

Approved & Adopted

# Gaithersburg Vicinity Master Plan

**Amended May 1988**

**Amended July 1990**

An Amendment to the  
1971 Gaithersburg Vicinity Master Plan;  
a portion of the 1980 Potomac Subregion  
Master Plan as amended in 1982; a portion of the  
1968 Rock Creek Master Plan, as amended;  
a portion of the 1977 Sector Plan for the Shady Grove  
Transit Station Area; the Master Plan of Bikeways,  
1978; the Master Plan for Historic Preservation,  
1979; the Master Plan for Historic Preservation,  
Physical Development of the Maryland-Washington  
Regional District; and the Master Plan of Highways  
within Montgomery County, Maryland



The Maryland-National Capital Park and Planning Commission  
Montgomery County Planning Board  
8787 Georgia Avenue  
Silver Spring, Maryland 20910-3760  
January 1985

**Title** Approved and Adopted Gaithersburg Vicinity  
Master Plan

**Author** The Maryland-National Capital Park and  
Planning Commission

**Subject** Land Use, Zoning, Transportation, Commu-  
nity Facilities, and Implementation Plans for  
the Gaithersburg Vicinity and portions of the  
Travilah and the Rock Creek Watershed  
Planning Areas

**Date** January 1985

**Planning Agency** The Maryland-National Capital Park and  
Planning Commission  
8787 Georgia Avenue,  
Silver Spring, Maryland 20910-3760  
and  
14741 Governor Oden Bowie Drive  
Upper Marlboro, Maryland 20870

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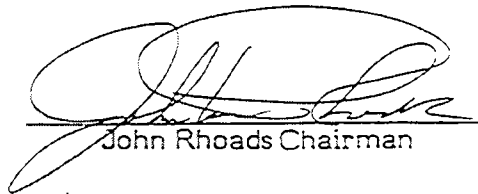
**Number of Pages** 150

**ABSTRACT**


This document contains maps and supporting text to the Approved and Adopted Gaithersburg Vicinity Master Plan. The Plan recommends that the Shady Grove West Study Area be considered a major employment center and housing resource due to its strategic location in the I-270 Corridor. The Plan recommends the continued operation of the Montgomery County Airpark at its present location and with its general character. The Plan designates suitable receiving areas for transferable development rights (TDR's). A staging plan is included for Shady Grove West and the larger MD 28 Corridor which links residential development to road construction.

# Certificate of Approval and Adoption

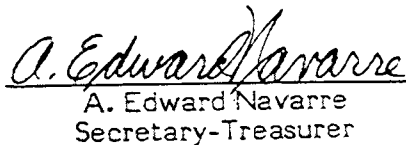
The Gaithersburg Vicinity Master Plan, being an amendment to the 1971 Gaithersburg Vicinity Master Plan; a portion of the 1980 Potomac Subregion Master Plan as amended in 1982; a portion of the 1968 Rock Creek Master Plan, as amended; a portion of the 1977 Sector Plan for the Shady Grove Transit Station Area; the Master Plan of Bikeways, 1978; the Master Plan for Historic Preservation, 1979, as amended; the General Plan for the Physical Development of the Maryland-Washington Regional District; and the Master Plan of Highways within Montgomery County, Maryland, has been approved by the Montgomery County Council, sitting as the District Council, by Resolution No. 10-1083 and has been adopted by The Maryland-National Capital Park and Planning Commission by Resolution 85-2 on January 9, 1985 after a duly advertised public hearing pursuant to Article 28 of the Annotated Code of Maryland, 1983 (1984 Supplement).



John Rhoads  
Chairman



Norman L. Christeller  
Vice Chairman



A. Edward Navarre  
Secretary-Treasurer



THE MARYLAND-NATIONAL CAPITAL  
PARK AND PLANNING COMMISSION  
MONTGOMERY COUNTY PLANNING BOARD  
8787 Georgia Avenue  
Silver Spring, Maryland 20910-3760

JANUARY 1985

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**THE  
MARYLAND  
NATIONAL CAPITAL  
PARK & PLANNING  
COMMISSION**

The Maryland-National Capital Park and Planning Commission is a bi-county agency created by the General Assembly of Maryland in 1927. The Commission's geographic authority extends to the great majority of Montgomery and Prince George's Counties: the Maryland-Washington Regional District (M-NCPPC planning jurisdiction) comprises 1,001 square miles, while the Metropolitan District (parks) comprises 919 square miles, in the two Counties.

The Commission has three major functions:

- (1) the preparation, adoption, and from time to time amendment or extension of the General Plan for the physical development of the Maryland-Washington Regional District;
- (2) the acquisition, development, operation, and maintenance of a public park system; and
- (3) in Prince George's County only, the operation of the entire County public recreation program.

The Commission operates in each county through a Planning Board appointed by and responsible to the county government. All local plans, recommendations on zoning amendments, administration of subdivision regulations, and general administration of parks are responsibilities of the Planning Boards.

## NOTICE OF PLAN AMENDMENTS

Amendments to this Plan have been adopted subsequent to January 1985. They are highlighted below. Copies of these amendments are available at 8787 Georgia Avenue, Silver Spring, Maryland.

### Date

### Amendment

May 1988

#### Approved and Adopted Amendment to the Gaithersburg Vicinity Master Plan

This Amendment recommends three minor changes to the 1985 Gaithersburg Vicinity Master Plan. The first change involves recommended land uses in the vicinity of MD 124 and Muncaster Mill Road. The second change involves the mix of housing types in TDR 8-10 areas. The third change allow cluster form of development in the Airpark area with a specific recommendation that townhouses be permitted. Portions of the text affected are identified as "Amended 5/88".

July 1990

#### Shady Grove Study Area

This Amendment substantially modifies the Shady Grove portion of the Gaithersburg Vicinity Master Plan. Portions of the text which are affected are identified by the notation "Amended 7/90".

TABLE OF CONTENTS

Page

	PLAN HIGHLIGHTS . . . . .	1
	LAND USE AND ZONING	
	RECOMMENDATIONS . . . . .	5
	Introduction . . . . .	5
AMENDED 7/90	Shady Grove West Study Area . . . . .	10
	Land Use and Zoning	
	Recommendations by	
	District . . . . .	18
	Airpark Study Area . . . . .	36
	Land Use and Zoning	
	Recommendations by	
	District . . . . .	42
	Smokey Glen Study Area . . . . .	50
	Land Use and Zoning	
	Recommendations for	
	Other Areas . . . . .	53
	Oakmont Community . . . . .	53
	Non-Contiguous Parcels . . . . .	53
AMENDED 7/90	Staging Recommendations for	
	the MD 28 Corridor . . . . .	53
	TRANSPORTATION PLAN . . . . .	73
	Goals and Guidelines . . . . .	73
	Highway Recommendations . . . . .	73
	Mass Transit Recommendations . . . . .	81
	Bikeway Plan Recommendations . . . . .	84
	Equestrian Trails System . . . . .	84
	COMMUNITY FACILITIES . . . . .	87
	Goals and Guidelines . . . . .	87
	Public Schools . . . . .	87
	Park and Recreation Facilities . . . . .	90
	Future Park Needs . . . . .	94
	ENVIRONMENTAL CONCERNS . . . . .	97
	Goals and Guidelines . . . . .	97
	Environmentally Sensitive Areas . . . . .	97
	Noise Concerns . . . . .	101
	IMPLEMENTATION . . . . .	105
	Sectional Map Amendment . . . . .	105
	Zoning Text Amendments . . . . .	106
	Capital Improvements Program . . . . .	106
	Water Supply and Sewerage	
	Systems Plan . . . . .	106
	Subdivision Regulations . . . . .	109
	Comprehensive Planning Policies . . . . .	109
	Transfer of Development Rights . . . . .	109
	Inter-jurisdictional Issues . . . . .	111
	Noise Containment Techniques	
	for the Montgomery County	
	Airpark . . . . .	114
	Historic Sites Master Plan	
	and Ordinance . . . . .	114
	CONTENTS OF TECHNICAL	
	APPENDIX . . . . .	119
	RESOLUTIONS OF APPROVAL	
	AND ADOPTION . . . . .	120

# LIST OF FIGURES

	Page
1. Gaithersburg Vicinity Planning Area (PA 20) . . . . .	2
2. Major Study Areas . . . . .	6
3. Corridor Cities Diagram . . . . .	8
4. Shady Grove West Area - R&D Village Concept . . . . .	13
5. Shady Grove West Area - Land Use Plan Concepts . . . . .	15
6. Shady Grove West Area - Generalized Zoning Plan . . . . .	16
7. Shady Grove West Area - Parcels Subject to Future Master Plan Amendment . . . . .	17
8. Shady Grove West Area - Districts . . . . .	19
9. Montgomery County Medical Center Development Plan . . . . .	25
10. Shady Grove West Area - Analysis Areas . . . . .	32
11. Airpark Noise Contours - Year 2000 . . . . .	38
12. Montgomery County Airpark - North Operations . . . . .	39
13. Montgomery County Airpark - South Operations . . . . .	40
14. Airpark Area - Recommended Land Use . . . . .	43
15. Airpark Area - Recommended Generalized Base Zoning . . . . .	44
16. Airpark Area - Analysis Areas . . . . .	45
17. Smokey Glen Area - Zoning Plan . . . . .	51
18. Smokey Glen Area - Environmentally Sensitive Areas . . . . .	52
19. Adopted Oakmont Land Use Plan . . . . .	54
20. Non-contiguous Parcels . . . . .	55
21. MD 28 Corridor Staging Area . . . . .	59
22. Relationship of Master Plan Staging to the Standard Approval Procedure for Transportation Adequacy . . . . .	61
23. Shady Grove West Area - Existing Development Conditions . . . . .	63
24. Shady Grove West Area - Plan Terminology . . . . .	64

LIST OF FIGURES (Con't)

Page

25. Shady Grove West Area - Staging Districts . . . . .	65
26. MD 28 Corridor Staging Area - Major Vacant Parcels Outside Shady Grove West . . . . .	69
27. Transportation Plan . . . . .	75
28. Highway Cross Sections . . . . .	82
29. Bikeways and Equestrian Trails . . . . .	85
30. Existing and Former School Sites . . . . .	88
31. Parks . . . . .	91
32. Environmentally Sensitive Areas . . . . .	98
33. Cabin Branch Stormwater Management Plan . . . . .	100
34. Projected Roadway Noise Contours. . . . .	102
35. Shady Grove West Area - Recommended Sectional Map Amendment Zoning . . . . .	107
36. Recommended Sewer Service Priorities. . . . .	110
37. Transferable Development Rights Process . . . . .	112
38. Evaluated Historic Resources . . . . .	116

## LIST OF TABLES

	Page
1. Summary of Zoning Classifications . . . . .	11
2. Shady Grove West Analysis Areas Summary of Zoning Recommendations. . . . .	33
3. Airpark Analysis Areas Summary of Zoning Recommendations. . . . .	46
4. Non-contiguous Analysis Areas Summary of Zoning Recommendations. . . . .	56
5. Proposed Staging for Shady Grove West Area of the MD 28 Corridor . . . . .	66
6. Proposed Staging for Parcels in MD 28 Corridor Outside of Shady Grove West. . . . .	70
7. Street and Highway Classifications . . . . .	76
8. Gaithersburg Vicinity Bikeways .	86
9. Existing and Planned Public Parkland and Park Facilities in the Gaithersburg Vicinity .	92
10. Sites to be Removed From the Locational Atlas and Index of Historic Sites . . . . .	117

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## CONTENTS OF TECHNICAL APPENDIX

The Technical Appendix, which has been published as a separate document, includes background data and analysis which support the land use and zoning recommendations of the Gaithersburg Vicinity Master Plan. Economic, housing, and transportation forecasts are included. Future and programmed roadway, sewerage, and water projects are described and environmental guidelines for future development are discussed.

The table of contents of the Technical Appendix is included here for information purposes. Copies of the Technical Appendix are available for review at Maryland-National Capital Park and Planning Commission, 8787 Georgia Avenue, Silver Spring, MD and at the Gaithersburg Public Library.

- APPENDIX 1     Gaithersburg Vicinity Master Plan Process Summary
- APPENDIX 2     Background Data
  - A.    Transportation
  - B.    Traffic Forecast Model
  - C.    Housing
  - D.    Economic Development
  - E.    Community Facilities
  - F.    Environmental Concerns
  - G.    Montgomery County Airpark
- APPENDIX 3     Definitions
- APPENDIX 4     Proposed Water Projects/Sewerage Projects
- APPENDIX 5     Adopted Capital Improvements Program  
                    FY's 1983-1988, Gaithersburg

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION  
8787 Georgia Avenue • Silver Spring, Maryland 20907

MNCPPC NO. 85-2

RESOLUTION

WHEREAS, The Maryland National Capital Park and Planning Commission, by virtue of Article 28 of the Annotated Code of Maryland, is authorized and empowered, from time to time, to make and adopt, amend, extend, and add to a General Plan for the Physical Development of the Maryland-Washington Regional District; and

WHEREAS, the Montgomery County Planning Board of The Maryland-National Capital Park and Planning Commission held a public hearing on April 5 and 6, 1983, on a preliminary draft amendment to the Gaithersburg Vicinity Master Plan, being also a proposed amendment to the General Plan for the Physical Development of the Maryland-Washington Regional District and the Master Plan of Highways; and

WHEREAS, the Montgomery County Planning board, after said public hearing and due deliberation and consideration, on September 21, 1983, approved a final draft amendment and recommended that it be approved by the Montgomery County Council; and

WHEREAS, the Montgomery County Council reviewed the material of record and discussed the Final Draft Master Plan Amendment with interested parties; and

WHEREAS, the Montgomery County Council, sitting as the District Council for that portion of the Maryland-Washington Regional District lying within Montgomery County, on December 17, 1984, approved the final draft amendment of said plan by Resolution 10-1083.

NOW, THEREFORE, BE IT RESOLVED, that the Montgomery County Planning Board and The Maryland-National Capital Park and Planning Commission does hereby adopt said amendment to the Gaithersburg Vicinity Master Plan, together with the General Plan for the Physical Development of the Maryland-Washington Regional District and the Master Plan of Highways as approved by the Montgomery County Council in the attached Resolution 10-1083.

