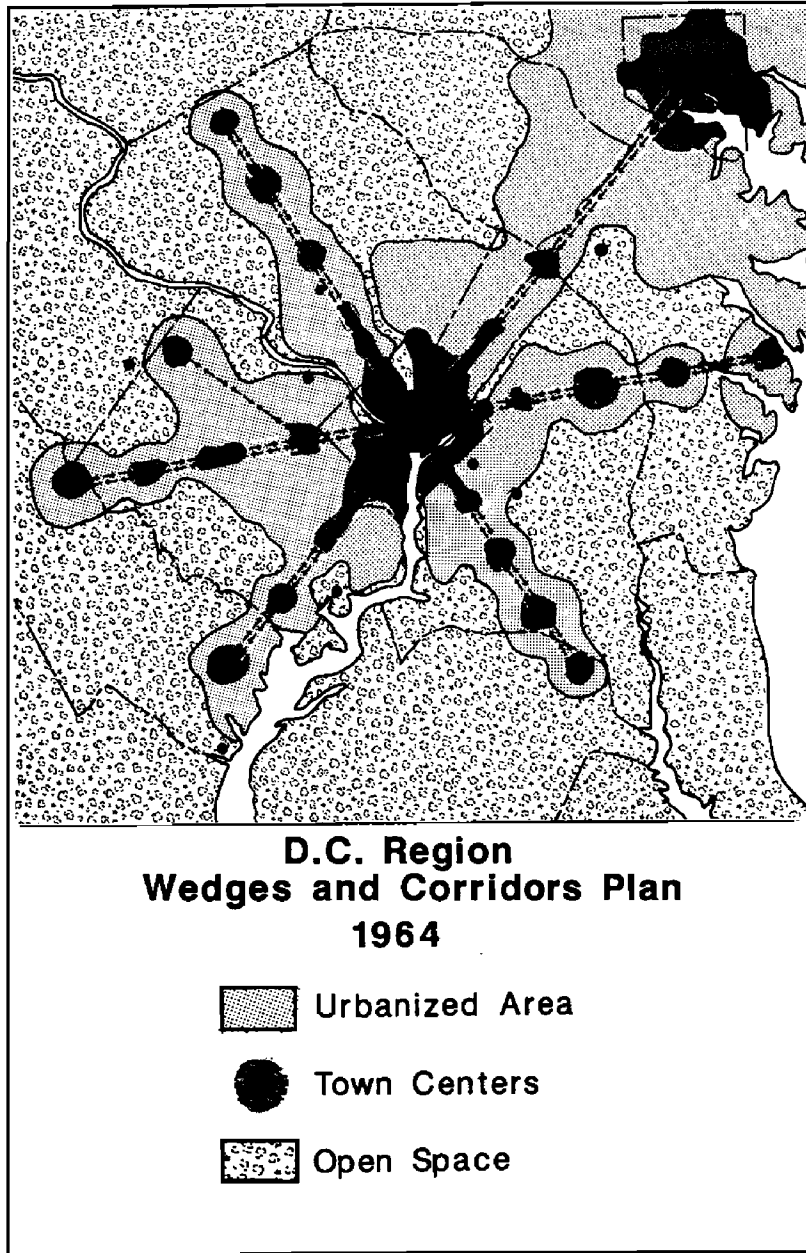


Figure 3-2

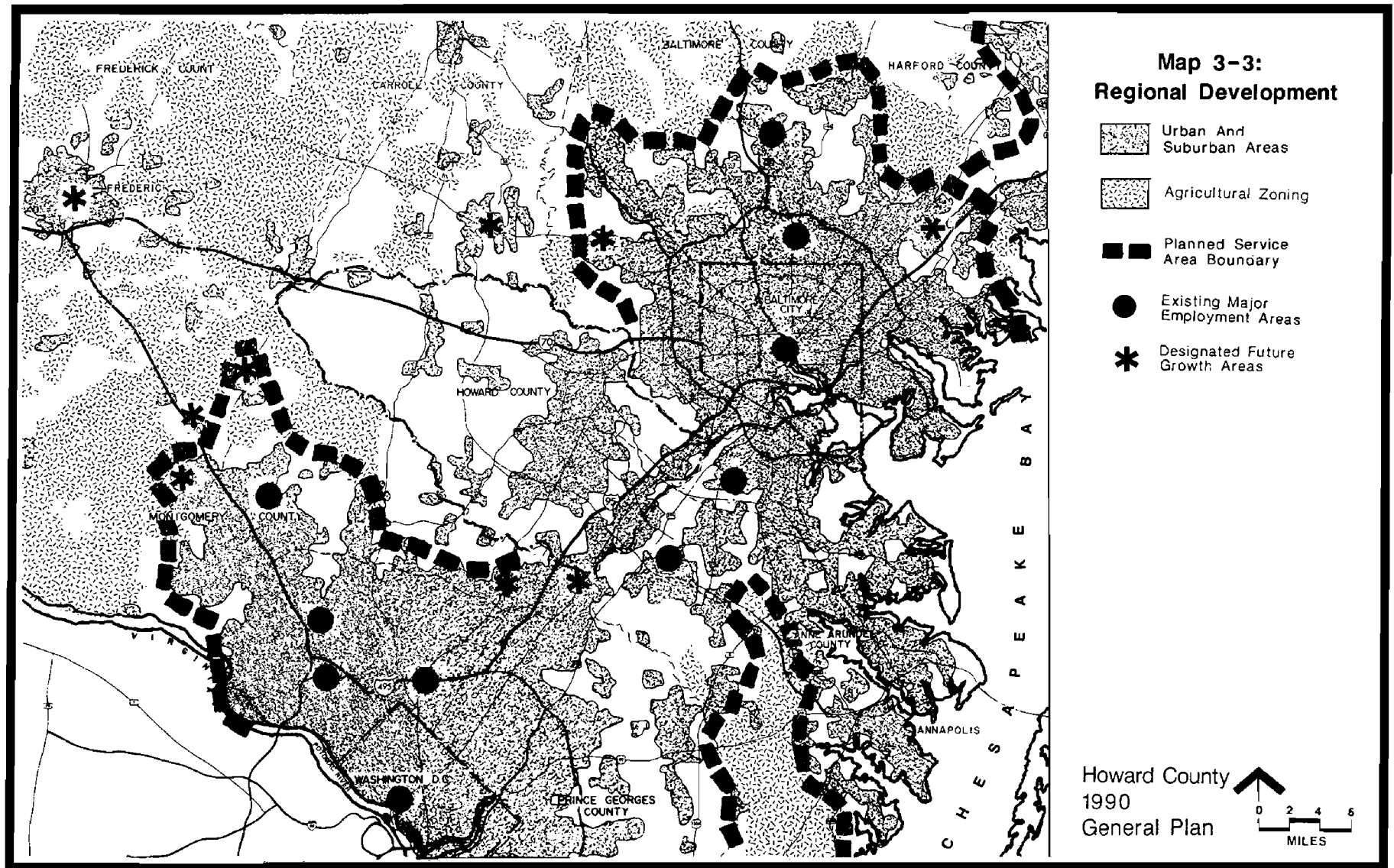
### Key Concepts of the 2020 Plan

The 2020 Report calls on local jurisdictions to:

- Concentrate new growth within the existing urban, suburban or rural growth centers that have existing infrastructure able to absorb more growth.
- Promote mixed-use centers and reinvest in older centers to relieve pressures to expand out of existing areas.
- Protect land resources such as agriculture and woodlands from urban encroachments. Limit residential development in rural areas to levels compatible with the ecological and scenic value of the countryside.
- Protect sensitive environmental areas from encroachment or damage but provide for large open spaces within walking, bicycling or short driving distances of most people.
- Give open space needs the same priority as other infrastructure needs.

Box 3-1

# RESPONSIBLE REGIONALISM



Map 3-3

The County's Role in Regional Patterns

Howard County, astride these merging regions, assumed through the 1970s that Columbia would absorb most of the growth pressures and that its rural "wedge" would be insulated from development pressure. Nevertheless, in 1977 the County rezoned the West from 1 acre per dwelling unit to 3 acres per dwelling unit. The 1982 General Plan dramatically pulled back the 1971 water and sewer extension area in an attempt to further contain growth and maintain the rural "wedge."

These actions formed the heart of the 1982 Howard County General Plan recommendations. It 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 new 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.

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. Despite soaring land prices, the growth rate of the mid-1980s continued unabated. The increasingly stringent growth management techniques implemented in neighboring counties in the region only reinforced the attractiveness of Howard County for urban development.

Other counties (e.g., Frederick and Carroll Counties) are also experiencing high levels of housing growth due to major highway extensions designed to serve planned growth centers such as Owings Mills and Rockville-Gaithersburg. The attempts by some of the more mature jurisdictions to manage and limit their growth have had the effect of diverting growth to less protected counties, such as Howard, Charles and Calvert.

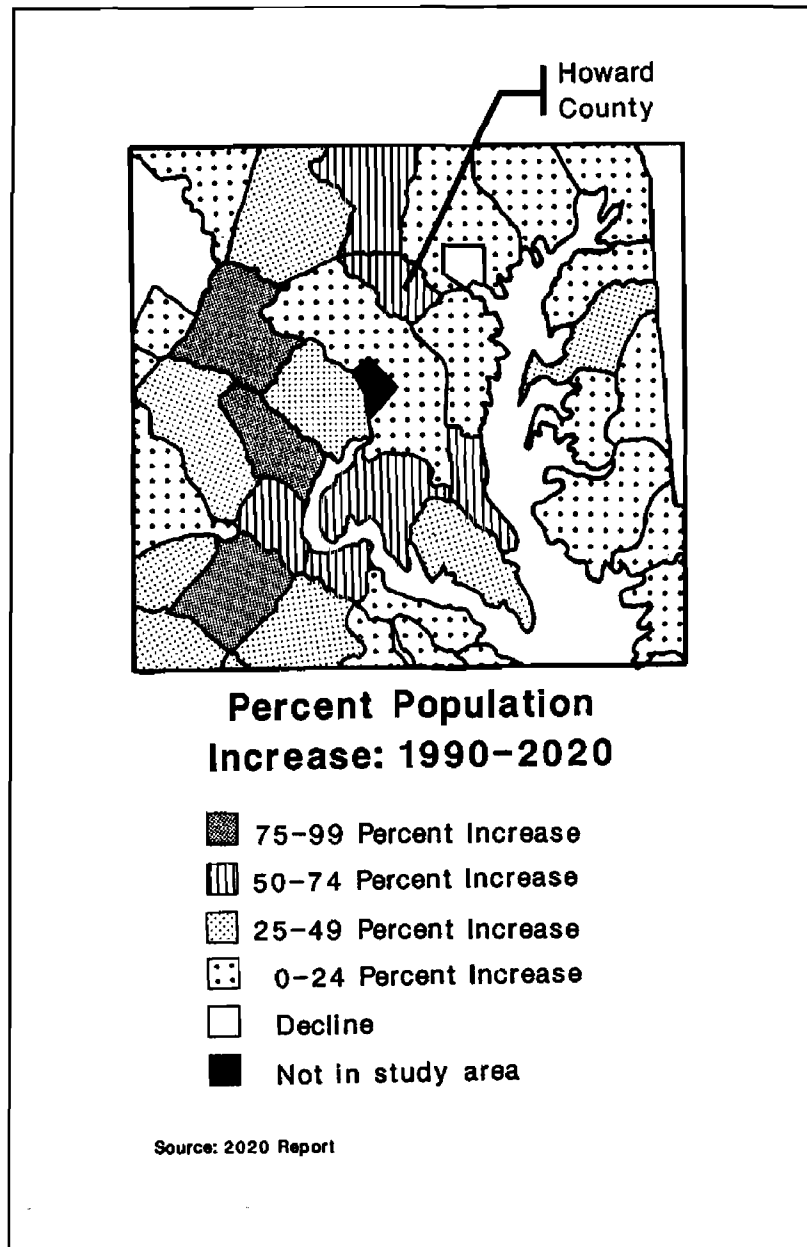
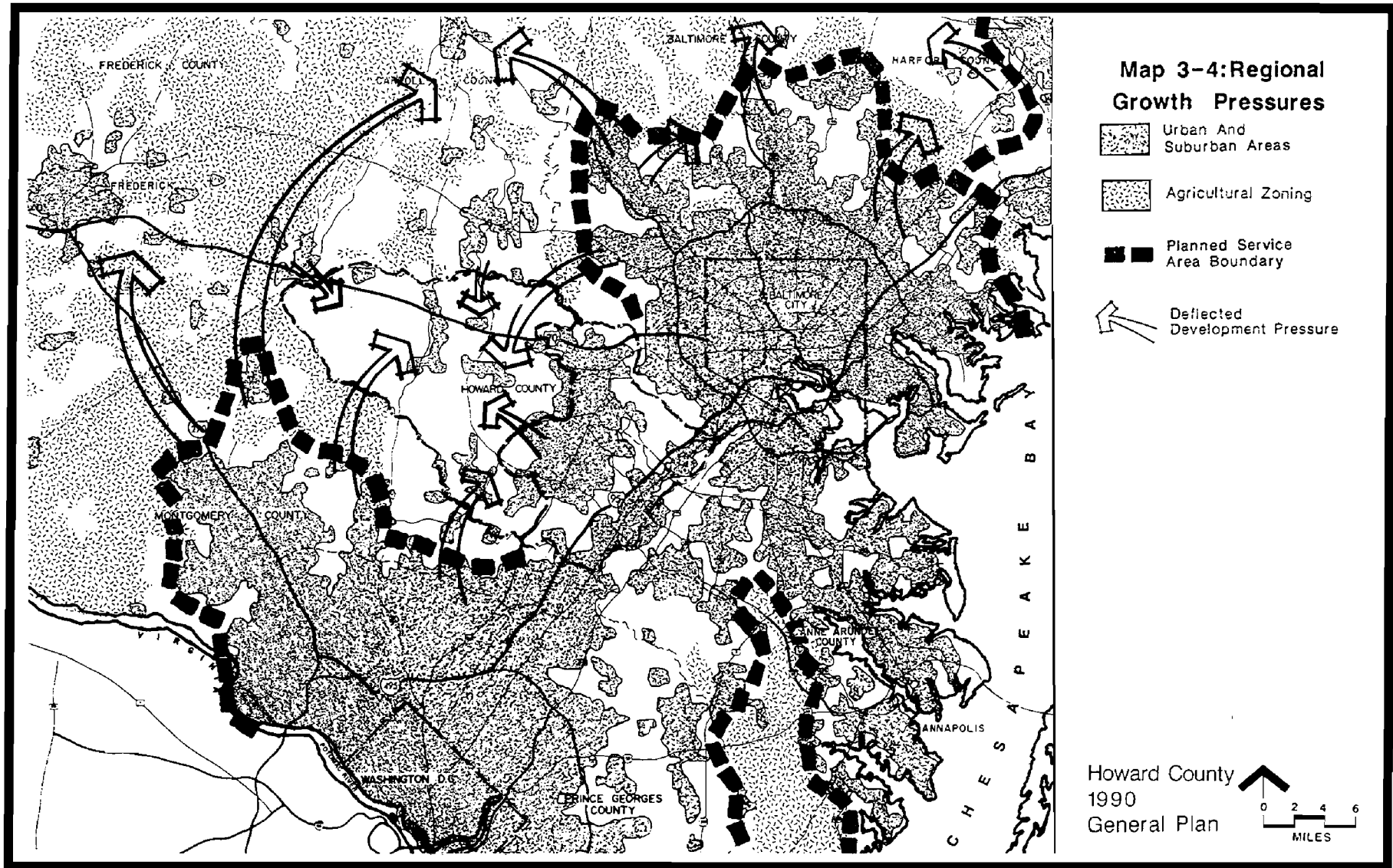


Figure 3-3

# RESPONSIBLE REGIONALISM



Map 3-4

## *Policies and Actions*

*Howard County, to be consistent with the vision of the 2020 Report\* and to contribute to regional growth management, will:*

### *3.1 Planned Service Area Boundary*

Establish a permanent line on all appropriate maps indicating the intention of the County to provide water and sewer facilities and services in specific areas and the intention to prohibit extension of these services beyond the planned service boundary line; this preserves Howard County's western area as a regional agricultural/open space or "wedge". (This concept is further detailed in Chapter Four, *Preservation of the Rural West*).

\* The Report of the Year 2020 Panel to the Chesapeake Executive Council, December 1988.

# Transportation

## The Relationship Between Land Use and Traffic

Outside of Columbia, Howard County's residential growth has occurred in low densities, unlike more mature adjacent counties. (See Figure 3-4.) Despite this low density growth, the County's geographic position as a regional crossroads will result in significant amounts of through-traffic. Over half the traffic on the major highways in the County is through-traffic. The anticipated growth in regional employment centers to the east of the County (Ft. Meade, NSA, BWI, Laurel, etc.) will also increase regional traffic on east-west routes (I-70, MD 32, MD 100) in the County.

JURISDICTION	SEWER		NON-SEWER	
	DU/ACRE	POP/ACRE	DU/ACRE	POP/ACRE
Howard	1.8	4.9	0.1	0.3
Anne Arundel	1.9	5.3	0.2	0.5
Baltimore	2.4	6.0	0.2	0.4
Baltimore City	6.1	15.3	1.9	4.6
Carroll	0.9	2.5	0.1	0.3
Frederick	1.8	5.1	0.04	0.1
Harford	1.8	5.0	0.1	0.3
Montgomery	2.3	5.9	0.2	0.4
Prince George's	2.7	6.9	0.1	0.2

Source: Howard County DPZ

Figure 3-4

While Howard County has not yet experienced traffic congestion on the scale of some of the surrounding counties, projections indicate that this situation will change dramatically in the five-year period 1990 to 1995 despite some significant State spending

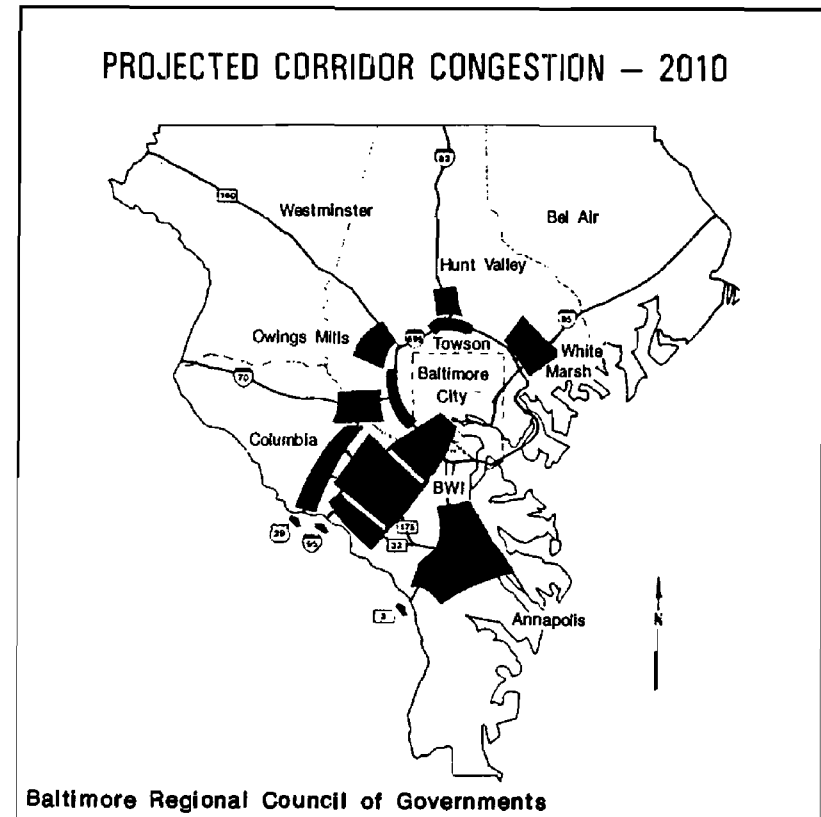


Figure 3-5

for improvements within this timeframe. More than half of the region's transportation corridors most in need of improvement are in Howard County, according to the Baltimore Regional Council of Governments. (See Figure 3-5.)

Given the region's massive job growth and its increasingly dispersed housing, both the region's and Howard County's traffic congestion will increase over the next five years. Throughout the region Interstates are commonly being used for short-distance commutes. Major improvements to relieve congestion on the Interstates are not projected to occur for many years. Regional traffic congestion is a problem that may not be solved, but only better managed.

It is estimated that by the year 2010 50% to 60% of all travel in Howard County will be through-traffic; that is, vehicles travelling through the County without an origin or a destination in the County. These through trips will be a major cause of congestion on the major state roads such as US 29, I-95, US 1 and I-70. To effectively manage future traffic in Howard County, therefore, will require regional cooperation and the development of regional solutions. Box 3-2 highlights some of the on-going regional and bi-regional transportation planning efforts in which Howard County participates, that must be maintained and strengthened if Howard County is to adequately address future regional transportation demands.

Reducing the length of work trips and removing local traffic from the Interstates and major highways would help relieve congestion. However, a quarter of the new jobs being created will not provide incomes sufficient to allow workers to live in the metropolitan counties closest to their jobs. The cost of housing in the region is such that long distance commutes to job centers from Carroll, Frederick and Charles Counties (where housing is relatively cheaper) will continue to be a feature of metropolitan travel. Certainly regional efforts to increase the supply of low and moderate income housing in the close-in counties will help to relieve some long distance commuting pressures, but will not solve the congestion problem, as Figure 3-6 implies.

An approach, often cited as the best response to Howard's traffic congestion, is improved transit service. Car and vanpooling, buses, highway lanes dedicated to high occupancy vehicles (HOV), bus ways, light rail, and metro extensions are proposed to improve regional mobility. Combinations of these transit options must be explored and implemented over the next two decades despite their relatively high cost and need for public subsidies. Based on experience with similar land uses and residential densities, however, transit is likely to divert only 10% - 15% of trips from highways.

Ultimately, a combination of many approaches will be needed to maintain traffic congestion at tolerable levels. However, the congestion in the region will encourage some firms to locate or relocate in more outlying areas which are not yet congested and which are closer to a diversified labor pool. Howard County, relatively speaking, is still sufficiently uncongested to be an attractive destination for new jobs. Its shortage of low/moderate housing for workers, however, is probably a more significant constraint upon

### Current Regional Transportation Coordination Efforts

- Participation with State and local jurisdictions through the Baltimore Regional Council of Governments (BRCOG) in a regional transportation plan for highways, light rail, commuter rail, and bus mass transit.
- Participation in ongoing regional transportation planning efforts as members of such BRCOG committees as the Transportation Steering Committee (TSC) and the Travel Analysis Subcommittee of the Plan and Program Committee.
- Coordination with Montgomery County on regional and bi-regional transportation issues through joint technical staff meetings with emphasis on such issues as regional transit/HOV corridors (e.g., I-95 and US 29), park-and-ride lots, traffic forecasting, etc.
- Support of joint transportation planning efforts between the Metropolitan Washington Council of Governments (MWCOG) and BRCOG to better anticipate the joint transportation issues and needs of the two regions. These efforts include sharing of technical information and development of a bi-regional transportation model capable of forecasting future traffic levels within both regions.
- Participation of the County with BRCOG in delineating the regional transportation capital budget and the Transportation Improvement Program (TIP), that together provide the State and local coordination for federal funding.
- Continued coordination and support of MDOT and MTA in the development of the Commuter Assistance Study to identify and rank those regional transportation corridors which are best suited to the development of HOV lanes and/or light rail.
- Ongoing technical support and coordination (in conjunction with BRCOG and MTA) in planning for new and/or expanded express bus service from Howard County to and from the Baltimore and Washington D.C. Metropolitan areas as part of the Suburban Service Program.
- Provision of data and ongoing coordination and review of various State Highway Administration (SHA) studies of regional significance including the US 29 Mainline, MD 32, MD 100 and Washington Bypass studies.
- Coordination through BRCOG and MWCOG of a bi-regional carpool matching program.

Box 3-2



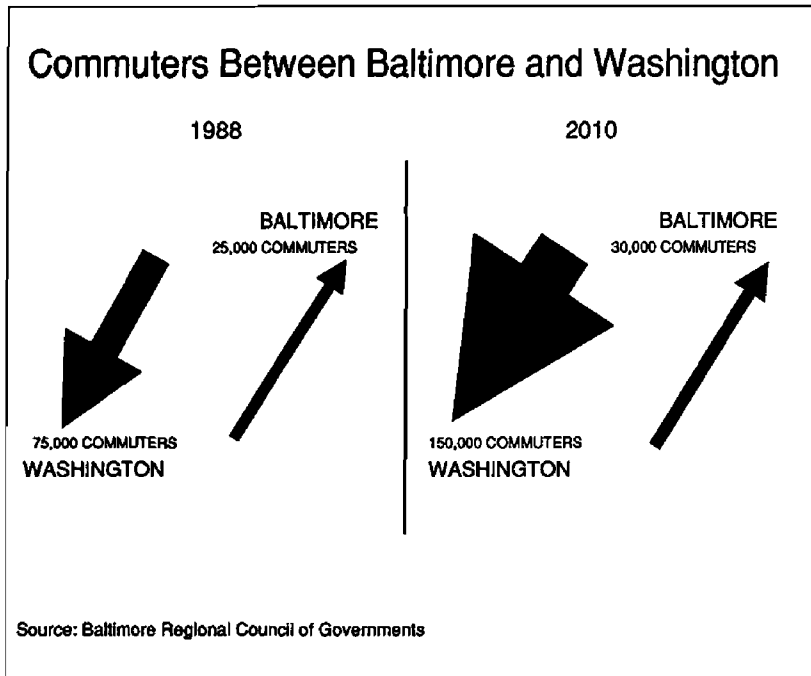


Figure 3-6

economic development than is traffic congestion. Both traffic and housing issues are dealt with in more detail in Chapters Five and Eight.

Given the transportation and related housing issues, how much and what kinds of additional jobs and housing growth can and should the County absorb? Conversely, should the County reduce jobs and housing capacities until traffic congestion problems are solved?

The 2020 Report urges that "States must take the lead to establish policies and programs that result in compact and efficient growth patterns..." that "localities must maximize the use of existing and future infrastructure". How can Howard County contribute to these goals?

Howard County must balance a number of competing regional goals and objectives and must assume certain responsibilities within its regional context. Clearly, some employment growth and corresponding housing development must be permitted even in the

face of increased traffic congestion. However, unlimited growth, particularly in the short-term (the next five years) will have adverse effects because major road improvements are not anticipated until a later time frame.

## The Relationship Between Land Use and the BWI Airport

BWI Airport, located in nearby Anne Arundel County, is one of the major employment centers of the Baltimore-Washington region with significant additional growth anticipated over the next five to ten years. Deregulation in the air transportation industry has dramatically increased the number of flights into BWI in recent years. Recently BWI Airport became the hub for Piedmont/US Air and, based on projections for the coming decade, air traffic operations are shown to increase for both business and leisure travel in the region. Not only will air passenger traffic increase, but air freight is expected to increase as well.

Although the airport is not located in Howard County, two of the four major flight approach paths to BWI Airport extend into the Elkridge area of Howard County. One of the approach paths extends along the Patapsco River and affects Elkridge Landing, Elkridge Heights, and the northeast portion of Lawyers Hills. The other extends roughly along the MD 100 right-of-way and affects Harwood Park and Lennox Park, as well as industrially-zoned areas along the US 1 corridor.

The noise generated by BWI has necessitated that land uses in affected areas of the County be adjusted to be more compatible with the environmental impacts of the airport. The Maryland Aviation Administration (MAA), on an ongoing basis, 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. There also exists a process for reviewing proposed residential land uses in the area affected by airport noise. Box 3-3 and Map 3-5 provide added detail regarding these concepts.

## BWI AIRPORT NOISE ZONE

### The Airport Noise Zone

The expansion of BWI Airport operations has been accompanied by modifications of land use regulations in the form of an Airport Noise Zone (ANZ) established and administered by the Maryland Aviation Administration. This zone is an "overlay" on local land use regulations establishing limits in addition to those in local zoning and subdivision controls.

The Maryland Environmental Noise Act of 1974 established a statewide Airport Noise Control Program. Under that program, the Maryland Aviation Administration (MAA), the operator of BWI, is responsible for the development of an Airport Noise Zone (ANZ). The first Airport Noise Zone and Abatement Plan for the BWI Airport was adopted in 1976, updated in 1982 and most recently in 1988 utilizing the existing and future (1993-1997) noise levels based upon the expected growth in aircraft traffic and the proposed improvements to the airport runway system.

For the 1988 Airport Noise Zone (see Map 3-5), the MAA has established certain adjustments to the State airport zoning procedures based on the noise compatibility of uses located within the ANZ. 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. However, a balance must be achieved between abatement procedures and the restrictions that can be placed on aircraft operations for reasons of safety.

Airport noise zones are established on the basis of projections of aircraft operations and revised by the MAA as warranted. Within the 65 Ldn or greater noise contour, most industrial, commercial, and recreational activities are permitted, but residential development and many community facilities (e.g., 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 certain noise reduction standards. In the case of residential development, the standard is 45 decibels in the indoor space, measured with windows closed.

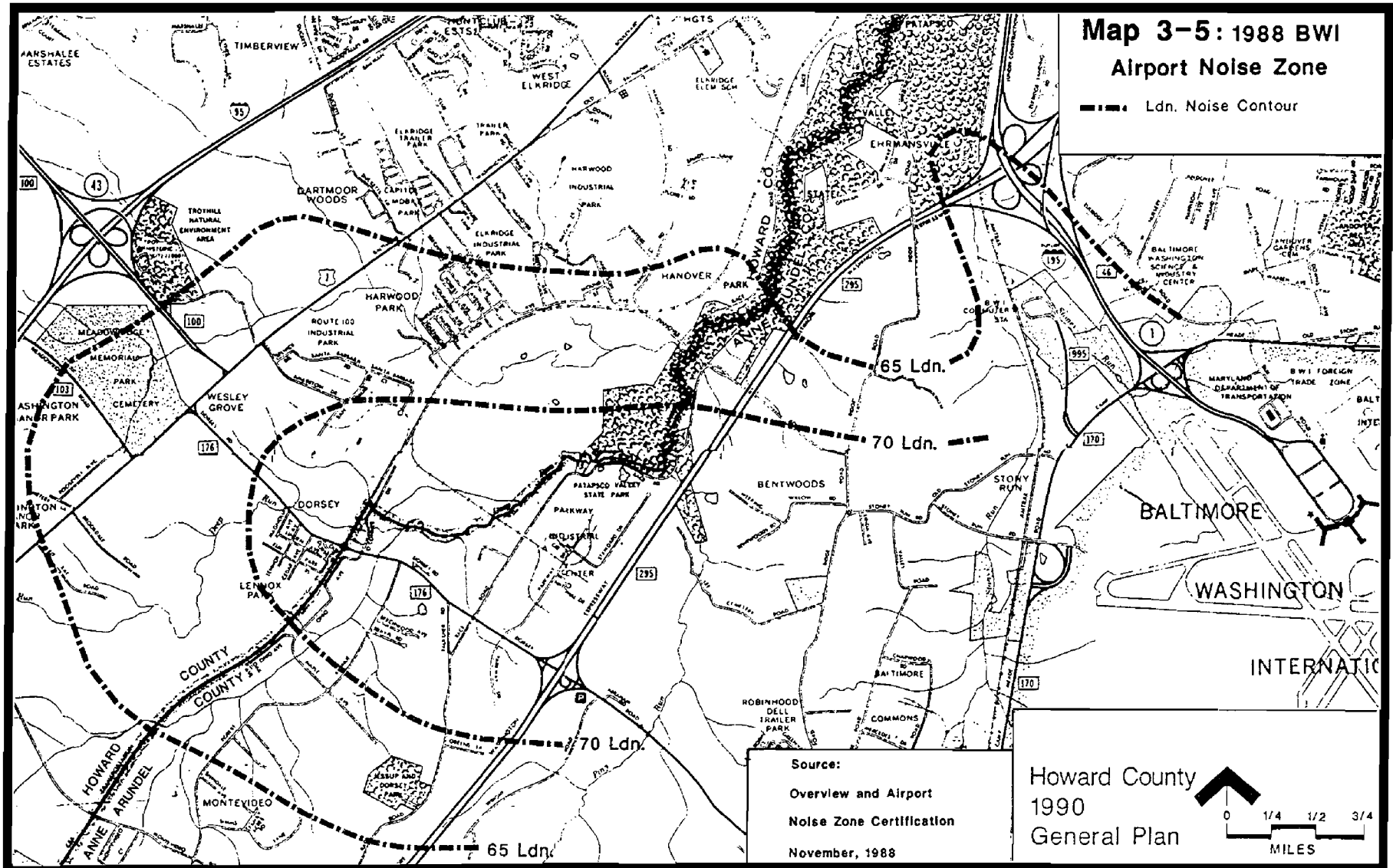
### Meeting Noise Standards

Measures which insulate a dwelling from noise will also frequently insulate it from heat and cold. While extra-thick insulation and double or triple-glazed windows add to the initial construction cost, and hence, potentially the cost of a home, the cost may be largely recouped over the long-term in reduced heating costs. Furthermore, the initial cost of sound insulation may be lessened by reducing the number of exposed surfaces per dwelling unit from 5 surfaces in the typical single-family detached home to 3 in the typical townhouse. On the other hand, these measures do nothing to reduce exterior noise.

### BAZA Policies

Even if a developer meets the noise standard for interior space, the BAZA is under no obligation to grant a development permit. "Infill" development involving no extensions of utilities usually receives a variance approval. Major additions to an existing residential neighborhood usually do not receive BAZA approval unless the MAA, through its annual review, finds that the project will be out of the approved Airport Noise Zone within a short period of time.

# RESPONSIBLE REGIONALISM



Map 3-5

The Plan proposes land uses which attempt to work with the adopted 1988 Airport Noise Zone in that the majority of the area affected by the ANZ is designated as an employment area. The General Plan review and the building permit process seek to forewarn future developers about the ANZ and implement the ANZ in such a way as to minimize its impact on established Howard County residential communities.

The Department of Planning and Zoning, as a member of the BWI Neighbors and Environmental Committees, continues to (a) monitor any impact airport operations at the BWI Airport may have on this County, (b) maintain regular contact with the MAA about possible issues that may surface should any flight track be altered, and (c) attend BAZA hearings for residential variance petitions within the County.

## *Policies and Actions*

*Howard County, to promote and participate in the continuing, comprehensive and coordinated planning of transportation programs and facilities of regional significance, will:*

### **3.2 *Bi-Regional Cooperation***

Expand its efforts to promote bi-regional coordination and cooperation through various committees, staff work sessions and the exchange of technical information.

### **3.3 *Regional Transportation Planning***

Maintain an active role in the development of a regional transportation plan for the Baltimore Region in cooperation with the Baltimore Regional Council of Governments (BRCOG).

### **3.4 *Improved Transportation Modeling***

Improve upon existing computerized transportation simulation models in order to better evaluate the feasibility of bus and rail transit options.

### **3.5 *Coordination of Bi-Regional Modeling***

Along with BRCOG, MWCOG and surrounding jurisdictions, aggressively pursue the development and refinement of a bi-regional transportation simulation model.

### **3.6 *Roadway Studies***

Continue to participate in the assessment of roadway studies of regional significance which cross jurisdictional boundaries. This includes such on-going studies as SHA's US 29 Mainline Study, the MD 100 Corridor Study, the MD 97 Corridor Study, and the MD 32 Corridor Study.

*Howard County, to encourage the use of public transportation, reduce private automobile usage and facilitate access to its employers, will:*

### **3.7 *MARC to Columbia***

Pursue extension of the MARC commuter rail line into the Gateway employment center along an existing right-of-way and subsequently extend it into downtown Columbia. (This concept is further discussed in Chapter Eight: *Phased Growth*).

## RESPONSIBLE REGIONALISM

---

### 3.8 *I-95 for HOV*

Seek designation of I-95 for High Occupancy Vehicle (HOV) Lanes to expand the capacity of this key regional commuting highway.

### 3.9 *Transit Corridors*

Promote designation of several regional travel corridors in Howard County for bus and/or HOV use and preserve the opportunity for a long-term conversion to light rail corridors; these corridors include US 29 from Silver Spring to I-70, I-70 to Security, MD 100 from US 29 to BWI, the Hunt Valley/Glen Burnie transit corridor and the MD 32 corridor from I-70 to Annapolis.

### 3.10 *Land Use/Transit Coordination*

Coordinate land use changes along transit corridors to support and reinforce their ridership potential.

*Howard County, to facilitate regional highway travel on I-70, will request that the State Highway Administration pursue the widening of I-70 from six to eight lanes between US 29 and the County boundary, and from four to six lanes from Marriottsville Road to US 29.*

*Howard County, to provide for housing to balance and complement its job growth and reduce commuting pressures, will:*

### 3.11 *Affordable Housing*

Identify candidate sites for additional housing at densities that can support the construction of low and moderate income dwellings. (This concept is further discussed in Chapter Five: *Balanced Growth*.)

# Agriculture

## Trends in Regional Agriculture

Farming in the region has undergone significant changes. In some counties, it has all but vanished; in others it has evolved in response to changing economic realities (for example, high prices of land demanding high yield crops) and market opportunities (for example, nurseries for landscaping to supply the burgeoning development industry). The traditional corn, soybeans, oats, barley, wheat and other small grains, beef and dairy farming, which require extensive and contiguous acreages, have given way to fruit and vegetable farms, pick-your-own, nursery and turf farms, aquaculture and horse farming. More often than not, farm income is supplemented by other income. Increasingly, farmers who choose to remain on the land are, for the most part, part-time farmers. This change in farming patterns is generally prevalent in metropolitan areas and our region where the demand for fresh fruit and vegetables, locally grown produce and organic crops is high.

County growth has not occurred in a vacuum, but it has displaced farmlands, woodlands and small communities. Because the farmland extends beyond the County boundaries into Frederick and Carroll Counties, the nature of farming in Howard County is fateful for agriculture in Montgomery, Frederick and Carroll Counties. It is not clear what the tipping point is for agriculture to survive. Clearly the loss of agricultural land and farming opportunities in Howard County would be a serious blow to the critical mass of farming in the region and Statewide. (See Map 3-6.)

## *Policies and Actions*

*Howard County, to help stabilize land use patterns in the region, and to ensure a continuing role for agriculture in the western area, will:*

### **3.12 *Importance of Agriculture***

Emphasize to potential purchasers and residents of land that agriculture is the preferred use in the rural areas of the County. Although agriculture is no longer the chief economic activity in the County, this General Plan emphasizes the value of agricultural land as an economic and natural resource.

### **3.13 *Cluster Zoning the West***

Adopt new zoning for the rural conservation districts of western Howard County. (Details of this proposal are covered in Chapter Four: *Preservation of the Rural West*). See the land use map for the location of these rural conservation areas.

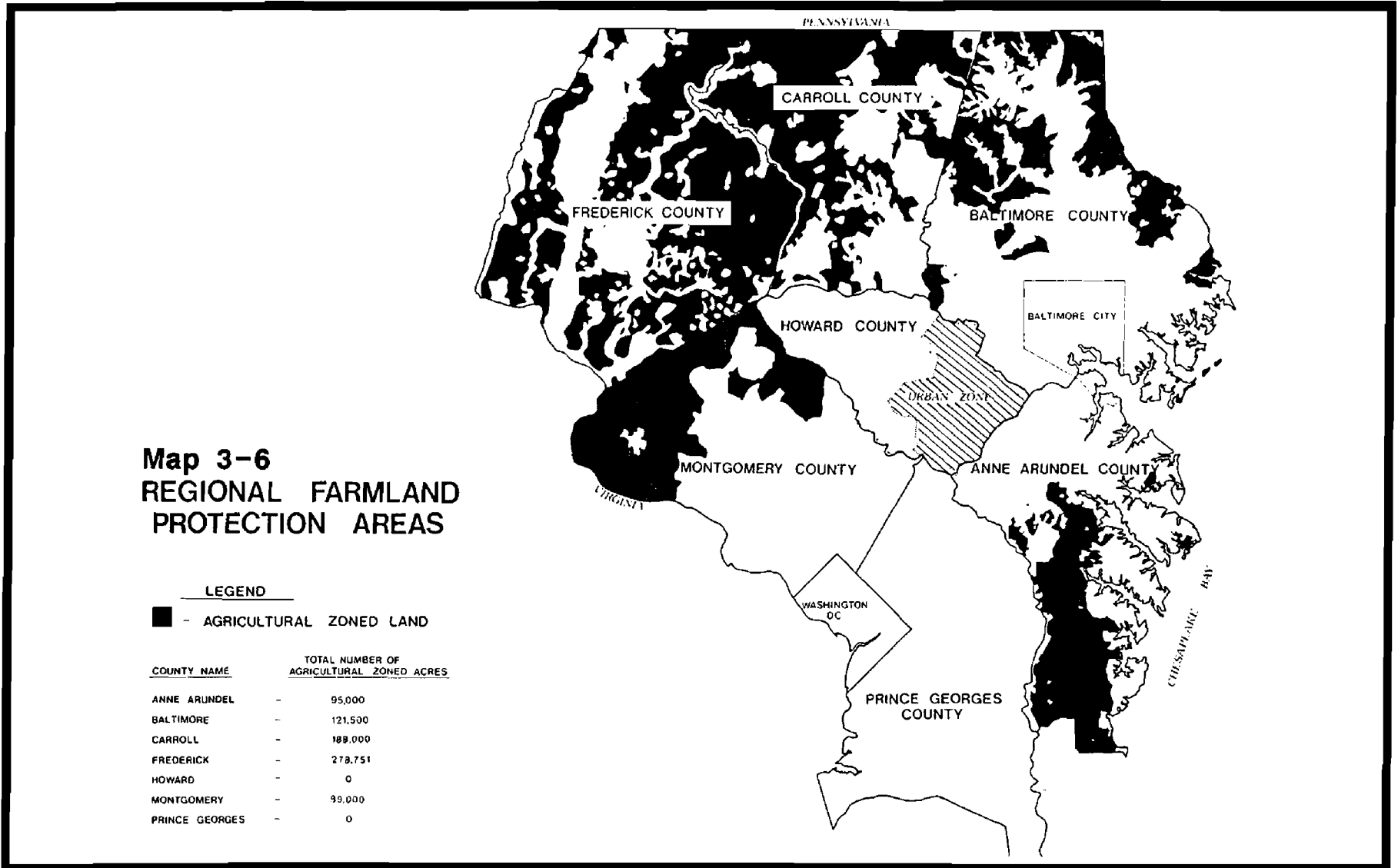
### **3.14 *I-70 Not a Development Corridor***

Limit the amount of non-residential development along the I-70 corridor so that this regional highway does not become a development corridor, which would apply further development pressures on the rural west and the rough terrain abutting the Patapsco River.

### **3.15 *Agricultural Preservation Funding***

Pursue additional sources of funding for the voluntary Agricultural Land Preservation Program.

# RESPONSIBLE REGIONALISM



Map 3-6

## Environment

### Linkages Between Local and Regional Environmental Issues

Growth not only affects the retention of farmland, but the environmentally sensitive land as well. A large number of acres of woodland has been lost over the past 20 years. Until ten years ago wetlands were routinely filled in for development, their critical ecological functions unheeded. Run-off from tilled farms and from asphalted areas flowed directly into streams and eventually to the Bay.

While the past decade has witnessed strong efforts at the State level to increase protection of sensitive resource areas, much damage has already been done. The more expensive and difficult challenge of retrofitting is yet to be faced along with effective measures to protect these resources in yet-undeveloped areas.

The protection of stream valleys is the key to preserving the water quality of the 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 WSSC reservoir which supplies water to the Washington region. Some of the other major streams in the region are also part of a 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.

However, only in the last year has Howard County moved to protect its stream valleys from the impacts of development. The forested buffers along the stream valleys help trap nutrients before they reach the streams, cool waters to sustain trout and reduce clogging sediment.

In recognition of the relationship between surface water quality and groundwater quality, the County has undertaken a long-term countywide Water Resources Study as well as a study to determine the vulnerability of groundwater to pollution in the West.

(D.R.A.S.T.I.C. Study; see Chapter Four for more detail). Underground aquifers, like surface streams and rivers ignore political boundaries and therefore must be understood in a regional sense and protected in a coordinated manner. (See Map 3-7.)

A related environmental issue of regional importance is the discharge of treated effluent from sewage treatment plants into the region's rivers.

Howard County's Little Patuxent Wastewater Treatment Plant currently is fitted with advanced treatment capabilities to meet stringent EPA requirements for the removal of phosphorus from the effluent. In addition, Howard County is designing a biological nitrogen removal system. Excessive nitrogen and phosphorus in the Bay's water are key factors in its degradation. The Patuxent plant's present capacity is 15 MGD (Millions of Gallons per Day). The County has planned to increase its capacity to 18 MGD by 1993. Beyond this, the theoretical capacity of the Patuxent River to accept treated sewerage effluent is 30 MGD.

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.

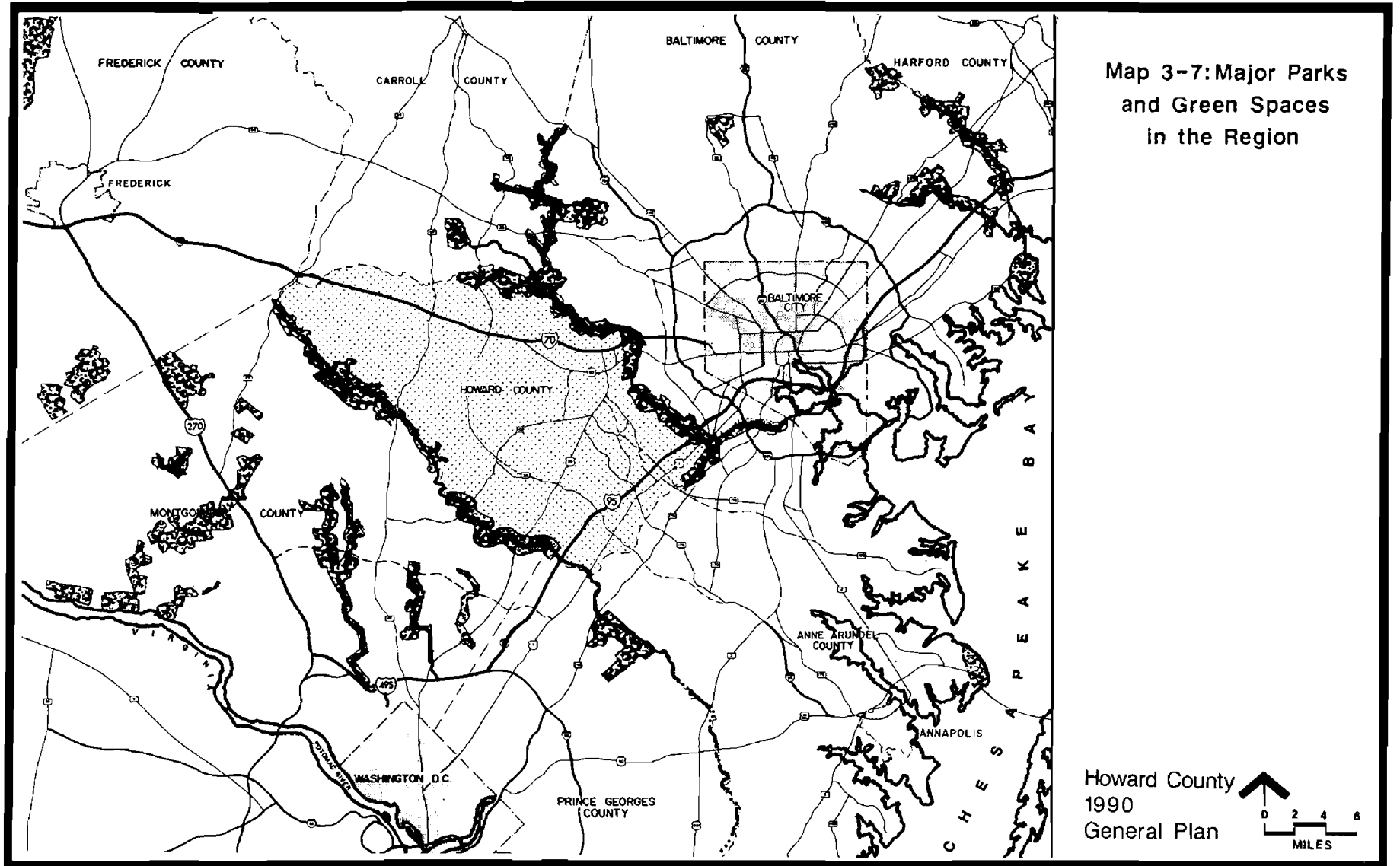
## *Policies and Actions*

*Howard County, to coordinate the protection of major stream valleys with the existing regional open space network will:*

### **3.16 New Mid-County Greenbelt**

Establish an extensive new greenbelt along the edge of the County's suburban area and along the stem and tributaries of the Middle Patuxent River. The greenbelt connects the Marriottsville Natural Resources Management Area, the County's future Alpha Ridge Park, and the University of Maryland's Central Farm; it also makes possible the creation of





Map 3-7

extensive greenway connections, especially along the Middle Patuxent River, that can tie into the existing urban open space system that stretches from Columbia to US 1; it also connects the two State Parks that bound the County. Part of this regional greenbelt, in which only limited development will be permitted by cluster, includes part of an area in the western part of the County that is most vulnerable to groundwater pollution.

### **3.17** *Extension of Patapsco State Park*

Encourage the State to extend the Patapsco State Park westward along the south branch of the Patapsco River to complete this park system along the common Howard County/Carroll County boundary and thus protect this primary river from adjacent development.

### **3.18** *Extension of Greenway*

Extend the Patapsco and Patuxent Park systems down into Elkridge and North Laurel as part of the State's Greenway Plan.

### **3.19** *Regional Cooperation*

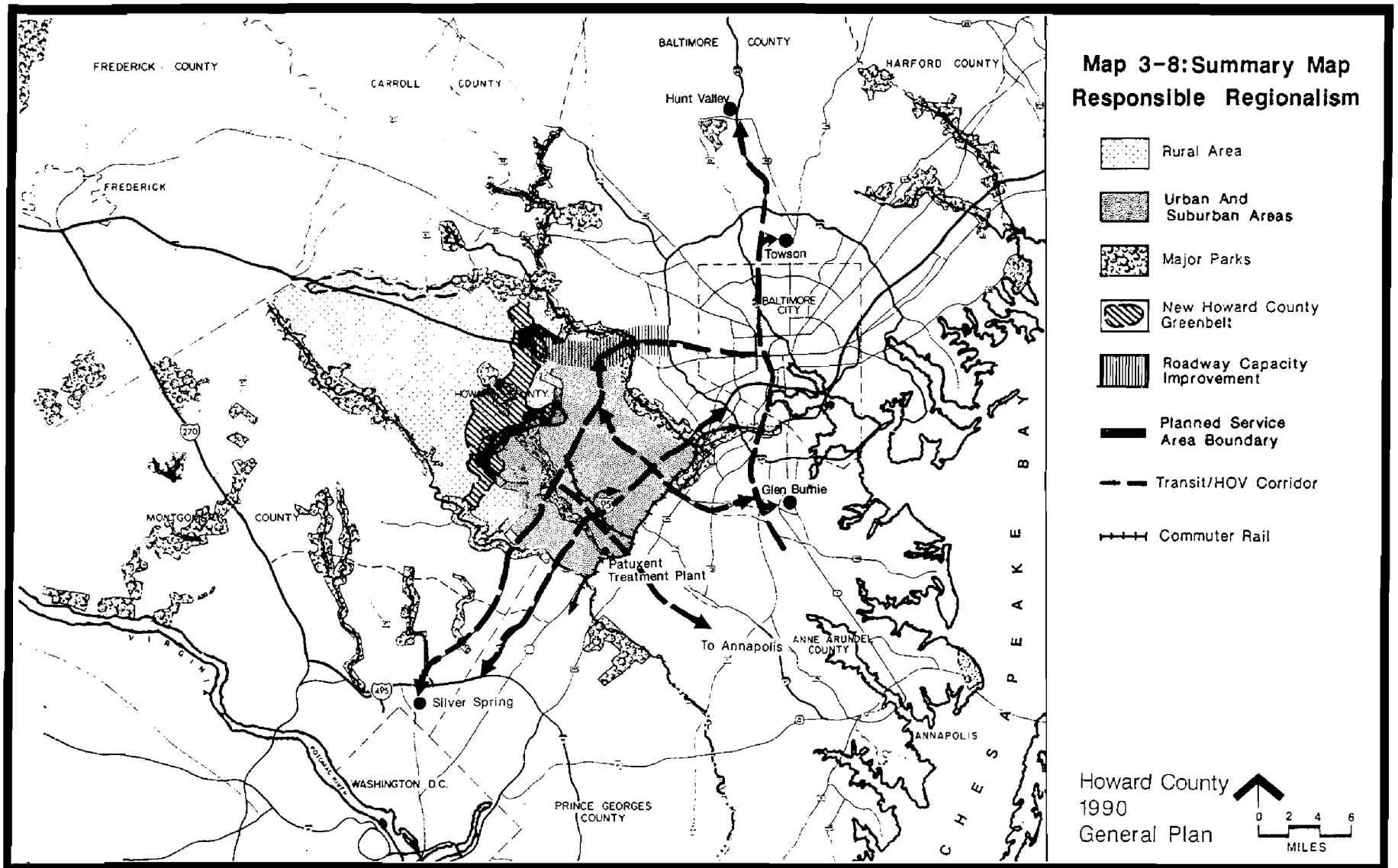
Coordinate and co-operate with the WSSC, all adjacent counties and the State through joint parks and recreation facilities and other opportunities.

*Howard County, to limit degradation of the Bay associated with new development, will constrain the future expansion of Little Patuxent Wastewater Treatment Plant to a maximum growth cap of 22 MGD.*

## Summary Map

Map 3-8 entitled Responsible Regionalism summarizes and illustrates some of the above policies and actions.

# RESPONSIBLE REGIONALISM



Map 3-8

---

**PRESERVATION  
OF THE  
RURAL WEST**

---



## Chapter Four

---

# PRESERVATION OF THE RURAL WEST

---

## Introduction

This chapter focuses on the preservation of the rural West. Discussions of land use, environmental, transportation and economic issues will yield policies and actions which support this preservation theme.

The 2020 Report\* identifies several actions which are relevant to rural areas and resource protection. These include:

*Vision III.* Growth is directed to existing population centers in rural areas and resource areas are protected.

**Action 1.** Require state and local plans to define and map growth and resource protection areas.

- Indicate all areas where growth is inconsistent with resource protection.
- Provide adequate funding to improve and develop infrastructure in designated growth areas.
- Limit public investment in sewer and water systems to designated service areas. Require any expansion of the service areas to conform with local and state plans.

**Action 2.** Protect important agricultural and forest lands.

**Action 3.** State and local governments must protect water supply watersheds from development.

- Protect and where necessary purchase areas within watershed where development would degrade the water supply. Encourage creation of easements that protect the watershed.
- Develop a specific management plan for each of these watersheds.

This chapter (and Chapter Six: *Working With Nature*) examines the feasibility and applicability of these visions and actions for Howard County.

On a local level, a policy of preservation of the rural West has value beyond the environmental benefits for the majority of County residents who live in the East. The maintenance of a "greenbelt" creates a visible boundary to the suburban areas of the county. Implementation of a system of greenways in accordance with the principles established by the Governor's Commission on greenways will provide for many of the environmental protection and passive recreation needs of this section of the County. The rural and agricultural areas offer nearby green relief and visual variety in overall County land uses. The availability of estate housing, sought by company executives, supports job growth in the East. By focusing public facilities and services in the East, the County remains fiscally responsible by keeping capital and operating costs down, and thereby helping to stabilize property taxes.

\* "Population Growth & Development in the Chesapeake Bay Watershed to the Year 2020." The Report of the Year 2020 Panel to the Chesapeake Executive Council, December 1988.

## Land Use

### Rural Residential Setting

Western Howard County is a mosaic of farmland, woodlands and large-lot development. The area's zoning history accounts for this random pattern of development. One-acre lots were permitted until 1977 when three-acre zoning was implemented. During a brief hiatus before the establishment of three-acre zoning, numerous five-acre lots were subdivided into one acre lots because of a loophole in the zoning regulations. Map 4-1 portrays the existing residential development in the West and distinguishes between the roughly one-acre and three-acre plus subdivisions. Approximately 3,100 homes are on lots less than three acres and about 3,900 are on the three-acre plus lots.

About 31,000 acres or 32 percent of the total acreage of western Howard County is developed. However, an additional 13,000 acres of land have recorded lots but are not yet developed. Their location is shown on Map 4-2.

The western County has been the focus of considerable development pressure since 1984 because of its regional location, rural quality, excellent school system and strong local job market. This pressure has produced an annual average of 300 new homes since 1980, with a gradual increase evident over the past 6 years. (See Figure 4-1.)

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 D.C.-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 and the imminent expansion of the Washington metro system to Wheaton suggest that the current pace of demand for homes in the western county will not slacken.

In the 1980s subdivision has continued to create new lots at about the same rate that building permits have been issued. This means that the stock of three to four thousand available lots in 1980 has remained relatively steady through the 1980s despite the

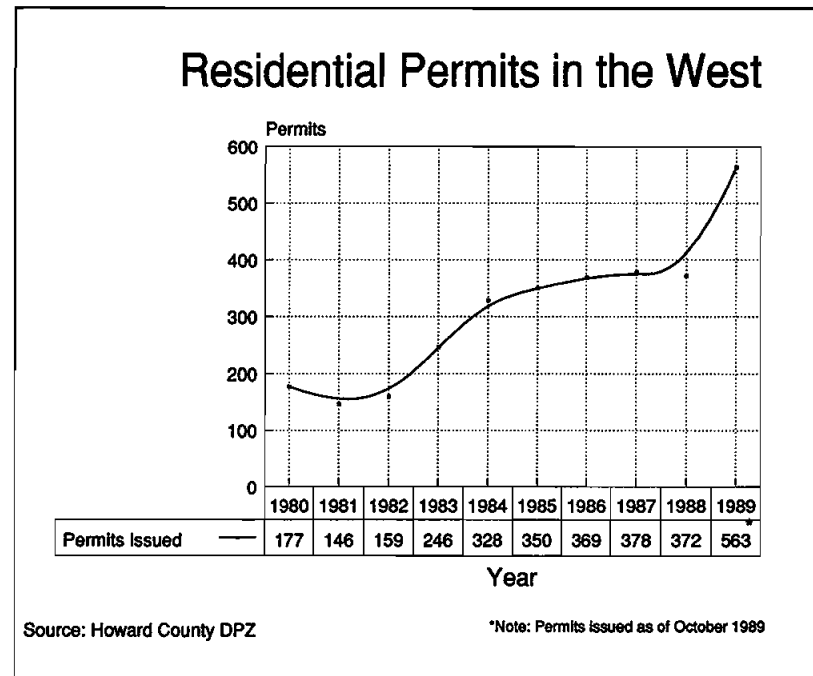
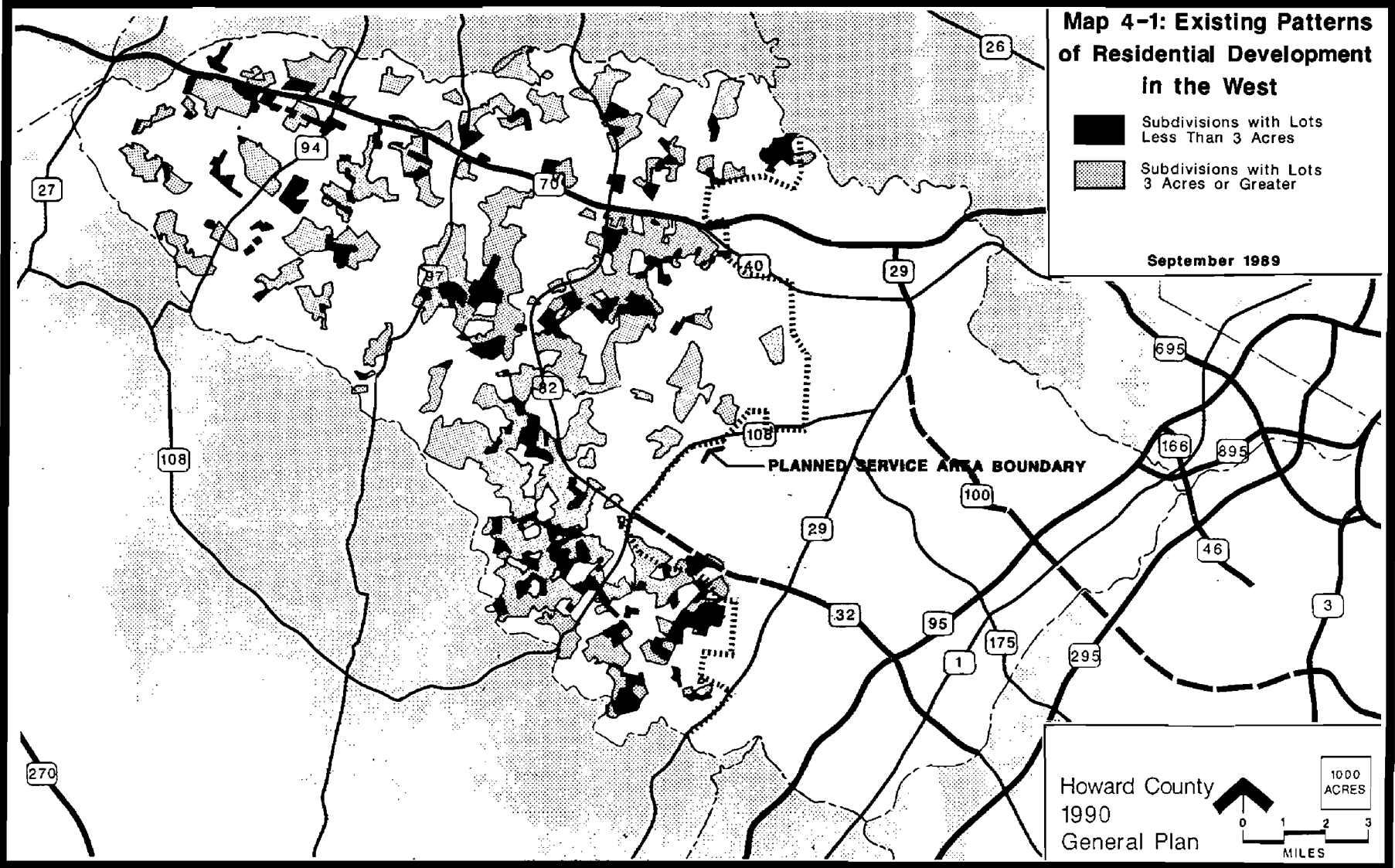


Figure 4-1

acceleration of building activity. At any one time a large number of projects are moving through the development process. For example, by October 1989, 563 building permits had been issued in the West for the year. Meanwhile, the stock of available lots numbered 2900 and an additional 1800 lots were in the development process. Map 4-2 shows the recorded and in-process subdivisions as of January 1989. When combined with existing development, a random and extensive pattern of subdivisions is evident. The location of acreage subject to the subdivision process is summarized in Figure 4-2. The large supply of available lots compared with the more limited demand means that a large amount of subdivided land continues to be rented for farming. Both the random development pattern and the unpredictable turnover of land increase the difficulty and risk inherent in farming.

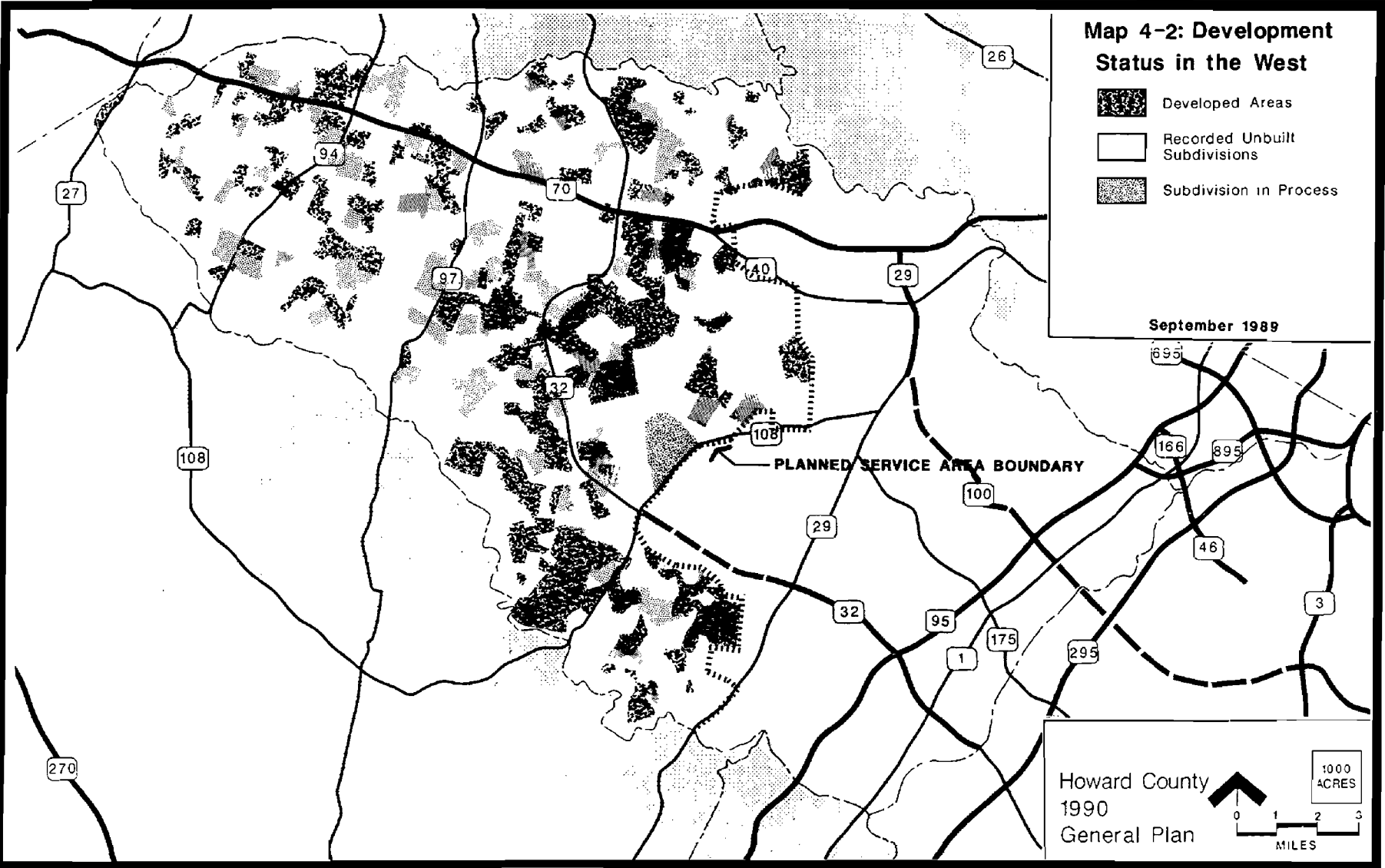
The current degree and pattern of development pressure in a traditionally agricultural area accentuates the competing demands on the western County's land base.

PRESERVATION OF THE RURAL WEST



Map 4-1

# PRESERVATION OF THE RURAL WEST



Map 4-2



### Land Development Status in Western Howard County

	Acres	Units/Lots
Developed/Committed* (January 1, 1989)	40,532	7,072
Recorded but unbuilt (October 1, 1989)	approx. 13,077	2,906
In the subdivision process (October 26, 1989)	9,066	1,822
Sketch plan	2,576	469
Preliminary plan	1,116	230
Final plan	5,374	1123

\*Includes parkland and historic, environmental and agricultural easements

Source: Howard County DPZ

Figure 4-2

### Agricultural Context

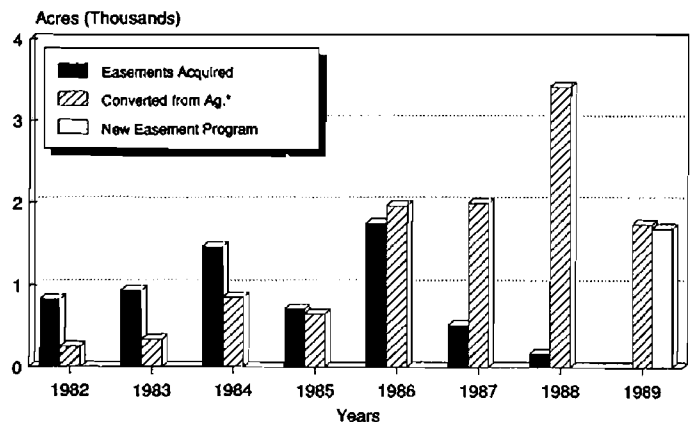
Howard County is blessed with some of the richest farming soils in the State, good rainfall and nearby markets. The 1968 Howard County Soil Survey identified 72% of the 160,000 acres in the County as prime or productive soils suitable for intensive cropping. Of course, well drained loams make for both the most arable land and the best sites for use of septic systems. Figure 4-3 shows the contrast over time between land brought into development versus land brought into the County's Agricultural Program (see Box 4-1). The 43,000 acres of land in farming today account for \$55.7 million dollars or 3% of the assessable base. This excludes the effect of goods and services needed by this industry on the local economy. However, the actual farming base on lands owned as opposed to rented is much smaller -- perhaps 21,000 acres. The core of the farming industry in Howard County, utilizing both owned and

rented land, is represented by only about 45 individuals or families. (See Figure 4-4.)

This is an industry, however, that while under stress, is far from dead. It is in transition from traditional farming based on corn, soybeans, oats, barley, wheat, beef and dairy products to a diversified base of nursery crops, greenhouses, fruits and vegetables, horse farming and some more exotic farming activities such as aquaculture and grapes. This transition to a type of farming symbiotic with metropolitan markets is a nationwide phenomenon that is only now being recognized. (See Box 4-2.)

The agricultural economy of Howard County, like that of the region, has been struggling in recent years (partly, of course, because of national policies and programs beyond the control of the local and even State governments). The County's innovative modifications to its Agricultural Land Preservation Program has attracted considerable interest during 1989 as the Figure 4-3 illustrates. This program was initiated in 1981 with a goal of 20,000 acres of agricultural land under

### Trends in Agricultural Land Howard County, MD



Source: Howard County DPZ & State Dept. of Taxation and Assessments

NOTES  
\*Land Subject to Ag. Transfer Tax  
Transfer tax acres by fiscal year  
Easement acres by calendar year

Figure 4-3

### Agricultural Land Preservation Program

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 land from a farmer, 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 meet the agricultural criteria, there was a cap on the amount the County could pay for the development rights. By the mid-1980s the residential development pressure in western Howard County and fast-rising land prices began taking their toll on the program's ability to attract participants. (See Figure 4-3.)

In 1989, the cap was lifted and the financing program was restructured in order to provide a viable alternative to sale of a farm for development. The County will leverage existing program funds (\$9 million) and anticipated transfer tax revenues by entering into installment purchase agreements with landowners for a period of 30 years. This approach provides the farmer with:

- a tax-free stream of income currently at above-market prices;
- the potential deferral of capital gains tax and other possible tax advantages depending upon individual situations; and
- the ability to liquidate the agreement, a negotiable document, at any time.

The tax and flexibility advantages of the new financing structure are starting to be recognized and the new program, which was introduced in mid-1989, has resulted in commitments for the purchase of development rights on over 1,200 acres. The success to date and interest by many other landowners is an encouraging sign that the downward trend in easement purchase of the mid-to-late 1980s is being reversed.

Box 4-1

### Farmland Owner/Renter Proportions Howard County

	1982	1987
Owner-operated	55%	57%
Renter-operated	45%	43%
<b>TOTALS</b>	<b>100%</b>	<b>100%</b>

Source: 1987 Census of Agriculture and DPZ

Figure 4-4

easement protection. Prior to 1989 approximately 7,800 acres were enrolled in the Program. Under the County's current, restructured preservation program easements will be acquired on an additional 1,200 acres in 1989. Applications are pending on another 1,000 acres. (See Figure 4-7.) Given the track record and success of the new agriculture easement program and the clustering requirements included in this General Plan, it would be desirable that at least 30,000 acres be placed in the Agricultural Land Preservation Program or other land preservation programs such as private land trusts.

Nevertheless, if current development trends continue in the West, farmland will disappear from the landscape. Within ten years, all of the 35,000 acres of land not yet committed to development will have been subdivided. Conflicts between suburban living and farming are a regular occurrence, making the practice of farming an increasingly frustrating one. These land consumption trends are inevitable without County intervention. Given these trends, the voluntary preservation program will be hard-pressed to achieve its

### Agriculture in Howard County

The face of farming in Howard County is changing in a number of ways. The 1987 U.S. Census of Agriculture reports declines in harvested acreage for corn, wheat, hay and vegetables between 1982 and 1987, as well as a drop in market value of agricultural products sold. The amount of land in farms was reduced by a modest 2% and the number of farms declined by 8%. During the same time, however, the number of substantial (sales of more than \$10,000 per year) individual or family-owned farms dropped by 31% (See Figure 4-5). In 1987, only 40% of farms broke even or had net gains; 60% of Howard County's farms had a net loss. Indeed, less than a third of all Howard County farms produce 96% of the value of agricultural products sold. Perhaps most important, the amount of idle cropland tripled in number of acres and percentage of overall cropland between 1982 and 1987 (See Figure 4-6).

While some of the statistics are alarming, other information suggests that Howard County, like many places near metropolitan areas, is in a period of agricultural transition. This transition involves a shift from traditional crops such as corn, wheat and hay, and livestock such as dairy cows and beef cattle, to products such as soybeans, turf, nursery and greenhouse products, fruits and vegetables (self-picking operations), horses (recreational and racing) and fish (aquaculture). Generally speaking, the movement favors types of farming that produce higher value products to keep pace with land prices and labor costs, while benefiting from proximity to their markets.

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 now being saved may be very different in 2010 than the familiar farms we know today. However, by promoting, enabling and encouraging these transitions, agriculture in Howard County could be as relevant to regional realities as it has been in the past.

Box 4-2

### Individual or Family Owned Farms Howard County

	1982	1987	% Change
All farms	390	350	-10%
Substantial farms (Sales >\$10K/year)	99	68	-31%

Source: 1987 Census of Agriculture

Figure 4-5

### Cropland by Use Howard County

	1982		1987		Percent change
	Acres	% of total	Acres	% of total	
Harvested cropland	31,855	(79)	27,810	(67)	-15%
Cropland used for pasture	6,730	(17)	8,512	(20)	26%
Idle land	1,194	(3)	4,390	(11)	268%
Other	570	(1)	990	(2)	75%
<b>TOTAL</b>	<b>43,349</b>	<b>(100%)</b>	<b>41,711</b>	<b>(100%)</b>	<b>3%</b>

Source: 1987 Census of Agriculture

Figure 4-6

# PRESERVATION OF THE RURAL WEST

Protected Land in Western Howard County	
January 1, 1989	
	Acres
TOTAL ACREAGE IN WEST	97,780
TOTAL PROTECTED LAND	17,638 (18%)
Parkland	8,150
Agricultural Easements	7,763
Historic Easements	1307
Environmental Easements	418

Source: Howard County DPZ

Figure 4-7

30,000-acre goal despite the new dollars being committed to it by the installment purchase program. Map 4-3 shows undeveloped lands.

When the developed lands and the protected/uncommitted lands are viewed together, the complex and challenging task of trying to preserve farming is evident. Very large lot zoning (e.g., one unit per 20 acres of land) is no longer a realistic alternative because of the existing, much-compromised rural landscape of the West. The approach to the West must be sensitive to this reality and should include incentives to retain large contiguous areas of farmland.

In addition to the need to preserve the land base for agricultural activities, the County also recognizes the need to help support the provision of needed technical services (such as the work of the Howard County Soil Conservation District) and the ability of farmers to secure the work force needed to continue their operations. One specific means to assist the farm community to retain such a work force would be to increase the number of tenant houses on farms from one for every 50 acres to two for every 50 acres. In an

area where land value and housing prices sharply increased in the past decade, such an increase in tenant housing would provide the agricultural labor force with more affordable housing opportunities and thus enable workers to continue to live and work in rural Howard County.

The suburbanization of the West has led to conflicts between farming activities and residential subdivisions. These include bothersome noise, dust, and odors for some homeowners, and vandalism of crops and pastures for some farmers.

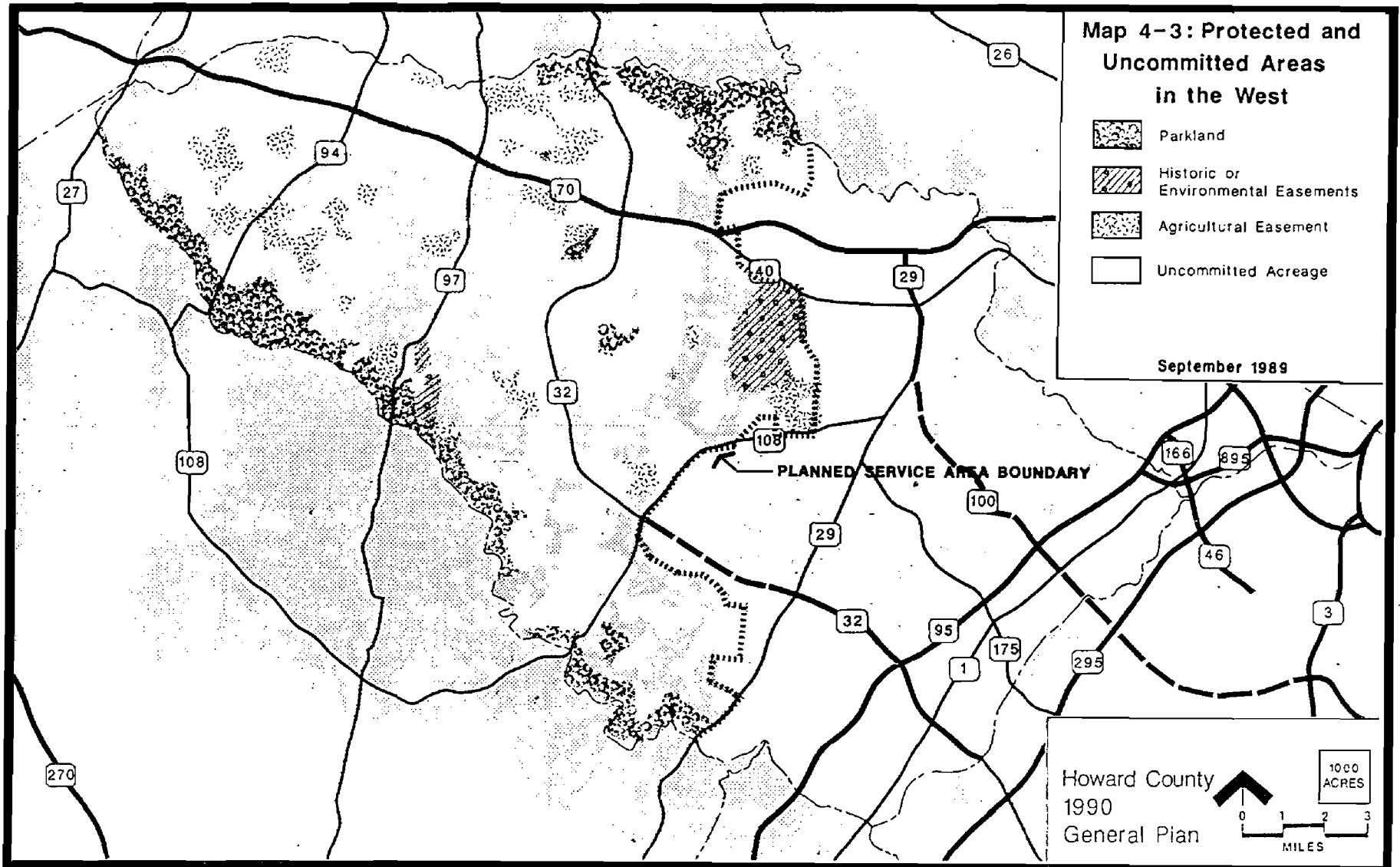
Presently, commercial, retail or services are allowed in the West only where conventional commercial zoning (B-1, B-2) has been applied, or as special exception uses or as nonconforming uses. This current situation is unsatisfactory for several reasons.

Conventional commercial zoning permits by right many uses that do not fit in well with the desire to maintain a low density rural environment.

Additionally, conventional commercial zoning does not allow by right many rural-based activities such as landscape contractors. These now can be approved only as special exception uses on properties within the existing R-District. The location of activities such as landscape contracting or farm machinery repair within or next to residential subdivisions frequently causes local conflicts. This problem may not be severe when such businesses are small, but those conflicts often multiply rapidly as these businesses grow. When such businesses outgrow their initial site, they may be hard-pressed to find a suitable site for which they can get special exception approval without onerous conditions or without creating new local land use conflicts with nearby residences.

This General Plan proposes that a new Rural Commercial designation be created that can permit by right the commercial stores and services needed by the residents and farming community of the West and also provide suitable sites for such activities as landscape contractors. The detailed regulations of such Rural Commercial centers will also include site planning and design requirements or criteria to guarantee they will fit into an essentially rural context and could be part of a local community center that could include needed public facilities and services. Locations for rural commercial centers are not mapped on the Plan and their location should be studied as part of a comprehensive rezoning action by the County.

# PRESERVATION OF THE RURAL WEST



Map 4-3

## PRESERVATION OF THE RURAL WEST

Because the financial resources available for the County's Agricultural Land Preservation and other environmental protection programs are limited, other incentives must be available to encourage landowners in the West to preserve large blocks of land. One such device is to offer a limited density exchange option through which density is exchanged between parcels, leaving the first parcel permanently preserved in its entirety as a result of the second parcel "absorbing" the development density of the first, in addition to the density inherent in the second parcel itself. This would be permitted only when a significant block of farmland or environmental areas of high quality will be preserved and upon proof that the development site can absorb the additional units without adverse impacts. The development sites must also be areas impractical for farming due to inherent conditions or a location within an already residentially developed area. The parcels from which units are exchanged to another will subsequently have no future development rights and must be donated to the agricultural preservation program, an environmental or land trust, or otherwise protected in perpetuity from future development. Box 4-3 lists some of the criteria that will have to be met to permit such exchanges.

The sum result of the land use policies this General Plan calls for in the West will be to reduce the level of residential development or at a minimum hold it to no more than that permitted by the current zoning. Overall reductions are expected due to the switch to a one unit per five net acre basis for clustering and the expected purchase of development rights on some 8,000 to 9,000 additional acres through the revised County agricultural preservation program. Increases in density within specific parcels that may occur through the proposed density exchange option would partially offset these reductions.

The following section outlines policies and actions which are proposed by the General Plan to address the land use issues described. Those policies and actions which can be mapped are depicted on Map 4-9.

### Density Exchange Option Criteria

#### A. Properties from which Units are to be Exchanged:

- must have demonstrable significant agricultural or environmental value.
- must be part of a larger critical mass of protected sites.
- can be exchanged at a rate of 1 unit per 3 net acres.
- must be permanently stripped of future development rights; possible mechanisms for doing so include enrollment in agricultural preservation or environmental easements programs, using parcel as part of local land trust, or deed covenants applicable to all future owners.
- can send to one or several parcels.

#### B. Properties to which Units are to be Exchanged:

- must be within Rural Conservation or Rural Residential Districts.
- must be able to absorb additional units beyond the 1 unit to 5 net acre ratio without adverse environmental impacts.
- must be in an essentially suburban residential setting.
- must not absorb units to capacity higher than 1 unit per 2 net acres.
- must be clustered on 1 acre minimum lots with layout and location in keeping with applicable rural clustering principles outlined in Box 4-4.

Box 4-3

## Guidelines for Clustering

The following guidelines are a framework for a new set of subdivision and site development regulations for most of the still-undeveloped western part of the County.

### AVOID:

1. Disturbing areas adjacent to floodplains, stream buffer areas or wetlands.
2. Developing on steep slopes.
3. Building on hilltops and ridges when development will be highly visible.
4. Siting houses on prime agricultural soils when these areas can be part of a significant block of farmland
5. Placing numerous houses with access drives along collector and arterial roads.
6. Backing houses directly or visibly onto collector and arterial roads
7. Destroying existing tree stands or hedgerows, especially along rights-of-way and between housing and active agricultural areas.

### REQUIRE:

1. Substantial buffering and screening for development near all public rights-of-way on collectors and arterials.
2. Preservation or enhancement of existing hedgerows and wooded areas.
3. Appropriate setbacks and buffering between housing and existing or proposed active agricultural areas.
4. If needed, proper location and design of common sanitary systems and storm water management structures.
5. Homeowner-managed recreation areas and common spaces within larger clusters.
6. Covenants or easements to permanently protect the undeveloped open space areas that remain after clustering is accomplished.

### PERMIT / ENCOURAGE:

1. Flexibility in bulk regulations to provide for designs that use long and narrow lots to create traditional neighborhood layouts.
2. Refinement of road and street design to better protect existing topography and landscape features such as streams and drainage patterns; measures include narrower road sections, steeper grades, reduced curve radii, no curbs, etc.
3. Private courts and lanes instead of flag lots.
4. Architectural match of house size and design to terrain, lot size, and scale of subdivision as a whole. Also develop criteria for parking, location and design of garages and other accessory uses, etc.
5. Community design details and common outdoor environment through street tree plantings, location of greenspace, focal points, landmarks.
6. Adaptive reuse of historic structures within appropriate historic conservation plan.
7. Within larger planned development sites (100+ units), allowance of commercial or office uses permitted by proposed rural commercial district. These uses would be for local community convenience. For planned developments over 200 units, require or reserve sites for community facilities.
8. Placement of suitable residual parcels in an approved preservation program.

### *Policies and Actions*

*Howard County, to foster and protect farming and its environmental resources for the future, will comprehensively rezone the western area of the County and will:*

- 4.1 *Right-To-Farm***

Promote and enhance right-to-farm legislation in order to mitigate farmer/suburbanite conflicts. Inform suburbanites of Howard County's right-to-farm law and policies.
- 4.2 *Cluster Zoning Basics***

Require all development in the rural conservation districts shown on the land use map to be cluster development using a ratio of one dwelling unit per every five net acres (this excludes floodplains and steep slopes); require minimum lot sizes of one acre for homes with individual well and septic systems; allow a smaller lot size (to no less than 33,000 square feet) when shared septic systems are appropriate. (See Box 4-4.)
- 4.3 *Density Exchange Option***

Offer a density exchange option in a designated overlay zone which permits the development of one dwelling unit per every three net acres in a clustered design so that large continuous blocks of farmland can be preserved. (See Box 4-3.)
- 4.4 *Standard for Clustering***

Guide clustering in the West through the application of standards that preserve agricultural lands, natural features and the rural landscape. Open space remaining after clustering is to be protected in perpetuity as such through a range of legal mechanisms. (See Box 4-5.)
- 4.5 *Cluster Design***

Realize, through design standards, the advantages of clustering to enhance the quality of development. (See Boxes 4-6 and 4-7).
- 4.6 *Maintenance of Existing Developed Areas***

Maintain the existing pattern of development in those areas that are already largely developed as one-acre or three-acre subdivisions (in effect, the MD 32/MD 216 corridors); on the larger, undeveloped parcels in this area, clustering will also be available as an option. (See Map 4-9.)
- 4.7 *New Rural Commercial Zone***

Adopt and designate a new rural/commercial zone in various locations that makes provision for numerous commercial activities now allowed in the rural area as special exceptions, as well as some key commercial needs of area residents and rural businesses; integral to the zone will be guidelines to ensure scale and design compatibility with the low intensity rural setting.
- 4.8 *Agricultural Preservation***

Continue to promote the voluntary Agricultural Land Preservation Program.



## Protection and Uses of Remainders Created by Clustering

Use of cluster zoning in Howard County's rural West offers the best opportunity for accommodating residential development while simultaneously preserving the quality of the environment, the natural features of the rural landscape and working agricultural land. However, when a clustered subdivision is completed and its permitted density has been exhausted, there remains the question of how best to ensure that the remaining open land is permanently and viably preserved.

When clustered lots are recorded, the remaining parcel would be identified on the plat as limited to agricultural, recreational or related use. Covenants detailing restrictions on the clustered lots and the remainder could also be recorded at the same time.

However, these remainders, permanently stripped of any future development rights, are not legally the equivalent of the "open space" defined in the Zoning Regulations and Subdivision and Land Development Regulations, although some of their purposes - most notably environmental and landscape protection -- may be similar.

- "Open space" created by subdivision of a parcel is dedicated to the County or a homeowner's association and becomes a public responsibility; in contrast, the remainders created by rural clustering will in almost all cases remain private property.
- Open space requirements of the subdivision regulations are set at a definite percentage of a parcel. The size of the remainders created by rural clustering results from application of the performance standards, especially the 5-acre net density per unit requirement.
- The permanent stripping of development rights on the remainders created by rural clustering means they can never be used for additional housing. Such land can be actively farmed, used for woodlots, nurseries, pasture, other uses related to farming or it may be used for the recreation uses described in the current Zoning Regulations for the Rural District (Sec. 104.B.2 and Sec.

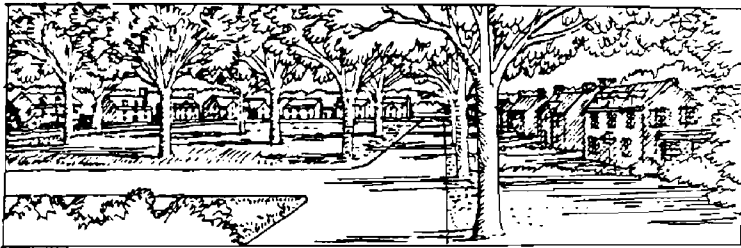
104.C.2, 4, 5, 10 and 11). These remainders must be recorded as lots whose uses do not include future homes, stores or offices.

- Remainders which meet the qualifications for such programs could be donated to the Agricultural Land Preservation Program, to the Maryland Environmental Trust, Maryland Historic Trust, a local land trust or other custodians of environmental and landscape resources. The remainders would then be subject to the restrictions of these programs giving them an even stronger degree of protection than the absence of development rights.
- In some cases the County might wish to acquire the remainder as part of a public park, greenway or greenbelt. However, the County is under no obligation to accept as dedicated open space any of the remainders created by rural clustering. Indeed, it is the County's preference to see these remainders stay privately owned and managed in ways consistent with agricultural preservation and environmental purposes that are the prime reasons for requiring clustering.
- Remainders to be designated for local recreation or common green space can be entrusted to the responsibility of a homeowner's association.
- Unlike public open space which becomes a permanent responsibility of government agencies, the remainders created by rural clustering can be rented, leased or transferred to new owners, but such leases, rentals or sales cannot restore any development rights.

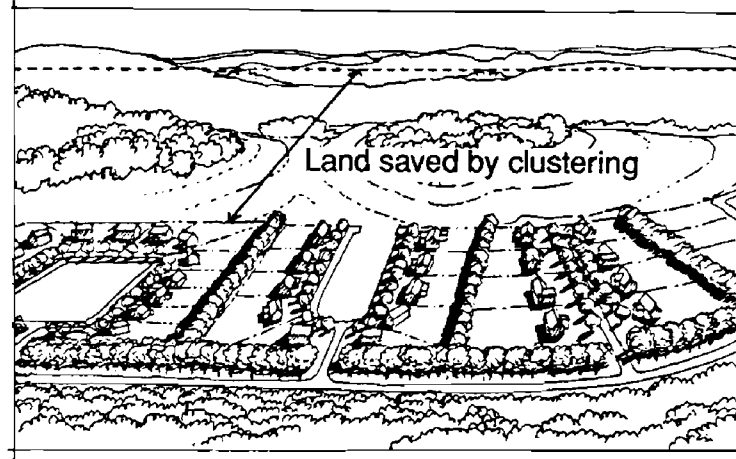
### Types of Clustering

There are a number of cluster layouts which can give rural subdivisions a strong sense of place and identity often missing in more scattered, larger-acreage tracts.

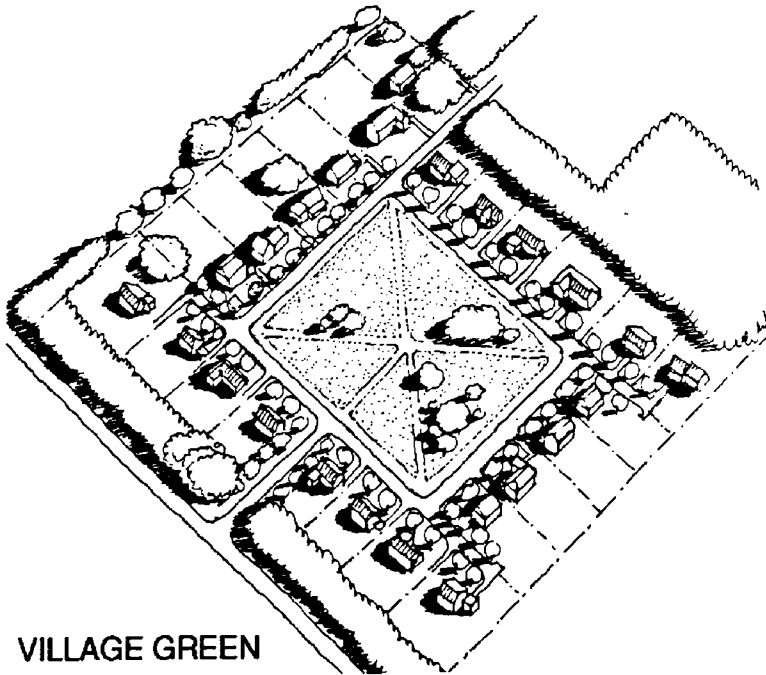
Among the forms of site development which can make rural residential areas more attractive and coherent are the



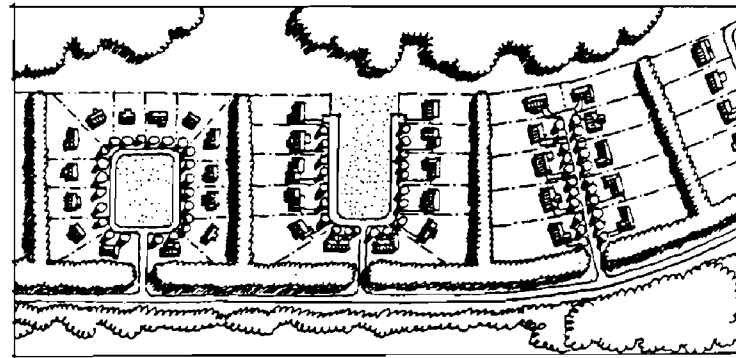
"Village Green," the "Close," the "Horseshoe Close," and variants of the private court. These common open spaces are benefits of clustering over and above the savings of large tracts of woodlands, farmlands or other open areas.



HORSESHOE CLOSE



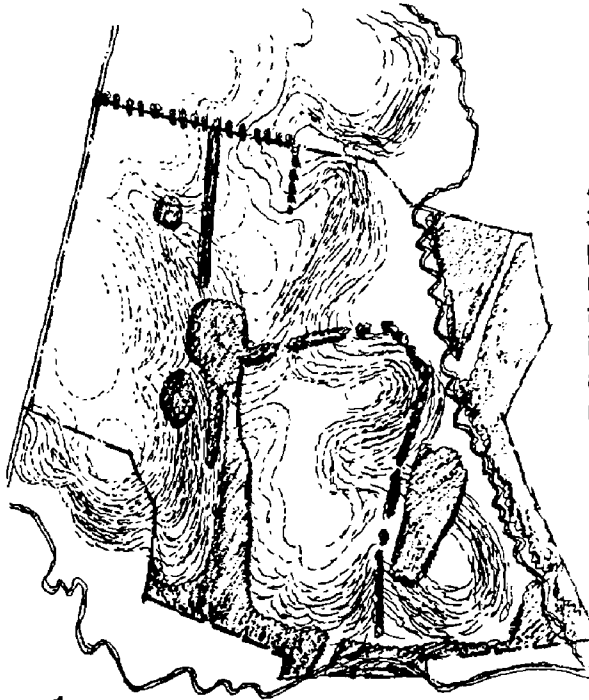
VILLAGE GREEN



CLOSE

PRIVATE COURT

### Clustering - Case Study



1

The existing topography, pasture areas and tree masses of a scenic and environmentally sensitive site next to the Patuxent State Park.

2

A proposal to develop the site in 3-acre lots would destroy its present scenic character. Extensive roads would cut across the rolling topography; the layout of the houses is not related to existing tree rows and most of them would need to be removed.



3

A cluster layout of one-acre lots takes advantage of land forms and tree masses to retain most of the rural and scenic character of the site. Further clustering of one-acre lots near the main road would leave the farming operation intact.

## PRESERVATION OF THE RURAL WEST

---

*Howard County, in order to retain the economic, ecological and scenic values of the countryside, and to maximize preservation of open space and opportunities for affordable housing in the West, will do the following:*

### **4.9 Residential Cluster Development**

The Council shall hire a consultant and create a Council-appointed commission to consider establishment of an overlay district that would permit an optional method of cluster development in the Rural Conservation and Rural Residential zones that will concentrate density near existing development or potential rural population centers to discourage urban sprawl, permanently preserve significant amounts of open space in an environmentally sensitive manner, and be located in areas where water and waste can be efficiently and effectively managed without the extension of public water and sewer facilities. Under the optional method of cluster development, density bonuses may be offered in exchange for significant public benefit features such as moderately priced housing, school sites, recreational facilities or other stated General Plan goals, provided that such density bonuses shall not result in the total number of new residential units exceeding the maximum total residential units projected in the General Plan. The commission will complete its work by March 15, 1991.

### **4.10 Study Feasibility of New Rural Population Centers**

Prior to any new comprehensive zoning for the West, the Council-appointed commission will submit to the County Council a study on the feasibility of creating

new rural centers based primarily on the cluster principles and densities permitted in the rural conservation areas and also including the uses allowed in the rural commercial areas described elsewhere in this chapter. In particular, this study will investigate, based upon the existing distribution of land uses in the West, where such centers may be located to protect large surrounding areas of agricultural and environmental resources. The feasibility of using programs such as the recommended density exchange option to draw development into these centers and away from large surrounding open areas will be a part of this study. How such centers may or may not promote related resource conservation goals such as those of the Chesapeake Bay 2020 Report will also be part of this study.

# The Rural Environment

## Resource Protection and Water Quality

In addition to contributing to the loss of farmland, the large-lot pattern of development has produced grading, tree removal and damage to other environmentally sensitive areas such as streams, steep slopes, woodlands and wetlands. Map 4-4 is a summary of environmentally sensitive areas in the County. It includes streams, floodplains, wetlands and steep slopes. Map 4-5 shows wooded areas larger than 50 acres as of 1986.

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 to this, in both Howard and Carroll Counties, is the Patapsco River from Sykesville westward.

All of these sensitive environmental features are a priceless heritage, which are inevitably compromised by three-acre development in its drive to maximize lot yield. Such development can also have less obvious, but no less deleterious, impacts.

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 twenty-year old one-acre lots were perked 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.

The prospect of build-out with estate lots that the trends suggest could more than double the number of homes in the West, from the current 7,000 to about 22,000. The potential effects of the load of these additional septic systems on subsurface water and the possibility of pollution must be carefully examined.

The protection of subsurface aquifers is critical to the public welfare. Private wells tap these aquifers to provide drinking water to thousands of homes. One must guard against the pollution of these water supplies by septic systems, underground storage tanks and improperly disposed-of waste. (See Box 4-8.)

To establish a baseline for water pollution in the West, a study using an EPA-developed methodology was done of those factors that cumulatively make for "better" or "worse conditions". (See Box 4-9.) This analysis flags areas of relative "danger" versus "safety" for concentrations of septic systems or underground storage tanks. These results are shown on Map 4-6. Although this map is useful for general planning purposes, it does not provide a site-specific indicator of septic suitability. Rather, it serves to broadly identify the most pollution-prone areas in such a way that criteria for further site-specific hydrological testing can be developed. A pattern does emerge of certain areas of relatively high potential for groundwater pollution throughout the West. The land uses in these areas range from existing one- and three-acre lots to parkland and easement-protected farmland. The most vulnerable areas, in particular, should receive special attention and care in land use plans and regulations. The proposed mid-County greenbelt referred to on page 27 incorporates many of these areas.

The environmental features that warrant protection because of their ecological importance also sustain the scenic landscape which helps to define the West. The roads that rim the ridges of the West often provide pleasant views across rolling hills not yet dotted with houses. The byways that wind through wooded river valleys are a constant delight to their travellers. A windshield survey of those routes that traverse scenic areas was conducted and results are shown on Map 4-7, Candidate Scenic Routes in the West. Box 4-10 discusses the protection of scenic routes.

## *Policies and Actions*

*Howard County, to protect its subsurface water sources, will:*

- 4.11 Groundwater Protection through Open Space Uses**  
Target areas most susceptible to groundwater pollution primarily for open space protection.
- 4.12 Groundwater Protection through Clustering**  
Locate the dwelling units in clusters to avoid areas susceptible to groundwater pollution; this will be further achieved through the use of the density exchange option. (Refer to Land Use Policies and Actions.)

*Howard County, to protect the scenic values of the western area, will:*

- 4.14 Scenic Routes**  
Undertake a complete and systematic study of county roads, based on the criteria outlined in the Plan, in order to designate scenic routes and establish guidelines for the protection of their existing character and for view protection.

### **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.

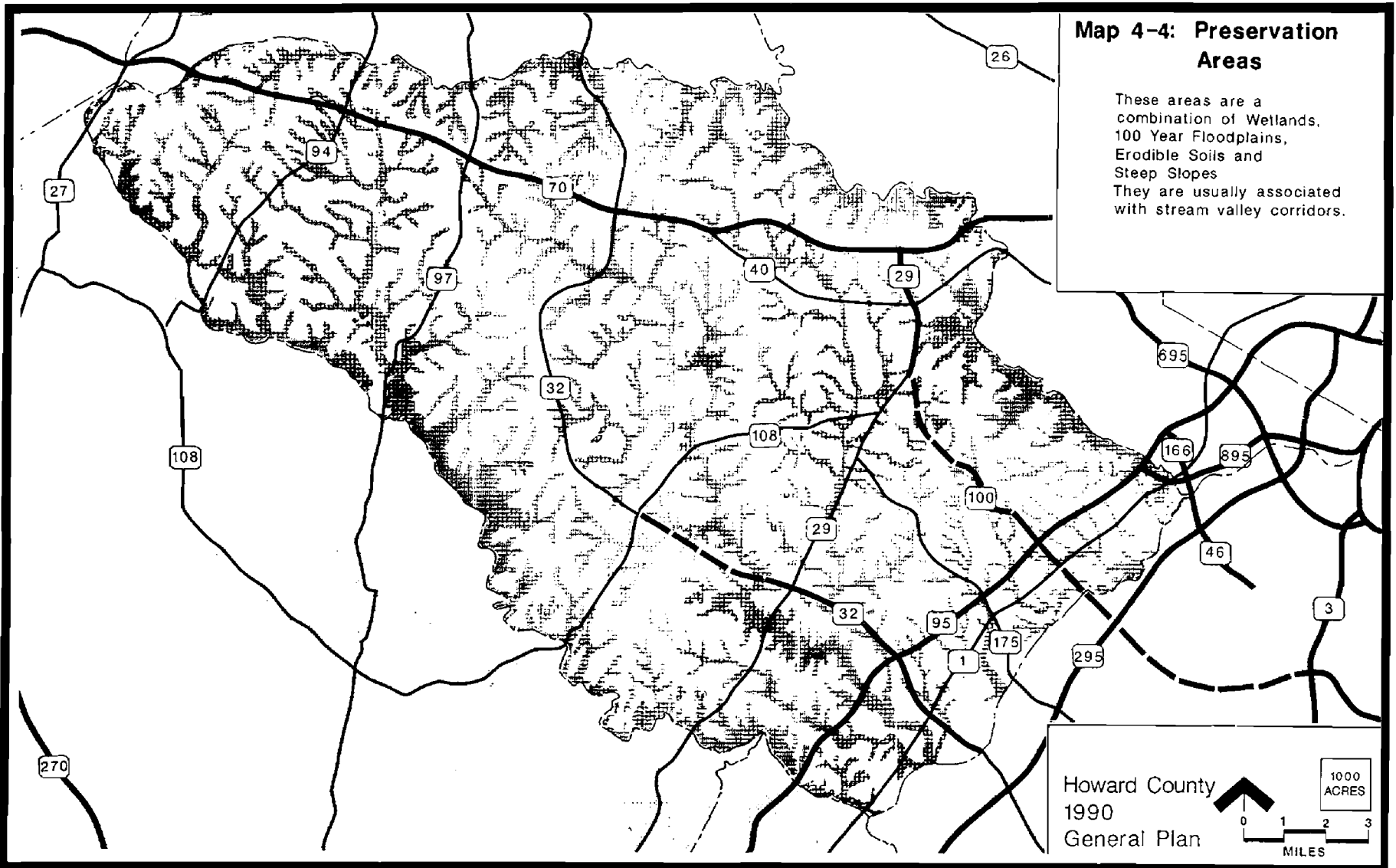
The use of shared septic systems--in particular, common drain fields--allows home sites to be placed in areas that are marginally or poorly suited for septic systems but are otherwise attractive residential settings. The common drain field is then placed on optimum soils so that the groundwater is best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

The concept of shared septic systems proposed here would be used in some cluster developments whose site conditions (e.g., soils, slopes, active farmland) warrant a common drain field. Individual wells and septic tanks would remain on individual lots. Community wells are not considered viable because of the regulatory complexity, expense, and liability involved. Therefore, the minimum lot size for shared septic system is limited by health regulations governing individual wells and results in one acre average lot size with the smallest lot in a subdivision being no less than three quarters of an acre.

A maximum of only ten houses would share a system in order to protect the groundwater and to simplify maintenance procedures. There could be several such common drain fields in larger subdivisions. All of the shared systems (including septic tanks and drainfields) would be owned and maintained by the County and financed by a separate fee schedule paid by the homeowners. County ownership would help ensure regular maintenance and monitoring in order to protect the environment.

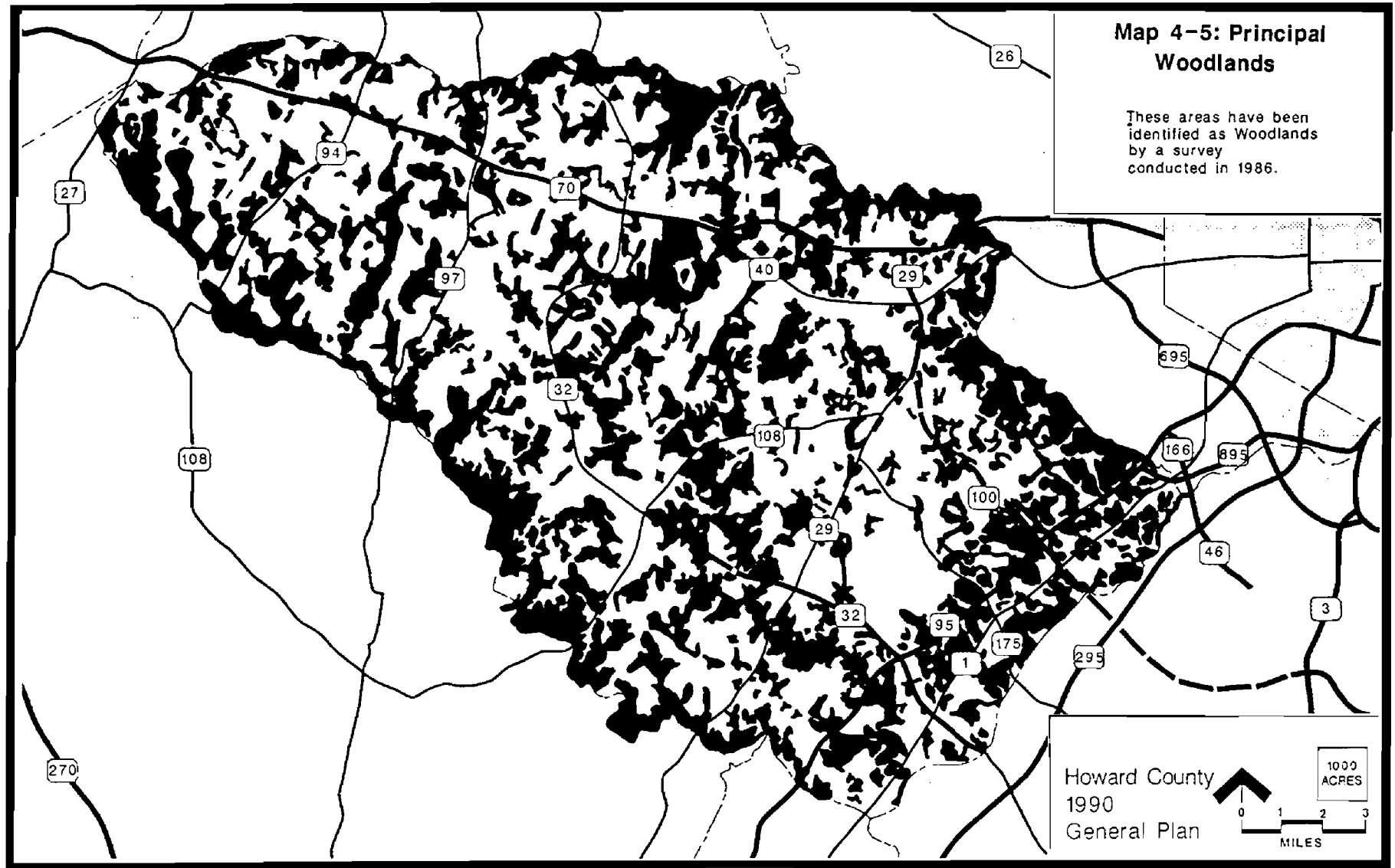
The flexibility in site design which shared septic systems affords further enhances the goals of clustering to preserve agricultural land and minimize the impact of development on the groundwater resources of the County.

# PRESERVATION OF THE RURAL WEST



Map 4-4

# PRESERVATION OF THE RURAL WEST



Map 4-5



## Groundwater Protection

Geomatrix, Inc., consultants to the Howard County Departments of Planning and Zoning and Public Works recently completed a study of relative groundwater pollution potential in the western part of the County. The study used a method which was developed by the EPA and known by the acronym, DRASTIC. It is a relative ranking system which uses map overlays to determine areas of highest to lowest vulnerability to groundwater pollution within the study area. The results provide an environmental planning tool for part of a natural resources baseline which, when combined with man-made pollution potential factors, helps to set priorities for remediation if and when problems occur.

The study is meant to be a generalized planning tool and is not intended as a substitute for site specific evaluation. The exercise, which used existing data, did not evaluate either the quality or the quantity of groundwater underlying Howard County. It did not examine types of facilities or practices that affect groundwater nor did it identify any existing problems.

This method has been applied locally in Baltimore and Anne Arundel Counties as well as in selected counties around the United States. However, because the method produces a relative rather than an absolute assessment of groundwater vulnerability within the area studied, the results of applications in different localities are not directly comparable.

Application of the DRASTIC method requires the identification of hydrogeologic settings. These are types of rocks that can be grouped together based on how they function relative to groundwater. The settings are then ranked according to seven factors which form the model's acronym:

- D - Depth to groundwater - the thickness of the material contaminants must pass through.
- R - Recharge - the amount of precipitation that reaches the groundwater.
- A - Aquifer media - the material holding the groundwater.
- S - Soil Media - soil types
- T - Topography - the slope of the land surface.
- I - Impact to the Vadose Zone - the material between the soil and the aquifer.
- C - Conductivity - the ability of the aquifer to transmit water.

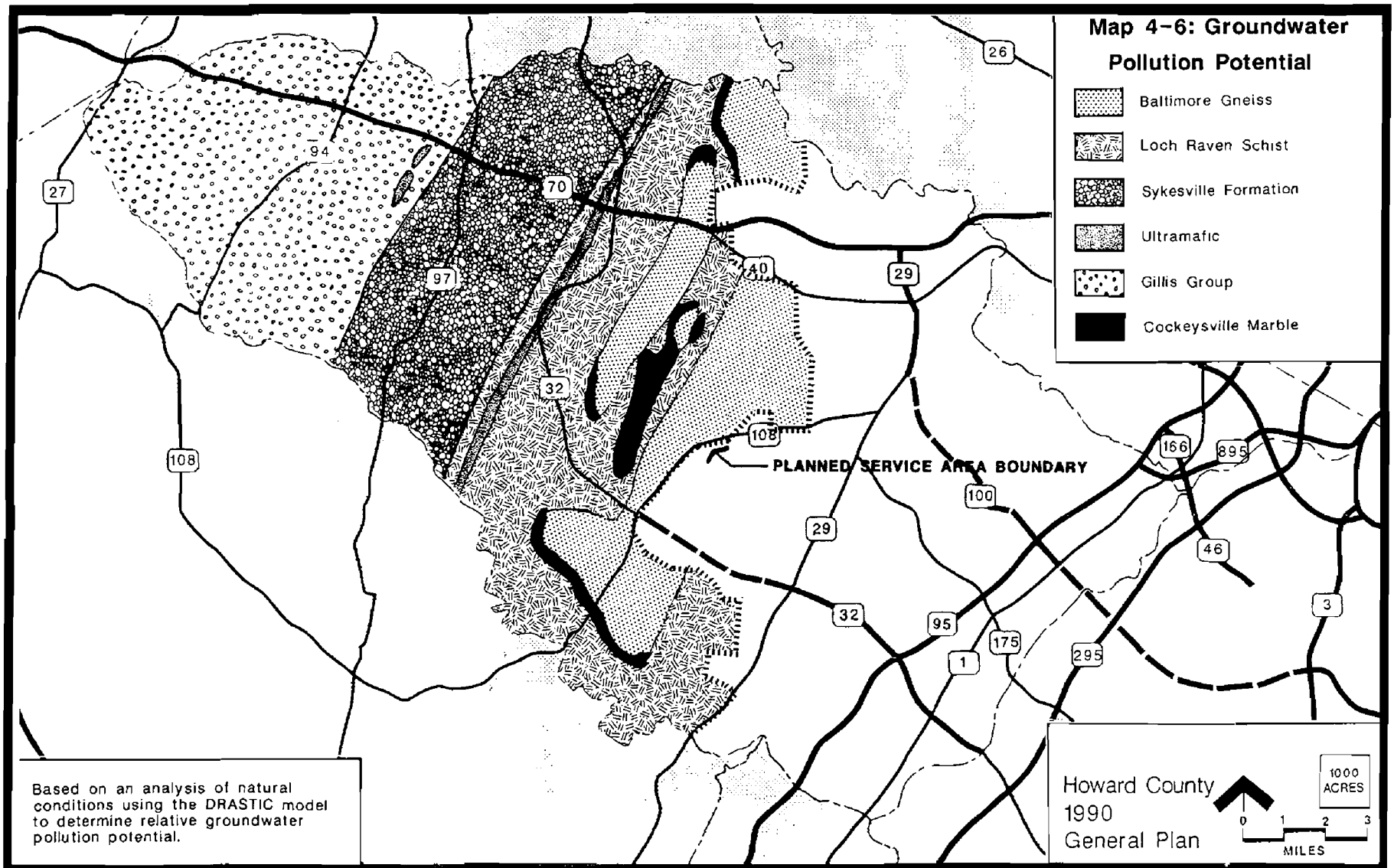
The Howard County study resulted in the identification of six discernible hydrogeologic units in the western portion of the County as displayed in Map 4-6. Based on the resultant range of scores, these six hydrogeologic units were ranked from least vulnerable to most vulnerable, as follows:

- |                     |   |
|---------------------|---|
| LEAST<br>VULNERABLE | A - Baltimore Gneiss<br>B - Loch Raven Schist<br>C - Sykesville Formation<br>D - Ultramatic<br>E - Gillis Group |
| MOST<br>VULNERABLE  | F - Cockeysville Marble   |

It is important to note that there is considerable variability within the above units; the Gillis Group, for example, runs a wide gamut and in parts may fall in the least vulnerable category.

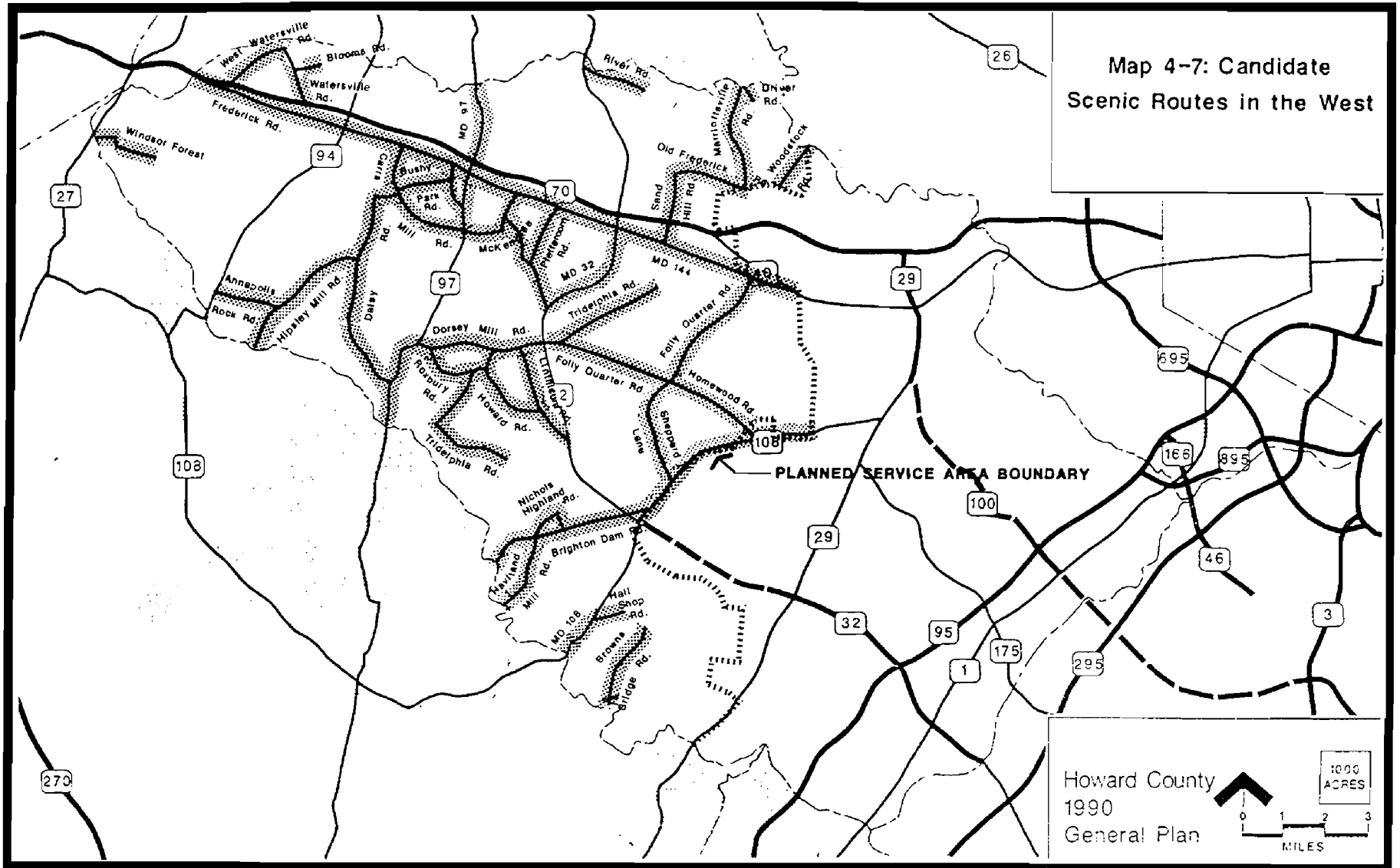
The DRASTIC results will serve as a screening tool to flag various land use proposals that may warrant further investigation. Further, the potential man-made components of pollution (such as the location of underground storage tanks) will be mapped and added to a growing body of environmental data which the County is assembling. Most notably, this study will complement the more extensive Water Resources Study currently underway by the United States Geological Survey. This four-year study is due to be completed in 1991 and will provide general information on the quantity and quality of both surface and groundwater for the entire County.

# PRESERVATION OF THE RURAL WEST



Map 4-6

# PRESERVATION OF THE RURAL WEST



Map 4-7

### The Protection of Scenic Routes

The characteristics of a route that make it scenic range from road topography and roadside vegetation to distant landscapes visible from the road. As such, the policy of scenic road preservation must be incorporated into all levels of land use decisions, from the General Plan to zoning and subdivision regulations.

Criteria for designation of a scenic road might include:

- (1) Scenic value - Does the road offer views of distant rolling landscapes? Does it offer a unique sense of outdoor space defined by the tree canopy?
- (2) Roadway aesthetics - Does the road surface or topography enhance the sense of the land forms through which the road travels? Do variation in light and shade add to the overall aesthetic experience?
- (3) Natural character - Are the environmentally sensitive areas such as streams, wetlands, or reservoirs visible from the road? Is the nearby vegetation of singular interest, such as specimen trees or a good example of typical native vegetation?

- (4) Man-made features - Does the view from the road contain attractive historic sites, fence lines or stone walls, farms with attractive agricultural field patterns or livestock?
- (5) Negative factors - Is extensive scattered housing apparent from the road? Are eyesores, such as power lines, garbage, and junked cars in view?

Different kinds of scenic roads require different types of protection or enhancement. If the questions in the above criteria are applied to a particular road, the answers begin to focus not only on what makes a certain road scenic but on what tools are needed to protect that road. If a corridor is largely continuous but with some gaps because of man-made features, then relandscaping or "retrofitting" programs may be warranted to provide continuity. Once a road corridor is designated, the goal is to preserve its characteristics when evaluating road improvements and commercial or residential development along the road. The tools can include outright easement acquisition, zoning or subdivision regulations that require clustering of houses to make them less obtrusive from the road, and landscape requirements that protect existing hedgerows and roadside vegetation and require new screening of development from the road.

## Transportation

### Roads in the West

The "protection" of scenic routes may conflict with the traffic-carrying function of rural roads, particularly if needed improvements such as widening or realignment are precluded. How much traffic do the western roads carry and how much more is likely?

While recent increases in traffic are noteworthy to individual residents, national and County standards used to measure congestion suggest that the West is not yet experiencing severe traffic congestion.

However, by the year 2010, projections indicate that some road sections will deteriorate to level-of-service D or worse because many of the western roads are winding, dipping two-lane facilities which reduce their traffic-carrying capacity. (See Figure 4-8.)

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 of commuters in neighboring Carroll and Baltimore Counties bound for jobs in Anne Arundel and Montgomery Counties and Washington, D.C. In particular, the travel down MD 97 from Carroll County and south along MD 32 in Howard County is a strong regional movement from Westminster to the BWI/Fort Meade area. The County's first General Plan in 1961, in fact, showed a connection between MD 32 and MD 97 to facilitate this movement. This was removed in the 1971 General Plan. In the intervening years, particularly the past five, considerable development and preservation activity has rendered such an alignment very difficult to attain.

While it may be difficult to satisfy this regionally beneficial connection, the long-distance trips along MD 97 and MD 32 that cross I-70 make these interchanges with the Interstate ideal locations for future park-and-ride lots.

The picture of transportation needs that emerges in the West, then, is one of some longer-term pressure points on regional State highways, primarily because of through traffic. Some of these are also considered scenic routes. 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

### Roadway Level-of-Service in the West Year 2010

The following road segments are predicted to operate at level-of-service D or worse by the year 2010:

ROADWAY	SECTION
Interstate 70	MD 94 to MD 97
MD 27	Carroll Co. Line to Montgomery Co. Line
MD 32	MD 99 to Indian Hill Drive
MD 94	Florence Road to Mullinix Road
MD 94	Interstate 70 to Carroll Co. Line
MD 97	Interstate 70 to Carroll Co. Line
MD 97	McClintock Road to MD 32
MD 97	Montgomery Co. Line to Roxbury Road
MD 108	MD 32 to Centennial Lane
MD 144	Carroll Co. Line to MD 94
MD 144	MD 32 to Tridelphia Road
MD 144	MD 94 to MD 97

\* Segments are representational when calculating LOS

Source: Howard County DPZ

Figure 4-8

the loss of scenic vistas. When protection of scenic roads cannot be reconciled with needed improvements, alternative alignments will need to be considered to handle traffic demands.

The real issue with respect to many western County roads is not capacity, but safety. Some of the rural, two-lane roadways have no shoulders, are very winding, and therefore have poor sight distances.

Figure 4-9 is a sampling of western County roads that are candidates for safety-related improvements, along their more problematic sections.

What is clear is that as the number of new residents in the West grows, safety-related improvements will become increasingly essential. The section on Policies and Actions responds to the various issues raised in the discussion of transportation.

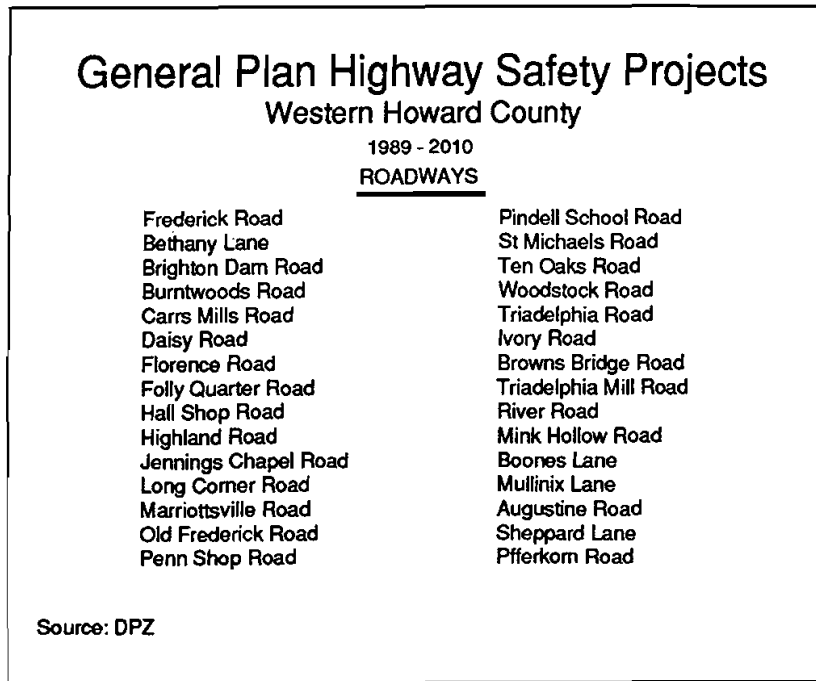


Figure 4-9

*Howard County, to maintain a comprehensive view of development activity in the West, will:*

**4.16 *Integrated Approach to Road Improvements***

Integrate into its review of road improvement projects consideration of adjacent land use stability, scenic values and natural features.

**4.17 *Park and Ride Lots***

Identify and help fund the creation of park and ride lots close to I-70 interchanges.

## *Policies and Actions*

*Howard County, to maintain travel safety, will:*

**4.15 *Monitor Accidents***

Monitor vehicular accident data in the West and, where necessary, schedule and make safety-related improvements to the County's road network; determine priorities for safety-related improvements.

## Housing

### Housing Values

Housing values in the West are the highest in the County. In 1989, they ranged from \$320,000 to \$550,000. These high property values produce high property tax revenues for the County. The local income tax of these residents also contributes significantly to County revenues. Even when the cost of the road improvements and other public services and facilities such as schools, parks and libraries are considered, the high value of the housing pays its way and will continue to do so in the future.

Housing, per se, in the West does not necessitate any particular policies to be changed or actions to be taken. It is important to note that other actions proposed for environmental, agricultural preservation, or land use reasons will not negatively affect the favorable fiscal situation in the western part of the County.

Clustering will help maintain and enhance home values since this approach guarantees, in perpetuity, the open space and rural character that drives this market and makes the area attractive and desirable for expensive houses. The clustering policy will include design concepts that can reduce infrastructure cost and allow the money saved to be used for other site amenities (village greens, etc.) further enhancing values. Since the clustering concepts described earlier do not significantly increase density, the County's projected costs for roads and services are not affected.

## Economic Development

### Jobs in the West

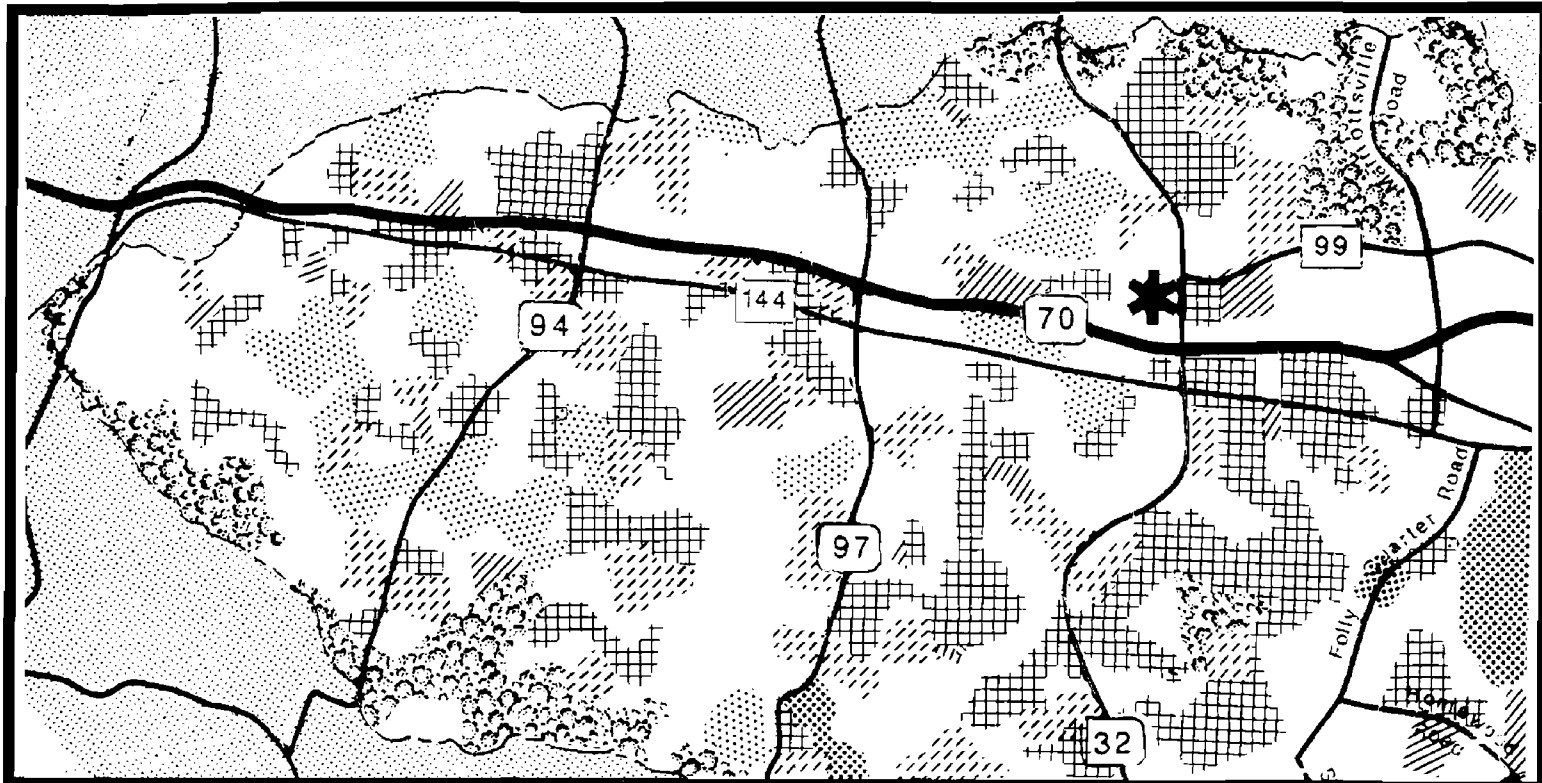
The discussion of housing demonstrates how effectively the West provides housing opportunities for higher-income residents, thereby indirectly supporting job growth in the East. Outside of the farm industry there is currently no significant employment base in the West. The I-70 corridor has the only potential for use as an additional employment resource in areas not within the Planned Service Area.

There will be adequate traffic capacity on the western part of I-70 for the next twenty years; therefore, it presents an obvious opportunity for investigation as an employment corridor. In fact, the County's 1960 General Plan showed several employment sites along the I-70 corridor. While the employment sites were deleted from the 1971 plan and did not reappear in 1982 (except for an area west of Marriottsville Road), this potential persisted as an idea needing investigation.

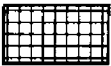
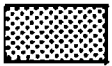
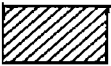
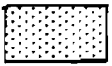
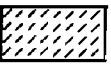



There have been proposals to intensively develop the I-70 corridor for employment similar to I-270 in Montgomery County. Unlike I-270 however, I-70 is not the spine of a dense, mixed residential/employment corridor. The development of a corridor of major employment centers along I-70 would necessitate 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 sewerage systems.

When existing land use patterns of this area are considered, however, it is clear that economic development along the entire I-70 corridor has already been largely preempted by three-acre development (see Map 4-8). Large scale re-development would be needed to achieve an "employment corridor" scenario. The parallel arterial roads to I-70 – MD 144 and Old Frederick Road – would need extensive reconstruction to function effectively. To contain such a high intensity corridor between Old Frederick Road and MD 144 without spillover into the rural hinterland would be difficult.

At a more modest scale, however, one area close to the I-70 interchange with MD 32 has been identified as a potential



**Map 4-8. I-70 Corridor Land Use**

- |   |                        |   |                                     |
|---|------------------------|---|-------------------------------------|
|  | Developed Areas        |  | Historic or Environmental Easements |
|  | Recorded Subdivision   |  | Agricultural Easement               |
|  | Subdivision in Process |  | Uncommitted Acreage                 |
|  | Parkland               |  | Future Employment Site              |

Map 4-8



employment center. (See Map 4-8.) Because it has access to MD 32, much of this location is already zoned B-2. A shift to an employment center designation would be more appropriate, because it would give the County some long-term reserve of potential employment in an area where projected traffic capacity will permit it.

Another area worth considering for economic development is bounded by US 29, MD 216 and Johns Hopkins Road. This area abuts the large employment sites along US 29, including the Johns Hopkins Applied Physics Laboratory. Farming in this area is isolated by residential development from the bulk of farmland in the West. Public water and sewer service is accessible nearby, and requires only a slight adjustment to the Planned Service Area Boundary. The proximity of the area to US 29 and the Washington market suggests that this area should be considered as a prime target for long-term economic development.

### *Policies and Actions*

*Howard County, to take advantage of specific economic development opportunities in the West, will:*

#### **4.18 I-70 Corridors**

Designate one area along I-70 (at MD 32) for long-term employment uses, with actual development permitted only when water and sewage needs can responsibly be met without public system extensions, improvements to access roads are adequate, and the long-term market for employment makes this area ripe for such development.

#### **4.19 US 29/MD 216 Opportunities**

Designate an area in the northwest quadrant of US 29 and MD 216 in the eastern Hammond Branch for long-term employment uses, with actual

development permitted only when road improvements referred to in the Chapter 8: *Phased Growth* have been completed. The existing farming activities should be sustained for as long as possible and the land should therefore not be rezoned prematurely.

*Howard County, to support its agricultural industry, will:*

#### **4.20 Sources for Agricultural Preservation Funding**

Pursue additional sources of funding for the voluntary Agricultural Land Preservation Program.

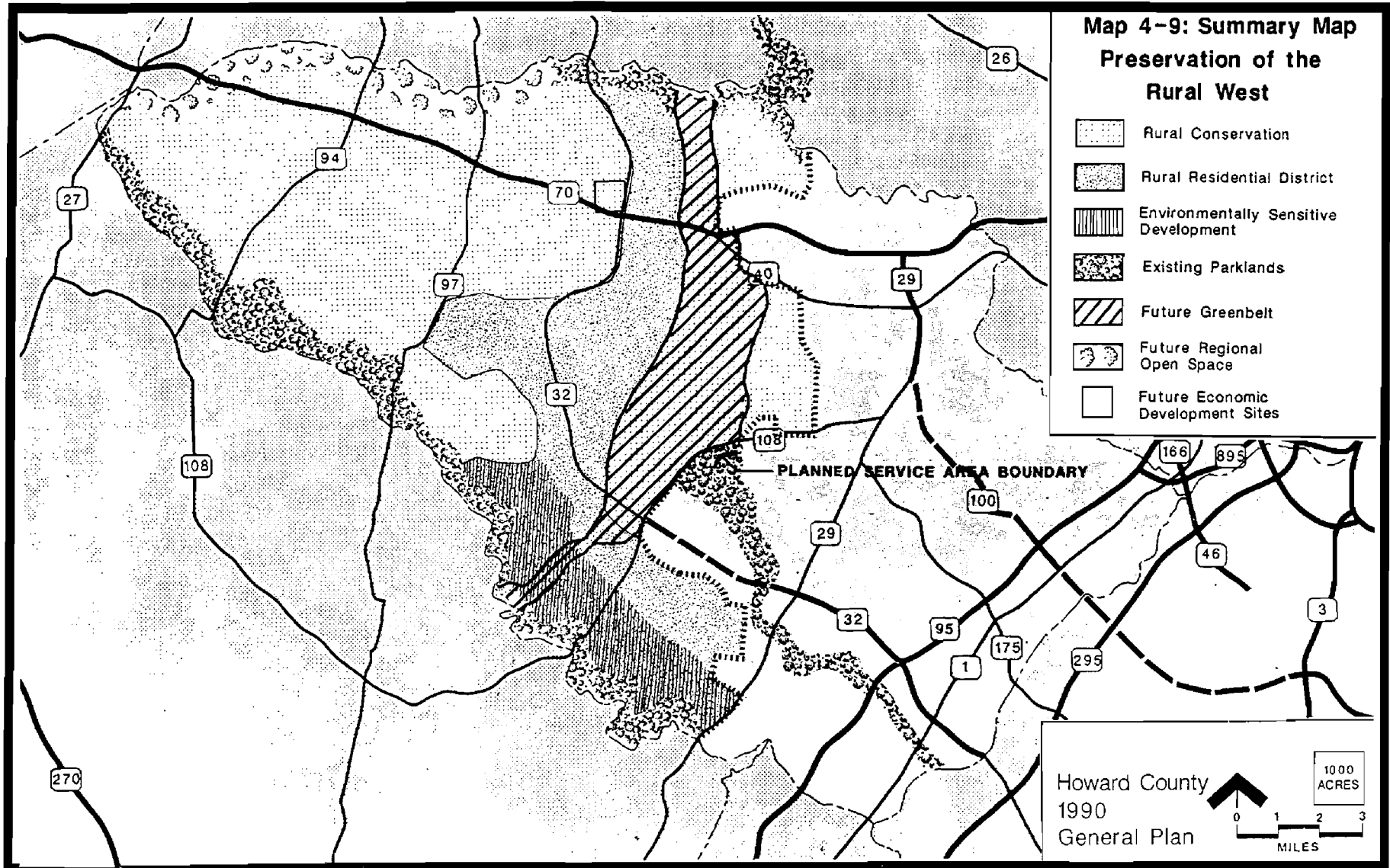
#### **4.21 Agricultural Industry Support**

Understand the agricultural industry's support systems (equipment repairs, supplies and markets, banking, etc.); participate in local and regional initiatives to strengthen these systems and to combat any incremental weakening which prevents the location of necessary farm support uses and businesses.

### **Summary Map**

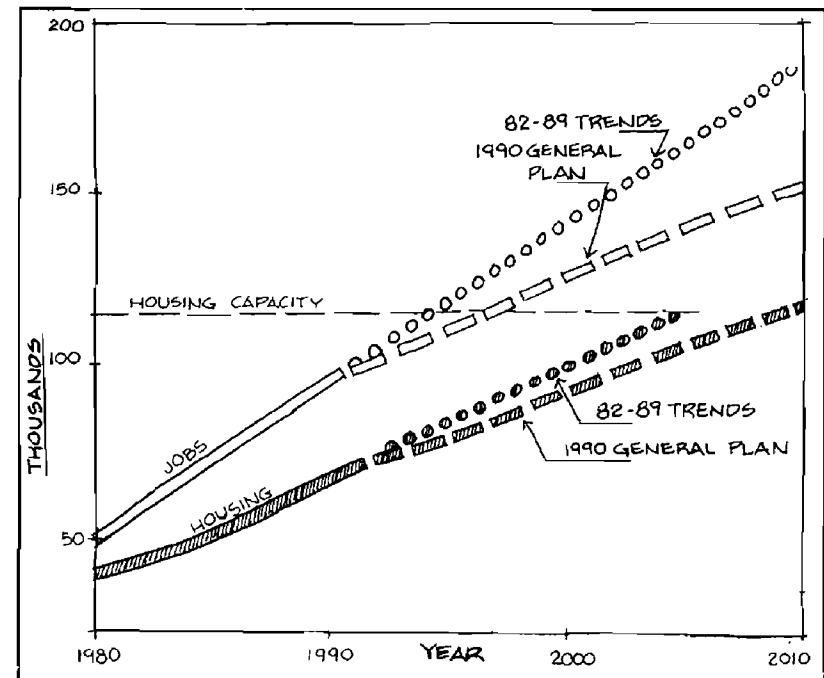
Map 4-9 summarizes those policies and action in this chapter which can be mapped.

# PRESERVATION OF THE RURAL WEST



Map 4-9

# BALANCED GROWTH



## Chapter Five

---

# BALANCED GROWTH

---

## Introduction

A goal of this General Plan is to have an appropriate balance of land uses. The wide variety of current needs and activities that are part of a high quality of life must be matched with appropriate sites, and land must be reserved for future homes, employment, stores and services, schools, recreation, parks and open space.

Land is a limited resource. In a small county such as Howard there are many demands on the land resources that remain. This General Plan should analyze these demands and establish a balanced growth program that best matches current and future needs of the County to land resources and infrastructure.

The proper amount and the distribution of various land uses affects the overall quality of life in many ways. Balanced growth offers all residents numerous opportunities for work, housing and recreation, as well as convenient access to schools, stores and services.

Balanced growth is needed to ensure that all land use needs are met without favoring one to the detriment of other, and to promote a healthy fiscal base for the delivery of public services needed by a growing population.

Balanced growth, when combined with proper phasing, makes it easier to plan the delivery of services, especially when needed sites for facilities are obtained in advance of new development.

This Plan's land use policies have been developed after much research and analysis of existing conditions. Background work clarified what land use options remain, how much growth is desirable, and what the most appropriate relationship between different land uses should be, especially between employment growth

and housing needs. Public comments made about the different "scenarios", presented in the summer and fall of 1989, and long-standing concerns such as the need for greater housing choices and opportunities also have been taken into account.

One of the most important balanced growth decisions is the adoption of the policy to vigorously pursue the preservation of a rural western Howard County and to continue to locate most development in the suburban eastern half of the County. Chapter Four: *Preservation of the Rural West*, describes how various demands within the West have been balanced by its division into agricultural and residential districts and by mandatory clustering to accommodate housing without undue loss of farm areas or of environmental and landscape resources. The suburban eastern half of the County also requires careful planning based on the balance of land use needs.

One issue of balance is between environmental protection and development. Most land uses in the East are much more intensive than in the West. The East is also where most development has occurred. However, many environmental resources remain intact, especially within stream valleys. Protecting them must be balanced against the demands for future growth.

Such protection is also a prime objective of the Chesapeake Bay 2020 program which calls for balanced growth on the local, statewide and interstate scales. Specifically, the balanced growth goals of this General Plan have taken into account the 2020 program goals that open space amenities within developed areas be given the same priority as infrastructure, that such open space be within close proximity to most people and that sensitive areas should be protected from encroachment or damage. (Chapter Six: *Working with Nature*, describes techniques for environmental protection in the East that must, by necessity, differ from the environmental and landscape

## BALANCED GROWTH

---

preservation techniques of the West.) Within developed areas balance must be struck between conflicting land use demands.

Employment and housing are the two main land use categories in the East. Striking an appropriate balance between land designated for employment and land designated for housing is therefore one of the Plan's key concerns.

Because of our central location in the region, it would be possible to devote all remaining undeveloped land to housing. If the market were left to itself, such land would probably be completely absorbed by 2010. But such a decision would be very imprudent since it would force almost all of these new residents to commute to jobs outside the County and create huge burdens on the County for new schools, parks, human services and recreation facilities. The fiscal health of the County would also be threatened since the proportion of total County revenues paid by tax revenues from businesses (which do not demand schools, recreation or many other public support services provided to residents) would be lowered. Conversely, to devote too much land for employment would lead to unmanageable commuter congestion on our roadways. It would also fail to provide sufficient land for new housing opportunities for existing residents and succeeding generations.

Designating land for housing also requires a series of decisions about what provision should be made for different types of housing to meet the specific needs of various groups within the general population and the work force (e.g., the expected increase in the elderly as a proportion of the overall population).

Finally, a balanced growth strategy addresses the need to guarantee that adequate sites will be available for the schools, recreation areas, public facilities and services needed by the expected population. Securing such sites is another demand on the county's limited land resources that must be in proper balance with employment and residential growth.

Knowing where jobs and households will be concentrated and locating jobs and households in the proper relationship to each other make it easier to plan road improvements and, especially significant as the County grows, an efficient public transportation system.

The limited land resources left in the eastern half of the County leave little leeway for haphazard guesses about the proper balance and distribution of jobs, housing, schools, recreation,

government facilities, stores and services. Future needs must be carefully evaluated and compared to the land use designations established by the 1982 General Plan and the 1985 Comprehensive Zoning ordinance. Where these designations appear inadequate they must be changed.

In preparing this new General Plan, substantial statistical analysis was done for a range of various development alternatives. The fiscal impacts of various possibilities were of special concern, since a fundamental objective of this General Plan is to accommodate future growth while maintaining the level of services the County offers today. (Refer to Development Trends and their Fiscal Impacts Chapter of the Appendices for further discussion.) Good schools, an efficient transportation system, 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 the key to seeing that the quality of life in the year 2010 is as good as or even better than it is today.

The analysis of future needs, of the fiscal impacts of various possibilities, and of the buildout that would occur under the 1982 General Plan with current zoning revealed that some very significant imbalances would result. They are:

- Too much land is designated for employment uses; full buildout (a fifty-year prospect) would totally overwhelm the transportation system.
- No opportunities for mixed-use development exist, which may be the key to the best use of large well-located sites and to the creation of an effective public transit system.
- The location of existing and future housing and employment is uncoordinated and does not take advantage of potential public transit routes that could help support growth while maintaining good levels of service on our road system.
- Fragmented, unconnected quasi-public transportation systems will become increasingly over-burdened in attempting to provide levels and types of service demands for which they were not designed.

- Too little land is designated for housing other than low density single family detached housing. Housing choices (price and type of housing) would be very limited.
- Such limited housing opportunities are out of scale with the housing needs of the work force expected to be here in the year 2010. The results will be massive commuting into the County by these new employees or even a reluctance by potential employers to locate here due to lack of easy access to the needed pool of employees.
- Too little land has been set aside for parks, open space, recreation areas, school sites or other public facilities. Various sites now in public ownership are too small or are improperly located, or may not be used for more than one purpose (rather than developed for multiple uses).

The remainder of this chapter addresses these present deficiencies and proposes fundamental policies to form the basis of a truly balanced land use strategy. The issue of phasing-in the land uses is dealt with in Chapter Eight: *Phased Growth*. It must be remembered that, although the areas of discussion may seem to be treated as discrete topics, the success of this General Plan depends on the appropriate balance being struck among all of the concerns expressed. No area of concern can be isolated from the others in seeking solutions to problems.

### The Balance Between Jobs and Housing

There is an important link between the provision of housing and growth in jobs as reflected in the statistic that 40% of the people who live in the County also work in the County.

Sustained job growth is essential to the fiscal health of the County. Commercial/Industrial land uses have, since 1982, consistently accounted for a quarter of the assessable tax base (see Figure 5-1). Fiscal analysis shows that employment growth contributes in an important way to the fiscal health of the County (see Box 5-1).

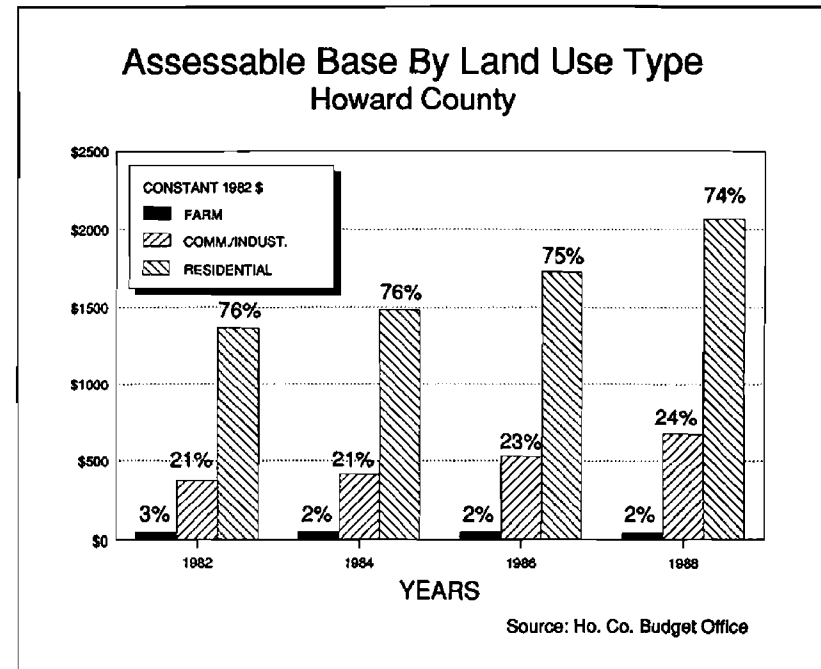


Figure 5-1

### Prospects for Employment Growth

Growth in jobs since 1970 has been extremely strong. Figure 5-2 compares job increases in Howard County with other counties in the region and demonstrates that in percentage terms Howard's annual job growth has surpassed that of neighboring counties. Can this rate of growth of the past twenty years be sustained over the next twenty years?

The Baltimore Regional Council of Governments (BRCOG) forecasts a slowdown in job creation in Howard County and throughout the Baltimore region "due to an overall slowdown in the national economy and a slowdown of growth in the labor force locally".\* The Baltimore Regional Council's most recent forecast (1987) shows the County growing by 41,700 jobs over the next 20

\* Memo from BRCOG to Howard County, November, 1989

## Hypothetical Fiscal Impact Analysis

Using a scenario which holds residential growth constant at 3,000 units per year for the next 20 years, but which varies the employment targets yields the following net fiscal results for Howard County:

### Annual Average Results Over 20-Year Period (Millions of Dollars)

<u>New Jobs Created</u>	<u>1990-2010</u>	Millions of <u>Dollars</u>	% of 1990 <u>Budget</u>
Low Growth	38,000	(10.7)	-4.3%
Medium Growth	70,000	(2.6)	-1.1%
High Growth	95,000	4.3	+1.7%

Source: Tischler & Associates, Inc.

The cost of new growth to the budget (shown in the parenthesis) or surpluses are very small in comparison to the overall FY 90 budget of \$247 million. The fiscal results range from a cost of 4.3% to the budget due to new growth to a 1.7% increase of the budget resulting from growth. Nevertheless the direction of the results is clear: without strong job growth, the county will suffer modest budgetary costs due to growth. (*The Development Trends and Their Fiscal Impacts* Chapter of the Appendices presents the fiscal results of alternatives analyzed.) To the degree the job growth is dependent on the provision of housing, the housing supply and mix are important.

Box 5-1

## Regional Employment

1970 - 1990

(TOTAL JOBS IN 000'S)

JURISDICTION	1970	1980	1990	1970 to 1990 Change	20 Year % Change	Annual Growth Rate
Howard	27.1	57.1	95.6	68.5	253%	6.5%
Anne Arundel	134.2	167.7	238.1	103.9	77%	2.9%
Baltimore	245.3	340.6	387.4	142.1	59%	2.3%
Carroll	24.0	30.0	39.1	15.1	63%	2.5%
Harford	47.0	47.9	60.8	13.7	29%	1.3%
Baltimore City	473.7	452.9	444.5	-29.2	-.7%	-.3%
Frederick	32.8	42.9	57.8	25.0	76%	2.9%
Montgomery	229.0	302.0	455.0	226.0	98%	3.5%
Prince George's	195.0	245.0	311.8	115.9	59%	2.4%

Source: BRCOG, MD Office of Planning

Figure 5-2

years; this compares with an increase of 68,500 since 1970 (see Figure 5-3). The Washington region, however, is projected to sustain its current strong job growth which is within reasonable commuting distance of Howard County. Focusing on the Baltimore/Washington corridor also demonstrates the disparity in job growth between the Baltimore and the Washington forecasts (see Figure 5-4).

The diminishing rate of job growth projected by the BRCOG for Howard and Anne Arundel Counties is contrary to the Washington area employment projections for Montgomery and Prince George's Counties. However, both Howard and Anne Arundel are located between Baltimore and Washington. Major regional corridors such as I-95, Baltimore-Washington Parkway, and/or U.S. 29 traverse through the two counties connecting these regions. Howard County has economic ties to both Baltimore and Washington markets. Continued strong employment growth projected in the Washington region for the next twenty years should not be constrained by jurisdictional boundaries. Employment growth often tends to expand

### Regional Employment Projections 1970 - 2010

(Jobs in 000's)

JURISDICTION	1970	1990	2010	1970 to 1990 Change	1990 to 2010 Change
Howard	27.1	95.6	137.3	68.5	41.7
Anne Arundel	134.2	238.1	282.9	103.9	44.8
Baltimore	245.3	378.4	445.5	142.1	67.1
Carroll	24.0	39.1	48.3	15.1	9.2
Harford	47.1	60.8	76.9	13.7	16.1
Baltimore City	473.7	444.5	450.1	-29.2	5.6
Frederick	3.28	57.8	72.0	25.0	14.2
Montgomery	229.0	455.0	670.0	226.0	215.0
Prince George's	195.0	311.8	473.0	115.9	161.2

Source: BRCOG, MD Office of Planning

Figure 5-3

along or near the major regional transportation arteries. Therefore, it could be argued that Howard County is also within the sphere of influence of the Washington job market, and so the BRCOG projections should be increased to reflect this influence.

In preparing in-house "Trends" projections for the County in 1988, the Department of Planning and Zoning developed an original forecast of 62,000 additional jobs between 1990 and 2010, about 20,000 more than the Baltimore Regional Council's forecast. (See Development Trends and their Fiscal Impacts Chapter of the appendices for further detail on earlier baseline projections.) This forecast would require the County's share of projected corridor job growth to increase from 7.7% to 17.6% (see Figure 5-4 and 5-5).

In comparing past job achievement with the actual number of jobs Howard County would have to attract to meet the initial forecast, it is clear that this would be a very ambitious target. A

### Jobs in the Baltimore/Washington Corridor Baltimore Regional Council of Government Projections

Total Jobs 1980 to 2010  
(in 000's)

Year	Anne Arundel	Howard	Prince George's	Montgomery	Total
1980	167.7	57.1	245.0	302.0	771.8
1985	203.5	72.3	274.5	371.0	921.3
1990	238.1	95.6	311.8	455.0	1,100.5
1995	253.9	109.9	348.1	515.0	1,226.9
2000	263.9	119.5	386.4	575.0	1,344.8
2005	274.0	128.9	425.9	625.0	1,453.8
2010	282.9	137.3	473.0	670.0	1,563.2

Change in Jobs  
(in 000's)

Year	Anne Arundel	Howard	Prince George's	Montgomery	Total
80-85	35.8	15.2	29.5	69.0	149.5
85-90	34.6	23.3	37.3	84.0	179.2
90-95	15.8	14.3	36.3	60.0	126.4
95-00	10.0	9.6	38.3	60.0	117.9
00-05	101.1	9.4	39.5	50.0	109.0
05-10	8.9	8.4	47.1	45.0	109.4

Share of Total Corridor Job Gain

Year	Anne Arundel	Howard	Prince George's	Montgomery
80-85	23.9%	10.2%	19.7%	46.2%
85-90	19.3%	13.0%	20.8%	46.9%
90-95	12.5%	11.3%	28.7%	47.5%
95-00	8.5%	8.1%	32.5%	50.9%
00-05	9.3%	8.6%	36.2%	45.9%
05-10	4.1%	7.7%	43.1%	41.1%

Source: BRCOG; MWCOG

Figure 5-4



## BALANCED GROWTH

### Jobs in the Baltimore/Washington Corridor using BRCOG and Howard County DPZ Preliminary Projections

Total Jobs 1980 to 2010  
(in 000's)

Year	Anne Arundel	Howard	Prince George's	Montgomery	Total
1980	167.7	57.1	245.0	302.0	771.8
1985	203.5	72.3	274.5	371.0	921.3
1990	238.1	95.6	311.8	455.0	1,100.5
1995	253.9	110.0	348.1	515.0	1,227.0
2000	263.9	125.0	386.4	575.0	1,350.3
2005	274.0	136.4	425.9	625.0	1,461.3
2010	282.9	157.9	473.0	670.0	1,583.8

Change in Jobs  
(in 000's)

Year	Anne Arundel	Howard	Prince George's	Montgomery	Total
80-85	35.8	15.2	29.5	69.0	149.5
85-90	34.6	23.3	37.3	84.0	179.2
90-95	15.8	14.4	36.3	60.0	126.4
95-00	10.0	15.0	38.3	60.0	117.9
00-05	10.1	11.4	39.5	50.0	109.0
05-10	8.9	21.5	47.1	45.0	109.4

Share of Total Corridor Job Gain

Year	Anne Arundel	Howard	Prince George's	Montgomery
80-85	23.9%	10.2%	19.7%	46.2%
85-90	19.3%	13.0%	20.8%	46.9%
90-95	12.5%	11.4%	28.7%	47.4%
95-00	8.1%	12.2%	31.1%	48.7%
00-05	9.1%	10.3%	35.6%	45.0%
05-10	7.3%	17.6%	38.4%	36.7%

Source: BRCOG; MWCOG; Ho. Co. DPZ

forecast of an additional 55,000 jobs to the year 2010, rather than 62,000, appears more reasonable. For even this level of job growth to occur, however, an increase in the percentage of resident workers from approximately 40% to 50% must occur and Howard County must maintain its present capture rate of commuters from the Baltimore region (see Figure 5-6). The 20-year employment growth forecast of 55,000 jobs would allow the County to realize a total of 150,000 jobs by 2010 (See Box 5-2). This is considerably less than the County's job capacity of an estimated 212,000.

Like Howard County, many suburban jurisdictions in the 1950s and 1960s zoned large areas of land for non-residential development to attract as many jobs as possible, ignoring the potential traffic implications of such decisions. Where these dreams of high employment are now turning into gridlocked nightmares, or where they are clearly never going to materialize, the remaining land zoned for employment will increasingly be viewed as a resource for alternative land uses.

Based on current zoning, Howard County has a long-term supply of land available to accommodate projected employment to the year 2010 and well beyond. However, the aging of the County's labor force mitigates against achieving full buildout of employment growth (see Figure 5-7). Other factors that prevent full build-out of employment include the market forces on available land in Howard and surrounding jurisdictions competing for the regional jobs, the limitations of the County's infrastructure (i.e., roads, water and sewer) and the limitations on the overall regional economy. Increased capture of resident workers is necessary to achieve the build-out projections; this would have the additional salutary effect of reducing commuting and traffic congestion.

The prospect for future job growth in the County is bright with an abundance of employment-zoned land. However, the outlook for future housing growth, based on current zoning, is not projected to be as strong, as is discussed in the next section.

Figure 5-5

**Labor Force**

1985 - 2010  
(In 000's)

	1985	1995	2010
Baltimore City	354.4	358.9	370.9
Anne Arundel County	213.3	252.4	262.5
Baltimore County	351.9	371.3	372.5
Carroll County	55.9	70.9	89.7
Harford County	82.4	101.7	104.2
Howard County	77.1	124.3	147.6

**Commutation Shares To Howard County**

1985 - 2010

	1985	1995	2010
Baltimore City	2.8%	2.5%	2.5%
Anne Arundel County	4.2%	4.2%	4.2%
Baltimore County	3.5%	2.8%	2.8%
Carroll County	5.1%	4.7%	4.6%
Harford County	0.6%	0.3%	0.3%
Howard County	33.2%	37.2%	57.1%

**Labor Force Availability to Howard County**

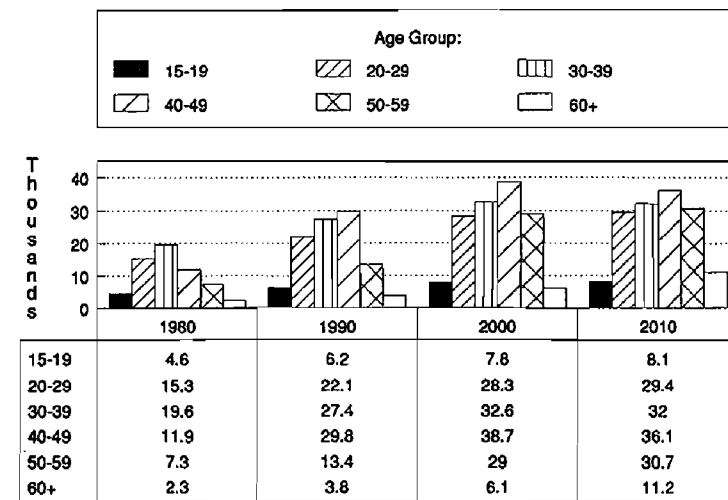
1985 - 2010  
(in 000's)

	1985	1995	2010
Baltimore City	9.9	9.0	9.3
Anne Arundel County	9.0	10.6	11.0
Baltimore County	12.3	10.4	10.4
Carroll County	2.9	3.3	4.1
Harford County	0.5	0.3	0.3
Howard County	25.6	46.2	84.3
Washington Area	3.6	6.1	9.3
Frederick; Other	0.9	1.3	1.7
<b>Total</b>	<b>64.6</b>	<b>87.2</b>	<b>130.5</b>
<b>Jobs</b>	<b>72.3</b>	<b>100.2</b>	<b>150.5</b>
<b>Jobs/Labor Force</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>

Source: BRCOG; HO. Co. DPZ

Figure 5-6

**Howard County Labor Force by Age Group**  
1980 - 2010



**Change in Howard County Labor Force**  
by Age Group  
1980 - 2010

Age Group	1980-1990	1990-2000	2000-2010
15-19	1,600	1,600	300
20-29	6,800	6,200	1,100
20-39	7,800	5,200	-600
40-49	17,900	8,900	-2,600
50-59	6,100	15,600	1,700
60+	1,500	2,300	5,100

Source: BRCOG; Ho. Co. DPZ

Figure 5-7

**Employment Sector Growth**

The structure of the County's economy will be somewhat, though not dramatically, different in 2010 than it is today, as indicated by employment sector projections prepared for Howard County by the Baltimore Regional Council of Governments (BRCOG) in November 1989. The total number of jobs is projected to increase by 42,000 between 1990 and 2010. As discussed earlier, this forecast may be conservative. The BRCOG's employment sector projections are summarized below.

The number of jobs in the Infrastructure sector, which includes agriculture, construction, transportation and utilities, is projected to remain stable. Job losses in agriculture and construction will be balanced by slight increases in transportation, communication and utilities. Infrastructure's percentage share of County employment is expected to decline from 21% to 14%.

Manufacturing jobs currently make up approximately 8% of all Howard County jobs. This percentage share is projected to decline slightly by the year 2010, even though a modest growth of just over 2,000 jobs is projected over the 20-year period. Although some significant layoffs or shutdowns among several Howard County firms occurred during the 1980s, job losses were offset by the County's ability to attract foreign-owned firms and firms from the Washington area. The number of small manufacturing establishments, particularly those less than 4 employees, has significantly increased (85%), while the total number of manufacturing jobs has only modestly increased (County Business Patterns, Maryland 1980 and 1986). This demonstrates Howard County's role as an important "hatchery" for manufacturing enterprises.

The Trade sector, which includes wholesale and retail trade, is not expected to maintain its rapid growth of the 1980s. The Trade sector's percentage share is projected to decline from 26% to 24%. Most of the 8,000 additional jobs in trade are projected for the Retail component.

The Services sector has the largest number of jobs in the County, increasing in the 1980s by 85%. This sector includes financial, business, medical, legal, hotel, auto and miscellaneous repair services. Projected

growth, though slower than during the 1980s, is still expected to be significant, making up 70% of all projected job growth. By 2010, 47% of Howard County's jobs will be in this sector.

The top four areas of Service sector growth will be: i) business services, including building and protective services, temporary help, computer and data processing; ii) professional services, including engineering, architecture, accounting, and research and development; iii) medical services, fueled by the County's expanding and aging population; and iv) finance, insurance, and real estate services.

The Government sector, which includes public schools, is projected to increase by approximately 3,000 jobs (32%), almost all in local government.

**Howard County Employment  
Projected Changes by Sector**

	Changes in Jobs (in 000's)		Composition of Employment	
	1980-1990	1990-2010	1990	2010
Infrastructure	8.6	-0.1	20.5%	14.2%
Manufacturing	0.5	2.2	7.6%	6.9%
Trade	10.7	7.8	26.4%	24.0%
Services	16.8	29.0	36.3%	46.5%
Government	1.8	2.8	9.1%	8.4%
<b>Total</b>	<b>38.5</b>	<b>41.7</b>	<b>100.0%</b>	<b>100.0%</b>

Source: BRCOG, Growth by Sector Report, Nov. 1989

### Prospects for Housing Growth

The present supply of land for housing, based on the 1985 Comprehensive Zoning, permits a total build-out of 106,000 households in the County. Of this total, 68,000 houses are already built, leaving 38,000 still to be built (see Figure 5-8).

The ratio of jobs to housing that has enabled us to sustain the 40% resident worker percentages has ranged between 1.4 and 1.6 jobs per household (see Figure 5-9).

Based on current trends (see Figure 5-10), the remaining housing supply would be built out between 2000 and 2005. In 2005, the combination of the continued rapid housing growth and the slowing job growth, would reduce the job/housing ratio to 1.31. In 2010 the ratio will increase to 1.42 because the capacity for housing will have been depleted but jobs will still be added. In order to reach the 212,000 maximum number of jobs possible on land currently zoned for employment, the County would need a job/housing ratio of 2.0. This presupposes that either an unrealistically high percentage of local residents will have to work in the County or an unrealistically large share of regional commuters will have to travel to jobs in Howard County.

The word "unrealistically" is justified by looking at the jobs-to-housing relationships and resident work force percentages of other, more mature and job-rich jurisdictions in the region (see Figure 5-11). To approach the County's ultimate job potential, or to reach the 2010 target, one of the most prudent things to do is to provide for more housing in Howard County and spread the development of that housing out more slowly (an issue dealt with under Chapter Eight: *Phased Growth*).

This analysis suggests that there may be an over-supply of zoned "employment" land in the County. Therefore, this land should be examined critically to identify the best site opportunities for employment, to identify sites more fitting for other land uses, and to identify sites for conversion to residential uses.

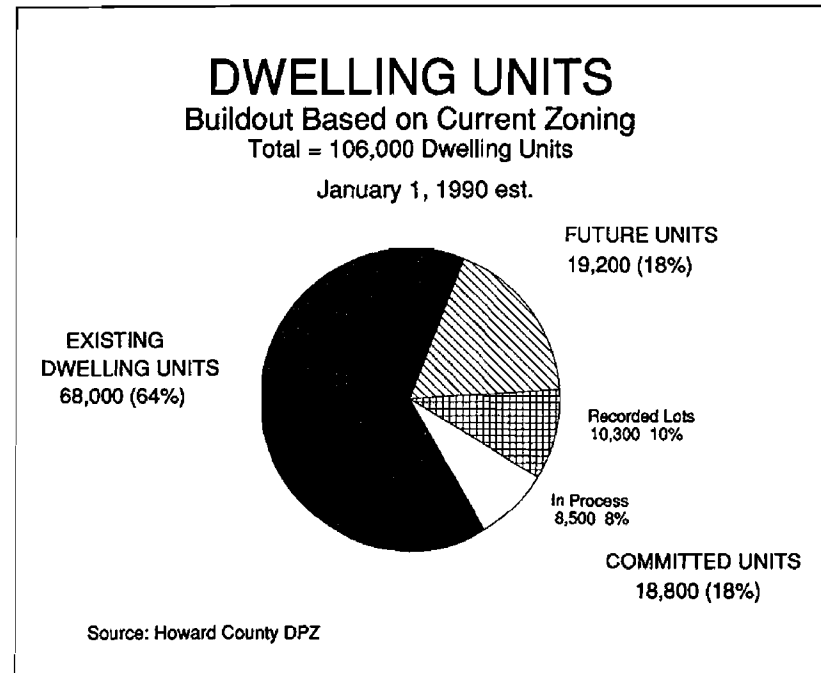


Figure 5-8

# BALANCED GROWTH

## Howard County Jobs to Households Ratios 1970-1990

	Jobs	Households	Jobs/ Household Ratio
1970	27,100	16,900	1.60
1975	42,900	31,000	1.38
1980	57,100	40,000	1.43
1985	72,300	50,400	1.43
1990	95,600	66,700	1.43

Source: BRCOG, Ho. Co. Dept of Planning & Zoning

Figure 5-9

## Regional Jobs to Households Ratio 1970 - 2010

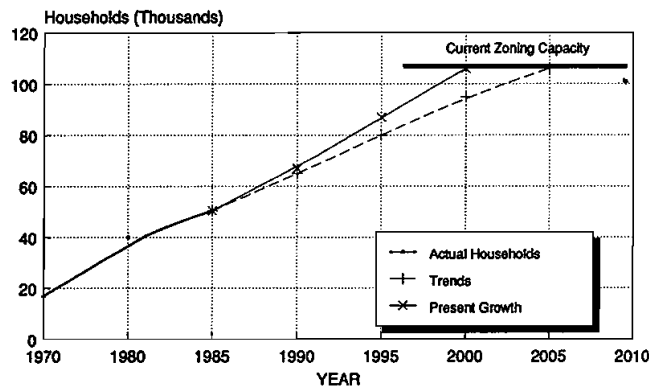
JURISDICTION	1970	1980	1990	2000	2010
Howard	1.60	1.43	1.43	1.34	1.42*
Anne Arundel	1.66	1.39	1.57	1.54	1.53
Baltimore	1.33	1.44	1.39	1.44	1.46
Carroll	1.20	0.97	0.93	0.84	0.77
Harford	1.47	1.02	0.98	1.04	1.08
Baltimore City	1.64	1.61	1.53	1.53	1.49
Frederick	1.32	1.14	1.16	1.10	1.05
Montgomery	1.46	1.46	1.63	1.70	1.81
Prince George's	1.01	1.09	1.19	1.31	1.40

\* Note: This ratio will change as a result of the new General Plan household projections.

Source: BRCOG, MD Off. of Plng, MWCOG, Ho. Co. DPZ

Figure 5-11

## Howard County Household Projections (Based on Current Zoning) 1970 - 2010



Source: Howard County DPZ

Figure 5-10

# Land Use

## Housing Areas

With regard to land available for housing, the pie chart (Figure 5-8) showed that about 38,000 homes remain to be built in the County. However, 10,300 of these are to be built on lots already recorded and 8,500 are in the development process, leaving only 19,200 units to be built on land not yet committed to development. Of this total of 19,200, about 10,000 can be built in the West and 9,200 in the East. Figures 5-12 and 5-13 present this information in acreage by zoning category.

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 R-20 land. The type of unit also relates to the

Howard County Percent of Developed, In Process, and Undeveloped Residential Zoned Land								
January 1, 1989								
ZONING DISTRICT	DEVELOPED		IN PROCESS		UNDEVELOPED		TOTAL	
	Acres	%	Acres	%	Acres	%	Acres	%
R	45,450	45	4,600	05	50,900	50	100,950	100
R-ED	360	43	250	30	220	27	830	100
R-20	16,760	70	1,810	08	5,410	22	23,980	100
R-12	1,880	67	150	05	800	28	2,830	100
R-SC	2,240	62	480	13	900	25	3,620	100
R-SA-8	340	49	200	29	150	22	690	100
R-A-15	660	80	70	08	100	12	830	100
R-MH	240	66	60	17	60	17	360	100

Source: Howard County Department of Planning and Zoning

Figure 5-12

## Howard County Potential Buildout in Selected Zoning Districts

Zoning	Acreage In Process (1/01/89)	Undeveloped Acreage	Total Unbuilt Acreage	Density Factor	Potential Units to Buildout
<b>Low Density</b>					
R	4,600	50,900	55,500	.22	12,200
R-ED	250	220	470	1.93	900
R-20	1,810	5,400	7,220	1.53	10,900
R-12	150	800	950	2.53	2,400
	6,810	57,330	64,140		26,400
<b>Medium Density</b>					
R-SC	480	900	1,380	3.72	5,100
<b>High Density</b>					
R-SA-8	200	150	350	7.65	2,700
R-A-15	70	100	170	10.24	1,700
R-MH	60	60	120	5.95	700
	330	310	640		5,100
<b>Totals</b>	<b>7,620</b>	<b>58,540</b>	<b>66,160</b>		<b>36,600</b>

**NOTES:**

- Does not include New Town (NT) district and Planned Gold Course Community (PGCC) district.
- Undeveloped acreage includes acreage recorded in lots but unbuilt as well as completely uncommitted acreage.
- In rural district, undeveloped acreage does not include acreage committed to agricultural, historic or environmental easements.
- Density based on actual unit per acre yield 1978-1981 (rate verified in 1988); Rural (R) and Environmental Development (R-ED) District densities derived from development in-process.
- Based on current development mix of apartments and townhouses.

Source: Ho. Co. DPZ

Figure 5-13

## BALANCED GROWTH

general cost of housing (see Box 5-3). The great majority (73%) of unbuilt residential land is designated for low-density development. Multiplying these acreages by the density factor for each zoning category, the County's future mix of housing units can be compared to the current housing mix (see Figure 5-14).

### Affordability of Housing in Howard County

In FY 1988, the average cost of a single-family home in the County was \$138,000. For the first half of 1989, the average sale price of a new home in the County was \$198,000. The qualifying annual household income to purchase these homes would be \$43,500 and \$62,400, respectively. (This assumes a 90% mortgage at a 10% interest and 30% of household income spent on serving the mortgages.) Approximately 30% of Howard county households currently earn less than \$40,000 a year.

Box 5-3

The trend toward a single-family unit future is clear under current zoning. The majority of remaining units (70%) will be single-family detached while only 7% will be apartments.

When the present housing mix is arrayed against the region as in Figure 5-15, it is apparent that Howard County is between Harford and Baltimore Counties in the single-family to multi-family unit ratios. In fact, Howard County's percentage of single-family development is low for the region. This is partially attributable to the presence of Columbia which is only 34% single-family detached. Howard County, without Columbia, has a single-family/multi-family housing unit profile more like Anne Arundel or Carroll Counties.

If the County expands its supply of housing without expanding public sewer and water out into the West, this housing will have to result from an intensification of the yield of housing on uncommitted lands served or scheduled to be served by public water and sewer.

### Howard County Current Housing and Buildout Under Current Zoning

(Jan. 1, 1990 est.)

	Number of Units	Housing Type by Percentage			Mobile Home
		Single- Family Detached	Single- Family Attached	Apartment	
EXISTING	68,000	54%	19%	25%	2%
COMMITTED- In Process & Recorded	18,800	65%	17%	15%	2%
FUTURE	19,200	70%	21%	7%	2%
TOTAL	106,000	59%	19%	20%	2%

Source: Ho. Co. Dept. Planning & Zoning

Figure 5-14

### Regional Housing Stock by Structure Type

1985

	% Single- Family Detached	% Single- Family Detached	% Multi- Family	% Mobile Homes
Howard	53%	18%	27%	2%
Anne Arundel	66	13	19	2
Baltimore	48	23	28	1
Carroll	77	6	15	2
Harford	63	13	18	6
Frederick	65	14	19	2
Montgomery	55	15	30	-
Prince George's	53	8	29	-

Source: BRCOG

Figure 5-15

Given the current cost of new housing, the percentage of low/moderate income residents in the County will decline. Business surveys conducted by employers routinely cite the lack of unskilled and lower-level service workers as a key problem for business operation and expansion in the County. The disparity between "affordable" housing needs and housing cost in Howard County is a well-publicized and oft-lamented fact. The Housing section of this Chapter documents the extent of this problem and quantifies low/moderate income housing needs and targets. Attached and multi-family units are going to provide the backbone of the County's affordable housing program because of land and development cost. Therefore, the search for additional land areas for low/moderate income housing should focus on areas zoned for or capable of supporting attached and multi-family dwelling units without adverse impact on surrounding land uses.

Map 5-1 shows the location of uncommitted residential land by zoning category. Several residential areas on this map have potential for additional housing capacity. Map 5-2 shows existing residential land uses. The broad criteria for the evaluation of residential land uses are displayed in Figure 5-16. The General Plan Policies and Land Use Maps show the results of this evaluation.

In this analysis, only sites of 50 acres or larger were considered. Other parcels of less than 50 acres may be viable candidates for some increase in residential intensity at an appropriate point in time.

It is important to note that for short-term development many of these areas would be constrained by poor current access, planned access improvements being 5-10 years away, lack of sewer, and ownership patterns. Such areas should not be rezoned until these constraints are removed, and they can be appropriately phased into the County's plan for growth. Chapter 8: *Phased Growth*, addresses this issue in greater detail.

The area designated rural conservation east of U.S. 29, straddling MD 175, provides the residents of the East with valued open space amenities. Howard County strongly prefers to retain the open space character of this area and work with the owners to preserve this resource. However, if it becomes impossible to retain the area as open space, the recommended use shall be rural conservation.

### Major Evaluation Criteria for Residential Area Redesignation

- Good access to collector/arterial roads (existing and future)
- Proximity to existing or future transit corridor
- Large enough to buffer against adjacent properties
- Adjacent to higher-intensity properties (General Plan and/or zoning)
- Within one mile of major employment area (General Plan and/or zoning)

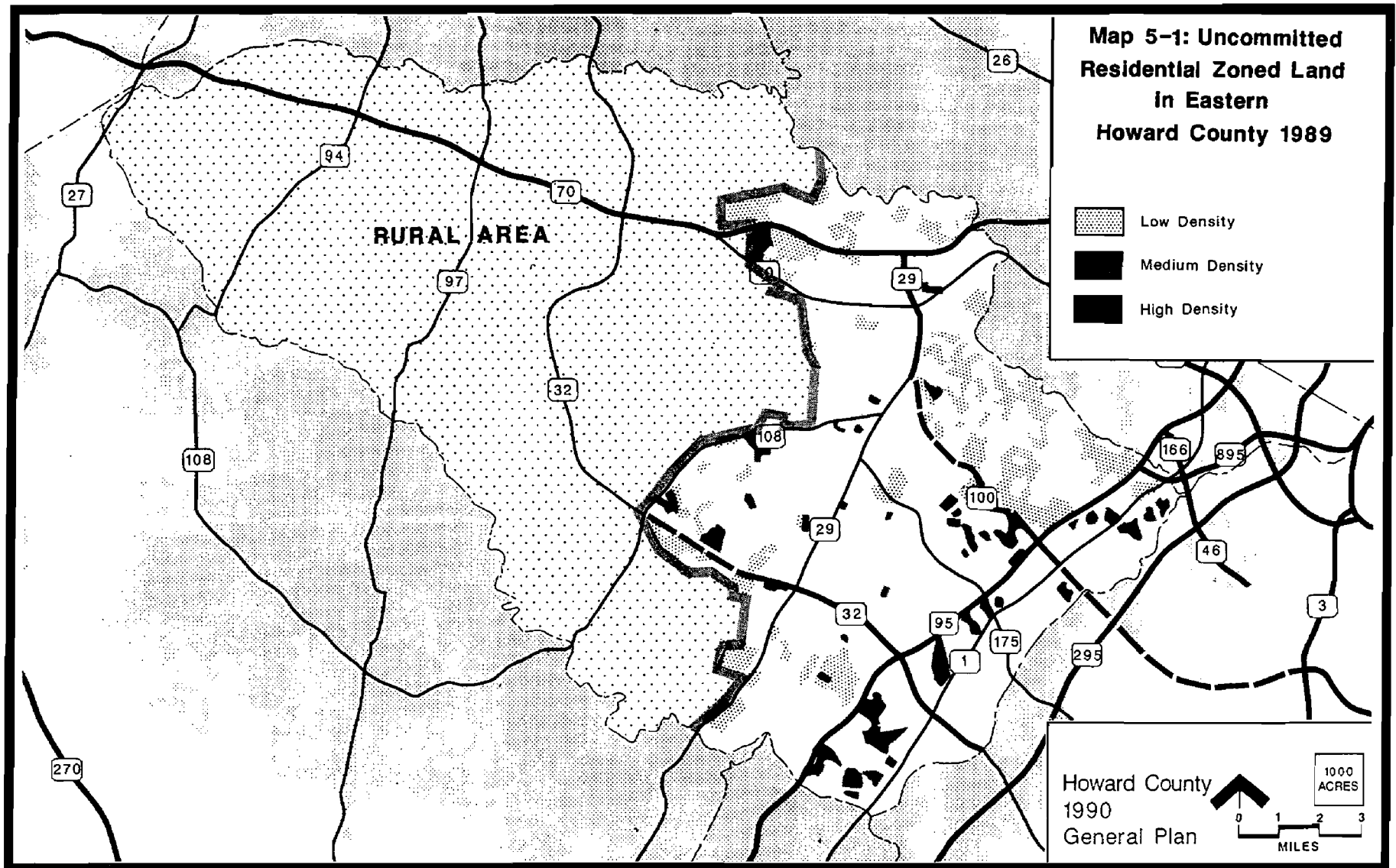
Figure 5-16

### Employment Areas

The location of uncommitted employment land by zoning category is identified in Map 5-3. It is important to note that there are also underdeveloped areas of employment, although not shown on the map, where only a small portion of the parcels have actually been developed. Examples of this occur extensively in the Route 1 corridor, where warehousing and truck storage are common uses. Commercial/retail areas are not shown on the employment map but are discussed in Chapter 7: *Community Enhancement*.