BE IT FURTHER RESOLVED that this amendment be reflected on copies of the aforesaid plan and that copies of such amendment shall be certified by The Maryland-National Capital Park and Planning Commission and filed with the Clerk of the Circuit Court of each of Montgomery and Prince George's Counties, as required by law.

\*\*\*\*\*



BE IT FURTHER RESOLVED, that this copy of said plan shall be certified by The Maryland-National Capital Park and Planning Commission and filed with the clerks of the Circuit Courts of each of Montgomery and Prince George's Counties, as required by law.

\*\*\*\*\*

This is to certify that the foregoing is a true and correct copy of a resolution adopted by the Maryland-National Capital Park and Planning Commission on motion of Commissioner Krahnke, seconded by Commissioner Brown, with Commissioners Krahnke, Brown, Christeller, Dabney, Granke, Heimann, Keller, and Yewell, voting in favor of the motion, and with Commissioners Dukes and Kenney being absent, at its regular meeting held on Wednesday, January 9, 1985 in Montgomery County, Maryland.

---

Thomas H. Countee, Jr.  
Executive Director

Introduced: December 17, 1984

Adopted: December 17, 1984

COUNTY COUNCIL FOR MONTGOMERY COUNTY, MARYLAND  
SITTING AS A DISTRICT COUNCIL FOR THAT PORTION  
OF THE MARYLAND-WASHINGTON REGIONAL DISTRICT  
WITHIN MONTGOMERY COUNTY, MARYLAND

SUBJECT: Approval of the Master Plan for the Gaithersburg Vicinity Planning Area

WHEREAS, on September 21, 1983, the Maryland-National Capital Park and Planning Commission approved the Final Draft Gaithersburg Vicinity Master Plan and duly transmitted said approved Final Draft Master Plan to the Montgomery County Council and the Montgomery County Executive; and

WHEREAS, this Final Draft Plan amends the 1971 Gaithersburg Vicinity Master Plan; a portion of the 1980 Potomac Subregion Master Plan as amended in 1982; the Master Plan of Bikeways, 1978; the Master Plan for Historic Preservation, 1979, as amended; the General Plan for the Physical Development of the Maryland-Washington Regional District; and the Master Plan of Highways within Montgomery County, Maryland; and

WHEREAS, the Montgomery County Executive, pursuant to Ordinance 7-38, Montgomery County Code, 1972, Section 70A-7, duly conveyed to the Montgomery County Council on February 21, 1984, his comments and recommendations on said approved Final Draft Master Plan; and

WHEREAS, on November 8 and November 10, 1983, the Montgomery County Council held public hearings wherein oral and written testimony was received concerning the Final Draft Gaithersburg Vicinity Master Plan; and

WHEREAS, on December 22, 1983, January 31 and February 28, 1984, worksessions were held by the Council's Planning, Housing and Economic Development Committee regarding issues raised at the Gaithersburg Vicinity Master Plan public hearing; and

WHEREAS, subsequent to the worksession the Council established a task force to address issues raised by the municipalities of Rockville, Gaithersburg, and Washington Grove regarding the future development of the Shady Grove West area of the Gaithersburg Vicinity Master Plan; and

WHEREAS, as a result of the Task Force meetings a staging element and other revisions were developed by the Montgomery County Planning Board as amendments to the Gaithersburg Vicinity Master Plan; and

WHEREAS, on September 18, 1984, an additional public hearing was held by the Montgomery County Council to provide opportunity for interested and affected parties to comment on the staging proposal and other revisions proposed to the Final Draft Gaithersburg Vicinity Master Plan; and

WHEREAS, on October 1, October 22, November 13, November 20, December 11, and December 17, 1984, the Montgomery County Council continued the worksessions on the Final Draft Gaithersburg Vicinity Master Plan at which time detailed consideration was given to the public hearing record and to the comments and concerns of interested parties attending the worksession discussion.

NOW, THEREFORE, BE IT RESOLVED BY THE County Council for Montgomery County, Maryland, sitting as the District Council for the Maryland-Washington Regional District in Montgomery County, Maryland that the Final Draft Gaithersburg Vicinity Master Plan, dated September 1983, is hereby approved with such revisions, modifications, and amendments as hereinafter set forth.

Council changes to the Final Draft Master Plan for the Gaithersburg Vicinity Master Plan, dated September 1983, are identified below by chapter, section, and page number, as appropriate. Deletions to the text of the plan are indicated by [brackets], additions by underscoring.

#### SHADY GROVE WEST STUDY AREA

- Revise text under heading "Overview of Land Use Recommendations", on page 17, to read as follows:

#### Overview of Land Use Recommendations

[The land use recommendations for Shady Grove West promote a mix of office, retail and residential uses, with residential being the predominant land use pattern (see page 19).]

[The Recommended Land Use map proposes approximately 550 acres for retail and office uses. Most of this acreage is either already committed to development (140 acres) or is located in the Shady Grove Life Sciences Center just south of Key West Avenue (211 acres).]

[The Plan recommends a major new concentration of office and retail uses south of I-270 and north of Fields Road. This area is well suited for such uses because of its proximity to I-270 and I-370 Extended. The Plan envisions a mix of uses, including office and research buildings, conference and hotel facilities, apartment buildings, and a limited amount of retail uses. This area is identified as an activity center (see "A" on the Land Use Concepts map).]

[The office character west of Shady Grove Road has already been established by existing office buildings. This Plan continues that character. Office uses are also confirmed for a 45-acre property just north of Key West Avenue; the property is one of the activity center sites ("C") shown on the Land Use Concepts Map.]

[Retail uses are proposed in Shady Grove West to provide convenience shopping for the residents and employees. A 100,000 square foot shopping center is proposed along the residential portion of the "commons area" if development occurs as part of an overall planned development.]

[Smaller scale retail uses are encouraged in employment areas.]

This Plan recommends that the majority of Shady Grove West be designated a "Research and Development (R&D) Village" (see map titled "R&D Village Concept" on page 28 of Resolution). The R&D Village will enhance county-wide planning efforts to attract new R&D firms to Montgomery County and to retain existing firms. The R&D Village will foster a mix of housing types and a variety of employment uses, thereby enhancing the quality of life for employees and for residents.

In terms of employment, the R&D Village would offer a high quality environment not only for research and development firms, but also for offices, corporate headquarters, light manufacturing, and business support services.

The County-owned Life Sciences Center has already established a strong bio-technical presence in the southern portion of the R&D Village. A joint program of the University of Maryland and the National Bureau of Standards is being planned by the County for the portion of the Life Sciences Center south of Md 28.

Just as the Life Sciences Center "anchors" the southern end of the R&D Village, a concentration of signature office buildings and related retail uses would anchor the northern end, near I-270. More intense development is proposed here, in part because the area is so well served by the regional transportation network (I-270, I-370, METRO). This area also offers a tremendous opportunity to create an identifiable entry into the R&D Village area from I-270. A "mixed use" planned concept is proposed to attract employers seeking an amenity-laden site for their employees and a high quality corporate image for their firms. The Plan envisions office and research buildings, conference and hotel facilities, apartment buildings, and a limited amount of retail uses.

The office character west of Shady Grove Road has already been established by existing office buildings. This Plan continues that character. Office uses are also confirmed for a 45-acre property just north of Key West Avenue.

Residential uses are an integral part of the R&D Village concept. This Plan recommends that 1500 dwellings be incorporated into the mixed-use development proposed for the Washingtonian property. Another 750-1000 units are recommended in the southwestern portion of the Village as a transition to residential development west of the I-370 Connector in the City of Gaithersburg.

Additional areas for residential development will be examined as part of the Stage III Master Plan Amendment. The Amendment will be guided by this Plan's objective to provide the opportunity for people, as much as possible, to live and work in the same community and to provide a wide range of housing types.

One of the components of the R&D Village is a pedestrian-oriented "commons area" which is proposed to traverse the Shady Grove West Area. The character of this open space feature will be determined by the land uses through which it passes. The "commons" would help create an urban, human-scale environment as compared to the usual automobile-oriented, suburban development pattern. It would also encourage pedestrian movement.

● Add new section titled "Need for a Future Comprehensive Master Plan Amendment", to read as follows:

Need for a Future Comprehensive Master Plan Amendment

Many properties in the Shady Grove West Area are proposed to be reexamined as part of a future Master Plan Amendment. Specific land use proposals for certain properties are not included at this time for the following reasons:

- Uncertainty as to long-term employment needs in the I-270 Corridor.
- Uncertainty as to the desirable balance of employment and residences in Shady Grove West.
- Community concern regarding the capacity of future roads to handle future growth.
- The need to monitor traffic as major new roads are programmed for construction.
- The need to reexamine the King Farm before "end-state" land use proposals are made for the balance of Shady Grove West. Even though the King Farm, included in the Shady Grove Sector Plan, lies just outside the area covered by this Master Plan, its development will strongly influence land use patterns in Shady Grove West and therefore should be studied together in a future Master Plan Amendment. The 1984 opening of the Shady Grove Metro Station and the 1989 projection of the opening of I-370 call for early consideration of intensive development on part of the King Farm.
- The need to monitor the progress of the cities of Rockville and Gaithersburg in establishing and implementing a staging program. Whether the cities have adopted such a program will influence the amount and timing of future development in Shady Grove West.

A future Master Plan Amendment will proceed when three events occur:

- An I-270 Corridor Employment Study is completed;

- Additional information is available regarding the traffic capacity of the following planned roadways: I-270 widening and the extension of Key West Boulevard from Gude Drive to Md 28;
- Project planning studies for Md 28 in accord with Master Plan recommendations are completed.
- Revise existing text and related maps under heading "Land Use and Zoning Recommendations by District" to include land use and zoning modifications as follows:

Land Use and Zoning Recommendations by District

1. Crown Farm

- Designate Low-Moderate Intensity Employment on Land Use Plan
- Designate I-3 on Zoning Plan Map; amend text to indicate rezoning will not occur until a comprehensive Master Plan Amendment is adopted and restudy of the I-3 Zone is completed. The Master Plan Amendment will consider designating the portion of the Crown Farm west of Spine Road as residential.

2. Danac Property

- Designate as Low-Moderate Intensity Employment on Land Use Plan
- Designate as I-3 on Zoning Plan Map; amend text to indicate rezoning will not occur until a comprehensive Master Plan Amendment is adopted and restudy of the I-3 Zone is completed.

3. Interchange area (southeast quadrant of I-270 and Shady Grove Road)

- Change proposed zoning from C-1 to I-3

## 4. Percon Property

- Designate Low-Moderate Intensity Employment on Land Use Plan; amend text to indicate future development as R&D with a major conference center, and that the implications on the Wedges and Corridors Concept of a major conference and employment center at this location shall be explored in the context of a future Master Plan Amendment.
- Designate as I-3 on Zoning Plan Map; amend text to indicate rezoning will not occur until a comprehensive Master Plan Amendment is adopted and restudy of the I-3 Zone is completed. The Master Plan Amendment will examine residential as well as employment uses.

## 5. Thomas Farm

- Designate as Low-Moderate Density Residential Development (2-4 units/acre) on Land Use Plan Map with a floating symbol indicating a mix of residential and employment uses. Amend text to indicate that a future Master Plan Amendment will determine the ultimate land use pattern in this area. Alternatives to be examined include residential uses and/or moderate-intensity employment on all or part of the Thomas Farm. Particular consideration should be given to development consistent with and supporting the Life Science Center and related research activities.
- Designate as R-200 on Zoning Plan Map.

## 6. Banks Farm

- Designate as Low Density Residential Development (2-4 units/acre) on Land Use Plan Map; amend text to indicate that a future Master Plan Amendment will examine the option of preserving this area as open space and encouraging continued farming of the land.
- Designate as R-200 on Zoning Plan Map.



- Amend Land Use Plan Map to include notations as follows:

- NOTE 1 (Thomas Farm) - A future Master Plan Amendment will determine the ultimate land use pattern in this area. Alternatives which will be examined will include residential uses and/or moderate-intensity employment on all or part of the Thomas Farm. Particular consideration should be given to development consistent with and supporting the Life Science Center and related research activities.
- NOTE 2 (Banks Farm) - A future Master Plan Amendment will examine the option of preserving this area as open space and encouraging continued farming of the land.
- NOTE 3 (King Farm) - The King Farm will be reexamined in the context of a future Master Plan Amendment. The possibility of providing a mix of residential and office uses will be explored. The MXPD Zone will be considered.
- NOTE 4 - This Plan proposes a linear open space feature which should traverse the Shady Grove West area. The character of this open space area will be determined by the land uses through which it passes.

#### STAGING FOR THE MD 28 CORRIDOR

- Add a new Chapter titled "Staging Recommendations for the MD 28 Corridor", as follows:

##### Staging Recommendations for the Md 28 Corridor

A major concern throughout the Plan process has been traffic congestion along Md 28. Md 28 is currently over capacity and congested during rush hours.

Although road improvements are programmed to provide more highway capacity, residents and various governmental jurisdictions fear that unless future

development is staged very closely to highway availability, Md 28 will continue to experience unacceptable levels of service.

The staging recommendations included in this chapter address this concern.

The primary geographic focus of the staging recommendations is the Shady Grove West area. Staging development in the Shady Grove West area alone, however, will not address the issue of traffic congestion along Md 28. To be meaningful, a staging program must include all undeveloped, unrecorded properties which will ultimately generate traffic in the vicinity of Md 28. It must also examine through trips from Germantown and other areas which use traffic capacity in this portion of the Md 28 Corridor. This Plan's staging recommendations reflect through trips from adjoining planning areas because they are based upon a County-wide traffic model.

Many of the properties in the Md 28 Corridor are now located in Gaithersburg or Rockville or are planned to be annexed by them in the future. As part of this Master Plan process, both municipalities have agreed that these properties should be staged. This is extremely important because neither municipality has staging provisions in their plans or their subdivision regulations. Staging guidelines for key parcels in the Rockville and Gaithersburg portion of the Md 28 Corridor are included in this chapter.