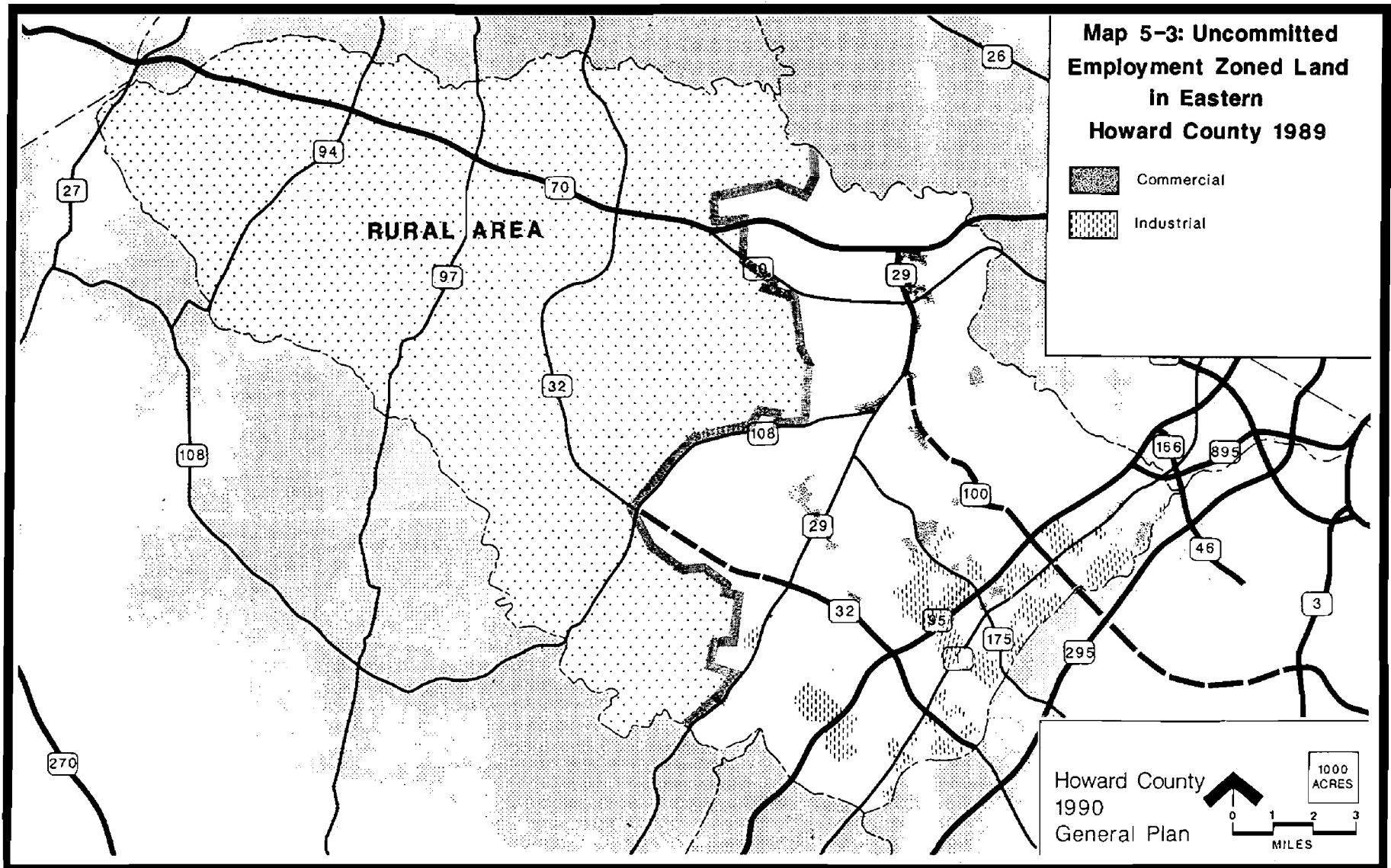
Figure 5-17 expresses the uncommitted land on Map 5-3 in terms of acres and the graph in Figure 5-18, which includes residential land, illustrates the percentages of developed, in-process and undeveloped acreages. About 45% of current industrial/employment land is undeveloped.





Map 5-1





Map 5-3

Howard County Percent of Developed, In Process and Undeveloped Employment Zoned Land

January 1, 1989

ZONING DISTRICT	DEVELOPED		IN PROCESS		UNDEVELOPED		TOTAL	
	Acres	%	Acres	%	Acres	%	Acres	%
M-1	1,330	48	350	12	1,110	40	2,790	100
M-2	2,720	52	460	09	2,020	39	5,200	100
ID	90	10	0	00	810	90	900	100
PEC	170	17	190	19	650	64	1,010	100
POR	380	45	260	31	210	25	850	100

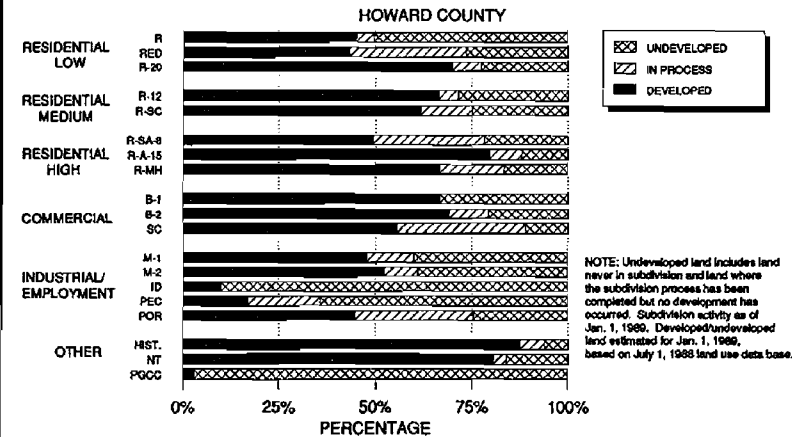
Source: Howard County Department of Planning and Zoning

Figure 5-17

Employment areas closest to Washington represent the strongest candidates for economic development. Other strong potential economic development locations are those that relate directly to the BWI east/west axis or along the I-95 corridor; however, both I-95 and the US 1 corridor will have very substantial traffic congestion problems if all land zoned for employment is built out. Opportunities, therefore, to direct some of this employment growth away from these corridors, should also be considered. Areas along I-70 have only a very long-term potential for employment use, once the north/south corridors and markets reach saturation and the magnet of Frederick starts to make itself felt. Those areas "internal" to the County, outside the north/south and I-70 corridors, have weaker potential for job growth, even on a long-term basis.

A number of undeveloped employment sites have insurmountable accessibility problems that may render their full development moot. Others, if developed at their full potential,

Developed, In Subdivision Process, and Undeveloped Land by Zoning Category

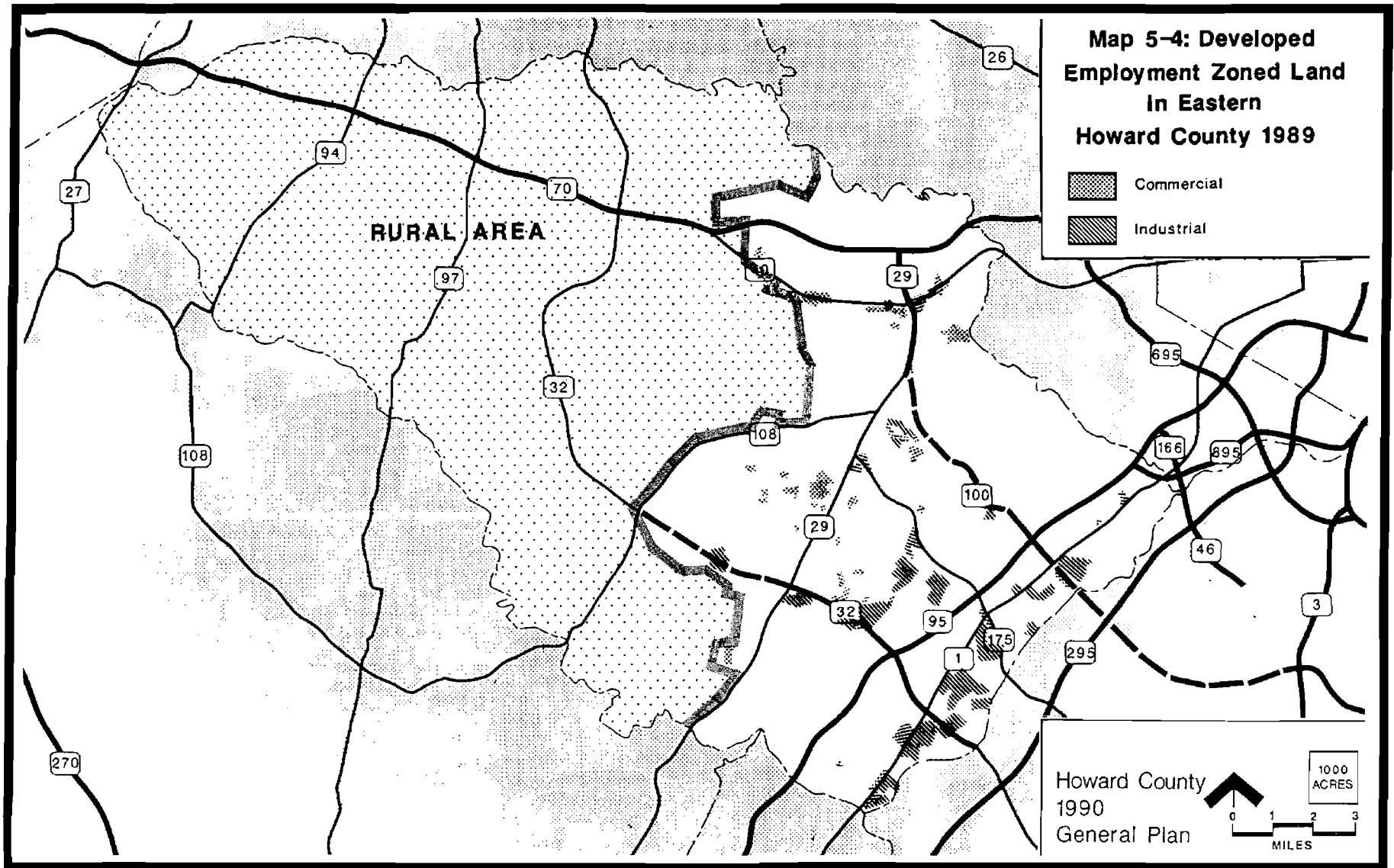


Source: Ho. Co. Dept. of Planning & Zoning, 1989

Figure 5-18

would either bring the adjacent road network to a standstill or would require massive road improvements. These sites may be better candidates for mixed-use development - that is, employment plus housing plus limited supporting commercial uses. Some areas designated for employment in the 1982 Plan which were not zoned as such have already been developed for other uses and are so designated on the General Plan's land use map.

Map 5-4 identifies developed employment areas in the County. Bearing the existing employment areas in mind, the uncommitted land in Map 5-3 was evaluated against a range of criteria (see Figure 5-19) for its suitability as employment, medium density residential, or mixed-use areas. Conversion of these potential employment-only sites to mixed-use or residential-only areas reduces the traffic congestion in the immediate area benefitting not only the surrounding neighborhood but the specific development as well (See Box 5-4).



Map 5-4

## Differences Between Residential and Employment Traffic Generation

This Plan replaces some areas now designated for employment uses with residential uses. One of the benefits that results from this substitution is a significant reduction in traffic generation. The table to the right shows the number of Average Daily Trips (ADT) yielded per acre with different residential densities and employment mixes.

Using the County's lowest urban density - the R-20 zone - as a baseline, we see that medium to higher densities will double or triple the lower traffic, while office employment uses will generate more than twelve times the baseline number. A mixed-use project with medium density residential uses substituting for an employment-only use would reduce trips by almost 40 percent.

Apart from the trip reductions, the mixed-use project further reduces peak-hour congestion because of the two-directional traffic it produces -- people both leaving and arriving for work at the same time, but in opposite directions.

Land Use	Density Increase Over R-20 Zoning	ADT/Acre	Comparison with R-20 Zoning
<b>Residential</b>			
Low Density - R-20 (1.51 du/acre*)	1.0	15	1.0
Low Density - R-12 (2.52 du/acre*)	1.7	24	1.6
Medium Density - R-SC (3.72 du/acre*)	2.5	36	2.4
High Density - R-A15 (10.24 du/acre*)	6.0	85	5.6
<b>Mixed-Use</b>			
Treated as a PEC on 50% of Land and Residential on 50% of Land @ 5.8 du/acre		116	7.7
<b>Employment</b>			
Mixed Manufacturing M-1, M-2 or ID 30% Light Industry 40% Warehousing, 30% General Office		86	5.7
Planned Employment Center (PEC) (70% of Land in General Office with 15% Commercial and 15% Light Manufacturing)		187	12.5

\* Densities are based on average yields taken from current development data.

Source: Howard County DPZ based on generation rates in Howard County Design Manual, Vol III

### Major Evaluation Criteria for Mixed-Use Area Designation

- Reduction of future traffic congestion compared to employment-only development
- Good regional access (existing or future)
- Good visibility to major highways
- Good relationship to primary employment corridors and axes (e.g., DC, BWI, I-95)
- Part of an existing employment concentration/critical mass
- Potential for residential development because of location, adjacencies, access, buffering, environmental quality
- Special or unique environmental features (e.g., wetlands, extensive woodlands, etc.)

Figure 5-19

This General Plan proposes several mixed-use centers within the urban East. These mixed-use centers are proposed as a way to plan efficient use of the land at key locations by combining housing, employment and even certain public facilities and services such as schools and recreation. Such centers can be especially effective in providing sites to meet the current and future needs in affordable housing. Mixed-use centers also are logical stops or transfer points for a true network of public transit since the mix of activities enables transit to be based on a larger potential ridership than only peak hour commuters (See Box 5-5).

The mixed-use centers vary in size, and the scale and intensity of development will have to vary with specific local conditions. Mixed-use areas within existing employment corridors could have a higher proportion of offices and services. Those near residential areas might, more appropriately, have a higher proportion

### 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.
- substituting housing for employment land that cannot be properly served by existing roads.
- 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, etc.).
- creating opportunities to eliminate home-to-work commuter trips by providing housing and jobs within easy pedestrian access.
- mixing of housing, employment and public facilities to create a more balanced pattern of traffic generated; this is easier on the local road network than peak hour crunches 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 only one type of use (e.g., housing only or employment only) which make development of such sites more vulnerable to market fluctuations.
- requiring generous open space requirements, F.A.R. limits, and better concentration and mixing of uses to protect environmental and landscape resources in areas where current zoning allows up to 80% impervious surface coverage and creating proper buffering between mixed-use centers and adjacent neighborhoods.

of homes. The detailed zoning regulations for mixed-use centers will include high standards for design quality including urban design, quality and extent of public space and green spaces, and relationship to adjacent areas. Controls on the intensity and scale of development will include such techniques as Floor Area Ratio (FAR) limits, performance standards for the amount of paved areas and roof areas, and significant requirements for open space or common public areas. In addition, a process of review similar to that for the current Planned Employment Center (PEC) or Planned Development (PD) Zoning Districts would be required to guarantee such quality. Public meetings before the Planning Board would be part of the review process at the initial and later phases of such developments. The zoning regulations for such a mixed-use zone would be considered through a public hearing process before the Planning Board and the Zoning Board prior to the adoption of such zoning.

These mixed-use centers should not be confused with the major commercial centers described in Chapter 7: *Community Enhancement* (Box 7-1). These mixed-use developments will not be sites for regional shopping centers or strip commercial type development. However, some limited commercial activity geared to the needs of the residents and businesses within the mixed-use center should be permitted.

In addition to not allowing regional shopping centers or strip commercial development, the regulations for mixed-use centers also would not permit any heavy industrial uses.

The following policies are based on this review of housing and employment area opportunities, constraints and trade-offs.

## ***Policies and Actions***

Where these Policies and Actions can be mapped, they are reflected on Map 5-21.

***Howard County, in order to balance its extensive employment base with housing, will:***

### ***5.1 Increased Housing Intensities***

Designate specific areas for housing at somewhat higher intensities than currently shown, allowing for small lot, attached and multi-family units to be built over the next twenty years; approximately 4,500 to 6,000 additional units will result from this action.

### ***5.2 Substitution of Housing for Employment Areas***

Designate housing in areas currently identified for employment which have good potential to accommodate housing including small lot, attached and multi-family units over the next twenty years; approximately 3,500 to 4,000 additional units will result from this action.

(Policies relating to low and moderate income housing are addressed in the Housing section of this Chapter)

***Howard County, in order to optimize its employment potential and to balance its supply of employment land, will:***

### ***5.3 Retention of Strong Employment Areas***

Reaffirm the designation of current undeveloped areas with strong potential for employment.

### ***5.4 Reduction of Problematic Employment Areas***

Reduce the extent of employment areas with very problematic access; where these have good potential for housing, a new mixed-use development category will be developed. Approximately 350 acres are withdrawn from employment use through this action, significantly reducing potential site-specific traffic congestion problems.



## BALANCED GROWTH

---

### 5.5 *Support for Employment Areas*

Treat employment as a preferred land use when competition for road capacity is at issue. Use growth management techniques and economic development incentives to maintain commercial/industrial activity at the current 25% of the County's assessable base.

### 5.6 *Substitution of Employment for Housing Areas*

Designate specific existing undeveloped residential areas for employment use where their transportation and market accessibility, visibility, and overall economic development potential are very strong; approximately 100 acres of new employment opportunities are created through this action.

### 5.7 *Economic Development Plan*

Encourage development of a County Economic Development Plan in cooperation with the Office of Economic and Community Development, the Chamber of Commerce, the State Office of Economic and Employment Development and other appropriate parties.

### 5.8 *Economic Development Plan Components*

Development of an Economic Development Plan to include:

- Identification of the types of development which are programmed for different parts of the County.
- A list of requirements for each type of development necessary to provide the right kind and amount of land needed to meet the requirements of targeted development.

- A program to provide the public facilities (such as transportation) and public services (such as education and job training) that are needed to serve each type of development.
- A program to promote development and to create a business climate necessary to attract positive economic development and maintain competitiveness.

These policies and actions will create a more desirable balance between jobs and housing, allow more local residents to work closer to home, and provide more housing choices for low to moderate income workers. There is a net increase of 8,500 to 10,000 units of housing to be built by the year 2010. The timing and phasing of this increment will be subject to adequacy of public facilities requirements and, therefore, will not overburden supporting services. In the East, there is a net decrease in employment land of 200 acres, which should be balanced against the modest increase of employment land in the West of 100 acres as discussed in Chapter 4: *Preservation of the Rural West*.

An important check on the appropriateness of the land use balance in this Plan is their effect on traffic in the County. Shifting and redesignating land uses can cause new pressure points in the network. The brief references to future traffic conditions have thus far suggested an inevitable worsening of regional traffic. The question of significantly decreasing residential and non-residential intensities in Howard County in order to reduce traffic problems is a valid one which will be taken up in the next section on Transportation.

# Transportation

## Highways

Even if there were no growth in the County over the next twenty years, the traffic conditions would significantly worsen if current regional trends continue and no alternatives to the private auto are put in place. This is because a significant portion of the traffic on the major roads is through-traffic.

Map 5-5 shows the existing locations with deficient levels of service (see Box 5-6 for an explanation of this concept) on the major roads. It indicates that most roads in the County currently function acceptably during the peak hours. With the exception of locations in downtown Ellicott City and along US 29 between MD 32 and Owen Brown Road, relatively few locations exhibit severe traffic congestion (see Figure 5-20).

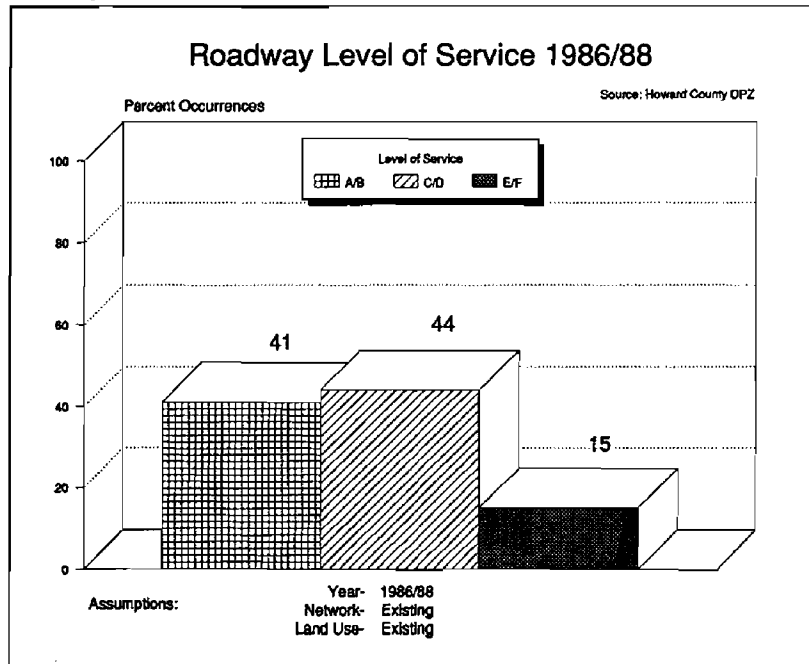


Figure 5-20

## Level of Service (LOS)

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:

- A - Level "A" is a condition with low traffic volumes, high speeds and free-flow conditions.
- B - Level "B" is a condition with light traffic volumes, minor speed restrictions and stable flow.
- C - Level "C" is a condition with moderate traffic volumes, where speed and maneuvering are restricted to a limited degree by the amount of traffic.
- D - Level "D" is a condition with heavy traffic operating at tolerable speeds, although temporary slowdowns in flow may occur.
- E - 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.
- F - 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.

Box 5-6



In order to project traffic conditions in 2010, all future roads that are likely to be constructed by then are included in the analysis. [In the figures, the existing and planned roads are referred to as "Existing Plus Committed Network."] New State and County roads assumed in these computer-modeled projections are County and State roadway improvements anticipated to be constructed by 2010, including projects which have been funded for planning, engineering, design, right-of-way, and/or construction.

Theoretically, assuming no additional residential or employment growth at all in Howard County, i.e., no new jobs or houses, the resulting road level of service is shown on Map 5-6 and in Figure 5-21. There is more than a doubling of roads that approach gridlock. On the North/South corridors, large portions of U.S. 29 will experience LOS E/F as compared to a previous LOS of A/B. I-95, north of MD 32, goes from A/B to a LOS of E/F, and U.S. 1 experiences E/F conditions as compared to a 1986/88 LOS of mostly

A/B. The Baltimore-Washington Parkway experiences increased congestion and a LOS of E/F.

For east-west corridors, there is some increased congestion. On I-70, from U.S. 40 east split to the Howard County boundary, LOS is lowered from A/B to C/D. The MD 103, MD 108 and MD 175 corridors are able to maintain their existing levels of service. This is due primarily to the additional capacity provided by MD 100 (at LOS C/D) that has absorbed the regional growth. Additional capacity on relocated MD 32 between MD 108 in Clarksville and Cedar Lane, improves that corridor from LOS E/F to A/B, indicating sufficient capacity to handle regional growth in traffic.

Compared to the 1988 situation, only 29% of roads will experience very good levels of service, and 34% will become very congested by 2010. This occurs because of regional increases in car ownership and vehicle miles travelled that far exceed the capacity of existing and new planned highways in the region (see Figures 5-22 and 5-23).

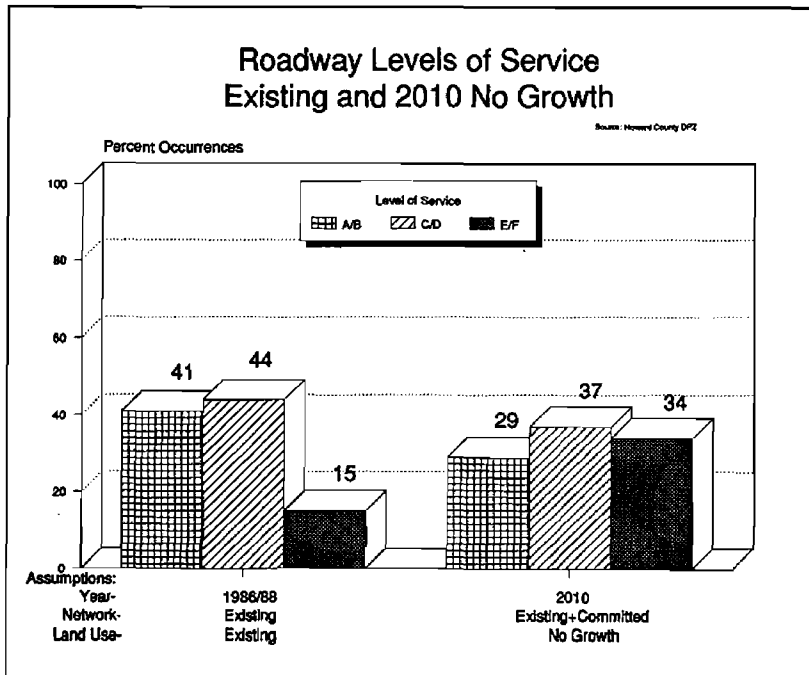


Figure 5-21

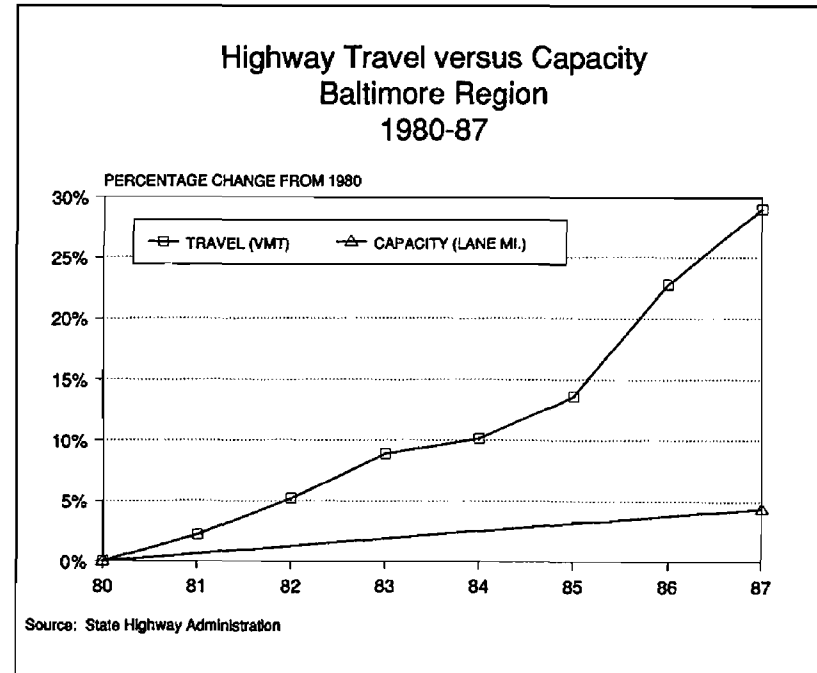
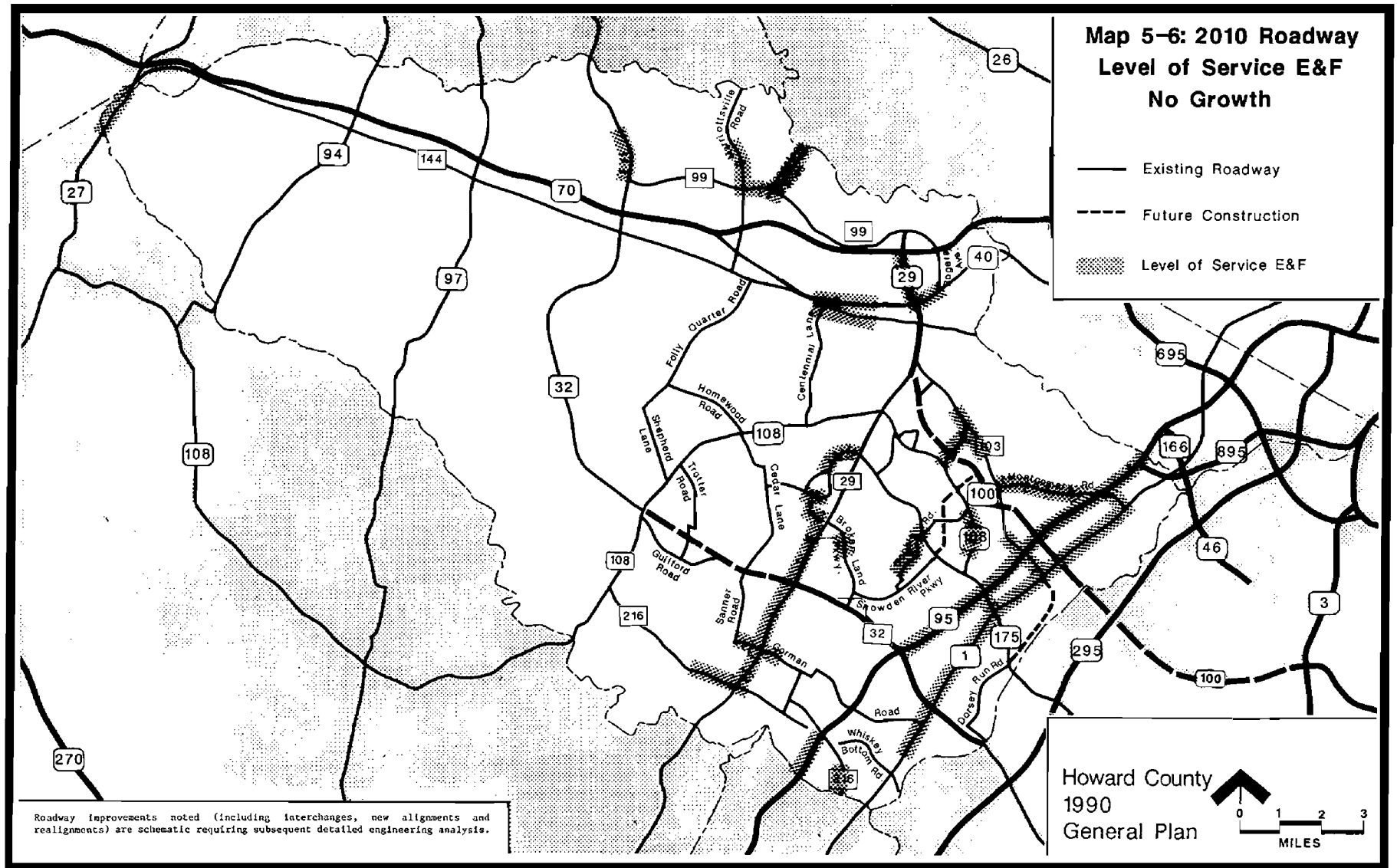


Figure 5-22

# BALANCED GROWTH



Map 5-6

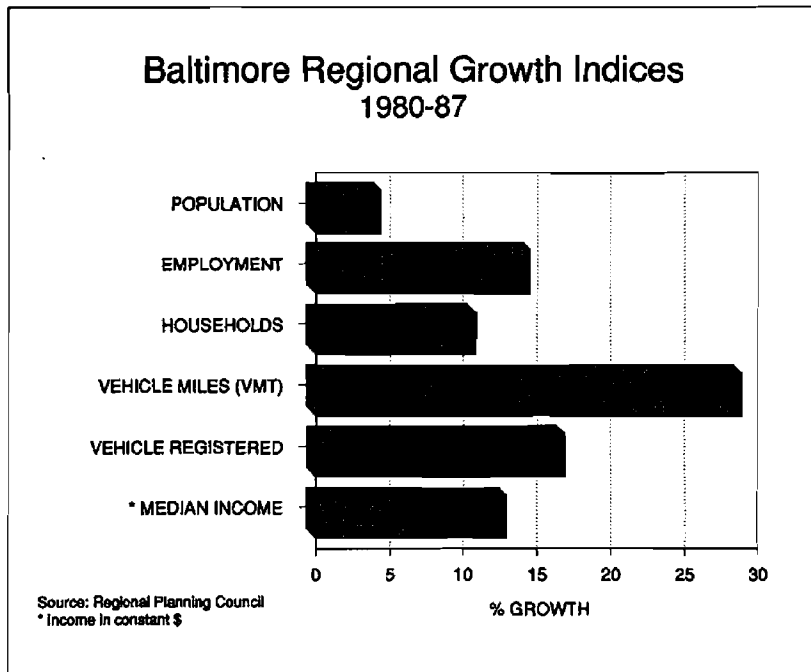


Figure 5-23

For example, daily commuting trips to the Washington, D.C. region from the Baltimore region numbered 75,000 in 1988; by 2010 they are projected to increase to 150,000.

Incorporating the land use changes that result from the implementation of the Land Use Policies and Actions on a network of existing plus committed roads yields the projected traffic conditions shown on Map 5-7 and Figure 5-24.

Adding in the County's growth to the region's shows worsening of road conditions. The north-south corridors deteriorate the most severely in the 2010 scenario. U.S. 29 and I-95 both become predominately LOS E/F from a current mix of LOS A/B and LOS C/D. U.S. 1 deteriorates to LOS E/F throughout most of its length. The Baltimore-Washington Parkway shows LOS E/F as compared to a 1986/88 LOS of C/D.

For east-west corridors, MD 100 becomes LOS E/F for the majority of its length. Paralleling MD 100, MD 108 and MD 103

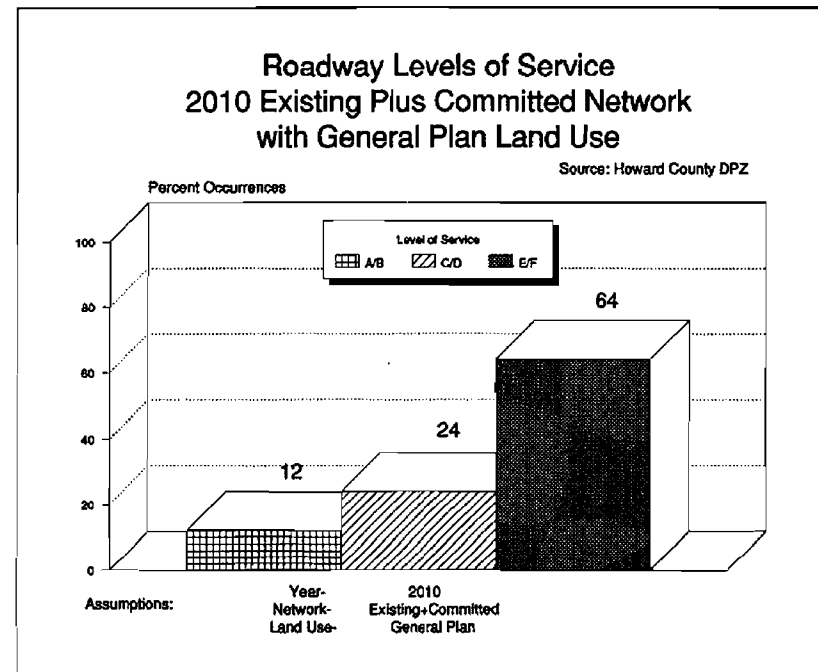


Figure 5-24

experience increased congestion with LOS E/F from US 29 to MD 104. MD 108 to the east of US 29 also experiences increased congestion, as does MD 175 going from LOS C/D to E/F. I-70 experiences substantially increased travel demand, but maintains LOS C/D, slipping from A/B. Only the portion of I-70 from US 40 to the eastern Howard County/Baltimore County boundary deteriorates to LOS E/F. Relocated MD 32 east of MD 108 in Clarksville has an excellent LOS of A/B until its intersection with Cedar Lane. From Cedar Lane east to its connection with the Baltimore-Washington Parkway, LOS MD 32 drops from existing A/B levels to E/F levels.

It is important to note that with or without County growth, the County's road network is likely to deteriorate. *The question is, can we afford not to grow?* As the fiscal analysis makes clear,\* without

\* See both the *Development Trends and Fiscal Impacts* Chapter of the Appendices and the section on Fiscal Impacts in Chapter Eight: *Phased Growth* of this Plan.



any growth, particularly employment growth, the County will suffer severe fiscal deficits. Therefore, employment must be encouraged to complement residential growth. The key questions are how much can the County afford to grow, at what tempo, and how will it be paid for? These questions are dealt with in Chapter 8: *Phased Growth*. It would be foolhardy to let our potential road capacity simply be usurped by regional through-trips without any benefit to the County's fiscal stability.

Obviously, however, future traffic conditions, as poor as those in the foregoing description, would create an *unacceptable* future. What must be done then to ensure that our future roadway level of service will be like the existing good levels of service?

There are key existing roads and interchanges and new roads that will be required to be improved or built. Map 5-8 identifies these roadways and related interchanges.\* (See Box 5-7.) These improvements and interchanges are shown schematically in Map 5-8 and will require further engineering and environmental studies and evaluation of community impacts before exact design location can be determined. When the 2010 land use/transportation computer model is run with the key road and safety improvements, a very marked improvement in the level of service on the roadways is projected; 36% rather than 64% of the roads are congested (see Figure 5-25). As stated earlier, the goal of these efforts to maintain levels of service is to sustain employment and related housing development.

\* Two policies guided the selection of future roads:

- 1) Use of existing rights-of-way wherever possible to minimize intrusion into existing subdivisions, neighborhoods and communities.
- 2) Development of new alignments and reservation of future rights-of-way only where existing rights-of-way could not be used and where the new alignments would provide sufficient capacity to serve the required function in the road network (freeway, arterial, collector).

## Roadway Safety Improvements in the East

In our discussion of roads in the West, local roads were identified that have safety issues not directly related to capacity deficiencies. The same holds true in the East. These safety issues will worsen with additional development. An illustrative listing of some 2010 safety improvements for the East are: All Saints Road, Bethany Lane, St. Johns Lane, Murry Hill Road, Gorman Road, Montevideo Road, and Sheppard Lane.

Box 5-7

### Comparative Level of Service: 2010 E+C versus 2010 General Plan Networks

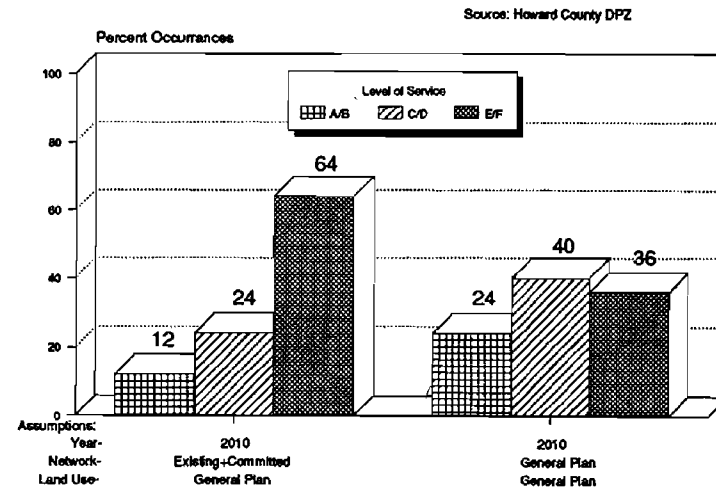
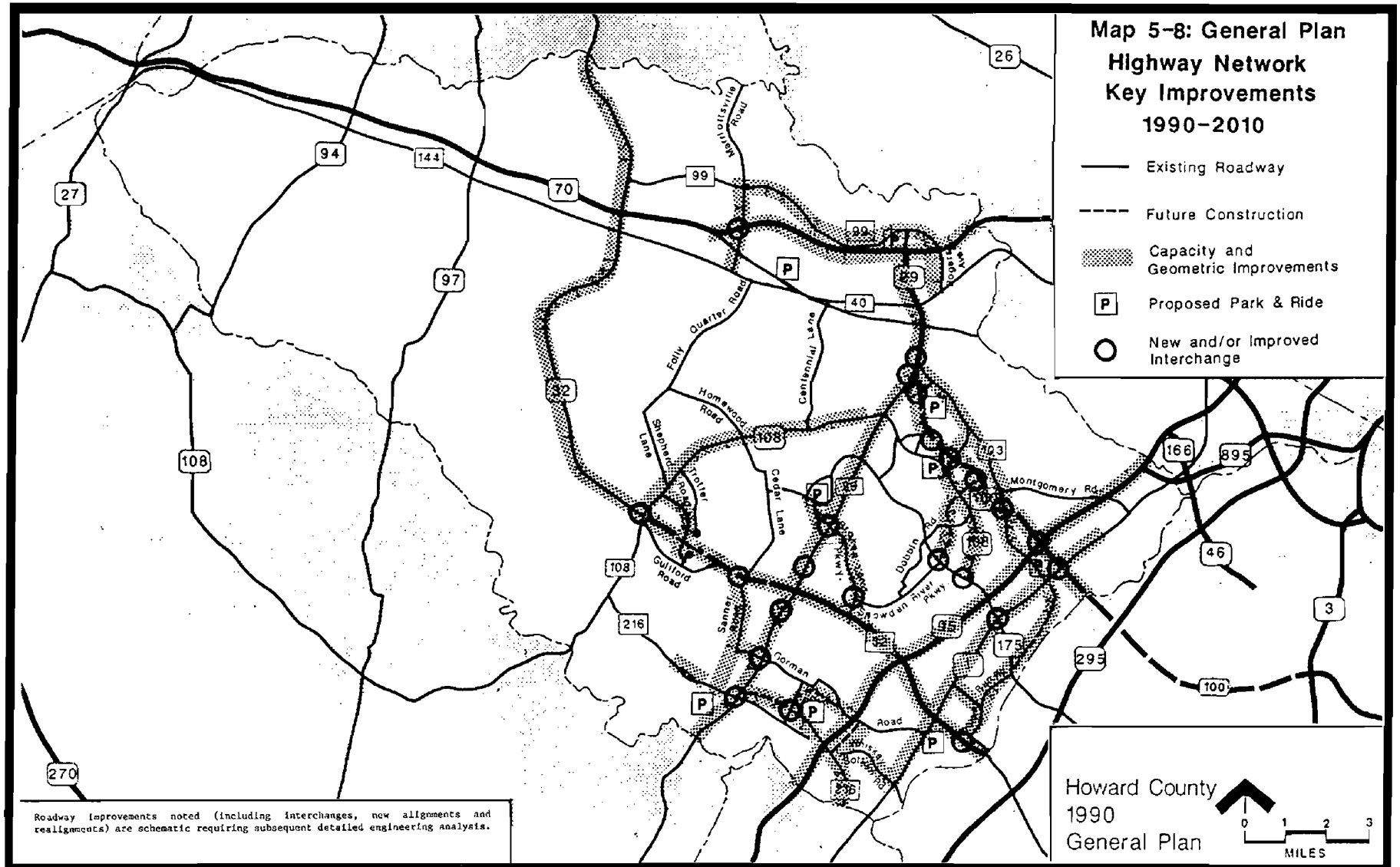


Figure 5-25



# BALANCED GROWTH



Map 5-8

The road improvements proposed in this General Plan over the next 20 years will significantly improve traffic conditions above those which would occur under the Existing plus Committed (E+C) network. The location of projected areas of improved roadway level of service (LOS) resulting from the General Plan capacity and geometric improvements are shown on Map 5-9. Of note are those roads in the eastern portion of the County which will improve from an unacceptable LOS E/F to an acceptable level of service C/D, or in a few instances to A/B.

From Marriottsville Road to the Baltimore County/Howard County line, I-70 is projected to improve from LOS E/F to C/D. Additional capacity included in the Plan for MD 99, causes the level of service to improve from E/F to A/B from Marriottsville Road to US 29 and from US 29 to relocated Rogers Avenue. The relocated section of Roger Avenue also improves to LOS A/B from the LOS E/F of the existing Rogers Avenue. Along US 29 from MD 100 to US 40, the recommended General Plan improvements cause the projected level of service to improve from E/F to C/D.

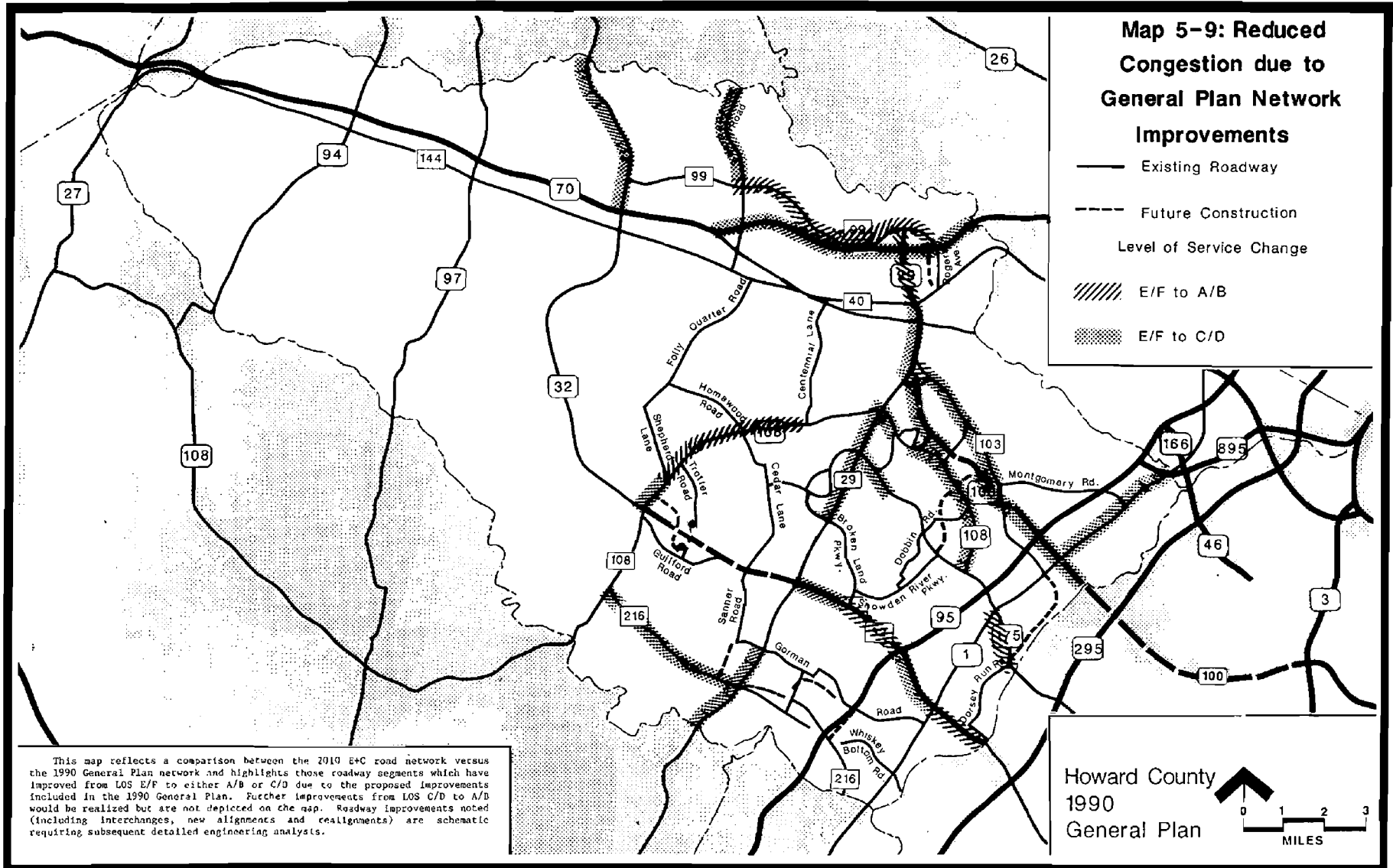
For the MD 100 corridor (composed of MD 100, MD 103, MD 108, MD 104 and MD 175), the General Plan improvements yield very gratifying results. Almost all areas in the corridor which would otherwise be at LOS E/F improve to LOS C/D, or even to A/B in several situations. MD 32, from US 29 to US 1, improves from LOS E/F to C/D and is able to carry an increased volume of traffic. At the Planned Service boundary, MD 108 from Homewood Road to Guilford Road benefits from proposed capacity improvements and LOS improves from E/F to C/D.

With this enhanced General Plan network in place, the location of projected areas of congestion is shown on Map 5-10. While the outlook is considerably better than that shown on Map 5-7, which excludes the General Plan road improvements, there are, nevertheless, a number of problem areas. Of note on the map are the north-south corridors in the eastern part of the County. Virtually all of the I-95 corridor, including I-95, US 1 and MD 295 (the Baltimore-Washington Parkway) will still have a failing LOS of E/F. The other critical north/south roadway, US 29, has still a failing LOS throughout its length in Howard County from Broken Land Parkway to Johns Hopkins/Gorman Road.

As noted, the future congestion is projected to continue on major regional roadways. Regional solutions are needed to address this issue. The most relevant state initiative is a two-state bypass from northern Virginia around Washington, D.C. and Howard County to connect with Baltimore County (see map 5-11). Certainly the western bypass option which uses I-70 as a link in the Washington area bypass, would be disastrous for Howard County. It would use I-70 to take this new north-south interstate traffic, as well as the existing east-west traffic, to the Baltimore Beltway, completely absorbing the capacity of I-70. It would also create tremendous pressure for land use change in western Howard County. Fortunately, the State of Maryland's position strongly favoring the eastern bypass coincides with Howard County's view. Virginia, however, tends to favor the western bypass.

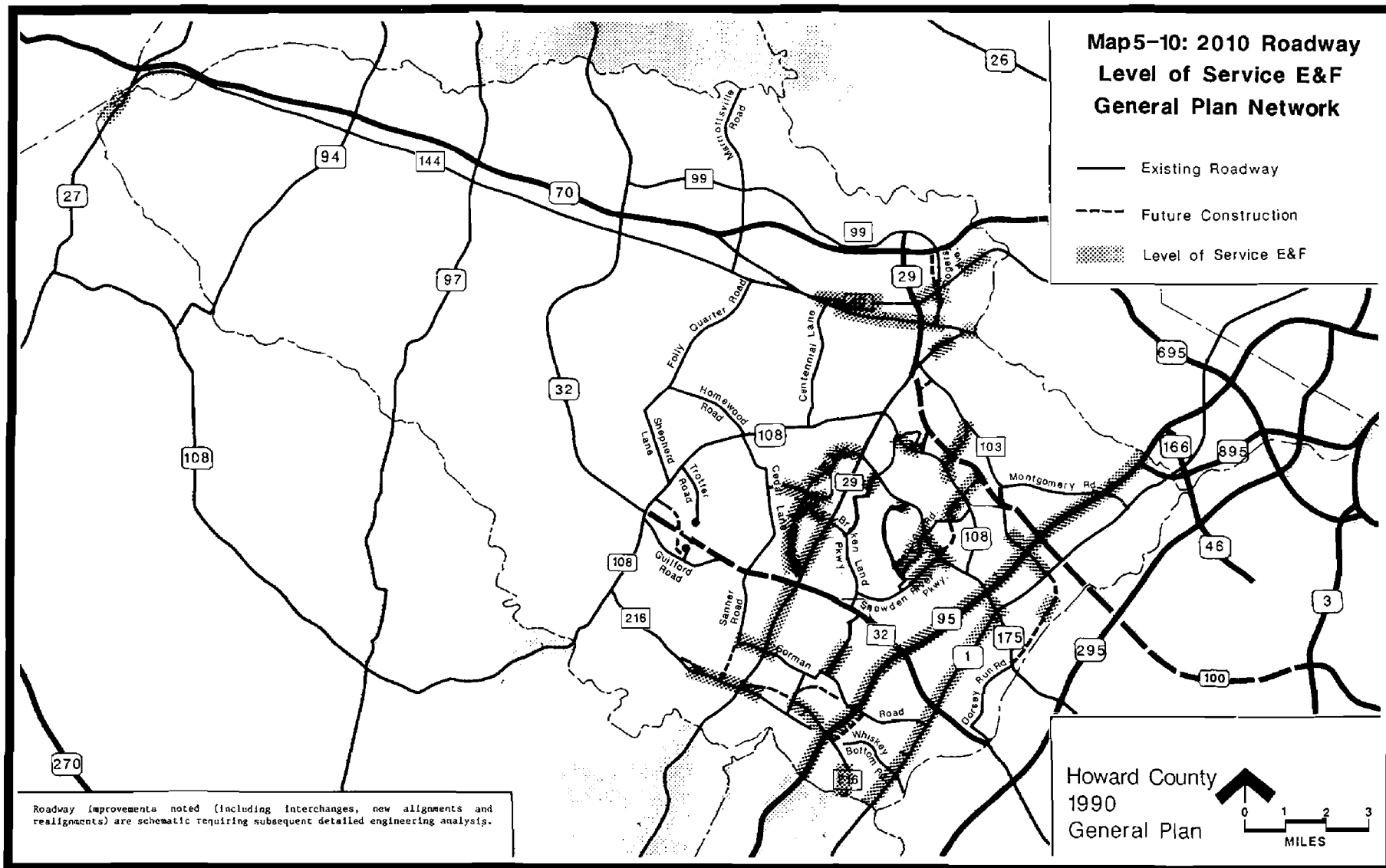
Assuming the eastern bypass is built by 2010, the State estimates that it would divert about 26% of the through-trips from the I-95/Baltimore Washington Parkway corridor, many of them truck trips. This would help because I-95 is proposed to increase from approximately 118,000 to 164,000 daily trips by 2010 (assuming no improvements to I-95). The diversion of 26% of all north-south corridor trips will buy some time for the region, but these numbers underscore the importance of implementing alternative means of transportation on I-95 such as HOV or bus lanes.

# BALANCED GROWTH

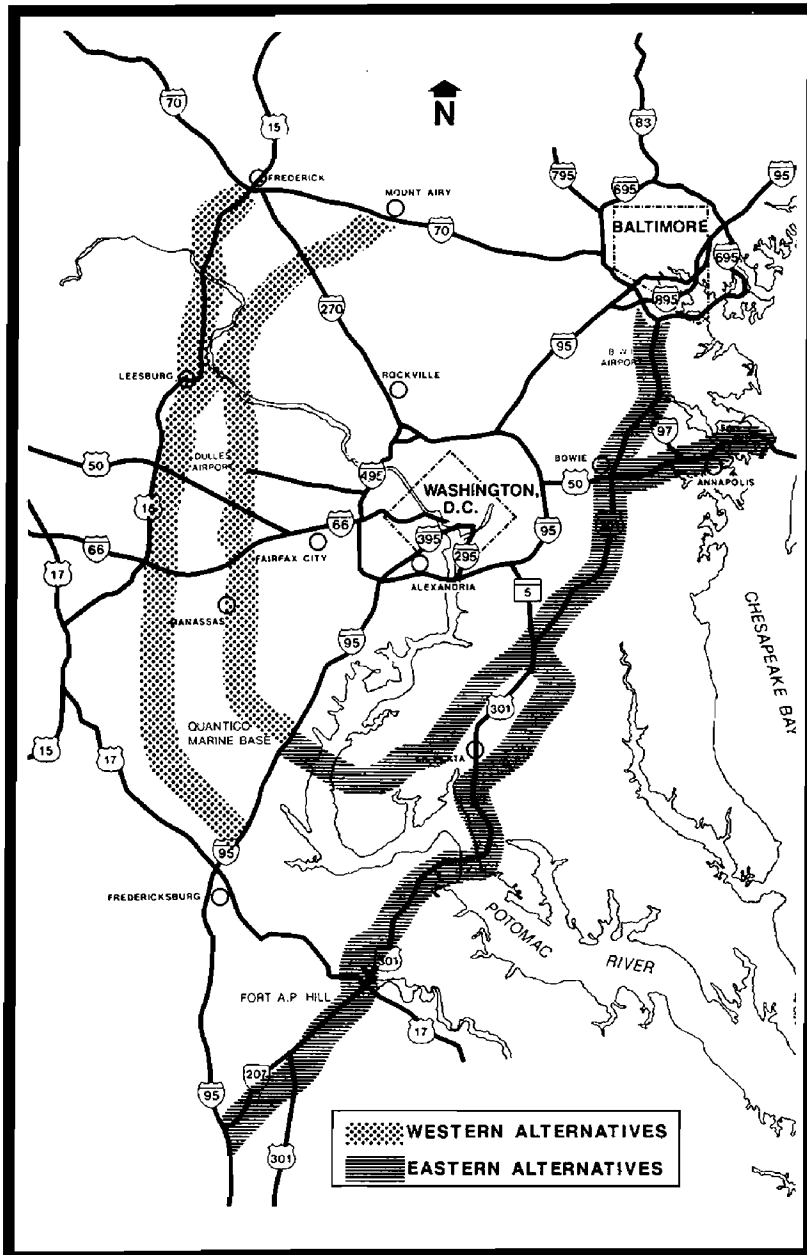


Map 5-9

# BALANCED GROWTH



Map 5-10



Map 5-11

## Transit

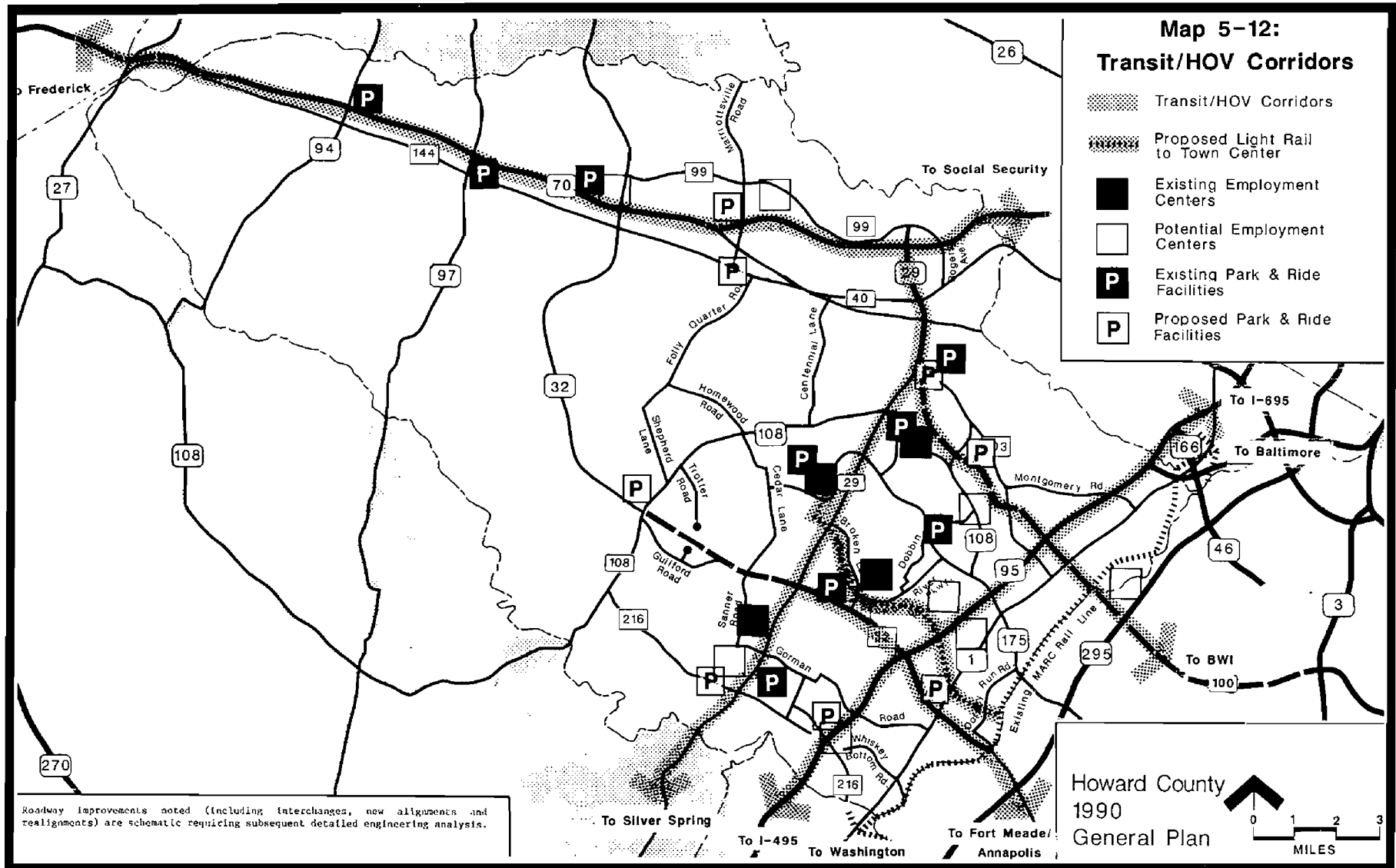
Planning for transit is an essential aspect of planning for balanced growth. Not coincidentally, the congested roads in the 2010 General Plan road network correspond with corridors identified in the chapter on *Responsible Regionalism* for future transit service. The newly-designated employment and residential areas also relate directly to these transit corridors (see Map 5-12).

It is very difficult to quantify the extent of relief that mass transit and related strategies (e.g., buses and HOV) may bring to our road network. Experience around the country suggests that from 5% to 15% of work-trips can be diverted during rush hours from automobiles to higher occupancy vehicles in suburban situations. The amount of diversion depends, in part, on whether transit is provided by high occupancy vehicle lanes (see Box 5-8), buses, busways, light rail, or heavy (or commuter) rail. Each of these modes provides for progressively greater ridership. Each, however, is progressively less flexible as far as routing and frequency of stops is concerned. They also are on a spectrum of increasing cost.

The importance of identifying, acquiring and building park-and-ride lots for carpooling, and eventually other forms of transit, is critical. Existing and future areas for park-and-ride lots are shown on Map 5-12.

Other techniques can also be effective in improving traffic situations and encouraging a shift to higher-occupancy vehicles, such as car pools, buses or rail. These include commitments to flextime work hours by employers, reducing the required parking requirements for developers who commit to carpooling/vanpooling programs or to Transit Management Associations (TMA), charging for parking, etc. 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, outside of very specific places like Ellicott City and downtown Columbia (See Box 5-9).

It is important to utilize each transit mode to its maximum efficiency and cost effectiveness within the context of a broad spectrum of transportation needs and dependency. This is particularly true of intra-county bus services which, in addition to serving the general population, provides an essential service to a number of special transportation-dependent populations. In addition,



Map 5-12

## High Occupancy Vehicle Facilities

High Occupancy Vehicle (HOV) lane(s) is a lane or 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 critically 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 overall efficiency of the highway system.

Box 5-8

a number of the County's goals and policies with regard to affordable housing and human services are dependent upon access to public transportation.

As noted in the introduction to this chapter, an efficient public transportation system will be especially significant as the County grows. To insure development of a system which will facilitate employment and stimulate economic development and increase the opportunities of transportation-dependent persons—the elderly, lower income individuals, persons with disabilities, and youth—to be fully participating members of the community, requires that Howard County develop a comprehensive, integrated transportation plan based on:

- needs analysis and assessment
- evaluation of present quasi-public transportation services

## Short-term Transit Initiatives

- Expand commuter bus service to Baltimore and Washington providing increased transit service to the U.S. Route 1 corridor, Columbia and Ellicott City.
- Select a site for a multi-modal transit center within Columbia to permit the transfer of local and regional bus, taxi and airport limo services and the connection to MARC commuter rail services.
- Select a site for a vehicle maintenance facility to service local and regional bus needs.
- Coordinate routes among local transit providers in order to assure a more comprehensive network and to reduce transfers and transit travel time.
- Contract with the Metropolitan Washington Council of Governments (MWCOCG) to participate in their regional carpool/vanpool program that matches riders and drivers with the same or similar communities and places of work.
- Establish a Transit Management Association (TMA) of local, major employers to assist area commuters to locate and utilize the most convenient, fuel-efficient and cost-effective modes of transportation available.

Box 5-9

- profile study of current and potential system users
- a statement of public transportation goals for Howard County
- evaluation of existing resources including management and operating expertise and experience, rolling stock and other capital assets, maintenance facilities, computer systems, and current and potential funding sources of the existing fixed route and para-transit systems.
- development and evaluation of optional organization, management and funding models appropriate to the mix of urban, rural and suburban characteristics of development found within the County.

The Plan will also present implementation strategies and options to achieve a public transportation system which meets the County's public transportation goals.

The Policies and Actions that derive from the background and issues discussion on transportation are:

## ***Policies and Actions***

Where these Policies and Actions can be mapped, they are reflected in Map 5-21.

***Howard County, in order to maintain acceptable traffic conditions through the year 2010, will:***

- 5.9 Road Improvements**  
Pursue the construction of road improvements shown on the Highway Map of this General Plan.

- 5.10 Acceleration of State Roads through Incentives**  
Provide incentives to the State Highway Administration to accelerate and enhance its road-building program in the County.

- 5.11 Support of Eastern Regional Bypass**  
Support the eastern alignment of the I-95, Virginia-Delaware bypass.

***Howard County, in order to reduce commuter dependence on the automobile, will:***

- 5.12 Transit Corridors**  
Initiate or increase transit service on the priority corridors identified on the Policies Map of the General Plan

- 5.13 Highways to Accommodate Transit**  
Ensure that future highways in transit corridors do not preclude transit service.

- 5.14 New Development to Accommodate Transit**  
Coordinate future development in such a manner as to promote transit ridership potential by reviewing new developments for their ability to accommodate buses, requiring that space be reserved for transit stops in major employment and mixed-use centers, and reserving transit rights-of-way within higher density centers.

- 5.15 Transit Management Association**  
Establish a Transit Management Association (TMA) of local major employers to assist area commuters to



## BALANCED GROWTH

---

locate and utilize the most convenient, fuel- efficient and cost-effective modes of transportation available.

### **5.16 *Park and Ride Lots***

Identify and assist in the acquisition of future park-and-ride lots to support transit corridors; such actions are to include cooperative arrangements with private development, e.g., shared use of shopping center parking lots.

### **5.17 *Bikeway and Bike Stations***

To provide bike paths and bike racks and lockers at rail stations and/or park and ride lots within the Planned Service Boundary Line.

***Howard County, in order to reduce dependence on the automobile for intra-county travel and to serve the needs of transportation-dependent populations, will:***

### **5.18 *Public Transit Modeling***

Use state of the art modeling techniques to develop a comprehensive plan for an integrated public transportation system.

### **5.19 *Transit Funding***

Explore additional public and private funding sources for public transportation to insure levels and quality of both fixed-route and para-transit service appropriate to need and cost efficiency.

# Housing

## Introduction

When Housing was discussed in the Land Use Section, the need for additional "affordable housing" - be it small lot single-family detached, attached or multi-family housing was mentioned. This need was related to the County's employment growth and its demand for low and moderate income workers. Thus the needs stated and projected in this section do not reflect the existing undersupply of affordable housing in the County, nor the future need for persons who for a variety of reasons are not included in employment related projections. (See Figure 5-27 for an estimate of the current unmet need.) To the degree that a meaningful proportion of such workers can be housed in the County, economic development prospects are improved and job growth is assured. 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 for residents who are now renters to become homeowners are also provided.

In the earlier discussion, neither employment-related low/moderate income housing needs, nor broader social goals such as meeting existing and future demands for low/moderate income housing in the County were quantified. These needs are quantified in this section and specific housing targets are set based on the County Administration's existing housing policy (see Box 5-10).

## Establishing Low/Moderate Housing Needs

The target that emerges from the analysis of employment relate projections is approximately 5,300 low/moderate income units over 20 years or an annual average of 267 such units. The way in which these numbers are derived is explained in some detail in Box 5-11. In general terms, the method used was as follows:

- From census data on salaries, derive the percentages of low and moderate income workers in Howard County

- Assume stability in our occupational mix into the future and apply these percentages to future jobs
- Convert these future low/moderate income workers into low/moderate income households
- Establish the percentage of these low/moderate income workers the County will strive to house

Note that these calculations do not address any present unmet County need for low/moderate income housing and are focused instead on future needs. Current needs are met in part by the County's existing housing programs, whose 3,420 assisted units make up approximately 5% of the housing stock (see Figure 5-26).

A 1989 Housing Conditions Survey by Morton Hoffman and Company, Inc. which looked at overall need rather than employment-

	Units	
OWNER	511	Variety of State Programs administered through the State Community Development Administration (CDA)
	14	Nordau Homeowner Project
RENTER	1,617	Section 8 Units - new construction
	94	Hilltop - County owned and developed public housing
	792	Units financed through Industrial Revenue Bonds - 792 represents 20% of all units which are set aside for moderate income households
	392	Section 8 Certificates and Vouchers
TOTAL	3,420	Approximately 5% of Housing Stock. Total is the accumulation of 20 years of programs.

Source: Ho. Co. Office of Housing & Community Dev.

Figure 5-26

## BALANCED GROWTH

---

based need, concluded that the existing unmet low/moderate housing need is approximately 2,500 units—70% more than the currently provided assisted housing (see Figure 5-27). The same study found only approximately 230 substandard housing units in the County (see Box 5-12).

Can the County achieve the 267 unit future annual "need" generated from the employment-based analysis?

### Housing Policy of the Howard County Administration (August, 1988)

1. Housing Choice: Howard County shall provide programs which promote Housing Choice. Housing Choice should include alternatives in location, housing style and price, including rental and ownership.

Howard County will design its programs to assure that the priority use of available funds is directed to those members of the population who are not able to be served in the housing market without government intervention.

2. Homeownership: Howard County will seek to enhance opportunities for homeownership for low and moderate income individuals and families, which are not being adequately served by current market choice.

Howard County will utilize available State and federal programs and, if necessary, create locally funded programs to expand the ability of renters to purchase housing resources.

3. Rental: Howard County programs shall encourage the production of rental housing units which can be utilized by persons with a diversity of incomes, ranging from those who need income assistance to those who have free choice in meeting their housing needs.

4. Fair Housing: Howard County will assure that each segment of its population has fair and equal access to housing, both sale and rental, which it can afford.

5. Housing Rehabilitation: Howard County shall seek to conserve its available housing stock by providing rehabilitation assistance.

Howard County will assure that no licensed rental unit will be occupied unless it meets basic local housing codes. Howard County will strive to assure that the

existing, owner occupied housing stock, in need of weatherization or rehabilitation, is provided with opportunities to obtain funding for such repairs.

6. Distribution of Assisted Housing: Howard County shall assure that its programs providing assisted housing opportunities are not concentrated in any neighborhood or community. It shall be the policy of the County to encourage all new rental complexes to provide 10 to 20% of its units for persons/households with income of less than 60% of area median income.

7. Special Populations: Howard County shall enforce State and local requirements for the provision of dwellings accessible to the disabled persons. Howard County shall encourage the design of units which are adaptable to special use circumstances at the time of occupancy.

Howard County shall also encourage the development of residential units available to serve the needs of special populations, including those in need of supervised housing because of age, or mental or physical conditions.

8. Support Services: Howard County shall develop a system for providing support services such as social services, information and referral and housing counseling to enable residents utilizing Assisted Housing to seek a means of achieving independent, self sufficient living.

9. Homelessness: Howard County shall provide facilities for providing temporary and transitional shelter to persons who are homeless. Shelter assistance should be accompanied by counseling and other services to assist the person/households to achieve independent, self sufficient living.

Box 5-10

### Howard County Needs Estimates for Low and Moderate Income Housing

From Census data on wages for workers in Howard County, it is estimated that about 25% of these workers' households would fall into the low-income category and 15% into the moderate-income category.\*

Since the occupational mix in the County remained very stable between 1980 and 1988, it is assumed that this distribution of workers and income would also remain stable out into the future. Therefore, the figures of 25% and 15% were applied to future job-growth to establish parameters of housing "need":

55,000 projected new jobs by 2010 x 25% = 13,750 low-income jobs  
 55,000 projected new jobs by 2010 x 15% = 8,250 moderate-income jobs  
 Total = 22,000 jobs

The above represents workers filling jobs in Howard County, not necessarily resident workers.

The next step is to divide the number of jobs by the number of workers per household to yield households. Different surveys and data sources have produced varying numbers of jobs per household in the County ranging from 1.53 to 1.78. These were averaged out at 1.65 (this includes full and part-time employment). Applying this figure yields a total of 8,333 future low-income households and 5,000 moderate-income households, for a total of 13,333.

Next, the number of these County workers likely to live in the County is estimated. Since about 40% of residents both live and work in this County, applying this same percentage for low/moderate income workers provides a need for 3,333 low-income households (25%) and 2,000 moderate-income households (15%), for a total County "need" of 5,333 low/moderate income households over 20 years, or 267 households per year for 20 years.

\* The Baltimore Region's Median income in 1988 was \$37,700 for a family of four; therefore, a moderate-income family of four would earn \$30,160 (80% of median) annually and a low-income family of four, \$18,850 (50% of median).

Box 5-11

### Howard County's Unmet Housing Needs in 1989

2,650	Estimated number of renter households paying 35% or more of income for rent (690 elderly households are included in this category)
98	Households living in deficient or substandard units
240	Households living in crowded units (includes 45 elderly households in deficient/ substandard or crowded units)
2,988	Total unmet housing needs (includes low/moderate handicapped/disabled persons)
-450	Assisted units under construction or proposed as of November 1989
2,538	Current unmet needs estimate

Source: Housing Conditions Survey, 1989. Morton Hoffman and Company, Inc.

Figure 5-27

### The Potential for Meeting the County's Low/Moderate Housing Needs

This need should be looked at in light of the number of remaining units to be built in the County.

Excluding the approximately 19,000 housing units already recorded or in the development process, the County has, under current zoning, approximately 19,200 future units (see Figure 5-28). The 10,500 units by the year 2010 from proposed new housing area designations, make a total of 29,700 remaining units. Dividing this total of 29,700 units by 20 years results in 1,485 annually. The 19,000 units that are recorded or in-process would be equivalent to 950 units annually for a combined average General Plan total of about 2,435 units over 20 years.

The needs target of 267 units represents 18% of the assumed annual production of new, uncommitted units, and is a very aggressive goal.

### Rehabilitation of Substandard Housing Units

The 1989 Housing Conditions Survey by Morton Hoffman and Company, Inc. found 230 deficient housing units and/or mobile homes in Howard County. This is a very low number reflecting the young age of the County's housing stock and the strength of the housing market. For example, the consultant reported a "For Sale" sign outside a home posted as "Unsafe for Habitation." Of the 230 units, 119 were occupied, 98 of them by low and moderate income households. Even if all deficient units were rehabilitated, it would not have a significant impact on the County's low and moderate income housing need.

The County's housing stock will, however, continue to age. In 20 years, a significant percentage of County housing will be 40 years old and may require rehabilitation. This housing may provide a future resource for the County. For example, through reverse-equity\* programs now used primarily by elderly households who may be equity-rich but cash-poor, the County could acquire housing for a variety of purposes such as for low and moderate income households, special populations, single parent households and the homeless.

\* In a reverse-equity program a home is sold to an investor, government or non-profit group. The seller is allowed to remain in the home until his or her death and, in addition, receives an income based on the value of the home.

Box 5-12

Assuming the current stock of housing for 3,420 subsidized households is retained (see Box 5-13 for detailed discussion), what kinds of programs could be used to annually produce 267 low/moderate income units?

Box 5-14 sets forth a tentative program yielding 260 units annually. Initiatives which produce owner or renter housing are differentiated. The 1989 Housing Conditions Survey referred to above suggests that the future owner/renter need split is about even.

### Existing Supply of Low and Moderate Income Housing at Risk?

Of the County's 3,400 assisted units, 2,400 are in developments which were built with federal or State government assistance through Federal Housing Act new construction programs, such as Section 8, or financed with Industrial Revenue Bonds.

Under the programs, which began in 1970, contracts were signed whereby a percentage of the units in the developments were set aside for low and moderate income households for a number of years. Beginning in 1991 and throughout the 20 years following, housing projects covered by these programs will reach the time when owners will become eligible to pre-pay mortgages and "opt-out" of their contracts which set aside units for low/moderate income housing. Owners could then sell the units or convert them to market rate rents.

There has been action on the federal and State level to address this issue. For example, the State Assisted Housing Preservation Act passed in 1989 requires owners to give local jurisdictions and non-profit organizations first option to purchase certain federally assisted potential "opt-out" projects. At the federal level, tenants of existing Section 8 housing where owners plan to exercise the "opt-out" option may be able to become Section 8 certificate holders. In addition, existing Section 8 certificates may be renewed. (Certificate holders can seek unsubsidized housing on the open market. The program pays the difference between 30% of the certificate holder's income and the actual fair market rent paid.)

Because of the importance of the existing supply of assisted housing to the County's needs, the County will need to closely monitor the status of all these assisted units and be prepared to intervene to preserve the low income units when projects are proposed for conversion during the life of the General Plan.

Box 5-13

**Howard County Current Housing Mix, Buildout Under Current Zoning and Buildout Under 1990 General Plan**

	1 Existing Units 1/90 (estimated)	2 Recorded/ Undeveloped 1/89	3 Units in Development Process 10/89 (1)	4 Remaining Uncommitted Units (Column 5 minus 1+2+3)	5 Buildout- Current Zoning (Columns 1+2+3+4)	6 New 1990 General Plan Units	7 Total Remaining Uncommitted Units (Columns 4+6)
<b>HOUSING UNITS</b>							
Single-family detached	36,614	6,211	6,061	13,709	62,595	1,453	15,162
Small lot single-family detached and single-family attached	13,008	1,385	1,878	4,023	20,294	5,922	9,945
Apartment	16,780	2,279	598	1,170	20,827	3,172	4,342
Mobile Home	1,598	430	0	283	2,311	0	283
<b>TOTAL</b>	<b>68,000</b>	<b>10,305</b>	<b>8,537</b>	<b>19,185</b>	<b>106,027</b>	<b>10,547</b>	<b>29,732</b>
<b>UNIT DISTRIBUTION</b>							
Single-family detached	54%	60%	71%	70%	59%	14%	51%
Small lot single-family detached and single-family attached	19%	14%	22%	21%	19%	56%	33%
Apartment	25%	22%	7%	7%	20%	30%	15%
Mobile Home	2%	4%	0%	2%	2%	0%	1%
<b>TOTAL</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

(1) Units in Development Process total of 8,537 is the actual number as of November 1989. The exact breakdown by type cannot be given because some projects are in early stages of the development process. Therefore, the breakdown of pipeline units was assigned: by subtracting columns 1 + 2 from column 5 and applying the remainder percentages to the in process total of 8,537.

Source: Howard County Department of Planning and Zoning

Figure 5-28

## Potential Future Annual Low and Moderate Income Housing Yield from a Range of Programs

	Owner Program	Renter Program	Owner & Renter Program
Inclusionary Zoning Program - MPDU's per year (1)			100
Employer Assisted Housing (2)			20
Non-profit Developers (3)		10	
Community Development Administration (CDA) Mortgage Purchase (4)	50		
Housing Authority Acquired/Rent to Own Program (5)			15
Mortgage Interest Credit Loan Program (6)	40		
Increased Flexibility in Zoning Regulations (7)		15	
Minimum Basic Housing (8)		10	
<b>Totals</b>	<b>90</b>	<b>35</b>	<b>135 = 260</b>

**Notes:**

1. Inclusionary zoning program - for example, Moderately Priced Dwelling Unit (MPDU) program requiring that 15% of units in market rate developments 25 units or larger be set aside for low/moderate households.
2. Units to come from various employer assisted housing programs (See Box 5-15).
3. Units to be developed by non-profit developers such as the Columbia Housing Corporation.
4. State Department of Housing and Community Development program offering below market rate mortgages - usually to first time homebuyers.
5. County's proposed Housing Authority would acquire existing housing, develop new housing and administer innovative programs such as the Rent to Own Program -- a housing lease purchase requiring no down payment.
6. Proposed County program providing below market rate mortgage funds for first time homeowners.
7. Increased flexibility in zoning regulations to encourage more affordable units.
8. State Department of Housing and Community Development proposal requiring cooperative State, County and private sector action to provide basic housing for very low income households.

The County currently is approximately 70% owner/30% renter; absent intervention, this split would move towards greater homeownership given the current mix of units remaining in the County. Box 5-13 includes a broad mix of private and public sector programs. Some of the programs, incentives or regulations exist and some do not. Some may require State enabling legislation. Some will be controversial. These aggressive programs demonstrate how difficult it will be to achieve a target for low/moderate income housing commensurate with the County's needs.

In view of the County's overall housing needs, including the current unmet need, it will be necessary for the County to accelerate low and moderate income housing acquisition, production and/or assistance in the early years of the Plan. The overall 20 year needs target of 5,300 will be periodically reassessed at least every five years and increased if necessary and feasible.

The County Executive, in November, 1989, introduced a set of housing initiatives which is expected to yield 228 low/moderate income units. In addition to the phasing-in of these initiatives, the following policies and actions are essential to address the County's low/moderate income housing need.

### Housing for the Elderly and Disabled

The County's housing needs analysis (Box 5-10) is based on future employment growth. The 5,300 target that emerged is the overall General Plan target for the County's low and moderate income housing. The needs of special populations, including the elderly and disabled, have been incorporated into the proposed housing programs (Box 5-14). Special populations may have additional needs over and above targets and programs set forth in this Plan.

The 1989 Housing Conditions Survey by Morton Hoffman and Company, Inc. (draft February, 1990), includes analysis of the housing needs of the County's elderly and disabled households in relation to the housing stock. In 1989, there were an estimated 6,280 elderly (over 65) households in the County. The number of elderly households is projected to increase to 11,710 by 2000.

Survey data showed that over 70 percent of the elderly owned their homes outright. Close to 3,600 elderly households were

estimated to be in the moderate income category. Approximately 28 percent of the County's deficient/substandard units were headed by elderly persons.

Elderly persons frequently require specially designed units and, for some, housing problems can be complicated by relatively low fixed incomes. As the elderly population increases, the housing problems of some elderly will worsen. Some may need special health services or living arrangements not available in conventional housing.

The County's disabled population was estimated to be 4,200 in 1989. Close to 4,000 Howard County households had disabled members; elderly households made up approximately 18 percent of this total. Some disabled households are low and moderate income.

Disabled persons may have three types of structural and housing needs: 1) modification of existing units for handicap-accessibility, 2) provision of handicap-accessible units, and 3) provision of supervised group homes for mentally or developmentally disabled persons to live independently of their families. The Housing Conditions Survey found a mismatch between the ability of some disabled households to benefit from modified units and the lack of affordability or lack of marketing of available units. In addition, special populations are often transportation-dependent to a much greater degree than the general population. Planning for housing and transportation for the elderly and persons with disabilities and lower income individuals must be closely coordinated. (See also the section on Health Services in *Balanced Growth*.)

## *Policies and Actions*

### *Howard County, to maintain the existing supply of subsidized housing, will:*

#### *5.20 Preserve Existing Subsidized Housing*

Develop an effective monitoring and intervention system for federally-financed assisted housing projects to ensure strict compliance with all federal and State requirements concerning conversion of



## BALANCED GROWTH

---

such units to market rental rates. The County must be prepared to act to preserve its existing supply of low and moderate income housing, and should develop an action plan within the context of State law giving the first right of purchase to local governments and non-profit corporations, so that the County can respond immediately to acquire or assist in the acquisition of subsidized housing proposed for conversion.

### **5.21 Homeless Shelter**

Maintain support for providers of emergency, crisis and transitional shelter and related support services.

### **5.22 IRB Units**

Implement a County monitoring and enforcement program to ensure that IRB-funded low/moderate income units are in fact leased to low/moderate income tenants and to ensure that all other rental units developed under County-assisted programs are leased to their intended populations.

### **5.23 Congregate Living Arrangements**

Support expansion of programs and initiatives for congregate housing arrangements throughout the County for the elderly and other special populations.

### **5.24 Special Needs Housing**

Establish specific production targets for persons with special housing needs, i.e. the elderly and persons with disabilities.

*Howard County, to increase its supply of housing for future low and moderate income residents in the County and to support its economic development goals, will:*

### **5.25 Future Housing Mix**

Designate the majority of additional residential units resulting from this General Plan to be small lot single-family detached, attached or multi-family units so that the final mix of units in the County will facilitate the provision of affordable units to meet the current and future needs of low and moderate income persons including units in mixed use centers.

### **5.26 Payment-in-Lieu-of-Taxes for Not-For-Profit Providers**

Utilize the County's payment-in-lieu-of-taxes (PILOT) authority for non-profit providers of affordable housing. Criteria and guidelines for a pilot program will be developed. Specifically, the use of pilot funds to establish a program to reduce rents to levels affordable by low/moderate-income households will be investigated.

### **5.27 Flexibility in Subdivision Regulations**

Modify subdivision regulations where appropriate to provide flexibility.

### **5.28 Housing Needs Study**

Conduct a needs study which includes County's projected demographics and housing needs of particular groups, i.e., single-parent families and single persons desiring home ownership.

**5.29 Inclusionary Zoning**

Adopt inclusionary zoning legislation requiring, in all residential developments with the potential of more than 25 dwelling units, that 5% of these units be low-income and 10% be moderate-income units; density bonuses should be provided if more than this minimum number of low/moderate income units are developed. In addition, provision should be made for donation of units to the County or non-profit housing corporations; and for a cash payment in lieu of units to a County housing fund in situations where, for example, reduced price units cannot be provided, or where significantly more low and moderate income units could be built, or for developments smaller than 25 units.

**5.30 Employer Assisted Housing**

Encourage the provision of employer-assisted housing programs by developing "linkage" programs requiring major employers, with appropriate incentives, to provide or assist development of low/moderate income housing (see Box 5-15).

**5.31 Flexibility in Zoning Regulations**

Review the Zoning Regulations for opportunities to encourage additional affordable housing options through increased flexibility.

**5.32 Land Banking for Housing**

Acquire land for low/moderate income housing as part of an overall land banking program; either the County could develop the land or make it available for private sector development with low/moderate income requirements.

### Employer-Assisted Housing Potential Techniques

- Mortgage guarantee and insurance programs reduce the carrying costs of buying a home by reducing downpayment requirements.
- Group mortgage origination plans can provide volume discounts on points or interest rates for employees.
- Mortgage interest rate subsidies allow companies to make cash payments to a lending institution to "buy down" interest rates for employees.
- Downpayment loans (usually second mortgage, deferred payment loans) allow a company to hold a second mortgage on the property until the loan is repaid.
- Shared equity loans allow the employer to loan the employee a certain percentage of the equity in the home and hold an equity position on the home until the loan is paid off.
- Corporate construction subsidies can be used for either home ownership or rentals.
- Corporate donations to community housing programs (with or without explicit reservation of units for employees) also can be used for housing purposes.

Box 5-15

**5.33 Private, Non-Profit Development**

Work with private non-profit developers to produce low/moderate income housing.

## BALANCED GROWTH

---

### **5.34 Condominium Conversion Fees**

Require condominium convertors to provide units or payments to a County housing fund.

*Howard County, to ensure an adequate housing supply for the elderly, disabled, and special populations, will:*

### **5.35 Growing needs of the Elderly**

Quantify and plan to meet projected elderly and handicapped housing needs of the County's elderly and persons-with-disability populations, which are projected to account for an increasing share of the total County population (from 6.2% in 1989 to 7.8% in 2000 for elderly alone).

### **5.36 Housing Assistance**

Assist elderly, disabled households and other special populations paying more than 35% of income for rent through rental unit acquisitions and new regulations for two-family and accessory units.

### **5.37 Matching Units with the Disabled**

Address the issue of mismatches between the ability of some disabled households to receive benefit from units modified to meet their needs, and the lack of affordability or lack of marketing of available units.

### **5.38 Special Populations**

Monitor the housing needs of the disabled and special populations (see section on Health Services).

### **5.39 Zoning and Subdivision Regulations**

Review zoning and subdivision regulations and modify where appropriate.

*Howard County, to fund the proposed programs in this Plan, will:*

### **5.40 Funding Sources**

Make maximum use of the existing federal, State and regional funds and programs. In addition to earmarked Transfer Tax funds, the County will fund a portion of public sector housing costs from bond financing or out of the General Fund.

### **5.41 County Funding Goal**

Establish a goal for direct County funding of assisted housing units and programs to meet annually a portion of the current "unmet need" which this General Plan does not quantify.

### **5.42 Innovative Financing**

Implement innovative financing programs such as the Rent-to-Own Program, a housing lease-purchase bond financed program enabling a buyer without a down payment to apply rent payments toward ultimate outright purchase of a home.

### **5.43 Closing Cost Reduction**

Reduce closing costs for low/moderate income housing buyers through the County-proposed Homeownership Assistance Program. Under the program loans could be used for down payments or settlement costs.

**5.44 *Below Interest Rate Mortgages***

Encourage a commercial bank mortgage interest program at below market rates.

**5.45 *Reducing Development Costs***

Explore ways of reducing development costs for all housing, including for low/moderate income housing, through reviewing the development approval process, development regulations and code standards.

In this chapter a reassessment of the County's future employment and housing needs has been presented along with the impact of these changes on land use, roads and the need for low/moderate income housing. Bringing the allocation and distribution of these land uses into a better and different balance also affects services and amenities that relate to and support these land uses. Schools, libraries, police and fire, and human services are some of the more obvious government support activities that are driven by employment and housing development. But the provision of open space and the satisfaction of recreation needs are equally important public sector considerations. The concluding sections of this chapter consider these issues.

## Schools and Education

### Introduction

As with roads, the County's goal should be to sustain a future "level of service" in education that is at least comparable with our existing standards. This requires the timely provision of adequate facilities for schools, strengthening the role of schools as central places in our communities and ensuring that the cost of education does not jeopardize the County's fiscal health.

While the rate of growth over the next 20 years will have an effect on the number of new schools needed and on their timing, the overall impact of growth to buildout, whether it is spread over 15 or 25 years, will still be significant. The overall impact is analyzed in this section. The effects of rate of growth and the impact of growth management techniques are discussed in Chapter 8: *Phased Growth*.

### Status of School Planning Efforts

The education element of the 1982 General Plan reflected the recession period of low growth when it was written (see Box 5-16).

The last major School Facilities Long-Range Development Plan was produced in 1981, with annual updates since then. The Board has deferred a major update of its School Facilities Master Plan until the adoption of this General Plan in order to work from an appropriate baseline.

In 1985, the School System initiated a community-based strategic planning process called Toward the Year 2000 (TTY 2000) directed to enabling public schools to:

- Respond effectively to a rapidly changing environment
- Respond to the changing needs of Howard County and its citizens
- Provide an educational program that reflects current and evolving knowledge and practice in education

### Review of the Education Element of the 1982 General Plan

The education element of the 1982 General Plan reflected the recession period of low growth when it was written. The Figure below compares enrollment projections which appeared in the 1982 General Plan with actual enrollments and the most recent enrollment projections.

	Actual Enrollment 1980-1988	Enrollment Projections 1982 Plan
1980	25,227	25,227
1985	24,978	24,530
1990	28,902 (1989)	25,280
1995	36,770*	27,300
2000	40,120*	28,330

\* Projection 9/89

The Figure shows the unanticipated growth in enrollment which took place after 1985. Together with the reduction in the pupil-teacher ratio made in 1987 and new programs which have been added to the curriculum, the growth resulted in the provision of facilities falling behind the actual growth of population. The most recent Board of Education projections, dated September 1989, indicate in excess of 9000 more students by 1995 than were anticipated in the 1982 Plan.

The 1982 Plan anticipated no new schools opening before 1990, except for one replacement school. A maximum of seven new schools, four elementary, two middle and one high school, were anticipated by 2005. Aging of facilities was not considered to be a problem since most County schools were less than 20 years old.