#### What Staging Will Accomplish

The Montgomery County Subdivision Ordinance requires the Planning Board to review all preliminary plans of subdivision for adequacy of programmed public facilities and to deny those for which it finds that existing and programmed public facilities are not adequate.

The APP Administrative Guidelines state that any project which is at least 80 percent funded for construction in the County 6-year Capital Improvements Program (CIP) or in the State Consolidated Construction Program will be considered a part of the transportation network.

The Md 28 Corridor is different from other parts of the County because they may require only one or two road projects to relieve congestion. In the Md 28

Corridor, at least eight major improvements are programmed to accommodate expected development. As a result, development may be approved under existing guidelines based on the traffic capacity provided by numerous roads programmed but not yet under construction. If for any reason, the construction of a project or projects does not proceed on schedule, development may occur before needed traffic capacity exists. Communities along Md 28 may be subjected to long periods of inconvenience as a result.

This Plan cannot prevent "short-term" capacity imbalances during periods of actual road construction. Staging at the Master Plan level, however, will help prevent long periods of inconvenience due to unforeseen delays in the County and state construction program by linking new development to the awarding of road construction contracts rather than just the programming of construction.

The implementation section of this Plan discusses how this will be accomplished.

#### Properties Affected by Staging Plan

The entire Md 28 Corridor is affected by this staging plan. The staging plan recommendations apply to all vacant, undeveloped properties in the corridor with the following exceptions:

- Vacant properties which have been recorded for development are excluded from the staging plan:
- Vacant properties which have approved preliminary subdivision plans are excluded from the staging plan.

Properties in these two categories have already proceeded through the development process and have already been reviewed in terms of traffic impacts. If owners of parcels in either of these two categories apply for resubdivision or if an approved subdivision plan lapses, then new development plans will be reviewed in accord with this Plan's staging recommendations.

### Relation of Staging Plan to Subdivision Review Process

Properties which are shown in the early development stages will proceed through the regular subdivision process. The properties will be analyzed in terms of traffic impact in accord with the APFO Administrative Guidelines. If a subdivision passes the APFO test, the subdivision will be approved with a condition that it may not be recorded until the roads identified in the Staging Plan are under contract for construction. This approach will link the construction of new development to the construction of new roads.

### Staging Guidelines

As noted earlier, the primary objective of the staging plan has been to assure that the pace of development in the Md 28 Corridor is more closely related to available traffic capacity.

Other planning objectives, unrelated to transportation, have also guided the staging recommendations. They are:

- Office development in Shady Grove West should be staged over time to allow the market to evolve for higher intensity mixed uses envisioned by the Master Plan.
- Residential and office uses should be included in all phases of development to implement the Master Plan objective "to provide the opportunity for people to live and work in the same community." The appropriate balance between residential and office development is an issue of judgment as to the County's and each local area's relative employment, fiscal, and housing needs.
- The amount of development proposed in each stage reflects judgments as to road capacity and user demand. If a subdivision is so designed and located as to facilitate public transit service, then additional development may be possible when transit service is programmed or provided. Similarly, if additional highway studies find more or less traffic capacity, then the specific recommendations of this Plan can and should be modified.

- Existing farming operations (Thomas, Crown) should be placed in latter stages of development to encourage their continuation for some time. These farms may well remain in agricultural use for some time, but eventual conversion of the Crown Farm would be desirable from a planning perspective in order to achieve the residential development envisioned in the Gaithersburg Vicinity Master Plan. The ultimate development of the Banks Farm is desirable but a future Master Plan Amendment will determine the ultimate land use.
  
- Any staging policy for an area as large as this and with as many new highway projects will have to be reviewed and changes as new information becomes available. If any changes to the staging recommendations are deemed necessary, they will be made in the context of a Master Plan Amendment. In any event, a comprehensive Master Plan Amendment will occur before Stage III.
  
- Parcels which are already recorded which apply for resubdivision or which have approved preliminary subdivision plans which lapse will be reviewed in the same manner as a new preliminary subdivision plan.

Proposed Stages of Development: Shady Grove West Area

This Staging Plan makes detailed recommendations for the Shady Grove West portion of the Md 28 Corridor. For the balance of the Md 28 Corridor, more generalized recommendations are presented since properties in the cities of Gaithersburg and Rockville are involved as well as properties in other County planning areas (Potomac, Shady Grove Sector Plan).

Three stages of future development are proposed by this Plan. Stages I and II include a series of transportation improvements and a certain amount of residential and non-residential development. Road improvements have been grouped according to their programmed or planned construction dates. Roads have been identified individually because different parcels are staged to the construction of different roads. Stage III will be defined in the context of a future Master Plan Amendment.

In order to develop a consistent and integrated staging approach, the staging recommendations of this Plan are complementary to the Planning Board's 1984 Comprehensive Planning Policy Report(CPP) and the development thresholds described therein.

Development for Stage I has been allocated based upon the traffic studies done as part of the CPP. Stage I includes those programmed roads which were analyzed by the Montgomery County Planning Board staff as to capacity as part of the 1984 CPP Report. The CPP analysis also reflects the significant changes in transit availability throughout the County and Gaithersburg area associated with the opening of Metrorail to Shady Grove.

Development in the Shady Grove West area in Stage I will absorb only a portion of the roadway capacity for the Md 28 Corridor and an even smaller percentage of that allocated to the Gaithersburg Policy Area by the CPP.

Stage I includes a large number of roads and spans six years. Some development is keyed to roads which are scheduled to be constructed in the next one or two years; other development is keyed to roads which will be built later in the six-year period. Stage I does not include already approved and recorded plats because they have already been accounted for in determining threshold capacity remaining at the beginning of Stage I development.

The majority of development in Stage I permits office uses -- primarily in the Life Sciences Center. Residential development must be constrained because previously approved subdivisions and already approved record plats elsewhere in the Md 28 Corridor have absorbed the residential threshold for this area. Since the immediate road capacity problem is Md 28 itself, the residential component of Stage I involves properties oriented primarily to I-270 and Shady Grove Road.

STAGE II includes road projects which were added to the 1985-90 CIP by the Montgomery County Council. Although only three roads are involved in Stage II, they will add significant traffic capacity to the Md 28 Corridor area.

During Stage II, the key roads required to support the Washingtonian property along I-270 will be under construction (I-370 Extended, I-370 Metro Connector, Fields Road). The extension of Key West to Gude Drive will help relieve the Shady Grove Road/I-270 Interchange, thereby aiding the entire Shady Grove area. The I-370 Metro Connector may only be contracted for construction to Fields Road and not to Great Seneca Highway during Stage II. Traffic studies done at time of subdivision will take into account the status of I-370.

Traffic capacity along "old" Md 28 will still be a problem in Stage II. Therefore, even the amount of residential development shown in Stage II may not be possible as a result. The APFO review at time of subdivision will determine the number of units which can be built. Any improvement to existing Md 28 would relieve this staging constraint.

STAGE III includes all Master Plan roadways not yet programmed for construction. These roads are critical to full development of the Md 28 Corridor area. The widening of I-270 is now being studied and design work is underway. This Plan strongly recommends that the State Highway Administration begin work on a Md 28 study since a significant portion of the development in Stage III relates to Md 28.

Stage III may be broken down into more stages as individual road projects are programmed for construction and as more detailed traffic studies are completed. A Master Plan Amendment will precede Stage III. Individual Master Plan Amendments might be introduced prior to the Stage III Master Plan Amendment if circumstances warrant.

#### Staging Guidelines for Portions of Route 28 Corridor Outside Shady Grove West

As stated before, the staging recommendations for Shady Grove West will only be effective if vacant properties in the balance of the Md 28 Corridor are also staged. The majority of development occurs in Stage III, thus allowing both Rockville and Gaithersburg adequate time to amend their master plans and regulatory processes to include a staging element.

The following staging guidelines are proposed by this Plan for vacant properties outside the Shady Grove West area.

Washingtonian Industrial Area

1. The base zone for vacant land in the Washingtonian Industrial park should be I-1 and I-4. The I-4 Zone allows offices only as special exception uses. This will allow applications for office development to be closely examined in terms of traffic generation. An application for O-M or I-3 zoning would be appropriate once Gaither Road, Fields Road and I-370 Metro Connector are under construction. More detailed traffic studies at time of zoning will help determine the actual amount of office square footage.

Additional small-scale office "infill" may be permitted if detailed traffic studies indicate adequate intersection capacity.

King Farm

1. The zoning for the King Farm should continue to be R-200. A Master Plan Amendment which will examine Metro accessibility will precede rezoning. This Amendment will examine the possibility of providing a mix of residential and office uses, a major open space component and the suitability of the MXP Zone for all or part of the King Farm.
2. A Master Plan Amendment will precede the rezoning of the King Farm.

Recommended Guidelines for Parcels in City of Gaithersburg

The City of Gaithersburg Master Plan should be amended in a timely manner to include staging guidelines which are complementary to those suggested for Shady Grove West. Staging guidelines are particularly important for the following parcels:

1. The Kent Farm — The City of Gaithersburg Master Plan designates the Kent Farm as a "concentric generator" with a mix of residential, retail, and office uses. The City's Plan should be amended to include a staging element which links build-out to needed road improvements.



2. The balance of the National Geographic property -- Although there are no plans at this time to expand National Geographic, this eventuality must be addressed.
3. Any future development of the GEISCO property beyond existing approvals.

Recommended Guidelines for Parcels in City of Rockville

1. This Plan postpones a decision on the ultimate land use for the Thomas Farm until a future Master Plan Amendment. The widening of Rt. 28 south of the Thomas Farm and the widening of Ritchie Parkway are critical transportation events for Stage III development of the Thomas Farm. Development should therefore be staged to necessary road improvements.

The Thomas Farm is within Rockville's maximum expansion limits (MEL). If the Thomas Farm is annexed by the City of Rockville, the city should amend its Master Plan to link development to the widening of Md 28 south of the Thomas Farm and a timetable for the widening of Ritchie Parkway.

2. The Rockville Master Plan should be amended to incorporate an appropriate staging element for the portion of the King Farm located within the Rockville maximum expansion limits. Alternatively, development should be staged in accord with the recommendations of the Shady Grove Sector Plan and the Gaithersburg Vicinity Master Plan at time of annexation.

Potomac Master Plan Area (Parcels in Md 28 Corridor Area)

1. Future development in this area south of Md 28 should be staged to additional highway capacity along Md 28 as well as other Stage III highway improvements. This highway capacity could be provided either by widening Md 28 to 4 lanes east to the I-270 interchange or by widening Key West Boulevard to 6 lanes.

### Linking Future Development to Road Construction

This Plan recommends that roads identified in the staging plan should be under contract for construction before new development can proceed. To implement this policy, record plats for new development should not be approved until the construction contracts for the appropriate roads have been awarded.

The policy is different from current subdivision review procedures which consider any road that is 50 percent funded for construction in the County or State CIP as adding traffic capacity. The reasons for proposing a different approach in the Md 28 Corridor are existing traffic conditions, the magnitude of future road projects, and community concern about possible slippages in the road construction program.

### IMPLEMENTATION STRATEGIES

The actions which are necessary to implement the staging recommendations are discussed in the Implementation chapter. A summary of these actions follows:

- Zone properties shown in Stage III as R-200; a Master Plan Amendment will precede rezoning to a higher density. Stage III should be amended when the impacts of Stage I and II can be evaluated and when the timing of Md 28 improvements and I-270 widening is known.
- Any MXP applications could be accepted at any time as long as the staging component of the MXP application conforms with the staging for the subject property in the Plan.
- Change the sewer and water service priorities for all properties shown in Stage III to Priority 2 - no service envisioned for at least 6-10 years.
- Amend the administrative guidelines for the Adequate Public Facilities Ordinance to permit the staging approach outlined in this chapter (that is, the recording of new development plats should be linked to the awarding of contracts for the construction of new road).

- Amend the Master Plan before Stage III and follow the Master Plan Amendment by a Sectional Map Amendment.
  
- Reexamine the 10-Year Water and Service Plan recommendations as part of the Master Plan Amendment which will precede Stage III.

Add table titled "Proposed Staging for Parcels in Area of Md 28 Corridor", indicating permitted office, retail, and commercial square footage, and related road improvements by Stage, as follows:

**PROPOSED STAGING FOR SHADY GROVE WEST  
AREA OF THE MD 28 CORRIDOR**  
(Prepared 1984)  
Office, retail, commercial uses expressed in square feet; residential uses expressed in dwelling units  
Footnotes are explained in accompanying text.

STAGE	I				II		III	
	sq. Ft.	D.U.	sq. Ft.	D.U.	sq. Ft.	D.U.	sq. Ft.	D.U.
<b>EVENTS*</b>	a. Shady Grove West to 4 lanes (FY 84-87). b. Shady Grove/1-270 Interchange. c. Omega Drive** d. Key West 2 lanes from Shady Grove to MD 28 & MD 28 spot improvements (FY 85-86). e. Fields Road-Pizzard Drive/MD 353.** 2. Collier Road** 3. Quince Orchard Road (FY 83-84). 4. Fields Road-Musty Branch (FY 85-90). 1. Key West widening to 4 lanes between Shady Grove Road and Great Seneca. 2. Great Seneca Highway, Key West to Quince Orchard. 3. I-370 Metro Connector (FY 86-87) 1. I-370 Extended (FY 85-90). 2. Key West as 2-lane road between Shady Grove Road and Gude Drive. 3. Musty Branch as 4-lane road (FY 86-90). 4. Widening of I-270. 5. Extension of Key West from Gude Drive east to MD 28. 6. Widening of MD 28 from 2 lanes to 4 lanes or widening of Key West to 4 lanes. 7. Widening of Key West between MD 28 and Great Seneca from 2 to 4 lanes and Great Seneca connection. 8. Widening of Ritchie Parkway (MD 28 to Falls Rd.) 9. Great Seneca Highway (Quince Orchard to Middlebrook).							
*Construction dates reflect Approved 1983-90 CIP San Francisco I								
**Under construction as of 12/84								
<b>MAXIMUM ALLOWABLE DEVELOPMENT*</b>	sq. Ft.	D.U.	sq. Ft.	D.U.	sq. Ft.	D.U.	sq. Ft.	D.U.
A) Corporate District (Washington)	525,000	730	-	-	1,300,000	-	2,700,000	730
B) R&D District	225,000	-	125,000	-	225,000	-	-	-
C) Bio-Technology District (Life Sciences Center)	600,000	-	300,000	-	600,000	-	-	-
D) University District <sup>3</sup>	-	-	-	-	-	-	-	-
E) Conference Center/R&D District	-	-	-	-	-	-	-	-
F) Residential District	-	250	-	250	-	250	-	250
G) MD 28 Residential District	-	30	-	30	-	200	-	200
H) Residential/R&D District (Thomas Farm)	-	-	-	-	600,000	-	-	-
<b>TOTALS</b>	<b>1,350,000</b>	<b>1,030</b>	<b>425,000</b>	<b>500</b>	<b>2,325,000</b>	<b>630</b>	<b>2,700,000</b>	<b>730</b>
<b>TOTALS STAGE I &amp; II</b>					<b>6,100,000</b>	<b>1,300</b>		

A Master Plan Amendment will determine Stage III recommendations for these areas.