In order to deal with under-utilized facilities, the 1982 Plan proposed guidelines for a policy of shared community use for under-utilized schools and recommended alternative uses in advance of school closings. School buildings were not to remain vacant longer than 12 months prior to public sale.

Box 5-16

- Prepare today's students to become leaders in the twenty-first century.

The TTY 2000 Plan was submitted to the Board of Education in 1987. It contains goals and strategies in six areas: Community, Educational Program, Facilities, School Organization and Staff Development, Student and Technology. Operational plans in these areas have been developed and are under review.

### Overcapacity Schools and Future School Needs

Data on current and projected school populations reveal some serious problems that must be addressed if the County is to continue to provide the high standard of public education that County residents have come to expect. For additional background data and discussion, see the chapter in the Appendices to this Plan, Development Trends & School Impacts. In March, 1989, of the 47 public schools in the County, 28 or 60% were overcapacity by County standards; four of the schools were more than 30% overcapacity. By State standards, which are used in determining State funding levels, seven schools or 15% were overcapacity. (See Figure 5-29.)

Enrollment projections, prepared by the Department of Education based on the projected General Plan housing unit growth rates, show that in addition to the 14 new schools proposed to open between 1990 and 1998, up to nine additional schools will be needed. Enrollment projections and new schools needs are discussed in detail in Chapter 8: *Phased Growth*. Provisions in the proposed Adequate Public Facilities Ordinance (see Chapter 8: *Phased Growth*) will ensure that school facilities will be adequate before new housing developments are permitted to go forward.

Generalized locations of the existing schools, those currently funded or appearing in the proposed FY 1992-1996 Capital Improvements Program, and the additional schools needed from the General Plan forecast are shown on Maps 5-13, 5-14 and 5-15 for Elementary, Middle and High School regions, respectively.

### Overcapacity Schools, March 1989 (excluding relocatables)

	Number of Schools	Number of Overcapacity Schools (County Standards)*	Number of Overcapacity Schools (State Standards)**
Elementary	26	15 (58%)	5 (19%)
Middle	10	9 (90%)	1 (10%)
High	8	4 (50%)	1 (13%)
Other Schools	3	0 (0%)	0 (0%)
Total	47	28 (60%)	7 (15%)

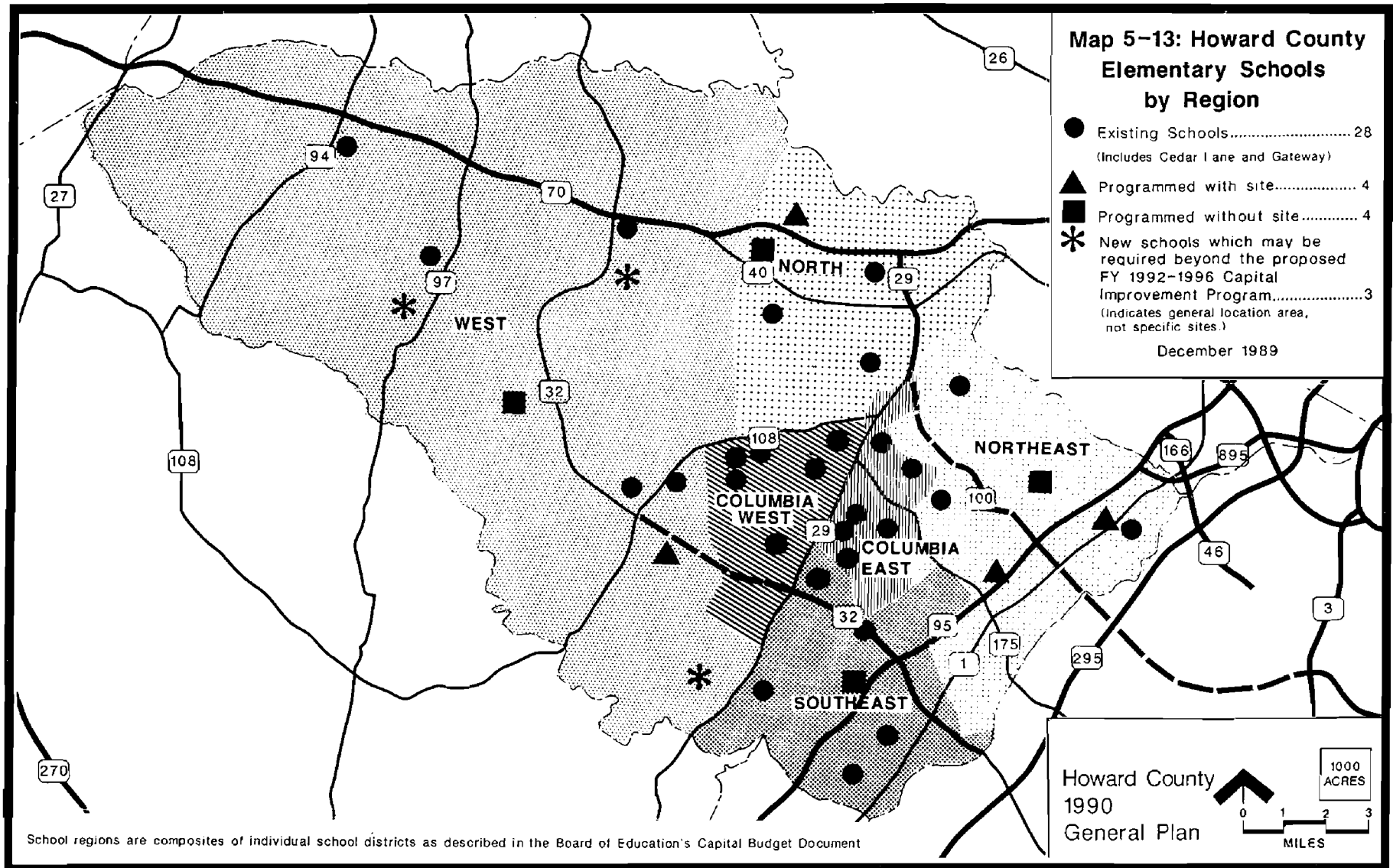
### Number of Students Per Teaching Station Program Capacity versus Rated Capacity

	*Program Capacity (Howard County)	**Rated Capacity (State)
Kindergarten	22	25
Elementary	25	30
Middle	# of teaching stations x 95% x 20.5	# of teaching stations x 90% x 25
High	# of teaching stations x 90% x 23.5	# of teaching Stations x 90% x 25

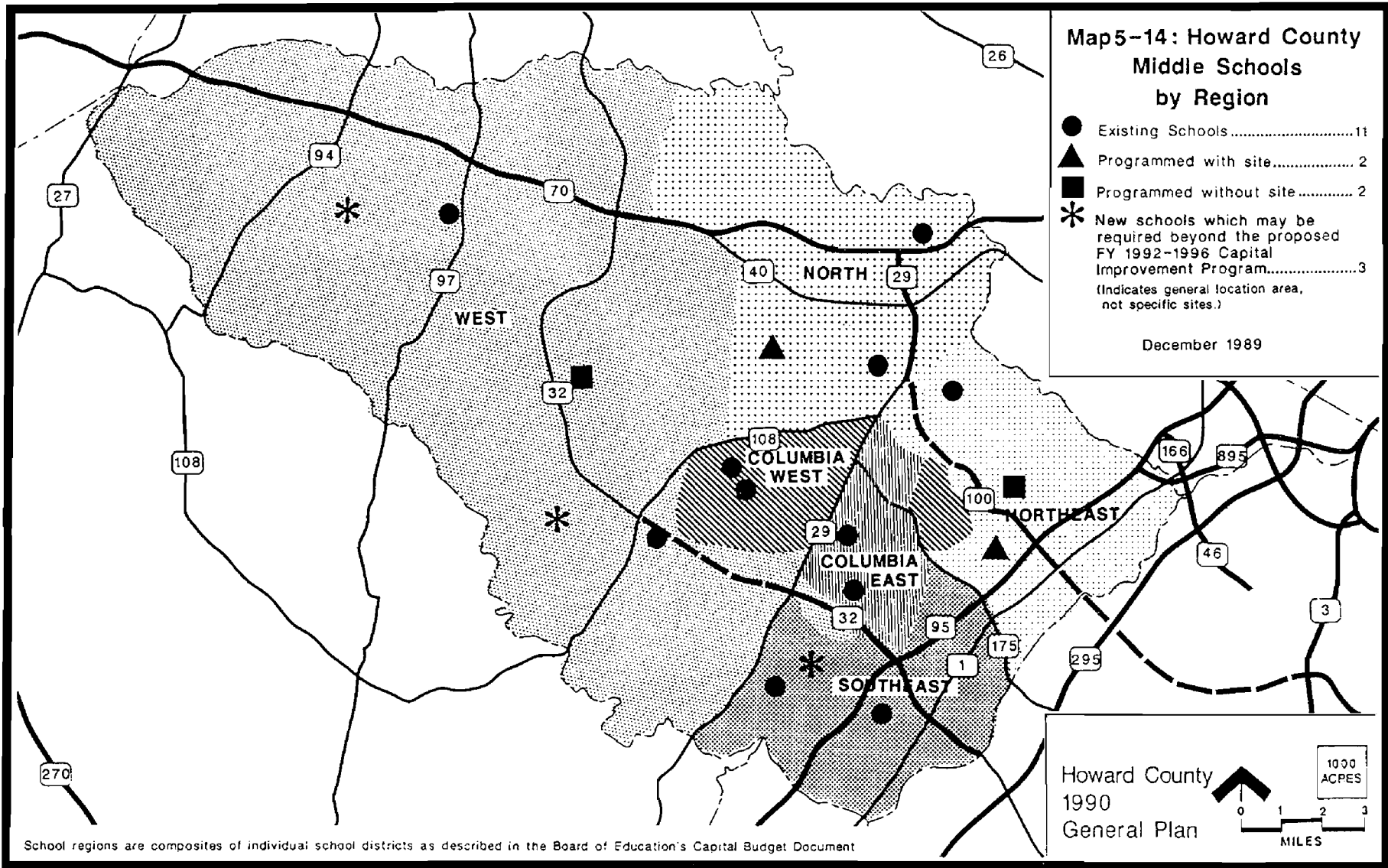
The State rated capacities are used in determining State funding levels.

Source: Howard County Board of Education Capital Budget  
Howard County Public School System, Enrollment Report, March, 1989.

Figure 5-29



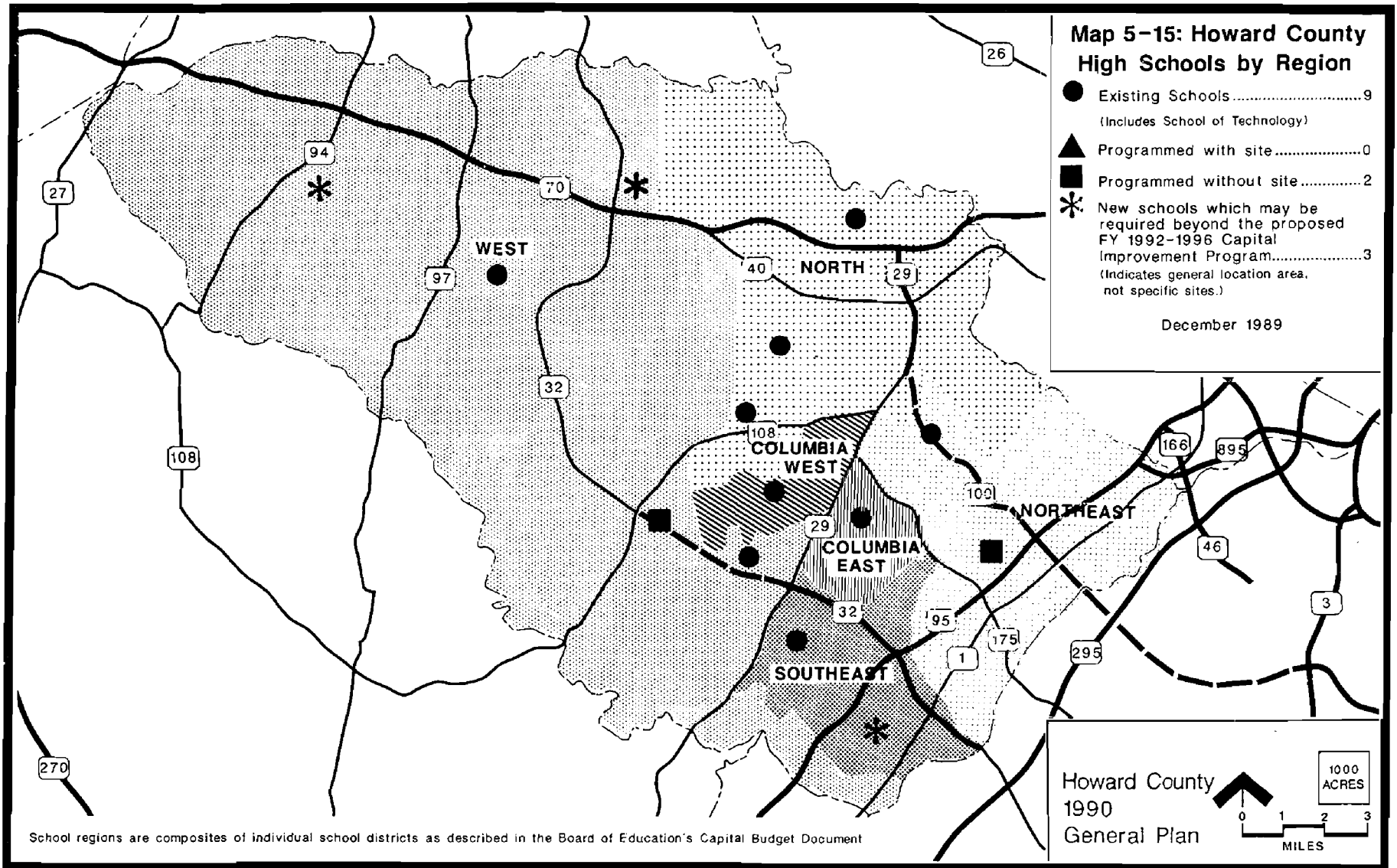
Map 5-13



Map 5-14



# BALANCED GROWTH



Map 5-15

**School Site Needs**

As of December 1989 sites for four of the eleven schools in the FY 1990 Capital Budget and FY 1991-1995 Capital Improvements Program (CIP) had not been secured. The Board of Education owns five unused sites and has eight additional reserved sites in Columbia. Nine of these remaining 13 sites are 11 acres or smaller making them inadequate based on current acreage policy guidelines for school use. (See Figure 5-30.)

	Student Capacity	Range in Usable Acres
Elementary	51-660	10 acres + 1 acre per each 100 pupils
Middle	600-700	20 acres + 1 acre per each 100 pupils
High	1200-1500	30 acres + 1 acre per each 100 pupils

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

Figure 5-30

Recognizing that six schools in the approved FY 1990 Capital Budget and in the proposed FY 1991 Capital Budget and FY 1992-1996 Capital Improvement Program already have sites secured, the County faces the prospect of finding up to 17 new school sites, with a current reserve of only four sites which meet acreage policy guidelines. As the County approaches buildout, a long-term public facilities plan becomes essential, otherwise suitable sites and facilities will not be available.

Using the current school site size guidelines, the total land area for future schools through 2010 amounts to approximately 450

acres. This figure excludes sites currently available to the Board of Education and reflects conventional thinking about the size and function of school sites. The size of this need and the clear urgency of finding sites raises a number of questions. This General Plan, with its new policies based on the changing character of the County, establishes new parameters for the County's growth and development. Many issues and ideas pertaining to education which may have been discussed in the past need to be revisited by County Government in coordination with the Board of Education in light of the new Plan:

- Since sites in preferred locations are disappearing rapidly with development, should the Board of Education and the County pursue an aggressive policy of acquiring sites well ahead of actual need and should the County acquire the maximum number of sites that might possibly be needed at the risk of over-acquisition?
- Can the phasing of growth reduce the overall need for the number of schools thus avoiding overbuilding and the recycling of unneeded or underutilized facilities?
- What new designs and construction techniques should be used for new schools to maximize their flexibility and conversion potential? The Board of Education has begun to experiment with such new designs. For example, Bollman Bridge Elementary, which opened in 1988, incorporates a modular "pod" unit. Until the time comes to relocate that unit, it is not known how quickly or effectively that can be done.
- Should larger facilities be built with higher student capacities so as to allow them to ride out boom-or-bust cycles without frequent redistricting?
- What should be done with current unusable or unneeded school sites?
- Should school sites be acquired as part of an overall government facilities Master Plan, in which opportunities for joint use of facilities and future uses for school sites could be determined?

## BALANCED GROWTH

- In view of the need for planning for change, could sites be acquired large enough for middle schools, with elementary schools built initially and then converted as the wave of student population shifts?
- Could schools be sited in Planned Employment Center areas where, when enrollment shifted and facilities were no longer needed for students in the area, they could be converted to office buildings with recreation facilities?

One way or another, the cost of meeting these future needs will be high.

### Financial Impacts

- The average per pupil cost for FY 1990 is \$5,610. In 1987-1988 Howard County's per pupil expenditure of \$5,351 was the highest in the Baltimore Region, and the second highest in the State after Montgomery County. (See Figure 5-31.)
- In FY 1989, the total operating budget for education was \$134 million. Of this, the County share was \$102 million (76%) and the State's contribution was \$31 million (23%) with other sources accounting for 1%. The County's share of the education budget represented 51% of the total Howard County Operating Budget.
- School operating costs are rising faster than inflation, due mostly to the annual growth in the student population. The FY 1990 school operating budget is \$155 million, up 15% from \$134 million in FY 1989. Of the \$21 million increase, \$19 million represents the cost of additional students and the maintenance of current programs. Only about \$2 million is due to the cost of new programs and improvements.
- The State share of the County Education budget has been decreasing and the County cannot realistically depend upon increased State revenues to pay for the education program. (See Box 5-17.)
- Average construction and operating costs for new schools are shown in Figure 5-32. The proposed Board of Education FY 1991 Capital Budget and FY 1992-1996 Capital Improvements Program totals \$140 million (in inflated dollars). On program completion,

### Average Annual Per Pupil Costs for Selected Jurisdictions, 1988

	Costs	Percent Above/Below State Average
State Average	\$4,817	--
Montgomery County	\$6,371	+32%
Howard County	\$5,351	+11%
Baltimore County	\$5,327	+11%
Prince George's County	\$4,921	+02%
Anne Arundel County	\$4,629	-04%
Baltimore City	\$4,170	-13%
Carroll County	\$3,995	-17%

Note: The data in this table include items such as current outlay and debt service, and are not directly comparable to the Howard County Board of Education per pupil cost data.

Source: Selected Financial Data, Maryland Public Schools 1987-1988. Part 3 - Per Pupil Expenditures, State Department of Education.

Figure 5-31

the annual operating cost of the eight elementary, four middle and two high schools proposed to open by 1998 in FY 1990 dollars will be \$46.8 million. The operating cost of the nine additional schools needed through the year 2010 will be \$33.3 million in FY 1990 dollars.

It is vital to realistically consider the County's ability to afford the projected education program. The cost estimates outlined above are cause for concern, but the fiscal impact of school costs can only be understood by examining the future overall fiscal health of the County, factoring in all growth-related expenses and revenues. School-related expenses cannot be treated in isolation. The 1989 fiscal impacts study by Tischler & Associates, Inc. concluded that growth would not be an overwhelming drain on County finances. Residential and employment growth over the next 20 years will increase the County's future costs, but will increase revenues at approximately the same rate. However, the projected education costs

**DECREASING STATE ROLE IN EDUCATION FUNDING**

The total cost of the 17 elementary, middle and high schools which opened between 1969 and 1973 was \$32.2 million. Of this total, the State share was \$20.7 million, or 64 percent, and the local share was \$11.5 million, or 36 percent. During the five years prior to FY 1988 Howard County locally funded \$54.7 million, which is 93% of the total cost of schools constructed. For the FY 1990 \$26.1 million Education Capital Budget the State share is \$5.1 million, or 20 percent for nine schools.

Box 5-17

**Average Construction and Operating Costs  
for New Schools in FY90**  
(Millions of Dollars)

	Capital Costs *	Annual Operating Cost
Elementary	\$8.1	\$2.1
Middle	\$11.7	\$3.2
High	\$19.7	\$5.8

\* Planning, Construction, Equipment

Sources: Howard County Dept. of Education, Budget Office,  
Summary 1988-90 Approved Operating Budget, July 1989,  
Howard County Public School System.

Figure 5-32

are very high. The fiscal study held future state/local funding proportions constant at the 1990 levels.

Growth management can clearly help reduce the scale of these budgetary impacts. Adequate public facilities ordinances can slow residential growth to keep pace with proposed school construction but additional dollars may still be needed to deal with

imminent needs. Impact fees could help defray the cost to the taxpayer of future schools due to new growth and assure a more predictable rate of school construction.

**Higher Education**

An analysis of higher and continuing education and other educational training institutions in the County was not conducted for the preparation of this General Plan. Needs in this area should be assessed so as to understand the existing and potential role of the Howard County Community College and the other public and private institutions which are active in the County.

The Community College with 16,000 credit and non-credit students has the largest enrollment of these institutions. Other institutions include the Johns Hopkins University Applied Physics Laboratory, the Johns Hopkins School of Continuing Studies, Columbia Center and Loyola College, which offer primarily graduate courses, as well as Towson State University, which has a campus near the Community College, and University College (part of the University of Maryland) which offers classes at County high schools. The enrollment at these institutions is shown in Figure 5-33.

Each of the above institutions pursues its own curriculum and range of courses with little coordination of offerings. Their relationship to nearby institutions such the University of Maryland campuses at College Park and Baltimore County and the Catonsville Community College is not clear.

Howard Community College has a growing credit curriculum and continuing education enrollment, is the leading choice of County residents enrolled as undergraduates in a Maryland College and makes a significant economic, intellectual, and cultural contribution to community life through its academic curricula, special events and physical facilities. While the Federal Government reports that 15 of the 20 fastest-growing occupations in the 1990's will require education beyond high school but less than a four-year degree, the State has decreased its financial support from approximately 40 percent to 20 percent of the College's operating budget.

The last comprehensive study of the higher education needs of the County was done in the sixties and such a study would be helpful in planning for the future. Howard County citizens are

### Enrollment at Institutions of Higher Education in Howard County

	Enrollment	
Howard Community College	16,000	(1988)
Johns Hopkins University Applied Physics Laboratory	2,000	(1989)
Loyola College at Columbia	2,100	(1988/89)
Towson State University/Columbia Satellite Center	1,400	(1989)
University of Maryland, University College	250	(1988/89)
<b>Total</b>	<b>21,750</b>	

\*Number given is the "unduplicated headcount"; the number of enrolled students taking credit and non-credit classes. Students enrolled in more than one class or more than one semester have, whenever possible, been counted only once.

Source: Howard County Department of Planning and Zoning compiled from data supplied by the education institutions.

Figure 5-33

amongst the most educated in the Region. In 1980, according to Census data, 11% of the County population had completed four years of college. For the Baltimore Region as a whole, the figure was 6%. (See Figure 5-34). In 1988, Howard County, proportionate to its population, had the greatest enrollment at Maryland institutions of higher education of any jurisdiction in the area. (See Figure 5-35). County citizens are avid consumers of higher education courses (both credit and non-credit); increasing numbers of students in the public school system over the next 20 years will add students to the Community College; the role of education in complementing economic development through education and training (including technical training for skilled workers) will become increasingly significant as employers seek to maximize their "draw" from a shrinking labor pool; and, finally, there is the enhancement role of County higher education institutions in fostering cultural activities.

### Years of College Completed Howard County and the Baltimore Region

	1980			
	Baltimore Region Number	Percent	Howard County Number	Percent
Total 1980 Population	2,174,000	100.0%	119,000	100.0%
Completed 1-3 Years of College	237,837	10.9%	16,043	13.5%
Completed 4 Years College	123,295	5.7%	13,358	11.2%
5 or More Years	115,562	5.3%	15,185	12.8%

Source: Education Report for Regional Planning Districts, October 1983 - Baltimore Regional Planning Council (now Baltimore Regional Council of Governments) Source data in U.S. Census of Population and Housing, 1980. Summary Tape File 3A for Maryland.

Figure 5-34

## Policies and Actions

*Howard County, to adequately accommodate its future school children, will seek to persuade the Board of Education to:*

**5.46 Advance Site Acquisition**

Accelerate acquisition of sites for the twenty-year school needs amounting to approximately 450 acres.

**5.47 Joint Use of Sites For Schools and Other Facilities**

Increase the size of parcels acquired primarily for school sites when other public facilities and services besides recreation can appropriately share such

**Enrollment by Place of Residence at Maryland Institutions of Higher Education**

Fall 1988

	Number of Students	% of Population
Howard County	11,504	7.0%
Anne Arundel County	20,880	5.0%
Baltimore City	20,991	2.8%
Baltimore County	38,485	5.6%
Carroll County	5,139	4.4%
Harford County	8,834	5.4%
Frederick County	5,923	4.3%
Prince George's County	30,727	4.4%
Montgomery County	39,190	5.7%

The table shows that, as of Fall, 1988, 11,504 students attending a Maryland institution of higher education gave Howard County as their place of residence. This number was 7% of Howard County's total population in 1988.

Source: Population Numbers - Maryland Department of State Planning, Office of Planning Data, 9/87. Enrollment data from Enrollment by Place of Residence in Maryland Institutions of Higher Education, Fall 1988, Maryland Higher Education Commission, May 1989.

Figure 5-35

locations by implementation of joint site development and programming.

**5.48 Larger Sites for Community Usage**

Increase school site size beyond the minimum guidelines to accommodate County recreation needs (for example, a larger size and number of ballfields); increase the size of core facilities such as gyms and cafeterias to provide for community needs and provide greater flexibility for accommodating relocatable classrooms for fluctuating school populations. Funding for the additional land and

facilities is to be borne by other County agencies such as the Department of Recreation and Parks and will be reflected in the Capital Budget and Capital Improvements Program.

**5.49 Increase School Size for Future Flexibility**

Explore policies to increase school sizes and their related districts so as to maximize long-term flexibility in the system and avoid excessive boom-and-bust cycles and numerous redistrictings; this may also facilitate conversion of elementary schools to middle schools as the baby boomlet from the late 70s and early 80s moves through the system.

**5.50 School Siting for Future Flexibility**

Locate schools so that they can relate to both their communities and to their future re-use potential - (for example, high schools in the open space areas of planned employment centers could potentially be converted to office/commercial uses in the long run).

**5.51 Swapping Land for Schools**

Explore the possibility of trading school sites that are too small or poorly located with lands owned by the Department of Recreation & Parks that may be unsuitable for park use but appropriate for schools.

**Howard County, to minimize growth-related school capacity issues, will:**

**5.52 Growth Management**

Adopt growth management mechanisms to reduce this effect. (See Chapter Eight: *Phased Growth*.)

## BALANCED GROWTH

---

### **5.53 *Contingency Planning and Fair Share Costs***

Work with the Board of Education to adopt contingency plans in the event of reductions in the State's funding formula; these reductions will put additional financial pressure on the County and may justify requiring new residential growth to pay a larger fair share of the cost of providing growth-related school facilities.

### **5.54 *Flexible Buildings***

Suggest to the Board of Education that it construct schools whose "learning pods" can be cost-effectively relocated so as to achieve genuine flexibility in the system and allow it to follow population shifts.

### **5.55 *School Facilities Master Plan***

Cooperate with the Board of Education in developing a comprehensive School Facilities Master Plan based on the InterAgency Committee for School Construction (IAC) guidelines (see Box 5-18). The existing Site Review Committee for the County which is composed of representatives of the Board of Education and County Government should have an integral role in the preparation of the Plan.

***Howard County, to define its future in higher education and confirm its strong commitment to Higher education, will:***

### **5.56 *Higher Education Needs Study***

Encourage a comprehensive study of its higher education needs and role in relation to the existing programs offered in the County and nearby, the size of its future higher education student population, the

County's economic development needs and its cultural activities.

### **5.57 *Howard Community College***

Continue its strong commitment to Howard Community College. Continued and increased financial commitment from the County may be necessary.

### **5.58 *Other Institutions of Higher or Continuing Education***

Continue to encourage and support various institutions to provide a wide range of higher and continuing education programs for citizens of the County.

Schools and education have been discussed at some length because of their critical relationship to growth and development. However, many of the points made with regard to school facilities apply in principle to many other public services. Without intervention, the pressures of growth are causing or soon will cause current levels of service to deteriorate. Other public-sector services that relate to achieving balanced growth are discussed next.

## Components of Proposed School Facilities Master Plan

The proposed Comprehensive School Facilities Master Plan is to be based on InterAgency Committee for School Construction (IAC) guidelines for Master Plan preparation as outlined in Section 100 of the Public School Construction Program. The County's existing Site Review Committee should have an integral role in the plan preparation. The Plan will include the following IAC mandated elements:

- Inventory and evaluation of existing school facilities (the last complete inventory was conducted in 1981).
- Population, enrollment data, and projections by grade by facility for the next five consecutive years, 10th year and 15th year.
- Listing and analysis of existing and future facility utilization and facility needs, as related to enrollment projections.
- Community analysis, showing the consistency of the school plan with projected land use.

The following additional elements are recommendations of this General Plan:

- Designation of areas of the County where facilities will be needed based on this General Plan in order to allow for long-term land acquisition.
- Suitable alternative uses for school sites to be identified so that in the event of over-acquisition, they can be reassigned to other purposes.
- Coordination with other County plans for parks and recreation, libraries, police and fire facilities, human services, and housing to create more effective location of County services.
- To overcome the difficulty of actual needs differing from projections the Plan will incorporate a range of enrollment projections. This will reduce the possibility of early Plan obsolescence.
- To the extent possible, recommendations for community groups to share in the planning and operation of facilities in order to make schools true community centers.
- Analysis of facility needs to show the need for physical renovation and rehabilitation to reflect newer educational trends.



# Libraries

## Organization of the Library System

Like the Department of Education, the Howard County Library is outside the system of agencies and services directly responsible to the County Administration or County Council. Although the Administration and the Council must approve all capital improvements and the annual budget of the library system, the scope of operations, long-term planning and programming new services are carried out by the Director and a Board of Trustees. *The Long Range Facilities Plan* expresses the adopted Board policies on Facilities, while the *Citizen/Staff Long Range Service Plan* states the Board's adopted stance on library services. Both plans were adopted in the mid-80's and are updated annually.

The Howard County library system has grown dramatically since 1980. The current facility inventory now includes the Central Library in Columbia, the Miller Branch Library, small community libraries in Elkridge, Lisbon, and Savage, as well as a bookmobile and a literacy mobile resource van.

The Library's collection of 484,358 items includes books, cassettes, microfilm, and discs. A long-standing goal of the Library is to gradually increase the size of the collection (on a per capita basis) until a level of 4.0 items per capita is reached. This would be over 1 million items by the year 2010.

Information services provided by the Library have increased by 442 percent from a 1980 total of 88,738 to 480,894 in 1988 and projected to reach 520,000 in 1989. A wide variety of informational requests are handled through this service, ranging from recommended leisure reading to research to informational referrals. The dramatic increase in usage of this service is indicative of not only the population growth but also broader public awareness of the service.

Circulation statistics demonstrate that County residents are enthusiastic library patrons. Circulation has increased by 142 percent since 1980 from 901,137 to a 1988-89 total of 2,195,676 and was expected to reach 2,400,000 by the end of 1989.

This exceedingly high rate of library use is not completely unexpected, since the County's population is highly educated and relatively affluent. Present and future County residents will increasingly demand more than an adequate level of service from the library system.

Demand for information and services in addition to the circulation of books is also increasing rapidly and the Library must respond to that demand. The Library is therefore exploring and implementing the use of new technologies to bring library services directly to people's homes such as dial-up access of the Public Access Catalog and various computerized data bases. The Howard County Library is one of the leading public libraries in the use of such technology in the United States and one of the few that already has an on-line Public Access Catalog and computerized local area network technology available for public use in the Library.

## Demand for Services and Need for Facilities

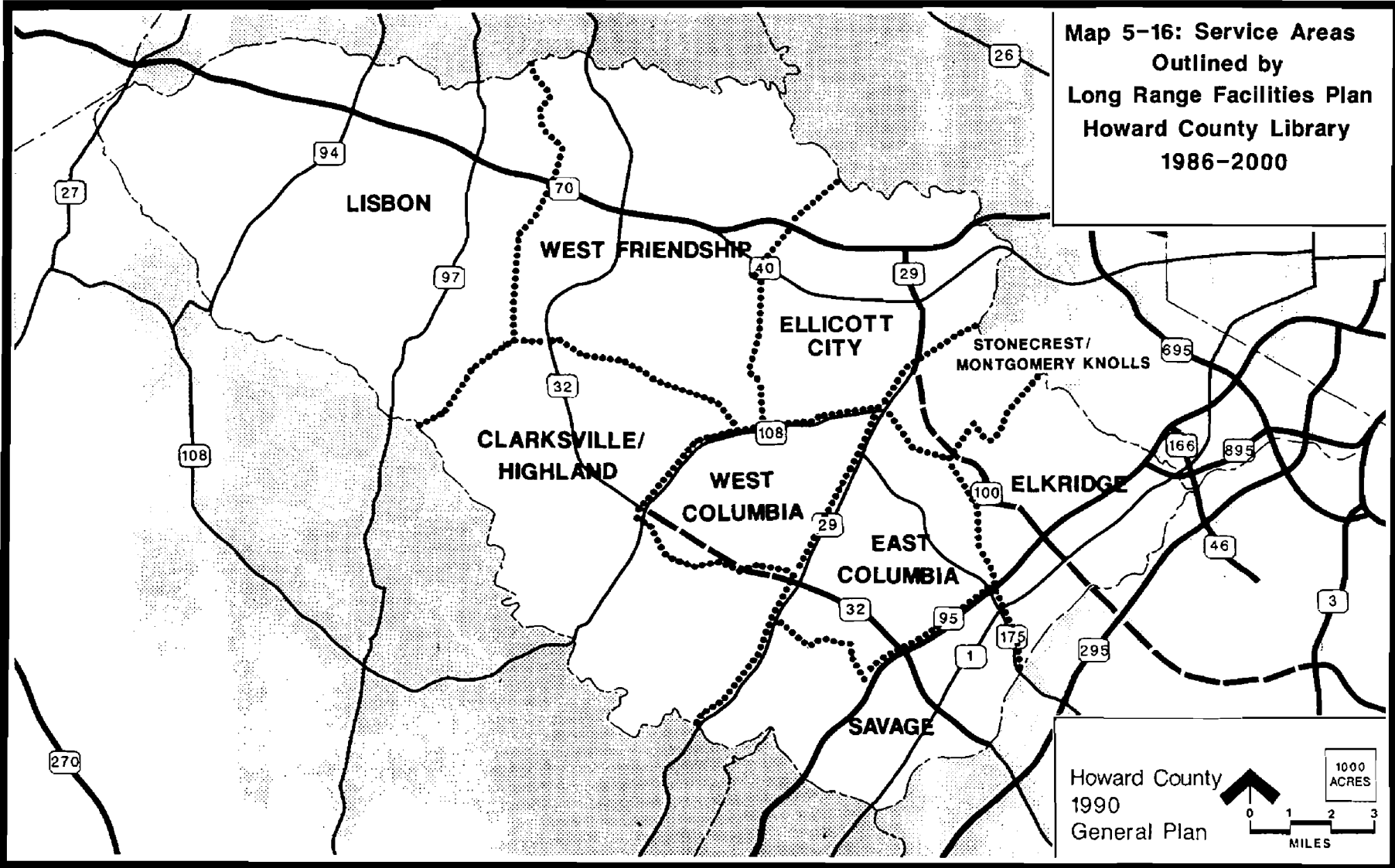
The library system operates on the basis of one central library and a hierarchy of branch libraries, community libraries and supplementary services such as the bookmobile. Current facilities and approved capital improvement projects are: Central Library (opened 1981), Miller Branch (expanded 1985), Elkridge Branch Library (scheduled 1991), Savage Branch Library (scheduled 1990), and East Columbia Library (site selected 1990).

*The Long Range Facilities Plan* divides the County into nine service areas and presents a hierarchy of facilities based on the size of the population to be served. (See Map 5-16 and Figure 5-36). The service areas vary in expanse and current size of population. Areas in the West are physically large but have the least number of current residents.

*The Long Range Facilities Plan* adopted by the Board of Trustees sets forth an anticipated timeframe of existing and intended facilities to serve these areas (See Figure 5-37).

The match of the appropriate scale of a facility to the service areas defined in the Long Range Facilities Plan is based on the 1982 General Plan and population projections. It is important to note that the capital improvements now called for by the facilities plan will

Map 5-16: Service Areas  
Outlined by  
Long Range Facilities Plan  
Howard County Library  
1986-2000



Map 5-16

<b>Hierarchy of Facilities</b>			
Type	Min.Size (sq ft public space)	Pop Served	Minimum No. of Books
Central	44,000 (exist.)	Entire County	N/A
Major Branch	30,000	30,000+	100,000
Branch	15,000	20,000-30,000	50,000
Community	(portable building or rental location)	15,000-20,000	Limited reference service and small core collection
Mobile Service	N/A	less than 10,000	Small core collection

Source: Long Range Facilities Plan, adopted 1989.

**Figure 5-36**

need to be adjusted in the light of the land use designations incorporated in this new General Plan.

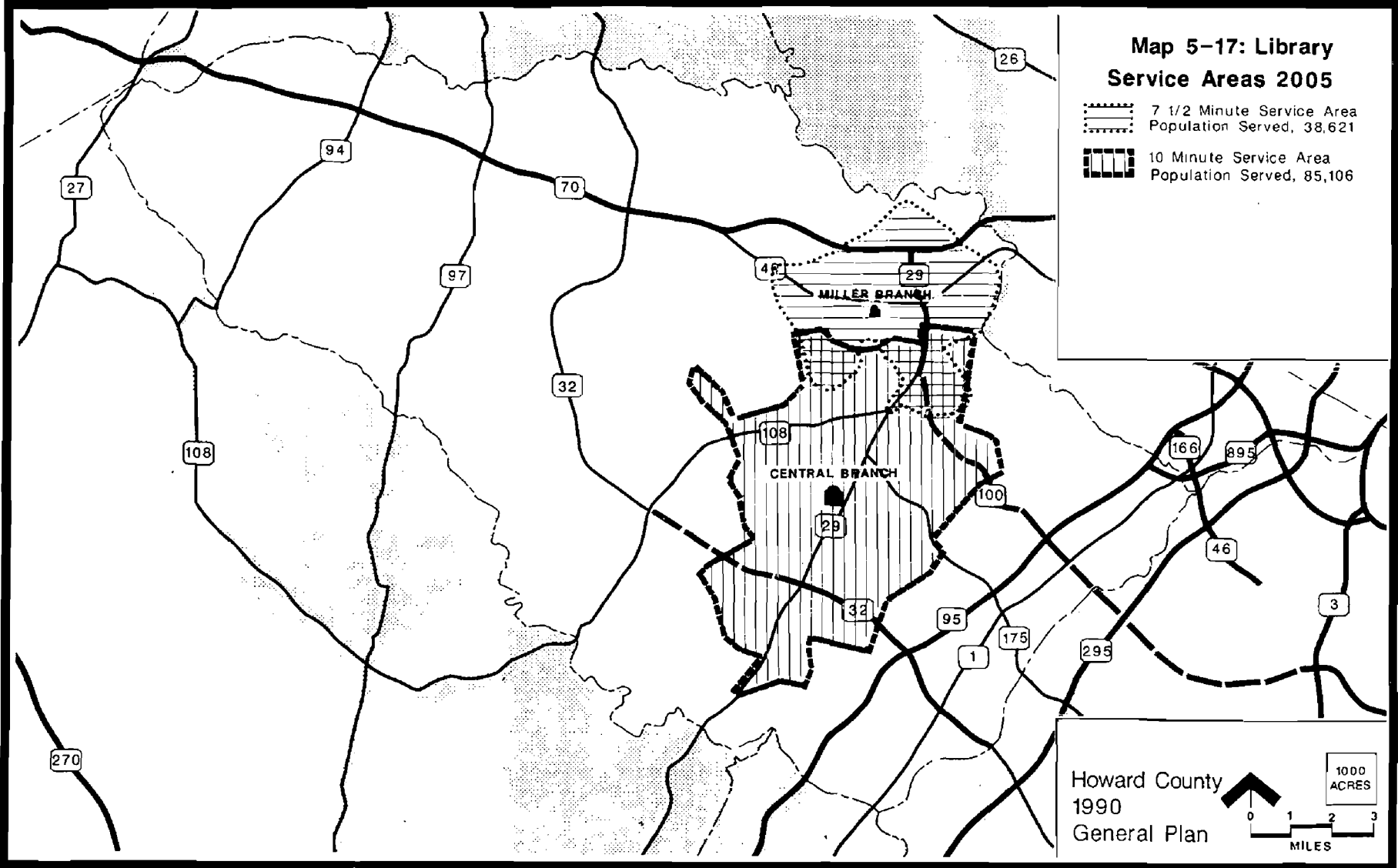
Map 5-16 shows the service areas defined by the *Long Range Facilities Plan*. The current service area concept is a static one that does not relate to the actual population served within a given travel time. For example, a 15-25 minute travel time to a central library and a 5-15 minute travel time to a branch would be a better indicator of how effectively library services are being provided to all sections of the County. Using the projections for housing and for the future road network, it is possible to calculate future service areas that will give convenient service to all present and future residents. Map 5-17 provides an example of how to define service areas based on access "drive times" for the Central Library and the Miller Branch Library.

Ideally, the access contours that indicate optimal service areas should not overlap too much or result in large gaps between facilities. Such service areas may not coincide with traditional dividing lines between communities or the service areas defined in the current *Long Range Facilities Plan*.

<b>Planned Service Area: Current Long Range Facilities Plan (1989) (Excluding Central Library)</b>	
Name	Existing or Intended Facility
Elkridge	- Branch Library (1991)
Ellicott City	- Major Branch Library - Miller Branch, existing
Stonecrest- Montgomery Knolls	- Community Library (1990's) ("storefront") - Branch Library (2005-10)
Glenelg/West Friendship	- Community Library ("storefront") - Branch Library (2005-10)
West Howard County	- Community Library (existing "storefront"; Lisbon) - Branch Library (Lisbon; 1995+)
West Columbia	- Major Branch Library (located in Central Library)
East Columbia	- Major Branch Library (1992) (to be located in Owen Brown)
Savage	- Branch Library & Addition (1991) - Branch Library in lower U.S. 29 Corridor (2005-10)
Lower U.S. 29 Corridor Area	- Community Library ("storefront"; -Late 1990's) - Branch Library (2005-10)

Source: Long Range Facilities Plan,  
adopted by the Library Board of Trustees, 1989

**Figure 5-37**



Map 5-17

## BALANCED GROWTH

---

An approach such as this can more accurately indicate the locational advantages of alternative future sites. This approach also takes into account future residents who do not yet have a say in the site selection process, but who will also be library patrons. Given the future population growth and the road improvements that are planned, optimal locations for future library sites are not intuitively obvious. It is important that the site selection process give way to a system of analysis that gives proper weight to the needs and desires of the present and future residents, planned road improvements and the benefits of joint development of sites with other County facilities.

### Criteria for Site Selection

Beyond defining service areas based on incorporating present and future populations within convenient access times of potential locations, the criteria for library site selection must also include other concerns. Libraries are one of the key community building blocks that the public sector provides. Their placement should not only enhance their visibility and accessibility but should also strive to establish a strong civic presence in harmony with complementary land uses such as shopping centers, housing, recreation facilities, etc. In this way, residents can be enticed into using the library as part of a number of attractions in the same location. 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.

While the current Central Library is very accessible by car, it is isolated from complementary land uses by wide, heavily travelled roads that make pedestrian access very inhospitable and that cut it off from most of the other Downtown Columbia activities. The Miller Branch is on a major road but is nearly surrounded by existing or future single-family housing and is not close to shopping or other community-serving uses.

Policies and actions that evolve from the above discussion follow.

## *Policies and Actions*

*Howard County, in order to enhance residents' access to library resources, will:*

### *5.58 Computer Access*

Continue to expand its computer access system especially for basic reference materials.

### *5.59 Library Role Definition*

Define the respective roles of the Central Library and the branches more clearly. At present, the use of the Central Library's limited space is compromised by its current role also as the branch library for both east and west Columbia. If the new and existing branch libraries were to pick up much of the normal circulation needs of library patrons, the role of the Central Library could shift to that of the base of special collections and services as well as administration of the overall library system.

### *5.60 Central Library Context and Function*

Rework the Central Library setting as part of a revised plan for Downtown Columbia to achieve a strong "civic presence" and enhance its role as a cultural center and meeting center, as well as its more typical functions.

### *5.61 Library Service Area Definition*

Locate future branch libraries on the basis of functional service areas, largely based on accessibility and considering the interests of future as well as current residents.

**5.62 *Libraries as Part of Community Hub***

Locate future libraries to help create a civic or community "hub" by integrating them with complementary public uses in multi-purpose centers or community activity centers.

Like the library system, several other public service functions relate directly to the County's population growth. Perhaps the public safety functions of fire and police are most analogous from a central and branch system/service population viewpoint.

## Police Protection

### Organization of the Police Function

Police officers come into direct daily contact with a large portion of the community. Police protection is the most visible component of the criminal justice system. In Howard County, the County Police Department is the primary provider of police protection. The State Police is responsible for police coverage on the two interstate highways traversing the County (i.e., I-95 and I-70), and has investigative authority at State-owned/leased facilities (i.e., Patuxent Institute and Clifton T. Perkins Hospital).

For FY 90, the Police Department has a budget of over 18 million dollars and a police force of 277 sworn personnel. The County Police Department is organized into four functional units: Office of the Chief, Field Operations, Criminal Investigation, and Support Services. Field Operations, which consumes the largest share of the Department's budget, relates to police patrol and special operations.

All functions of the Police Department are presently housed in the Warfield Building at the Police Headquarters in Ellicott City. This facility was expanded and modernized in 1984 to accommodate the growing needs of the Department.

Police training is given by the Police Academy, located on the campus of Howard Community College. Due to the immediate training needs of the Police Department and the Department of Fire and Rescue Services, plans are underway to expand training facilities. However, these interim improvements will not provide either department with adequate space or training facilities for the comprehensive training of police officers or firemen. Long term police training facilities are needed that include specialized police academy areas such as a firing range and pursuit driving track. The evaluation of the Police and Fire Departments' long-range training needs will be addressed through a consultant study currently underway.

The Police Department has adopted a three-year plan of goals and objectives which, among other things, emphasizes improvement

in the Department's efficiency through such techniques as the use of lap-top computers for field investigations.

### Demand for Services and Need for Facilities

A 1985 household survey of Howard County residents identified police protection as the second priority which residents believed should receive more of their tax dollars, second only to public education.

A commonly used measure of police service is the number of sworn police officers in relation to the population. Figure 5-38 shows this relationship for Howard County since 1980.

The ratio of sworn officers per 1,000 population varies significantly among other 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

	Population	Total Sworn Officers	Sworn Officers Per 1,000 Population
FY 1980	119,000	174	1.46
FY 1981	125,000	184	1.47
FY 1982	128,000	193	1.51
FY 1983	130,000	197	1.52
FY 1984	135,000	200	1.48
FY 1985	142,000	210	1.48
FY 1986	149,000	226	1.52
FY 1987	156,000	226	1.45
FY 1988	164,000	244	1.49
FY 1989	173,000	256	1.48
FY 1990	182,000	277	1.52

Based on authorized sworn officers from Howard County Operating Budget

Figure 5-38

officers per 1,000 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.

If the present ratio of police personnel to the total population were simply projected out into the future, there would be a "need" for an additional 80 officers in the Police Department by the year 2000 and another 70 by 2010.

A better picture of service needs is gained when one relates the increase in calls for service to population growth and police officers. Figure 5-39, which does this, shows a clear increase (+11% over nine years) in the number of calls per sworn officers. The number of calls provides the Police Department 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 5-40 illustrates that the number of severe crimes (Class I and II - see definitions below) reported in Howard County increased 19% between 1985 and 1989. Total arrests, however, increased 38% during the same five year period.

Adding staff to maintain a particular numerical balance ignores some key variables in estimating police service needs. These variables include economies of scale, new organizational structures, density of population and efficiency of coverage, socioeconomic factors, crime trends by type of crime and so forth. Howard County is no longer a remote, rural county. As part of a growing urban area, it shares to some extent in the trends of the overall region where many types of crime have been increasing. A comprehensive analysis directed at "sizing" police service and facility needs into the future is well beyond the scope of this General Plan. A consultant study is currently underway to evaluate these needs for police as well as fire services. It will be completed in mid-1990.

In the meantime, however, some conclusions can be drawn from the service calls trends that relate directly to the provision of facilities by geographical area.

**Calls for Service: Per Capita and Sworn Officers  
1980 - 1989**

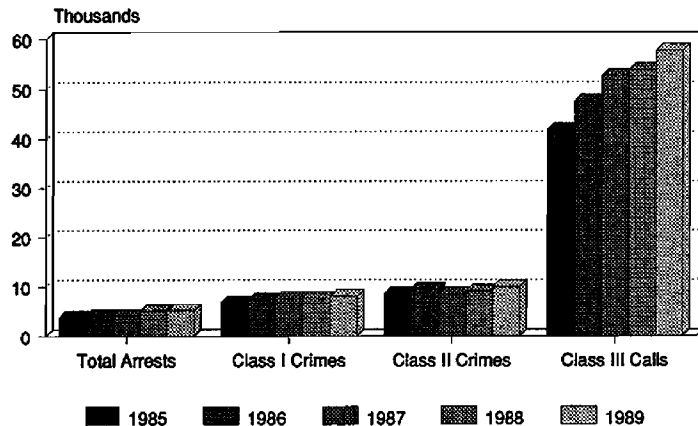
	Calls for Service	Per Capita Calls for Service	Calls for Service/ Sworn Officers
1980	42,609	.36	245
1981	44,945	.36	244
1982	47,011	.37	244
1983	46,953	.36	238
1984	50,319	.37	252
1985	56,231	.39	268
1986	64,594	.42	286
1987	67,311	.43	298
1988	70,659	.42	290
1989	75,723	.44	273

Source: Ho. Co. Police Dept., as compiled by the Ho. Co. Dept. of Planning and Zoning; September 1989. Call data collected by calendar year. Per capita calls for service determined using mid-year population estimates.

Figure 5-39



Severity of Crimes & Total Arrests



Note:

1. Class I crimes include criminal death, robbery, felonious assault, breaking or entering, theft, vehicle theft and arson.
2. Class II crimes include vandalism, sex offenses, drug violations, gambling, DWI, child abuse, etc.
3. Class III calls for service include suspicious persons or circumstances, domestic complaints, rescues, motor vehicle collisions, false alarms, etc.

Source: Howard County Police Department. Crime and call data collected by calendar year.

Figure 5-40

Criteria for Site Selection

Figure 5-41 provides a breakdown of calls for service in 1988 by election district (see Map 5-18). A district station in the southern section of the County appears warranted based on the high rate of calls in Districts 5 and 6 (over 60% of the total) and its 11-mile distance from Police Headquarters in Ellicott City.

Distribution of Calls for Service by Election District

1988

Election Districts	Calls for Service	% of Total Calls	Population (mid-year)	Per Capita Rate of Calls for Service
1	5,284	7.8	14,300	0.37
2	15,938*	23.6	35,100	0.45
3 & 4	4,241	6.3	13,800	0.31
5	15,761	23.4	38,200	0.41
6	26,264	38.9	65,600	0.40

\* Skewed because of significant number of walk-in calls for service which were reported at Police Headquarters irrespective of the location of the incident

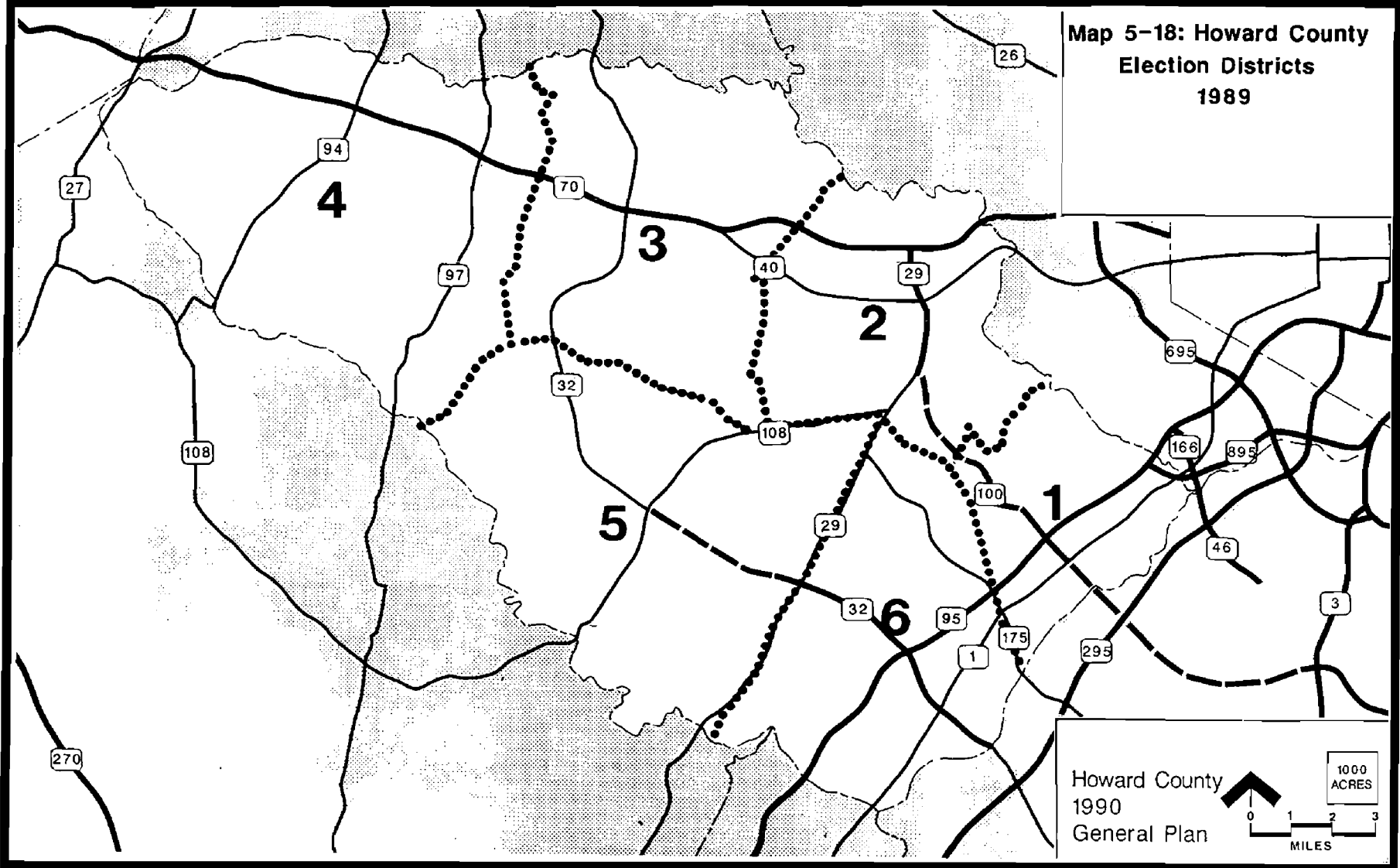
Note: Due to certain calls for service not being assigned to an Election District, this table does not represent the 70,659 calls for service in 1988.

Source: Ho. Co. Dept. of Police

Figure 5-41

A south Howard County station will allow the Police Department to establish a stronger presence in this area of the community, and increase its community accessibility. As with the multi-purpose center concept for libraries, the possibility of joint police and fire station facilities, highly compatible uses, will be examined for this area of the County.

The consultant study will also evaluate the long-term need for a district station in the western part of Howard County to serve Election Districts 3 and 4.



Map 5-18

## BALANCED GROWTH

---

The policies and actions resulting from this discussion are presented below.

### *Policies and Actions*

*Howard County, in order to enhance police protection, will:*

**5.63** *Future Needs Based on 1990 Study*

Use the 1990 consultant's study of existing and future levels of service for police protection to develop programs and new facilities needed to carry out the overall operations of the Department.

**5.64** *Automated Systems*

Continue to improve upon the capabilities of its existing automated police information and record management system enabling police personnel to handle more calls for service and minimize the need for more personnel.

**5.65** *Joint Southeastern Police and Fire Station*

Initiate site design for a joint police and fire station in the southeastern area of the County in the vicinity of US 29 and MD 216 to provide improved public accessibility and greater community interaction.

**5.66** *Police and Fire Training Center*

Acquire land for a long-term joint police and fire training center (including a shooting range, pursuit driving track, classrooms and other related police academy activities) to provide for the comprehensive training of new police officers, continue in-service

training of personnel and encourage joint police training with surrounding police departments.

*Howard County, in order to provide for future correction facility needs, will:*

**5.67** *Future Facility Needs*

Acquire land for long term detention facility needs beyond the year 2005 possibly through cooperation with the State.

## Fire & Rescue Services

### Organization of the Department of Fire and Rescue Services

The Department of Fire and Rescue Services is responsible for fire suppression and prevention, fire training, arson investigation (currently handled by the State Fire Marshal's Office), rescue services, and emergency medical services. In addition, the Department is responsible for the Office of Emergency Management located in the County Office Complex in Ellicott City.

Fire and Rescue Services is a combination career and volunteer department. Staffing for FY 90 consists of approximately 400 volunteers, 200 of whom participate in emergency operations, and 176 career personnel, all of whom participate in emergency operations. An additional twenty-one full-time personnel staff the Communications Center. The administrative staff includes the Director, 13 uniformed personnel, and five support personnel.

The County is divided into six Fire Districts which coincide with the County's Election Districts. The volunteers generally live within the districts which they serve. The career personnel are assigned to fire stations by the Department Director based on need. The operation of the fire stations is funded through a fire tax based on all assessable property in each of the six fire districts. Funding for the administration comes from general fund revenues.

The Department operates 10 fire stations (see Map 5-19), with over 85 emergency vehicles. Seven of these stations (Stations 1, 2, 5, 6, 8, 9 and 10) are combination stations which utilize both career and volunteer personnel. Two stations (Stations 3 and 4) are primarily volunteer but also utilize paid part-time employees. One station (Station 7) is administered by the Department of Fire and Rescue Services and is staffed primarily with career personnel. Additional coverage is provided through mutual aid agreements, with surrounding jurisdictions (see Map 5-20) and a private fire station located at the Johns Hopkins Applied Physics Laboratory (Station 20).

### Demand for Services and Need for Facilities

During 1988, there were 12,058 emergency incidents.\* Of these, 4,112 were fire emergencies and 7,946 were medical emergencies (EMS). When comparing this information to 1980 data (See Figure 5-42), the number of fire incidents increased 94% and EMS incidents 69%, approximately 9% each year. There appears to be a close correlation between the number of households and jobs and the number of incidents. Since an incident may elicit a response

	Number of Incidents		Percent Increase
	1980	1988	
Fire	2,119	4,112	94%
Emergency Medical Services	4,688	7,946	69%
<b>Total</b>	<b>6,807</b>	<b>12,058</b>	<b>77%</b>

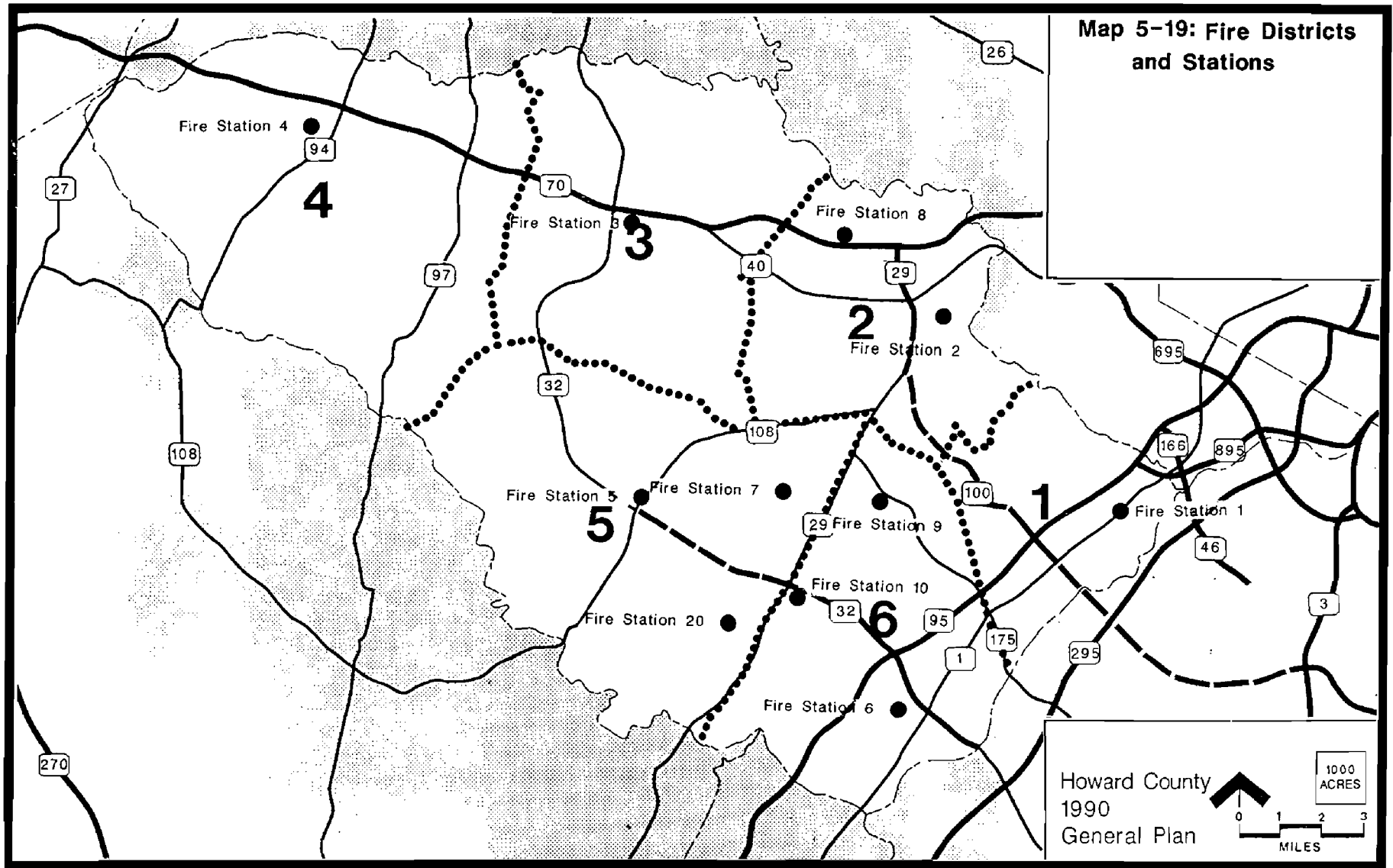
  

	Number of Responses		Percent Increase
	1980	1988	
Fire	5,046	6,165	22%
Emergency Medical Services	5,329	10,626	99%
<b>Total</b>	<b>10,375</b>	<b>16,791</b>	<b>62%</b>

Source: Ho. Co. Dept. of Fire and Rescue Services

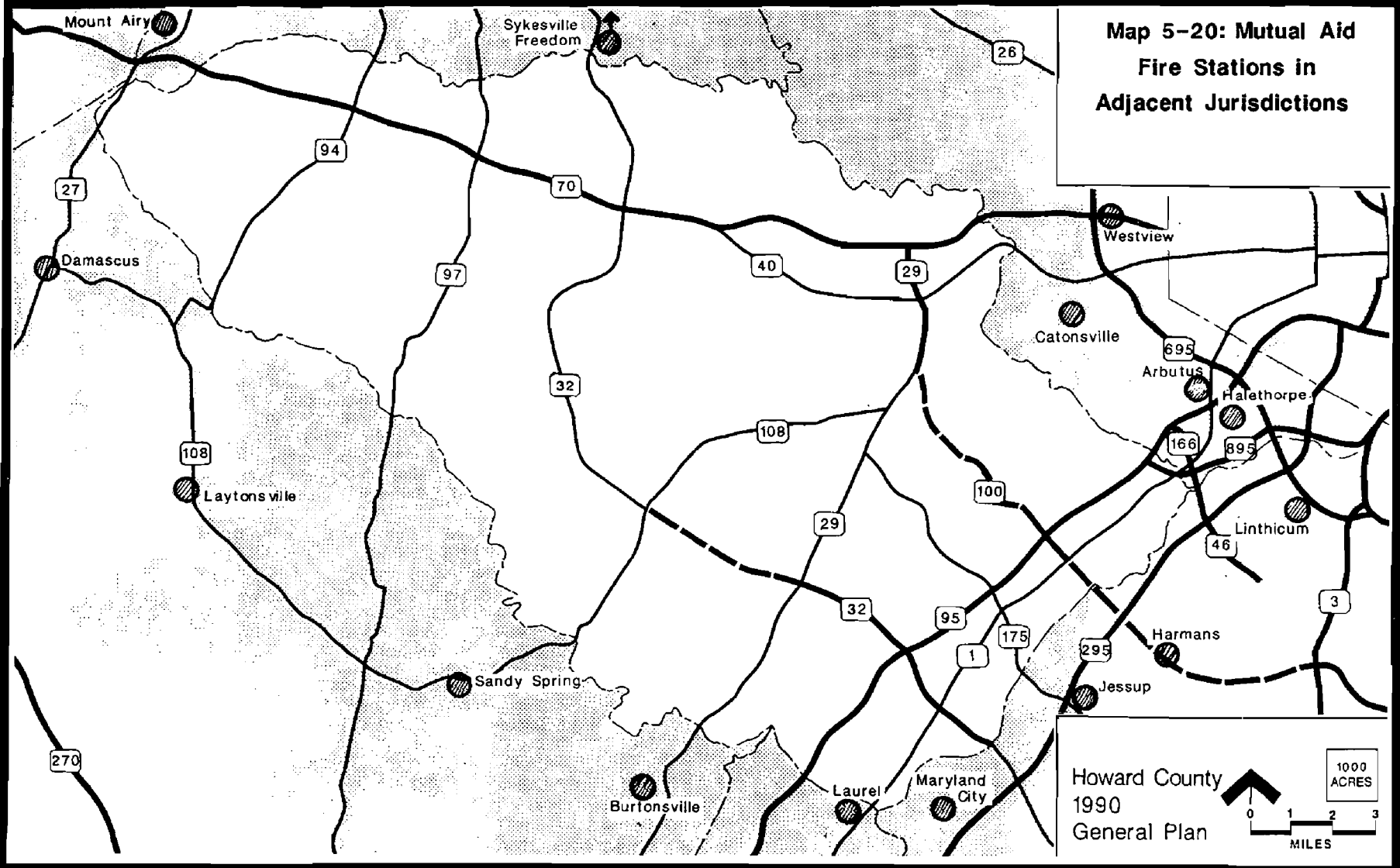
Figure 5-42

\* An incident is a fire, rescue, request for emergency medical service or other related emergency request to which the Fire Department responds.



Map 5-19

BALANCED GROWTH



Map 5-20

## BALANCED GROWTH

from one or more stations, the responses exceed the incidents. The incidents in 1988 required 6,165 fire responses and 10,626 EMS responses (a response occurs when equipment is dispatched from a station).

The average unit response time for Howard County Fire and Rescue Services is five minutes for EMS incidents and six minutes for fire incidents, both of which are within the profession's recommended standard response time of ten minutes. Although the "average" response times are within acceptable limits, there are still some portions of the County where the response time exceeds ten minutes. Simultaneous alarms in the same area may also increase response time. First response may also be provided by mutual aid from surrounding jurisdictions. Response time may be affected by the availability and possible relocation of these facilities. For example, the relocation of a station in a neighboring jurisdiction will alter response times in that area of the county. The Department of Fire and Rescue Services is working to improve overall response times.

Owing to the ever-increasing population in the County, it is apparent that there will be a need for additional fire stations to improve service in the growth areas of the County. The current Capital Improvement Program calls for the acquisition of land for five fire stations and a central maintenance and quartermaster facility over the next five years (see Figure 5-43). These needs are based on a study conducted in 1982; however, growth since then has exceeded projections necessitating an updated study to evaluate the need for fire and rescue services as well as police services. Once completed, the Capital Improvement Program will be revised and updated.

Due to the immediate training needs of the Department of Fire and Rescue Services and the Police Department, plans are underway to expand training facilities located adjacent to the Howard Community College Campus. However, these interim improvements will not provide either department with adequate space or training facilities for the comprehensive training of firemen or police officers. Long-term fire and rescue training facilities are needed that include specialized fire and rescue training such as live fire and hazardous materials training. The evaluation of the Fire and Police Departments' long-range training needs will be addressed through a consultant study which is currently underway.

### Fire & Rescue Capital Improvement Schedule

Future Fire & Rescue Facilities	Acquisition of Land	Construction	Completion
Waterloo (US 1 & MD 175)	FY 86	FY 90	FY 91
Dorsey Hall (US 29 & MD 108)	FY 88	FY 93	FY 94
Glenwood (MD 97)	FY 89	FY 94	FY 95
Relocation of Station 5 (Clarksville)	FY 90	FY 91	FY 92
US 29 & MD 216	FY 90	FY 92	FY 93
Central Maintenance and Quartermaster Facility	FY 91	FY 92	FY 94

Source: Ho. Co. FY 87,88,89 Capital Budget Detail

Figure 5-43

For the past five years the County's Fire Department has maintained a force of approximately 200 active volunteers. Unfortunately, this constant amount is not nearly enough to keep pace with the County's annual growth rate of 5%. The County needs to enhance its retention and recruitment program for volunteers. Unless the Fire Department can recruit more volunteers, it will need to hire more career personnel.

Along with additional fire stations, it is equally important to ensure that relevant infrastructure expands with the growth of the County. For example, the roads must be built so that the Fire and Rescue Services have more than one access to a subdivision. It is also important to make sure that the water supply system continues to be expanded to keep pace with the needs of the County. Water supply for fire protection should be provided by the extension of the distribution system or through fixed storage tanks for new development as recommended in the Fire Protection and Emergency Medical System Master Plan, February 1982.

The last and perhaps most important aspect of fire prevention is public awareness. The Department of Fire and Rescue Services needs to enhance its prevention outreach program to further educate the public on fire prevention and safety techniques and to implement codes requiring early detection and suppression systems in more structures.

Even though the needs study for fire and police stations is not yet complete, there are some conclusions that can be drawn from the comparison of the station response data between 1980 and 1988 that relate directly to the provision of facilities by geographical area.

### Criteria for Site Selection

Figures 5-44 and 5-45 provide a breakdown of responses in 1980 and 1988 by station, fire district, population and response type. Based on the high rate of responses in Districts 5 and 6 (over 58% of the total in 1980 and over 65% of the total in 1988), an additional district station in the southeastern section of the County appears necessary. As is noted in the section on Police Service, the possibility of joint fire and police station facilities should be examined in the southeastern area since these two uses are highly compatible.

The policies and actions resulting from this discussion are presented below:

## Policies and Actions

*Howard County, to enhance the geographic coverage of its fire protection and to reduce the risk of loss of property, loss of life or injury due to fire or need for emergency medical care, will:*

#### 5.68 Joint Southeast Fire and Police Station

Initiate site design for a joint fire and police station in the southeastern area of the County in the vicinity of Routes 216 and 29.

Station Number	Fire Dist.	Population	Fire Responses	EMS Responses	Total
1	1	7,100	601	557	1,158
2	2	13,000	682	718	1,400
3	3	3,600	286	219	505
4	4	5,900	282	282	564
5	5	8,300	354	302	656
6	6	20,200	866	889	1,755
7	5	19,000	819	952	1,771
8	2	9,500	299	458	757
9	6	32,000	857	952	1,809
10*	N/A	N/A	-	-	-
20**	5	N/A	-	-	-
<b>Total</b>		<b>118,600</b>	<b>5,046</b>	<b>5,329</b>	<b>10,375</b>

\* Station 10 not in service until 1987.  
 \*\* Private Station located at Johns Hopkins Applied Physics Lab

Source: Ho. Co. Dept of Fire & Rescue Services

Figure 5-44

#### 5.69 Fire and Police Training Center

Acquire land for a long-term joint fire and police training center. This center should include facilities for classrooms, driver training, live fire training and hazardous materials training.

#### 5.70 Fire Needs Based on 1990 Study

Use the completed consultant's study of existing and future levels of service for fire protection to develop future programs and new facilities to carry out the overall operations of the Department.



## BALANCED GROWTH

### 5.71 *Volunteer Program*

Enhance its volunteer recruitment and retention program.

### 5.72 *Adequacy of Infrastructure*

Maintain and establish infrastructure necessary for fire and rescue service operations such as the provision of an interconnecting road system and an expandable water system and adequate pressure.

### 5.73 *Post-Occupancy Inspection*

Initiate post-occupancy inspections for commercial uses.

### 5.74 *Public Education*

Expand public education programs.

Station Number	Fire Dist.	Population	Fire Responses	EMS Responses	Total
1	1	10,000	637	838	1,475
2	2	18,400	522	1,064	1,586
3	3	5,000	264	546	810
4	4	8,400	242	449	691
5	5	11,700	394	892	1,286
6	6	21,700	858	1,539	2,397
7	5	26,800	976	1,655	2,631
8	2	13,400	423	836	1,259
9	6	38,500	1,057	2,215	3,291
10	6	13,400	530	492	1,022
20*	5	N/A	243	100	343
<b>Total</b>		<b>167,300</b>	<b>6,165</b>	<b>10,626</b>	<b>16,791</b>

\* Private Station located at Johns Hopkins Applied Physics Lab  
 Note: Population estimate by response area by Ho. Co. DPZ  
 Source: Ho. Co. Dept of Fire & Rescue Services

Figure 5-45

## Recreation Facilities

### Introduction

Recreation requires adequate facilities based on analysis of needs and long-term planning to acquire and develop sites and structure programs. In this sense, it is similar to other public services such as libraries or police and fire. But provision of recreation is much more complicated than many other public services.

First of all, recreation facilities often require extensive land acquisitions. Athletic fields are measured in acres not square feet, and different recreation uses (e.g., baseball fields and soccer fields or tennis courts) cannot be superimposed on one another in the way a library or senior activity center can share the same building with other uses at the same time.

Also, some recreation must be accessible to children at school sites or elsewhere within their neighborhoods. A good deal of decentralization and duplication of facilities (tot-lots and ball fields especially) is thus needed to maintain a good level of service.

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 overall recreation system a very demanding government responsibility.

Recreation is often lumped together with parks and open space as if all three were interchangeable aspects of the same service to the public. This is not true. Parks or open space acquired to protect existing environmental and landscape resources may not be suitable for any extensive or intensive recreation facilities. The recreation potential of such areas may be limited to very low key or passive activities such as hiking or nature studies.

The distinction between parks and open space necessary for recreation and parks and the open space required for protection of environmental and landscape resources has not been made strongly enough in the past. As a result, the current holdings of parkland have not been acquired in an orderly way to meet specific targets for each type of purpose based on a clear analysis of needs.

On the other hand, State-owned parkland in Howard County has been acquired specifically to protect the rivers which form our boundaries and provide wilderness-oriented recreational opportunities. The State owns about 8,800 acres of green space in Howard County, which is about 50 acres per 1,000 people. The immense popularity of the Patapsco State Park indicates the need and desire of Howard County citizens to have attractive, close-to-home facilities and green space.

The *Land Preservation and Recreation Plan of 1989*, which is incorporated into this General Plan by reference, calls for a hierarchy of "county wide", "community serving" and "neighborhood" parks. However, since it does not clearly distinguish the purposes of such divisions, size has become the primary way to distinguish these parks. No criteria exist to differentiate "environmental parks" from sites for recreation facilities.

The present official plan does not provide specific criteria for determining the need for both environmental and recreational parks and for open space in general. The State Department of Natural Resources Program Open Space helps local jurisdictions acquire parkland and uses 30 acres for every 1,000 residents as the State standard for an acceptable level of service as measured by total local holdings. The County uses a somewhat higher standard of 35 acres for every 1,000 residents, with a division into 20 acres for County-wide parks, 10 acres for community parks and five acres for neighborhood parks.

How well these State and local goals are being met is a somewhat complicated issue. Currently the County holds about 4,537 acres. This is approximately 27 acres for every 1,000 residents; approximately 23% short of the County's standard. If the "quasi-public" Columbia Park and Recreation Association holdings of 2,500 acres and the 700 acres of play fields on public school sites are added to this total, the county exceeds its goal in recreation acreage. However, not all of the recreation facilities operated by the Columbia Association are open to the public at large in the same way that County-run public facilities are. The school site facilities are largely limited to team sports and athletics, which represent only one aspect of the total recreation needs of the County residents.

Given the rapidly decreasing pool of undeveloped land in the urban areas of the County, it is not at all certain that future sites can

## BALANCED GROWTH

---

be acquired to keep pace with the growth in population. Based on the 30 acre for every 1,000 residents standard, about 3,300 to 4,000 additional acres will be needed by 2010.

As all this indicates, there is a pressing need for a more orderly system of assessing recreation needs, distinguishing them from environmental and landscape protection needs, and acquiring land for both purposes in an efficient and cost-effective way. This planning effort is further complicated by such circumstances as: the existence of two systems for providing recreation in Howard County -- that run by the Department of Recreation and Parks and that run by the Columbia Park and Recreation Association; the relationship of the Department of Recreation and Parks and the Department of Education; and the reliance upon the existing major funding source of Program Open Space for acquiring land to increase the size of the system to keep pace with increased needs.

### Planning and Management of Recreation Services

Public recreation facilities and recreation programming is primarily the responsibility of the Department of Recreation and Parks. The Department is responsible for acquisition, development and maintenance of the recreation system. In 1989, the Department had a full-time staff of 105 with an annual operating budget of \$5.85 million.

In the New Town of Columbia, the Columbia Park and Recreation Association operates an independent system of open space and recreation facilities; many of which (golf course, swim center, horse center) are not now offered by the public system. Although the Columbia Park and Recreation Association system is supported by a special tax paid by Columbia residents, the Association provides many needed services and its benefits are not limited to Columbia residents only.

Some commercial businesses or private organizations such as swim, tennis and golf clubs, golf driving range and private horse riding centers are also available to meet some of the recreation demands of County residents. But such private recreation is now a minor part of the County's overall recreation resources and is likely to remain so, relative to the recreation services provided to residents by the County or Columbia Park and Recreation Association. Non-profit recreation facilities, such as the YMCA, also provide important

programs and services for County residents. Unfortunately, the limited resources of non-profit agencies often preclude wide-spread participation.

School sites are obvious locations for many recreation facilities, especially athletic fields and gymnasiums. However, the use of school buildings for other recreation programs, and coordination of public recreation and school program needs when selecting and developing sites have not been as efficient as they should be. 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.

Acquisition for recreation sites has, in the past, come from three sources: Program Open Space, the County General Fund and dedication to the County of open space as part of the subdivision and land development process.

Program Open Space is a State program, funded by property transfer taxes, designed to assist local governments in the purchase of sites for parks and recreation areas. To qualify for such funds, the County must demonstrate it is working to meet the State Department of Natural Resources standard of 30 acres for each 1,000 residents. Since 1970, Howard County has received \$9.4 million. The current allocation to the County is \$1.1 million. However, with legislation passed by the 1990 General Assembly the way was cleared for phasing in of "full funding" of the program open space program which means that Howard County's program open space funding will increase gradually over the next six years from the current \$1.1 million to approximately \$2.8 million. Program Open Space money is primarily targeted for acquisition, although use of Program Open Space funds for development of facilities is allowed under specific conditions.

Program Open Space funds have mostly been used to purchase land for County parks which are to be largely developed for recreation. Land set aside for environmental or landscape protection has rarely been actually purchased; most of the County's open space holdings have been acquired through dedication. Lack of a comprehensive plan or funding sources solely targeted to open space acquisition are two reasons that the County's open space holdings do not form a continuous and extensive network of open spaces such as is characteristic of Columbia. Indeed, there is now no clear measure of the open space needs of the County as they relate

to environmental and landscape protection. As is discussed in Chapter 6: *Working with Nature*, even if there were such a measure of need, it is doubtful that continuing to rely on dedication alone could secure open space areas in sufficient amounts and in appropriate locations.

When open space areas for use of residents in specific neighborhoods have been set aside by dedication and land development, the quality of such areas has not always been suitable for recreation. Where such areas are not steep slope areas, they have often been compromised by storm water facilities and drainage easements, have had much of their original landscape character altered by clearing or grading, are hard to reach, or consist of disconnected fragments of land. While these areas in total will meet the open space acreage requirements for a land development project, they give the neighborhood no real open space benefits. Council Bill 66-1988, now codified in Title 16, Subtitle 1 of the Howard County Code, corrected some of the worst aspects of this problem, but better standards are still needed.

A related issue is the need for clearer policies about when and how it is more appropriate for local neighborhood Homeowner Associations to manage and maintain recreation areas which are set aside primarily for the use of neighborhood residents rather than County residents at large.

The goals of achieving an acceptable level of service for recreation and of locating recreation facilities close to people will result in the acquisition and development of most of these facilities in the East. In addition, there will be an emphasis on community/neighborhood parks in this more densely developed area. Based on the standard of 30 acres for each 1,000 residents, 3,300 to 4,000 acres are needed - the equivalent of 60 community parks and seven county parks. A crucial planning question is where such facilities are to be located in an urban East with limited undeveloped land, pressure for more housing and employment, and a need to protect the environmental and landscape resources that remain. Combined school/recreation sites work well to satisfy local community recreation demands throughout the County. Opportunities for such combined spaces will be actively pursued.

Clearly, this problem is a difficult one and its solution requires better analysis of needs, clearer acquisition priorities,

adequate funding and close coordination with other balanced growth policies. The policies and actions that derive from our discussion of needs follow.

## *Policies and Actions*

*Howard County, to identify potential park system additions and appropriate recreation sites and to maintain appropriate provision of facilities and levels of service, will:*

### **5.75 Acquisition Priority**

Accelerate acquisition of land for the County's 20-year recreation needs. During the next five years, priority for park acquisition should be directed to the developing areas where population growth is greatest. Since suitable sites for such needs are disappearing rapidly, it will be cost-effective to acquire as much land as soon as possible.

### **5.76 County-State Cooperation**

Encourage County and State cooperation and funding to expand State and County open space and park facilities adjacent to the boundaries of the Patuxent River State Park and the Patapsco Valley State Park, and along the banks of the Rivers.

### **5.77 Recreation as Part of Community Planning**

Integrate recreation acquisition goals into land use and environmental analysis as part of all community area planning (See Chapter Seven: *Community Enhancement*.)

## BALANCED GROWTH

---

### **5.78 *Update Data Base for Facilities Needs***

Base site selection for recreational facilities, especially major athletic fields, on a demand and use analysis that updates the 1988 Land Preservation and Recreation Plan. This requires periodic park and recreation use surveys and evaluations so that new facilities can be planned to meet actual demands.

### **5.79 *County Residents to Set Facilities Priorities***

Organize its recreation program so that County residents are awarded first priority for facilities usage.

### **5.80 *Site Rehabilitation***

Investigate the redesign and rehabilitation of existing recreation and school sites to meet changing recreation needs.

### **5.81 *Active and Passive Recreation Needs***

Analyze passive and active recreation needs so that each set of needs can be served with appropriate settings or facilities. Criteria need to be established for the identification of recreation sites and their location and development potential. Incorporate into needs assessment and planning, the concept of a system of trails and pathways within green corridors which may accommodate such activities as walking, cross-country skiing, bicycling and horseback riding.

### **5.82 *Nature Centers***

Identify and evaluate appropriate sites for the development of nature centers within the County park system.

### **5.83 *Bike Paths***

Develop a County-wide Master Plan for Trails and Pathways with an emphasis on interconnecting the existing system with other areas of the County. This pathway system will be an integral part of the County's greenway initiative. The trail and pathway Master Plan will be the framework for future funding requests to develop the system.

*Howard County, to improve management and delivery of services, and to improve coordination with other government responsibilities, will:*

### **5.84 *Greenway Systems***

In accordance with the principles established by the Governor's Commission on greenways, acquire easements in developed areas or dedicated open space in developing areas especially within stream valleys in order to provide corridors for natural trails as part of efforts to create continuous greenways that can be areas for nature-oriented activities, yet preserve environmental and landscape resources, and to provide access to community parks and other public facilities through an open space system.

### **5.85 *Recreation on Appropriate Historic Sites***

Investigate opportunities for providing appropriate recreation on sites with cultural or historic preservation value; using these sites, some of which are already under public guardianship, offers a new dimension to planning for recreation needs in the County.

- 5.86** *Coordination Columbia Association and Department of Recreation and Parks*  
Continue to facilitate and encourage cooperation and coordination between the Columbia Association and the Department of Recreation and Parks in recreational planning and programming.
- 5.87** *Public vs. Private Management*  
Develop criteria for distinguishing recreation areas that can be managed by homeowners' associations and other private entities and those that require public ownership and management.
- 5.89** *"Vestpocket Parks" in Existing Neighborhoods*  
Look for opportunities within existing neighborhoods that can be suitably developed for needed recreation facilities without the need to establish full scale "parks."
- 5.90** *Cooperation between Department of Education and Recreation and Parks*  
Improve cooperative agreements between the Department of Recreation and Parks and the Department of Education in the joint use of school and recreation facilities; this includes County funding for the "oversized" portion of school sites and facilities for community usage and cooperation on the selection of school sites and the design, development, management and maintenance of their recreation facilities.

*Howard County, to establish neighborhood-oriented recreation facilities, will:*

- 5.91** *Development to Provide Adequate Recreation*  
Make developer provision of adequate recreation areas part of the approval of residential developments.
- 5.92** *Revisions to Regulations*  
Revise zoning and subdivision regulations to improve the quality of dedicated open space and its suitability for recreation uses; tree preservation and landscape design criteria are to be part of this effort; "fee-in-lieu-of" payments for such space should accurately reflect current land values.
- 5.93** *Subdivision Recreation Plans*  
Establish criteria for the qualitative review of subdivision-scale recreation proposals at the earliest stages of the development process.
- 5.94** *Recreation Area Protection during Construction*  
Enhance inspection and enforcement during private and public sector development and construction to ensure that passive recreation areas are not disturbed and, if disturbance cannot be avoided, provide for them to be restored.

# Human Services

## Introduction

The local human services system includes a broad and diverse group of providers. There are the public providers (County, State and federal, 33%) and the private providers (non-profit - 65% and proprietary - 2%). It is a complex, interwoven delivery system of unique and different organizations which include:

- Howard County's Department of Citizen Services including: the Employment Training Center (Job Training Partnership Act-JTPA); Offices on Aging, Consumer Affairs, Human Rights, and Commission for Women; specialists in Youth Services, Disabilities Services, and other County human services.
- State Offices including Job Service/Unemployment, Social Services, Health, and Juvenile Services Administration;
- Federal services such as Social Security;
- Voluntary, non-profit providers including Grassroots, Association for Retarded Citizens, Urban Rural Transportation Alliance (URTA), Sexual Assault Center, Winter Growth, Howard County General Hospital; and
- Proprietary providers including Oakview Treatment Center and Taylor Manor Hospital.

An inventory of human services resources available to Howard County citizens exists in several locations in the County including the Department of Citizen Services, Howard County Library, United Way Community Partnerships (UWCP), Howard County Information & Referral, and the Association of Community Services (ACS).

Every effort is made to keep current information about all the human service providers, but there are well over 100 non-profits providing a variety of human services in Howard County. Of these 55% have from one to 60 paid staff and 45% are operated entirely by

volunteers. It is difficult, therefore, to analyze how well the existing system is meeting the need for such services in Howard County.

Population characteristics, especially income, have an important direct effect on the need for services and the population's ability to pay for them. The location of services is also important.

In 1989 median income was \$60,364 for Howard County households; however, 10% of the households had annual family incomes of \$25,000 or less, and about 25% had incomes of \$25,000 to \$50,000.

The aging of our population is already an extremely significant factor in planning for human services and it will become increasingly important. Over the next ten years, the population which is 45 and older will grow by 131%! The number of people aged 85 & older will triple (See Figure 5-46)!

The demands for sheltered housing, homemaker services, and elderly day care for those aged 75 and older is rapidly increasing and

	1990		2000		2010	
Youths, ages 0-17	43,700	24%	55,300	23%	62,800	22%
Adults, ages 18-44	87,400	48%	96,100	40%	105,600	37%
Older Adults, ages 45-64	40,000	22%	69,700	29%	85,700	30%
Elderly, over 64	10,900	6%	19,200	8%	31,400	11%
<b>Total</b>	<b>182,000</b>	<b>100%</b>	<b>240,300</b>	<b>100%</b>	<b>285,500</b>	<b>100%</b>

Source: Maryland State Planning, HoCo DPZ

Figure 5-46

will soon outgrow the current service levels which are already at capacity.

Howard County has a very low unemployment rate of 2-3%. It is already difficult for businesses to fill entry level jobs, and with the anticipated strong job creation over the next decade this problem will intensify. Therefore, senior citizens, disabled people, drop-outs, welfare recipients, and others previously considered to be outside the workforce are groups that can and will be utilized to fill some critical labor shortages. Training and incentives are key elements for employing these potential workers.

## Human Service Needs

Needs deserving the greatest attention are described below:

*Specialized housing* such as sheltered or supervised housing for elderly and disabled people; transitional housing for those not prepared for independent living; and low income housing is increasingly needed. These needs will be particularly acute as special populations or those currently in the County seek housing alternatives.

There are currently 50 certified sheltered housing beds for senior citizens. According to the Maryland Office on Aging, the actual need is for 168 beds. This need is predicted to grow to 420 beds requiring 46 new sheltered homes. Of these 420 new beds, the Maryland Office on Aging projects that 289 will need public subsidies.

Many elderly residents capable of caring for themselves have fixed incomes, and housing that is affordable to them is and will continue to be in demand.

*Public transportation and paratransit services* to provide access for entry-level workers, senior citizens, and special populations to jobs, stores, medical centers, recreational and human services are needed. These needs will be addressed in the County's comprehensive public transportation plan (see page 100).

*Employment development*, including training, retraining, and job accommodations for workers will become even more crucial for maintaining a qualified and available workforce for Howard County.

Project Independence, through the Job Training Partnership Act (JTPA), will be moving more people from income maintenance into employment roles.

As the growing senior population re-enters the workforce to fill job openings, business training, retraining and job adjustments will be necessary. It will be important to the thousands of disabled and/or deinstitutionalized citizens seeking an independent life that employment be available and employers adapt their workplace to accommodate these workers.

As we continue to move from an industrial to an information economy, retraining the workforce with new job skills becomes a necessity for displaced workers as well as the work force as a whole.

*Family support*, including strengthening and supplementing services, are the kinds of human service needs that are increasingly apparent, due to such trends as the increasing number of single-parent households and households with both parents working. The impact of these trends on child day care and adult day care, housing, family income levels, youth programs, and other family support services is tremendous.

Recent respondents (18%) to a county survey said the lack of adequate, *affordable child care* was preventing them from seeking or keeping employment. The need for more parents to be in the workforce will significantly increase the need for child care. Today, child care needs of the County are mainly filled by for-profit child-care centers, family day-care providers and some church-sponsored day-care services.

*In-home services*, such as home care, nutrition services and primary outpatient medical care are needs that will continue to increase as the population ages and as special populations progress toward personal independence.

Present State projections show that 1,471 older people in Howard County need homemaker or personal care services with 946 needing public support. At present, 100 people are receiving subsidies for in-home service. By the year 2000, 4,413 older people will need homemaker or personal care services with 2,838 needing public support.

Additional *Senior Centers* are needed. These centers would be places where older citizens can gather for meals, educational or recreational programs, and other services. The Florence Bain Senior



## BALANCED GROWTH

---

Center now serves 250-300 people per day and is operating at capacity. By the year 2000, Howard County will need enough Senior Centers to serve 800 on a daily basis.

*Adult Day Care* is needed by an estimated 179 people in Howard County according to the Maryland Office on Aging. Winter Growth, serving 45 people, is operating at full capacity. By the year 2000, 447 elderly Howard County residents will need Day Care. The need is not limited to the older citizen's personal care; adult day-care also enables other family members to remain in or join the workforce.

Eight *Nutrition Sites* presently serve 175 older citizens per day. By the year 2000, there will be a need for 12 to 15 additional sites to serve 525 senior citizens per day.

*Equal opportunity and consumer services* will continue to need attention in the next two decades. Age, race, sex, and handicap discrimination problems, along with increasing consumer complaints (particularly in housing), require expansion of programs to deal with the expected requests for assistance.

*Coordinating 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.

The following policies and actions result from this consideration of human service needs.

### *Policies and Actions*

*Howard County, to support comprehensive human services planning, will:*

#### **5.95 Data Base Development**

Develop and maintain demographic data bases on clients and the general public to determine the future human service needs of the County. This needs assessment will be coordinated with the development of the County comprehensive public transportation plan (see page 100).

#### **5.96 Human Services Needs Assessment**

Prepare and publish a Human Service Needs Assessment to address present and projected human service needs and to establish priorities for human service development as a result of assessment findings.

*Howard County, to maximize accessibility, will:*

#### **5.97 Decentralize Services**

Decentralize public sector human service delivery systems and locate services close to those who need them.

#### **5.98 The Multi-Service Center Concept**

Establish multi-service centers as focal points for the delivery of human services, and determine scale and type of services to be located at multi-service centers.

#### **5.99 Implementing Multi-Service Centers**

Develop the administrative mechanisms to implement multi-service centers by coordinating location, shared space usage, staffing and daily operating procedures with other co-tenants of multi-service centers, such as libraries and health clinics, and monitor the operation of the centers.

*Howard County, to make the most efficient use of funds for human services, will:*

#### **5.100 Funding Distribution**

Develop a funding distribution system for grants and contracts which permits the County to target services to citizens' needs, enables service providers to plan

further into the future, allows for demonstration programs, ongoing support, special projects and specifies a role for free enterprise.

**5.101 Partnerships for Human Services Delivery**

Promote partnerships among government, business and non-profit sectors for the networking and coordination of human services delivery.

**5.102 Potential Providers**

Identify potential providers who can serve existing unmet human needs and future needs.

***Howard County, to meet the basic transportation needs of the elderly, disabled and other transit dependent individuals, will include the following elements in its comprehensive public transportation plan:***

**5.103 Organization of Paratransit**

Seek alternative sources of funding and alternative routing and scheduling for paratransit.

**5.104 Transit and Paratransit Integration**

Integrate paratransit services with public bus and rail to encourage use of mass transportation systems by specialized transit users.

**5.105 Analyze Need for Increased Paratransit**

Determine off-peak paratransit needs for evening and weekends, evaluate the cost/benefits of providing such services, and, if feasible, develop a plan for funding such services.

***Howard County, to expand its labor pool by including such potential working populations as youth, minorities, elderly, disabled, homemakers, welfare recipients and non-working mothers, will:***

**5.106 Employment Development Program**

Provide employment development programs directed toward these groups and those leaving public support systems. The County will develop training programs, work-referral systems and public relations programs.

**5.107 Coordination of Economic Development and Job Training**

Work with the Department of Education and Howard Community College to identify needs for trained workers and develop training programs to fill those jobs.

**5.108 Facilitating the Provision of Child Care**

Work toward enabling all County residents to have access to quality, affordable child care; help to reduce the procedural barriers to qualify people who want to provide child care services; increase child care accessibility to special needs families; strengthen and increase availability of training programs for child care workers; and help employers become aware of the importance of child care issues to their employees.

# Health Services

## Health Care Needs, Services and Programs

Howard County residents benefit from a wide variety of local health care providers and services, as well as being proximate to the health care facilities of the Baltimore and Washington regions.

Howard County General Hospital provides 194 beds, of which 35 are for psychiatric care and nine are for chemical dependency detoxification. Other hospital services include emergency, outpatient surgery, and a health education center.

Within Howard County, services are offered by 12 home health agencies, three walk-in clinics as well as an industrial medical clinic, seven Health Maintenance Organizations, three preferred provider organizations, and numerous private providers.

The County's elderly are served by two nursing homes: Bon Secours Extended Care Facility in Ellicott City with 99 beds and Lorien Nursing Home with 247 beds. Continuing care facilities also serve the elderly. In Ellicott City, Heartlands offers a 160 unit residential complex, and in Columbia, Vantage House will open with 225 units, 26 domiciliary care beds, and 41 comprehensive care beds.

Because the elderly 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. By the year 2000 the number of residents over age 45 is anticipated to increase by 130%. Although one elderly day care facility is located in Columbia, other day care facilities will likely be needed in Ellicott City, Elkridge, and East Columbia.

The terminally ill and their families are served by Hospice Services of Howard County. Nursing care and support services are offered to patients within their homes. In addition, one inpatient hospice bed is provided.

Howard County has several alcohol and drug abuse treatment programs. Two 28-day inpatient programs provide a total of 93 adult beds and 35 adolescent beds. An intensive outpatient treatment facility is located in Columbia. A 15 bed halfway house will open in 1990.

Howard County is located between two of the top twenty U.S. cities in the number of AIDS cases: Washington is ranked 5th and Baltimore 18th. As of November, 1989, Howard County had 30 diagnosed AIDS cases. However, the Centers for Disease Control estimate that for every case of AIDS, 30 people are infected with the Human Immunodeficiency Virus, the antibodies which can cause AIDS. Howard County, therefore, can expect to have at least 900 cases of AIDS reported over the next decade. Because of the chronic debilitating nature of the disease, a tremendous strain will be placed on existing facilities. Additional hospital beds, nursing home beds, and hospice care will be needed. Since housing is a problem for people with AIDS, the county will need a group home and will need to provide foster care for both children and adults with AIDS. The number of cases may dramatically increase if the number of county residents abusing intravenous drugs increases.

## The Needs of Special Populations

Howard County's chronically mentally ill adult residents are served by Vantage Place, which provides 65 beds in alternative living units in apartments and town houses. As the population grows, the existing capacity for the mentally ill will need to expand, especially group home and small residential facilities that provide intensive supervision and treatment.

The County has one group home for emotionally disturbed boys, Cooksville Academy. Currently, two additional group homes are needed, one for boys and one for girls. Because the State is continuing to deinstitutionalize minors and because there will be a 14% increase of children between 0-17 years by the year 2000 (1987 *Megatrends*, United Way of Central Maryland), additional group homes will be needed.

The Howard County Association of Retarded Citizens Community Choice program provides a total of 70 beds for retarded citizens through a combination of group homes, apartments, alternative living units and respite care. The need will increase moderately as the population increases.

## Clinical Services and Accessibility

The Howard County Health Department provides a variety of clinical services to the residents of the County including those for maternity, family planning, child health, communicable diseases, mental health and addictions. There is also a day rehabilitation program for the chronically mentally ill. The Health Department also provides addictions services at the Howard County Detention Center. Since 70-80% of the inmates have addictions problems, the service will need to be increased as the facility is enlarged. Most of the clients who utilize Health Department services are the low income or "gray area" population (above medical assistance guidelines but below 150% of poverty).

Because the County lacks a comprehensive public transportation network, and many clinic users do not have ready access to automobiles, the location and accessibility of clinics is important. The health department's services are not currently easily accessible to County clients. Services are now located in Ellicott City and Columbia. By 1991, there will be full clinic services at the new Savage Health Center. Considering the low income population served by Health Department clinics and the type of services needed, additional clinics should be located in areas with concentrations of young, low income residents. Based on a review of the schools with large numbers of children eligible for free lunch, an indicator of low income families, an additional health center in the northeast portion of the County will be needed.

The low income population in the western portion of the County is sparse and widely distributed. In order 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 with other services, will be needed in the future.

The policies and actions resulting from this discussion are presented below:

## *Policies and Actions*

*Howard County, to enhance and broaden the range of the health care services provided to its residents, will:*

### *5.109 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.

### *5.110 Health Care Programs*

Encourage and, where possible, assist the provision of adequate inpatient, outpatient and in-home health care programs to County residents including treatment for the elderly, drug and alcohol addicts, the mentally ill, and chronically and terminally ill patients.

### *5.111 Health Care Needs Assessment*

Prepare an assessment of present and future health care needs of County residents which will include a study of the special needs of uninsured individuals. Develop and maintain a demographic database which monitors the health and health care needs of all County residents.

## BALANCED GROWTH

---

*Howard County, to meet the needs of special populations in a more traditional residential neighborhood setting, will:*

**5.112 Residential Opportunities**

Work cooperatively with the State and the private sector to provide a variety of residential options.

*Howard County, to maximize accessibility to public health care services, will:*

**5.113 Decentralized Services**

Decentralize, if appropriate, public health care services and locate services close to those who need them.

**5.114 Multi-Service Centers**

Incorporate health care services into multi-service centers with other highly visible and frequently used public facilities such as libraries and human service centers.

**5.115 Transit and Paratransit Services**

Promote the provision of paratransit and public transit to increase accessibility for transit dependent individuals to health care services.

**5.116 Services in Low-Income Populations**

Expand the scope of public health care services to low income households, the indigent and uninsured individuals, and support private health provider efforts to serve these populations.

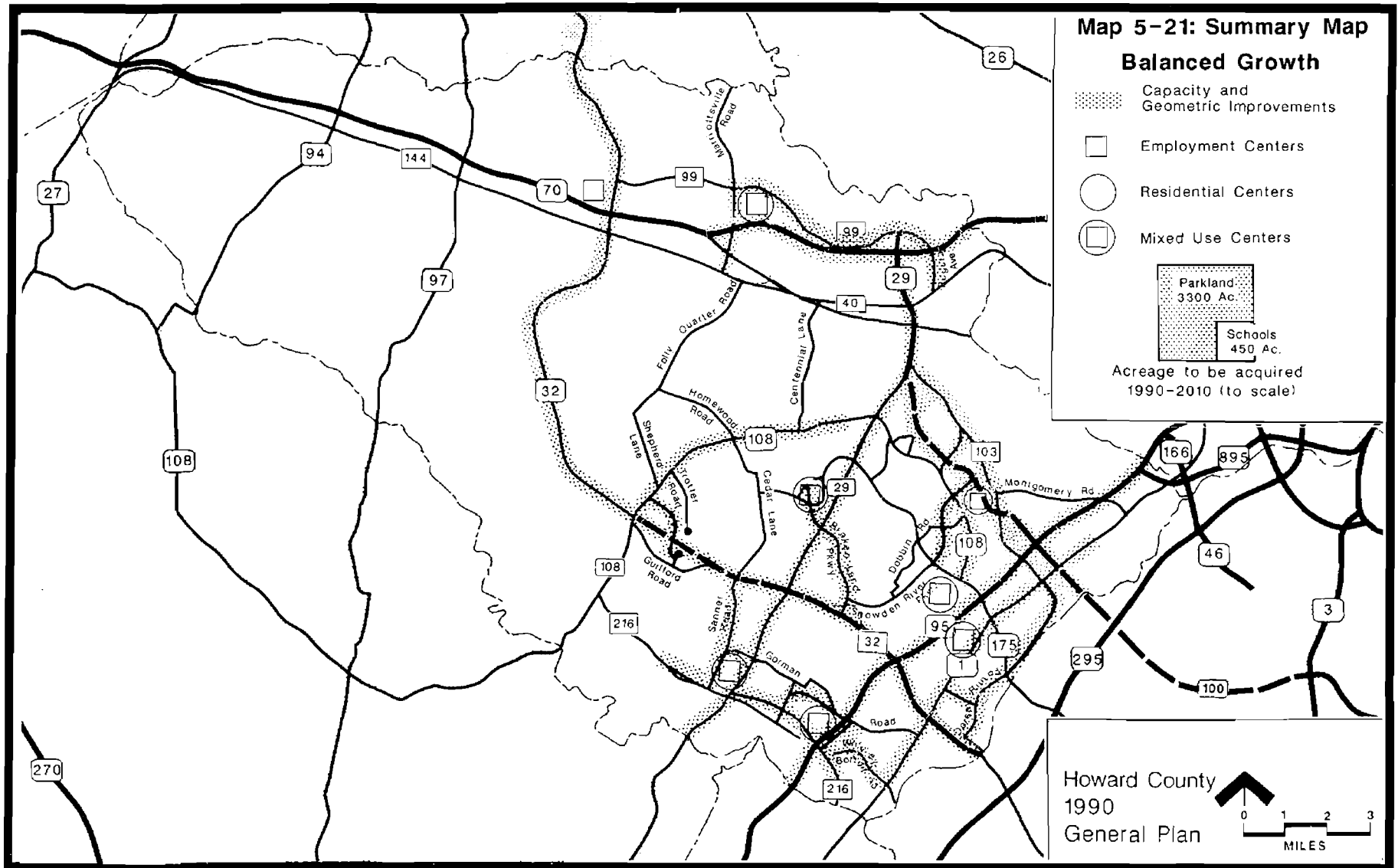
*Howard County, to assure a comprehensive health care system supported by sufficient health care professionals, will:*

**5.117 Promotion of Health Care Professions and Opportunities**

Assist with the promotion of health care professions and educational opportunities at local universities, the Howard County Community College and the Department of Education.

## *Summary Map*

Map 5-21 summarizes some key land use and transportation initiatives of this chapter.



Map 5-21

---

# WORKING WITH NATURE

---



## Chapter Six

# WORKING WITH NATURE

## Introduction

The desire for a high quality of life also extends to a high quality environment and landscape in which to work, live and play. 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 endured.

Council Bill 66-1988, passed in December 1988, eliminated some of the worst effects of development on the environment and landscape. The bill required that natural, undisturbed buffers must be retained along streams and wetlands; most steep slopes must be left undisturbed; and more stringent grading requirements must be met before removing natural vegetation or changing the topography of development sites. Council Bill 66-1988, however, only dealt with the worst abuses or neglect and only established minimal standards for the environmental quality of development. Much more needs to be done.

Howard County's position within the region creates tremendous development pressures on our environmental and landscape resources. One way to protect such resources is to set them aside in large parks or conservation areas. Practically and fiscally, this can only be done for the most valuable or sensitive environments or landscapes.

The crucial problem is how to protect environmental and landscape resources within developed areas; in other words, how to make environmental and landscape quality a high priority in the design of neighborhoods, commercial areas, office parks, and even manufacturing and warehouse areas. It is not enough to have access to natural areas or a pleasant landscape only by visiting large parks or taking weekend drives into the countryside. Environmental and

landscape quality should be an integral part of the everyday experiences of County residents and those who work here.

## Waterways and Wetlands

### Role of the Chesapeake Bay Agreement

In addition to concern about specific resources – wetlands, stream buffer areas, steep slopes – this General Plan incorporates the vision of the Chesapeake Bay 2020 Report - a most significant regional planning initiative for this and the next two decades. "Save the Bay" has long been a growing concern, but most attention was given to the areas that directly drain into the Bay. The 2020 Report stems from the Chesapeake Bay Agreement of 1987 which fully recognized that the future of the Bay depends on the environmental health of its entire hinterland.

Each state signing the Agreement must also respond to the Governors' Commission on Growth in the Chesapeake Bay Region's call for regulating land use activities and development patterns within the bay watershed to further the goal of maintaining and restoring the quality of the Bay itself.

Implementing the 2020 Report has profound implications for local governments such as Howard County. The 2020 Report calls on local governments to adopt new policies toward growth, development and environmental protection that go far beyond reliance on parks and open space or buffers along streams to achieve its goals of maintaining and restoring the Bay. Indeed, the 2020 Report affects fundamental decisions about where and how much growth should occur within the region as a whole and within each individual jurisdiction.



The 2020 Report calls on local jurisdictions to:

- Protect land resources such as agriculture and woodlands from urban encroachments. Limit residential development in rural areas to levels compatible with retaining the ecological and scenic value of the countryside.
- Protect sensitive environmental areas from encroachment or damage but provide for large open spaces within walking, bicycling or short driving distances of most people.
- Give open space needs the same priority as other infrastructure needs.

This General Plan for Howard County seeks to be amongst those in the State that incorporate key goals of the 2020 Report in its local land use policies. The methods by which the western half of the County can remain largely rural have already been set forth in detail in Chapter Four. Although the environmental protection and special open space needs of the West are also mentioned here, the bulk of this Chapter focuses on land use problems in the suburban development areas that must be resolved to put into practice the long range goals of the 2020 Report.

### Streams and Rivers

About two-thirds of Howard County lies within the Patuxent watershed and the other one-third within the Patapsco watershed, two of the main river systems that drain to the Bay. (See Map 6-1.)

The main stems of these rivers have many tributaries which drain large areas of the County. Numerous small streams feed into the main stems and tributaries. These are often contained within valleys that have numerous wetlands within the small valley floor areas and that are clearly defined by adjacent steep slopes.

Much of the land along the main stems and key tributaries of the Patuxent and the Patapsco is now under permanent public ownership, but several significant gaps exist. For example, little of the land within the Patapsco valley west of MD 32 now enjoys such protection.

Stream valleys are extensive and encompass many of the most important of the County's natural resources - the waterways themselves, wetlands, floodplains, adjacent steep slopes, and wildlife habitats. (See Map 6-2.) Degradation of any of these elements harms the environmental and landscape integrity of the others.

The regulations adopted in December 1988 require undisturbed streamside buffer areas of 75 feet along all streams within residential zoning districts. While most streams benefit from this requirement, streams or the portions of streams passing through non-residential districts still lack sufficient protection.

Howard County supported passage of the non-tidal wetlands legislation passed in the 1989 session of the General Assembly and had already instituted wetland protection in its own regulations such as a 25-foot undisturbed buffer around all non-tidal wetlands. Increased emphasis now will be paid to coordinating wetland protection with other environmental concerns such as stream valley corridor planning, tree preservation, and protection of wildlife habitats.

### Bay Clean Up Initiatives and Stream Valley Restoration Activities

It is especially important that areas along streams that have already been disturbed, have limited buffers, or which 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 such streams.

One way to build public support for such work is the Bay Clean Up Program which promotes such mitigation activities as removal of debris from streams, stream monitoring of water quality, and replanting of banks to promote stability and to check erosion, and other similar mitigation work. Such work depends heavily on volunteer help and is a good way to get the community at-large involved in environmental protection. This work needs to be organ-

ized and carried out in ways that yield permanent gains. The County already has designated a Bay Clean Up Coordinator to initiate this, but the volume of work that needs to be done is very great.

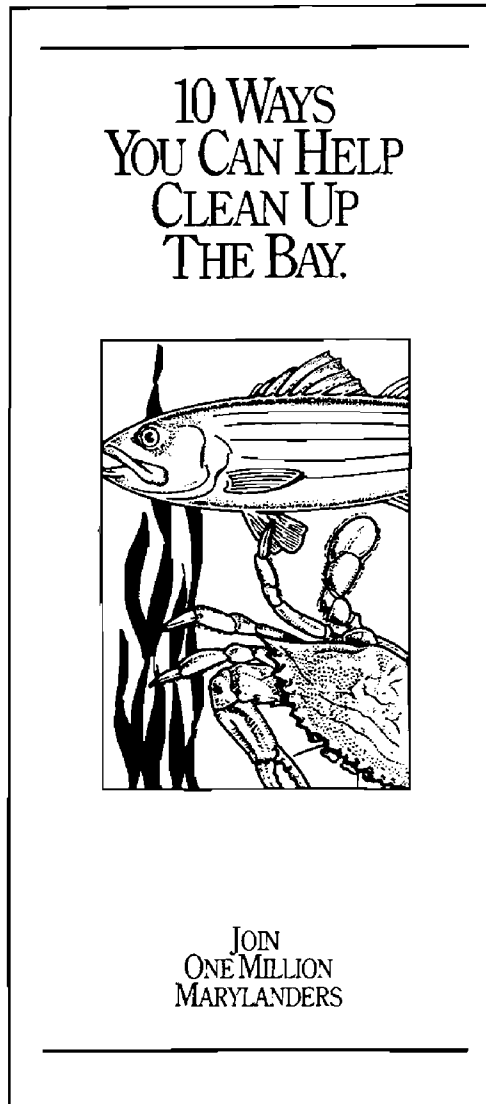
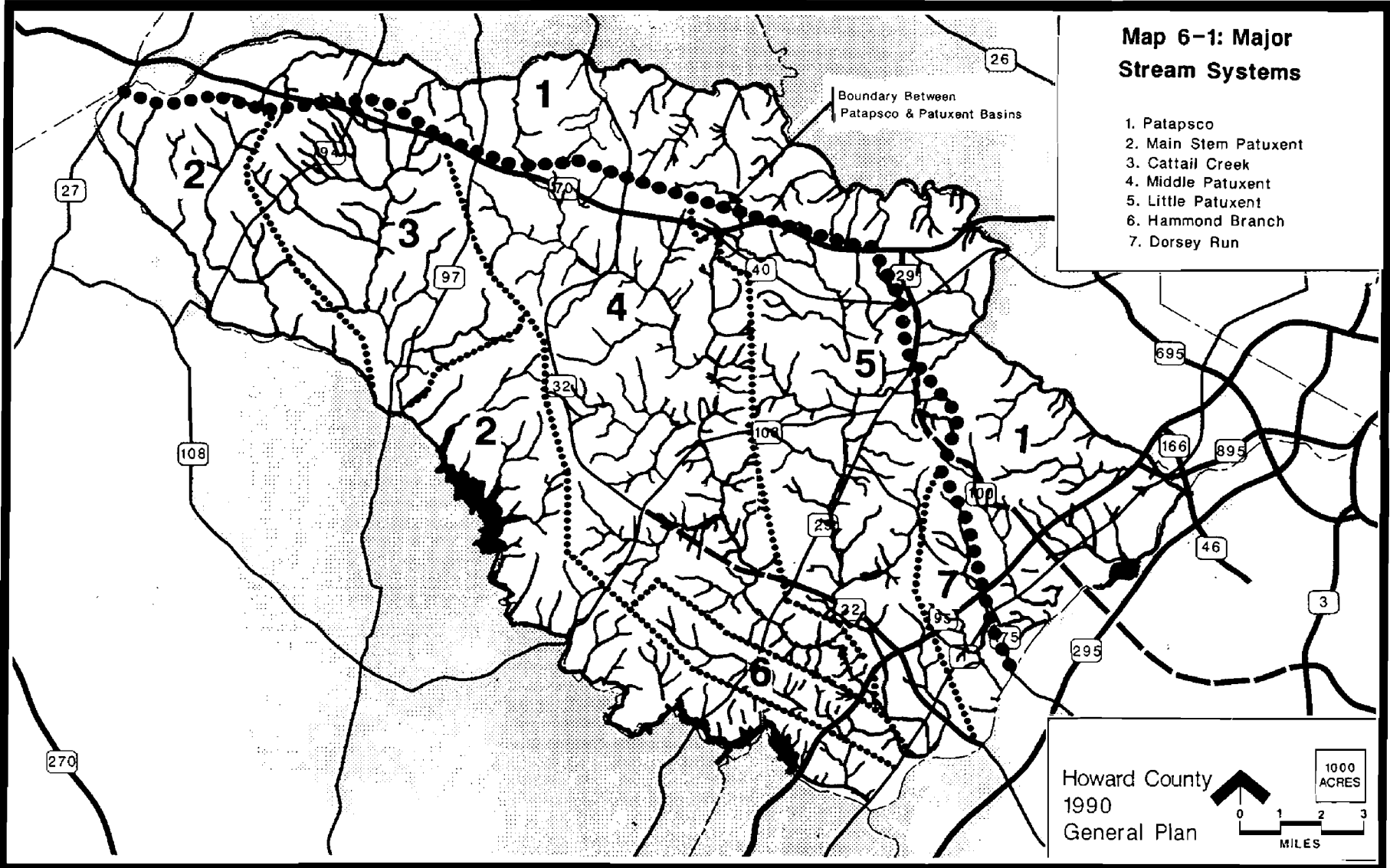


Figure 6-1

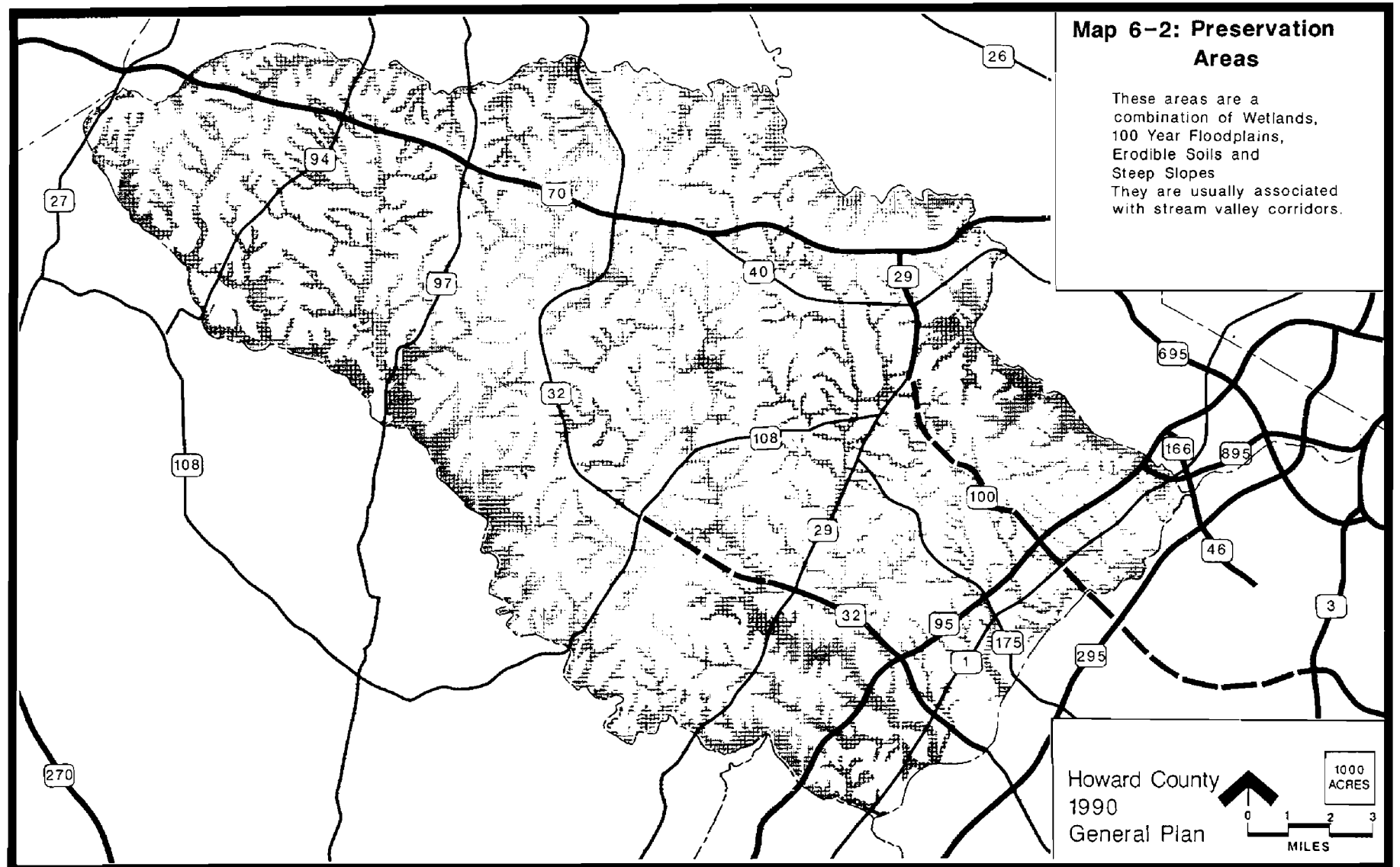
## *Policies and Actions:*

*Howard County, to ensure the environmental integrity of its stream valley network, will:*

- 6.1 ***Coordinated Planning for Greenways***  
 Institute a program of stream valley greenway planning by which all actions to protect these areas will be coordinated.
- 6.2 ***Continuity of Greenways***  
 Emphasize maintaining or restoring the continuity of stream valley corridors, especially in the suburban East, since corridor continuity is vital for the ecological health of such environments. Preserved resources that are isolated and surrounded by development do not survive as healthy, balanced environments.
- 6.3 ***Implementation of Greenways***  
 Make stream valley greenways a priority concern when planning future open space acquisitions, protection easements, local land trusts, or other forms of management agreements with private land owners. Where special conditions prevail, secure increased buffer areas along stream valleys.
- 6.4 ***Acquisition Priority***  
 Establish a system of greenways in which the degree of regulation or acquisition is geared to the role and significance of specific stream valleys within the overall system of streams and tributaries. (See Box 6-1.)



Map 6-1



Map 6-2

## WORKING WITH NATURE

*Howard County, to restore and protect stream valley environments that have been significantly impacted by nearby development, will:*

**6.5** *Streams Surveys*

Carry out watershed studies and stream surveys in the urban areas of the County in cooperation with the Maryland Departments of Natural Resources and of the Environment, and the Columbia Association where appropriate.

**6.6** *Restoration as a Community Planning Priority*

Make restoration of degraded or threatened areas along streams a prime element of community planning efforts in these suburban areas.

**6.7** *Community Participation*

Encourage active participation of the local community in restoration activities on a sustained, long term basis. Examples include the Save Our Streams (SOS) Program.

**6.8** *Importance of Best Management Practices*

Support Soil Conservation District efforts to increase enrollment of local farm and other agriculture-related operators in conservation programs promoting Best Management Practices (BMPs).

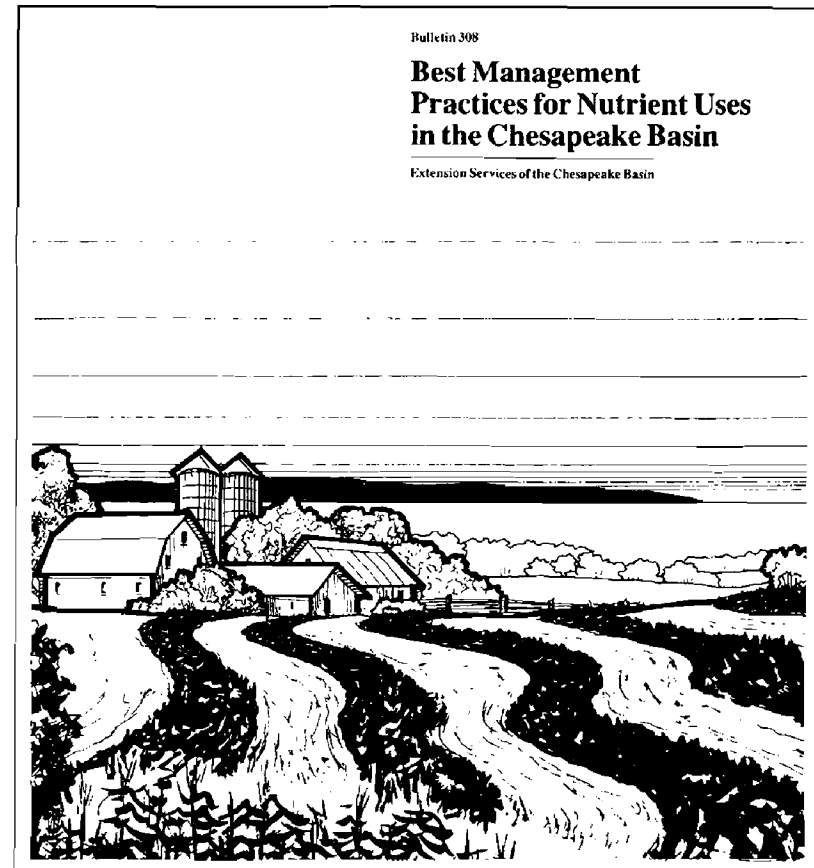


Figure 6-2

### Stream Valley Greenway System

To create an effective and manageable stream valley greenway program, planning efforts and protection guidelines and standards will reflect the following hierarchy:

- a. **Local Greenways:** These will encompass the headwaters and smaller tributaries of watersheds. They are often the open space focus of developments and are the environmental and landscape equivalent of a neighborhood park. Often surrounded by nearby developments, these potential greenways are quite vulnerable to poor design layout and unnecessary disturbances during construction. Better protection of streamside buffer areas and better location and design of stormwater facilities will help to sustain the quality of these local greenway areas.
- b. **Intermediate Greenways:** Larger greenways are appropriate for the main tributaries within the Patuxent and Patapsco watersheds. Streams such as Deep Run, Dorsey Run, Hammond Branch, or Red Hill Branch have their own sizeable watersheds and significant stream valley resources, parts of which are already protected by public ownership. These streams are often the only remaining significant, continuous environmental corridors within large sections of the suburban East and their integrity must be vigorously protected.
- c. **Countywide Greenway Corridors:** The main stems of the Patapsco and Patuxent Rivers and their most important tributaries, the Little and Middle Patuxent, require special planning priorities. Much of the existing open space in the County (whether controlled by the State, County, Columbia Association or the Washington Suburban Sanitary

Commission) are located along these streams. Some of the most interesting and fragile environments in the County are along the main stems of the Patapsco and Patuxent. The reservoirs along the Patuxent are unique features that require careful use of the land that drains into the main stem of the Patuxent. This is why the Howard County Soil Conservation District focuses its efforts to promote Best Management Practices (BMP's) for agricultural operations in the areas that drain into these reservoirs.

One priority is to close the gaps that now exist between protected areas along these countywide corridors. Another is to extend them where possible, especially along the Patapsco where no such holdings exist west of Maryland 32. This would give the County strong green edges along all of its borders (except that formed by the railroad and industrial areas east of U.S. 1). Where land cannot be acquired along these streams, management agreements or easements should be sought with the owners of such land to secure proper care and, where reasonable, public access as part of a planned greenway system.

## Woodlands

### Woodlands and Natural 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 and if no mowing, plowing or intrusion of urban uses or paved areas were to occur. Agricultural practices were the main cause of the loss of the original forest cover in the County up until the mid 20th Century. Today, development for new homes, stores or workplaces pose the biggest threat to the remaining woodlands.

Today there are about 47,000 acres of true woodlands, about 29% of the total area of the County. (See Map 6-3.) Woodlands in the East are prevalent primarily within stream valley areas where steep slopes have discouraged development, or where they have been included in publicly owned conservation areas such as the land surrounding the Patuxent River reservoirs. In the West, upland forest cover as well as stream valley forests are more extensive than in the East.

Although there is still a significant amount of forest cover left, the rate of loss has been accelerating. Also threatened until recently were the plant communities associated with wetland environments. The natural plant communities of wetlands are some of the most valuable wildlife habitats in the County. Hedgerows and natural meadows are other plant communities that need protection.

Forests, woodlands, groves, hedgerows and their associated vegetation are perhaps our most conspicuous and most easily appreciated environmental and landscape resources. It is when trees are cleared for development that the vulnerability of the environment in suburban areas is suddenly and starkly emphasized. Mitigation of such losses has usually been limited to decorative landscaping rather than the creation of ecologically balanced plant communities.

The benefits of maintaining large tracts of undisturbed woodlands or other natural vegetation within developments are many. Such stands help control stormwater run-off, 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. All in all, trees and

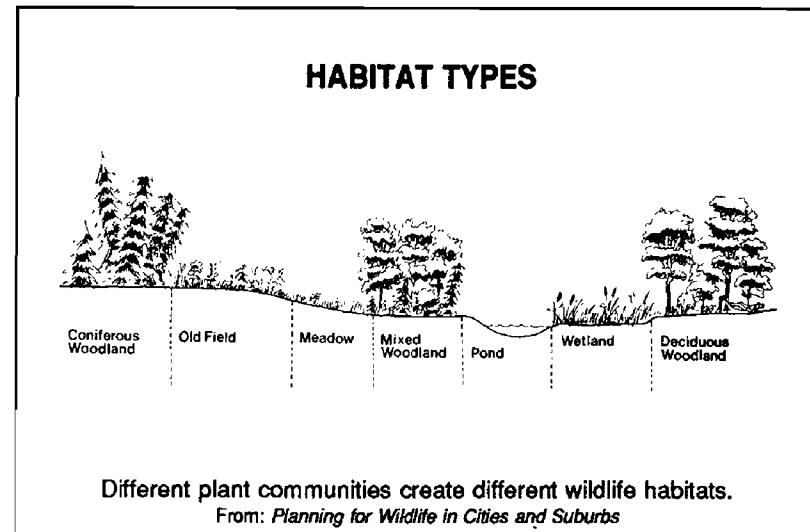


Figure 6-3

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.

Unlike some resources, trees have been given an explicit economic value - wooded lots for homes usually command more money than unwooded, open lots. Yet, despite the universal appreciation for trees and woodlands, little has yet been done to give them effective protection, to hold any necessary loss to the absolute minimum, and to provide for mitigation when such losses must occur. Council Bill 66-1988 protects natural vegetation (in residential areas) when it is near streams or on steep slopes. Such protections must now be extended to wooded areas and other stands of natural vegetation on flat upland sites. Protection should also be extended to individual trees of historic significance. Protecting remaining natural 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 and near 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 buildup near large paved areas.

## Policies and Actions

*Howard County, to protect its remaining woodlands and other natural plant communities, will:*

### 6.9 Tree Preservation Standards

Adopt preservation standards stressing the preservation of existing trees and associated vegetation. Institute a strong reforestation program.

### 6.10 Preservation and Site Development


Relate preservation of vegetation in urban areas to how sites are developed; minimizing topographic changes, reducing the extent of paved areas, and providing flexibility to avoid more sensitive environments will all be part of the tree preservation program.

### 6.11 Naturalistic Landscapes

Promote more naturalistic and ecologically balanced concepts of landscape design when new plantings must be done as part of development.

### 6.12 Preservation in the West

Include preservation of existing woodlands and hedgerows in the clustering requirements in the West.



MAY/JUNE 1989 VOL. 9 NO. 3

# URBAN FOREST FORUM

PUBLISHED BY THE AMERICAN FORESTRY ASSOCIATION

EDITOR: GARY A. MOLL      MANAGING EDITOR: PHILLIP ROOSELL

## URBAN FORESTRY GAINS GROUND

The hot summer of 1988 may have warmed the soil enough to sprout a new source of shade where it was needed the most. On April 27, 1989, legislation was introduced in the House of Representatives to help green up and cool off the streets of our communities. Called the "Urban and Community Forestry Act of 1989," the bill recognizes the tremendous values trees supply to towns and cities. It proposes new initiatives in research, education, and technical assistance, and creates a competitive matching grant program to stimulate tree planting and care at the local level. It proposes the appropriation of \$20 million in each of the next ten years.

The bill was introduced by Representative Jim Jontz (D-IN) after many months of work preparing the bill with the staff of the House Agriculture Committee, and the American Forestry Association. Preliminary discussion with other members of both the House and Senate indicate broad support for the programs the bill proposes. The bill was endorsed at the press conference by a number of organizations including the American Forestry Association (AFA), the National Association of State Foresters (NASF), the American Association of Nurserymen (AAN), and the city of Baltimore.

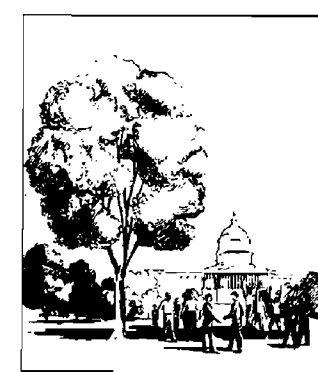
AFA's Executive Vice-President, Neil Sampson, said that "Every street in America needs more — and healthier — trees to help save energy and cool the heat island effect. This bill is good for communities large and small." Ben Bolzaki, Director of Govern-

ment Affairs for AAN, applauded Mr. Jontz for this legislation as it represents strong, immediate action toward "beautifying our nation's environment and helping to reverse the global warming trend." He also said tree nurseries were prepared to meet the challenge of supplying high quality trees for communities.

James Roberts, President of NASF, said that "state forestry agencies have been actively working in urban forestry for years and have long recognized the importance of stronger urban forestry programs. Their efforts have helped communities extend the life of trees and the area shaded by tree canopies." He said the bill would provide "badly needed technical and financial assistance to restore our community tree resources."

Ken Williams, officer of the Tree Board, the city of Baltimore, said that far more trees are dying than are being planted, and this bill will help solve the problem. He said that opposing this bill would be like opposing the proverbial mom and apple-pie.

The role of trees in the livability of tomorrow's cities has been greatly underestimated. The build-up of heat in urban areas, referred to as the urban heat island effect, along with the worldwide temperature increase, dubbed global warming, helped draw attention to the need for new legislation to cultivate greener communities. However, the bill wisely went beyond the concerns of last summer

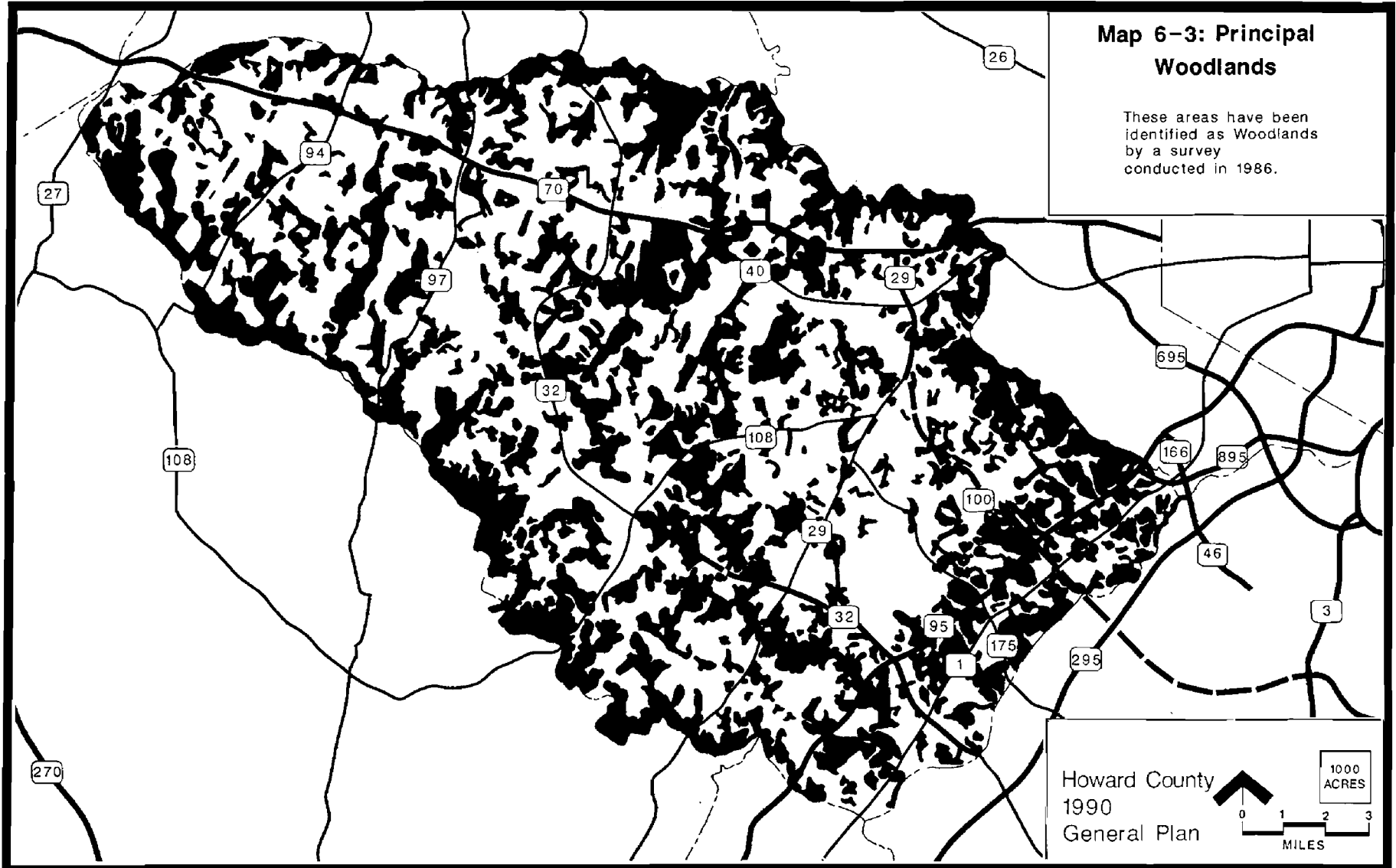


BY SPURDIN WILSON

*continued on next page*

Figure 6-4





Map 6-3

**6.13 *Mitigation of Losses in the East***

Institute in those parts of the East where most tree cover has already been removed or seriously diminished a mitigation program based on principles of urban forestry.

**6.14 *Survival of Landscaping***

Adopt planting standards that promote the survival of landscaping along roads and in parking lots where harsh conditions exist such as increased heat from pavements, altered drainage patterns, and air or soil pollution from adjacent uses or traffic.

**6.15 *Vegetation Retention and Road Design***

Review road design requirements to see where they can be modified to cause less impact on existing vegetation in and near the public rights-of-way.

**6.16 *Regulations on Clearing***

Revise the Subdivision and Land Development Regulations to eliminate any remaining provisions that allow clearing of existing vegetation to occur without review and a permit.

## Open Space

### Open Space as a Resource Protection Network

Several types of open space, greenspace, parks or other types of conservation areas have been set aside within the County to protect specific environmental or landscape resources. (See Map 6-4.)

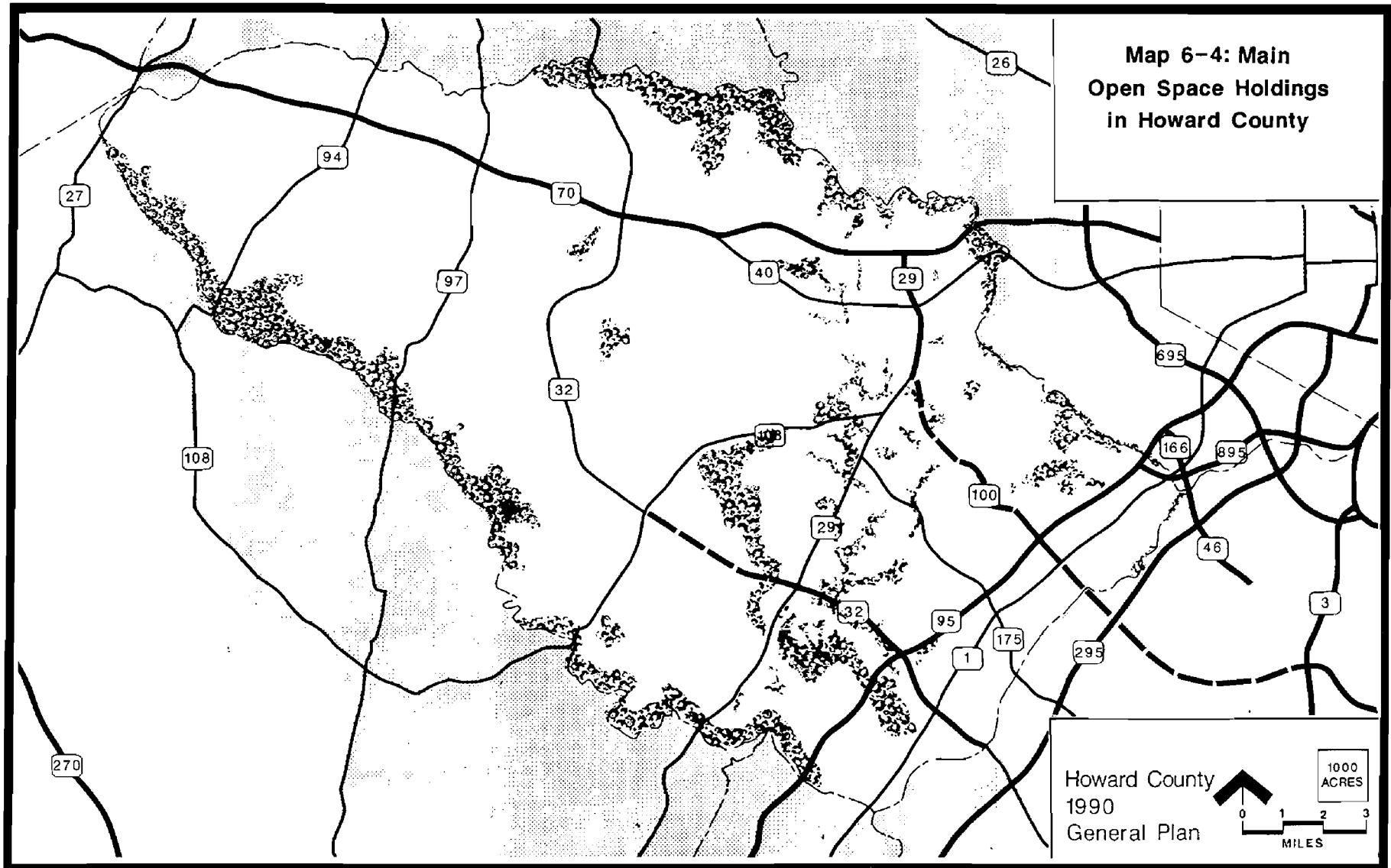
Ideally, the location and size of such protected areas should result in an extensive network of natural resources with a high degree of continuity and a systematic order of purposes. Such extensive and continuous networks can also be the basis for well planned greenway corridors and connectors in accordance with the principles established by the Governor's Commission on Greenways.

Howard County is committed to looking at open space broadly as a multi-faceted system and in planning and mapping for the system will consider not only publicly owned acreage but also privately owned protected areas such as Belmont, areas in historic and environmental easements, permanent farmland easements, community association open space, reservoir areas, etc. Planning for this system will include classification by type i.e., natural areas and active recreation areas, as well as by subarea planning districts so that demographic data can be related to open space and recreation needs.

Within the New Town District, there is an extensive network of open 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 and some of their key tributaries are fairly well protected. Within other areas, however, there is no extensive open space network established in advance of development that incorporates all sensitive environments in a consistent way.

Comparison of the open space holdings of the New Town in Figure 6-5 with those of the area immediately to the north and east illustrates this situation quite well. Those in the New Town are extensive and often linked; those outside the New Town are more randomly located and isolated.



Map 6-4

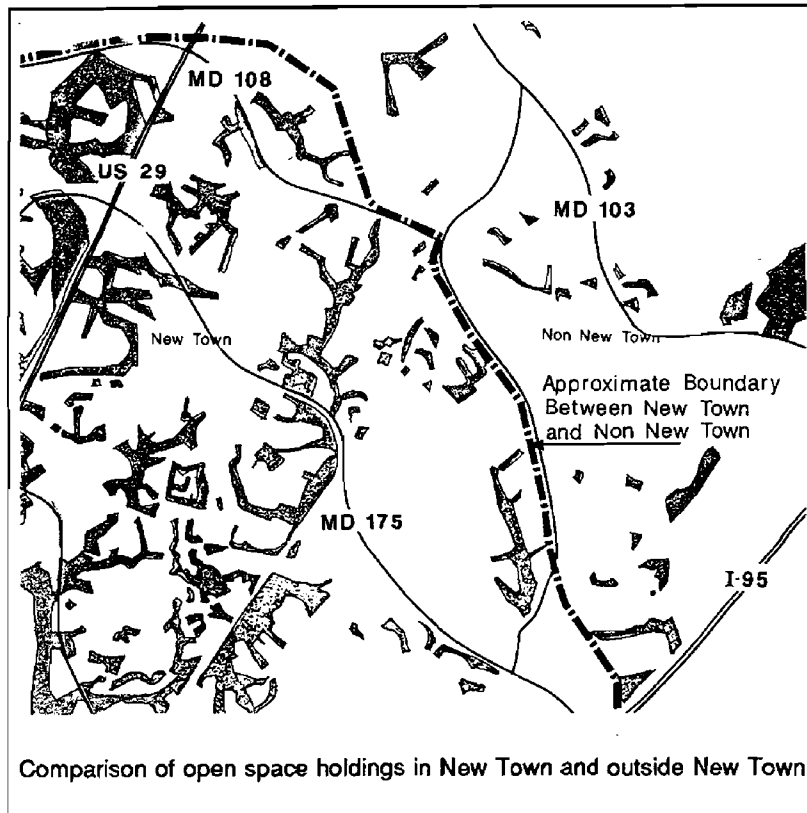


Figure 6-5

### Different Needs of East and West

The use of only one method to protect environmental and landscape resources, such as reliance on the open space provisions of the zoning regulations, is not suited to all situations. Howard County has become a mosaic of many land uses and many environmental and landscape features. The proper ways to protect such resources in residential areas may be ineffective in commercial or office developments. Perhaps the most striking differences will be between the suburban East and the rural West.

### Open Space Planning: West

The West, with its contrasting low densities, limited types and intensities of land uses, and remaining extensive agricultural and woodland areas forms a far different context and set of needs than the East. The basic General Plan commitment is to maintain the rural environment of the West. Open space planning strategies suited for the suburban East will not maintain a rural environment. The clustering and agricultural and landscape preservation requirements proposed in Chapter Four provide the starting point for a different approach in the West.

Open space was not a required part of new developments in the West until 1989, when a 5% open space requirement was added to the R-District subdivision regulations. This was done largely to create areas open to the general public, primarily for trails. Such a requirement is, in itself, insufficient to protect in any significant way the West's extensive environmental and landscape resources. The rural clustering requirements described in Chapter Four are intended, in large part, to significantly protect environmental and landscape resources during development. Still, there is the need to secure substantial greenspaces in the West that are not tied directly to any open space requirements for the development of specific parcels.

The acreages involved in open space preservation in the West are large and land use costs are high. Therefore, creation of these large-scale areas cannot be done solely by purchase. Creative use of devices such as agricultural preservation easements, donations, land trusts, the remainder parcels created by clustering, and preservation of historic settings and landscape preservation easements are all techniques that can be of use in this effort.

This flexibility in preservation strategies is needed since greenbelts, greenways and protected landscapes need not be totally devoid of human activity or active use. The greenbelts are not "parks" in the true sense of the word. Working farm landscapes, small clusters of well-located, well-designed housing, recreation areas and actively-managed timber stands can all be part of such greenbelts. What will not be located there are suburban and urban developments, major commercial and employment developments, or activities that deplete the environmental and landscape resource base.

### *Policies and Actions*

*Howard County, to meet the particular open space needs of the West, will:*

**6.17 *Mid-County Greenbelt***

Create the Mid-County Greenbelt through a combination of open space acquisitions, environmental easements, agricultural easements, and development regulations.

**6.18 *Patapsco Greenbelt***

Work with the State and Carroll County to create a greenbelt along the Patapsco River from MD 32 to Mt. Airy.

**6.19 *Use of Land Trusts***

Promote use of local land trusts to secure agreements among private property owners to protect open space resources.

**6.20 *Environmental Analysis by Subarea***

Use analysis of existing environmental and landscape resources and existing land use patterns within sub areas of the West to determine the best strategy for open space preservation for that area.

**6.21 *Creating Critical Masses of Protected Areas***

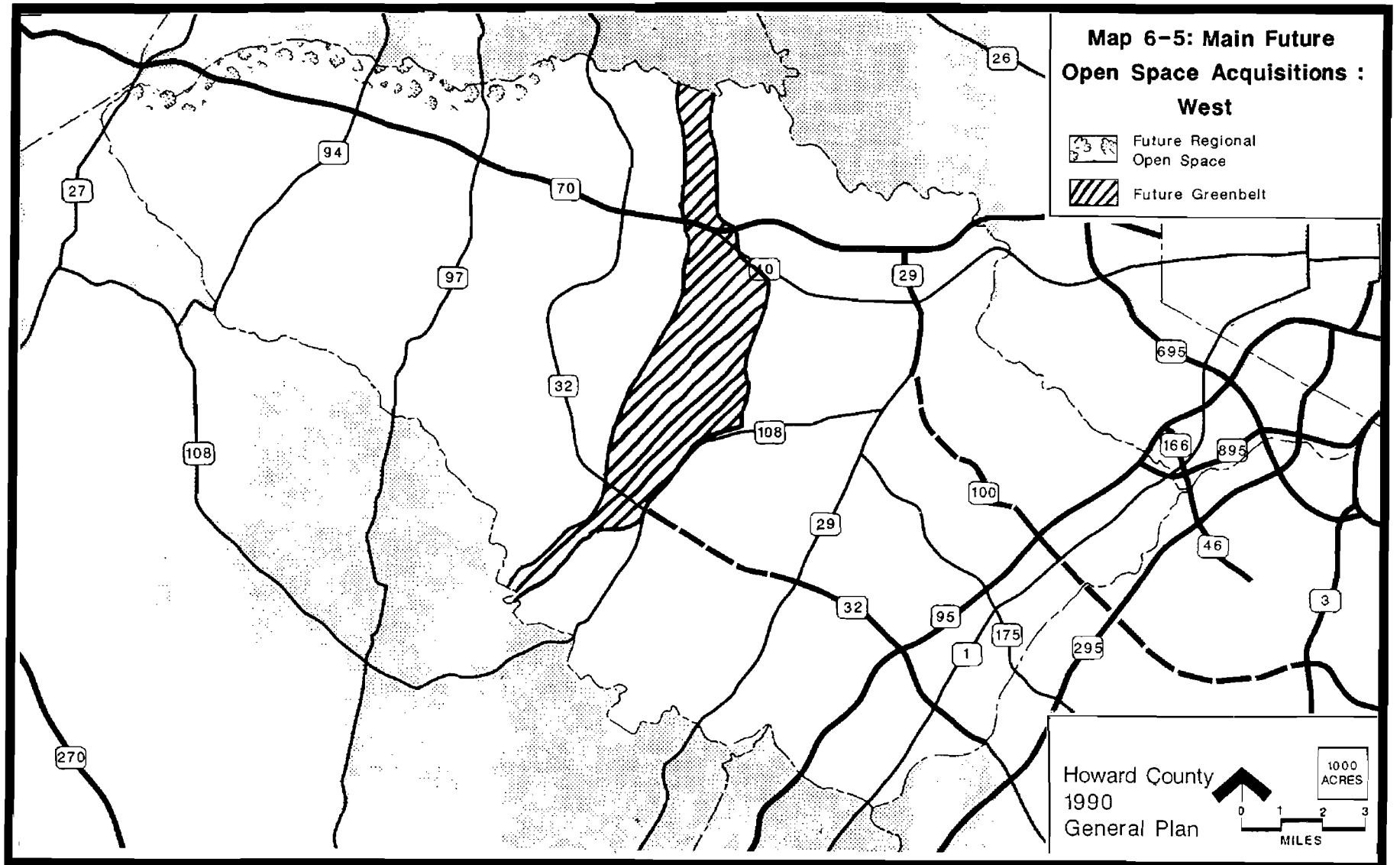
Place priority on filling gaps between existing preservation holdings to increase continuity and critical mass of protected areas where development is still minimal.

### Open Space Planning: East

Virtually all of the County's presently owned open 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. Existing holdings have been acquired in a somewhat haphazard way, primarily 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 during the next five years. Two mechanisms which will be utilized to support these purchases are the County's reservation authority and the State's Program Open Space local advance option and purchase fund approved by the 1990 General Assembly. In addition, the additional Program Open Space funds, which will become available to Howard County as the result of the 1990 General Assembly's approval of full funding of Program Open Space over a six year phase-in period, will be used to the maximum advantage for open space and parkland purchases in both the East and the West. Also, in both the East and the West, the County will investigate as a priority the opportunities for locating new County parks adjacent to existing public facilities, such as Patapsco and Patuxent State Parks, as a cost effective method of increasing both active and passive recreational opportunities.

In the East there is little opportunity to create large scale greenbelts. The main need is to fill in existing gaps in the current open space corridors along main streams and to bring resource areas of high value under public protection. Areas can be purchased, acquired by dedication during subdivision, acquired by donation, protected by land trusts, or protected by easements, or by long term management agreements with private owners. (Figure 6-6 illustrates a solution.)



Map 6-5

## WORKING WITH NATURE

Today the East has approximately 83% of the County's population. In the year 2010, this is projected to decline to 79%. The East will have almost all the commercial, manufacturing and office development of the County. Even if environmental and landscape resources are set aside as open space holdings, they will remain under immense ecological pressures from adjacent or nearby development. Working with nature to buffer impacts after as well as during development is crucial.

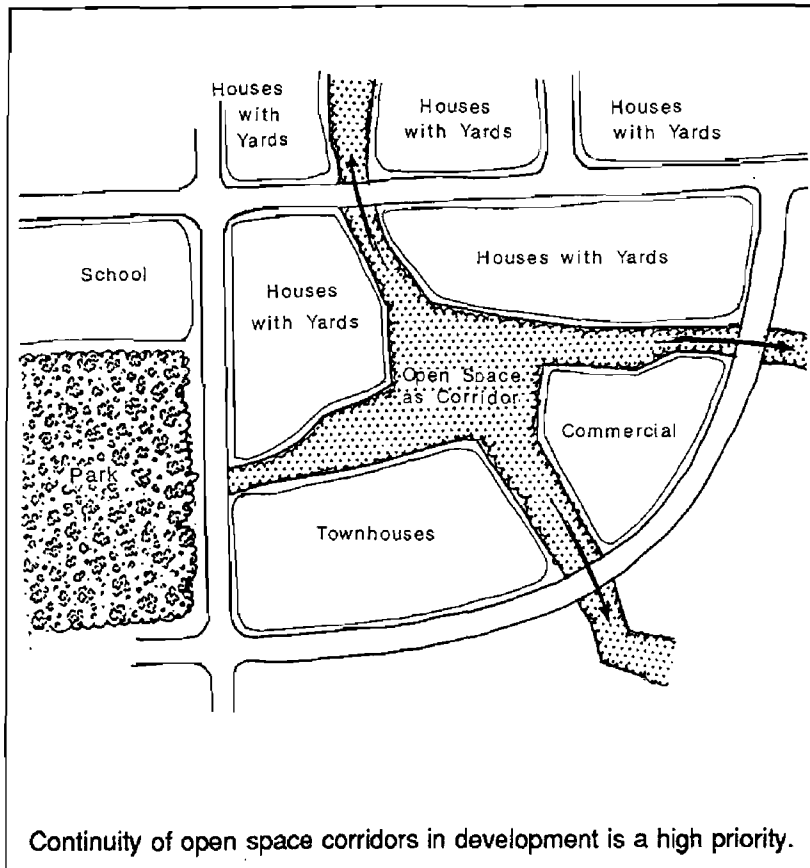


Figure 6-6

## *Policies and Actions*

*Howard County, to meet the particular open space needs of the East, will:*

### **6.22 *Baseline Community Analysis***

Conduct an "environmental index analysis" of individual communities to see to what degree they have retained or lost environmental or landscape resources. (See Figure 6-7.)

### **6.23 *Acquisition Priorities***

Give priority in the next six years to acquisition and easement purchases and reservation in the most developed and developing areas of the County. Acquisition needs should be based on an "environmental index analysis" as mentioned above.

### **6.24 *Acceleration of Open Space/Parkland Acquisition***

Utilize parkland reservation authority and expanded Program Open Space funding options to accelerate parkland and other open space acquisition and protection during the next five years.

### **6.25 *Acquisition of Sites Adjacent to Existing Public Open Space Areas***

Actively pursue the opportunities for acquisition of parkland adjacent to existing public open space areas in both the East and West.

### **6.26 *Encourage Protection via Land Trusts***

Encourage formation of local land trusts to protect environmental and landscape resources on private

property without the need for County government purchase.

**6.27 Resource Acquisition for Community Enhancement**

Coordinate acquisition to protect environmental resources for recreation and for community enhancement, such as public greens, squares or landscape enhancement of built environments.

**6.28 County-State Cooperation**

Encourage State and County cooperation and funding to expand State and County open space and park facilities adjacent to the boundaries of the Patapsco Valley State Park and the Patuxent River State Park.

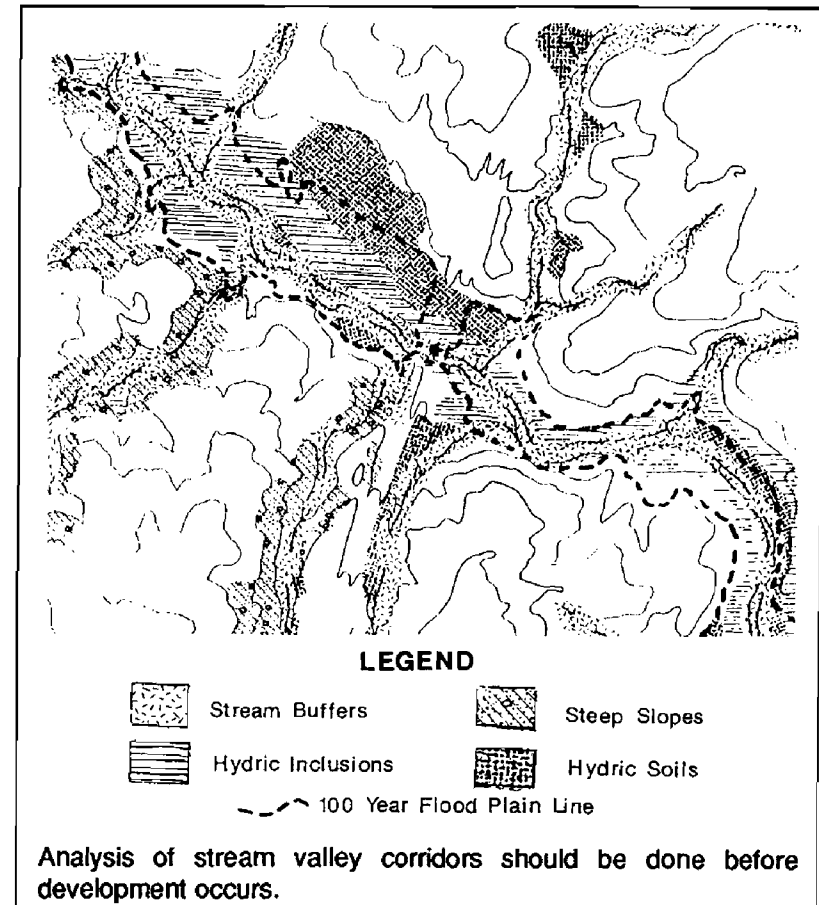


Figure 6-7



## 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 irretreivable 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.

Howard County will reach a peak of about 285,500 people, and it will not be as intensively urbanized as parts of many other jurisdictions in the region. Still, the development that does occur here must be more respectful of the County's many environmental and landscape resources.

Howard County has few truly natural areas and these are never far removed from the effects of regional development. Protecting such resources requires more vigorous action than simply setting them aside.

The key to the overall environmental health of the County is landscape design and site planning that works with nature to minimize the loss of such 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, 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. (See Box 6-2 for typical development impacts.)

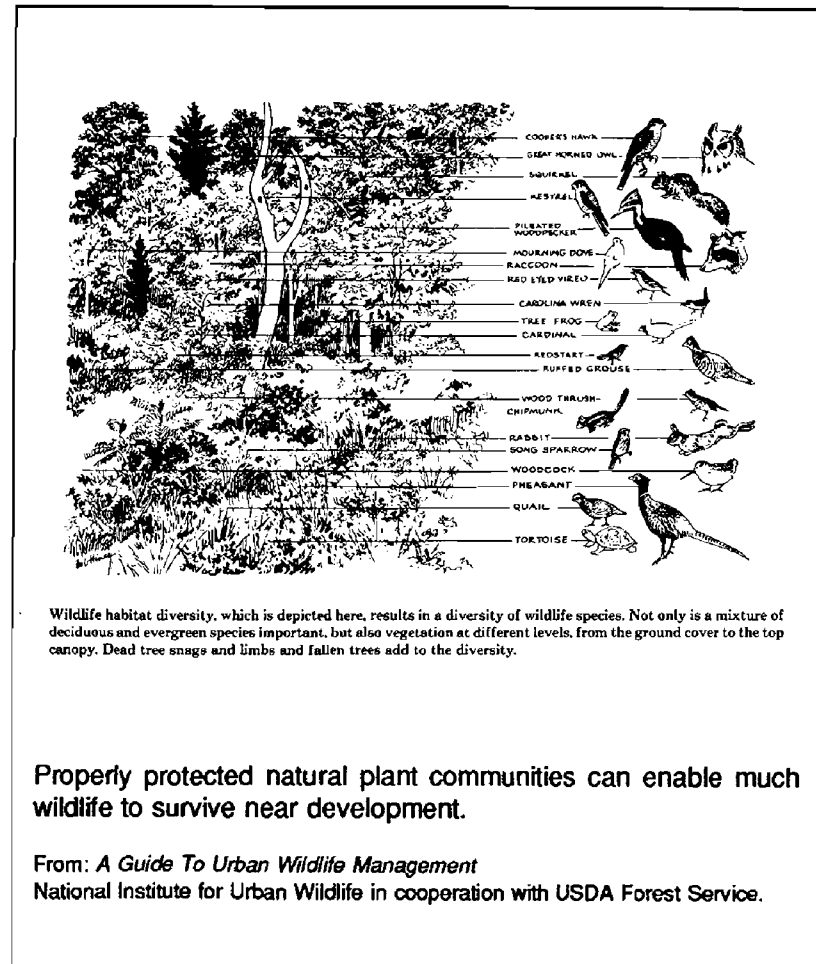


Figure 6-8

## Common Environmental Losses Associated with site Development

This issue is perhaps best illustrated by citing common situations which, while meeting all current regulations such as minimum buffers around streams and wetlands, did not work with nature as they could have:

- Residential development in hilly terrain used popular house types that were originally designed for flat or less sloping land. The existing topography had to be greatly altered to accommodate these homes. In the process, much existing natural vegetation was lost.
- Although a site was relatively flat, the desire to market large houses with walkout basements led to much cutting and filling of the existing topography. Although much effort had been made to save the best of the tall oaks and tulip trees that were on the site, compaction and filling around roots and altered drainage patterns gradually led to the weakening, death and removal of these trees.
- Although total open space acreage requirements have been met on a project, construction activities, clearing and regrading, introduction of storm water management facilities, and poor distribution of the required open space within the development eliminated most of the original environmental and landscape character that existed.
- Road layout of a new subdivision forced 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 was made to coordinate landscape design and orientation for greater comfort and light.
- Although a dense stand of trees and underbrush existed on the site originally, the developer removed 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 was lost. There has also been a noticeable increase in storm water runoff in the stream about 300 feet downhill from the project.

### Deficiencies of Existing Regulations

It would be unfair to blame all the problems cited in Box 6-2 on the developers or site planners. Although the developer of houses on the hilly terrain could have chosen types that better fit the topography, the requirement that no roads in that zoning district have a grade that exceeds 10% still required extensive alterations of existing topography. The large minimum lot widths required by the zoning regulations meant the roads on which these houses front had to be longer to accommodate the number of units needed to make the project economically sound.

The example where houses were poorly oriented to the sun was, in part, necessary to fit the street system of this development to that of two adjacent projects approved in the 1970s and fully built up.

Other examples can be cited. The main point is that even with the changes brought about by Council Bill 66-1988, numerous subdivision, land development or zoning requirements can force the removal or drastic modification of original environmental or landscape elements that could otherwise have survived intact.

Zoning and subdivision requirements originated from concepts of land use regulation based on maintenance of property values. Property value maintenance is 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, such theoretical 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 regulations and subdivision and site development requirements in the Howard County Code must demand protection of the environment, but they must also become more realistically flexible to allow developers and builders to better match their proposals to the environmental and landscape resources of their sites.

Two existing zoning categories presently emphasize environmental and open space concerns. (See Box 6-3.) Both should be modified to be more effective in protecting resources.

Much of the area near the Patapsco River between Ellicott City and Elkridge remains undeveloped. This area contains

### Zoning Districts That Address Environmental Concerns

The R-ED (Residential-Environmental Development) 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 2 units per net acre and are allowed to cluster units on smaller lots to keep development impacts such as clearing and grading away from the sensitive steep slopes and stream valleys that make up much of the Ellicott City area.

Zoning regulation amendments in 1989 created a new overlay zone -- the Planned Development District. This new district allows developers greater flexibility in choice of house types and densities within the overall project in return for greater provision of open space and other desirable features such as more affordable housing.

The PD District requires 35% of the overall project to be in open space and the purpose section of the regulations states the goal of "efficient patterns of growth which preserve the significant environmental features of the site," but no definite criteria to meet such a goal are included. More significantly, the Planned Development District is an option, not a mandatory process for developments of more than 25 acres.

Box 6-3

numerous environmentally sensitive features - especially steep slopes. Another largely undeveloped area with significant environmental features is the area south of the Middle Patuxent River near I-95. These areas should be designated for a new version of environmental zoning to require clustering at low or medium densities, significant buffers near streams and wetlands, and a more appropriate match of

house types and streets to existing topography to minimize clearing, grading and other on-site disturbances. An Environmental Effects Report (EER) would be required for all development projects.

Some form of environmental zoning should also be designated for the areas draining directly into the reservoirs along the Patuxent River. East of US 29, where these areas are served by public water and sewer, such zoning can be similar to that along the Patapsco and Middle Patuxent described above. West of US 29, however, the Rural Residential and Rural Conservation Districts require a different set of environmentally sensitive development regulations due to the lack of public sewer and reliance on private septic systems. Options to cluster should be available within these areas. In addition to protection of environmentally sensitive features such as wetlands, approval of all development should be contingent on avoiding adverse impacts on the reservoirs or the surface or groundwater that lead to these reservoirs. Such issues would be a prime concern of the Environmental Effects Report required for proposed developments in these areas.

The key to the overall environmental health and landscape character of the County depends, in the long-run, on how well such resources are cared for when they are not part of protected areas, but within or directly adjacent to developments, even those with very intense uses. Zoning regulations and subdivision and site planning practices for all categories of land use must, therefore, be adjusted to meet this goal.

## *Policies and Actions*

*Howard County, to secure better protection of environmental and landscape resources within developments, will:*

### **6.29** *Expansion of Environmental Zoning*

Expand the extent and scope of zoning districts explicitly designed to protect existing environmental and landscape resources largely through application of very flexible site planning and design standards.

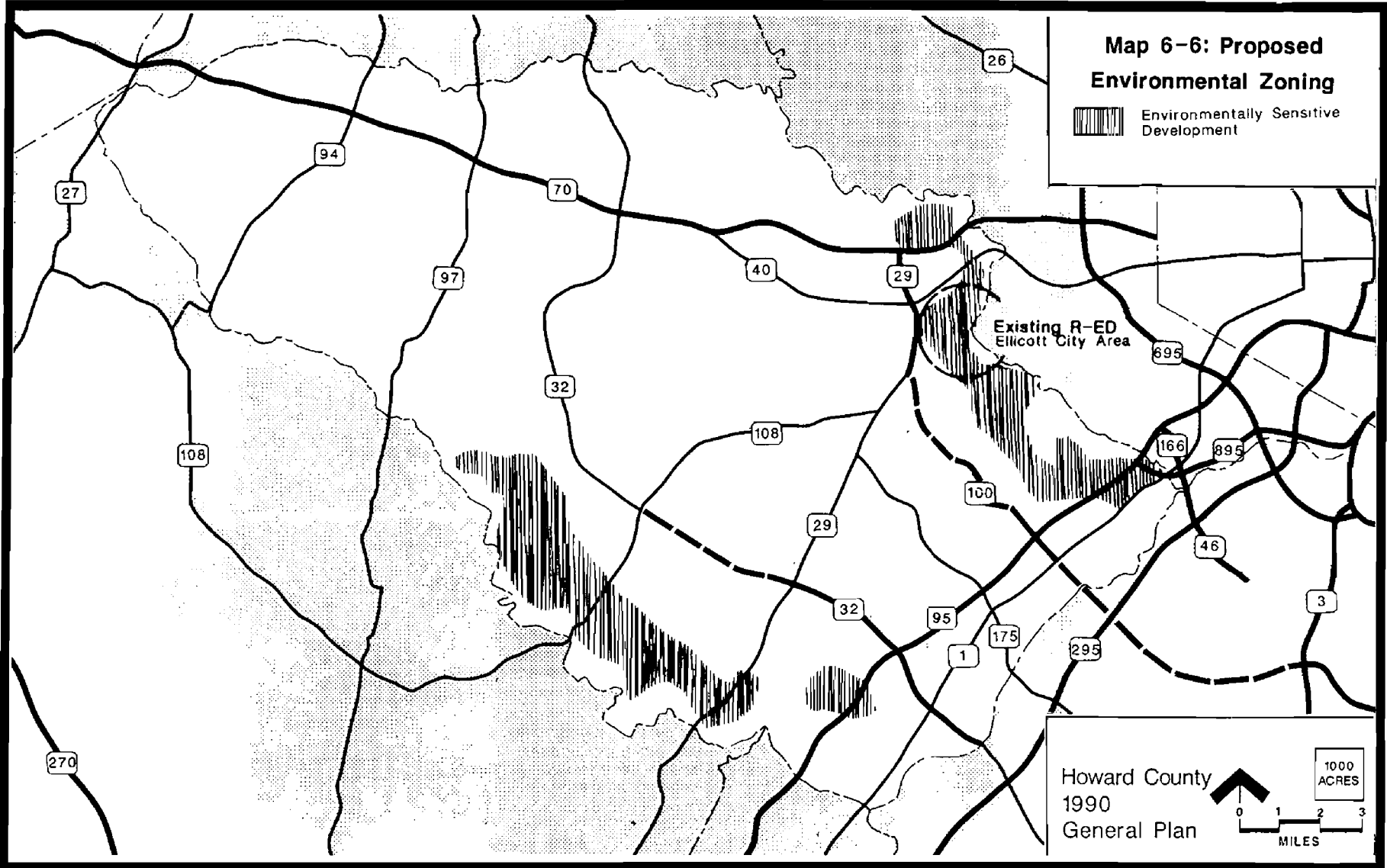
In the environmentally sensitive development areas adopt new zoning regulations, similar in intent to the present Residential-Environmental Development district (R-ED) regulations and require the submission of an Environmental Effects Report (EER), to be applied to areas near the Patapsco, Patuxent, Little and Middle Patuxent Rivers that are now largely undeveloped and have numerous sensitive environmental and landscape features (see Map 6-6).

### **6.30** *Environmentally Sensitive Development in other Zoning Districts*

Permit flexible subdivision and site development procedures through such devices as a floating zone to encourage the use of environmentally sensitive planning in residential areas not shown within the Environmentally Sensitive Development overlay on the Policies 2000/2010 Maps, consistent with those zoning densities and density options applicable to the property.

### **6.31** *Use of Performance Standards*

Institute performance standards and development requirements in higher density residential developments, mixed-use projects, and commercial, office or manufacturing areas. These relate to the amount of undisturbed area, location and design of stormwater management, phasing of construction, maximum percentage of impermeable surfaces, clustering of units within the project, and long term management similar to the final development plan process for development in the New Town.



Map 6-6

6.32 *Accountability for Environmental Quality in Commercial Areas*

Require in larger scale commercial, employment or mixed-use projects, the establishment of special environmental management districts, similar legally to a local homeowners' association, that will be responsible for the preservation, maintenance and, if necessary, restoration of environmental and landscape quality.

## Parkways, Greenways and Boulevards

Scenic road policies in the West as described in Chapter Four, "Preservation of the Rural West", can apply to several key roads in the East, especially in the areas near the Patapsco River between Ellicott City and Elkridge. Protecting the scenic character of the roads leading to Ellicott City is vital to protecting the overall historic character of the area, and the historic road policies of the Master Plan for Ellicott City are reaffirmed by and made part of this General Plan.

In the East, preservation of scenic roadways can conflict with the need for safety or capacity-related improvements. These 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, alternative new road alignments may be needed. Case-by-case review of each of the roads listed in Box 6-4 should be done to see how potential conflicts between scenic road preservation and traffic safety and efficiency can be resolved.

Although most of the roads in the suburban East will not have the rural-agricultural context of scenic roads in the West, the environmental and landscape character of the main State and local roads should not be ignored.

The landscape character of main roads in the East should vary with the context, but all should be of the highest possible quality. This requires careful planning to retain natural features such as woodland stands, hedgerows or groves where they are visible from such roads and, when necessary, to include landscape design that maintains or adds to the greenway character that still is intact along such key arterials as I-70 and U.S. 29.

Even within the most intensely developed employment and commercial areas, roads should be enhanced by landscaping within and adjacent to the right-of-way to stress the concern for environmental and landscape quality. No road section should be written off because of its land use or current condition.

***Policies and Actions:***

*Howard County, to maintain or enhance the landscape character of the major roads in the East, will:*

- 6.33 *Landscaping Suburban Parkways and Boulevards***  
Establish right-of-way cross-sections that identify landscape standards for suburban parkways and boulevards.
- 6.34 *Right-of-Way Landscaping Guidelines***  
Establish road right-of-way landscape design guidelines that stress protection of existing resources.
- 6.35 *"Retrofitting" Existing Roads***  
Establishing joint public/private programs for landscape enhancement of existing roads to create a more consistent landscape design image, especially in strip commercial areas.
- 6.36 *Noise Mitigation***  
Establish noise mitigation criteria and guidelines that will effectively reduce traffic noise levels to State standards for residential areas.
- 6.37 *Scenic Roads in the East***  
Reaffirm the historic roads policies of the Master Plan for Ellicott City and grant scenic road protection to qualifying roads in the East, especially in the area near the Patapsco River between Ellicott City and Elkridge.

**Potential Scenic Roads in the East**

The following roads, or sections of these roads, are presently of high scenic quality and should be considered as candidates for official designation as part of any countywide scenic road program.

- |                    |                       |
|--------------------|-----------------------|
| Beechwood Road     | New Cut Road          |
| Bonnie Branch Road | Norris Lane           |
| College Avenue     | Old Lawyers Hill Road |
| Gorman Road        | Park Drive            |
| Harding Road       | River Road*           |
| Ilchester Road     | Rockburn Hill Road    |
| Landing Road       | Stansfield Road       |
| Lawyers Hill Road  | Sylvan Lane           |
| Murray Hill Road   |                       |

\* The portion of River Road just west of the Thomas viaduct and the junction of Lawyers Hill Road and Levering Avenue.

Box 6-4

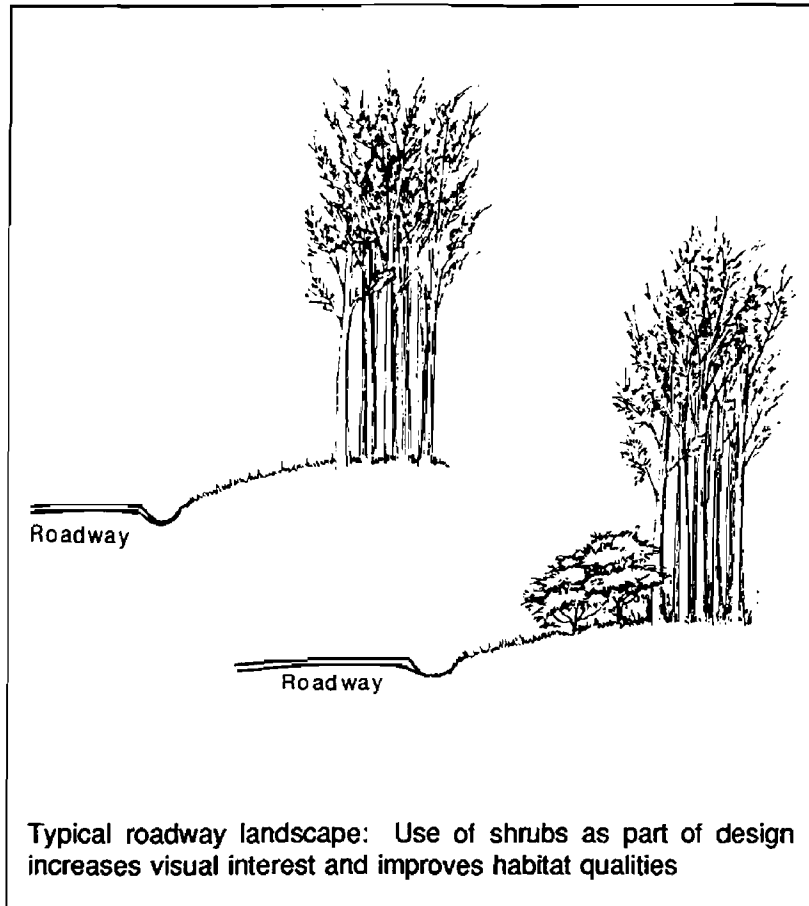


Figure 6-9

## Energy Conservation

Although the crisis environment of the 1970s and early 1980s has faded, energy conservation is still a serious issue.

Past attention centered on the availability of gasoline. This is a legitimate issue with many environmental implications. For example, less fuel burned is less air pollution, and a more efficient transportation system burns less fuel.

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.

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.

It is important to stress that other energy conservation issues also need to be incorporated into public policy. Affordability is not simply a case of low sales prices, rents or mortgage payments. Reduced energy needs make owning a home or business more affordable by cutting down operating costs for electricity, heating and air conditioning (often the highest cost of all).

## *Policies and Actions:*

*Howard County, to broaden the application of energy-conscious planning and design and secure the environmental benefits of energy conservation, will:*

### 6.38 *Transit's Conservation Benefits*

Make the cost and environmental benefits of energy conservation part of all cost/benefit evaluations of proposals for public transit.



## WORKING WITH NATURE

### 6.39 *Pedestrian Linkages*

Enhance pedestrian connections to commercial areas, employment areas, community centers, and public facilities to reduce auto trips.

### 6.40 *Energy Conservation in Housing Design*

Require residential projects, especially affordable housing, to demonstrate efforts to incorporate energy conservation planning and design that will reduce operating costs.

### 6.41 *Review Regulations to Encourage Conservation*

Review zoning, subdivision and land development codes to incorporate energy-conscious land use and site planning practices in the application of planning and design standards.

### 6.42 *Energy Conservation Landscaping*

Incorporate energy-conscious landscape design principles into the overall set of regulations and guidelines for the preservation of trees and other natural vegetation.

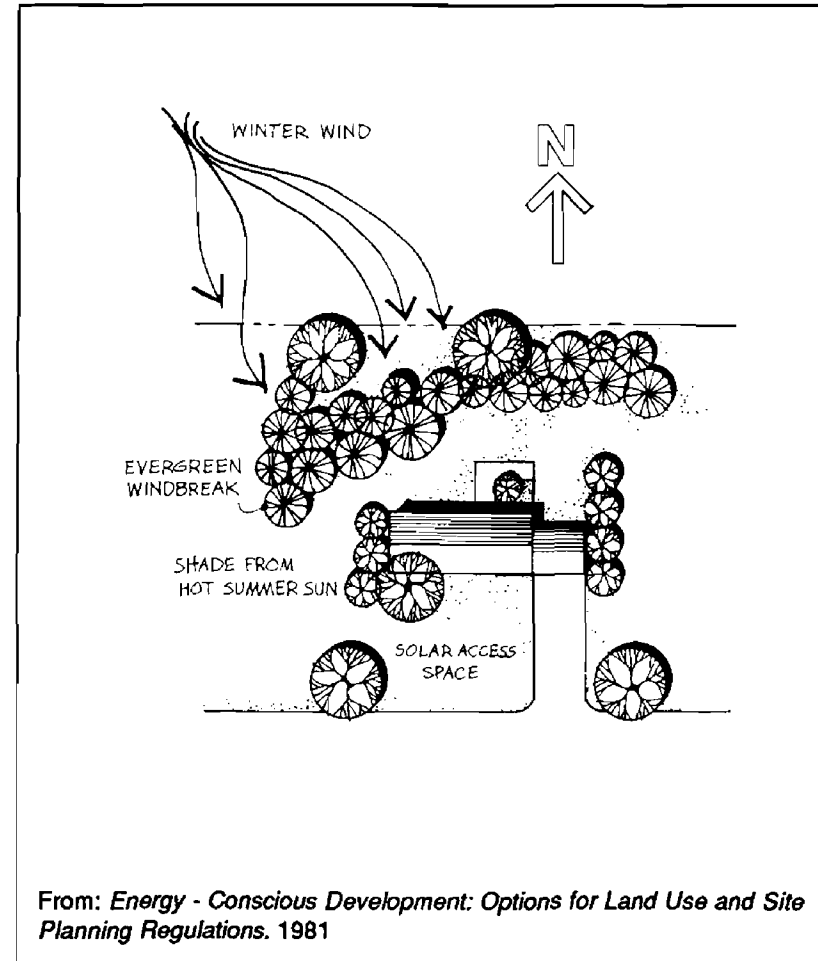


Figure 6-10

## Environmental Implications of County Services

Responsibility for better site planning and management of the environmental impacts of specific uses also applies to the activities of local government agencies.

### *Policies and Actions:*

*Howard County, to reduce the environmental impacts of its own activities, will:*

- 6.43** *Site Selection Criteria*  
Make environmental sensitivity a key concern in the selection and development of sites for future County facilities such as schools, recreation facilities, libraries or government offices.
- 6.44** *County Land Management Practices*  
Incorporate environmentally-conscious construction and management practices in the maintenance of County facilities and County owned open space and parkland.
- 6.45** *Right-of-Way Disturbance*  
Disturb rights-of-way as little as possible for installation of utilities and roads.
- 6.46** *Reforestation and Revegetation*  
Make reforestation and revegetation the key management strategies to reestablish or enhance the quality of natural resources on County controlled land.

**6.47** *Demonstration Projects*

Select County owned sites that have been greatly disturbed or lack environmental features such as minimum stream buffers to be demonstration projects showing how to retrofit environmental and landscape resources on such sites.