**FOOTNOTES**

- Some roads will be constructed during the time frame of Stages I and II but they are not staging events for Shady Grove West. They are shown for information. The roads which are needed for development in a district to proceed in Stage I must be under construction before Stage II can proceed.
- The I-370 Metro Connector will be constructed during the time frame of Stage I but it will not become important to Shady Grove West until I-370 Extended is completed in Stage II.
- The maximum allowable development shown in this table may only occur if a subdivision passes local area review (see Implementation section) at time of subdivision. The local area review process allows the traffic impact of a subdivision to be examined in more detail than at the Master Plan level and includes an examination of traffic impacts on nearby intersections.  
  
The threshold for residential development in the Gaithersburg Policy Area is now 0. Additional residential development will only be approved under the threshold flexibility provisions or discount provisions of the Adopted Guidelines for Administering the Adequate Public Facilities Ordinance.  
  
The threshold flexibility provisions allow approval above the threshold to be conditioned upon the future construction, by either the applicant and/or the government, of some public facility projects or the operation of a transit program which, if added to the approved Capital Improvements Program (CIP) as a programmed facility, will add capacity to the road network and result in the subdivision meeting the adequacy tests of local area review and will not result in lowering the areawide level of service.  
  
The discount provisions may permit subdivisions of 49 units or less to proceed if, in the judgment of the Planning Board, previously approved subdivisions in the area will not proceed to construction within 6 years.  
  
For a more complete discussion of APF guidelines, see the most recently adopted Comprehensive Planning Policies Report.
- The NUS property (Area B-2) is presently zoned O-M. Unless the property owner applies for a change in the record plat or rezones the property or applies for the MXPD zone, the staging recommendation of this Plan would not apply to future development.
- The University District is part of the Life Sciences Center and is included in the staging recommendations for the Life Sciences Center.
- Development shown in Stage III could proceed prior to the widening of I-270 subject to future construction, by either the applicant and/or the government, of some other public facility projects or the operation of a transit program which, if added to the approved Capital Improvements Program (CIP) as a programmed facility, will add capacity to the road network and result in the subdivision meeting the adequacy tests of local area review and will not result in lowering the areawide level of service.
- This capacity might be obtained by the programming of Md 28 improvements instead of "i. m. n" if such a substitution would result in acceptable levels of service and is supported by traffic studies done at time of subdivision. This Plan designates the end state land use as R-90/DR-4, but the balance of this development will be subject to staging decisions in the Stage III Master Plan Amendment.
- If the segment of Key West Boulevard east of Gude Drive moves forward faster than anticipated in staging plan, this parcel could move forward to development.

- Amend table titled "Proposed Staging for Parcels in Md 28 Corridor Outside of Shady Grove West", indicating permitted office, retail, and commercial square footage, and related road improvements by Stage for areas outside of the Md 28 Corridor to note a Master Plan Amendment will precede Stage III.

#### MONTGOMERY COUNTY AIRPARK

- Add new paragraph at end of section titled "Relationship of Airpark Operations to Future Land Use", on page 54, to read as follows:

A Task Force has been established by the County Council to assess the importance (or necessity) of having an airpark located in Montgomery County and if an airpark is deemed important, to evaluate its current location and either develop recommendations for strengthening support for its current location or recommend alternative locations. The land use pattern proposed by this Plan should be reexamined in light of the findings of the Task Force.

- Amend section titled "Relationship of Airpark to Rock Creek Planning Area", on page 54, to delete the Fulks Property from the Gaithersburg Vicinity Plan Study Area.

#### PLAN IMPLEMENTATION

- Revise section titled "Sectional Map Amendment (SMA)", on page 117, to read as follows:

##### Sectional Map Amendment (SMA)

An SMA is a comprehensive rezoning process which zones all properties within the Planning Area to correspond with the zoning recommendations in the master plan. The Planning Board files the SMA and the Council, after public hearing, adopts the zoning. Once the rezoning occurs, it is the legal basis for all future local map amendment requests.

The SMA only implements euclidean (base) zones and those floating zones having the owners concurrence and which do not require a development plan at the time of rezoning. The Planned Development (PD) Zone and Mixed-Use (MXP) Zone require separate applications as local map amendments.

A Sectional Map Amendment for the entire Gaithersburg Vicinity Planning Area will be filed once this Plan is approved.

In the Shady Grove West area, all properties not recommended for development until Stage III will be zoned R-200; most of the affected properties are already zoned R-200.

Rezoning of these parcels must await adoption of a Master Plan Amendment.

All other properties will be zoned in accord with the base zoning recommendations described in the land use and zoning chapter.

● Revise section titled "Zoning Text Amendments", on page 117, to read as follows:

#### Zoning Text Amendments

[The MXP Zone and the I-4 Zone have been developed in connection with this Plan. These regulations provide the ability to achieve the type of diverse development recommended by the Plan.]

[The proposed MXP Zone permits the development of an integrated mixed-use development. It is intended to be used primarily for employment and commercial centers but residential uses are also permitted. The proposed I-4 Zone encourages the development of industrial and warehouse space for industrial firms either just getting started or doing well enough to construct their first building. Office uses are a special exception in the I-4 Zone; approval of office development will depend in part on the traffic capacity of nearby roads.]

During the course of this Plan process, it became evident that modifications to the I-3 (Light Industrial) Zone are needed to accommodate the changing

character of research and development firms. The I-3 Zone should be examined and amended prior to or in concert with the adoption of a future Master Plan Amendment.

- Revise section titled "Capital Improvements Program (CIP)", on page 118, to read as follows:

#### Capital Improvements Program (CIP)

The CIP is the County's funding and construction schedule over a six-year period for all public buildings, roads and other facilities planned by the public agencies. The County Executive is responsible for its yearly preparation. When approved by the County Council, it becomes an important part of the staging mechanism for the Plan.

The Technical Appendix of this Plan identifies projects that are either currently scheduled or which should be included in the future to implement Master Plan recommendations. Those projects currently scheduled are listed as well as those recommended by this Master Plan. The County and State agencies responsible for design and development of each project are indicated.

#### Water Supply and Sewerage Systems Plan

The Comprehensive Ten-Year Water Supply and Sewerage System Plan is the county's program for providing community water and sewerage service. Most of the Gaithersburg area is either currently being served or scheduled to be served in the near future.

The following list describes three levels of sewerage and water distribution priority recommendations used throughout this section:

Priority 1:        Designates that service is existing or planned within 6 years.

Priority 2:        Designates that service is planned within a 7-10 year period.

Priority 3:        Designates that service is not planned within a 10 year period.

- Add new paragraph in section titled "Sewer Service and Systems Adequacy", on page 28, to read as follows:

#### Sewer Service and Systems Adequacy

Most of the Gaithersburg area has sewer service readily available and with the exception of the Gudelsky-Percon area south of Md 28, most of the area north of the Airpark and in Shady Grove West Area could be served in the future by minor extensions of the existing sewer system.<sup>2</sup> They are in the Priority 1 Service Category.

[The timing of sewer service affects when a property may develop. In the Airpark Area, where traffic capacity is of such concern, the extension of sewer service should be keyed to the timely provision of needed road improvements. For this reason, property located in Analysis Area 58 should not be designated for sewer service until Airpark Road Extended is programmed for construction. Until that time, the property should remain "Priority Two" in terms of sewer service (see map on page 120).]

To the north of Analysis Area 58 is the Goshen Estates property for which sewer service is not envisioned. The Plan assigns this parcel "Priority Three."

All other properties in the Airpark Area are shown as "Priority One", which will enable the property owners to proceed through the subdivision process. (These properties will still be subject to the Adequate Public Facilities Ordinance.)

To help implement the staging recommendations for the Shady Grove West Area, properties which are not recommended for development until Stage III are shown as "Priority 2" (see map on page 29). The properties affected include the Banks, Thomas, King, Kent, Percon and part of the Crown Farms. The "Priority 2" designation will help defer development by deferring the extension of sewer service. A sewer category change for these parcels should not be approved until the Master Plan Amendment which is to precede Stage III is completed.

<sup>2</sup>WSSC is preparing a Western Montgomery County Facilities Plan which will determine adequacy of the existing system and assess future needs.



- Revise section titled "Comprehensive Planning Policies (CPP)," on page 119, to read as follows:

#### Comprehensive Planning Policies (CPP)

In 1982, the Board adopted its first Annual Comprehensive Planning Policies (CPP) Report. The CPP incorporated a new set of guidelines for the Board to follow in administering the APF Ordinance. Thus, the interrelationship of the various County programs and plans, particularly in terms of the provision of public facilities, is more clearly defined. The CPP is used as a growth management tool. As the Board reviews and updates it yearly, there is the opportunity to reevaluate whether proposed public facilities are adequate to serve anticipated development.

Future CPP Reports will incorporate by reference the staging recommendations of this Master Plan. This will mandate a more rigorous APF test in terms of transportation adequacy. A record plat for a subdivision may be [[filed]] approved only when the major roads used in the traffic analysis are under contract for construction. Although the staging plan identifies which roads are to be considered as staging events, other roads may be required as the result of more detailed traffic studies.

By "under contract for construction," this Plan intends that a contract has been signed for construction of a road.

The chart on page shows how the Shady Grove West Staging Plan recommendations will be incorporated into the standard APFO subdivision review process.

- Revise section titled "Transfer of Development Rights (TDR)," on page 119, to add paragraph at end of section, to read as follows:

#### Transfer of Development Rights (TDR)

This plan recommends the use of TDR's on several properties which are located within the expansion limits of the cities of Rockville and Gaithersburg. The

Plan recommends that the cities and the county explore mechanisms for the accomplishment of these designations. Requiring the recordation of TDR easement at the time of annexation may be a method of achieving this goal. This plan does not recommend the automatic advancement to Priority I sewer service on TDR receiving areas designated in Stage III.

- Revise section titled "Annexation Policy Guidelines," on page 126 and 127, to add paragraph at end of section, to read as follows:

#### Annexation Policy Guidelines

##### A Process for Addressing Areas of Mutual Concern

This plan recommends that the county and the municipalities of Rockville and Gaithersburg enter into the following two agreements:

1. The cities of Rockville and Gaithersburg, in concert with the county, should agree to adopt a mutually acceptable staging approach for the Md 28 area, and agree to establish a system for the remaining I-270 corridor area. This staging program can be tailored to each jurisdiction but should be consistent in terms of data and methodology.
2. The cities of Rockville and Gaithersburg and the county should agree to develop a memorandum of understanding on maximum expansion limits and annexation issues. This agreement would provide the policy basis for reviewing all future annexation applications.

#### COMMUNITY FACILITIES

- Amend section titled "Public Schools," on page 95, to read as follows:

##### Public Schools

The Board of Education's (BOE) demographic projections show a continued decline in projections are consistent with the Planning Board's growth forecast model. Based on these projections, the planned number of school sites indicated in the proposed Land Use Plan (see foldout map) have been significantly reduced from the 1971 Gaithersburg Vicinity Master Plan.

Two new high schools are needed in the Gaithersburg area to relieve secondary school overcrowding and to provide grades 9-12 high school in Area 3. The Board of Education has approved project planning funds for a new high school to be located west of I-270 in the Quince Orchard/Md 28 area. The amount and type of new residential development that is anticipated in the Gaithersburg area may require the construction of one or more new schools. Therefore, currently owned school sites in Gaithersburg should be retained until such time as the Board of Education can determine whether they will actually be needed for future school construction.

Four school sites in Gaithersburg have been declared surplus or unneeded (see map on page 96). The future use of these sites is a major land use concern. Although any recommendation of the use of former school sites must go through a separate review procedure by the County government, the Planning Board has analyzed the potential land use of these sites as part of the planning process. The Seneca High site (now referred to as Watkins Mill) is no longer considered unneeded. The County Council has approved the necessary construction funds for the new high school to serve the area east of I-270. The recommendations for disposition of the other sites are as follows:

- Delete paragraph under section titled "Public Schools," on page 97, as follows:

[Seneca High (33 acres)]

[This site is located on the western edge of Montgomery Village, adjoining Seneca Creek State Park. According to the BOE staff, this site is poorly located in view of current pupil yields and development plans and should be conveyed to the County. The Plan recommends that this site be used for residential development and that the existing R-200 zoning be retained as a base zone, with an option to increase density to TDR-4.]

- Amend section titled "Public Schools", on page 97, to designate THE 32 acre Centerway High School Site (located east of Strawberry Knoll Road and adjacent to Flower Hill Planned Community) R-200 as the base density and TDR-4 as the optional density on the proposed Zoning Map.

## SMOKEY GLEN STUDY AREA

- Designate on zoning map additional C-1 zoning (6,300 sq. ft.) for parcel fronting Md 28 near Quince Orchard Road, adjacent to Suburban Trust Drive-In Bank.

## NON-CONTIGUOUS PARCELS

- Revise table 4, "Non-Contiguous Parcels," on page 73 and 74, as follows:
  - Analysis Area 3 - indicate that the exact amount of commercial zoning will be determined at the time of the Sectional Map Amendment.
  - Analysis Area 6 - delete text and other references regarding subject 36-acre parcel recently annexed by City of Gaithersburg.
  - Add Analysis Area 10 to designate 93-acre Asbury Methodist Home property as R-90.
  - Add Analysis Area 11 to designate 5-acre vacant property south of Md 28 adjacent to City of Rockville Corporate Limits from R-200 to R-90.
  - Add Analysis Area 12 to designate AS R-90 the 39-acre parcel consisting of several existing single-family residences and vacant land [[R-90]].
  - Add Analysis Area 13 to indicate R-90 as the base density and TDR-5 as the optional density for the property north of Clopper Road adjacent to Bennington Subdivision.

## APPENDICES

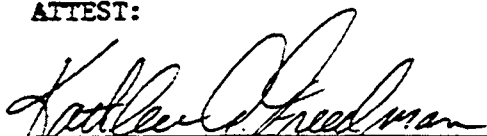
Appendices to be reorganized and updated.

## GENERAL

All figures and tables are to be revised where appropriate to reflect County Council changes to the Final Draft Gaithersburg Vicinity Master Plan. The text is to be revised as necessary to achieve clarity and consistency, to update factual information, and to convey the actions of the County Council. All identifying references pertain to the Final Draft Gaithersburg Vicinity Master Plan document dated September, 1983.

A True Copy.

ATTEST:



Kathleen A. Freedman, Acting Secretary  
of the County Council for  
Montgomery County, Maryland

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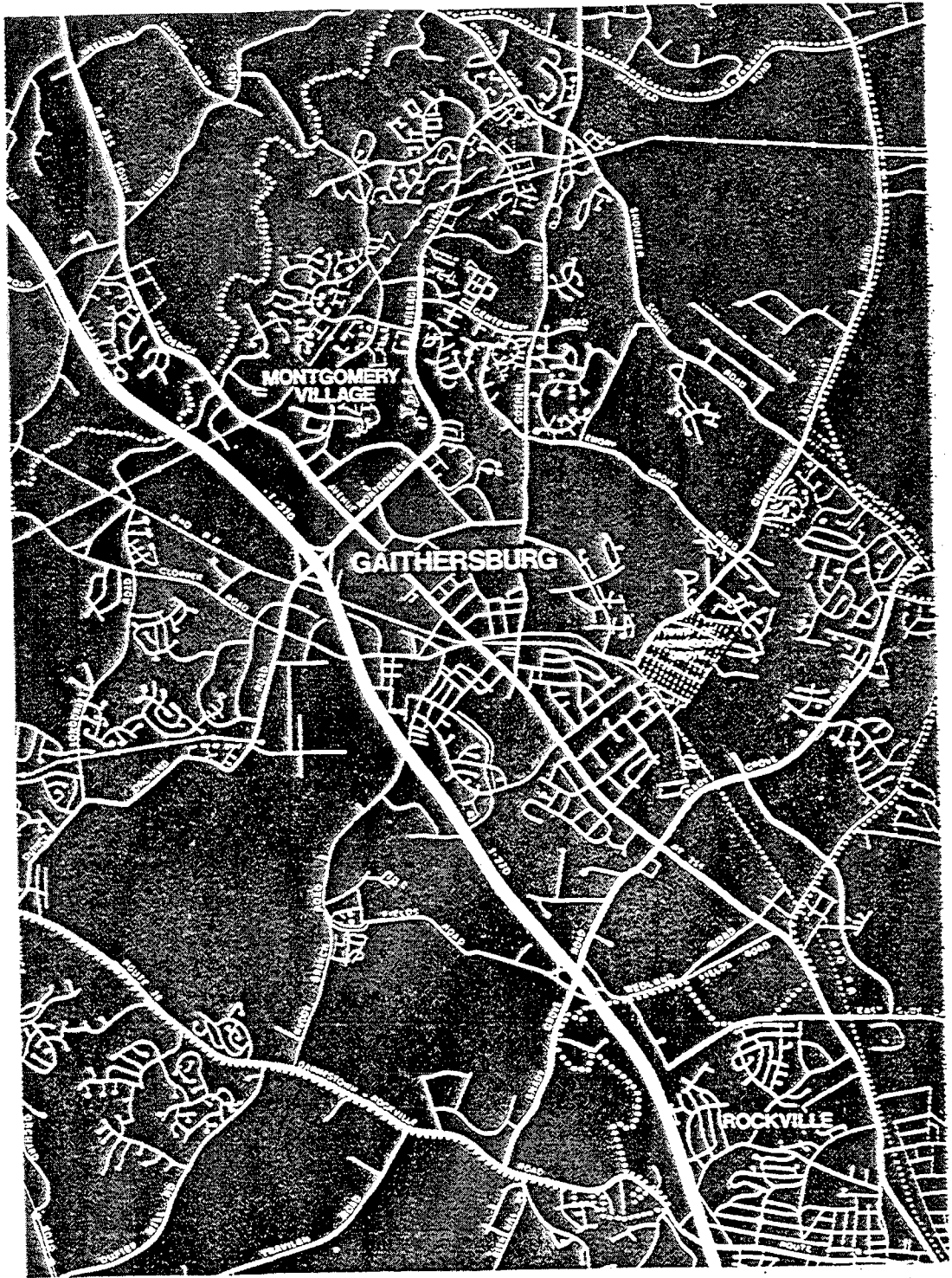
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# Plan Highlights

This Plan manages and directs the dynamic growth potential of the Gaithersburg Vicinity Planning Area. (See figure 1.) The Planning Area's remaining supply of vacant and uncommitted land provides an important resource in meeting several County-wide objectives. These objectives include:

- Providing employment opportunities for a variety of businesses and enterprises;
- Providing a sense of community identity for both existing and future residents;
- Increasing the County's total housing stock and concurrently providing an appropriate mix of affordable housing;
- Providing a safe, efficient, and adequate transportation system;
- Providing receiving areas for Transferable Development Rights (TDR's) to implement the County's Agricultural Preservation Program; and
- Providing such facilities as parks and schools on a timely and adequate basis.

Most of the land in the Gaithersburg area has already been either developed or committed to development under the existing master plan guidelines of the city of Gaithersburg and of the County. Three significant areas still remain vacant and uncommitted, providing substantial opportunities to meet County-wide development goals. These are designated as the Shady Grove West Study Area, which is generally bounded by I-270, Shady Grove Road, MD 28, and Muddy Branch Road; the Airpark Study Area, which is generally bounded by Goshen Road, Warfield Road, MD 124, and the Midcounty Highway alignment; and the Smokey Glen Study Area, north of MD 28 near Seneca Creek State Park.





Recommendations for approximately 220 acres located within the Potomac Subregion Master Plan Area are also included in this Plan.

#### SHADY GROVE WEST STUDY AREA

The Plan recommends that the Shady Grove West Study Area continue to be designated as a major employment and housing center due to its strategic location in the I-270 Corridor.

Specifically, the Plan recommends that:

- An 1150-acre Research and Development (R&D) Village be designated to offer a high quality environment not only for research and development firms, but also for offices, corporate headquarters, light manufacturing, and business support services. Residential development is also part of the R&D Village.
- The Shady Grove Life Sciences Center, part of the R&D Village, be designated on the proposed Land Use Plan as suitable for the Mixed-Use Planned Development (MXPD) Zone with emphasis on medically related and biotechnology uses.
- The Washingtonian property, adjacent to I-270 and also part of the R&D Village, be designated on the proposed Land Use Plan as suitable for the MXPD Zone and be developed as a "planned employment center" with offices, a small amount of retail development, and residential uses.
- Additional areas for office employment be provided near selected major highways.
- Significant areas of moderate-density residential development be provided both east and west of Shady Grove Road.
- Appropriate residential parcels be designated as receiving areas for TDR's, thereby implementing the recommendations of the County's Functional Plan for Preservation of Agriculture and Rural Open Space.

The development proposed in the Shady Grove West Area is keyed to the construction of certain roadways. A staging element is included to help assure that new development proceeds in concert with the construction of new roads.

#### AIRPARK STUDY AREA

This Plan assumes the continued operation of the Montgomery County Airpark at its present location and with its current general character. It recommends that the prospective development of surrounding residential and industrial land uses should not detract from its continued operation. A Task Force established by the County Council is assessing the importance of the Airpark and evaluating the desirability of its current location. The land use pattern proposed by this Plan should be re-examined in light of the findings of the Task Force.

Specifically, the Plan recommends that:

- The Revenue Authority and State Aviation Administration (SAA) prepare, with the assistance of local government officials and citizens, a detailed Noise Abatement Plan.

- Goshen Road be improved between Snouffer School Road and Oden'hal Road.
- Airpark Road Extended, a new road, be provided in the Upper Rock Creek area parallel to Muncaster Mill Road between MD 124 and proposed Shady Grove Road Extended.
- A convenience retail shopping center, at least ten acres in size, be provided along existing MD 124 to serve existing and future residential development.
- Low-intensity light industrial development be shown for the property north of Snouffer School Road and east of the Green Farm Conservation Park because of its proximity to the end of the airport runway.
- Several residential parcels be recommended as receiving areas for TDR's, thereby implementing the recommendations of the County's Functional Plan for Preservation of Agriculture and Rural Open Space.

#### SMOKEY GLEN STUDY AREA

This is an environmentally sensitive area north of MD 28 near Seneca Creek State Park. The Plan recommends that:

- The area located northeast of Riffle Ford Road and adjacent to Seneca Creek State Park be shown for an average density of one unit per two acres. Clustering of residential units will be required to protect the environmentally sensitive areas.
- The land use for the area located west of Longdraft Road near Marmary Road be changed from half-acre residential (R-200) to two-acre (RE-2) minimum lot size to better protect this environmentally fragile area.
- The remaining areas (not considered environmentally sensitive) be confirmed as half-acre residential zoning.

#### OTHER RECOMMENDATIONS

- A portion of bike route P-32 be eliminated from the Master Plan of Bikeways.
- Bikeway routes be provided in a comprehensive bikeway system within the Planning Area.
- A transit easement be extended from Shady Grove to Gaithersburg, Germantown, and, ultimately, Clarksburg to provide a right-of-way for a future extension of bus or transit service.
- If appropriate, the areas outside the study areas which have not been rezoned into conformance with the recommendations of the 1971 Gaithersburg Vicinity Master Plan be rezoned into conformance through a Sectional Map Amendment.

This Plan reflects the land use and zoning proposals set forth in the Approved and Adopted Oakmont Special Study Plan (1982).

# Land Use and Zoning Recommendations

## INTRODUCTION

This Chapter describes the Plan's land use and zoning recommendations. These recommendations support the "corridor city" designation of the Gaithersburg area expressed in the General Plan.

Much of the land in the Gaithersburg Vicinity Area either has been developed or has received development approvals. Only three areas have a significant amount of relatively contiguous vacant land or land subject to redevelopment. These are the areas where there are meaningful opportunities to influence physical growth and future development through the master plan process. Land use and zoning recommendations are presented by each study area; their boundaries are described below.

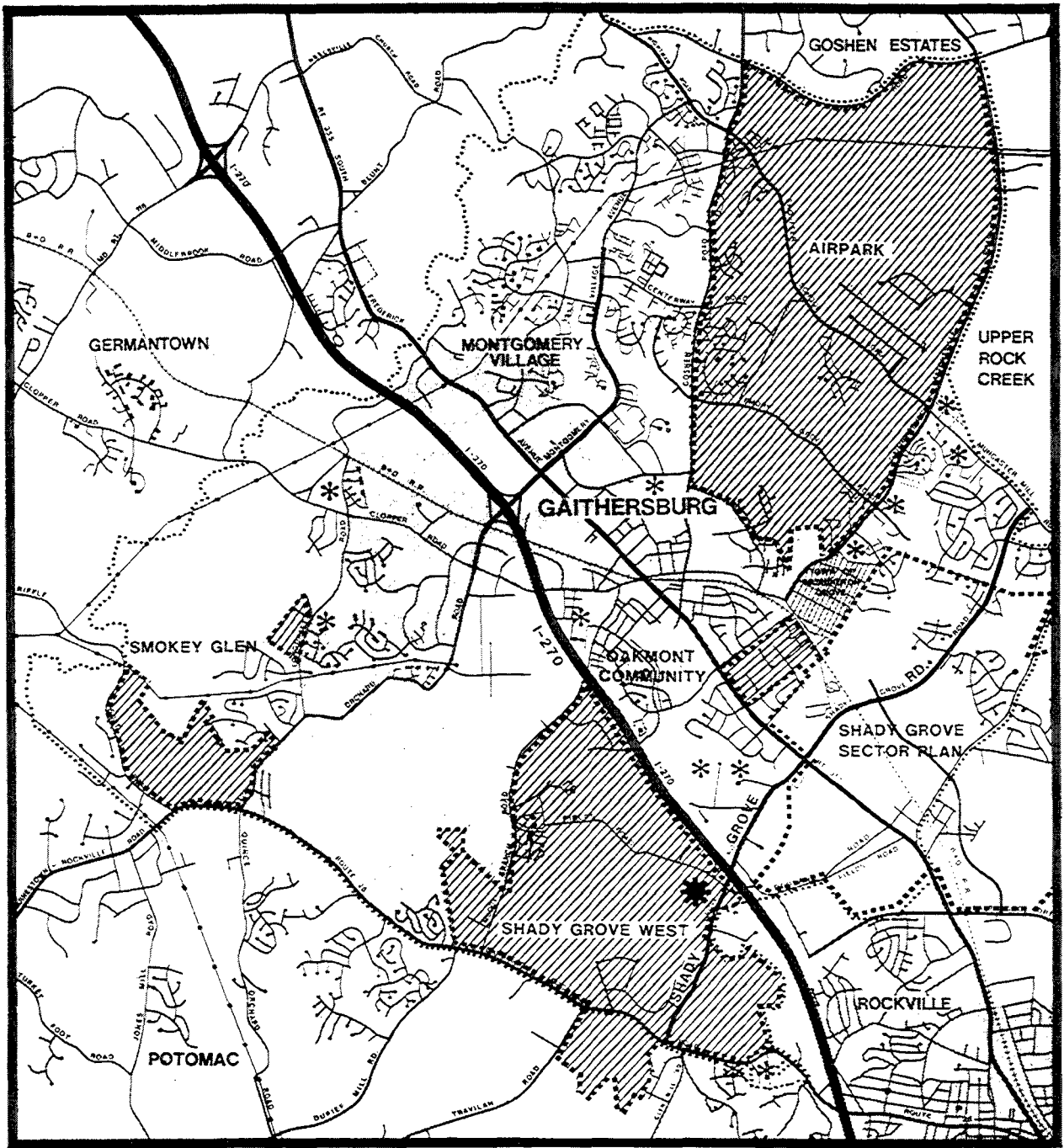
This Plan continues the recommendations of the 1971 Gaithersburg Master Plan for most of the land outside these study areas. Recommendations not confirmed for individual properties outside these study areas are also included in this chapter.