**6.48** *Road Cleaning*

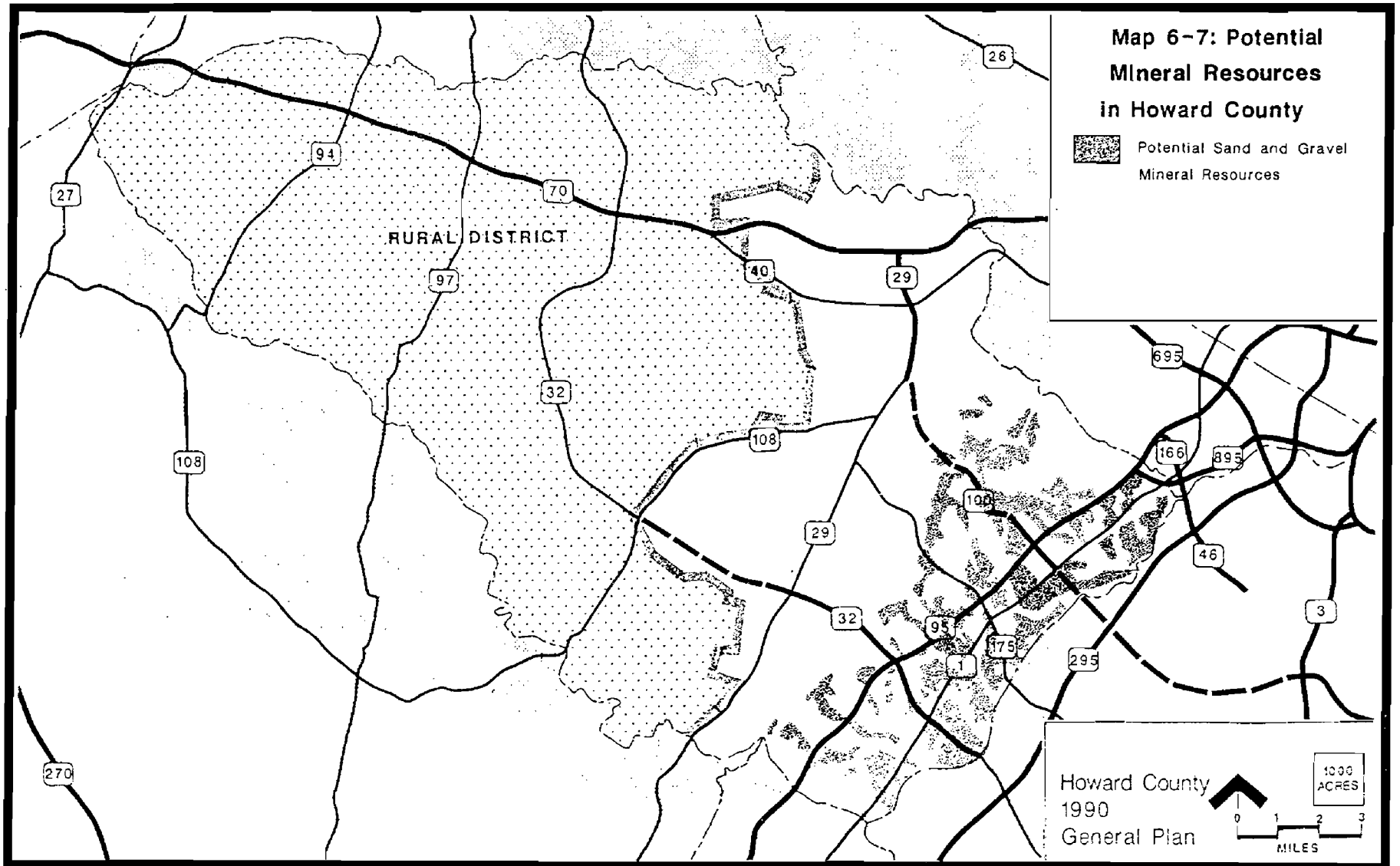
Continue the program of periodic road cleaning to reduce the amount of debris, sediment, nutrients and pollutants that may be washed into our streams and rivers.

### 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. These resources are confined for the most part to the coastal plains portion of the County east of I-95. A map produced as part of the Maryland Geological Survey study (dated 1979 and still the most accurate map available) illustrated locations which had the potential for mineral resource development. (See Map 6-7.) Maryland Geological Survey officials indicate today 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 is, in fact, what has occurred. A December, 1987 publication of the Maryland Department of State Planning entitled "Maryland's Land: A Portrait of Changing Uses, 1973 to 1985" indicated that the amount of Howard County land in mining was 45 acres in 1981 and had not increased by 1985. Most recently, the Maryland Water Resources Administration of the Department of Natural Resources, which issues mining permits under the jurisdiction of the Surface Mining Act of 1975, identified only one mining operation in Howard County. That facility, which quarries natural building stone, had less than seven acres in operation as of February, 1990. Sand and gravel are no longer quarried in Howard County. The Maryland Geological Survey indicates that, at present, the largest producers of sand and gravel in the Baltimore-Washington region are Prince George's, Anne Arundel and Charles Counties.

Although existing mining operations in Howard County are waning, there are some 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. These restrictions are currently incorporated in State permitting procedures 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. They are not permitted in residential districts other than rural districts. Proper pre- and post-extraction planning in addition to proper on-going 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.



Map 6-7

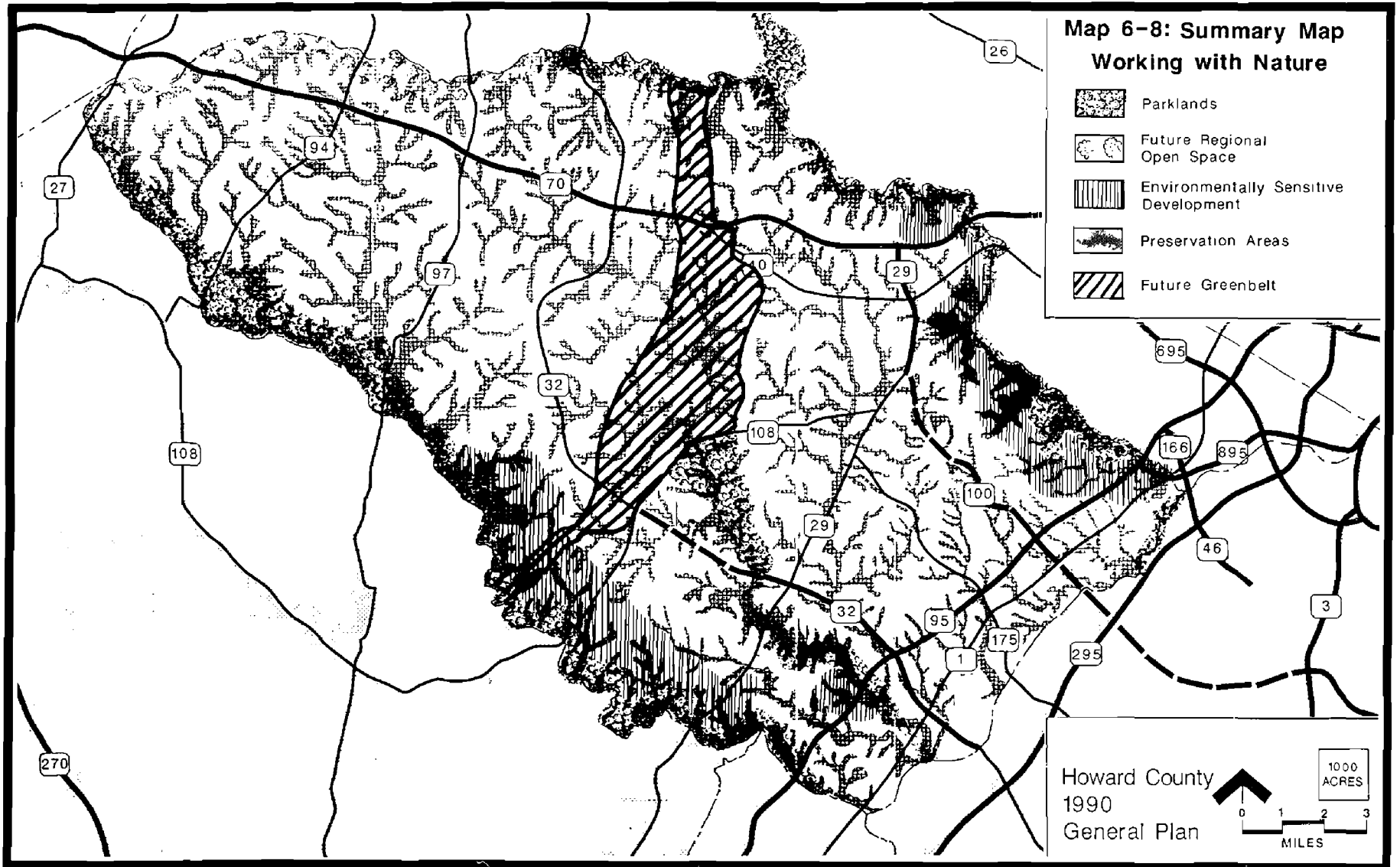
### Working with Nature and Community Enhancement

Many communities attempt to regulate the quality of their developments through strict architectural controls or through zoning that attempts to strictly separate incompatible uses. This can lead to bland, uniformly designed, and monotonous developments.

Based on the premise that no two sites are ever exactly alike, working with nature does more than protect the inherent ecological or visual value of these resources. It can also give developers and site planners greater opportunities to create urban environments of a higher quality, with a more distinctive local identity, and with reduced impacts on the region as a whole in accordance with the 2020 Report. As such, working with nature is an important complement to another priority – ensuring that the built environments themselves are of the highest possible quality. This is the focus of the next chapter of this General Plan.

### Summary Map

Map 6-8 entitled Working with Nature summarizes and illustrates some of the above policies and actions.

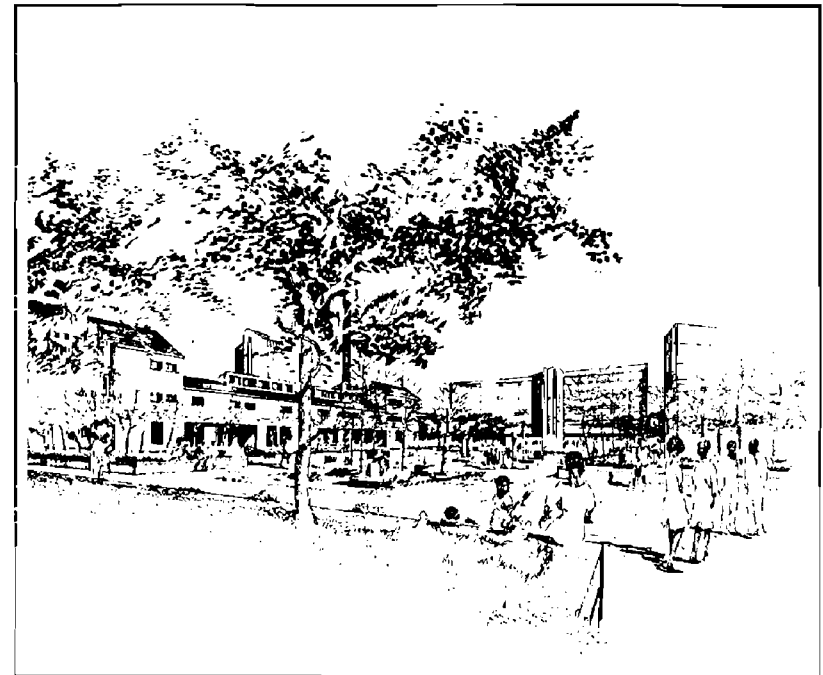


Map 6-8

---

# COMMUNITY ENHANCEMENT

---



## Chapter Seven

---

# COMMUNITY ENHANCEMENT

---

### Introduction

Community enhancement includes all efforts to improve the quality of life beyond the provision of good housing, jobs, basic environmental protections, public utilities and facilities. It can be a county-wide issue when it touches on matters such as expanding and sustaining the variety of cultural activities and entertainment available to residents. Most often community enhancement centers on creating more visual and social amenities within specific local areas, and helping to give each community a strong local identity and its own personality.

Howard County is a small county and its most fundamental growth problems will be resolved on a county-wide basis. But translating the goal of a high quality of life into the quality of the built environment requires more localized, detailed planning than can be done at the county-wide scale.

More involvement of local residents in long-term efforts to create, retain or restore visual, environmental and social amenities within their own communities is also a goal of great importance that this section of the General Plan addresses.

Despite the quality of much recent development, community enhancement is still needed in Howard County for a variety of reasons, for example:

- some developments are less well done than others.
- in some areas there is no community focus.
- the stores and services that local residents need may be located in poorly designed, strip commercial developments.

- neighborhood recreation areas are centered on one use or one age group.

In the older areas of the County, community enhancement needs may be greater. Age of structures, long-standing land use conflicts, lack of reinvestment in traditional commercial centers, and loss of environmental quality within developments may range in intensity from very local nuisances to pervasive community-wide issues.

### Physical Setting and Sense of Community

Communities are social entities. Their vitality and their 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.

Enhancing the quality of new and existing developments and community settings requires planning policies that are not grounded in analysis of statistical trends and predictions. Providing answers to these problems relies on critical observation and an evaluation of how well various models of community design for suburban areas have worked as total environments.



## Need for Community Focus

The lack of highly active local community centers is increasingly targeted as 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 the New Town lack a strong local focus. Indeed, some of the largest activity centers are strip commercial areas that are not oriented to any specific community but to a more generalized market defined by auto access.

The suburban land use practice of separating land uses is largely responsible for the lack of multi-purpose community centers with active public spaces where people can meet and relax. 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.

Within suburban communities, there may be a small convenience store center or even a larger shopping center. But many of the institutions, civic functions and community services that would also be part of traditional small town commercial centers are likely to be on scattered sites located away from the residential areas. The post office, churches and schools are on their own sites, perhaps miles away. There is usually no public space located centrally to the other activities that can be used for informal socializing. Some young people may tend to meet near the convenience store, but most people merely drive in and out once they have made their purchases.

## Mixed-Use as a Basis of Enhanced Communities

"The whole is greater than the sum of its parts" is the underlying tenet of the resurgent nationwide interest in mixed-use as a means to give suburban areas greater variety and a stronger community focus. Mixed-use within a clearly defined physical setting is increasingly promoted by many leading community planners and urban designers as the means to recreate something of the traditional Main Street community focus.

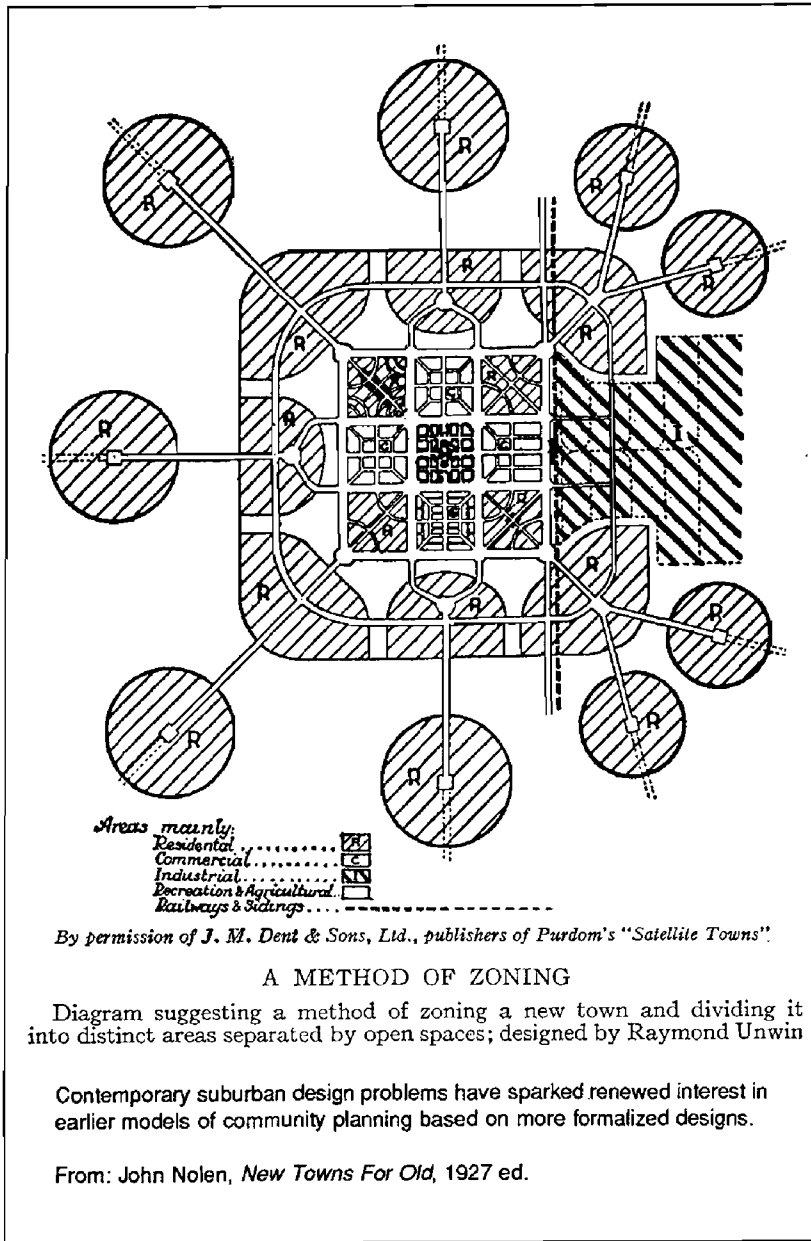


Figure 7-1

Community-oriented mixed-use models are more than simply placing different uses next to each other. It is true mixing. Apartments above shops is a frequently-used example of what this means.

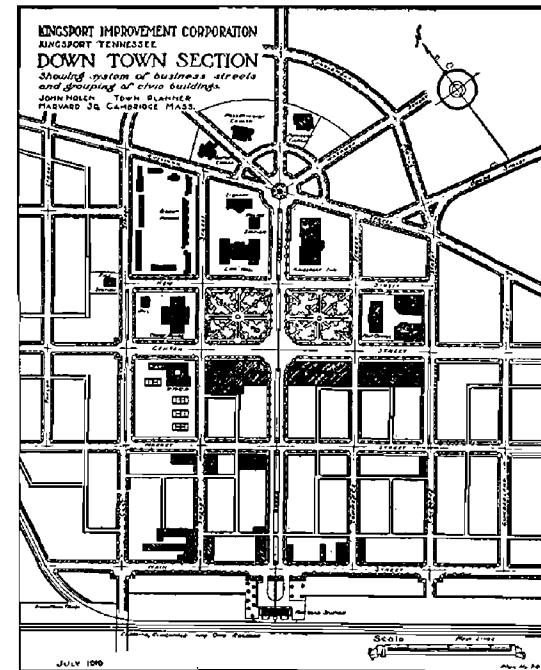
This is very different from the typical suburban mixed-use center concepts of the past few decades. In these developments, mixed-use was usually limited to simply a higher density mix of office and commercial uses with perhaps some mid-rise or high rise housing. Little, if any, civic presence, public open space or social institutions were included.

Mixed-use, broadly defined, has many functional benefits. It increases the possibility of people living and working within the same area and, thus, reduces the need for long-distance commuting. Unlike conventional zoning, housing types in a mixed-use development need not be limited to only a few choices. Especially noteworthy is the requirement of many of the new mixed-use programs for adequate common public space and sites for civic facilities and social institutions such as churches and community centers at highly visible locations. Another feature is the use of some form of grid road system to define public space and provide numerous alternate routes for getting to and from these centers.

Howard County has two good examples of mixed-use development. One is the very traditional Main Street environment of Ellicott City. The other is the contemporary Downtown of Columbia which, while yet to be finished, already has a foundation of shops, offices, cultural activities and some housing which can be made into a more comprehensive mix in future years. These are, of course, unique environments that cannot be duplicated elsewhere in the County. What are now needed are other forms of mixed-use that fit into the more typical neighborhoods and local communities found throughout the County.

## *Policies and Actions*

*Howard County, to promote additional mixed-use areas within the County that are in scale and character with their context, will:*



KINGSFORT, TENNESSEE  
Plan of down-town section, showing system of business streets and grouping of civic buildings

Mixed-use and orderly layout of an earlier planned community. Business District, civic buildings and public open spaces; Kingsport, Tennessee (1917).

From: John Nolen. *New Towns For Old*, 1927 ed.

Figure 7-2

## COMMUNITY ENHANCEMENT

### 7.1 Local Neighborhood Mixed-Uses

Allow and encourage local neighborhood mixed-use developments of housing, commercial and community facilities to be the central focus of larger new neighborhoods. Mixed-use developments should be designed as part of the overall development and be coordinated with the local road network and public open space as the core of the community. These types of mixed-use centers could also be created within existing older neighborhoods, especially in the older areas of the County such as Elkridge, Savage or North Laurel where redevelopment or historic conservation planning can provide a strong context for more traditional forms of such mixed-use.

### 7.2 Major Mixed-Use Centers

Allow and encourage major mixed-use developments that could center around public transit stops or connections, could encompass a very broad mix of housing choices and affordability, and could also provide the increasingly hard-to-find sites for major public facilities such as schools or active recreation. A new zoning designation will be needed for these sites. Intensities will be controlled by phasing and Floor Area Ratio (F.A.R.) limits. (See Figure 7-3.)

## Downtown Columbia

Because Downtown Columbia will continue as the County's major mixed-use center, it is treated in some detail in this General Plan. Downtown Columbia is now more than 20 years old. In the 1980s many changes occurred including the opening of the Central Library in 1981, the expansion of the Mall, construction of several office buildings, and the start of mid-rise housing at the northern intersection of Little Patuxent Parkway and Governor Warfield

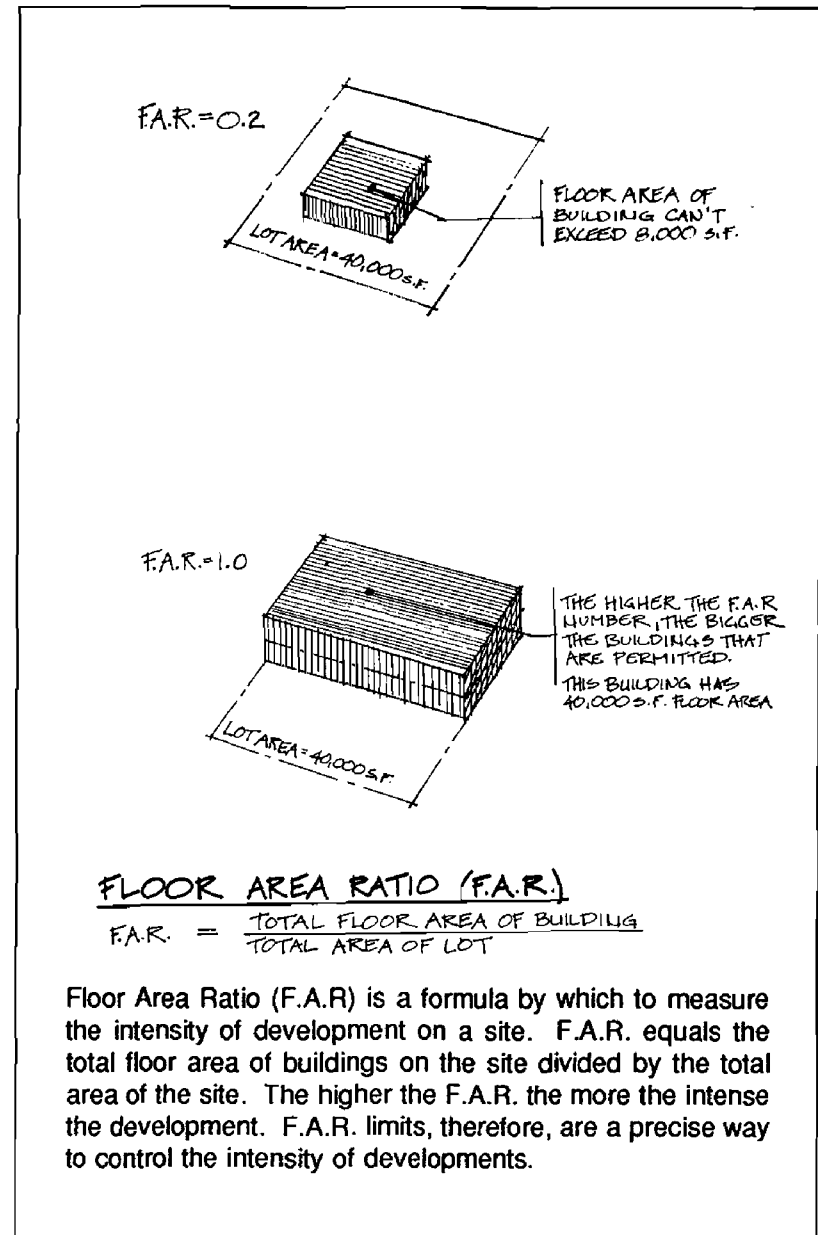


Figure 7-3

Parkway. Other changes of note are the new neighborhoods to the southwest along Hickory Ridge Road and the first phase of construction of Broken Land Parkway which, in time, will replace the South Entrance Road as a main entry to the Downtown.

While the Downtown is clearly the dominant urban center of the New Town and of the County, it is still unfinished and has reached a stage when some reassessment of its future is appropriate.

A 1987 study of the Lakefront area recommended several initiatives to make it a more functional and more active public space. These included completing a pathway system around the lake itself, improvements to the public spaces on the west side of the lake, redefinition and reconstruction of the shoreline to make it easier to maintain, and improvements to the landscape design and public environment of the Little Patuxent Parkway. The County has expressed its support for the renovation and enhancement of the Lakefront and is cooperating where it can to help implement some of these improvements.

In 1989, a County-sponsored urban design study of the Downtown began. This study recommends ways the Downtown could become a more active urban focus and take full advantage of future possibilities for rail connections.

Earlier Downtown concepts included a greater mix of uses in the central Downtown area than now exists. (See 1967 diagram Figure 7-4.) Many of the recommendations for the Downtown of the future also seek to enlarge the area of mixed-use activities, create a more urban, pedestrian-oriented street system, and relate the Downtown area more strongly to its surrounding neighborhoods. (See 1990 diagram Figure 7-4.)

The initial results of this study are presented in this General Plan not as the final plan for the Downtown but as the foundation of a future program for this important center. (See Figure 7-5.) The final version of this study will be based on further work to be completed in 1990.

## *Policies and Actions*

*Howard County, in cooperation with Howard Research and Development and the Columbia*

*Association, will encourage planning for the Downtown that will:*

- 7.3 *More Downtown Residential Uses*  
Reduce the area now designated for employment and increase the area set aside for residential development to extend the vitality of the Downtown after normal office hours.
- 7.4 *Modifications to Road and Pedestrian Network*  
Revise the Downtown road and pedestrian network to relieve potential congestion at intersections and along the Little Patuxent Parkway; prevent the future need for any excessive widening of Little Patuxent Parkway that would further divide the Downtown into isolated pockets; end the isolation of the Central Library from other Downtown activities caused by existing road patterns; and establish a system of interior streets within the larger road network to better distribute traffic once it reaches the Mall area.
- 7.5 *Connecting the Lakefront to the Mall*  
Tie the Lakefront area more effectively to the Mall area and to future Downtown housing by better pedestrian connections and urban design features.
- 7.6 *Transit Integration*  
Locate potential rights-of-way, transit stops and transfer points to enable future transit service to serve the Downtown area. Locate and design stations to complement other Downtown development and be focal points in their own right.

# COMMUNITY ENHANCEMENT

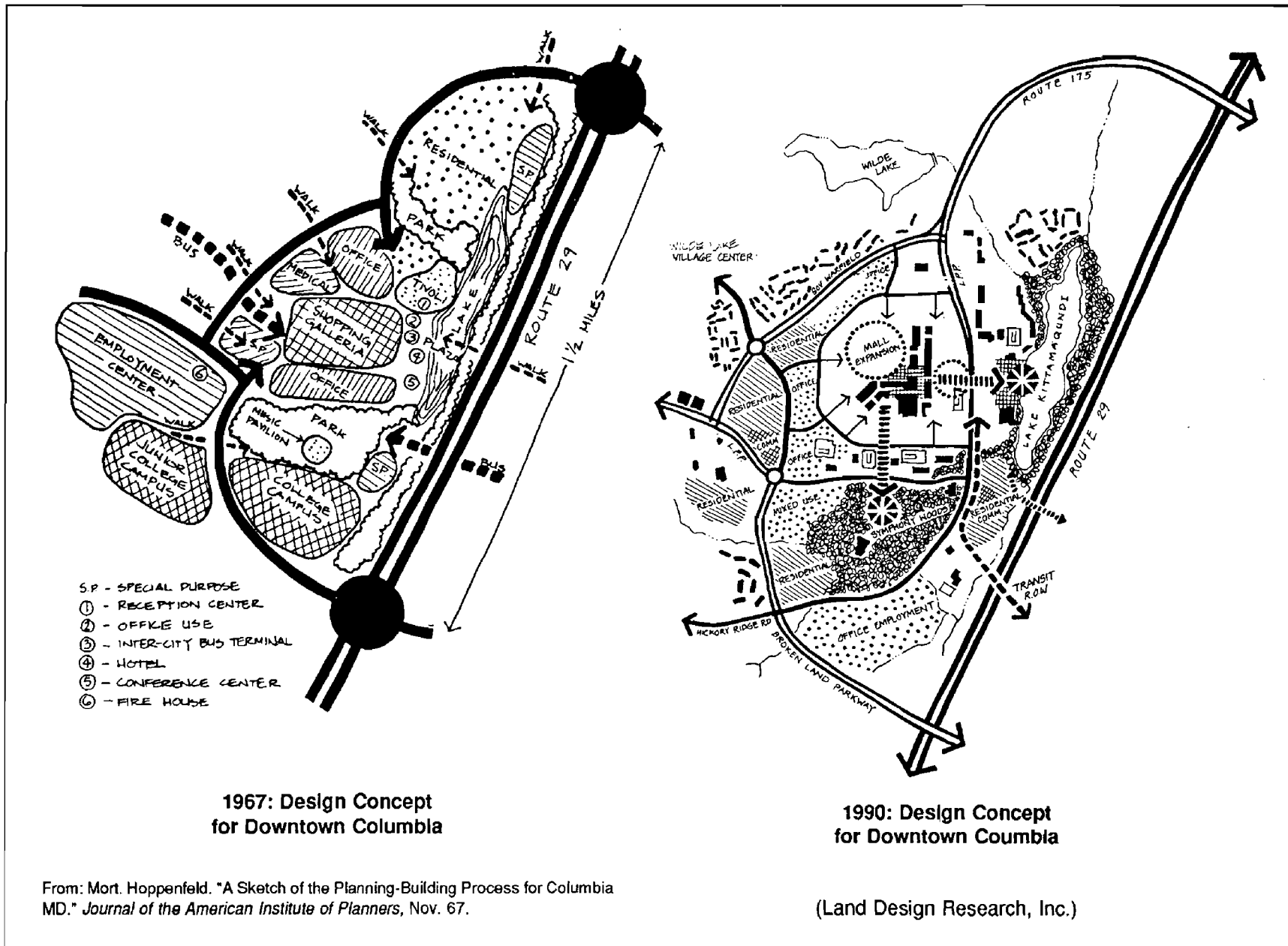
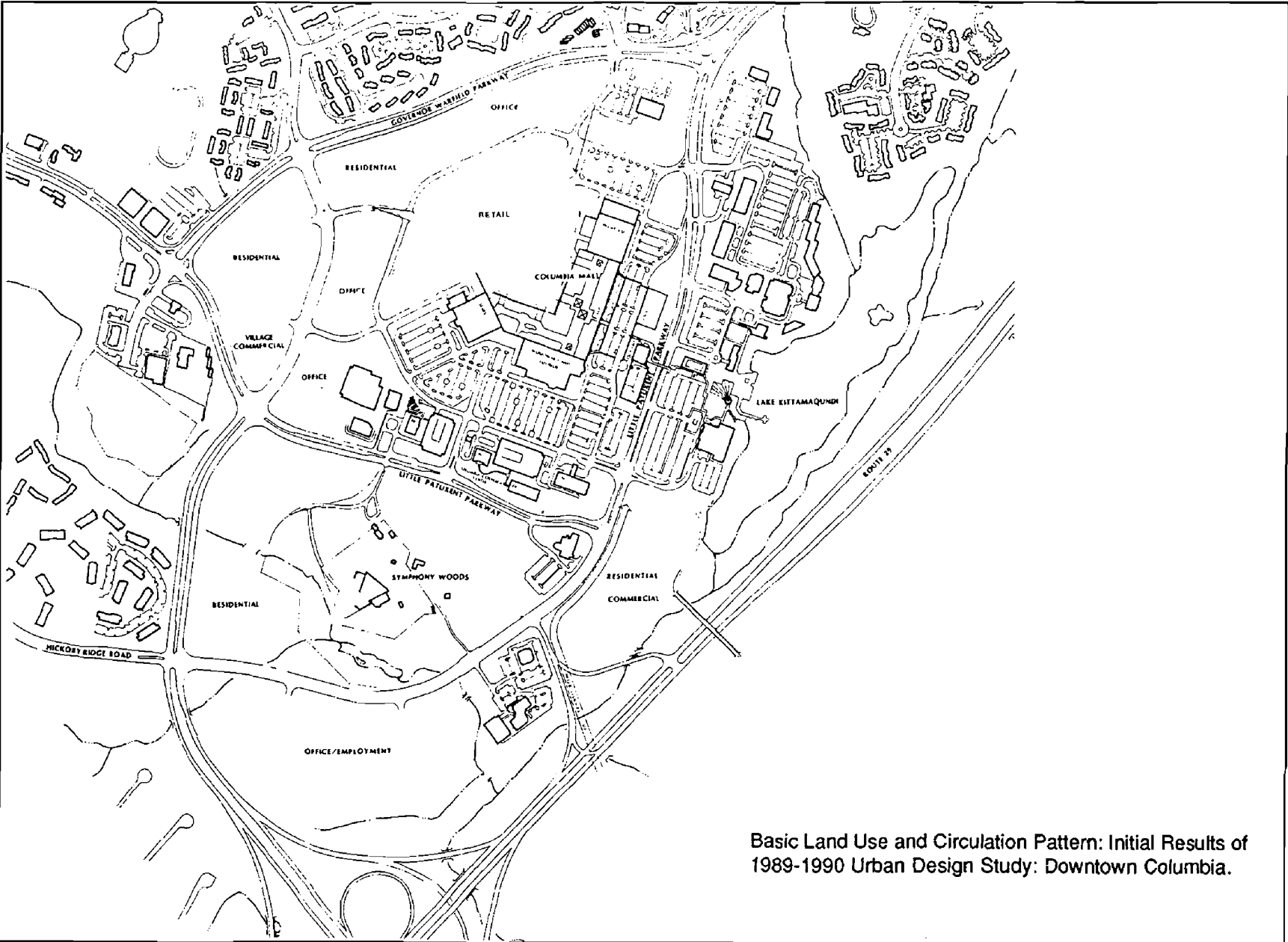


Figure 7-4



Basic Land Use and Circulation Pattern: Initial Results of 1989-1990 Urban Design Study: Downtown Columbia.

Figure 7-5

## COMMUNITY ENHANCEMENT

### 7.7 *Open Space on the Lake*

Make better use of Downtown open space such as the edges of Lake Kittamaquondi to provide for appropriate recreation for the growing numbers of residents and visitors in the Downtown.

### 7.8 *Reserve Cultural Sites*

Plan ahead to reserve sites for any future cultural facilities and programs that should be part of the overall Downtown environment.

### 7.9 *Government Presence*

Consider establishing some County or State government presence in the future Downtown.

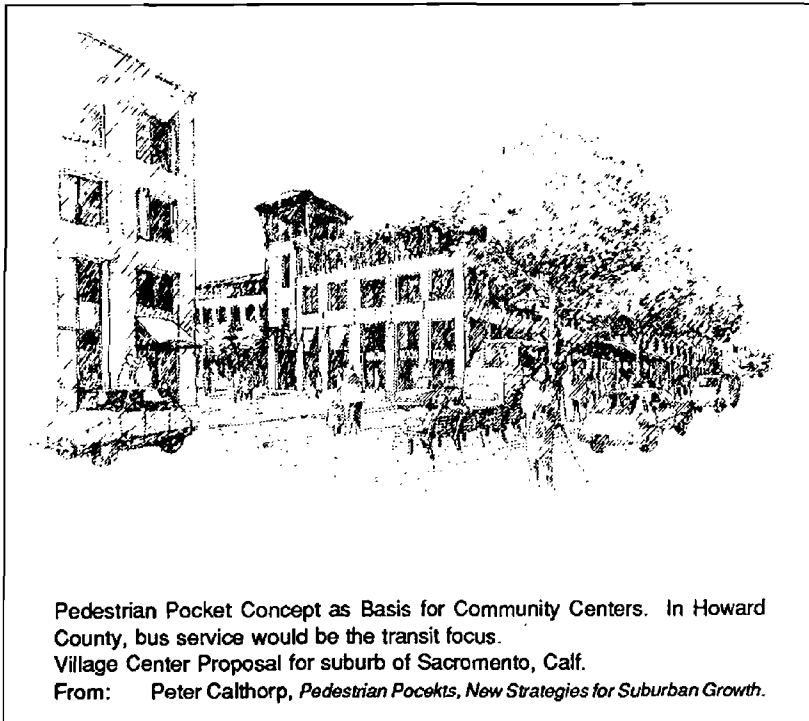


Figure 7-6

## Public Transit

Public transit enables commercial centers and mixed-use projects to grow with less dependence on the private automobile and less need to provide space for cars. It provides access to such centers for those without cars and beyond comfortable walking distances.

Transit stops can also be important design elements within such centers. Their location, image and the frequency of transit services will affect the overall design and quality of the center.

Transit affects the design and the perception of how adjacent or nearby neighborhoods relate to these centers and to each other. Future revitalization of older areas of the County would also be greatly influenced by the availability of transit. The physical design and linkage of these centers to adjacent communities must be efficient and add to a better built environment.

Public transit has not yet had any significant impact on the physical shape of our existing communities. Because the future of public transit is still not clear, it is not yet possible to state definitely how public transit should influence the design of new neighborhoods, employment areas, mixed-use developments, and community centers. Much will depend on whether public transit means vans, small buses, full-size commuter buses, light rail or commuter rail. The selection of the right mode or combination of modes is important to insure that the scale of development of such centers and the area they serve will match the ability to provide public transit.

## *Policies and Actions*

*Howard County, to use transit as a means of community enhancement, will:*

### 7.10 *Development to Accommodate Transit*

Review new developments for their ability to accommodate transit buses or small buses.

**7.11 Transit in Employment and Mixed-Use Areas**  
 Require space be reserved for adequate transit stops and transit transfer points in all major employment, mixed-use and commercial centers.

**7.12 Transit Access**  
 Plan for separate rights-of-way for transit within higher density centers to avoid conflicts with circulating autos, and, if necessary, provide separate access ways onto and off of main roads into these centers to speed the entry and exit of transit vehicles.

**7.13 Planning for Light Rail**  
 Include light rail possibilities in the design of future centers and in the plans for enhancement of existing centers (e.g., Downtown Columbia). The needs of light rail (tracks, overhead wires) must be accommodated as well as bus stops and commuter parking for those switching between different types of transportation modes.

**7.14 Phasing Development**  
 Plan for future expansion of larger mixed-use centers based on phasing and Floor Area Ratio (F.A.R.) limits. Centers that will begin to develop before adequate bus or rail service may be available should be programmed to phase in higher densities and concentrations only after public transit is available.

**7.15 Pedestrian Pockets**  
 Plan to make the most of the limited commuter rail opportunities to create centers similar to the "pedestrian pocket" concept in which the commuter rail station is the focus of a mix of housing, jobs, stores and public space, all within a well-planned pedestrian environment. (See Figure 7-7.)

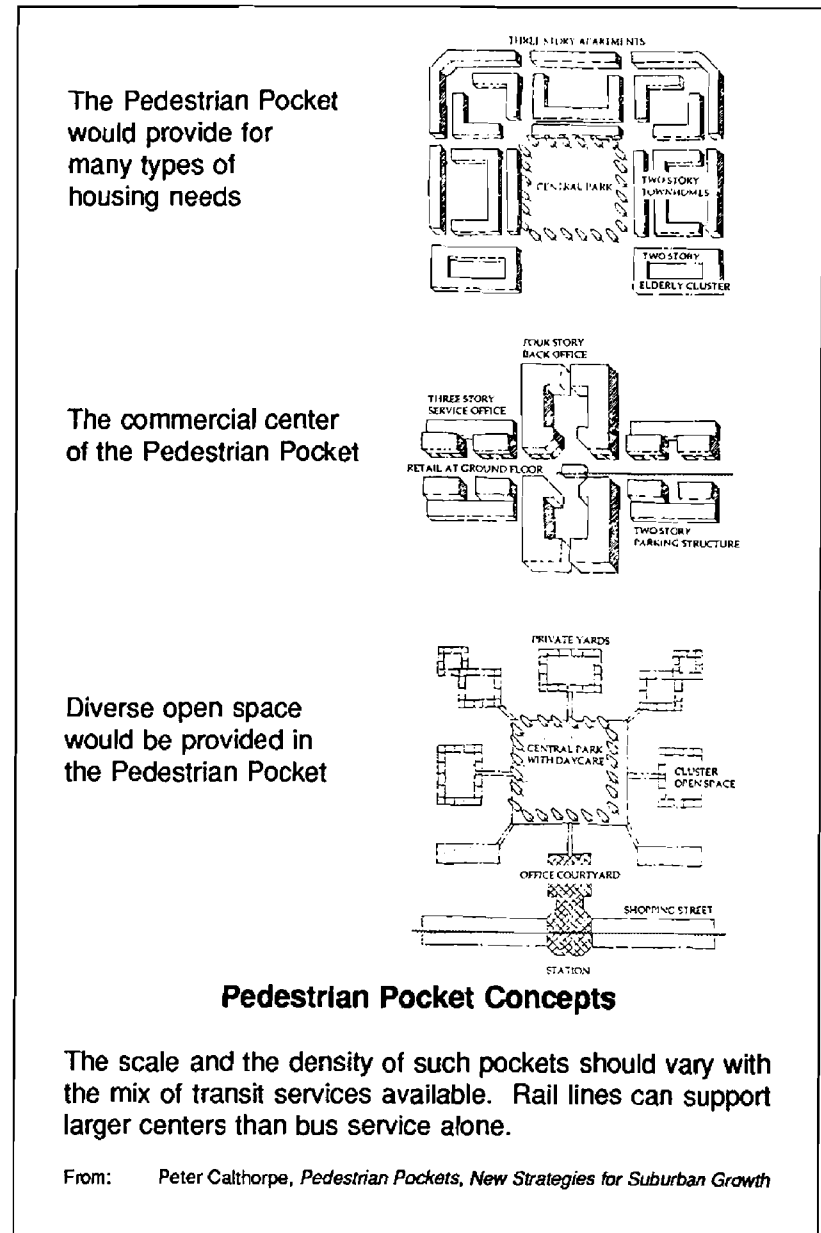


Figure 7-7

From: Peter Calthorpe, *Pedestrian Pockets, New Strategies for Suburban Growth*



### Public Facilities

Facilities such as schools, recreation centers, senior centers, libraries or meeting halls can bring a sense of public purpose and civic pride to what might otherwise be a strictly commercial or strictly residential context. Their symbolic and social significance can be greatly increased by location within or near public spaces that provide both a dignified setting for such facilities and their own form of community enhancement.

The ability of different public facilities to play a role in community enhancement depends on:

- how decentralized services can be without excessive cost and loss in the level of service.
- the demands of the service for floor space and parking or other outdoor space.
- the degree to which different services can be housed in the same facility or closely related to each other.

### *Policies and Actions*

*Howard County, to use facilities planning as a part of community enhancement, will:*

#### **7.16** *Service Area Standards*

Develop rational service area standards for each individual service based on access times and size of population to be served and see how they compare with each other (for example, branch libraries and citizen services).

#### **7.17** *Match-Up of Services*

Match compatible services and determine the total future combined need for floor space, parking and other site features needed to develop joint facilities.

#### **7.18** *Public Facilities in Commercial Centers*

Seek sites within or adjacent to existing or future commercial centers when such facilities will be compatible with the businesses within such centers, when such locations will increase the accessibility of public services to the local population, and when such sites will improve the cost effectiveness of the development and operation of such facilities (e.g., shared parking or shared utility infrastructures).

#### **7.19** *School Locations*

Work with the Board of Education to review current locational criteria for schools to see how school sites might be part of larger community center that could include some commercial or employment uses as long as these do not impair school functions or create inappropriate land-use relationships.

#### **7.20** *Civic Design*

Locate and design public buildings to stress their civic role (e.g., use them as landmarks at the joining of streets or as an edge to a clearly defined, centrally located public space).

## Public Space

Active, attractive public space is absolutely necessary to making mixed-use or commercial centers part of a larger community focus. But open space as a community enhancement device is seldom a prominent element in the design of such centers. The main exterior feature of commercial centers and many public facilities is usually a parking lot fronting on the main access leading to the sites. This lot must then be hidden by an earthen berm (mound) to screen the cars and asphalt. Too often, the open space requirements of non-residential developments are devoted solely to required setbacks and some green islands in parking lots. There is seldom any active public space or it is reduced to a few benches set in front of the stores.

## *Policies and Actions*

*Howard County, to encourage the use of active open space in commercial and mixed-use developments, will:*

### 7.21 *"People Places"*

Establish open space requirements and guidelines in mixed-use and commercial centers to include centrally located, active social space or symbolic open space (e.g., fountains, pools, and green squares) in addition to needed buffers and setbacks.

### 7.22 *Social Space to Structure Centers*

Promote the use of active public space and symbolic open space as structuring elements to tie together different functional areas of the overall center.

### 7.23 *Design Formality*

Promote the use of formal layout and design concepts (grids, organization around axis, etc.) to give these centers the feel of traditional squares or village greens.

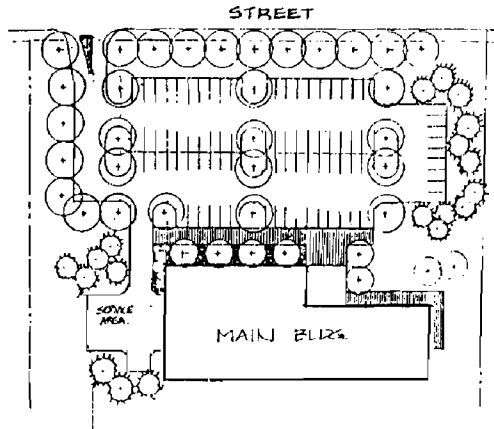
### 7.24 *Design Amenities*

Establish design criteria for amenities to promote active use of public spaces, including adequate shade, seating, some visual focus, emphasis on pedestrian needs and tempering of the impacts of parked and moving cars.

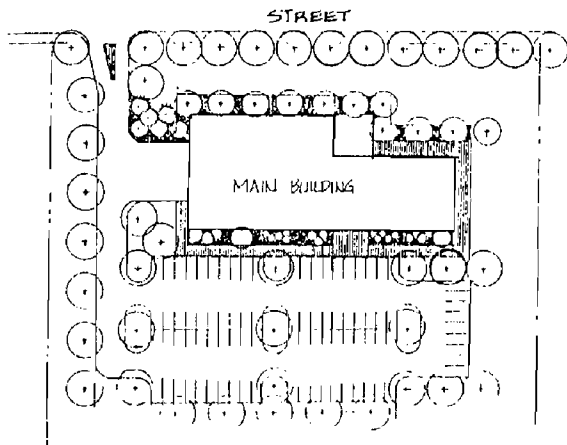
### 7.25 *Architecture as Public Edge*

Establish design guidelines for commercial and mixed-use centers that place buildings closer to the front of properties with parking generally placed on side and rear of buildings. (See Figure 7-8.)

**Architecture as Public Edge  
Along Roads and Streets**



Even when heavily landscaped, sites with large parking lots in front of buildings let cars dominate the image of the public environment.



Shifting parking areas to rear or side of buildings creates greater opportunity to secure stronger landscape and architectural edges to define higher quality public environment along adjacent streets.

Figure 7-8

## Commercial Centers

### Adequacy and Accessibility

Strictly commercial developments can also be a community focus and, therefore, must also be properly located and designed to be consistent with the overall community enhancement aims of this General Plan.

Part of maintaining a high overall quality of life is guaranteeing residents and those who work here easy access to the goods and services they need as part of their normal activities. Everyday needs should be convenient and easy to reach. The location of larger commercial centers and the types of stores and services offered should be appropriate to definable markets.

The General Plan must see that there will be the proper balance of large and small scale commercial centers to meet an increasing variety of needs. Both the 1971 and 1982 General Plans emphasized the need for conveniently located commercial areas without further expansion of strip commercial development along main roads. This new General Plan reaffirms this policy.

### *Policies and Actions*

*Howard County, to allow for the appropriate size, location and purpose of commercial centers, will:*

**7.26 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.

**7.27 Definition of Centers**

Define categories of commercial centers to guide land use decisions affecting existing and future commercial needs. (See Box 7-1.)

**7.28 Scale of Centers**

Insure that the size and location of commercial centers will be in keeping with the road capacities and land use context in which these centers develop.

**7.29 Centers Within Employment Areas**

Include commercial centers within employment areas when these are large enough to create their own market for stores and services.

**7.30 Specialized Centers**

Encourage related businesses to locate in specialized centers (e.g., auto-related businesses, equipment sales and building materials) to promote mutual benefits and to better control the impacts associated with these activities.

**System of Commercial Centers**

Local Convenience Centers should be close to all residential areas. These convenience centers give many residents pedestrian access to essential retail stores and 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 approval is the best means to find sites for these centers.

Community Level Centers have markets that go 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 include highly specialized stores and services and are also notable for the increased number and variety of stores and services they contain. 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 serve the concentration of businesses in significant employment developments where there is a distinct market for certain retail stores and services (e.g., meals, copy services, office supplies, express shipping services). The commercial needs of these employment centers and a growing workforce 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 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. 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 (e.g., waste products). Redevelopment of existing strip commercial corridors to accommodate such centers is a logical way to find appropriate locations for them.

### Design Compatibility with Adjacent Communities

The impacts of commercial centers on adjacent communities as well as their appearance in their own right is an important community enhancement issue. One must, however, distinguish between the impacts of local and community scale retail centers and those of the larger, more intensive strip commercial corridors.

Local and community centers are often sited within residential areas and need to blend in as much as possible.

## *Policies and Actions*

*Howard County, to improve the ways local and community-scale commercial areas can conform to the community enhancement goals of this General Plan, will:*

#### **7.31 Intensity of Centers**

Review proposals for commercial developments to see whether the intensity of activities will be in scale with the neighborhood context. Floor Area Ratio (F.A.R.) standards will be used to set limits on the intensity of such developments.

#### **7.32 Design Guidelines: Context**

Establish architectural and site planning guidelines by which these centers can blend with the surrounding context. Blank rear or side walls, or service areas should not be the features of the center onto which nearby homes look.

#### **7.33 Design Guidelines: Parking Locations**

Encourage the dispersal of parking into small, heavily landscaped lots, preferably located to not dominate the public image of the site along the main roads leading to it.

#### **7.34 Design Guidelines: Landscaping**

Establish landscape design standards to mitigate the visual impacts of commercial properties on adjacent areas. Use open space and landscape requirements that do more than simply hide such centers behind berms and evergreen screens and thus emphasize the differences between the centers and the surrounding neighborhood.

#### **7.35 Design Guidelines: Pedestrian Connections**

Draw up standards and guidelines for pedestrian connections between residential and commercial centers that are safe and convenient (to discourage unnecessary auto trips) and are designed as part of an attractive public environment, not merely a pathway past the service areas or parking lots.

## Strip Commercial Areas

Commercial strips are perhaps the most famous negative stereotype stemming from the growth of metropolitan areas since World War II. Strip commercial areas were the other side of the coin in the creation of vast bedroom communities. The stores and services needed by residents of these communities were grouped along arterial roads and were only accessible by automobile.

Commercial strips have often replaced the commercial main street or downtowns of traditional small towns or cities. They are primarily filled with stores or office developments. They were seldom planned to accommodate any civic presence, social institutions, open space or public spaces. They are extremely hostile environments for pedestrians. Usually they turn their back (literally) on adjacent neighborhoods which are cut off from direct access to them.

Commercial strips are often on the main road leading to adjacent neighborhoods. The chaotic visual and physical environments of strip commercial areas form a poor setting through which to reach these residential areas. (See Figure 7-9.)

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. Such uses include auto sales and repair, equipment sales and repair, home improvement centers, retail building supplies, and others. A primary planning concern is giving these commercial corridors more community-enhancing image and more stability of uses.

### Redevelopment of Aging Strip Commercial and Industrial Corridors

Many areas along US 40 and US 1 are aging and dominated by uses that may not survive the life of this General Plan. Many of these sites are now inefficiently used. Some sites are too small for the intensity of the uses on them. Others may be very underdeveloped - a small building and parking lot on a relatively large lot. Also, the *ad hoc* pattern of development on a site by site

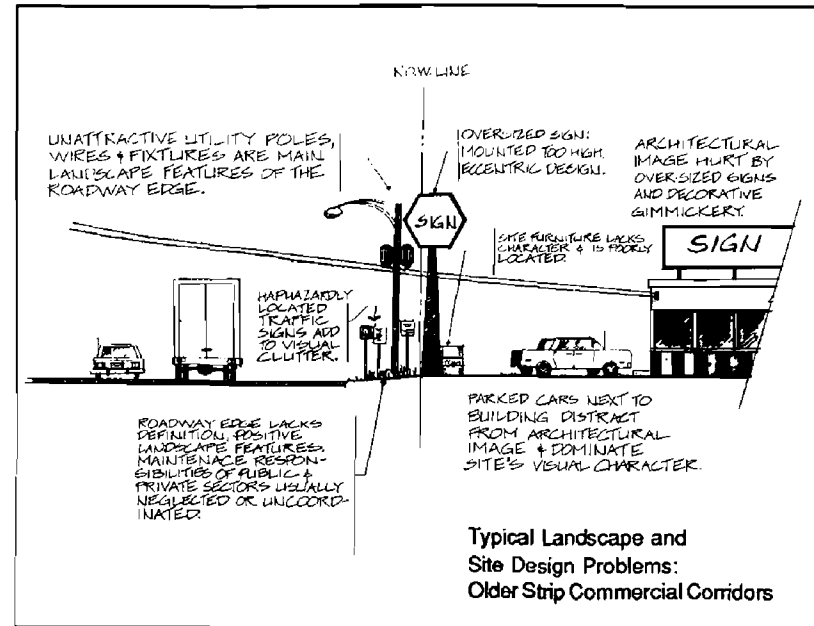


Figure 7-9

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 open space on such sites is created by the required setbacks of structures and uses from the property lines of each parcel. Also, 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 US 40 and US 1.

Sites such as these are prime candidates for redevelopment. When such sites are large or are numerous they offer the opportunity to see that such redevelopment is well-planned, is attractive and creates a more balanced land use context for new businesses.

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 strip commercial roads. Consolidation of small parcels (1 acre

and less) into larger units will improve the long-term planning prospects of these areas. Redevelopment guidelines and analysis of the best locations for the possible creation of new community centers similar to that shown in Figure 7-11 should be prepared for the redevelopment areas shown on the Policies Map.

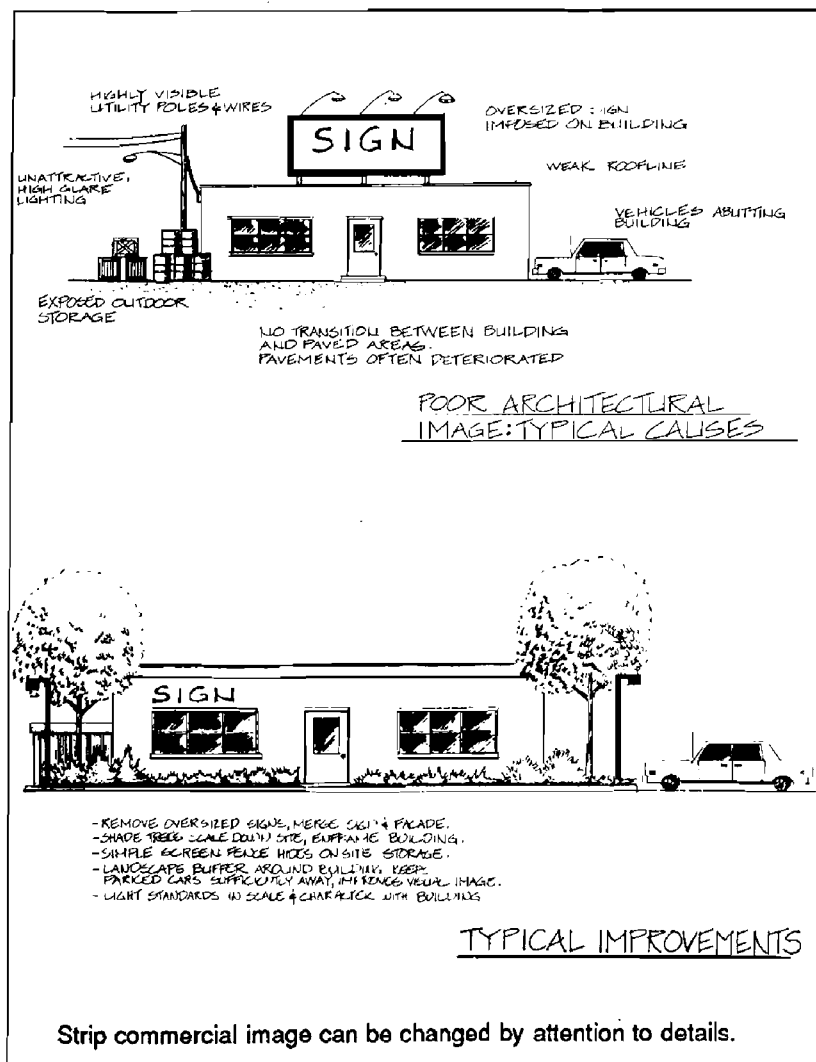


Figure 7-10

## Policies and Actions

*Howard County, to make existing strip commercial corridors more efficient and attractive and give them a more positive role in communities, will:*

### 7.36 Design Standards

Establish design standards for site layout, signage and landscape design.

### 7.37 Mixed-Use Opportunities

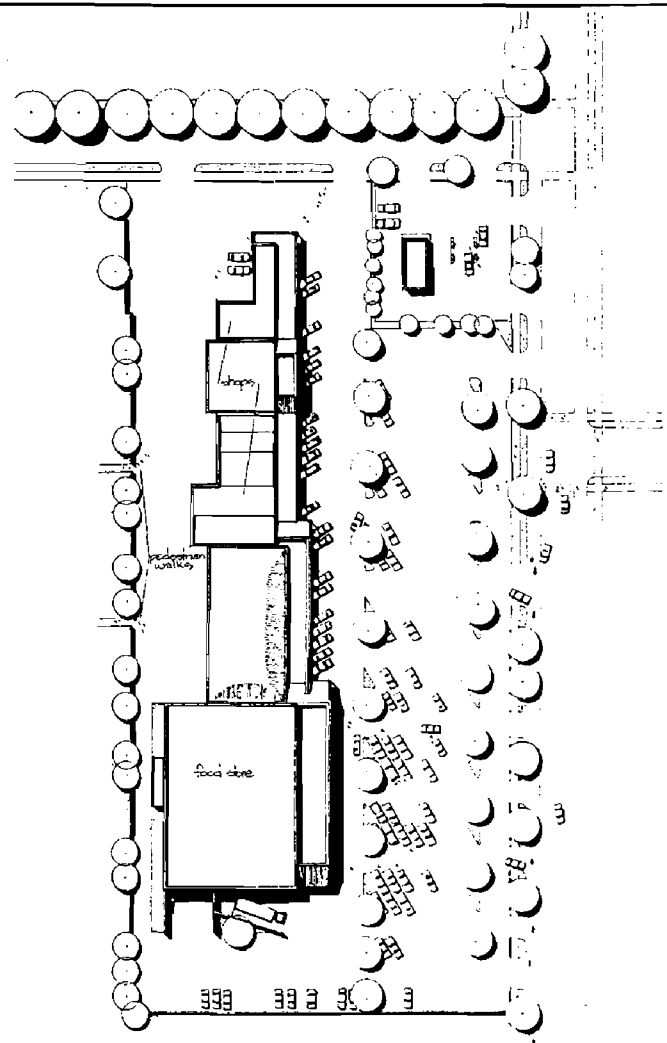
Revise selected zoning to allow more mixing of uses within larger sites along strip corridors for future redevelopment of sites where long-term viability of these sites as strictly commercial properties is questionable.

### 7.38 Public Environment

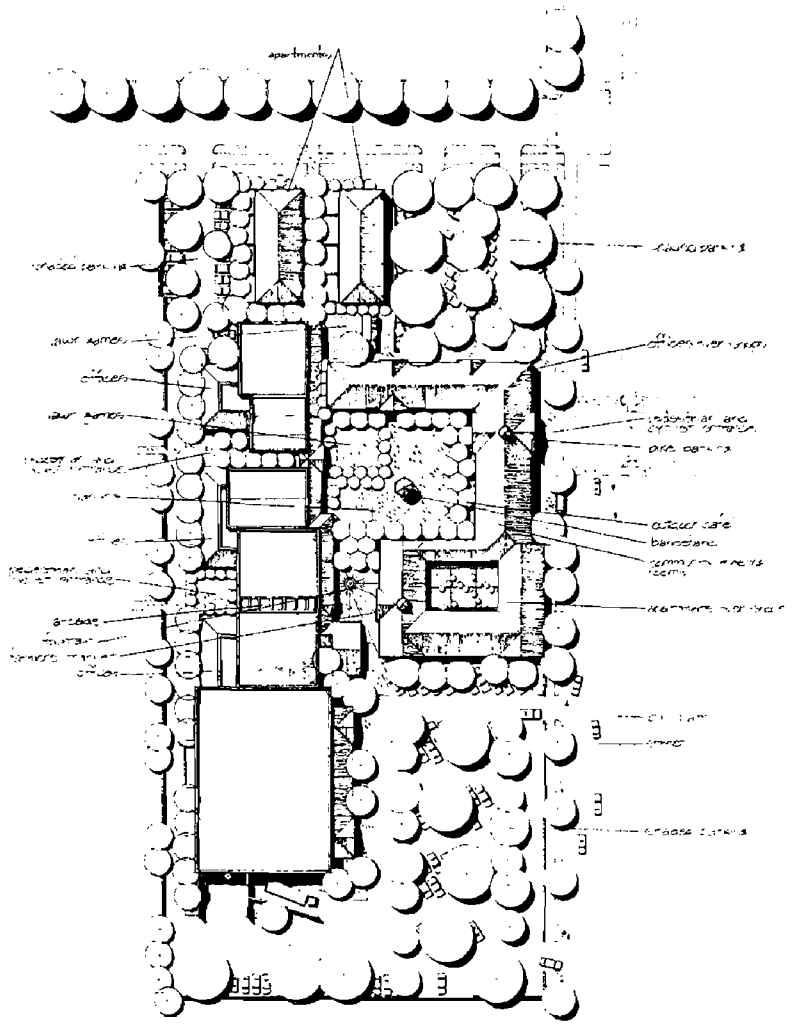
Create a stronger public environment along the right-of-way that eliminates any excessive number of access driveways, limits the impact of exposed storage and creates an image that strip commercial arteries are part of a common environment, not just a collection of odds and ends.

### 7.39 Public Space

Look for sites at key locations within strip commercial areas that redevelopment could change into more usable public space and symbolic greenspace.



Existing Shopping Center...



...Renovated into a Town Center

From: Michael N. Corbert.  
*A Better Place to Live, New Designs for Tomorrows Communities. 1981.*

Figure 7-11



### **7.40** *Cooperation for Revitalization*

Promote joint solutions to common problems where small separate businesses predominate (e.g., shared parking and shared activities such as common sign detailing and landscape design). Encourage local commercial improvement associations to help implement and manage such changes.

### **7.41** *Pedestrian Needs*

Create stronger pedestrian connections to and from adjacent neighborhoods and between different strip commercial properties.

### **7.42** *Public Facilities Site*

Seek appropriate locations for public facilities and services and use these to anchor redevelopment or enhance the overall image of adjacent areas.

### **7.43** *Transit Services*

Explore transit possibilities to make strip commercial businesses more accessible to neighborhoods not immediately adjacent to them and to those who do not have ready access to autos.

### **7.44** *Redevelopment*

Analyze potential redevelopment areas and develop guidelines for redevelopment and creation of community centers.

## Parking and Loading Requirements

Community enhancement requires that functional needs be planned and designed to work efficiently and contribute to the overall quality of the built environment. The inadequacy, poor location, and inefficiencies of many parking lots and loading and service areas of stores, offices, other businesses and large multi-family buildings are prime examples of how poorly planned functions diminish the image and quality of our employment and residential developments.

It is crucial that parking areas be large enough to meet actual needs without wasting space with excess pavement, but parking needs that are underestimated result in overcrowded lots, parking in inappropriate areas, and interference with other site uses. Service areas and loading and unloading areas should be located where they can be easily reached and do not conflict with circulation and parking.

Current regulations are obsolete and do not adequately address either the efficiency or the impact of parking and loading on the quality of developments.

Parking standards for new development are in the Zoning Regulations. A consultant study prepared for the Department of Planning and Zoning during 1988 and early 1989 was the first comprehensive study of the County's parking and loading regulations. This study uncovered several serious deficiencies in the formulation and applicability of the current standards.

Howard County's parking standards have too few categories for business and industrial land uses. This results in insufficient distinctions between the parking needs for very different types of land uses. Different businesses do not generate the same parking demands but are often subject to the same parking standards. In addition, many of the current standards are based on number of employees, a factor which is subject to change as businesses move in or move out of a site and is also a factor difficult to confirm. For most employment land uses, parking standards based on the size of a building more accurately reflect actual parking needs and are easier to administer.

Minimum loading standards are a means to avoid situations in which parking spaces, driveways, or even public streets are used for loading operations. The Zoning Regulations, however, do not

now require a minimum number of loading spaces for commercial or industrial land uses.

Deficiencies also exist in the parking standards for residential developments. It has become increasingly apparent that the current requirement of two off-street parking spaces per residence is not adequate for single-family attached houses. The growth in number of cars per household in the last two decades means this standard is frequently inadequate for residents and does not provide for any parking for visitors. The parking standards for apartments and condominiums are also inadequate in this respect and need careful review.

## *Policies and Actions*

*Howard County, to update its obsolete parking regulations and bring parking regulations into balance with current realities, will:*

### **7.45 Revised Parking Regulations**

Adopt revised and updated provisions in the Zoning Regulations for parking and loading with particular emphasis on residential attached units and apartment parking standards and standards for office development.

### **7.46 Design Standards**

Integrate new parking and loading requirements with new standards for size, layout and landscaping to temper their impacts on the built environment.

## **New Neighborhoods**

Even without the modern equivalent of the traditional Main Street or Town Square, neighborhoods or larger groups of neighborhoods can have a stronger sense of local identity than sharing the same zip-code. To create better community settings, however, the design of neighborhoods must go beyond meeting market demand for certain types of housing, and beyond meeting the minimal requirements of the Zoning or Subdivision Regulations.

Most Howard County neighborhoods are made up of well maintained, relatively new properties. While the houses are of generally high quality, the settings in which they were built have not always complemented them as well as they could.

One way to do this is to not obliterate the original, often subtle sense of place a development site may have due to the existing landscape and environmental resources. This concern was described in some detail in Chapter Six: *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 have been consciously created and together constitute an overall setting.

Once it is fully developed, it is quite difficult to readjust the balance of various design decisions that give a local area its identity. Redevelopment of an area may do this, but this only makes sense when overall conditions require extensive restoration or new construction of buildings, utilities and streets. The opportunities for enhancement within existing communities will not be ignored, but the main opportunities for community enhancement as a driving force in the design of residential neighborhoods will be within the larger remaining undeveloped areas.

Design of neighborhoods is usually based on some model or image that the developer, the designer, or the zoning, subdivision and site development codes wish to carry out. In Howard County in the past few decades, the model for residential development has been that of suburban neighborhoods based on numerous clusters. This cluster neighborhood model is based on a relatively small number of lots (50 to 100 is typical) of uniform size, with a circulation system of very wide, curving cul-de-sacs feeding into one or two collector

## COMMUNITY ENHANCEMENT

roads. There are no contrasting land uses within the cluster.\* (See Figure 7-12.)

Open space is used primarily as buffers between such clusters or as extensions of private back yard areas. The public environment in these clusters is seldom highlighted. Houses are often set back far from the street. The landscaping along the cul-de-sacs stresses the private, rather than the common, environment—an image of separate houses seeking to minimize contact with the larger world outside.

While the cluster neighborhood model is an improvement over past methods of suburban sprawl, the cluster neighborhood model has some serious functional and community enhancement flaws. (See Box 7-2.)

The problems of the cluster neighborhood model have been vigorously analyzed and debated throughout the 1980s. (See Boxes 7-3 and 7-4.) Toward the end of the 1980s, numerous alternatives or modifications to the cluster neighborhood model had been implemented in jurisdictions throughout the country.

This General Plan does not seek, and would not want, to impose any specific model on the developers of future neighborhoods. Nevertheless, it does call for more thought to be given to the issues raised in this debate about the physical form of our communities.

More careful consideration must be given to the various ways strongly articulated public spaces can give neighborhoods a strong local identity. Current regulations properly emphasize the environmental and recreation benefits of open space. Access to natural environments is a primary element of a high quality built environment, and local recreation areas are needed neighborhood amenities. Open space, however, has generally not been used as a design element in creation of a strong public environment or community focus within residential developments.

\* These clusters should not be confused with the rural clustering model described in Chapter Four as the basis of future residential development in the Rural Conservation Districts of this General Plan.

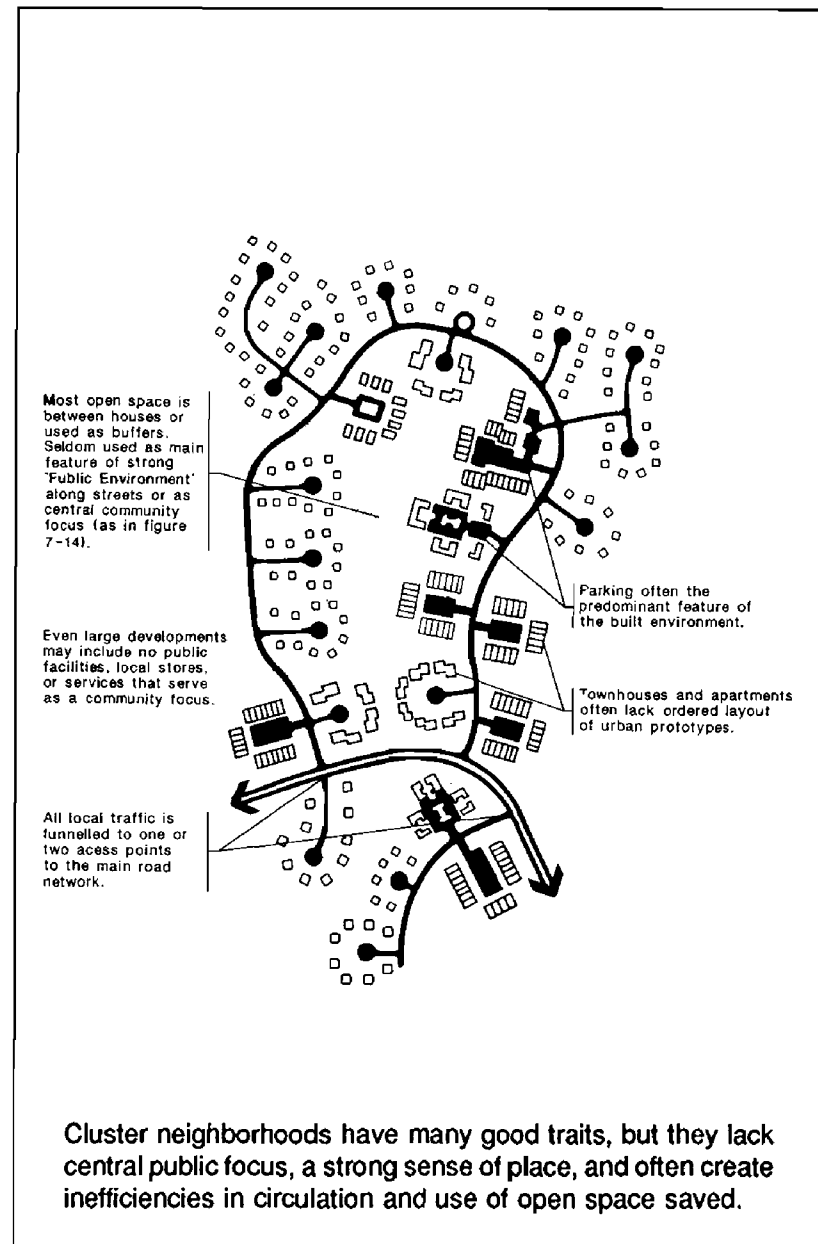


Figure 7-12

### Cluster Neighborhood Model: Typical Drawbacks

- Circulation, designed to eliminate through traffic, depends on only a few limited-access points to reach the main road network. This often results in long waiting times to turn onto the main collector roads during peak commuting periods.
- Streets are often over-designed for the volume of traffic they will ultimately carry. Overly-wide streets encourage speeding, are hard to temper visually by landscaping, and ultimately will cost more to maintain and replace.
- The model does not accommodate itself well to attached and multi-family housing. These forms of housing derived from urban models and grid patterns have not always translated well to suburban settings.

Box 7-2

### Alternate Community Design Models

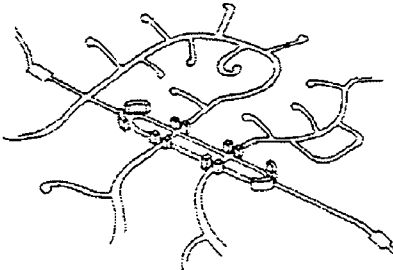
These community design models provide much guidance about how to design neighborhoods without some of the drawbacks of the more conventional designs.

- **Traditional Neighborhood Design:** This model seeks to recreate as far as possible the scale, layout, mix, architectural styles and landscape design of 19th Century small towns or traditional mixed-use urban neighborhoods. Its principles accommodate detached or attached housing. One striking feature is the use of the street pattern to create somewhat formalized but comfortably-scaled public environments within neighborhoods and as a way to link residential and non-residential areas into a comprehensive environment.
- **Pedestrian Pocket:** Mentioned in connection with mixed-use centers built in conjunction with public transit, the pedestrian pocket concept can also be scaled down to merge lower-density residential developments with a central community focus or a commercial center with an active, pedestrian-scale open space. This can be served by bus connections to other parts of the community. The residential sections would have their own central common open spaces linked to this community center.
- **Density by Design:** This is less a specific model than new general concepts for single-family and multi-family housing. It seeks to adapt earlier models for suburban neighborhoods or developments by retaining their best features while accommodating these designs to increasing shortages of land in metropolitan areas, steeply rising land costs, and higher costs of development. Requirements to set aside more environmentally sensitive land, more protection of existing landscape resources, and emphasis on tree protection will require tighter-scale development within specific neighborhoods. Density by design can help meet these goals of working with nature.

Box 7-3



The typical suburban street system has no center, no heart. It's hard to tell where the gathering places are.



A formal composition, inserted amid the random loopiness of so many suburban street patterns, can be a powerful organizing force.

Increased attention is being paid to the design of suburban streets as public environment as well as circulation.

Figure 7-13

### Basic Principles of Traditional Neighborhood Design

Traditional neighborhoods achieve certain social objectives:

- By reducing the number and length of necessary automobile trips, traffic congestion is minimized and commuters are granted increased personal time.
- By bringing most of the needs of daily living within walking distance, the elderly and the young gain independence of movement.
- By walking in defined public spaces, citizens come to know each other and to watch over their collective security.
- By providing a full range of housing types and workplaces, age and economic class are integrated and the bonds of an authentic community are formed.
- By promoting suitable civic buildings, democratic initiatives are encouraged and the organic evolution of the society is secured.

Traditional neighborhoods share the following conventions:

- Dwellings, shops and workplaces, all limited in size, are located in close proximity to each other.
- A variety of streets serve equitably the needs of the pedestrian and the automobile.
  - Well-defined squares and parks provide places for informal social activity and recreation.
  - Well-placed civic buildings provide places of purposeful assembly for social, cultural and religious activities, becoming symbols of community identity.
  - Private buildings are located along streets and squares forming a disciplined edge unbroken by parking lots.

© The Foundation for Traditional Neighborhoods, Inc.

Box 7-4

Almost all open space in single-family detached areas is located behind houses, adjacent to backyards, or used to provide pathway connections to such areas. In higher density areas, most open space is used to mitigate the impacts of parking lots or in supplying required setbacks or buffers along property edges.

There is too little use of such traditional open space treatments as squares, crescents, or central greens that make greenspace the focus of the public environment along streets or in the front (i.e., public) side of houses. Such use of open space is especially important for townhouses and apartments.

Single-family detached housing can also very successfully use those types of open space to organize common environments, especially with densities of five units per acre or more where smaller lots and the location of individual houses close to each other make it possible to use them as an enclosing element that helps define such common space.

## *Policies and Actions*

*Howard County, to promote better neighborhood design, will:*

### **7.47** *Open Space or Public Space*

Use part of the open space requirements for residential subdivisions to create public common space, such as greens, squares, 'boulevard' cross sections for streets, or landmark settings to emphasize a strong sense of community in the design of neighborhoods. (See Figure 7-14.)

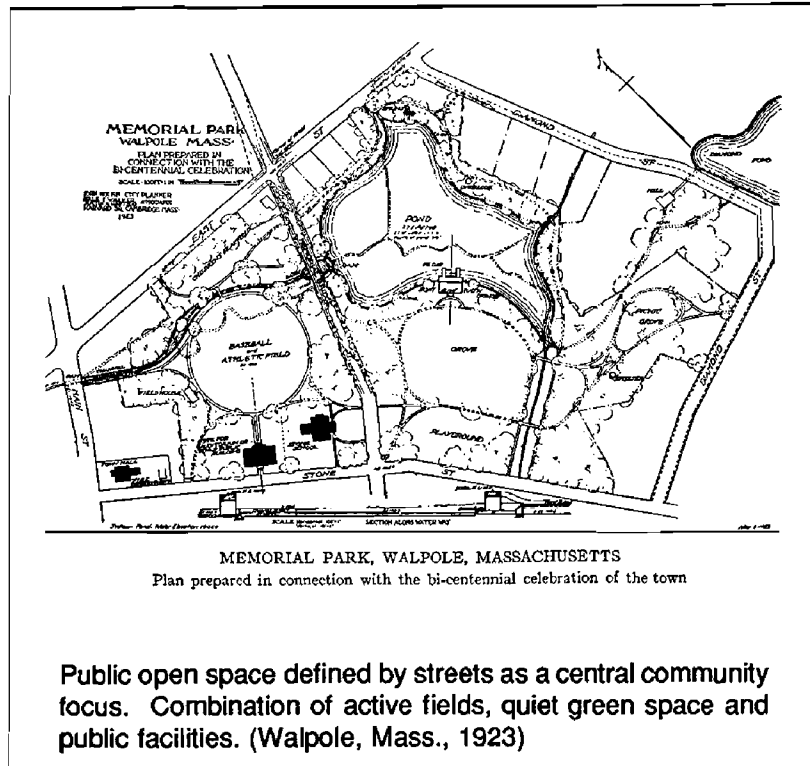


Figure 7-14

**7.48 Design of Streets**

Study design standards for residential roads to permit reduction of paved areas and environmental impacts within the same sized right-of-way.

**7.49 Circulation**

Encourage use of small grids within neighborhoods instead of numerous dead-end cul-de-sacs to improve efficiency of circulation, impart a sense of organization of the public environment and create opportunities for the highlighting of public uses. (See Figure 7-15.)

**7.50 Site Character and Building**

Require greater consistency and sensitivity in fitting buildings to the natural character of the site. Encourage the use of architecture as part of the design of the common environment.

**7.51 Connections Between Neighborhoods**

Help secure better relationships of individual neighborhoods to one another as well as to any central community focus or commercial centers whose use they share. Use pedestrian paths, greenspace links and orientation of streets to a common focus to increase the sense of being part of a larger community.

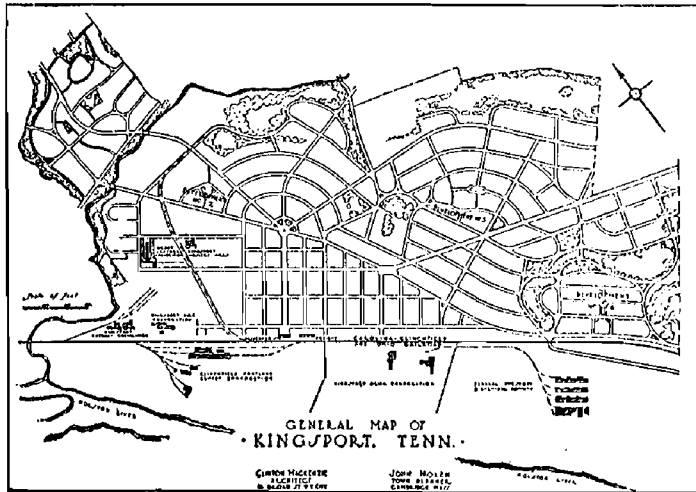
**7.52 Traditional Neighborhood Design**

Enact a new zoning category and other needed changes to the Subdivision and Land Development Regulations and County Design Manual to permit new developments based on Traditional Neighborhood Design (T.N.D.) principles at a variety of scales. Special attention will be paid to coordinating such T.N.D. regulations with the changes needed to establish the mixed-use centers described elsewhere in this chapter (see Box 7-4).

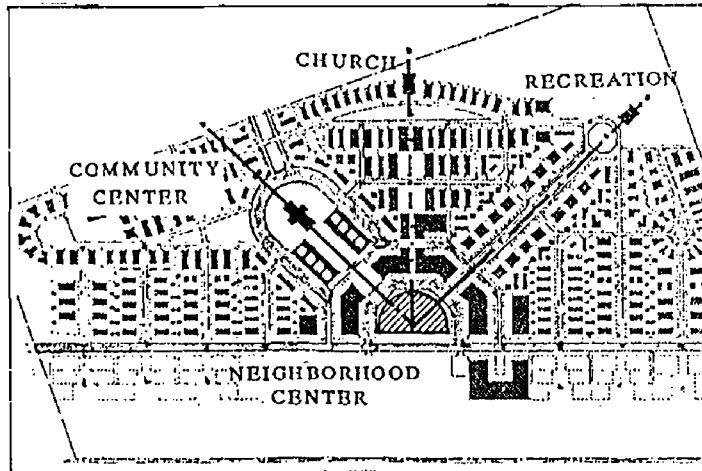
**7.53 Site Plan Design Quality**

Revise zoning requirements for residential districts to permit better opportunities to "design with density", especially for small single-family detached housing. Do this through reduced front setbacks, architectural forms consistent with existing topography, parking

# COMMUNITY ENHANCEMENT



KINGSFORT, TENNESSEE  
General plan, showing all main features



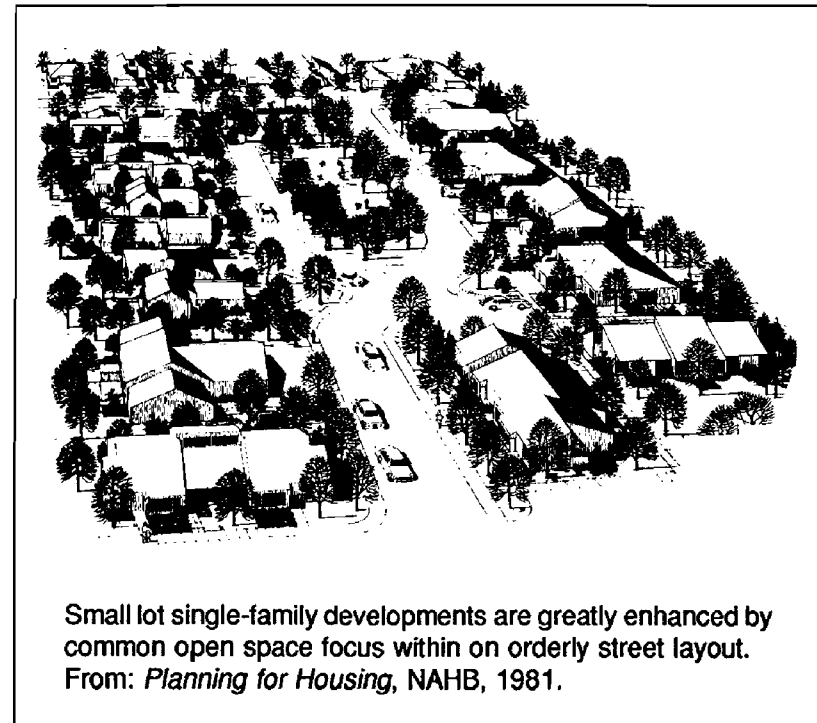
Traditional street grid patterns are being revived as a prime means to structure new planned communities. (top c. 1917; below 1990s)

Figure 7-15

lot designs that incorporate significant green space, and public landscaping based on more formalized designs within rights-of-way or easements along rights-of-ways.

## 7.54 Multi-Family Site Planning

Establish design standards for apartments, condominiums and townhouses to set them within local network of "streets" rather than 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. Emphasize preservation of existing landscape resources.



Small lot single-family developments are greatly enhanced by common open space focus within an orderly street layout. From: *Planning for Housing*, NAHB, 1981.

Figure 7-16

## Existing Residential Neighborhoods

Many developments already built should also be enhanced to give them stronger identities, more usable social space, new public facilities or commercial areas, higher visual qualities, and some of the public space amenities that can be planned into new projects.

### *Policies and Actions*

*Howard County, to enhance existing residential neighborhoods, will:*

**7.55 *Natural Environment***

Restore, when appropriate, natural environments along streams and other open space edges.

**7.56 *Addition of Local Centers***

Encourage the use of convenience commercial zoning in coordination with the design of active public space to create a strong community focus within neighborhoods.

**7.57 *Public Facilities***

Add, when appropriate, public facilities (branch services) to give these local community centers variety of purposes beyond commercial needs.

**7.58 *Open Space***

Redesign or secure new community open space within the "public environment" (e.g., along streets) to serve as the central visual focus, an organizing element, and an active public space within residential subdivisions.

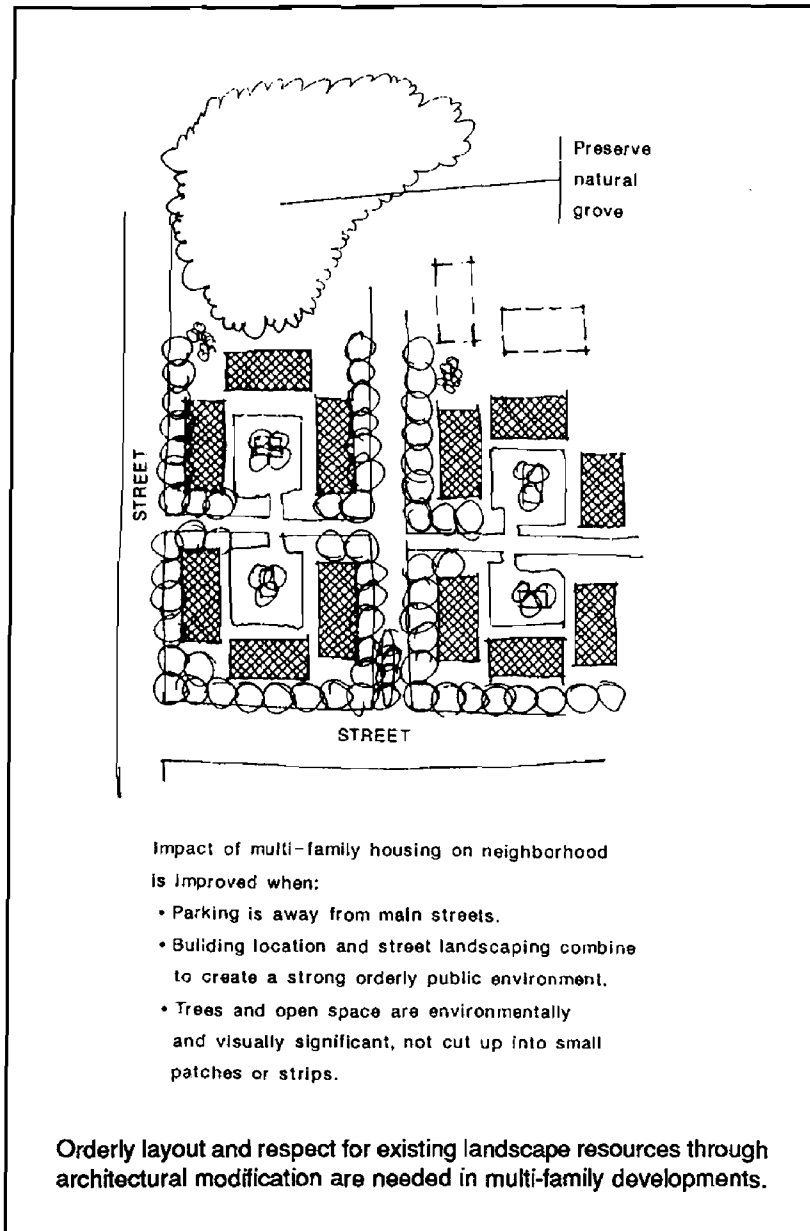


Figure 7-17



## COMMUNITY ENHANCEMENT

### 7.59 Schools

Work with the Board of Education to reconsider criteria for location and design of school sites that do not isolate schools within residential neighborhoods or in fringe areas, but try to make them part of more comprehensive community focus.

### 7.60 Mixed-Use

Institute criteria for limited residential presence within local centers (for example, apartments above stores or as one of the edges of a community public space).

### 7.61 Community Needs

Reserve space in local centers for community-oriented services such as day care and sheltered housing.

## Historic Preservation

Outside the Ellicott City Historic District, the County has no comprehensive preservation strategy with effective preservation controls and programs to assist owners of historic resources. Proper preservation of an historic site can provide neighborhoods with a local landmark, a stronger identity and sense of rootedness. When numerous resources are close together, they can be the basis for revitalization of an entire neighborhood or community as a distinctive built environment.

Currently, the County has inventoried more than 570 historic sites. This General Plan incorporates by reference the County's Historic Sites Inventory. The locations of these sites are shown on the Historic Sites Inventory Map that was adopted as a supplement to the 1982 General Plan. Since 1982 additional sites have been inventoried and added to the County's official Historic Sites Inventory. The 1990 General Plan Policies Map reflects the number and distribution of these historic sites. These sites are the basis for efforts focusing on historic character as a means of community enhancement.