### Boundaries of Study Areas



Study area boundaries are shown in figure 2.

The Shady Grove West Study Area is generally located between the cities of Gaithersburg and Rockville, and between I-270 and MD 28. Included in this study area are several properties south of MD 28 identified in the Master Plan for the Potomac Subregion for further study within the context of the Gaithersburg Vicinity Plan.

The Airpark Study Area centers around the Montgomery County Airpark. It extends south to the boundaries of the city of Gaithersburg and the town of Washington Grove and north to Warfield Road. The eastern and western boundaries



### MAJOR STUDY AREAS

- ..... Planning Area Boundary
-  Municipalities
-  Study Areas
- \* Non-Contiguous Parcels (see text)

\* See Shady Grove Study Area Master Plan

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 Montgomery County Maryland

January, 1985



Fig. 2

are MD 124 and Goshen Road, respectively. A small portion of the Rock Creek Planning Area east of MD 124 has been studied because it is affected by noise from the Montgomery County Airpark.

The Smokey Glen Study Area is an environmentally sensitive area north of MD 28 near Seneca Creek State Park.

Other properties which are located outside these three study areas and also discussed in this Plan include the Oakmont Area, the Washingtonian Industrial Area, and several individual, scattered parcels within the Gaithersburg Vicinity Planning Area.

The Oakmont Area lies between MD 355 and the B&O Railroad and southwest of the town of Washington Grove. Because it was not dependent on transportation studies which delayed action on the remainder of the Plan, the Oakmont Area was studied separately. A Special Study Plan, adopted in 1982, is available as a separate document. The Land Use Plan map is included in this Plan as well.

#### Relationship of this Plan to Municipal Planning Efforts

The Gaithersburg area consists of Planning Areas 20 and 21. (See figure 1.) The Gaithersburg Vicinity Master Plan covers Planning Area 20, which represents the land under the jurisdiction of the County. Planning Area 21 embraces the city of Gaithersburg and also the town of Washington Grove. The city of Rockville is designated Planning Area 28.

As the cities of Gaithersburg and Rockville and the town of Washington Grove have their own powers of planning and zoning, this Plan makes no land use recommendations for these areas. This planning effort, however, has taken note of the planning policies and development in these jurisdictions and has involved the planning staffs and officials of these jurisdictions.

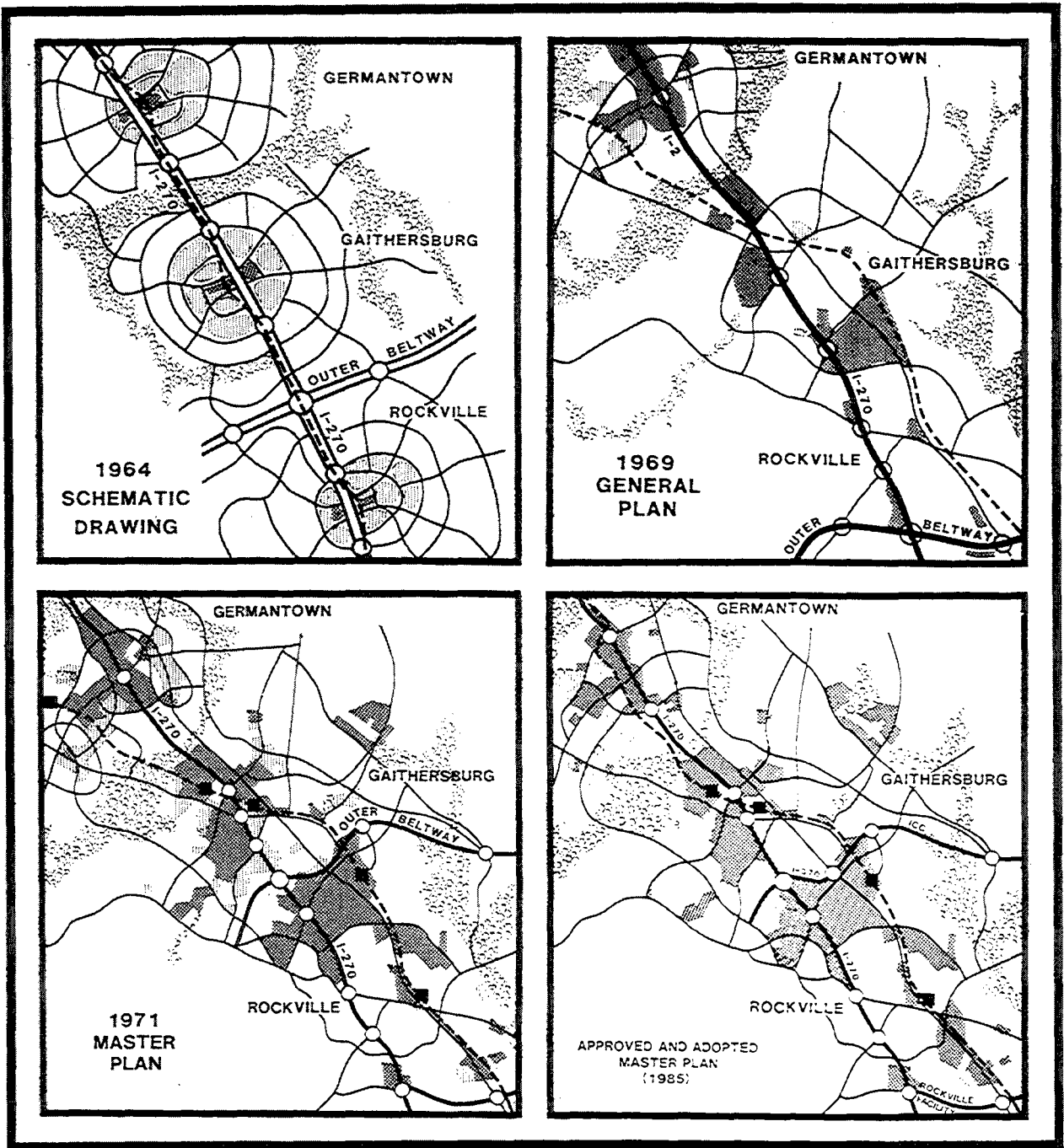
#### Relationship of this Plan to the County General Plan

This Plan has been guided by the County's General Plan of 1969. The General Plan encourages a pattern of "wedges and corridors" --concentrated development along the urban transportation corridors with low-intensity and agricultural uses within the wedges. It designates the Gaithersburg area as one of several "corridor cities" along I-270. Diagrammatically, a "corridor city", as originally envisioned, was to have a single center of employment and shopping activities surrounded by residential development. (See figure 3.) The residential area decreased from high-density, adjacent to the core, to low-density, at the edge of the "corridor city."

Several events have occurred since the late 1960's to alter this idealized diagram for a "corridor city." The extensive mass transit system envisioned in the General Plan has not materialized. Many employment centers have located away from the core of the "corridor city." The roadway network proposed in the General Plan has been modified over time.

Despite these events, the principal purposes and objectives of the "wedges and corridors" concept are still valid. The Gaithersburg Vicinity incorporates these purposes and objectives in the following manner:

- Residential densities are highest near the center of the area, closest to I-270, and lower along the edges of the Planning Area;



# CORRIDOR CITIES DIAGRAMS

-  I-270
-  Other Roadways
-  Metrorail
-  Employment Center
-  Residential Center
-  Major Parkland/Open Space

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 Montgomery County Maryland

January, 1985



Fig. 3

- Higher density development is channeled to areas of high accessibility by private automobile and public transit; and
- New residential communities proposed in the Plan are planned with a variety of housing types with local shopping and educational and recreational facilities.

This Plan includes land (the Percon property) which lies south of MD 28 in the "wedge" area. The General Plan proposes low-density residential uses here, but this Plan proposes a Research and Development (R&D) park as an alternative. A future Gaithersburg Vicinity Master Plan Amendment will examine in more detail the relationship of an R&D park to the goals and objectives of the General Plan for this portion of the "wedge" area.

### Land Use and Density Recommendations

This Plan follows the established practice of master plans for Montgomery County by providing zoning recommendations for base densities for each parcel or tract of land and indicating in the land use recommendations optional zones or densities. The zoning recommendations for base densities are for euclidean zones, in which the property owner may develop, as a matter of right, up to the maximum density prescribed by the zone if the development conforms to the development standards of the zone. These euclidean zones do not require site plan review by the Planning Board and it is intended that they be applied by Sectional Map Amendment following the approval of the master plan.

The optional zones and densities shown on the Land Use Plan are those which may be obtained either by approval of a floating zone for the property or by the use of transferable development rights (TDR's). Those floating zones which do not require approval of a development plan at the time of the approval of the zoning application may be, at the request of the property owner, applied by the Sectional Map Amendment. The planned development zones and certain other floating zones require the submission of development plans to demonstrate how the applicant intends to enhance the development with increased public and private amenities and a more efficient, creative approach to design and form. In these zones, the County Council addresses issues of compatibility, attractiveness, environmental protection, and the provision of public amenities in reviewing the development plan; the Planning Board addresses these issues in somewhat greater detail in reviewing the site plan.

Another form of optional density shown on the Land Use Plan is the use of TDR's. The Functional Master Plan for the Preservation of Agriculture and Rural Open Space restates and reinforces the policy of the County to encourage the preservation of agricultural uses, woodland, and open space. For property classified in the Rural Density Transfer Zone (RDT), the owner may sell transferable development rights equivalent to one development right for each five acres of RDT property. Land designated as appropriate for TDR receiving areas in the Gaithersburg Vicinity Plan and other master plans may be developed at the higher density shown by the use of TDR's equivalent to the difference between the base density and the increased density. When the TDR's from a particular parcel of RDT land are utilized, a perpetual easement is recorded on the RDT land to assure that it will be retained in the agricultural and open space uses.

The densities indicated in the text and on the land use and zoning recommendations are the maximum permissible without the bonus for inclusion of



moderately-priced dwelling units (MPDU's). The recommended base density is that zone which represents the best use of the land if no increased optional density is desired or sought by the owner. The recommended optional densities represent the upper limit that appears to be appropriate for the parcel, taking into account the environmental considerations, overall transportation capacity, and relationship to adjacent properties. It is important to emphasize that the optional density is an upper limit and in many cases may not be achieved in its entirety because environmental or compatibility considerations preclude it.

In residential zones, a minimum 12.5 percent of all units in subdivisions with 50 or more units must be MPDU's. In such cases, a density increase of up to 20 percent is permitted and optional development standards and unit types may be utilized.

A summary of base and optional zones proposed in this Plan is shown in table 1.

#### SHADY GROVE WEST STUDY AREA

This is one of the few areas in the I-270 Corridor with a large amount of vacant land suitable for employment and residential development which is close to I-270, a proposed Metro station, and the center of the County. The strategic location along the I-270 Corridor, the nature and character of existing development, vacant land, ownership patterns, and the opening of the Shady Grove Metro station, make the Shady Grove West Study Area an extremely important area for updated master plan guidance.

The ultimate development of the Shady Grove West Study Area will involve a long period--perhaps 20 years--of build out. However, the current market dynamics are creating significant pressure for early initiation of that development. The I-270 Corridor has experienced a surge of development over the past ten years. During the 1970-80 period, 70 percent of the total increase in the County's population was in the Gaithersburg area. Two factors accounted for this large percentage: (1) the population gain within the Gaithersburg area was almost 40,000 residents; and (2) population losses in the County's inner-suburban ring, represented by such areas as Bethesda, Silver Spring, and Wheaton.

During 1970-80, the Gaithersburg area housing inventory grew from 7,100 units to 22,800, a gain of over 15,700 units, representing an annual average increase of nearly 1,600 units. This gain represents nearly 35 percent of the total 1970-80 inventory gain for the entire County.

Forecasts for the next decade project a continuation of this trend. The I-270 Corridor has been planned to absorb a substantial amount of growth. The issues addressed by this Plan include the form this growth should take and the relationship of new development to available public services.

#### Land Use Plan Objectives

The following points describe the objectives of the Shady Grove West Land Use Plan:

- To continue the 1971 Gaithersburg Vicinity Master Plan designation of the Shady Grove West Study Area as a major housing and employment resource area in the County;

TABLE 1  
SUMMARY OF ZONING CLASSIFICATIONS  
DISCUSSED IN THE LAND USE AND ZONING CHAPTER<sup>1</sup>

Zone	Minimum Lot Size/ Major Use	Average Dwelling Unit Per Acre	Maximum Density, (Units Per Acre) <sup>2</sup> Building Height
<u>BASE OR EUCLIDEAN ZONES</u>			
RE-2	2 acre	.40	0.5
RE-2C	25,000 Square Feet	.40	0.5
RE-1	1 acre	1.00	1.0
R-200	20,000 Square Feet	1.85	2.0
R-90	9,000 Square Feet	3.45	3.6
R-60	6,000 Square Feet	4.40	5.0
R-30	Apartments	12.25	14.5
R-20	Apartments	16.76	21.7
R-10	High-rise Apartment	33.16	43.5
C-1	Local Convenience Retail		30 feet
C-2	General Commercial		42 feet
C-4	Limited-Intensity, Highway Commercial		
I-1	Light Industrial		42 feet
I-4	Low-Intensity, Light Industrial		42 feet
<u>OPTIONAL OR FLOATING ZONES</u>			
R-T	Townhouses (6 to 12.5 units/acre)		
R-H	Apartments (up to 43 units/acre)		
R-MH	Residential, Mobile Home Park (7 units/acre)		
O-M	Office Buildings (5-7 stories)		
C-3	Highway Commercial (3 stories)		
I-3	Industrial Park (100 feet height limit)		
P-N	Planned Neighborhood		
T-S	Town Sector		
P-D	Planned Development		
MXPD	Mixed-Use Planned Development		

<sup>1</sup> The Montgomery County Zoning Ordinance gives the specific provisions for each zone. In certain instances, dwelling unit types and building heights may be changed.