Unfortunately, rapid growth and the lack of adequate protection have, until now, led to the destruction or degradation of many historic resources and their settings. In the 1980s, the loss of such landmarks as the Seiling Farm and the growing awareness of

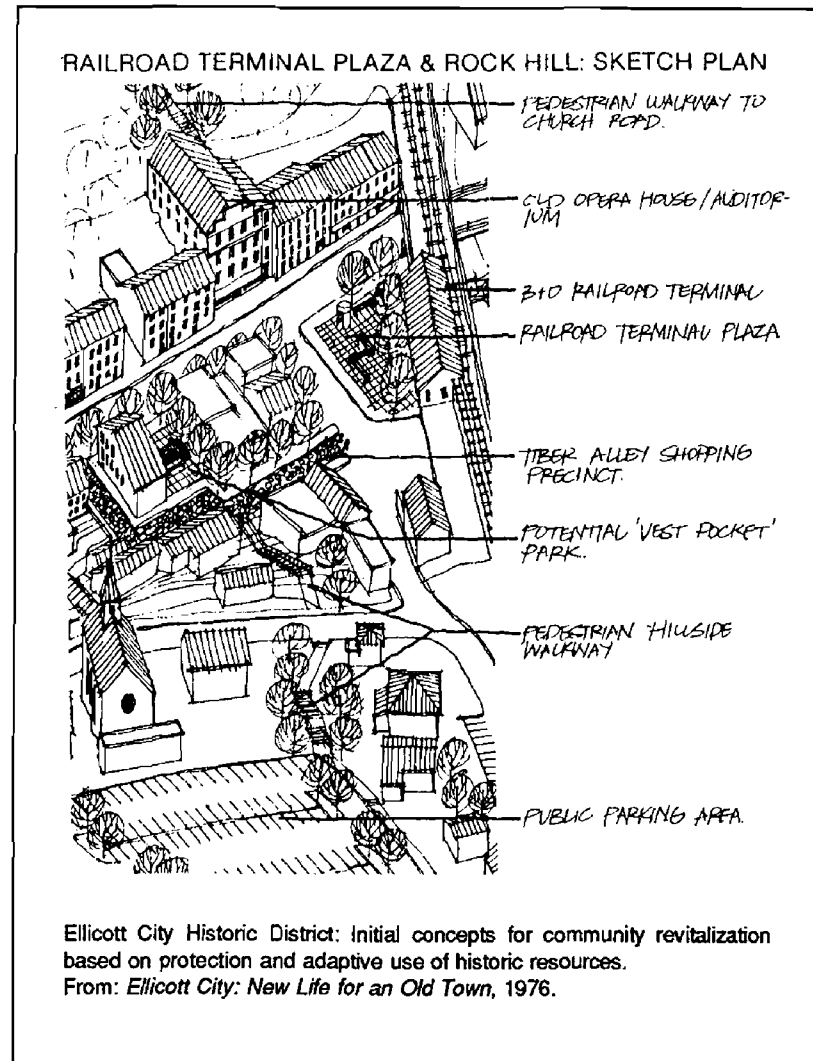


Figure 7-18

the loss of such resources as historic cemeteries showed quite clearly the vulnerability of historic resources.

At the same time, the success of preservation and the adaptive use of historic resources within Ellicott City demonstrates how concerted historic preservation planning can work well as a means of community revitalization and enhancement and as the context for a successful mixed-use environment.

A comprehensive historic preservation program and an Historic Preservation Commission with county-wide jurisdiction will accomplish many important goals, all of which are important for community enhancement.

### *Policies and Actions*

*Howard County, to establish the framework for a comprehensive County-wide historic preservation program, will:*

#### **7.62** *Legislation*

Adopt legislation for historic preservation.

#### **7.63** *Loss of Resources*

Protect historic resources from demolition without proper review and approval. Prevent loss of resources from "demolition by neglect" by encouraging and assisting owners in historic maintenance.

#### **7.64** *Official Inventory of Resources*

Review and extend the Historic Sites Inventory of the early 1980s to document and evaluate as special resources vernacular architecture, historic cemeteries, known and probable archeological sites, and historic landscapes.

#### **7.65** *Scope of Program*

Increase emphasis on protecting or restoring historic landscapes and settings as well as individual structures.

#### **7.66** *Historic Districts*

Cooperate with local communities to establish historic districts or easements.

#### **7.67** *Assistance to Owners*

Provide information on financial assistance and technical matters to owners of historic resources to carry out improvements that do not impair the historic integrity of these resources.

#### **7.68** *Development Impacts*

Establish subdivision and site planning guidelines and standards to protect historic resources when development is planned on or near historic properties.

#### **7.69** *Coordination with Other Programs*

Merge historic preservation goals and programs into other community enhancement programs dealing with redevelopment, environmental and open space planning, recreation, commercial centers, landscape protection, and scenic roads.

#### **7.70** *Broadening of Participation*

Coordinate local historic preservation initiatives and programs with State and federal programs and with the work of citizens groups, non-profit foundations, schools, and institutions specializing in historic conservation work.

### Culture and the Arts

It is not only the physical environment that adds to the quality of life for County residents. The wide variety of activities collectively discussed under the topic of culture and the arts is also very important.

As might be expected, Howard County's well-educated, largely professional, and relatively affluent population is arts-oriented and takes an active part in cultural activities and educational programs.

The most important factor affecting the cultural and artistic scene in Howard County is the County's physical location between two major metropolitan centers with a variety of first-rate, long-established cultural institutions. Howard County residents tend to use the concert halls, theaters, galleries and museums of Baltimore and Washington as their prime cultural resources. Most of the money spent by Howard Countians on admissions and on financial contributions to the arts goes to Baltimore and Washington.

Within the County, commercial cultural activities are provided primarily at Toby's Dinner Theater and at the Merriweather Post Pavilion. Non-profit groups, many of which receive support from the Howard County Arts Council, provide the bulk of the dance programs, concerts, plays, and art exhibits which are held locally. In 1989, the Columbia Festival joined the local arts scene and promises to be a major component of the non-commercial cultural life in the County.

The non-profit groups run a wide program of activities on very modest budgets. Their strength lies in the enthusiasm and dedication of volunteers whose avocational interests provide their fellow County residents with varied experiences in the visual and performing arts.

In addition to the well-developed art program run by the County public schools, arts classes are held by the Department of Recreation and Parks, the Howard County Community College, the Columbia Association, and by non-profit groups.

Funding for non-commercial arts programs amounts to \$1 million annually. About 24% of the funds come from government (State and local), 12% from foundations, 20% from individuals, and the remainder from corporations. Of the amount contributed by

corporations, a large percentage was specifically earmarked for the Columbia Festival. The 20% from individual donors is low, reflecting the fact that Howard County, although affluent, does not have the "old" money that regularly funds cultural institutions in large cities. State governmental contributions were typical for communities of this size. Howard County governmental per capita contributions to the local and regional arts scene, although considerably increased in recent years, are lower than those made by many smaller, rural counties in the State.

In the last few years, demand has been voiced for a County Arts Center. An Arts/Cultural Assessment Needs Study performed for the County by consultant Joseph W. Zeigler was completed in November, 1989. This study indicates that there is not enough financial support in the County for such a center at this time and recommends the re-development of existing space for arts programs, particularly the maximization of facilities in the County high schools.

### *Policies and Actions*

*Howard County, to encourage a wide variety of arts and cultural activities and experiences for County residents, will:*

**7.71 *Regional Financial Support***

Continue to support Baltimore and Washington cultural activities to reflect County residents' use of these activities.

**7.72 *Local Financial Support***

Support the Arts Council with local government contributions.

**7.73 *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.

**7.74 *Coordination of Programs***

Encourage the coordination of the arts education programs and facilities of the Board of Education, Community College, Department of Recreation and Parks, and the Columbia Association.

**7.75 *Volunteer Fundraising***

Encourage business and individual financial contributions for cultural programs -- perhaps by making part of the County funding in the form of challenge grants.

**7.76 *Exhibition Opportunities***

Encourage the visual arts by developing programs which require public buildings to include art work easily accessible for public viewing.

**7.77 *Future Facilities***

Study the need for County arts space including the possibility of a County Arts Center within the next ten years.

## Community Enhancement as a Planning Responsibility

All the topics discussed above touch on the individual elements that can improve the public environments within various community settings. New policies as well as new design standards and guidelines were suggested, but these suggestions still focus on the design of specific sites or projects. Community enhancement also requires examination of the larger context of which these individual elements are only a part. In this respect, community enhancement requires *community planning*.

Community planning will be a prime concern of County government during the life of this General Plan. Local community plans can be carried out at a much finer level of detail than a General Plan. Local area plans can be the bridge between such basic policies as the desire for environmental protection and high quality built environments and their application within specific projects. Community plans establish the detailed context needed to evaluate 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.

In addition to these planning and administrative advantages, community planning will provide local residents with an effective means to participate in the planning process. It will give them a more focused arena of attention than the General Plan and enable them to relate their most immediate concerns to a context larger than their own particular street or subdivision. It also establishes a necessary baseline of knowledge, interaction and understanding for any subsequent comprehensive zoning actions.

Several local area plans were done in the late 1970s and early 1980s for Ellicott City, Guilford, Elkridge and North Laurel-Savage. The Ellicott City Master Plan is incorporated into this General Plan by reference. The active involvement of the local communities was an important feature of these plans. Implementation of these plans, however, often lagged and recommendations were often carried out in an uncoordinated fashion. One reason was that community planning was not an established function of the County government

and sustained channels for local community communication with planning staff were, therefore, lacking.

Community planning requires a workable division of the County into local areas that are the focus of such work. Past efforts to define communities or local districts have often been based on a specific factor and proved to be inappropriate or poorly matched to concerns other than the specific purpose for which they were devised. (See Box 7-5.)

This General Plan divides the County into local areas that distinguish residential, employment, and mixed-use areas; define the special needs of older strip corridors; and use easy-to-recognize boundaries. Where possible, these boundaries were drawn up to include some common focus or a focus shared by several adjacent communities. These divisions are proposed as a workable framework for future community planning on the scale needed to effect actual land use and site development decisions. (See Summary Map: Map 7-1.)

### *Policies and Actions*

*Howard County, to apply community enhancement ideas and other planning concerns within a framework of defined local planning areas, will:*

#### **7.78 Detailed Analysis**

Analyze overall community conditions including: land use details, environmental quality index, analysis of public environment within existing developments, degree to which communities have strong community focus, access to needed services and facilities, and whether residents have a sense of identity as a distinct community.

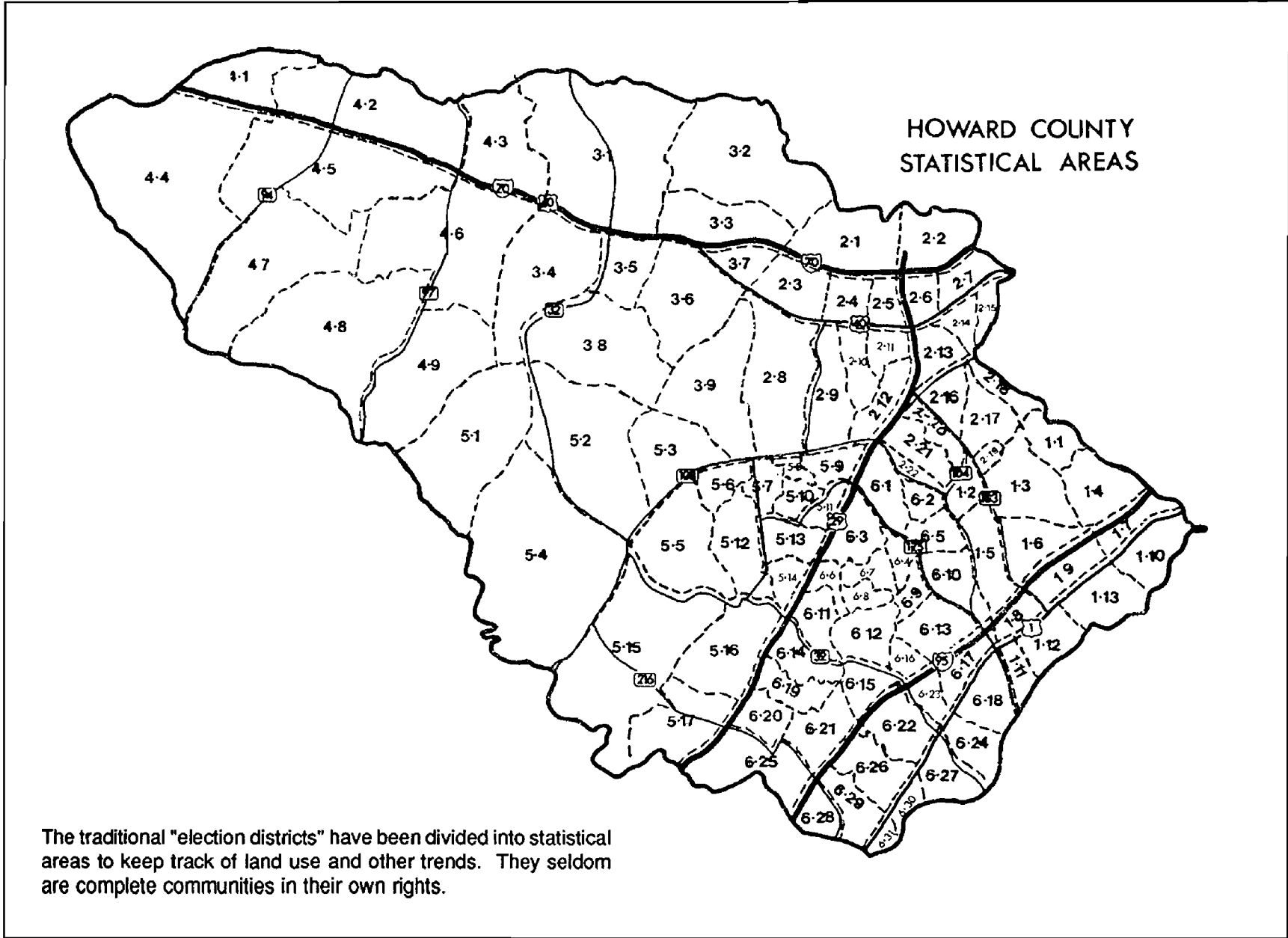
#### **7.79 Coordination of Programs**

Emphasize community enhancement benefits in all new programs or initiatives with regard to: historic preservation; commercial developments; mixed-use opportunities; revision of zoning, subdivision or land development regulations.

### **Problems of Past Attempts to Define Local Areas**

- Regional Planning Districts have been created to meet the needs of the Baltimore Regional Council of Governments for small subareas for gathering and analyzing statistics. These areas were never intended to be identified with local communities, and they are too large to do the detailed community planning and design described in this chapter.
- The six traditional "Election Districts" that have existed for more than a century have been subdivided into smaller "statistical areas", but these often have no direct relationship to any existing community boundaries. (Figure 7-19)
- The 1971 and 1982 General Plans included a concept of neighborhoods that would have defined them in relation to the service area of a local elementary school. But many of these neighborhoods do not and will not have their own school, and frequent redistricting makes such boundaries very transitory. Such a definition focuses exclusively on only one factor in the life of a local community. (Figure 7-20.)
- Watersheds make sense as the basis for environmental planning. (See Watershed Map 6-1 in Chapter Six.) But watersheds often encompass too many communities to be manageable for detailed local planning or may not coincide with any other way to delineate local areas or land use groupings.

Box 7-5



The traditional "election districts" have been divided into statistical areas to keep track of land use and other trends. They seldom are complete communities in their own rights.

Figure 7-19

# COMMUNITY ENHANCEMENT

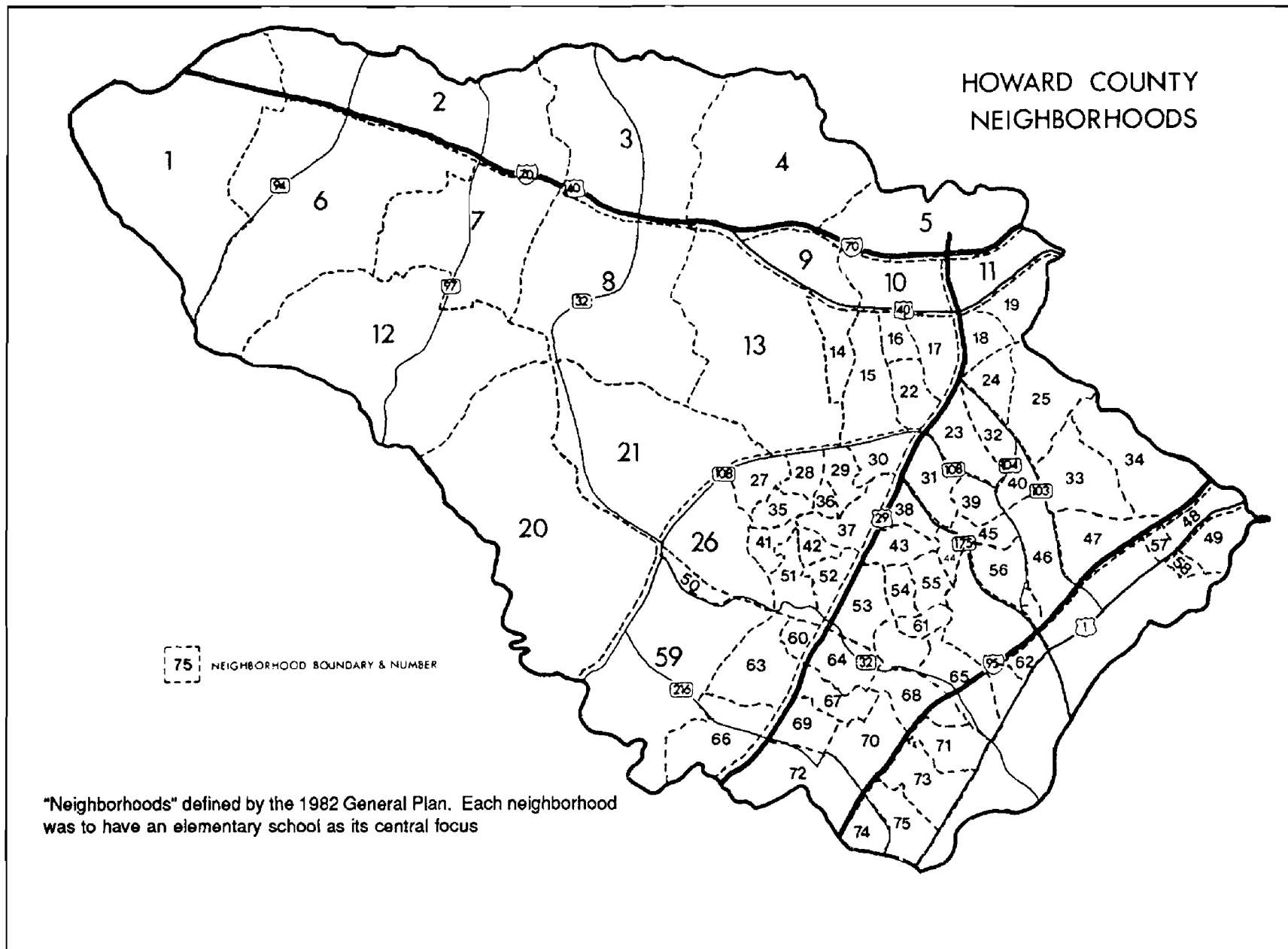


Figure 7-20

### **7.80 *Public Involvement***

Implement community enhancement measures on the basis of active participation of local residents in establishing priorities; such measures include new active green spaces, plazas, landmarks and street landscaping to create a stronger public environment.

### **7.81 *Local Road Networks***

Review opportunities to modify existing road networks to permit changes in circulation within local areas when these changes will further community enhancement goals.

### **7.82 *Redevelopment and Revitalization***

Work with communities, property owners and developers to plan redevelopment of local commercial areas, larger shopping centers and strip commercial areas to make these areas more positive community landmarks.

### **7.83 *Housing and Revitalization***

Modify urban renewal powers and assistance programs to organize and finance comprehensive community enhancement plans that will tie in housing opportunities to the redesign or creation of mixed-use community centers.

### **7.84 *Community Self-Help***

Offer support to local community groups to develop self-directed community enhancement initiatives.

### **7.85 *Access to Expertise***

Establish direct ties to regional planning and design schools to establish long-term programs of

work-study projects with direct access by communities to planning and design expertise.

### **7.86 *Pilot Projects***

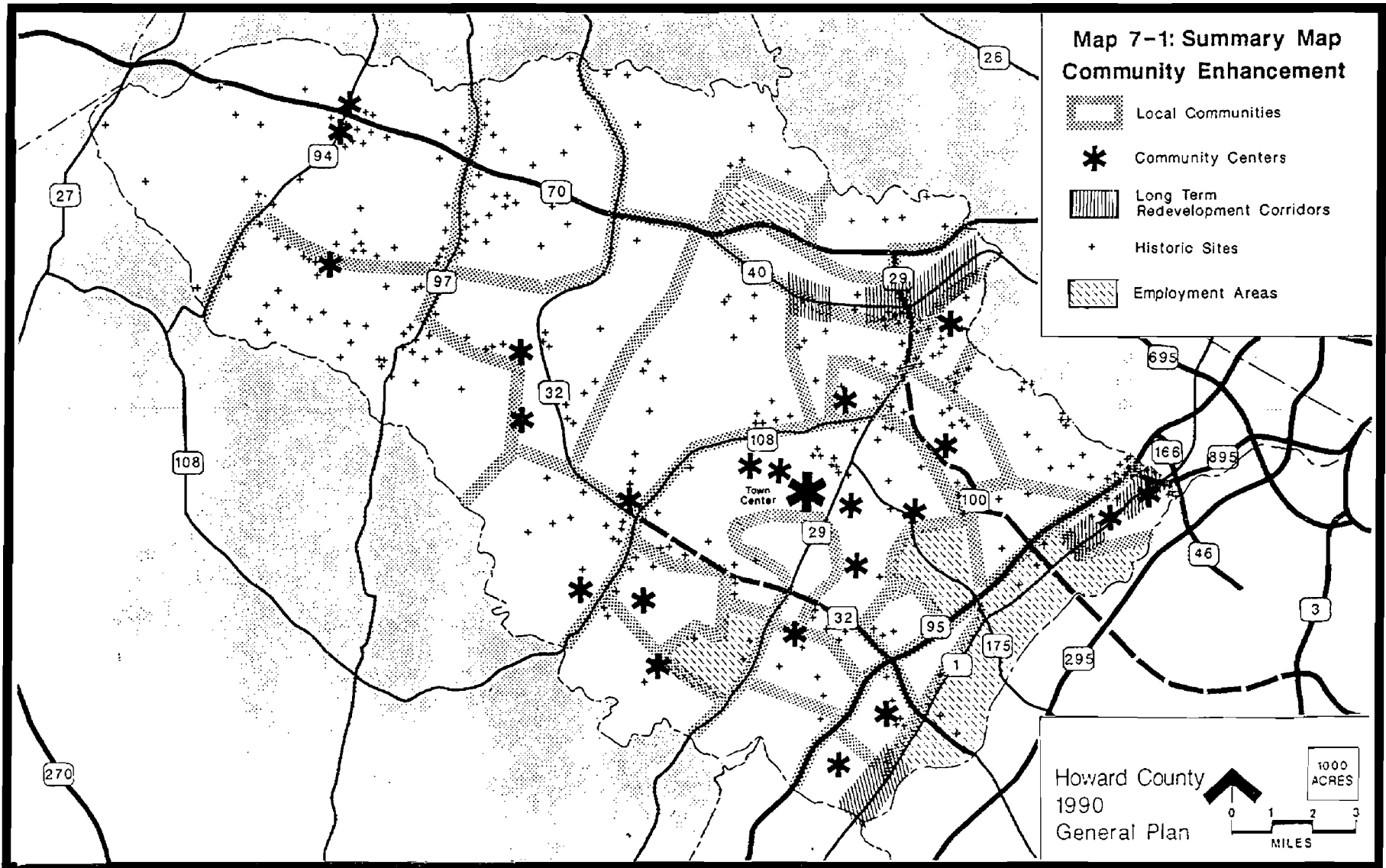
Seek grants for and sponsor demonstration retrofit projects to redesign elements of established areas with the active support of the local community.

## Summary Map

Map 7-1 titled *Community Enhancement* illustrates the local areas that will be the focus for the community enhancement policies and actions described in this chapter.



# COMMUNITY ENHANCEMENT

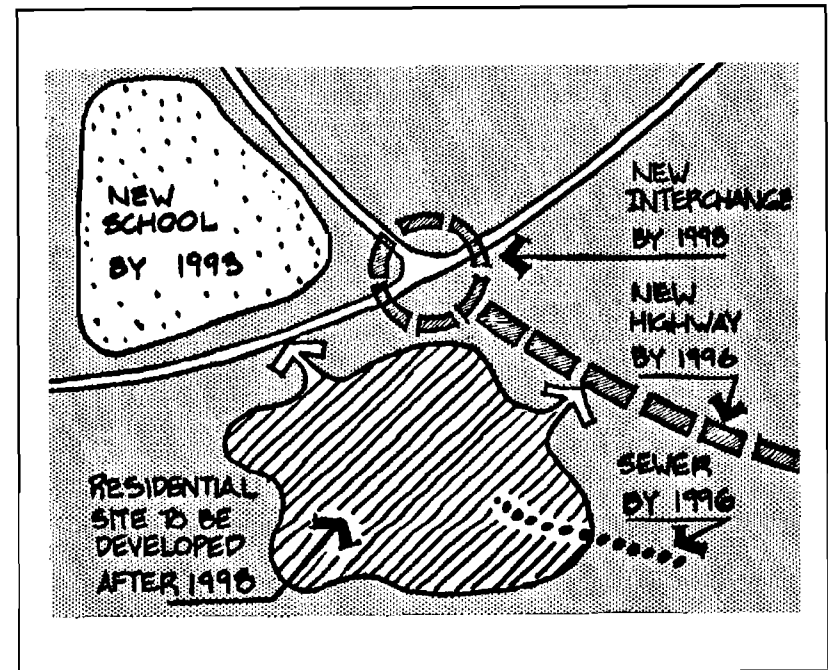


Map 7-1

---

# PHASED GROWTH

---



## Chapter Eight

---

# PHASED GROWTH

---

## Introduction

This is the point in the General Plan where the County's previous General Plans, and most other traditional General Plans, have concluded. As with earlier plans, this Plan has looked ahead twenty years, prescribing policies and actions to balance our needs for employment, housing, transportation, environmental protection, community enhancement, and public facilities. For example, the 2010 road network and the necessary improvements to prevent severe congestion is described; how many schools will be needed by the year 2010 is indicated. This Plan, however, cannot afford to stop here. Plans that do not instruct us on how to move from our present situation to a preferred future are plans that will remain on the shelf and be of no real help to the County.

## The Need for Phased Growth

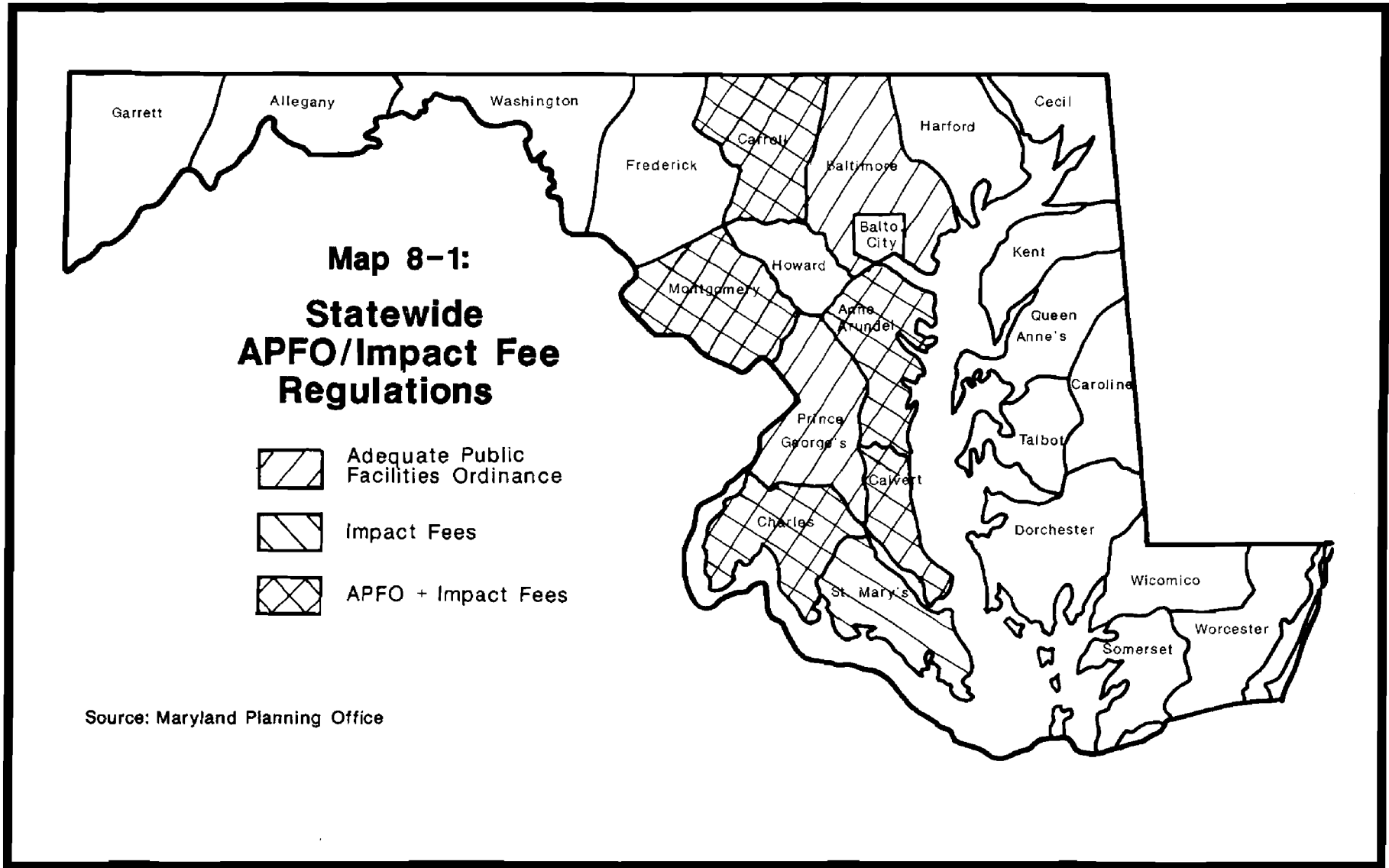
The timing and sequencing of development has never been seriously addressed in Howard County as a growth management strategy. In this sense the County lags well behind other counties in our region. Map 8-1 indicates those jurisdictions in Maryland which have adopted some form of an Adequate Public Facilities Ordinance and/or Impact Fees. Growth management strategies in Howard County have traditionally relied on zoning and subdivision regulations. Comprehensive zoning plans have regulated the type and intensity of development but only very few of the zoning districts provide standards for evaluation of the impacts of development. Nor do the present subdivision regulations or design manual help in this regard. This system is very weak in preventing

premature development, or in seeing growth proceed in a logical fashion by requiring phasing in accordance with the ability to install needed roads, facilities and public services.

Limited State funding for schools and roads, increased demand for upgrading of the local road network, the need for more public transit, and the virtual elimination of federal funding for water and sewerage facilities further diminish the effectiveness of the existing limited powers to effectively match growth with needed facilities and services. The traditional implementation approaches must be supplemented by more effective and sophisticated growth management techniques including the timing and phasing of development consistent with the provision of necessary public facilities and services.

The Growth Management Act of 1989, in effect until March 1991, was adopted in July 1989 to restrict residential rezonings, limit the number of residential building permits issued and restrain new subdivision in the western portion of the County. The purpose of this interim growth control ordinance was to immediately limit residential growth to the annual level forecast in the 1982 General Plan, since all major County capital improvements programming had been geared to servicing that level of annual growth. It provides the County with some breathing space until a more comprehensive growth management program can be put into effect.

A combination of techniques is needed to address the timing and sequencing of development in a comprehensive and permanent way. It is imperative that new areas not be permitted to develop prematurely in advance of support services. Not all General Plan recommendations should be implemented quickly in their totality in the wake of passage of the General Plan. Rezoning, for example, cannot be permitted unless and until the supporting public



Map 8-1

facilities are in place or, at a minimum, are programmed in the current Five Year Capital Improvement Program.

The Phased Growth program presented here adds the critical feature of specifying the timing and phasing of land use designations, development actions, and the timed provision of public facilities over the next two decades. This makes it easier for the County to monitor progress toward meeting Plan objectives.

Without a growth management element and the use of growth management techniques, coordination of all primary General Plan policies and actions will be impossible. Growth management techniques become imperative when the planning period is ten-to-twenty years because any discrepancy between the projections on which the Plan elements were based and the actual development pattern will be magnified. Updating the General Plan every five years will not solve this problem. Even five more years of growth uncoordinated with the provision of public facilities makes it that much more improbable that the County will ever be able to catch up with the impacts of growth. Unless they incorporate a growth management element addressing the timing and sequencing of development in coordination with the provision of necessary public facilities at prescribed service level standards, this and all future General Plans will be unable to solve the problem.

This chapter examines the key timing and issues from the viewpoint of their incremental impact over time. Questions addressed include:

What are our current unmet needs for roads and schools, parks, housing, etc.? That is, how big is our backlog of public facility needs?

If we know when to expect major new road improvements, how much will our new road network be stressed as we move out towards the future?

Similarly, will the schools now planned in our Capital Program be sufficient? How many schools will be needed for the next ten or fifteen years?

How will different rates of growth affect these needs?

What is the cost of maintaining our current levels of service? How does this cost compare with the revenues that growth will generate?

The policies and actions that follow establish an overall approach to answering such questions.

## *Policies and Actions*

*In Howard County new residential and non-residential development will be phased in accordance with the availability and adequacy of major public facilities (water, sewer, roads and schools) at the time of development. Such phasing will take into account existing and approved developments that will also utilize such facilities and additional facility capacity approved by the capital budget and five-year capital program.*

*Existing level of service standards shall be maintained and improved upon whenever reasonably possible and fiscally responsible. The adequacy of public facilities shall be determined based on the level of service standards in this element of the General Plan.*

*Residential and non-residential development that would force level of service to decline below the adopted standard shall be deferred until public facility capacity is available pursuant to the capital budget and five-year capital program or such development shall be required to construct*

*or fund the improvements necessary to maintain the adopted level of service standard. Developer advancement of facilities, shall be accomplished pursuant to a Development Agreement (see Box 8-1) which shall establish the nature and scale of the facilities to be provided and the phasing of the development.*

*The capital budget and five-year capital program shall be expanded, to the extent feasible and consistent with other County funding priorities, to maintain adopted level of service standards commensurate with the land use pattern adopted as part of this General Plan.*

*In order to expand the capital budget and five-year capital program, new residential and non-residential growth may be required to pay a "fair share" of the cost of public facilities in proportion to the need for such facilities or services generated by the proposed development.*

*In order to maintain a cost-efficient pattern of public facility and service provision, the demarcation of urban and rural areas established by the "planned sewer service area" pursuant to the Master Plan for Water and Sewerage shall be maintained. The provision, extension and expansion of other public facilities shall be coordinated with the availability of sewage*

*treatment plant capacity and the extension of sewer lines.*

*In order to defer development in certain areas of the County until such time as public facilities*

### **Development Agreement**

A Development Agreement (as distinguished from the Developer Agreement for sewer and water) may only be executed by the County if adequate road and school capacity is presently in place or will be available pursuant to the Capital Budget and Five-Year Capital Program or if the developer agrees to provide necessary facilities or improvements to ensure the availability of adequate capacity at defined Level of Service standards. If capacity will be available only after the 0-2 year period of the Five Year Capital Program, a Development Agreement may be executed only if the developer agrees to time and phase the build-out of the proposed development in accordance with the availability of adequate road and/or school capacity.

A Development Agreement is essentially a contract between the County and the developer through which each party benefits. The developer benefits by virtue of a reservation of existing or future capacity of schools and roads that allows him to meet the adequate public facility requirements in effect at the time of execution of the Development Agreement. The County shall commit for a specified time period not to change Level of Service standards for a development with an executed Development Agreement. The developer obtains the advantages of certainty and protection against intervening development utilizing facility capacity already reserved for development under an executed Development Agreement. The County benefits by ensuring that Level of Service standards will be maintained, and that the developer will provide facilities when needed to ensure that Level of Service standards are maintained, and that the residential development will be subject to appropriate timing and phasing so that issuance of building permits is coordinated with the actual provision of the facilities necessary to support the development.

Box 8-1

*and services are adequate, the Master Plan for Water and Sewerage will be adjusted to acknowledge specific Deferral Areas in the Comprehensive Service category. In Deferral Areas public water and sewer service would not be provided for ten or more years. While interim uses would be permitted, their intensity would be limited, in part, by the use of well and septic systems. Procedures for the possible advancement of this service timeframe will be provided.*

*The County government shall coordinate its capital budget and five-year capital program with the capital program of other governmental entities. Specifically, the County shall work with the Board of Education to establish appropriate school level of service standards, site locations, school capacity and district boundaries. In addition, the County shall cooperate with the State Department of Transportation on an appropriate funding program for improvements and additions to the State highway system in Howard County necessary to maintain acceptable levels of service while accommodating existing and projected County-generated traffic as well as regional "pass-through" traffic.*

# Transportation

## Roads

The bar chart in Figure 8-1 shows that even when we include all programmed State and County road improvements (referred to in transportation planning terms as an "existing plus committed" or "E+C" road network) anticipated during the timeframe 1988 through 2010, the result is a rapid deterioration in the quality of service (see Box 8-2 for an explanation of the term "existing plus committed"). In 1988 only 15% of roads were severely congested; by 2010 this will be at 64%, assuming an E+C network. In 1988, 41% of our roads maintained excellent levels of service; only 12% do so in 2010 assuming an E+C network.

Traffic simulations indicate that the anticipated rapid decline in level of service Countywide will become more apparent in the mid-1990s. While several major network improvements will be completed in the early to mid-1990s, congestion will nonetheless intensify largely as a result of the typical lag time of about six-to-ten years required to plan and construct other vitally necessary highway projects. The expected decline in State and federal funding of additional major improvements in Howard County and the region may further slow the completion of these essential projects.

Figure 8-1 also shows, however, that these serious circumstances can be largely avoided through an aggressive program of carefully selected road network improvements. Rather than the 64% of congested roads predicted under the E+C network, the proposed General Plan network would reduce this substantially to about 36% of roads at level of service E/F by the year 2010. Whereas, the E+C network would yield only 12% of uncongested roads at level of service A/B by the year 2010, the proposed General Plan network would result in approximately 24% of roads in Howard County being uncongested. The recommended General Plan road network improvements, which would be built over a twenty-year period, are more fully described in Chapter 5: *Balanced Growth*.

Assuming once again an existing plus committed (E+C) network, the majority of the congested roads (level of service E and F) are State roads, and therefore the County has limited control over

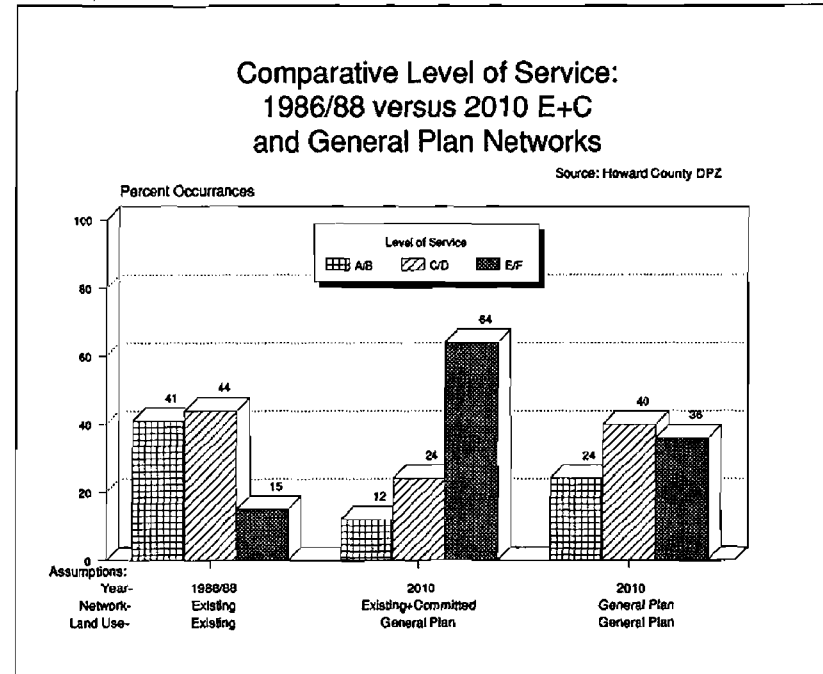


Figure 8-1

## Existing Plus Committed Network

The term "Existing Plus Committed (E+C) Network" has two components. The "Existing" portion refers to all roads that are now complete or will be built by 1990. The "Committed" portion includes all projects in the State Highway Administration's (SHA) 1990-1995 Consolidated Transportation Program (CTP) and all highway projects in the County's 1989-1994 Capital Improvement Program (CIP). Beyond 1995, the "Committed" portion of the E+C also includes those projects from SHA's Highway Needs Inventory that the County, the Baltimore Regional Council of Governments and SHA agree are likely to be built by the year 2010. The General Plan network goes beyond these projects to add other necessary improvements.

Box 8-2



the timing of their improvement. The County will benefit from State road commitments such as the US 29 widening and interchanges, construction of US 100 and relocated MD 32. These improvements, scheduled to be completed in the mid-1990s, were able to be set in motion in 1987 because of the 5-cent gas tax increase of that year. Without a similar injection of revenue, the State capital programs for roads will not keep up with the demands placed on them.

Figure 8-2 shows the overall decline in the Statewide capital program for the Maryland Department of Transportation (MDOT). Capital Program funding for the State Highway Administration portion of MDOT, exhibits a similar pattern of decline as shown in Figure 8-3. There are numerous competing pressures for new road construction with transit funding being one of the most significant. Moreover, as State roads age, more dollars will have to be spent on operating and maintenance costs rather than on construction of

improvements or new roads. Figure 8-4, which is based on the State's current six-year program, clearly makes this point.

Unless there is some dramatic reversal of State policy and funding priorities, we cannot expect the State to keep up the pace of road building in the region in line with regional development. Because these pressures will not diminish, intervention by local governments is essential to prevent the breakdown of the traffic network.

The development of the key land use proposals described in the *Balanced Growth* chapter must be related to the timing of necessary transportation improvements. Over time, there will of course also be numerous smaller projects whose development will cumulatively create significant off-site traffic problems. The growth management mechanism for dealing with traffic impacts, will therefore apply across the board not just to major projects.

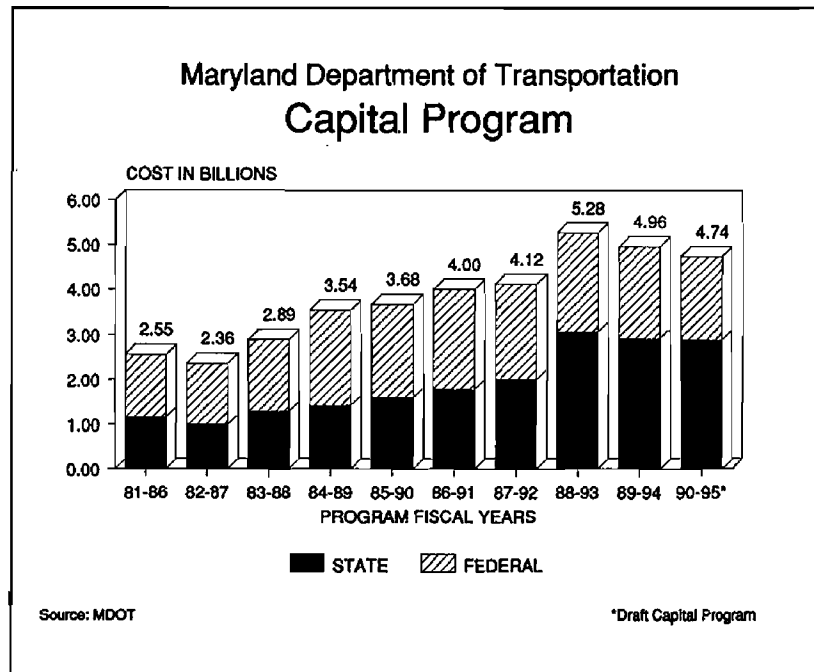


Figure 8-2

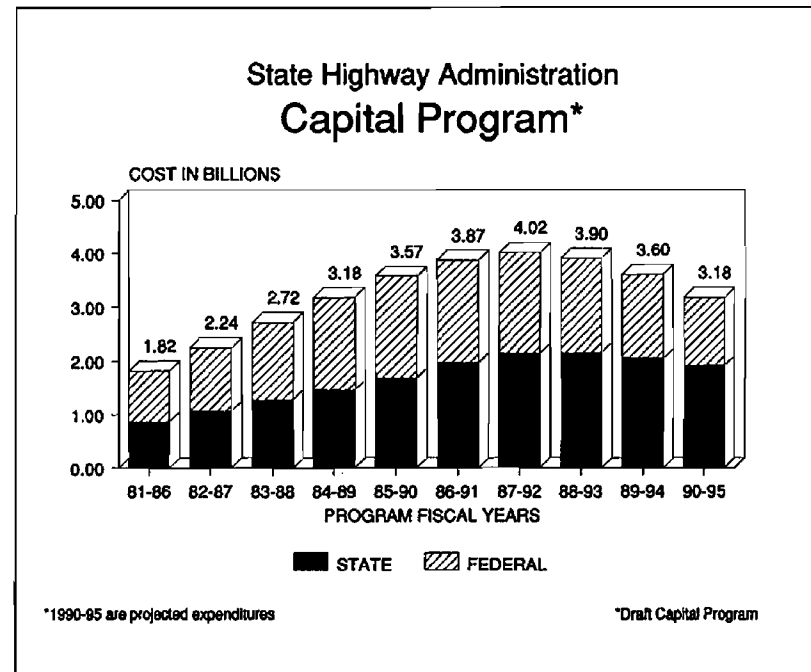


Figure 8-3

# PHASED GROWTH

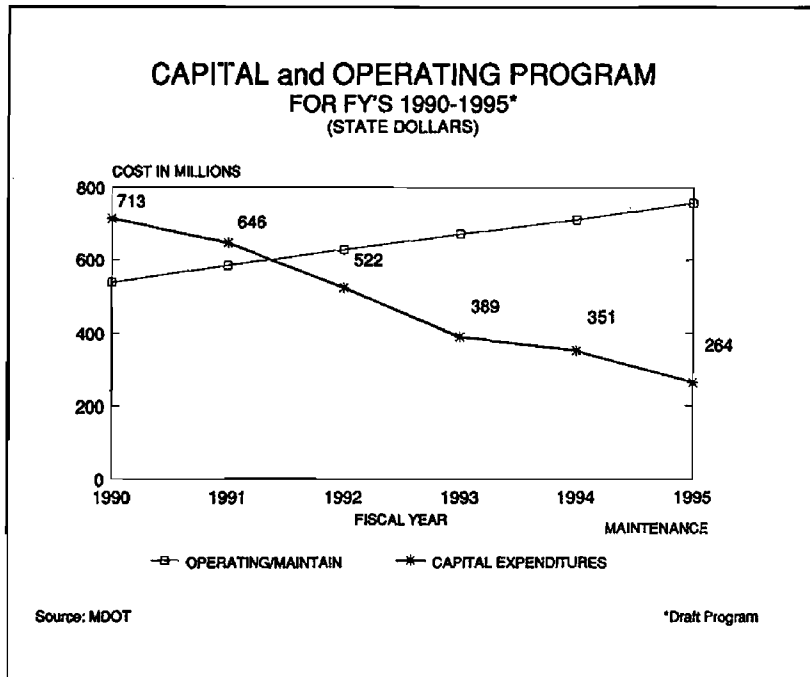


Figure 8-4

One of the examples of the necessary coordination of land use and transportation development is the 216/29 mixed-use site. In conjunction with the 216/29 mixed-use area, slated for development after the year 2,000, widening of Sanner Road on the east side would be appropriate to minimize impact on the community.

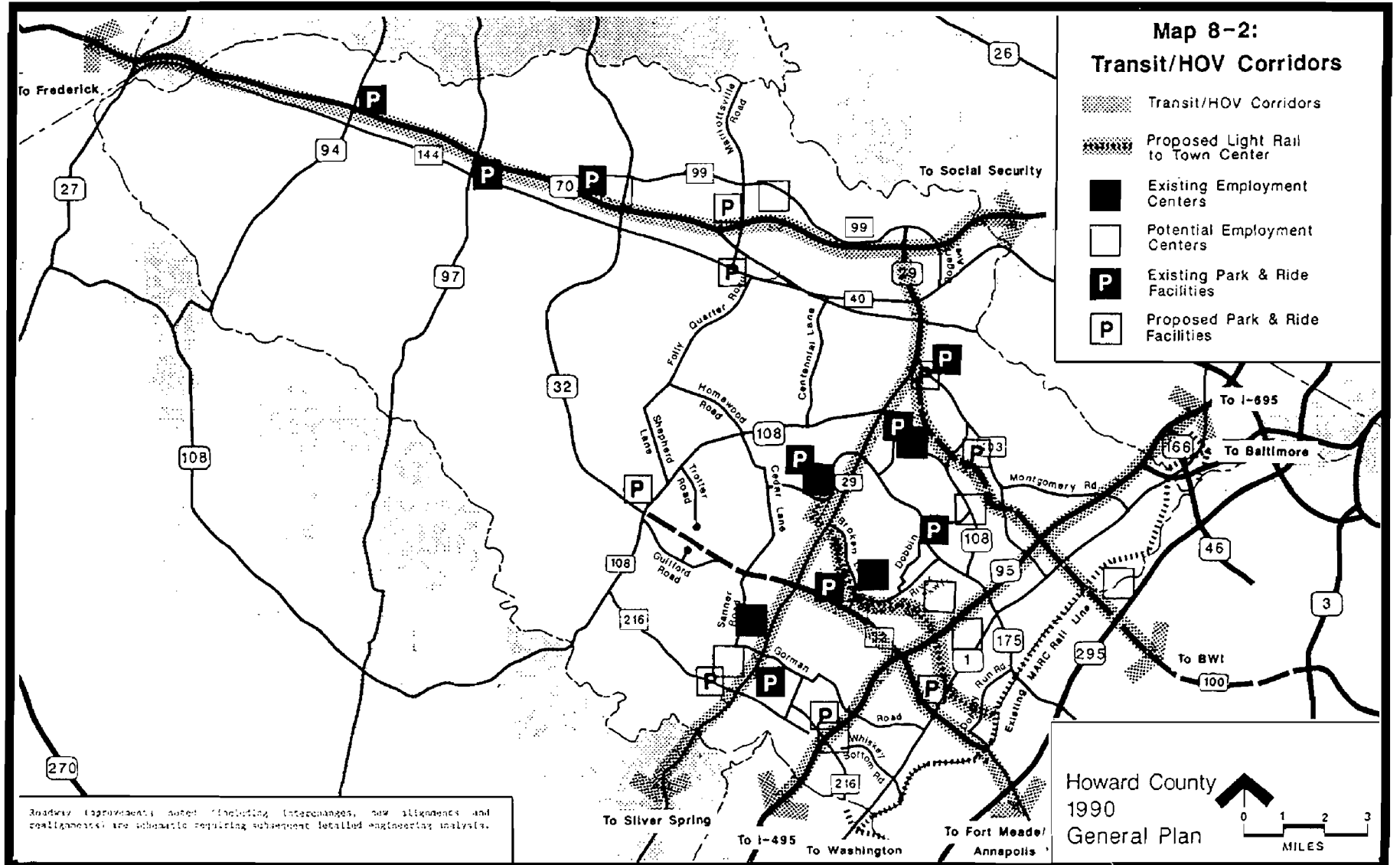
## Transit

Unlike the road system, public transit availability is not a constraint on growth; rather, it is an opportunity to alleviate some of the impacts of growth. Because transit is still a fledgling element of our transportation system, the impact of varying rates of growth on the current transit system is less significant than with roads. Additional buses can be put into service more easily than additional lanes or roads can be added to our road network. Figure 8-5 describes the potential evolution of transit in Howard County based on demand over time assuming, of course, that assertive efforts are

made to fund and promote these modes. Map 8-2, which was earlier depicted in Chapter 5: *Balanced Growth*, is repeated here and shows the locations of these transit/HOV corridors. As the transit/HOV system matures, growth management tools should recognize and reinforce the potential of transit and HOV improvements to alleviate traffic congestion.

TRANSIT/HOV CORRIDORS	SHORT TERM (1990-1995)	NEAR TERM (1995-2000)	MID TERM (2000-2010)	LONG TERM (2010+)
I-95	EXPRESS BUS	HOV LANES		
MARC COMMUTER RAIL EXTENSION TO COLUMBIA		COMMUTER RAIL		
US 29 TO SILVER SPRING	EXPRESS BUS	HOV LANES		LIGHT RAIL
MD 100 FROM US 29 TO BWI AIRPORT			EXPRESS BUS	HOV/LIGHT RAIL
MD 92 TO ANNAPOLIS	EXPRESS BUS			
I-70 TO FREDERICK		EXPRESS BUS		LIGHT RAIL

Figure 8-5



Map 8-2

### Bicycle Travel

The bicycle is another viable mode of transportation which for many trips can reduce dependence on private automobiles at least part of the year. Bikes and bikeways are an energy-efficient, environmentally-sound alternate means of transportation which also serves the recreational needs of many County households.

There presently exists no Countywide designated bikeway system on which to accommodate bicycle commuting. Howard County, within Columbia, does have a pedestrian/bicycle path system which serves recreational, commuter and other bike trips. Maintenance of existing trails and pathways is inconsistent making it difficult for cyclists to travel safely, efficiently and enjoyably. Outside of Columbia, designated bikeways are almost non-existent.

While some local roads may serve as safe bike routes for recreational uses, the lack of designated 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 arterials, 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 unwarned of bicycle traffic, consequently, may present a hazard to cyclists on these routes. In those areas where sidewalks do exist there is often no connection between sidewalk segments which would provide the needed continuity for bike routes.

Also discouraging bike travel in Howard County is the lack of bicycle storage facilities at most commercial and employment facilities and transit stops.

### *Policies and Actions*

*Howard County, to maintain acceptable level of service standards on roads in the County, will adopt an Adequate Public Facilities Ordinance (APFO) that ties the pace of residential development to road capacity. This ordinance will:*

- 8.1 *Timing***  
Be introduced upon adoption of this General Plan.
- 8.2 *Level of Service Standard***  
Use roadway and intersection level of service D as the typical standard against which to approve or deny development proposals. Figure 8-6 further explains how this standard will be applied in areas of the County.
- 8.3 *Application of APFO***  
Require that the adequate public facilities test shall be applied at the Preliminary Plan stage. Various methods of measuring development against this standard are to be adopted which differentiate between projects at different stages in the approval process and between roads in the eastern and western areas of the County. (See Figure 8-6.)
- 8.4 *Existing and Approved Development***  
Take into account existing and approved developments that will also utilize road capacity and roads that are included in the capital budget and five-year capital program of the County or State.
- 8.5 *Mitigation by Developer***  
Allow for mitigation of unacceptable levels of service through Development Agreements that permit "advancement" of road improvements by the developer, construction and/or payment for the prorated share of needed road improvements resulting from the proposed development or other acceptable means of reducing road congestion.

## Adequate Public Facilities Standards Residential Development

Stage of Development	East	West
Future development (includes approved sketch plans)	All intersections and road segments measured from the site up to and including the 2nd intersection of a major collector or higher with a minor arterial or higher in all directions from the development.	All intersections and road segments measured from the site up to and including the 2nd intersection of a major collector or higher with a major collector or higher in all directions from the development
Development in process (approved preliminary plans but not final major approval)	All intersections and road segments up to and including the 1st intersection of a major collector or higher and a minor arterial or higher in all directions from the development.	All intersections and road segments measured from the site up to and including the 1st intersection of a major collector or higher with a major collector or higher in all directions from the development.
Recorded Development	Exempt	Exempt

The differentiation in the above Table results from the differing physical conditions in eastern and western Howard County and from considerations of fairness in applying these measures to projects in process or recorded versus new projects.

Because there are fewer minor arterials in the West than in the East (see General Plan Highway Map for complete depiction of roadway classifications), it is more reasonable to use the collector/collector intersection for the APFO test in the West.

Figure 8-6

### 8.6 Capacity Reservation

Reserve road capacity allocations at Preliminary Plan approval for two years for residential projects, thus avoiding projects in process being compromised by subsequent proposals.

### 8.7 Extension of Capacity Reservation

Reservation of capacity beyond the two years shall be contingent upon a Development Agreement (see Box 8-1) which specifies required timing and sequencing of projects based on projected capacity and improvements.

*Howard County, to maintain acceptable level of service standards on roads in the County, will adopt revisions to the Zoning Regulations for non-residential development which tie the pace of such development to road capacity. These zoning regulations will:*

### 8.8 Timing

Be introduced upon adoption of this General Plan.

### 8.9 Basis of Provision

Extend the existing road adequacy provision in the PEC zone to all other non-residential zones.

### 8.10 Application of APFO

Apply to projects generating a minimum of 50 Average Daily Trips (ADT).

### **8.11 Submissions Required**

Require Preliminary Plans and Site Development Plans for non-residential development in those zoning districts that do not currently require these plans (see Box 8-3).

### **8.12 Application of APFO**

Require that the adequate public facilities test for non-residential development shall be applied at the Preliminary Plan stage where approval shall be conditioned upon compliance with the applicable level of service standard for roads and shall then be incorporated as a condition of Site Development Plan approval.

### **8.13 Mitigation by Developer**

Allow mitigation of adverse traffic conditions through Development Agreements that permit "advancement" of road improvements by the developer and/or payment for the prorated share of needed road improvements resulting from the proposed development, and/or other acceptable techniques for reducing congestion impacts such as special provisions for transit or participation in a Transit Management Authority.

### **8.14 Capacity Reservation**

Reserve road capacity for the proposed development at Preliminary Plan approval, based upon existing and planned road improvements. If road improvements necessary to accommodate the proposed development at the required level of service (LOS) standard will not be available until years 3-6 of the Six-Year Capital Program, the proposed development shall be subject to timing and

### **Non-Residential Zoning Districts for which PEC-Type Zoning Regulations are Needed**

In order to ensure that the same requirements that are applicable to PEC district development are also applicable to non-PEC district commercial developments, it is recommended that the Zoning Regulations be amended to require a Sketch Plan and a Site Development Plan for all non-residential development in the following districts:

- H-0 District (Historic Office)
- H-C District (Historic Commercial)
- B-1 District (Business Local)
- B-2 District (Business General)
- SC District (Shopping Center)
- M-1 District (Manufacturing, Light)
- M-2 District (Manufacturing, Heavy)

A Sketch Plan and Site Development Plan are already required for development in the following districts:

- POR District (Planned Office Research)
- CC District (Convenience Center)
- ID District (Industrial Development)
- PEC District (Planned Employment Center)
- NT District (New Town)
- PGCC District (Planned Golf Course Community)

Box 8-3

phasing requirements so that building permit issuance is linked to the actual availability of necessary road capacity. However, because some non-residential developments will be large-scale, multi-year and multi-phase development projects, it is imperative that there be close coordination between the provision of road facility capacity over time and the phased build-out of the proposed development.

It is important to understand that the above policies and actions merely highlight the key features of an Adequate Public Facilities Ordinance; the clarifying details will be in the future legislation.

The probable effect of this Adequate Public Facilities Ordinance on key residential and employment areas identified under Chapter 5: *Balanced Growth* is illustrated on Maps 8-3 through 8-5, which reflect the timeframe of programmed road improvements and dependent development. The actual timeframes for development will, of course, be determined through the application of the APFO. These phasing maps are illustrative only and not designed to preclude the planning for and zoning of key residential employment areas. In fact, in some instances, it would be desirable to rezone such areas once a new mixed-use zone is available so that they are not prematurely developed in their current categories. Especially in the New Town, where comprehensive planning is both desirable and feasible through adjustments to the Preliminary Development Plan (PDP), it would be appropriate to redesignate undeveloped land consistent with the General Plan within the next two years as a *Next Key Step*. In other areas, such as along I-70 in the rural conservation area, the potential employment center designed for private sewer and water systems would be premature prior to the year 2000. Maps 8-3 through 8-5 highlight only some of those sites discussed in Chapter 5 which are:

- Newly designated residential centers.
- Newly designated employment centers.
- Newly designated mixed-use centers.

The roadway improvements and interchanges indicated in Maps 8-3 through 8-5 are schematic and will require further engineering and environmental studies as well as evaluation of community impacts before exact design location can be determined.

*Howard County, in order to enhance and encourage bicycling, will:*

**8.15 *Signing of Routes***

Determine which roadways are currently serving or have potential to serve as bicycle routes and sign these roads accordingly.

**8.16 *Expansion of Pedestrian/Bike Paths and Trails***

Utilize various means to expand the network of viable pedestrian/bike paths and trails in Howard County. When roads are being planned for construction or reconstruction, encourage through the State's Consolidated Transportation Program (CTP) and the County's Capital Improvements Program (CIP) the construction of designated bike lanes and/or the use of paved roadway shoulders for bike routes as appropriate. Strengthen the Subdivision Regulations to provide greater continuity of pathways in developing areas. Require paved shoulders along roadways when significant bicycle traffic exists and/or is anticipated on new roadways. Provide and encourage increased maintenance of trails and roadway shoulders.

**8.17 *Regulatory Revisions***

Explore potential revisions to the Howard County Design Manual and Subdivision and Land Development Regulations in order to encourage and accommodate bicycling as both a recreational and commuter-oriented activity.

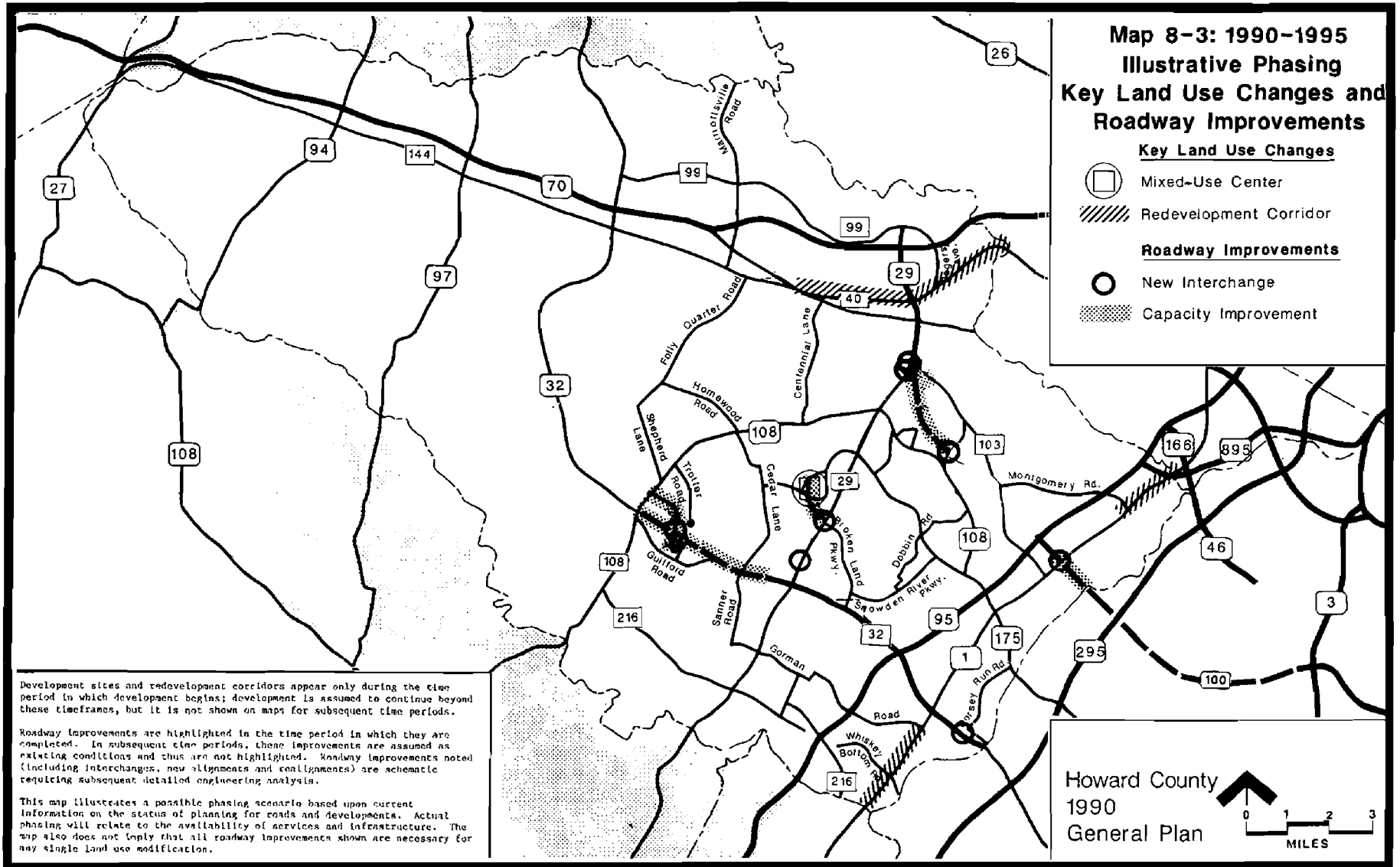
### **8.18 *Bicycle Route Mapping***

Update and make available for public distribution maps of existing and planned bicycle paths and routes to include a classification scheme which identifies routes with differing use characteristics.

### **8.19 *Bicycle Storage Facilities***

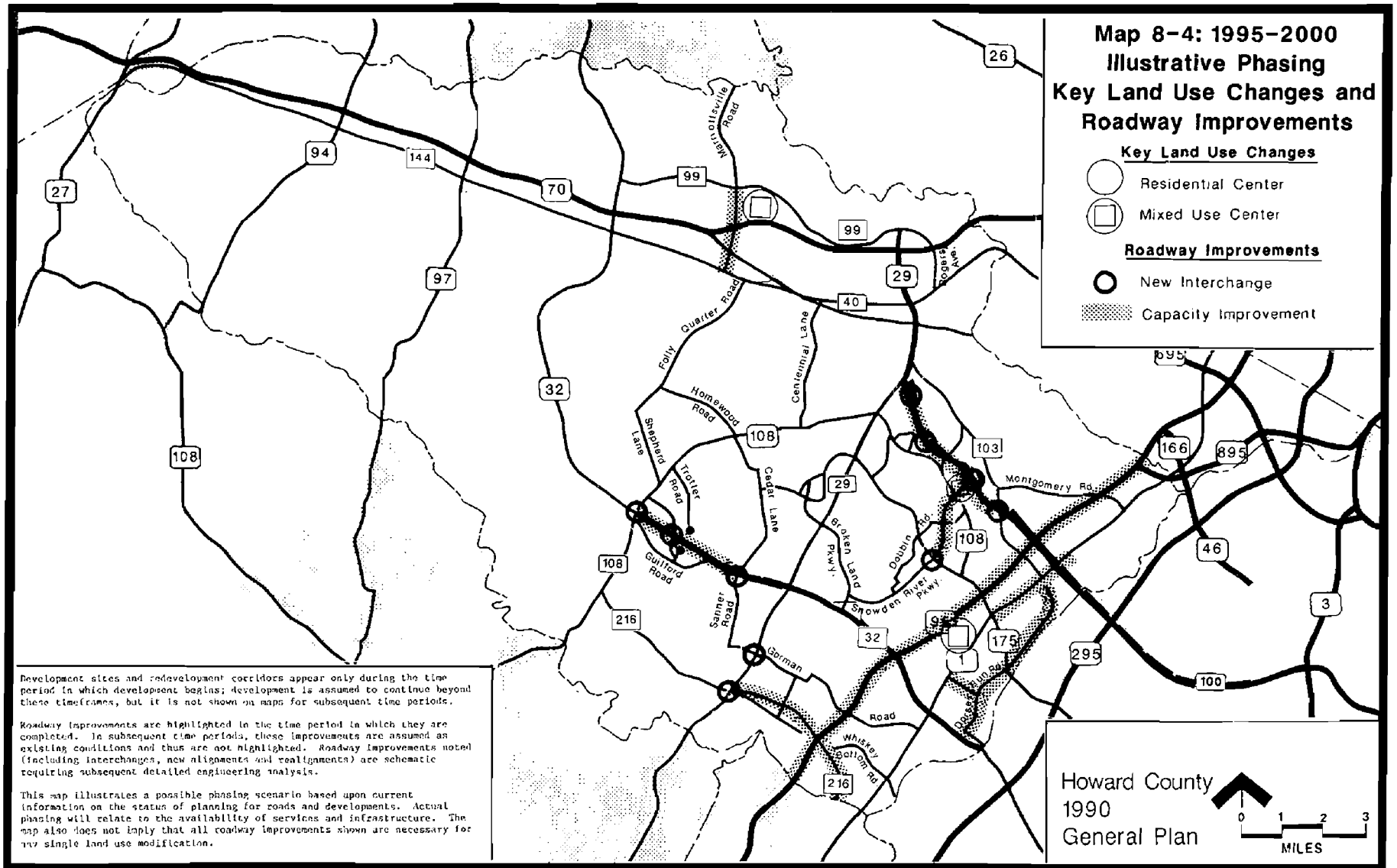
Institute a program to install and/or promote private installation of bicycle storage racks and lockers at major employment centers, shopping areas, transit stops and park and ride lots and at other public gathering places.



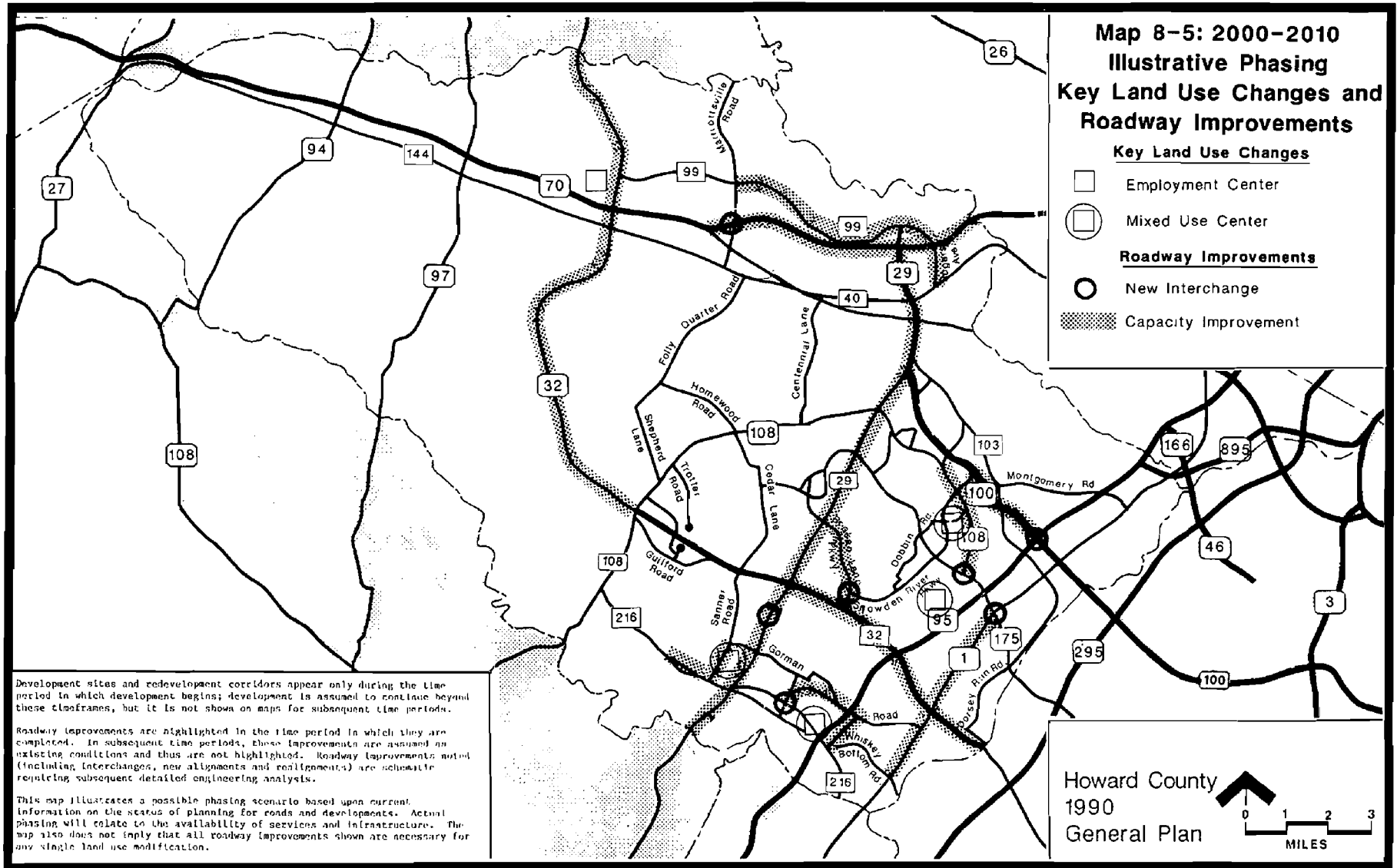


Map 8-3

# PHASED GROWTH



Map 8-4



Map 8-5

## Schools and Education

In Chapter 5: *Balanced Growth*, the problem of school over-capacity and the impacts of growth on school needs in the Year 2010 were discussed. Relating school capacity to growth is complex because of several factors that relate to when and how growth occurs:

- Over time, household size in Howard County is expected to decline; this nationwide phenomenon is clearly evident from Howard County's past history. Figure 8-7 shows the projected decline in household size after 1990. If the County builds out at a slower rate, the school-going population will be smaller and fewer schools will be needed. Figure 8-8 and Box 8-4 show that Howard County birth rates are projected to stabilize and then fall. In spite of recent high birth rates demographers do not see a baby boomlet continuing into the 1990s.
- Neighborhoods generally have a life cycle that affects the number of children there at any given time; depending on the type and cost of housing, young families with young children move in and over time the neighborhood matures. In new suburban areas like Howard County, the overall character and age of the community will reflect its time of startup. Some of the first Columbia neighborhoods slowed their "production" of elementary school children in the late 1970s. They are now seeing a turnover of ownership with younger families moving in with a consequent growth in their elementary school population. Howard County residents often move into their second or third homes with middle school, high school or college children in tow. Inevitably, there will be cycles in school population at different times; the key is trying to minimize the over-capacity/under-capacity cycles.
- Infill development in established communities will help minimize growth impacts by providing a greater mix of housing age to counter neighborhood maturity cycles.

### Howard County Household Size

(1960 to 1980 - Actual, 1990 to 2010 - Projected)

1960	3.71	persons
1970	3.62	"
1980	2.94	"
1990	2.71	"
2000	2.56	"
2010	2.46	"

Household population is the total population less the population in group quarters (such as prisons). Household size is the household population divided by the number of households.

Nationally and regionally household sizes have been declining since 1960, with more singles, elderly and generally smaller family sizes. Projections for Howard County continue to show a decline but at a slower rate. Although the County's elderly population is increasing, the affect on household size is being offset by increasing numbers of families with children. The 1990 Census may show overall County household sizes stabilizing.

Source: 1960-1980: *US Census of Housing and Population*  
 1990-2010: Baltimore Regional Council of Governments,  
*Economic Indicators for the Baltimore Region*

Figure 8-7

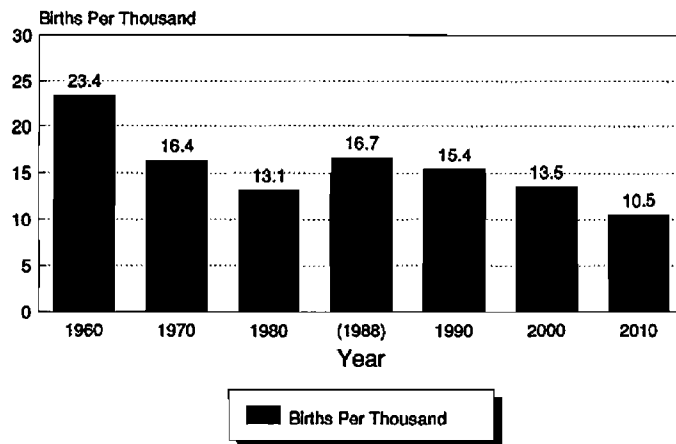
The General Plan forecast for school population between 1990 and 2010 is shown in Figure 8-9. These forecasts are based on an average growth rate of approximately 2,500 new units a year out to the year 2010.

Figure 8-10 shows new schools proposed in the FY 1991 Capital Budget and FY 1992 - 1996 Capital Improvements Program. By 2005, the roughly 3,600 additional students indicated in the General Plan projections will necessitate construction of up to nine new schools above and beyond the 14 new schools already

### Trends in the Howard County Birth Rate 1960-2010

(1960 to 1988 - Actual, 1990 to 2010 - Projected)

1960	23.4 per thousand
1970	16.4 " "
1980	13.1 " "
1988	16.7 " "
1990	15.4 " "
2000	13.5 " "
2010	10.5 " "



Note:  
1960-1988: Actual; 1990-2010: Projected

Source: Ho. Co. Dept. Of Education

Figure 8-8

### Birthrates

The birthrate is an important component in projecting future school enrollment. Today's births will be first graders in 6 years time. There is debate among demographers regarding projections of birth rates. Birthrates were anticipated to peak in 1988 but nationally, at least, have been continuing to rise. In Howard County, the shrinking school enrollment from 1979 to 1983 was related both to a reduced number of housing units being built but more importantly to the declining birthrate after 1971 (from a high of 16.4 per 1,000 in 1970 down to 14.3 in 1972 and to 13.1 in 1975). The "baby boom" ended in 1964, with the last of that group beginning to reach child bearing age in the early 1980s. Since 1981 the birthrate has been increasing to the high levels of the early 1970s. The 1988 birthrate was 16.7 per 1,000. The baby bust generation (1965 to 1978/79, and half the size of the baby boom) is now reaching child bearing age. Birth rates will inevitably fall but will vary from jurisdiction to jurisdiction. In Howard County if large numbers of women delay having children until their late 20s or early 30s, and if the County continues to be attractive to families, birth rates may continue to remain high resulting, of course, in more school children.

Box 8-4

programmed for completion by 1998. Projecting current Board of Education projections beyond 1998, four additional schools would be needed. Overall, therefore, the difference between the current projections (18) and the General Plan projections (23) is five schools. It is not possible to know future school district boundaries for the General Plan projection period. Therefore the General Plan projection methodology shows school opening dates in the year when a system-wide deficit of one seat occurs and some additional schools are shown as needed as early as 1990.

The proposed APFO would ensure that housing which drives the need for schools would not be approved if adequate public facilities, including schools, were not in place.

Because the General Plan proposes new housing designations and anticipates different growth rates, the five additional schools in the General Plan projections would not simply be added on to those currently projected.

# PHASED GROWTH

### School Enrollment Projections

1989/89 Board of Education vs. 1990 General Plan

Year	Elementary		Middle		High		Total	
	Board of Ed.	General Plan	Board of Ed.	General Plan	Board of Ed.	General Plan	Board of Ed.	General Plan
1990	15123	15094	6679	6670	8272	8275	30234	30199
1995	17567	18316	8797	8876	10226	10481	36770	37853
2000	<u>18341</u>	<u>19616</u>	9612	10315	11987	12738	40120	42849
2005	17965	19131	<u>9706</u>	<u>10561</u>	<u>13054</u>	<u>14613</u>	<u>40905</u>	<u>44485</u>
2010	17420	18167	9508	9950	12949	13908	40057	42205

\_\_\_ = Peak Year

Total column includes special education enrollment at Cedar Lane.

Source: Howard County Department of Education

**Figure 8-9**

Overall enrollment is anticipated to peak in 2005. The projections for elementary, middle and high school show that, in the short term, growth is anticipated primarily at the elementary level. Of the 7 schools currently programmed to open by 1992, 5 are elementary schools. As the elementary students move through the system, the need for middle and high schools will increase and there may be excess capacity in the elementary schools.

How many schools would we need and by what year if growth occurred at 4,000 or 2,000 units annually? In preparation for this General Plan a number of different growth rate projections were jointly prepared by the Department of Planning and Zoning and the Department of Education, and tested for their impact on school enrollments and County budgets.

Figure 8-11 (see Box 8-5 for explanatory detail) shows the effects of these different growth rates on school age population and on school needs. It is apparent that the faster the rate of growth, the

### Projected Timing of New School Openings

FY 1991 Capital Budget and  
FY 1992-1996 Five-Year Capital Improvements Program

	Elementary	Middle	High
1990	2		
1991	1	1	
1992	2	1	
1993	1	1	
1994	1		
1995		1	1
1996	1		
1997	1 *		1
1998		1 *	
1999			1 *
2000			
2001			1 *
<b>Total</b>	<b>9</b>	<b>5</b>	<b>4</b>

Notes: ■ Year shown is calendar year.  
■ Includes projects funded in earlier budgets.  
\* Schools either noted as needed in the Capital Budget but funding not requested to date, or schools perceived to be needed beyond the period covered by the Capital Budget, based on the extension of the enrollment projections contained in that document.

Source: Howard County DPZ and Howard County Department of Education.

**Figure 8-10**

### Comparison of Different School Enrollment Projections

See Notes in Box 8-5	School Enrollment Projections		Total Projected School Enrollment			Number of New Schools Required	Projected Housing Unit Growth Rate			
			1990	2000	2010		Total Units	Annual Average Units		
							1990/2010	1990	2000	2010
(1),(2)	Board of Education Official Projections	1988/89	29,874	37,182	36,738	11 (1989/96)	34,300	3,200	1,800	1,000
		1989/90	30,234	40,120	40,057	14 (1990/98)	42,750	3,500	2,050	2,000
(3)	Maryland Office of Planning	9/1989	29,760	40,100 (1998)	N/A	N/A	N/A	N/A	N/A	N/A
(4)	Dept. of Education General Plan Projections	1990	30,199	42,849	42,205	23 (1990/2010)	49,885	2,500	3,000	1,700
(5)	Trends 2000	(a)	29,169	38,788	38,012	19 (1990/2010)	40,000	2,000	2,000	2,000
		(b)	N/A	36,289	47,489	29				
(6)	Trends 3000	(a)	30,054	42,384	42,220	23	40,087	3,000	3,000	0
		(b)	N/A	42,389	47,489	29				
(7)	Trends 4000	(a)	30,186	45,045	43,428	26	40,087	4,000	4,000	0
		(b)	N/A	47,489	47,489	29				

Source: Howard County Dept. of Planning and Zoning

Figure 8-11

## SCHOOL ENROLLMENT PROJECTIONS BASED ON DIFFERENT GROWTH RATE PROJECTIONS

In preparation for this General Plan a number of different growth rate projections were jointly prepared by the Department of Planning and Zoning and the Department of Education and tested for their impact on school enrollments, and County budgets. A summary of the projected school enrollments together with the growth assumptions driving the projections is set forth below. Note that the housing unit growth rate is not the sole factor which drives school enrollments. The birth rate and in-migration and out-migration also contribute. Official Board of Education projections for 1988/89 and 1989/90, projections prepared by Tischler and Associates, the County's fiscal impact consultants, and projections prepared by the Maryland State Office of Planning are also presented. The data are discussed briefly below. Most of these projections are discussed in detail in the Appendix to the General Plan in the *Issue Paper: Development Trends and School Impacts*.

### Notes

- (1), (2) Board of Education official projections as set forth in the Approved Board of Education Capital Budgets. The budget document itself does not show enrollment projections beyond 2000, or additional facility needs beyond a 6-8 year horizon. For the 1989/90 official projections, in anticipation of the 1990 General Plan, the Board of Education increased its projection of the County's housing unit growth rate with a consequential significant increase in projected school enrollment.
- (3) These projections are prepared annually by the Maryland State Office of Planning using cohort survival methodology (see below). The Maryland Office of Planning does not project school facility needs.
- (4) These projections were prepared in December 1989 based on the proposed General Plan growth projections.
- (5)(6)(7) The 3 Trends projections were prepared in the spring of 1989 in preparation for the *Issue Paper: Development Trends and School Impacts* (included in the Appendix to this Plan). Note that in Trends 3000 and

4000 buildout occurs in 2005 so that 0 additional units are shown in 2010. The number of schools needed is for the 1989 to 2010 period.

Row (a) Trends projections were prepared by the Howard County Department of Education using cohort survival methodology. Row (b) projections were prepared by Tischler and Associates, consultants using a pupil yield per housing unit methodology. (See *Development Trends and School Impacts* for discussion of school projection methodology; see *Development Trends and their Fiscal Impacts* in the Appendix to this General Plan for the summary report of Tischler and Associates).

The row (a) and row (b) methodologies have significantly different results, particularly for the 2000-2010 period. Both methodologies have their strengths but both have limitations, particularly when projecting out over a 20 year period. The pupil yield per household methodology may overstate the number of needed schools. This is because it does not take into account factors such as the re-use of classroom space as younger children enter the system after the initial population moves into secondary schools, or redistricting to take advantage of unused existing classroom space. The cohort survival methodology may understate the number of needed schools because it assumes considerable redistricting in order to maximize use of space across school regions. However, because frequent redistricting is unlikely, the projected number of new schools in this analysis is lower than if schools were assigned when each region's capacity fell below the number needed for a new school. Also the cohort survival methodology incorporates assumptions about falling household size and, especially for projections beyond a 5 or 6 year horizon, may underestimate future household sizes by not taking into account the possibility of the County's older, existing neighborhoods becoming attractive again to younger families with children.



more schools are needed in the early years. It is not only the fiscal implications of these growth rates that are serious; the potential at the 4,000 dwelling units per year rate of closing and opening schools simultaneously, depending on where growth is occurring, is very real; by contrast, at the 2,000 dwelling units per year rate, the possibility of being able to use schools to absorb neighborhood cyclical changes over time is stronger, since the "graduates and freshmen" will be more spread-out over time.

Thus far, school needs have been dealt with at the overall system level—i.e., elementary, middle and high—without regard to geographic distribution. In reality the system of school regions shown in Chapter Five are broken down into smaller school districts for each individual school. Theoretically, there exists a feeder system of a large number of elementary schools supplying graduates into a smaller number of middle schools and then into a yet smaller number of high schools, with the high school's district encompassing all the districts of the lower levels. This theoretical system is fractured; school districts overlap school region lines at different levels and enclave districts "send" children into other regions. For example, middle school students in the Village of Long Reach attend Wilde Lake Middle School, east of US 29. It is therefore a very complex task to determine geographically where new schools are needed. Geographical needs are shown only in the most general way on the maps in Chapter 5 for the Year 2010 based on the General Plan growth rate.

Because of the way the Department of Education's school projection models work, the real number of schools required is understated. This is primarily because the growth rate methodology assumes that each school will be at full capacity before a new school is "needed." Schools cannot in reality be built as "efficiently" as this methodology assumes. The specific geographic distribution of new schools and their related redistricting issues is beyond the scope of this General Plan. The Plan sets the parameters for the planning effort required in the next School Facilities Master Plan.

In Chapter 5: *Balanced Growth*, the County's problems in not having acquired enough land for future schools was discussed. We indicated that this need translated into 17 new sites over the next twenty years, or about 450 acres. Figure 8-12 shows the school

acreage figures that would be needed over the next five and ten year periods based on the General Plan projections.

The school system is using relocatables to handle over-capacity problems. Currently 29 relocatables, two State-owned and 27 County-owned, are in place throughout the system. Some schools have as many as eight relocatables on site. Relocatables on a site reduce the outdoor play area, and put pressure on a school's core facilities. These facilities (cafeteria, library, gymnasium, recreational areas, etc.) are sized based on the State's rated capacity standards. Since the County's program capacities are lower than the State's, fewer children are in each classroom. There is, therefore, some "give" in the system and typically relocatables amounting to

**School Acreage Needs Based on 1988/89 and General Plan Projections**

	Elementary	Middle	High	Total
Schools without sites per FY 1991 proposed Capital Budget	4	2	2	8
New General Plan Schools Needed by 1995	3	3	3	9
Acreage need by school type	15	27	42	
Total acreage need 1990-2010	105	135	210	450
Acreage needed by 1995	75	81	126	282
Sites currently available to the Board of Education have not been factored into the needs total.				
Source: Howard County Department of Planning and Zoning, as based on data supplied by Howard County Department of Education.				

Figure 8-12

10% over the County's capacity standards will not strain the core facilities.

In summary, our immediate school site and building needs, and our intermediate/long-range needs could severely strain the County's ability to find and purchase land and construct schools to meet the demand of even modest growth rates of around 2,000 a year. In order therefore to coordinate the growing demand for additional school capacity with the County's ability to build and pay for schools, appropriate growth management mechanisms are required. These mechanisms are discussed under Policies and Actions.

### *Policies and Actions*

*Howard County, to avoid school over-capacity, will adopt an Adequate Public Facilities Ordinance (APFO) that ties the pace of residential development to public school capacity. This ordinance will:*

#### **8.20 Timing**

Be introduced upon adoption of this General Plan.

#### **8.21 Level of Service Standard - Future Development**

Require that all future residential development (including projects which have received Sketch but not Preliminary plan approval) will not cumulatively add more than 10% to the school's County-rated program capacity, excluding capacity provided by relocatables.

#### **8.22 Level of Service Standard - Approved Development**

Require that all future residential development with Preliminary plan approval but without Final approval, not cumulatively add more than 10% to the school's County-rated program capacity including the capacity provided by relocatables.

#### **8.23 Data Base Requirement**

Require that a data base of recorded lots and developments in process be developed by the County and be maintained on an ongoing basis to be able to apply the APFO and the Development Monitoring System (DMS).

#### **8.24 Application of APFO**

Apply the test of Adequacy of Facilities at the Preliminary Plan approval stage.

#### **8.25 Adequacy Test Basis**

Base adequacy tests on pupil-yield formulas by dwelling-unit type.

#### **8.26 Mitigation by Developer**

Allow for mitigation of overcapacity conditions by developer contribution of sites for new schools and contributions to school construction to accelerate programmed improvements.

#### **8.27 When Capacity is Measured**

Require that capacity be as projected and measured two years from the date of Preliminary Plan approval.

**8.28 *Approval in Phases***

Allow approval of developments in phases consistent with projected capacity over a six-year period.

**8.29 *Capacity Reservation***

Reserve capacity allocated at the Preliminary Plan stage for two years unless the developer has contributed to the construction of the school facility, which will take longer than two years to complete; in such cases, a Development Agreement (see Box 8-1) can be reached between the County and the developer prior to Final Plat approval which guarantees the development will be accommodated by the developer's improvement over a longer period of time.

**8.30 *Exemptions***

Exempt elderly housing.

It is important to understand that the above policies and actions merely highlight the key features of an APFO; the clarifying details will be in the future legislation.

## Public Sewer

### Development in the "Pipeline"

The discussion of roads and schools has pointed out the imbalance between urgent facility needs and the slower pace of scheduled improvements, many of which are dependent on State actions. An APFO which limits development when facilities are inadequate, will thus have the effect of reducing the future pace of growth below recent levels.

This reduction will not take effect immediately. In the interests of fairness, property that is recorded now or will be recorded by the time an APFO takes effect, will be exempted from the APFO.

As of October 1989, approximately 10,000 recorded unbuilt residential lots existed countywide; another 3,800 units are in the Final stages of approval, and 2,000 are in the Preliminary plan approval stage (See Figure 8-13). This inventory equals about four years of growth at a current pace of 4,000 units per year. It is undesirable for this inventory to build-out at the current pace.

<b>Residential Subdivisions in Process October 1989</b>	
<b>STATUS</b>	<b>LOTS</b>
Final	3,838
Preliminary	1,992
Sketch	2,702
<b>TOTAL</b>	<b>8,532</b>

Figure 8-13

Therefore, some interim growth monitoring mechanism is desirable to ensure that we do not again experience excessive short-term growth. It is important because such a rapid growth rate would exceed the capacity of the Patuxent and Patapsco Wastewater Treatment Plants that serve eastern Howard County.