<sup>2</sup> Densities indicated are the maximum permissible without the bonus for inclusion of Moderately Priced Dwelling Units (MPDU's). These densities do include the cluster option where applicable. Maximum density can only be obtained on land with dedicated rights-of-way and the capability to accommodate required lot sizes. Any subdivision of 50 or more units must include 12.5 percent MPDU's, in which case a density increase of up to 20 percent and optional development standards and unit types are permitted.

- To establish an "R&D Village";
- To maintain the character of existing neighborhoods surrounding the Shady Grove West Study Area by providing compatible uses in the Shady Grove West Study Area;
- To provide the opportunity for people, as much as possible, to live and work in the same community, thereby creating more efficient use of transportation systems, public facilities and amenities, and reducing the amount of work trip miles;
- To create a distinctive identity and image for an area which currently lacks any cohesive land use pattern;
- To assure that new structures on large tracts of land relate to and are compatible with an overall concept plan for Shady Grove West;
- To encourage integrated, multi-use activity centers rather than unrelated, single-use development sites;
- To locate these activity centers so they can be easily linked to Metro via bus lines or benefit from public and private paratransit programs;
- To create a pedestrian environment and provide amenities which are accessible to both employees and residents;
- To assist in attracting medically related activities and biotechnical organizations to the Life Sciences Center; and
- To provide a clear differentiation between the regional road network and the local road system.

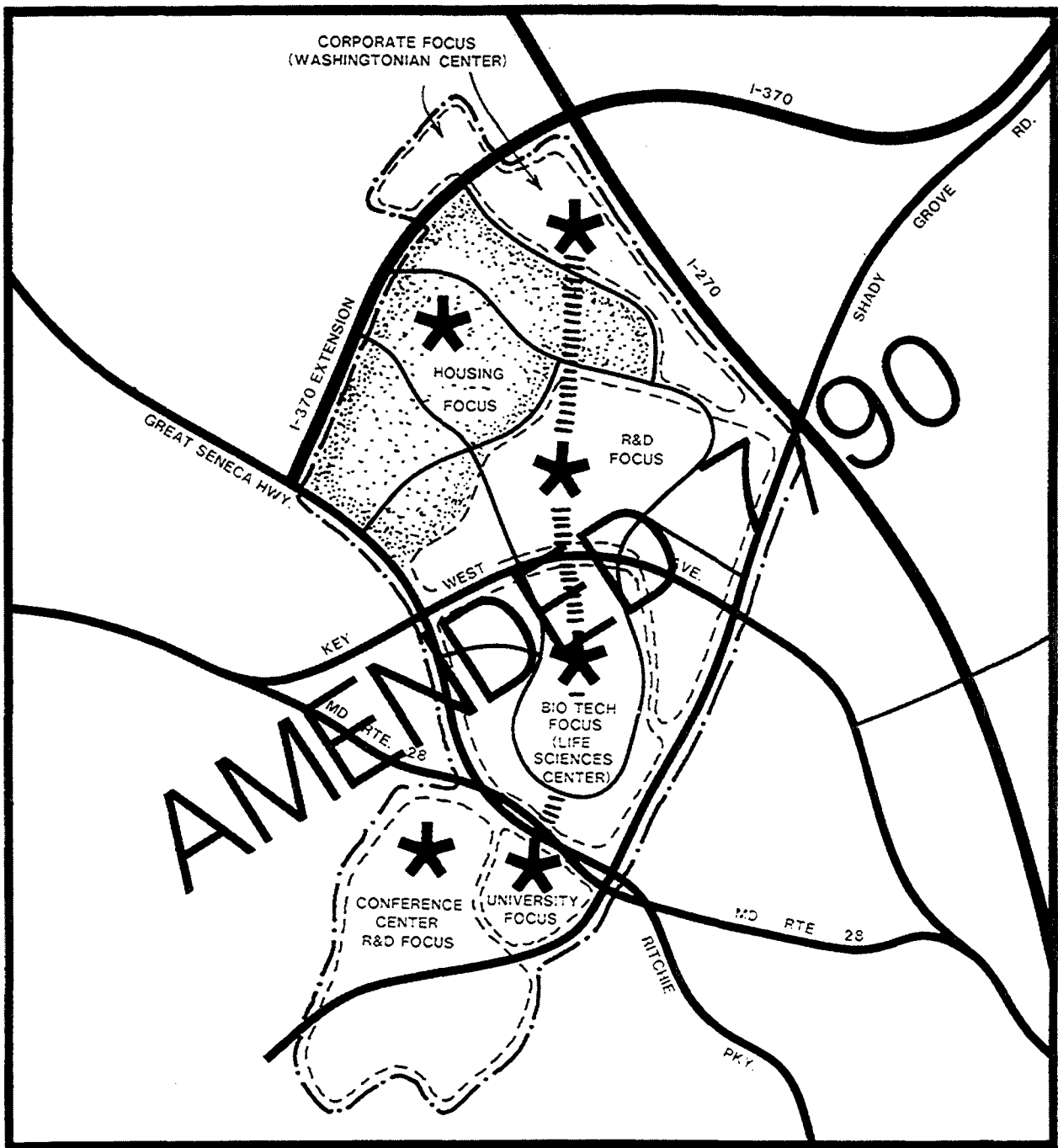
#### Overview of Land Use Plan

This Plan recommends that the majority of Shady Grove West be designated a "Research and Development (R&D) Village." (See figure 4.) The R&D Village will enhance County-wide planning efforts to attract new R&D firms to Montgomery County and to retain existing firms. The R&D Village will foster a mix of housing types and a variety of employment uses, thereby enhancing the quality of life for employees and residents.

In terms of employment, the R&D Village would offer a high quality environment not only for research and development firms, but also for offices, corporate headquarters, light-manufacturing, and business support services.

The County-owned Life Sciences Center has already established a strong biotechnical presence in the southern portion of the R&D Village. A joint program of the University of Maryland and the National Bureau of Standards is being planned by the County for the portion of the Life Sciences Center south of MD 28.

Just as the Life Sciences Center "anchors" the southern end of the R&D Village, a concentration of signature office buildings and related retail uses would anchor the northern end, near I-270. More intense development is proposed here, in part because the area is so well served by the regional transportation network (I-270, I-370, and Metro). This area also offers a tremendous opportunity to create an



## SHADY GROVE WEST AREA - R&D VILLAGE CONCEPT

- Village Boundaries
- ||||| Linear Open Space Feature
- ..... Residential Focus

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 Montgomery County Maryland January, 1985



Fig. 4



identifiable entry into the R&D Village area from I-270. A "mixed use" planned concept is proposed to attract employers seeking an amenity-laden site for their employees and a high quality corporate image for their firms. The Plan envisions office and research buildings, conference and hotel facilities, apartment buildings, and a limited amount of retail uses.

The office character west of Shady Grove Road has already been established by existing office buildings. This Plan continues that character. Office uses are also confirmed for a 45-acre property just north of Key West Avenue.

Small scale retail uses are encouraged in employment areas to serve office and residential uses within the R&D Village.

The Washingtonian property, the Life Sciences Center, and commercial-office properties along Shady Grove Road encompass approximately 600 acres. This Plan supports designating additional acreage for employment uses, but the amount, density, and type of uses will be determined as part of a future Master Plan Amendment. (See next section for description of Amendment.) Until that time, the existing R-200 zoning of key parcels in the R&D Village area will continue.

Residential uses are an integral part of the R&D Village concept. This Plan recommends that 1500 dwellings be incorporated into the mixed-use development proposed for the Washingtonian property. Another 750-1000 units are recommended in the southwestern portion of the Village as a transition to residential development west of the I-370 Connector in the city of Gaithersburg.

Additional areas for residential development will be examined as part of the Master Plan Amendment discussed earlier. The Amendment will be guided by this Plan's objective to provide the opportunity for people, as much as possible, to live and work in the same community and to provide a wide range of housing types.

One of the components of the R&D Village is a pedestrian-oriented "commons area" which is proposed to traverse the Shady Grove West Area. The character of this open space feature will be determined by the land uses through which it passes. The "commons" would help create an urban, human-scale environment as compared to the usual automobile-oriented, suburban development pattern. It would also encourage pedestrian movement.

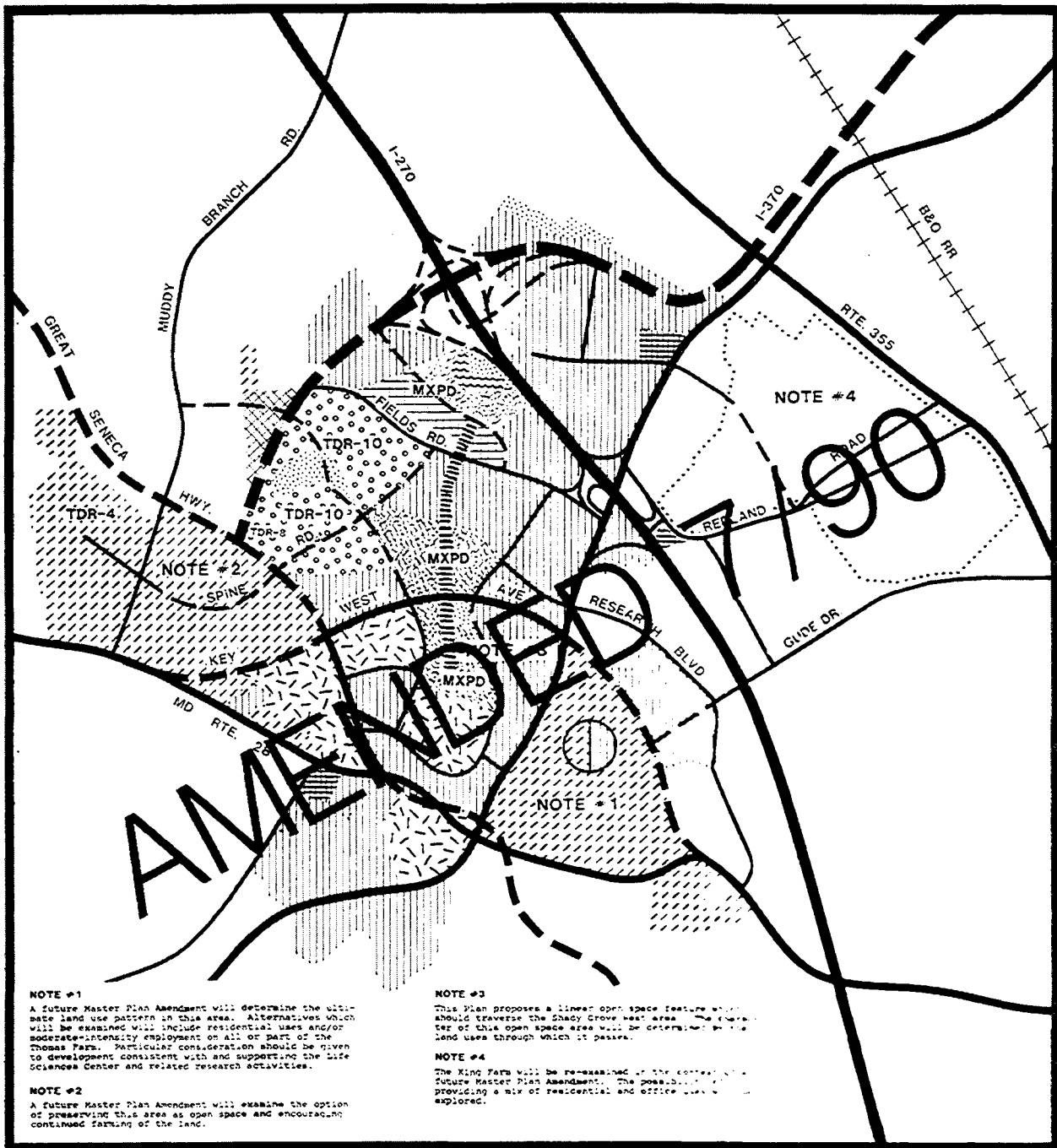
Two portions of Shady Grove West lie outside the R&D Village. These areas will form the transition between the R&D Village and existing suburban neighborhoods along MD 28.

The Land Use Plan (see figure 5) and Generalized Zoning Plan (see figure 6) implement the R&D Village Concept.