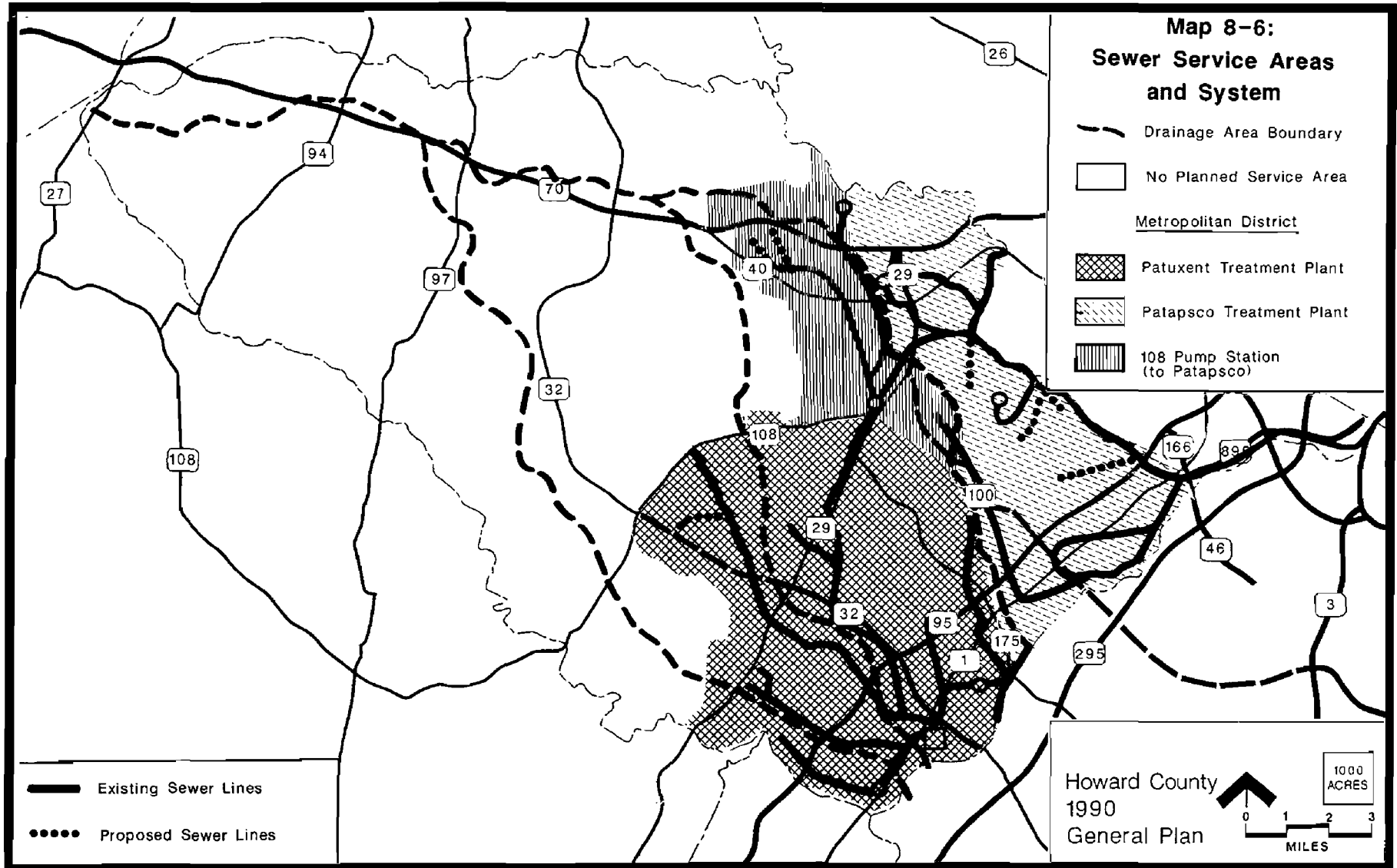
### Organization of the Sewer Service System

Map 8-6 shows the sewer service areas and system. Current regulations already provide an APFO-type control on the pace of growth as it relates to sewer service. This capacity allocation system has been in effect for a number of years. What has changed is the decline in spare capacity within the system which can absorb growth (See Box 8-6). Our current growth rate would absorb all of the Little Patuxent plant's present capacity (15 mgd) by the early 1990s, before completion of the treatment plant's expansion to 18 mgd which is scheduled for the mid-1990s. A moratorium on sewer allocations would be imposed until the plant expansion was operational. It is preferable to maintain a steady and predictable development pace rather than come to a halt in allocations. Population and household growth should be monitored carefully over the next three years so that they do not precipitate a moratorium on sewer allocations.

A similar situation exists in the Patapsco sewer service area. Based on the current growth rate, Howard County would reach its allocated capacity share of this multi-jurisdictional plant sometime before 2005, restricting subdivision in this service area (See Box 8-6).

### 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, either 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 the developer under which developers construct system extensions for their subdivisions; the County reimburses the developer for the cost of the system extension as properties in the subdivision connect to the system. Reimbursements to the developer are financed by County bond sales. These bonds are retired using



Map 8-6

### 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 remainder of the Metropolitan District constitutes the Patapsco service area. (See Map 8-6.)

#### The Patuxent Service Area

The wastewater generated from the Patuxent service area is treated at the Little Patuxent Wastewater Treatment 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 Wastewater Treatment Plant which is located in Savage currently has a capacity of 15 million gallons per day (mgd) and is using or has allocated approximately 12 mgd of its capacity. Plans to upgrade and expand the plant to a capacity of 18 mgd are currently underway. Construction of the 18 mgd expansion should be completed by 1993. Each mgd of treatment capacity is sufficient to serve approximately 4,000 homes. An expansion study by the County has determined that it may be possible to expand the Plant to a capacity of 21 to 23 mgd on the current plant site and on County owned land adjacent to the current site. The success of a biological denitrification process currently being tested is the key to any expansion of the plant. The maximum feasible expansion of the plant is about 30 mgd; this is related to the ability of the base water flow of the Patuxent River to absorb treated effluent.

#### The Patapsco Sewer Service Area

Howard County is dependent on the 70 mgd Patapsco Wastewater Treatment Plant, which is owned and operated by Baltimore City for the treatment of sewage from the Patapsco service area which includes the Route 108 Pumping Station Service area. 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 jurisdictions in proportion to the capacity share given in Figure 8-14.

Howard County's share of the plant's 70 mgd capacity is 10 mgd. Current actual usage by the County approximates 5 mgd.

Further expansion of the plant to a capacity of 87.5 mgd should be completed by 1993. 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 70 mgd will require a new discharge permit from the State, subject to 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.

Box 8-6

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, it is able to finance at a low cost to the homeowner receiving the service those sewer and water extensions in the East that are necessary for health reasons due

to failing septic systems and/or bad wells. To date, these extensions to replace failing septic systems have been in the eastern part of the County generally to older homes built prior to construction of the public water and sewer systems. These homes are on small lots and were built when septic system standards were less rigorous than today.

**Patapsco Wastewater Treatment Plant**

Jurisdiction	Capacity Share
Howard County	10.0
Baltimore City	19.6
Baltimore County	34.7
Anne Arundel County	5.7
<b>TOTAL CAPACITY</b> (million gallons per day)	<b>70.0</b>

Figure 8-14

Reimbursing developers for extensions to new subdivisions has been authorized by the County Code since 1957. Different 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. The bonds are then retired with revenue from front-foot-benefit assessments. The variety of methods to finance system extensions for new development is related to a county's land use goals and fiscal situation at different stages in the county's development.

Two potential problems would surface were the County to modify this financing method and not reimburse developers for sewer and water extensions.

First, the cost to the 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 their 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 might add the higher cost of paying for the sewer and water pipes to the price of the house, increasing it 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 and taken out of land costs or other development costs. However, the average cost of housing in Howard County is already viewed as problematic.

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 scrutiny when the Plan seeks to implement growth management rather than growth acceleration.

**Timing of Sewer and Water Service Priorities**

The County, in adopting the Master Plan for Water and Sewerage (see Box 8-7), delineates priority service areas - existing, 0-5 years, 6-10 years, and comprehensive (beyond 10 years) - within the Planned Service Area in accordance with State regulations. A State permit is required for the construction of sewerage facilities. This permit may only be obtained if a property is in the 0-5 year priority area. At the developer's initiative, the priority 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 and occurs every six months when all such category shifts are batched and approved by the County Council as part of a bi-annual Master Plan for Water and Sewerage update. This General Plan incorporates by reference the Master Plan for Water and Sewerage adopted by the County Council on February 5, 1990 and any subsequent updates thereto.

Given the APFO requirements presented earlier in this chapter, the shifting of property into the 0-5 year priority area should be a planning function based on the amount of capacity the County is able to allocate in a given timeframe in relation to its overall facilities adequacy, rather than in response to developer demand.

### **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 they record or approve a subdivision plat unless water and sewerage systems would be adequate and completed in time to serve the proposed development.

Howard County has an adopted ten year *Master Plan for Water and Sewerage* (adopted by the Howard County Council on September 8, 1987, approved by the Maryland Department of the Environment on December 24, 1987 and updated every six months since then) which establishes and delineates a water and sewerage service area and which 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 Five-Year Capital Program, the Metropolitan District Entry Process, the subdivision plan review process and the Capacity Allocation Program.

Box 8-7

In the chapter on *Responsible Regionalism* a policy was presented to cap the Little Patuxent Wastewater Treatment Plant at an expansion of 22 million gallons per day (mgd). This expansion will accommodate the flows from the future 28,000 homes in the Little Patuxent Sewershed, provided growth phasing is consistent with plant expansion. The future 9,600 homes in the Patapsco Sewershed will be accommodated by the County's increased share of the cost of the City's plant once it is expanded in 1993.

The County cannot do as it pleases even if it has the financial and engineering capability to expand the planned capacity of the Little Patuxent plant. It bears repeating that all increases in treatment capacities depend on receiving State discharge permits. Any further increases in plant discharge will require a new State permit. The State discharge permit process is, at best, difficult and interjurisdictional cooperation is critical.

The land use proposals call for one modification to the present sewer and water service boundaries in the Hammond Branch area west of US 29 and north of MD 216 to allow for the long-term development of a mixed-use area. This area drains by gravity to the Little Patuxent plant. The main sewer lines to serve the area are for the most part adequate in size. Sewer lines adjacent to this area currently extend under US 29 to serve employment uses on Johns Hopkins Road.

Several policies and actions emerge from the above discussion.

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

***Howard County, to integrate its sewer and water priorities with the adequate public facilities process, and make the Master Plan for Water and Sewerage consistent with this General Plan, will modify the Master Plan for Water and Sewerage and will:***

#### **8.31 *Priority Category Shifts***

Defer shifts into the 0-5 year priority status for development proposals until they have received Preliminary Plan approval, which incorporates the APFO process.



**8.32 Deferral Areas**

Show deferred areas presented in the Policies Map for the year 2000/2010 in the comprehensive priority service area.

**Public Water**

A description of Howard County's water supply system is presented in the *The Development Trends and Sewer, Water & Solid Waste Impacts* Chapter of the Appendices.

The supply of water is not expected to be a constraint on projected growth and development through the year 2010. Some acceleration of improvements to the conveyance and storage facilities will be needed at the County level based on the General Plan, but these do not present unusual problems.

The only modification proposed in this General Plan to the water service area is in the eastern part of the Hammond Branch area. It would be limited to the undeveloped properties abutting US 29 and bounded by MD 216 and Johns Hopkins Road.

This area is located at the current perimeter of the water system which will serve the area. However, the major transmission main for the zone roughly parallels US 29 and is in the vicinity of the eastern boundary of the growth area. Further, this main ends at the primary storage tank in the zone located at the interchange of MD 216 and US 29. The nearby location of the storage tank will be helpful in maintaining adequate pressure to the entire served area. A detailed study would be performed to determine the specific facility needs to serve this area.

### Solid Waste

While the Little Patuxent Wastewater Treatment Plant's timetable is a constraint on the pace of growth over the next five years (1990-95), solid waste disposal will be one of the main constraints on the pace of growth in the following five years (1996-2000). This regional (and national) problem is requiring all jurisdictions to examine alternatives to sanitary landfills which have always been very difficult to site.

The County depends almost entirely on its Alpha Ridge sanitary landfill on Marriottsville Road, north of I-70, for solid waste disposal. This facility was built in 1980 with a capacity of 5.5 million tons. Its current utilization is at 1.6 million tons. A 1990 redesign will leave 4.1 million tons of capacity for future use. Also, beginning in 1990, the County will spend \$52 million over a five-year period to meet State environmental protection requirements for a landfill liner, a leachate collection and disposal system and for well monitoring.

The County will need to find an alternative landfill site and/or other complementary means of solid waste disposal in the mid-90s whether we grow at 2,000 units a year or 4,000 units. The slower growth rate buys us about two to three additional years of life for the landfill.

The bottom line is that we can expect the current landfill to last us until approximately the year 2003. The County is attempting to exceed the State-mandated recycling goal of 20% by 1994, and this would extend the usefulness of the landfill by an additional two to three years.

Long-range solutions include expansion of the Alpha Ridge site, the identification and development of a new landfill site in the County, or a regional approach that combines materials recovery (recycling), waste incineration to produce energy, and landfilling of the ash residue. An integrated disposal system combining several of these alternatives could be developed on a regional or local basis. A regional solution is now being studied by a "quad-county committee", involving Howard, Carroll, Frederick and Washington Counties. The committee's feasibility determination is expected in the spring of 1990. This report, along with a Comprehensive Recycling Study currently being prepared by Howard County will be key components of the updated Solid Waste Management Plan, due to be completed

by the summer of 1991. This General Plan incorporates by reference the Solid Waste Management Plan adopted by the County Council on June 20, 1988.

Both local and regional solutions to solid waste disposal require lead times ranging from seven to ten years. Therefore, important decisions will need to be made and appropriate action taken around 1995. Inability to meet our future solid waste needs would lead to growth slowdowns and even moratoria as we approach landfill capacity.

### *Policies and Actions*

*Howard County, to provide for a predictable future growth rate, will:*

#### **8.33 *Planning for Future Capacity***

Identify in the 1991 update of the Solid Waste Management Plan solutions to the projected landfill capacity ceiling that will be reached soon after the year 2000. Solutions should combine regional solutions (such as the "quad-county" study results), as well as recycling, incineration for energy, and additional landfill capacity options.

#### **8.34 *Promoting Solid Waste Reduction***

Expand programs emphasizing source reduction, reuse and recycle to provide some relief to the solid waste management problem, and educate the population on the urgency of the problem.

#### **8.35 *Timing of Solutions***

Initiate solutions by 1995 because of the long lead time associated with solid waste facility planning.

## Capital Improvements Program

The County Council adopts a budget in May of each year which funds the activities of the County Government and certain other agencies including the Department of Libraries, the Community College and the Department of Education for the next fiscal year which begins July 1.

### Summary of the 1990 Capital Budget

The Fiscal Year 1990 Capital Budget was approved for \$124,257,000 and includes approximately 200 active projects. Among the major projects are:

- Environmental upgrading of the landfill, the purchase of a building for office expansion, construction of an expanded detention center, land purchases for future public facility needs, storm drainage improvements, planning or construction for seven new schools, an expanded agricultural land preservation program, fifty seven miles of road resurfacing, two major road construction projects, construction or planning for three new libraries, renovation of a building at the Community College, funds for two County golf courses, planning for a district police station, traffic control projects, projects to implement the water and sewerage master plans, including a major expansion of the County's wastewater treatment plant.

The budget is funded through a combination of general obligation bonds, revenue bonds, State grants, developer contributions, pay-as-you-go funds and transfer taxes.

Box 8-8

The budget consists of an Operating Budget to pay for the day-to-day activities such as salaries, supplies, heating and cooling, and a one-year Capital Budget to pay for the acquisition, design, construction, and equipping of buildings, bridges, roads, sewers, parks, and similar infrastructure. A summary description of the FY

1990 Capital Budget is presented in Box 8-8. At the same time, the Council approves a Capital Improvement Program which includes the County's funding and staging plans for capital expenditures for the five years which follow the Capital Budget.

### Project selection.

Projects come into the Capital Improvements Program, and eventually into the Capital Budget because of:

- recommendations from residents who would like County action to address a community need such as a road with drainage problems
- recommendations from groups with special interests such as specialized recreational facilities;
- the need for routine maintenance and repair of existing facilities; and
- priorities and staging criteria that are included in the County's various Master Plans - Parks, Schools, Libraries, Fire Stations, Water & Sewerage, and Solid Waste.

### Project Priority

The purpose of the Capital Improvements Program is to indicate the County's funding and staging plans for future capital projects. This provides time for land acquisition as well as design and construction of new facilities, so that they will be available at the appropriate time.

In periods of rapid growth and consequent increased revenues, there is a natural inclination to add new capital projects or to try to "speed up" capital projects in the Capital Improvement Program that are planned for completion at the end of the six-year cycle rather than toward the beginning.

One of the major problems in adding or speeding up new projects is the acquisition of land. Suitable sites at appropriate locations are becoming more and more difficult to find. Negotiations

## PHASED GROWTH

---

for purchase often take years. If the County has to condemn the land, the legal procedures take even more time.

Until the County actually has the land and has thoroughly studied its characteristics including geology and water tables, design cannot advance beyond preliminary engineering. Often the County has to get permits from other agencies like the Corps of Engineers, a very time-consuming process.

Further compounding the problem of speeding up capital projects is the time it takes to comply with Charter requirements regarding the hiring of outside consultants and construction companies. To this delay must be added the fact that construction sometimes cannot proceed during the worst winter months.

Public consensus on the location and nature of capital projects is often another factor in the timing of these projects. The alignment or width of new roads and the location of libraries are examples of projects with community input and impact that can extend the timeframe on decision-making. Thus, it is unrealistic to attempt to construct a new facility in less than three years, even if there are no problems with acquisition of the site.

### *Policies and Actions*

*Howard County, to develop and maintain a sound Capital Improvements Program will:*

#### **8.36 *Capital Budget Expansion***

Expand the Capital Budget and five-year Capital Improvements Program to the extent feasible and consistent with other County funding priorities to maintain adopted level of service standards commensurate with the land use pattern adopted as part of this General Plan. In order to expand the Capital Budget and five-year Capital Improvements Program, new residential and non-residential growth may be required to pay a "fair share" of the cost of public facilities in proportion to the need for such

facilities or services generated by the proposed development.

#### **8.37 *Prioritization***

Give top priority to projects which correct existing deficiencies.

#### **8.38 *Land Acquisition***

Give priority to land acquisition, especially to acquiring land well in advance of the need for new facilities.

#### **8.39 *Project Completion***

Focus resources on completion of currently authorized projects.

#### **8.40 *Coordination***

Coordinate the Capital Budget and five-year Capital Improvements Program with the capital program of other governmental entities. Specifically, the County shall work with the Board of Education to establish appropriate school level of service standards, site locations, school capacity and district boundaries. In addition, the County shall cooperate with the State Department of Transportation on an appropriate funding program for improvements and additions to the State highway system in Howard County necessary to maintain acceptable levels of service while accommodating existing and projected County-generated traffic as well as regional "pass-through" traffic.

## The Authority of the General Plan

How much authority does the General Plan have when it comes to actual zoning and subdivision decisions?

The general rule of judicial interpretation both in Maryland and most other states has been that the General Plan is not a substitute for comprehensive rezoning nor may it be equated with it in legal significance. The land uses and regulations recommended or proposed in the General Plan may well become incorporated in a comprehensive zoning map, but this will not be so unless it is officially adopted and designated as such by the County Council. Thus, the Maryland courts have held that the General Plan is advisory only, and merely recommends future land uses and zoning classifications, unless the local legislative body enacts a requirement that zoning and subdivision regulations must implement and be consistent with the General Plan. Although State enabling legislation and Maryland case law do not require such consistency (as do Florida, California and a number of other states), it can be required in Maryland by local legislative action.

Once mandated, "consistency" would require (or permit, depending upon the adopted language) the denial of a rezoning or a subdivision or land development application for nonconformance with the General Plan.

The Maryland cases have been particularly attuned to ensuring that inconsistent land developments and rezonings do not occur after the adoption of the General Plan but before it can be implemented through the comprehensive rezoning process. The courts have noted that the process of comprehensive zoning or rezoning is a time-consuming one and that it would be impossible to adopt comprehensive rezoning changes calculated to impose the same use, density and other requirements as the General Plan to become effective simultaneously with the adoption of a new General Plan. At the same time, it would be senseless to allow development to proceed for a period of one to two years based on zoning and subdivision regulations designed to implement the prior Plan, when the new Plan

has already been adopted. It is anticipated that legislation will be developed to implement the policies of this Plan.

The simple expedient of "consistency" language will allow the County to give stronger legal effect to the General Plan upon its adoption and to ensure that sewer and water phasing, rezonings, and subdivision and land development will be consistent with the policies of the General Plan while the comprehensive rezoning process is undertaken.

## *Policies and Actions*

*Howard County, to give the General Plan necessary authority in future land use decisions, will:*

### *8.41 Consistency Requirement*

Adopt appropriate legislation to ensure consistency between future development and the policies of the General Plan prior to the expiration of the Growth Management Act of 1989.

# Future Growth and its Monitoring

Past growth projections for Howard County have largely been done as a "top down" process. At the Statewide level, a projection for populations and households is done based on assumptions of births, deaths, and in-migration patterns for the State. This yields a ceiling for various regions, the Baltimore region being one of them. Then, Baltimore City and the five counties carve up the total derived from the Statewide work through the Baltimore Regional Council of Government's (BRCOG), cooperative forecasting process.

BRCOG, by doing further analysis of trends and demographic data, provides a technical basis for each individual County to share the regional allocations. Ceilings are derived for each county through, what is in effect, a collective negotiating process. The counties further divide up the growth projections by subarea to meet countywide five-year ceilings derived from the regional process.

This process occurred in 1982 (Round II) following the 1980 census results, again in 1985 (Round III) and 1987 (Round IIIa). Several counties, Howard County foremost among them, are well ahead of the Round IIIa projections because of the unanticipated boom in population, housing and job growth that the region has experienced since the early 1980s. In order to bring the numbers back into kilter with reality, a new round of forecasts (Round IV) is scheduled to commence in 1990.

The regional process for projecting employment is done after the population and household projections and in a similar fashion. That is, Statewide and then regional projections are done based on past trends and current market and demographic dynamics and then each county distributes its own small area allocations. Unlike population and household projections, firm ceilings are not established as controls on employment allocations, probably because future jobs were never directly tied to State or federal funding formulas for assistance (sewer and water, roads, etc.) in the same way that population and housing projections were. Therefore, job projections have always followed a somewhat "looser" process.

The various State and regional models that are used to do forecasting take into account past trends, demographic and migration factors, but do not directly account for factors such as land supply or growth management policies. These are reflected indirectly in past trends and in the "bottom-up" response of local jurisdictions during the allocation negotiating process.

Clearly the growth management techniques that this General Plan incorporates will affect our rate of growth. Our rate of growth has been largely market-driven, and our projections have responded accordingly. In producing new growth projections for the General Plan, we have looked at a number of factors that have already been presented and discussed. To recap, these are:

- the past rates of growth in population, households and employment;
- new demographic shifts that will modify past trends;
- regional growth trends;
- our supply of available land for residential and non-residential uses.

We have also been mindful of other constraints on market-driven growth that may cause a slowing of such growth, particularly over the next five years. These are:

- capacity limits being reached in the Little Patuxent and Patapsco Wastewater Treatment Plants during the mid-90s;
- capacity limits being reached in the road network since the major State improvements will only come on-line in the mid to late 90s and the APFO will constrain growth accordingly;
- capacity limits in the school system since site acquisition and school construction will likely lag behind needs up through the mid-90s and the APFO will therefore slow growth accordingly.

Despite these constraints, our fiscal analysis indicates that for our economic health, we need to sustain a moderate level of residential growth and as strong an employment growth as we can muster. We have already discussed at length the interrelatedness and

balance between these two kinds of growth. Our projections, therefore, walk a fine line between acknowledging growth pressures and growth constraints. Our population and residential projections average 2,500 units annually for the next five years after which they increase to 2,750 between 1995 and 2000 and to 3,000 between 2000 and 2005 and then, as the remaining land is absorbed, they fall off considerably to 1,700 per year in the last five years of the Plan.

Figure 8-15 shows population, household and employment growth projections in five-year increments from 1990 to 2010. The mix of housing units reflects the impact of policies presented in the Plan's earlier discussions on housing. Declining household size accounts for the relative maintenance of household growth rates versus declining population growth rates. Projected household size by unit type is shown in Figure 8-16. The employment estimates correspond with the targets discussed under the section on Prospects for Employment Growth in Chapter 5: *Balanced Growth*.

	1990	1995	2000	2005	2010
Population	182,500	210,500	240,300	272,400	285,500
Households	66,700	79,200	92,900	107,900	116,600
Five-Year Annual Household Average	2,500	2,740	3,000	1,740	
Employment	95,600	109,700	124,900	139,200	150,500

Source: Ho. Co. Dept. Planning & Zoning

Figure 8-15

Year	Single-Family Detached	Single-Family Attached	Mobile Homes	Apartments
1985	3.280	2.760	2.300	1.810
1990	3.196	2.608	2.220	1.808
1995	3.112	2.456	2.140	1.806
2000	3.028	2.304	2.060	1.804
2005	2.944	2.152	1.980	1.802
2010	2.860	2.000	1.900	1.800

Source: Howard County Department of Planning and Zoning

Figure 8-16

These projections are important. They are the basis for the future estimates of the County's needs for schools, roads, sewer and water planning, recreation facilities, and so forth. The Plan's projections for 1990 to 2010 average about 2,500 household units over the next 20 years, considerably less than our last four-year average of 4,340 units. Figure 8-17 compares the 1982 General Plan population projections to the 1990 General Plan population projections. The comparison shows the 1982 Plan's underestimation of growth out to 1990 as well as its very high overall capacity for future growth, which at 318,000 people exceeds the 1990 Plan capacity by 33,000 people.

**Comparison of Population Projections  
in the 1982 and 1990 General Plans**

	1982 General Plan Projections	1990 General Plan Projections
1980	118,800	N/A
1985	140,600	142,000*
1990	168,200	182,000*
1995	195,000	210,500
2000	217,900	240,300
2005	240,500	272,400
2010	No Projection	285,000
Ultimate Capacity	318,000**	285,000

\* The population in 1985, less than three years after the 1982 Plan's adoption, was 3,000 more people than the Plan's projections. In 1990 there were 16,000 more people than projected in the 1982 Plan.

\*\* While the 1982 Plan did not project beyond 2005, its population capacity, based on its proposed densities for undeveloped land, would have yielded a population of 318,000 or 33,000 people more than the 1990 General Plan.

Source: Howard County DPZ

Figure 8-17

## Policies and Actions

*Howard County, to plan for its future facilities and services, taking into consideration the growth management measures of this Plan, will:*

### 8.42 Projections

Develop official projections for population, households and employment as part of the Round IV Cooperative Forecasting Process of the Baltimore Regional Council of Governments. These official projections shall be adopted prior to the expiration of the Growth Management Act of 1989. Until these

projections are adopted, the forecasts shown in Figure 8-15 shall be used.

*Howard County, to ensure that residential growth will not exceed desirable levels of development and will not exceed planned roadway, school and water and sewage treatment capacity will:*

### 8.43 Adjustments to Development Activity

Develop a system of growth management techniques and a development monitoring system that will accommodate the growth projections set forth in this General Plan while also allowing for flexibility to respond to changing market conditions from year to year. These management and monitoring devices shall allow for peaks and valleys in the economy, thereby accommodating adjustments to development approval rates and commencement of construction activity in any given year. Such adjustments shall be made with the understanding that the overall residential development goal over a five year period shall be an average of 2,500 new housing units per year. If actual development or subdivision activity exceeds 1990 General Plan projections by more than 15% through July 1992, the County may propose specific legislation to correct the imbalance between actual development and/or subdivision activity and 1990 General Plan projections on which facility and service provision is based. The County Executive shall be responsible for preparing development monitoring reports identifying the amount, type and location of new development proposed, "pipeline" development processed, building permits issued and



building commenced. These monitoring reports shall include a comparison with the projections upon which the General Plan is based for the time period covered. Development monitoring reports shall be prepared annually and shall serve as the basis for a County Council determination of whether the ensuing year's total of new residential units shall be adjusted.

## The Year 2000 General Plan Policies Map

Based on the phasing considerations of this Chapter, it is possible to construct an intermediate version of the General Plan for the year 2000. This Map primarily reflects land use as well as environmental and transportation actions as they are envisaged within ten years. This is a component of the Policies Map 2000/2010.

### *Policies and Actions*

*Howard County, to guide its short-term growth, will:*

#### **8.44** *Year 2000 General Plan Policies Map*

Adopt as part of the General Plan, a year 2000 General Plan Policies Map, to be used in monitoring and guiding growth, development and conservation over the next ten years.

# Fiscal Impacts of the General Plan

## Summary of Analysis

As of 1990, Howard County had 66,700 households and 95,600 jobs. Current zoning has capacity for an additional 40,000 homes and 115,000 jobs, both without any phasing. This Plan, however, projects approximately 50,000 homes and 55,000 jobs phased in over the next 20 years. The annual average rate of growth is 2,500 homes and 2,750 jobs. These housing projections and growth rates reflect the effects of growth management and fluctuate over time as Figure 8-15 shows. The nature and rationale of the housing mix associated with residential growth are presented in the Chapter on *Balanced Growth*. What, then, are the fiscal implications of this Plan?

A key assumption underlying the fiscal analysis is that the existing levels of service for schools, roads, fire and police, libraries and the whole host of supporting functions and services that the County provides, will be maintained. The consultant report entitled *Service Level Cost and Revenue Assumptions* details how the costs of providing such services are assessed. Other important assumptions of the fiscal analysis are contained in the *Issue Paper: Development Trends and Their Fiscal Impacts* included in the Appendices. That analysis was developed around a range of alternative growth rates for housing and jobs. The analysis reported here is based on the actual growth rates projected in the General Plan and the actual additional facilities, such as road improvements and new schools, that result over time from implementing the Plan. It provides a more complete assessment of the County's fiscal future than was presented in the *Issue Paper*, which established the parameters of growth-related fiscal impacts.

The fiscal analysis for this Plan deals with the marginal costs of new growth only and not the County's overall fiscal balance. It assumes a maintenance of current levels of service and of the current tax rate.

The overall conclusion to be drawn from the fiscal analysis is that the fiscal effects of the growth projected in the Plan over a twenty year forecast period are modest when compared with the County's overall budget. This is similar to the conclusion derived from the earlier evaluation of various growth alternatives.

If the contribution to State road construction is excluded, the result over twenty years shows an annual average net income of under 2% of the fiscal year 1990 budget.

The addition of County contributions to State road costs changes this picture and reflects net costs throughout the forecast period ranging from 5% to 9% of the fiscal year 1990 budget. The amount of construction needed to keep State roads at their current good level of service is very extensive, as reflected in the relevant analysis, tables and costs in Chapter 5: *Balanced Growth*.

This fiscal analysis assumes that the County will, over a twenty-year time period, contribute about 1/3 of the costs of State road construction in Howard County. This contribution is assumed to be debt-financed and amounts to an annual average sum of approximately \$20 million. This is, of course, a very significant contribution and its purpose is to maintain the current relatively good levels of service on State roads. What this means is that the County would seek to accelerate the construction of specific roads that are expected to be built in the long term. If the County were willing to accept interim periods of greater congestion, it could reduce or eliminate its contribution and maintain a better fiscal balance.

It is important to note that these costs reflect the impact of new growth only. Clearly, developer contributions could help offset these deficits.

The fiscal analysis suggests that growth, in effect, pays for itself if State road costs are excluded. With State road contributions, modest net costs are incurred over most of the life of the Plan. These net costs could not be avoided by reducing growth because this would also reduce the total revenues. Accepting declines in levels of service which would reduce County expenditures or requiring developer contributions are alternatives to dealing with this issue.

---

**HOW THE SIX POINTS COMBINE**

---

## Chapter Nine

---

# HOW THE SIX POINTS COMBINE

---

## Introduction

The Actions and Policies sections of the previous six chapters and their Summary Maps are the essence of the 1990 General Plan. This chapter describes the three General Plan maps, which are a synthesis of these earlier products.

### 1. The Policies Map for 2000 and 2010

This Map presents those policies and actions that are geographically specific and can be mapped. It also represents a possible phasing scenario for the year 2000 and 2010 based upon current information on the status of planning for roads and development. Actual phasing will relate to the availability of services and infrastructure.

Those key land use and anticipated transportation improvements identified on a series of maps in Chapter 8: *Phased Growth* are also incorporated into this map.

The map best explains the key physical initiatives of the Plan. Some items cannot be specifically mapped but are part and parcel of the General Plan's policies. Thus, for example, the size of the acreage to be acquired for future parks and schools is shown schematically on the Map since the locations of these facilities is not yet known. Other actions such as those directed to providing low/moderate income housing or facilitating the provision of child care are simply not physical concepts and must be understood to accompany the Policies Map.

### 2. The Land Use Map for 2010

This Map is the traditional land use representation of the 2010 vision for the County. It does not differentiate between existing and future uses; rather, it shows the desired overall pattern of land uses including those already in place in 1990. It is intended to be a guide for future zoning actions, but it is not a zoning map meant to be literally implemented in the next comprehensive rezoning, nor is it as consciously parcel-specific as the 1982 General Plan Map. The chapter on *Phased Growth* clearly lays out the growth management concepts that are to guide implementation of the Land Use Map.

### 3. The Highways Map for 2010

The General Plan Policies Map shows major road improvements and transit corridors. The General Plan Highways Map presents the functional classifications of existing and future roads. It shows different levels of collector and arterial roadways and existing and proposed interchanges as well as existing and proposed Park-and-Ride lots.

# General Plan Policies Map for the Year 2000/2010

The Policies Map is a combination of the various summary maps which concluded each of the six central chapters of this document and provides the logic behind the General Plan Land Use Map. The Land Use Map does not, nor should it, distinguish between existing and proposed uses, or different levels of road improvement or "overlay" concepts such as the environmental district extension. The Land Use Map blends them into the overall fabric of the Plan. The Policies Map, on the other hand, highlights these kinds of initiatives and specific land uses, policies or concerns, some of which are translated into land use designations in the Land Use Map. The Policies Map uses symbols and generalized patterns to suggest its intentions; the Land Use Map is drawn in a more circumscribed and specific way so that Land Use areas and designations can be more accurately identified.

These two maps are equally important elements of this General Plan and should be viewed together. The Policies Map adds another active dimension to the Land Use Map and is inseparable from it. The various elements from the six points that appear on the Policies Map are as follows:

### Responsible Regionalism

- Reinforcement of the *Suburban Rural Demarcation Line*, which is coincident with the sewer and water service area boundary, and holds firm out to the year 2010.
- Creation of a mid-County *greenbelt* that connects our existing bounding regional park systems, incorporates existing protected lands, runs along stream valley corridors and brings the benefits of a major open space area close to eastern County residents.
- Identification of regional *transit* corridors.
- Limitations on the *Little Patuxent Wastewater Treatment Plant's expansion* to 22 MGD in recognition of Bay protection needs.

### Preserving the Rural West

- Delineation of a *rural residential area* along the central North-South corridor which is already largely developed as either one-acre or three-acre lots.
- Delineation of a *rural conservation area* in the majority of western Howard County where farming and open space is to predominate and only clustered housing is permitted.
- Identification of areas with *high potential for groundwater pollution* to be used as a guide in subdivision and planning for land uses in the West.
- Identification of a potential *employment site along the I-70 corridor*.

### Balanced Growth

- Identification of key *new areas for residential use* at medium or high densities to complement the County's employment growth and provide for low and moderate income housing needs.
- Identification of key *new mixed-use sites* to help reduce commuting needs and provide for urban environments of high design quality.
- Identification of key *new employment sites* which are well-located with respect to regional access.
- Identification of *major roads* to be improved.
- Sizing of *land to be acquired* for County facilities such as parks, schools, libraries, etc.

### Working with Nature

- Extension of a *residential/environmental type development district* along the fragile edges of the Patapsco and Patuxent Rivers and other environmentally sensitive areas.

- Extension of an *environmental preservation area* along the Patapsco west of MD 32 and southwards as part of the *greenway* plan down through Elkridge and of the Patuxent Preservation Area into North Laurel.

### Community Enhancement

- Delineation of local *communities and centers* as a basis for future area planning efforts.
- Identification of *historic sites* based on the partial 1989 inventory.
- Identification of corridors for long-term *redevelopment and urban design guidelines*.
- Definition of an enhanced land use and roadway concept for *downtown Columbia*.
- Identification of 1990 proposed BWI *noise zone*.

### Phased Growth

The product of this chapter is embodied in growth management techniques explained in the text.

This Map adjusts the Policies 2010 Map to the Year 2000 by distinguishing those major road improvements and land use initiatives that are projected to be in place sometime after the year 2000. (This includes both new roads as well as improvements of existing roads anticipated after 2000.) Land use areas in this post-2000 category are shown as Deferral Areas. This means that the uses permitted by current zoning in these areas are available to the land owner, but within limits, since it is the Plan's preferred policy that development be deferred on such lands until future improvements and services make the more desirable long-range uses possible. Deferral may be desirable for reasons other than purely roadway capacity such as a need for additional infrastructure or questions of environmental protection.

To achieve this deferral goal, the Master Plan for Water and Sewerage will be adjusted to show Deferral Areas in the

Comprehensive Service category, i.e., for service in ten years plus. Therefore, interim uses in these areas would be on septic systems.

The fact that only a limited number of key areas is shown for deferral does not imply that by the year 2000 all other uses shown on the map will be in place. Many of them will not be because of adequate facilities requirements, market factors, etc. In fact, the Plan's projections show a phasing of growth over the next 20 years with a significantly slower build-out over the next 10 years than has been experienced over the past 10 years.

Roads excluded from the Plan are primarily State roads whose construction or improvement will be based on a timetable that is partly already available out to the year 1996 in the State's Consolidated Transportation Plan (CTP). To the degree that the County or developers are able to accelerate road and other public improvement projects, it may be possible to advance the development of Deferred Areas and allow for interim uses permitted under the current zoning that will be complementary to projected long-range uses. In order to implement such an advancement, changes to both the General Plan and the Master Plan for Water and Sewerage will be required.

### General Plan Land Use Map

The Land Use Map presents a *generalized* pattern of uses. As such, it does not identify each parcel which has a different use from its neighbor. Typically, therefore, small isolated uses of five acres or less are not represented on the Map. This generalization of land uses does *not* affect the right of the owners of such small areas to use the land for its purpose as zoned at the time of this Plan's adoption. The General Plan is not, nor should it be, a detailed duplicate of a zoning map. Small-area land use decisions should appropriately be made at the scale of Community Plans and in subsequent zoning actions and maps.

A key next step in implementing this General Plan is the development of Community or Area Plans for smaller sections of the County. These mini-plans are the vehicle for in-depth analysis of small-area, parcel-specific issues.

## HOW THE SIX POINTS COMBINE

---

This General Plan incorporates by reference both the text and map of the Ellicott City Master Plan of 1981.

### Explanation of the Legend

#### Roads

Three generalized functional classes of roads are shown in the General Plan Land Use Map: freeways, arterials and collectors. These are defined and broken into further subcategories in the description of the General Plan Highways Map.

Information on the right-of-way and roadway standards for these roads may be found in the Howard County Design Manual (Volume 3). Those major roadways to be improved by 2010 are shown on the General Plan Policies Map. Both existing and future interchanges are shown on the Land Use Map. Existing and future grade separations (bridges) are not shown on the Land Use Map but on the Highways Map.

#### Rural Land Uses

Two such categories are applied in western Howard County:

*Rural Residential* encompasses areas where densities will typically range between one unit per two acres through five acres. This applies in those parts of the West where a large-lot suburban character will be the predominant land use pattern. Its zoning classification will be like the 1989 "R" zone. It will also permit clustering under specified circumstances.

*Rural Conservation* encompasses areas where densities of new development will be at one unit per five acres net, where housing will be required to cluster, and where extensive open space will be preserved in perpetuity. Some developments on three-acre or one-acre lots as of 1989 are included in this designation. Farming will remain the dominant land use and activity in these areas. A new zoning

classification will be developed to address this land use concept.

#### Urban Residential Land Uses

The General Plan land use intensities do not represent zoning categories. They do not relate directly to the type of units, setbacks, and bulk regulations in these areas, which are the function of zoning regulations. Three intensities of urban residential uses are shown on the map:

*Low Density* encompasses areas with densities ranging from about 1.5 units per acre up to 3 units per acre. In terms of 1989 zoning categories it incorporates the R-20, R-ED, R-12 and PGCC1 zones. In terms of New Town categories, it is equal to the Single-Family--Low Density designated areas.

*Medium Density* encompasses areas with densities ranging from about 3.1 up to 5.9 units per acre. In 1989 zoning categories, it includes the R-SC and PGCC2 zones. In terms of New Town categories it is equal to Single-Family--Medium Density designated areas.

*High Density* encompasses areas where densities are 6.0 dwelling units per acre and higher. In 1989 zoning categories, this would include the R-MH, R-SA-8, R-A-15 and PGCC3 zones. In New Town terms, it incorporates the "Apartments" designated areas.

The residential land use areas on the Land Use map must be viewed together with the Policies Map which adds additional land use considerations to the residential categories such as environmental overlays, greenbelts, etc.

### Mixed-Use Category

This is a category which includes employment, medium or high density residential and some commercial land uses. It has no direct counterpart in 1989 zoning categories; perhaps the PGCC zone comes closest to representing its variety of uses. A new zoning classification will be developed to implement this land use concept. A mixed use designation on the Map does not prescribe particular proportions for each of these uses, but rather indicates that some amount of each use is to be present in the area. Several areas that presently match this description are delineated on the map, including downtown Columbia, downtown Ellicott City, and the mixed-use area east of US 29 and between I-70 and US 40.

### Employment Uses

Three different kinds of employment uses are shown:

*Employment - Commercial* includes areas where retail and service-type commercial uses will be dominant. In terms of 1989 zoning categories, it incorporates B-1, B-2 and SC zones.

*Employment - Office* includes areas where offices will be the primary land use even though other functions may be present such as storage and small-scale commercial services. The 1989 zoning categories of POR and PEC are incorporated in these areas, as are existing M-1 and M-2 areas which are primarily office uses. Similarly, New Town employment areas dominated by office uses are included in this category.

*Employment - Industrial* includes areas where manufacturing, warehousing, and trucking facilities will be the dominant uses. It incorporates the 1989 zoning categories of M-1 and M-2 (except where these are included in the Employment - Office category) and those New Town employment areas that correspond with these uses.

### Environmental Protection

*Environmental Protection* is an open space category where only open-space related development can occur. This category includes State and County owned parks and Columbia Association open space. It is a generalized depiction of such open space and only significant elements of the open space network are shown; smaller, discontinuous parcels are omitted. It also includes cemeteries. It does not represent any specific zoning district.

### Preservation Area

*Preservation Area* incorporates sensitive environments along stream valleys. This includes floodplain, wetlands and steep slopes. The map shows a generalized depiction of such factors. Development is not necessarily prohibited in these areas but is subject to State and County environmental regulations. It does not represent any specific zoning district.

### Institutional

*Institutional* designations include County schools, and County and State institutional uses such as prisons and research centers. Private, for-profit institutions are typically shown as employment or other uses rather than institutional.

## General Plan Highways Map

Whereas the Land Use Map showed three classes of roads, this map further subdivides the road system into seven categories. This is the official Highways Map and its more detailed classifications supersede those of the Land Use Map.

Functional classification does not deal directly with either number of lanes or right-of-way. It deals with the *function* of the roadway and addresses the degree the road serves to provide local access to abutting properties versus longer distance trips connecting more distant destinations by higher level roadways. Thus, for example, an existing quarter-mile stretch of roadway that may be



## HOW THE SIX POINTS COMBINE

---

four lanes within a wide right-of-way but really only serves as the entranceway to a large residential subdivision would be shown as a local road on the map; conversely, a two-lane rural road that runs continuously for several miles and serves to connect several areas together, ties into other important roadways and is the most direct means of travel between other highways would probably be shown as a major collector road. No State road has a classification under that of a minor arterial.

A more formal definition of the classification scheme follows:

### Principal Arterial Highway (Freeway)

- Provides for efficient and uninterrupted travel between or across states and large metropolitan areas. The trips comprising these travel patterns serve land uses that are usually widely separated by time or distance.
- Provides uninterrupted flow of travel through elimination of intersections, signals and stop signs, and through the strict control and limitation of ingress and egress except at interchanges with other arterials.
- Principal arterials include most interstate-designated routes.

### Intermediate Arterial (Multi-Lane Divided or Undivided Highway)

- Provides access to principal arterial highways.
- Provides efficient but not free or uninterrupted flow between major streets in highly developed areas through the limitation of the type and number of access points from adjacent land uses.
- Provides major traffic movements to major generators of regional and area interest such as town centers, industrial complexes and large employment centers.

- Distributes large volumes of trips to and between freeways or other principal arterials emanating from lesser classified arterials and major collectors.
- Provides routes for mass transit system to communities within the County.
- Basic trip length generally exceeds ten miles.

### Minor Arterial

- Provides interconnection between principal and intermediate arterials.
- Provides a lower level of travel mobility than intermediate arterials to major towns and communities.
- Provides routes for mass transit system to communities within the County.
- Provides a primary access to or through communities of high density residential, commercial, retail or industrial land areas.
- Provides access to abutting commercial, residential and industrial properties at predetermined locations.
- Basic trip length generally exceeds five miles.

### Major Collector

- Provides a primary access to an arterial road for one or more neighborhoods.
- Distributes residentially-based trips to or from arterials.
- Provides a limited amount of travel through neighborhoods which originates and terminates externally.

- Provides direct connections to local roads and minor collectors.
- Provides collection and distribution routes for mass transit system.
- Basic trip length generally exceeds three miles.

### Minor Collector

- Provides direct access to local roads and direct access to abutting properties.
- Allows internal distribution of trips within a neighborhood or part of a neighborhood.
- Connects local roads to one or more major collectors.
- Carries a limited amount of through traffic, primarily local in nature.

### Local Road

- Comprises all roads or residential streets not classified as an arterial or collector.
- Provides direct access to abutting land uses and higher order roadway classes except freeways.
- Offers the lowest level of mobility of all roadway classifications and usually contains no bus routes.
- Discourages through traffic movement.

Corridors proposed for transit service by 2010 are shown on the Policies Map. Transit modes (such as bus, HOV and bus lanes, light rail, etc.) in these corridors will evolve over the next 20 years and are not specified on the maps. Existing and future interchanges, bridges, and park-and-ride sites are identified on the Highways Map.

---

**NEXT KEY STEPS**

---

## Chapter Ten

---

# NEXT KEY STEPS

---

The General Plan is a blueprint for Howard County over the next 20 years. Once the General Plan is adopted, steps must be taken to make it work. Some of these steps can be taken 5 or 7 or 10 years from now. Others are more immediate and need to be initiated in the next 2 years. Some measures must be completed before the March 1991 expiration of the Growth Management Act of 1989. Still others need to be put in motion as soon as this Plan is adopted.

The key steps are those which must be undertaken in the next 2 years. Many of these steps involve changes to law and to regulations; others require administrative action by the Howard County Government; and a considerable number require interaction between the Howard County Government and other agencies -- the State of Maryland, the Board of Education, the Community College, the Columbia Association.

For the convenience of the reader, these steps have been organized and listed in the following ways:

- In relationship to the 6 Points of the Plan -- Responsible Regionalism, Preservation of the Rural West, Balanced Growth, Working With Nature, Community Enhancement, and Phased Growth
- In relationship to the major Elements of the Plan -- Environmental Protection, Parklands, Education, Economic Development, Transportation, Housing, Land Use, Public Facilities, Water/Sewer, Human Services, Culture and the Arts, and Managed Growth.
- Steps that require legislative or zoning action and the Howard County laws and regulations that will be changed as a result of taking these steps.

### KEY STEPS ORGANIZED IN RELATIONSHIP TO THE SIX POINTS OF THE GENERAL PLAN

#### *Point One*

#### **RESPONSIBLE REGIONALISM**

##### *Transportation*

- Pursue extension of the MARC commuter rail line to Columbia.
- Pursue widening of I-70.

##### *Agriculture*

- Adopt new zoning regulations which require cluster zoning in the West.

##### *Environment*

- Establish a Mid-County Greenbelt.
- Urge extension of Patapsco State Park along the south branch of the Patapsco River into Elkridge.
- Urge extension of protected lands along the Patuxent River into North Laurel.

#### *Point Two*

#### **PRESERVATION OF THE RURAL WEST**

##### *Land Use*

- Adopt new zoning regulations which require or permit:  
Cluster zoning in the West.  
Standards and design for clustering.  
An overlay zone providing density exchange options.  
New rural commercial zone.

##### *The Rural Environment*

- Review roads in the West; designate candidate scenic roads and introduce scenic roads legislation.

##### *Transportation*

- Identify and help fund the creation of park-and-ride lots.

##### *Economic Development*

- Pursue additional sources of funding for Agricultural Land Preservation Program.

#### *Point Three*

#### **BALANCED GROWTH**

##### *Land Use*

- Revise off-street parking and loading regulations.

##### *Transportation*

- Pursue road improvements as shown on the Highway Map and as listed in the Plan.
- Promote and encourage the development and expansion of both local and inter-county transit operations.
- Within two years of the adoption of the General Plan, develop, and begin implementation of, a comprehensive, intra-county public transportation plan which integrates the existing para-transit system, the existing fixed-route system, and appropriate connections to MTA and MARC service in the County.

### *Housing*

- Adopt zoning regulations which require or permit:  
Inclusion of low and moderate income housing in attached and multi-family developments or a payment in lieu of such inclusion.  
Two-family and accessory units.
- Adopt zoning regulations with flexibility to encourage production of low and moderate income housing.
- Encourage the provision of employer-assisted housing.
- Acquire land for low and moderate income housing.
- Encourage housing for the elderly and handicapped.

### *Schools and Education*

- Encourage the Board of Education to:  
Acquire sites needed for the next 20 years before 1995.  
Increase the size of school sites so they can be used for community recreation needs.  
Explore possibility of increasing school size to maximize long-term flexibility.  
Locate schools for community focus and for potential re-use.
- Exchange inappropriate land designated for schools for more appropriate land owned by the County.
- Adopt growth management mechanisms to reduce the effect of growth on school overcapacity.

### *Economic Development*

- Adopt zoning regulations which require or permit mixed-use development.

### *Libraries*

- Re-work the physical setting and use of the Central Library for better access and civic focus.
- Locate future libraries as part of community focus.

### *Police Protection; Fire and Rescue Services*

- Plan for future needs based on 1990 consultant's study of existing and future police and fire levels of service.
- Begin construction of joint southeastern Police and Fire Station.
- Acquire land for Police and Fire Training Center.

### *Recreation Facilities*

- Update the recreation use and analysis data base and use it as the basis for selecting sites for recreational facilities.
- Acquire easements within stream valleys to create greenways.
- Identify and acquire sites needed for active and passive recreational needs. Explore possibilities of private management of recreation areas.
- Revise subdivision regulations to:  
Improve the quality of dedicated open space for recreational use.  
Require developers to provide adequate recreation areas.

### *Human Services*

- Prepare and publish a Human Services Needs Assessment.

## NEXT KEY STEPS

---

### *Point Four* **WORKING WITH NATURE**

#### *Streams and Rivers*

- Coordinate planning to provide for greenways along stream valleys.
- Study streams and watersheds for water quality in coordination with the State Department of Natural Resources and Department of the Environment.

#### *Woodlands*

- Establish a tree preservation program including setting standards.
- Revise law in order to prohibit clearing of existing vegetation without review and permit.

#### *Open space in the West*

- Establish a Mid-County Greenbelt.
- Work with State and Carroll County to establish a Patapsco Greenbelt.
- Focus on creating large contiguous protected areas.

#### *Open space in the East*

- Conduct an "environmental index analysis" of individual communities.
- Expand the extent and scope of environmental zoning.
- Encourage the use of environmental zoning.
- Use performance standards to regulate the environmental effects of development.
- Designate candidate scenic roads and introduce scenic roads legislation.

### *Point Five* **COMMUNITY ENHANCEMENT**

#### *Downtown Columbia*

- Encourage planning for downtown Columbia which provides:  
More downtown residential uses.  
Modifications to road and pedestrian network for improved vehicle and pedestrian movement.

#### *Public Transit*

- Review new developments for their ability to accommodate transit.
- Include planning for transit in existing and future centers.
- Encourage and promote the development and expansion of local transit.

#### *Public Facilities*

- Establish standards for public service facilities based on access times and size of population served.
- Locate and design public buildings to stress their civic role.

#### *Enhancement of Existing Residential Neighborhoods*

- Work with Board of Education to locate schools as part of larger community centers.

#### *Historic Preservation*

- Update the official inventory of historic resources.
- Establish a comprehensive, County-wide historic preservation program which encourages the preservation of historic resources.

***Culture & the Arts***

- Support the Arts Council with local governmental contributions.

***Community Planning***

- Prepare a detailed analysis of overall community conditions and prepare community plans.
- Involve the public in community planning.

***Point Six***

***PHASED GROWTH***

***Roads, schools, water/sewer.***

- Initiate an adequate public facilities law which requires that certain levels of road capacity, school capacity, and water/sewer capacity will be available concurrent with additional development.

***Capital Improvements Program***

- Give top priority to projects within a program for correcting existing deficiencies.
- Give priority to land acquisition.
- Complete planned projects.

***Water and Sewer***

- Designate certain areas of the Metropolitan District for Comprehensive Service (10 - 30 years) based on General Plan phasing considerations.

***Authority of the General Plan***

- Revise other laws and regulations to provide consistency with the General Plan.

***Future Growth Projections***

- Develop and adopt official future growth forecasts.

***Development Monitoring System***

- Develop a system of growth management techniques and a Development Monitoring System that will accommodate the growth projections set forth in this General Plan while also allowing for flexibility to respond to changing market conditions from year to year.



### KEY STEPS ORGANIZED IN RELATIONSHIP TO THE MAJOR ELEMENTS OF THE GENERAL PLAN

#### *ENVIRONMENTAL PROTECTION*

- Establish a Mid-County Greenbelt.
- Urge extension of Patapsco State Park along the south branch of the Patapsco River into Elkridge.
- Urge extension of protected lands along the Patuxent River into North Laurel.
- Review roads in the West; designate scenic routes and establish guidelines for their protection.
- Coordinate planning to provide for greenways along stream valleys.
- Study streams and watersheds for water quality.
- Focus on creating large contiguous protected areas.
- Establish a tree preservation program including setting standards.
- Revise law in order to prohibit clearing of existing vegetation without review and permit.
- Conduct an "environmental index analysis" of individual communities.
- Broaden the scope and use of environmental zoning.
- Use performance standards to regulate the environmental effects of development.
- Pursue additional sources of funding for Agricultural Land Preservation Program.

#### *PARKLAND*

- Update the recreation use and analysis data base and use it as the basis for selecting sites for recreational facilities.

- Revise subdivision regulations to:
  - Improve the quality of dedicated open space for recreational use.
  - Require developers to provide adequate recreation areas.
- Acquire easements within stream valleys to create greenways.
- Identify and acquire sites needed for active and passive recreational needs.
- Explore possibilities of private management of recreation areas.

#### *EDUCATION*

- Initiate an adequate public facilities law which requires that certain levels of school capacity will be available concurrent with additional development.
- Encourage the Board of Education to:
  - Acquire sites needed for the next 20 years before 1995.
  - Increase the size of school sites so they can be used for community recreation needs.
  - Explore possibility of increasing school size to maximize long-term flexibility.
  - Locate schools for community focus and for potential re-use.
  - Exchange inappropriate land designated for schools for more appropriate land owned by the County.

#### *ECONOMIC DEVELOPMENT*

- Adopt zoning regulations which require or permit mixed-use development.
- Pursue road improvements as shown on the Transportation Map and listed in the Plan.

- Provide financial incentives to State Highway Administration to accelerate building and improvement of State roads in Howard County.
- Include planning for transit in existing and future centers.
- Adopt zoning regulations which require or permit inclusion of low and moderate income housing in attached and multi-family developments or a payment in lieu of such inclusion.

### **TRANSPORTATION**

- Initiate an adequate public facilities law which requires that certain levels of road capacity will be available concurrent with additional development.
- Pursue road improvements as shown on the Highway Map and listed in the Plan.
- Pursue extension of the MARC commuter rail line to Columbia.
- Pursue widening of I-70.
- Identify and help fund the creation of park-and-ride lots.
- Support increased funding for State highways in Howard County and consider providing financial incentives, if necessary, to State Highway Administration to accelerate building and improvements of State roads in Howard County.
- Review new developments for their ability to accommodate transit.
- Include planning for transit in existing and future centers.
- Encourage and promote the development and expansion of local transit options.
- Within two years of the adoption of the General Plan, develop a comprehensive, intra-county public transportation plan which integrates the existing para-transit system, the existing fixed-route system, and appropriate connection to MTA and MARC service in the County.

### **HOUSING**

- Adopt zoning regulations with flexibility to encourage production of low and moderate income housing.
- Adopt zoning regulations which require or permit:
  - Inclusion of low and moderate income housing in attached and multi-family developments or a payment in lieu of such inclusion.
  - Two-family and accessory units.
- Encourage the provision of employer-assisted housing.
- Encourage housing for the elderly and handicapped.

### **LAND USE**

- Adopt new zoning regulations which require or permit:
  - Cluster zoning in the West.
  - Standards and design for clustering.
  - An overlay zone providing density exchange options.
  - New rural commercial zone.
- Revise off-street parking and loading regulations.
- Adopt zoning regulations which require or permit mixed-use development.
- Encourage planning for downtown Columbia which provides:
  - More downtown residential uses.
  - Modifications to road and pedestrian network for improved vehicle and pedestrian access.
- Update the official inventory of historic resources.
- Establish a comprehensive, County-wide historic preservation program which encourages the preservation of historic resources.

## NEXT KEY STEPS

---

### ***PUBLIC FACILITIES***

- Establish standards for public service facilities based on access times and size of population served.
- Locate and design public buildings to stress their civic role.
- Give top priority to capital projects which correct existing deficiencies.
- Give priority to land acquisition for public facilities including landbanking for schools, parks, and low/moderate income housing.
- Complete planned projects.

#### ***Libraries***

- Re-work the physical setting and use of the Central Library for better access and civic focus. Locate future libraries as part of community focus.

#### ***Police Protection; Fire and Rescue Services***

- Plan for future needs based on 1990 consultant's study of existing and future police and fire levels of service.
- Begin construction of joint southeastern Police and Fire Station.
- Acquire land for Police and Fire Training Center.

#### ***Community Planning***

- Prepare a detailed analysis of overall community conditions and prepare community plans.
- Involve the public in community planning.

#### ***Water/Sewer***

- Initiate an adequate public facilities law which requires that certain levels of road capacity, school capacity, and water/sewer capacity will be available concurrent with additional development. Designate certain areas of the Metropolitan District for Comprehensive Service (10 - 30 years) based on General Plan phasing considerations.

### ***HUMAN SERVICES***

- Prepare and publish a Human Services Needs Assessment.

### ***CULTURE & THE ARTS***

- Support the Arts Council with local governmental contributions and consider the recommendations of the Zeigler Report on an arts/cultural assessment needs study.

### ***MANAGED GROWTH***

- Initiate an adequate public facilities law which requires that certain levels of road capacity, school capacity, and water/sewer capacity will be available concurrent with additional development.
- Designate certain areas of the Metropolitan District for Comprehensive Service (10 - 30 years) based on General Plan phasing considerations.
- Revise other laws and regulations to provide consistency with the General Plan.
- Develop and adopt official future growth forecasts.
- Develop a system of growth management techniques and a Development Monitoring System that will accommodate the growth projections set forth in this General Plan while also allowing for flexibility to respond to changing market conditions from year to year.

**KEY STEPS REQUIRING CHANGES TO HOWARD COUNTY  
LAWS OR REGULATIONS**

<i>Key Step</i>	<i>Action Required</i>	<i>Key Step</i>	<i>Action Required</i>
Require that certain levels of road capacity, school capacity and water/sewer capacity will be available concurrent with additional development.	Adequate Public Facilities Ordinance.	Update recreational use and analysis data base.	Amendment to Land Preservation and Recreation Plan
Establish tree preservation program and standards.	Tree Preservation Ordinance	Establish a Mid-County Greenbelt. Cluster zoning in the West. Standards & design for clustering. Overlay zone providing density exchange options. Rural commercial zone. Provide flexibility to encourage production of low/moderate income housing. Permit two-family and accessory dwelling units. Broaden extent and scope of environmental zoning. Provide consistency with General Plan.	Amendments to Zoning Regulations
Designate scenic roads and provide standards for their preservation.	Scenic Roads Ordinance	Re-work physical setting of Central Library.	Revisions to Preliminary Development Plan for Columbia
Prohibit clearing of existing vegetation without review and permit.	Land Clearing Ordinance	Require new developments to accommodate transit. Improve quality of dedicated open space; require developers to provide adequate recreation areas.	Amendments to Subdivision Regulations.

## NEXT KEY STEPS

---

<i>Key Step</i>	<i>Action Required</i>
Establish a comprehensive, County-wide historic preservation program.	Historic Preservation Ordinance
Update official inventory of historic resources.	Resolution of Council
Provide limits if actual development significantly outpaces official forecasts.	Growth Management Ordinance
Require inclusion of low and moderate income housing in developments or a payment in lieu of inclusion.	Housing Ordinance

---

---

**BIBLIOGRAPHY**

---

---

# BIBLIOGRAPHY

---

*Documents which appear in the appendix volume of the 1990 General Plan are denoted with an \*.*

- Anderson, J. (1989). *A Howard County opinion survey*. Ellicott City, MD: Howard County Department of Planning & Zoning.\*
- Assistance in Developing Educational Systems. (1981). *School facilities long range development plan*. Alexandria, VA: Author.
- Baltimore Regional Council of Governments. (1989). *Annual development report for 1988*. Baltimore, MD: Author.
- Baltimore Regional Council of Governments. (1989). *Changing market opportunities in the Baltimore region*. Baltimore, MD: Author.
- Baltimore Regional Council of Governments. (1989). *Growth by sector (draft)*. Baltimore, MD: Author.
- Baltimore Regional Council of Governments. (1989). *Growth in jobs (draft)*. Baltimore, MD: Author.
- Baltimore Regional Council of Governments. (1989). *Job housing balance (draft)*. Baltimore, MD: Author.
- Baltimore Regional Council of Governments. (1989). *Journey to work and labor force availability*. Baltimore, MD: Author.
- Baltimore Regional Council of Governments. (1989). *Median and average sale prices of single family dwellings, FY 1988*. Baltimore, MD: Author.
- Baltimore Regional Council of Governments. (1989). *Regional economic outlook to 1995*. Baltimore, MD: Author.
- Baltimore Regional Council of Governments. (1989). *The roads more travelled*. Baltimore, MD: Author.
- Baltimore Regional Council of Governments. (1989). *Total housing stock by structure (draft)*. Baltimore, MD: Author.
- Baltimore Regional Council of Governments. (1988). *Economic indicators for the Baltimore region, 1988/1989*. Baltimore, MD: Author.
- Baltimore Regional Council of Governments. (1988). *Economic outlook to 1992*. Baltimore, MD: Author.
- Bobo, E., Howard County Executive. (1989). *Housing actions* (Press release no. 89-12). Ellicott City, MD: Howard County Public Information Office.
- Boyd, C. & Mennitto, D. (1989). *Growth and development in Howard County*. Ellicott City, MD: Howard County Department of Planning & Zoning.\*
- Boyd, C. & Pickar, B. (1989). *Development trends and budget constraints*. Ellicott City, MD: Howard County Department of Planning & Zoning.\*

## BIBLIOGRAPHY

---

- Bureau of the Census. (1989). *1987 census of agriculture, volume 1, geographic area series part 20: Maryland state and county data* (Publication no. AC87-A-20). Washington, DC: U.S. Department of Commerce.
- Feinstein, R. (1989). *Development trends and their fiscal impacts*. Ellicott City, MD: Howard County Department of Planning & Zoning.\*
- Geomatrix, Inc.(1990). *Evaluation of groundwater pollution potential in the western part of Howard County using the DRASTIC system*. Beltsville, MD: Author.\*
- The Governor's Commission on Growth in the Chesapeake Bay Region. (1988). *Population growth and development in the Chesapeake Bay watershed to the year 2000*. Baltimore, MD: Maryland Office of Planning.
- Graham, C. (1989). *Development trends and school impacts*. Ellicott City, MD: Howard County Department of Planning & Zoning.\*
- Graham, C. (1989). [Schools: Additional data needs]. Unpublished Howard County Department of Planning and Zoning memorandum.
- Hickey, H., Milke, J. & Watts, J. (1982). *Fire protection and emergency medical system master plan*. Ellicott City, MD: Howard County Department of Fire and Rescue Services.
- Howard County Board of Education. (1989). *Policy no. 1611: School site selection and acquisition*. Ellicott City, MD: Author.
- Howard County Department of Education. (1989). *Pupil yields by housing type, 1989*. Ellicott City, MD: Author.
- Howard County Department of Planning and Zoning. (1990). *County traffic counts*. Unpublished data.
- Howard County Department of Planning and Zoning. (1990). *Estimating future roadway costs*. Unpublished memorandum to Tischler and Associates, Inc.
- Howard County Department of Planning & Zoning. (1990). [Land use projections for households, population and employment by subarea-round IIIa, Trends (2000, 3000 & 4000 du/yr) and General Plan]. Unpublished data.
- Howard County Department of Planning & Zoning. (1989). *Guidelines for the 1990 General Plan*. Ellicott City, MD: Author.\*
- Howard County Department of Planning & Zoning. (1989). *Land use choices for the future: General Plan scenarios*. Ellicott City, MD: Author.\*
- Howard County Department of Planning and Zoning. (1988). *Generalized geometrics of Howard County two-lane roads from level of service survey*. Unpublished memorandum.
- Howard County Department of Planning and Zoning. (1988). *Howard County pm peak roadway link level of service*. Unpublished memorandum.
- Howard County Department of Planning and Zoning. (1988). *Level of service worksheets: Freeway and arterial*. Unpublished raw data.
- Howard County Department of Planning and Zoning. (1981). *Ellicott City master plan: Land use and major roads*. Ellicott City, MD: Author.
- Howard County Department of Planning and Zoning & Tischler & Associates, Inc. (1990). *Fiscal impacts of the proposed 1990 General Plan*. Ellicott City, MD: Howard County Department of Planning and Zoning.
- Howard County Department of Public Works. (1988). *County traffic counts*. Ellicott City, MD: Author.
- Howard County Department of Public Works. (1988). [Estimate of value for capital project development]. Unpublished memorandum.



- Howard County Department of Public Works. (1989). *Master plan for water and sewerage*. Ellicott City, MD: Author.
- Howard County Department of Public Works. (1987). *Solid waste management Plan*. Ellicott City, MD: Author.
- Howard County Department of Recreation and Parks. (1988). *Howard County land preservation and recreation plan*. Ellicott City, MD: Author.
- Howard County Public School System. (1989). *Boundary line adjustments: staff recommendations & maps*. Ellicott City, MD: Author.
- Howard County Public School System. (1989). *FY90 operating cost of new schools*. Ellicott City, MD: Author.
- Howard County Public School System. (1989). *1990 General Plan: school facility needs*. Ellicott City, MD: Author.
- Howard County Public School System. (1989). *School year 1989-1990: Monthly enrollment reports*. Ellicott City, MD: Author.
- Howard County Public School System. (1989). *Superintendent's proposal, capital budget FY 1991*. Ellicott City, MD: Author.
- Howard County Public School System. (1989). *Toward the year 2000: Operating plan* (working document). Ellicott City, MD: Author.
- Howard County Public School System. (1988). *Detailed operating and capital budget 1990*. Ellicott City, MD: Author.
- Howard County Public School System. (1988). *Summary, board of education, FY 1990*. Ellicott City, MD: Author.
- Howard County Public School System. (1987). *Detailed operating and capital budget FY 1989*. Ellicott City, MD: Author.
- Howard County Public School System. (1987). *Toward the year 2000: Strategic plan*. Ellicott City, MD: Author.
- Kelley, J. & Mennitto, D. (1989). *Agriculture in Howard County*. Ellicott City, MD: Howard County Department of Planning & Zoning.\*
- Legg Mason Information Services. (1989). *Howard County rental market survey*. Baltimore, MD: Author.
- Leitner, M. L. (1989, October). [Growth management techniques]. Unpublished report prepared for the Howard County Department of Planning & Zoning by Freilich, Leitner, Carlisle & Shortlidge Legal Consultants.
- Leitner, M. L. (1989, March). *Interim development ordinance (IDO) versus Adequate public facilities ordinance (APFO)*. Unpublished memorandum to Uri P. Avin, Director, Howard County Department of Planning & Zoning from Freilich, Leitner, Carlisle & Shortlidge Legal Consultants.
- Leitner, M. L. (1989, February). *Development agreements*. Unpublished memorandum to Uri P. Avin, Director, Howard County Department of Planning & Zoning from Freilich, Leitner, Carlisle & Shortlidge Legal Consultants.
- Leitner, M. L. (1989, February). *Present suitability of Howard County land use regulation for growth management*. Unpublished memorandum to Uri P. Avin, Director, Howard County Department of Planning & Zoning from Freilich, Leitner, Carlisle & Shortlidge Legal Consultants.
- Maryland Department of State Planning. (1986). *Employment and labor force in Maryland, trends and projections, 1967-2005*. Baltimore, MD: Author.
- Maryland Department of State Planning. (1981). *Maryland population and housing data: state, regional, and county trends through 1980*. Baltimore, MD: Author.

## BIBLIOGRAPHY

---

- Maryland Department of State Planning. (1981). *Maryland population data: State, county, minor civil division and municipal trends through 1980*. Baltimore, MD: Author.
- Maryland Department of State Planning. (1971). *Maryland population and housing statistics.: 1970 census*. Baltimore, MD: Author.
- Maryland Higher Education Commission. (1988). *Enrollment by place of residence in Maryland, institutions of higher education, fall 1988*. Annapolis, MD: Author.
- Maryland Interagency Committee on School construction (1989). *Rules, regulations and procedures for the administration of the school construction program (as revised 1989)*. Baltimore, MD: Author.
- Maryland Office of Planning. (1989). *Public school enrollment projections 1989-1990*. Baltimore, MD: Author.
- Maryland State Department of Education. (1989a). *Selected financial data, Maryland public schools, 1987-1988, part 1: Revenue, wealth and effort*. Baltimore, MD: Author.
- Maryland State Department of Education. (1989b). *Selected financial data, Maryland public schools, 1987-1988, part 2: Expenditures*. Baltimore, MD: Author.
- Maryland State Department of Education. (1989c). *Selected financial data, Maryland public schools, 1987-1988, part 3: Analysis of costs*. Baltimore, MD: Author.
- Maryland State Department of Education. (1988). *Statistics on enrollment and number of schools public and non-public*. Baltimore, MD: Author.
- Maryland State Highway Administration. (1988). *Turning movement traffic counts*. Baltimore, MD: Author.
- Mennitto, D. & Saltzman, H. (1989). *Development trends and sewer, water, and solid waste impacts*. Ellicott City, MD: Howard County Department of Planning & Zoning.\*
- Metropolitan Washington Council of Governments. (1989). *Employer-assisted housing: Policy options to lessen growth impacts on affordable housing*. Washington, DC: Author.
- Morton Hoffman and Company, Inc. (1990). *Housing conditions study: Physical conditions; demographic and socioeconomic characteristics, housing demand and need (draft)*. Baltimore, MD: Author.
- Pickar, B. (1989). *Development trends and traffic impacts*. Ellicott City, MD: Howard County Department of Planning & Zoning.\*
- Prince George's County Planning Department. (1989). *Statistical reference: Prince George's County*. Upper Marlboro, MD: Prince George's County Regional Office, Maryland-National Capital Park and Planning Commission.
- Regional Planning Council. (1983). *Census '80, education report for regional planning districts*. Baltimore, MD: Author.
- Rogers, J. (1989). [Housing for very low-income Marylanders]. Unpublished letter from the Maryland Department of Housing and Community Development to Howard County Executive Elizabeth Bobo.
- Saul, Ewing, Remick & Saul. (1989). *Housing lease purchase with no down payment*. (Available from Saul, Ewing, Remick & Saul, 3800 Centre Square West, Philadelphia, PA 19102.)
- Salisbury, L. (1989, June 29). What people really think about growth. *Howard County Times*, pp. 8-11.
- Tischler & Associates, Inc. (1990). *Service level, cost and revenue assumptions: Evaluation of development concepts, Howard County, Maryland*. Bethesda, MD: Author.
- Transportation Research Board. (1985). *Highway capacity manual (special report 209)*. Washington, DC: National Research Council.

Urquhart & Associates. (1989). *An analysis of general values of new real estate development in Howard County, Maryland*. Unpublished memorandum to Tischler & Associates, Inc.

U.S. Department of Housing and Urban Development, Economic and Market Analysis Section. (1989). *An economic profile of the Washington metropolitan area*. Washington, DC: U.S. Government Printing Office.



**INDEX**



# INDEX

1982 General Plan .....	15, 66, 126, 218, 224, 229, 265, 271
1985 Household Survey .....	132
2020 Report .....	13, 12, 17, 20, 33, 48, 159, 160, 188
Adequate Public Facilities Ordinance (APFO) .....	2, 6, 115, 229, 238-241, 247, 252-254, 257, 258, 264, 288, 289
Adult day care .....	149, 150
Affordable Housing ....	1, 24, 40, 48, 77, 85, 100, 103, 110, 111, 178, 183
Agricultural Land Preservation .....	25, 37, 38, 42, 44, 45, 61, 261, 281, 285
Agricultural Easements .....	172
Agriculture .....	1, 2, 9, 13, 25, 38, 40, 72, 160, 164, 281
AIDS .....	152
Airport .....	20, 21, 23, 100
Airport Noise .....	20, 21, 23
Anne Arundel County .....	20, 27, 53, 57, 68-70, 76, 123, 186, 256, 257
Arts .....	143, 220, 221, 280, 284, 288
Assisted housing .....	104, 106, 108, 109, 111, 112, 282, 287
Baltimore City .....	27, 123, 256, 257, 264
Baltimore County .	9, 12, 34, 76, 91, 95, 121, 123, 133, 256, 257
Baltimore region ..	12, 23, 67, 70, 87, 91, 105, 120, 122, 246, 264
Baltimore Regional Council of Governments (BRCOG) .	18, 19, 23, 67-70, 72, 222, 234, 246, 264, 266
Best management practices .....	164, 165
Bikeway .....	102, 238
Birthrate .....	247
Board of Education .....	114, 115, 119, 120, 122, 124, 202, 218, 221, 233, 247, 249, 262, 280, 282, 284, 286
Building permits .....	34, 229, 233, 258, 266
Capital budget .....	2, 19, 115, 119-121, 123, 231-233, 238, 246, 248, 258, 261, 262
Capital Improvements Program .....	115, 119, 120, 123, 241, 246, 248, 261, 262, 285
Carpooling .....	98
Carroll County .....	15, 19, 25, 27, 29, 40, 49, 57, 76, 123, 132, 172, 260, 283
Chesapeake Bay .....	12, 33, 48, 65, 159, 256
Chesapeake Bay Agreement .....	12, 159
Child care .....	149, 151, 271
Citizen Services .....	148, 202
Clarksville .....	89, 91
Cluster design .....	44
Clustering .....	1, 2, 38, 42-47, 50, 56, 59, 65, 167, 171, 178, 179, 205, 212, 274, 281, 287, 289
Columbia ..	9, 12, 15, 18, 23, 29, 77, 98, 100, 119, 121, 126, 130, 143, 144, 147, 152, 153, 164, 165, 194-199, 201, 205, 220, 221, 238, 246, 256, 273, 275, 280, 281, 284, 286, 287, 289
Columbia Association	143, 147, 164, 165, 197, 220, 221, 275, 280
Commercial centers .....	40, 86, 193, 194, 200-206, 215, 219
Community focus ..	193, 194, 203, 204, 212, 213, 215, 217, 218, 222, 282, 283, 286, 287
Community planning .....	145, 164, 194, 221, 222, 284, 287
Commuter rail .....	19, 23, 100, 200, 201, 281, 286
Comprehensive Public Transportation Plan .....	149, 150
Congregate living .....	110
Consistency requirement .....	263
Council Bill 66 .....	145, 159, 166, 178
Crime .....	133
Culture .....	220, 280, 284, 288

# INDEX

---

- Day care ..... 148-150, 152, 218  
Density ..... 1, 2, 15, 18, 40, 42, 44, 45, 48, 50, 59, 67,  
..... 75, 77, 82, 84, 98, 101, 111, 132, 133, 179, 195,  
..... 201, 213-215, 263, 274-276, 281, 287, 289  
Density Exchange Option (DEO) ..... 42, 44, 48, 50  
Department of Natural Resources ..... 143, 144, 186, 283  
Design Guidelines ..... 182, 203, 206, 273  
Development Agreement ..... 232, 233, 239, 253  
Development Monitoring System ..... 2, 252, 266, 285, 288  
Disabled ..... 104, 109, 112, 149, 151  
Downtown Columbia .... 23, 98, 130, 196, 198, 199, 201, 273,  
..... 275, 284, 287  
DRASTIC ..... 53, 178  
Easements ..... 33, 38, 42, 43, 75, 145, 146, 161, 165,  
..... 169, 171, 172, 186, 216, 219, 283, 286  
Economic Development ..... 1, 20, 59, 61, 82, 86, 100,  
..... 103, 110, 122, 124, 151, 280-282, 286  
Education ..... 86, 114, 115, 119-124, 126, 132, 142, 144,  
..... 147, 151, 152, 154, 202, 218, 221, 233, 246-249,  
..... 261, 262, 280, 282, 284, 286  
Elderly ..... 66, 100, 106, 109, 110, 112, 148-153,  
..... 214, 246, 253, 282, 287  
Elkridge ..... 20, 29, 126, 152, 178, 181, 182,  
..... 196, 221, 273, 281, 285  
Ellicott City ..... 87, 98, 100, 132, 134, 137, 152,  
..... 153, 178, 181, 182, 195, 218, 219, 221, 274, 275  
Employment areas ..... 12, 78, 82, 86, 86, 166,  
..... 183, 200, 205, 241, 275  
Employment projections ..... 68  
Energy conservation ..... 183, 184  
Environmental Easements ..... 42, 75, 169, 172  
Environmental Index Analysis ..... 174, 283, 285  
Environmental zoning ..... 178, 179, 283, 285, 289  
Farming ..... 2, 12, 25, 34, 37, 38, 40, 42,  
..... 44, 45, 50, 61, 272, 274  
Fire ..... 6, 113, 125, 131-134, 136, 137,  
..... 140-143, 261, 268, 283, 287  
Fiscal analysis ..... 2, 67, 91, 264, 268  
Fiscal Impact ..... 120, 249  
Floodplain ..... 275  
Floor Area Ratio ..... 86, 196, 201, 206  
Forest ..... 33, 166, 176  
Government facilities ..... 66, 119  
Greenbelt ..... 1, 2, 27, 29, 33, 45, 49,  
..... 172, 272, 281, 283, 285, 289  
Greenway ..... 2, 29, 45, 146, 161, 165, 169, 181, 273  
Groundwater ..... 27, 29, 49, 50, 53, 179, 272  
Growth management ..... 1, 2, 9, 12, 15, 17, 86, 114, 121, 123,  
..... 229, 231, 235, 236, 252, 257, 263, 264, 266,  
..... 268, 271, 273, 280, 282, 285, 288, 290  
Health Care ..... 152-154  
High Occupancy Vehicle ..... 19, 24, 98, 100  
Higher education ..... 121-124  
Historic Preservation ..... 146, 218, 219, 222, 284, 287, 290  
Historic Site ..... 218  
Homeless ..... 104, 106, 110  
Hospital ..... 132, 148, 152, 153  
Household projections ..... 264  
Housing ..... 1, 2, 6, 9, 15, 18-20, 24, 33, 40, 43, 45, 48,  
..... 56, 59, 65-68, 70, 73, 75, 77, 82, 85, 86, 86, 93,  
..... 100, 103-107, 109, 110, 111-113, 115, 125, 128, 130,  
..... 145, 148-150, 152, 171, 178, 183, 193, 195-197, 201, 211,  
..... 213-216, 218, 225, 229, 231, 246, 247, 249, 253, 257,  
..... 264-266, 268, 271, 272, 274, 280, 282, 286, 287, 289, 290  
Howard Community College ..... 121, 124, 132, 140, 151  
Human Services ..... 66, 100, 113, 125, 148-151, 280, 283, 287  
Human rights ..... 148  
I-70 Corridor ..... 1, 25, 59, 272  
I-95 Corridor ..... 82, 95  
Inclusionary Zoning ..... 111  
Job training ..... 86, 148, 149  
Jobs ..... 1, 9, 12, 19, 20, 34, 57, 59, 66-70, 72, 73, 85, 86,  
..... 89, 103, 104, 137, 149, 151, 193, 201, 264, 268  
Labor force ..... 40, 67, 70  
Land trust ..... 42, 45  
Land Preservation and Recreation Plan ..... 143, 146, 289  
Landfill ..... 260, 261  
Landscape ..... 2, 38, 40, 43-45, 49, 56, 65, 85, 143-147, 159,  
..... 160, 165-167, 169, 171, 172, 174-179, 181-185, 197, 204,  
..... 206-208, 210, 211, 213, 216, 217, 219, 221

Level of service (LOS) . . . . . 2, 87-95, 114, 126, 143, 145,  
 . . . . . 202, 231, 233, 232-234, 238-240, 252, 262, 268  
 Libraries . . . . . 6, 21, 59, 85, 113, 125, 126, 130, 131, 134, 143,  
 . . . . . 150, 154, 185, 202, 261, 262, 268, 272, 283, 287  
 Library Service Area . . . . . 130  
 Light rail . . . . . 19, 24, 98, 200, 201, 277  
 Lisbon . . . . . 126  
 Low and Moderate Income housing . . . . . 19, 86, 104, 106, 109,  
 . . . . . 110, 272, 282, 286, 287, 290  
 MARC (Maryland Rail Commuter Service) . . . . .  
 . . . . . 23, 100, 281, 282, 286  
 Mass Transit . . . . . 19, 98, 276, 277  
 Master Plan for Water and Sewerage . . . . . 232, 233, 257, 258, 273  
 Mentally ill . . . . . 152, 153  
 Mineral Resources . . . . . 186  
 Mixed-Use . . . . . 1, 13, 66, 82, 84-86, 101, 179, 181,  
 . . . . . 194-197, 200, 201, 203, 207, 208, 213, 215, 218, 219,  
 . . . . . 222, 225, 236, 241, 258, 272, 275, 282, 286, 287  
 Montgomery County 9, 12, 19, 25, 27, 40, 57, 59, 68-70, 120, 123  
 Mt. Airy . . . . . 172  
 Multi-Service Centers . . . . . 150, 154  
 Metropolitan Washington Council of Governments . . . . .  
 (MWCOG) . . . . . 19, 23, 69, 70, 100  
 Nature . . . . . 2, 6, 25, 33, 65, 132, 143, 145, 146, 152,  
 . . . . . 159, 166, 174, 176-178, 183, 188, 211, 213,  
 . . . . . 232, 262, 268, 272, 277, 280, 283  
 Neighborhood . . . . . 21, 43, 82, 104, 143, 145, 147, 154, 165, 186,  
 . . . . . 193, 196, 205, 206, 211-215, 218, 224, 246, 249, 277  
 Neighborhood Park . . . . . 165  
 Noise . . . . . 20, 21, 23, 40, 182, 273  
 Non-tidal wetlands . . . . . 160  
 Nursing . . . . . 152, 153  
 Nutrition Services . . . . . 149  
 Open space . . . . . 13, 12, 17, 27, 29, 43-45, 48, 50, 59, 65, 67, 77,  
 . . . . . 85, 86, 113, 123, 143-147, 159-161, 165, 169, 171,  
 . . . . . 172, 174, 175, 177, 178, 185, 195, 196, 200, 201, 203,  
 . . . . . 206, 207, 212-217, 219, 272, 274, 275, 283, 286, 289  
 Park-and-ride . . . . . 19, 57, 98, 102, 271, 277, 281, 286

Parking . . . . . 43, 98, 102, 169, 201-204, 206,  
 . . . . . 207, 210, 211, 214-216, 281, 287  
 Patapsco River . . . . . 20, 25, 27, 29, 49, 172, 178,  
 . . . . . 181, 182, 256, 281, 285  
 Patapsco River State Park . . . . . 29, 143, 281, 285  
 Patuxent River . . . . . 27, 29, 145, 166, 175, 178, 179, 256, 281, 285  
 Pedestrians . . . . . 207  
 Planned Service Area . . . . . 1, 17, 59, 61, 257, 258  
 Police . . . . . 6, 113, 125, 131-134, 136, 140,  
 . . . . . 141, 143, 261, 268, 283, 287  
 Pollution . . . . . 1, 27, 29, 49, 50, 53, 100, 169, 183, 272  
 Population growth . . . . . 12, 33, 126, 130, 131, 133, 145, 265  
 Population projections . . . . . 126, 265  
 Prince George's County . . . . . 9, 123  
 Program Open Space . . . . . 143, 144, 172, 174  
 Projections . . . . . 12, 18, 20, 21, 57, 68-70, 72, 89,  
 . . . . . 103, 114, 115, 125, 126, 128, 140, 149, 231,  
 . . . . . 246-249, 264-268, 273, 285, 288  
 Property Tax . . . . . 59  
 R-ED . . . . . 75, 178, 179, 274  
 Recreation . . . . . 6, 29, 33, 43, 45, 65-67, 85, 113, 120, 122, 123,  
 . . . . . 125, 130, 143-147, 169, 171, 172, 175, 185, 193, 196,  
 . . . . . 200, 202, 212, 214, 219-221, 265, 282, 283, 285, 286, 289  
 Rental housing . . . . . 104  
 Roads . . . . . 2, 6, 9, 19, 43, 49, 50, 56, 57, 59, 61, 70, 77, 85,  
 . . . . . 87, 89, 91, 93, 95, 98, 101, 113, 114, 130, 140, 169,  
 . . . . . 178, 181, 182, 185, 186, 201, 204-207, 212, 213, 215,  
 . . . . . 219, 229, 231, 233-236, 238-241, 254, 261, 262, 264, 265,  
 . . . . . 268, 271-275, 277, 281, 283-286, 289  
 Roadway safety . . . . . 93  
 Rural Commercial . . . . . 40, 43, 44, 48, 281, 287, 289  
 Rural Conservation . . . . . 1, 25, 42, 44, 48, 77, 179,  
 . . . . . 212, 241, 272, 274  
 Rural Population Centers . . . . . 48  
 Sand and gravel . . . . . 186  
 Savage . . . . . 126, 153, 196, 221, 256  
 Scenic roads . . . . . 56, 57, 181, 182, 219, 281, 283, 289  
 School enrollment projections . . . . . 249  
 School Facilities Master Plan . . . . . 114, 124, 125, 249

# INDEX

---

- School sites . . . . . 48, 67, 119, 122, 123, 125, 143, 144, 146,  
147, 202, 218, 282, 286
- Schools . . . . . 2, 6, 9, 21, 59, 65, 66, 72, 85, 113-115,  
119-125, 153, 185, 194, 196, 202, 218-220, 225,  
229, 231, 233, 246-249, 252, 254, 261, 265, 268,  
271, 272, 275, 282, 284, 286, 287
- Septic systems . . . . . 37, 44, 49, 50, 179, 233, 256, 273
- Sewer . . . . . 1, 2, 9, 15, 17, 27, 33, 48, 61, 70, 77,  
179, 231, 233, 232, 233, 241, 254, 256-259,  
263-265, 272, 280, 284, 287-289
- Shared septic . . . . . 44, 50
- Sheltered housing . . . . . 148, 149, 218
- Social Services . . . . . 85, 104, 148
- Soil Conservation District . . . . . 40, 164, 165
- Soils . . . . . 37, 43, 49, 50
- Solid waste . . . . . 259-261
- State Highway Administration (SHA) . . . . . 19, 23, 24,  
101, 234, 235, 286
- Streams . . . . . 27, 43, 49, 56, 159-161, 164-166, 172,  
176-178, 185, 217, 283, 285
- Strip commercial development . . . . . 86, 204
- Subdivision Regulations . . . . . 45, 56, 110, 112, 147, 171, 211,  
229, 241, 258, 263, 283, 286, 289
- Substandard housing . . . . . 104
- Suburbanization . . . . . 40
- Task Force . . . . . 1, 2
- Transfer of Development Rights (TDR) . . . . . 12
- Traditional Neighborhood Design (TND) . . . . . 213-215
- Traffic . . . . . 12, 18-21, 57, 59, 61, 70, 82, 84-86,  
86, 87, 89, 91, 93, 95, 98, 101, 169, 181, 182, 197, 205,  
207, 213, 214, 233-236, 238, 240, 241, 261, 262, 276, 277
- Trails . . . . . 146, 171, 238, 241
- Transfer tax . . . . . 38, 112
- Transit . . . . . 1, 19, 23, 24, 66, 77, 85, 98, 100-102, 151, 154,  
183, 196, 197, 200, 201, 210, 213, 229, 235, 236, 238,  
240, 242, 271, 272, 276, 277, 281, 282, 284, 286, 289
- Transportation . . . . . 6, 9, 18-20, 23, 33, 57, 66, 69, 72, 86,  
87, 93, 95, 98, 100-102, 109, 148-151,  
153, 154, 176, 183, 201, 229, 233-236, 238,  
241, 262, 267, 271, 273, 280-282, 286
- Tree Preservation . . . . . 147, 160, 167, 283, 285, 289
- Unemployment . . . . . 148, 149
- US 1 Corridor . . . . . 20, 82
- Virginia . . . . . 12, 95, 101
- Washington . . . . . 6, 9, 12, 19, 20, 27, 34, 57, 61, 68-70,  
72, 82, 89, 91, 95, 100, 152, 165, 186, 220, 260
- Washington Bypass . . . . . 19, 95, 101
- Wastewater Treatment . . . . . 27, 254, 256-258, 260, 261, 264, 272
- Water quality . . . . . 27, 49, 160, 166, 283, 285
- Wetlands . . . . . 27, 43, 49, 56, 85, 159, 160, 166, 177-179, 275
- Wildlife . . . . . 160, 166, 176
- Woodland . . . . . 27, 171, 181
- Washington Suburban Sanitary Commission (WSSC) . . . . . 27, 29
- Zoning . . . . . 1, 9, 12, 21, 23, 25, 34, 40, 42, 44, 45, 48,  
53, 56, 66, 69, 70, 73, 75, 77, 78, 84-86, 105, 107,  
111, 112, 147, 160, 171, 178, 179, 184, 186, 188, 195,  
196, 208, 210, 211, 215, 217, 221, 222, 229, 239-241,  
248, 249, 263, 268, 271, 273-275, 280-283, 285-287, 289