#### Need for a Future Master Plan Amendment

Many properties in the Shady Grove West Area are proposed to be re-examined as part of a future Master Plan Amendment. (See figure 7.) Specific land use proposals for certain properties are not included at this time for the following reasons:

- Uncertainty as to long-term employment needs in the I-270 Corridor;
- Uncertainty as to the desirable balance of employment and residences in Shady Grove West;



# SHADY GROVE WEST AREA - LAND USE PLAN CONCEPTS

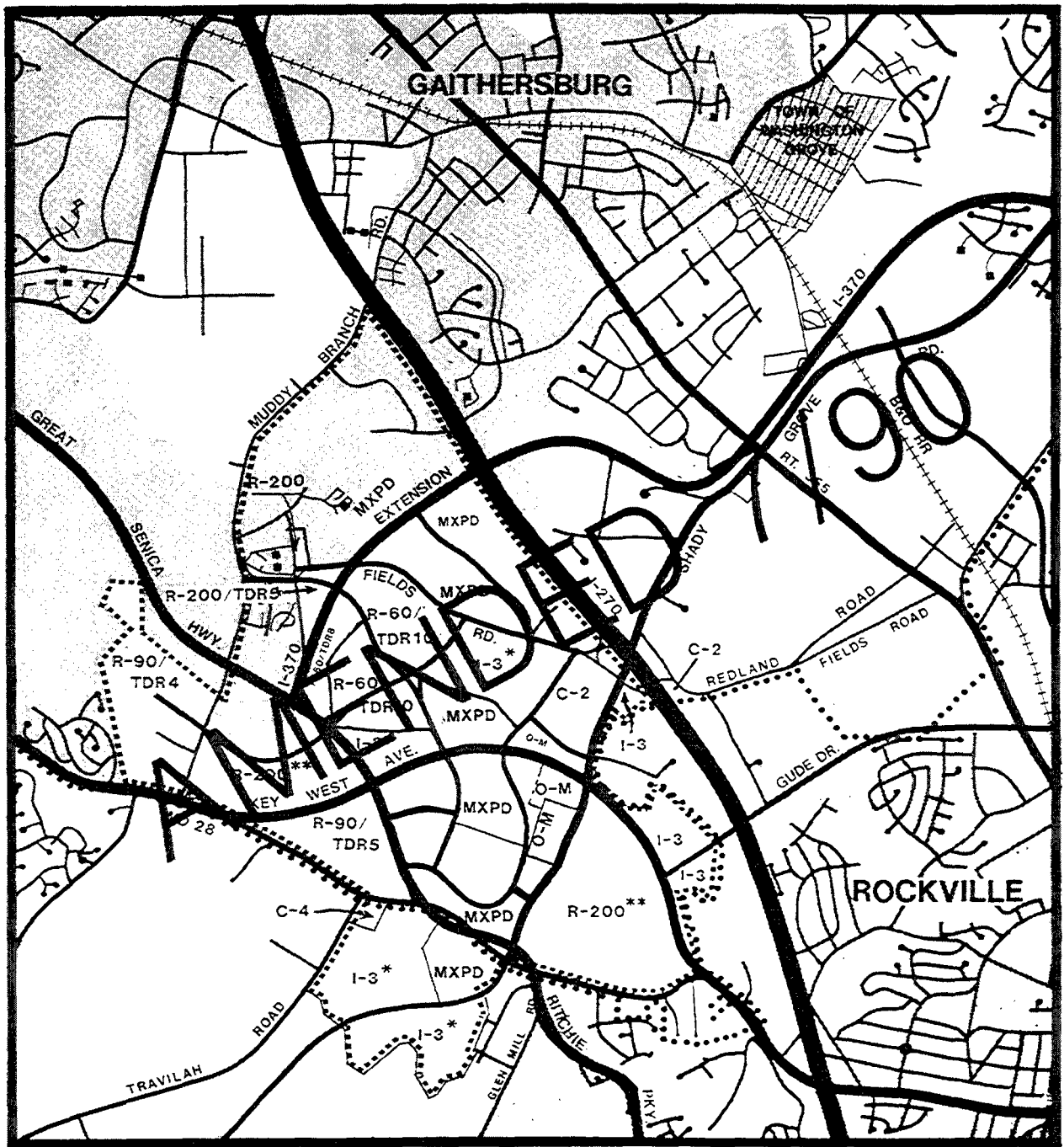
	2-4 Units Per Acre		Apartments		High Intensity Office
	5-6 Units Per Acre		Commercial Retail		Conservation / Open Space
	10plus Units Per Acre		Low Moderate Intensity Employment		Lake
			Public & Quasi-Public		

**APPROVED & ADOPTED GAITHERSBURG VICINITY MASTER PLAN**  
Montgomery County Maryland

January, 1985



Fig. 5



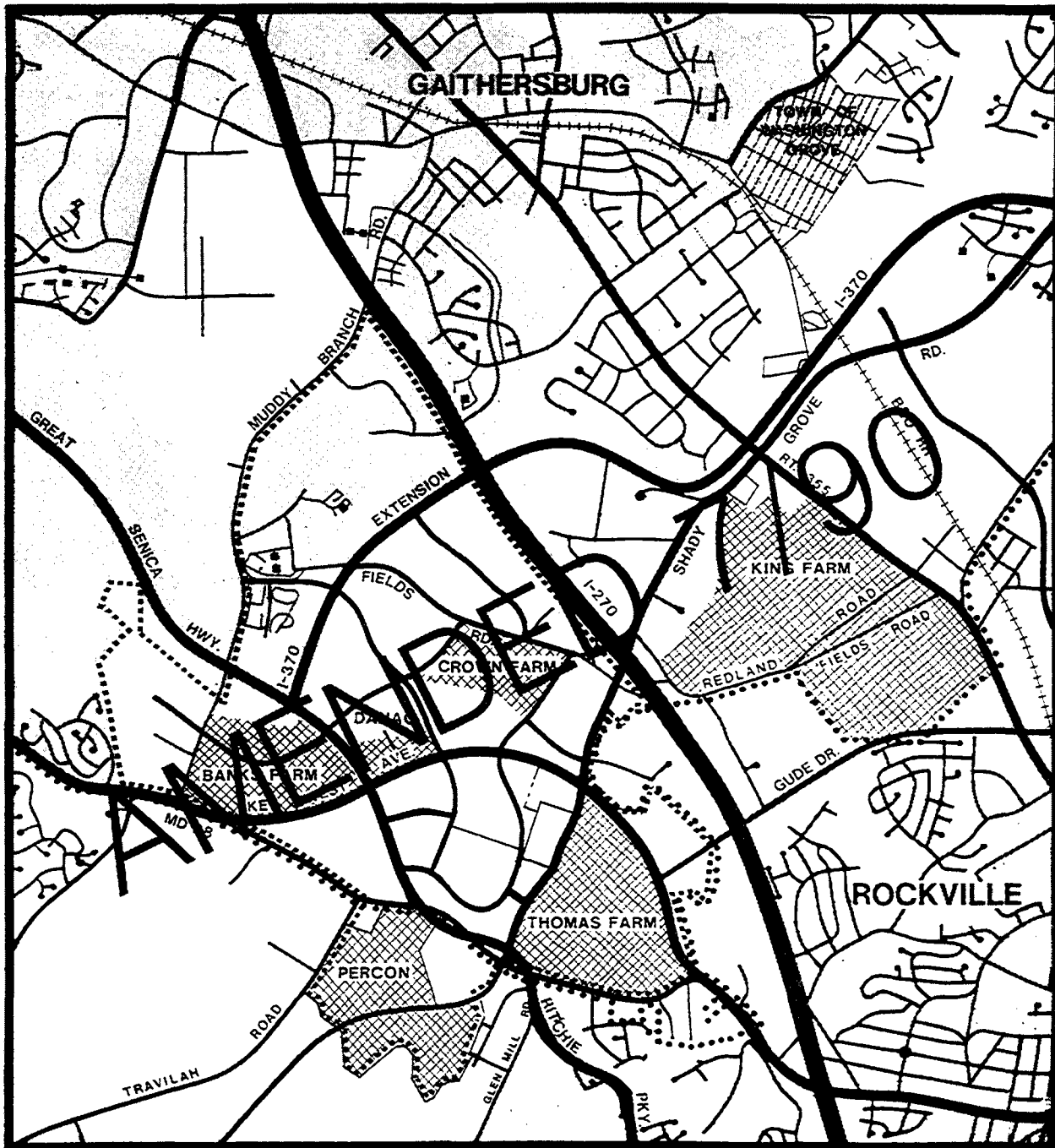
## SHADY GROVE WEST AREA - GENERALIZED ZONING PLAN

- \* Rezoning From R-200 To I-3 Will Not Occur Prior To A Master Plan Amendment
- \*\* Alternative Zones Will Be Considered As Part Of A Future Master Plan Amendment (see text)
- ..... Study Area Boundary




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 Montgomery County Maryland  January, 1985



Fig. 6



**SHADY GROVE WEST AREA -  
PARCELS SUBJECT TO FUTURE MASTER PLAN AMENDMENT**

-  Municipalities
-  Parcels Subject To Future Master Plan Amendment
-  Study Area Boundary



- Community concern regarding the capacity of future roads to handle future growth;
- The need to monitor traffic as major new roads are programmed for construction;
- The need to re-examine the King Farm before "end-state" land use proposals are made for the balance of Shady Grove West. Even though the King Farm, included in the Shady Grove Sector Plan, lies just outside the area covered by this Master Plan, its development will strongly influence land use patterns in Shady Grove West and therefore should be studied together in a future Master Plan Amendment; and
- The need to monitor the progress of the cities of Rockville and Gaithersburg in establishing and implementing a staging program. Whether the cities will adopt such a program will influence the amount and timing of future development in Shady Grove West.

A future comprehensive Master Plan Amendment will proceed when three events occur:

- An I-270 Corridor Employment Study is completed;
- Additional information is available regarding the traffic capacity of the following two planned roadways: I-270 widening and the extension of Key West Boulevard from Gude Drive to MD 28; and
- Project planning studies for MD 28 in accord with Master Plan recommendations are completed.

#### LAND USE AND ZONING RECOMMENDATIONS BY DISTRICT

For planning purposes, the Shady Grove West Area has been divided into several districts, as shown in figure 8. More detailed analysis areas are shown in figure 10.

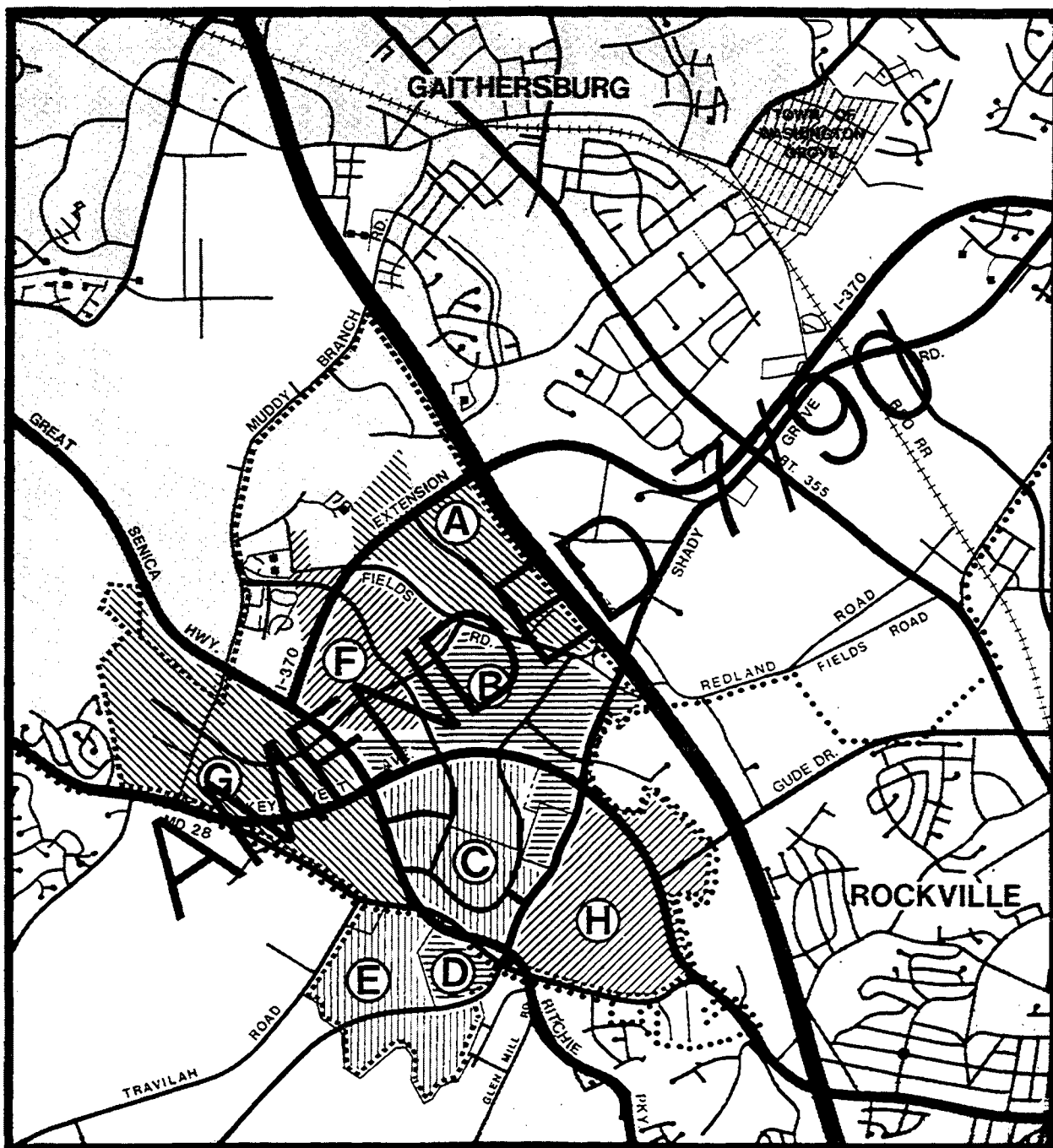
The R&D Village, which consists of approximately 1,150 acres, includes the following districts:

- A. Corporate District
- B. R&D District
- C. Bio-Technology District
- D. University District
- E. Conference /R&D District
- F. Residential District

The transition areas at the edges of Shady Grove West comprise the following districts:

- G. MD 28 Residential District
- H. Residential/R&D District (Thomas Farm)

Land use and zoning recommendations are presented by district.



### SHADY GROVE WEST AREA - DISTRICTS

(A-F) R&D VILLAGE

- (A) Corporate District
  - (B) R&D District
  - (C) Bio-Technology District
  - (D) University District
- (E) Conference Center District
  - (F) Residential District
  - (G) MD. 28 Residential District
  - (H) Residential / R&D District (Thomas Farm)

..... Study Area Boundary



## R&D Village Districts

### A. Corporate District

This district, comprising the Washingtonian Country Club, contains approximately 217 acres, most of which is vacant or available for redevelopment. It is bordered by I-270 on the north, the city of Gaithersburg limits on the northwest, Shady Grove Road on the east, and Fields Road on the south. The district will have access to I-370 at its northern edge.

Existing development includes the 97-room Quality Inn Motel and restaurant, the Washingtonian Country Club, and a Gulf service station.

The Corporate District is a key element in the overall development plan for Shady Grove West. This area is well suited for high-intensity office development for several reasons.

- This area is one of the most noise impacted areas in the Planning Area. The Plan recommends locating non-residential structures between I-270 and residential areas.
- With the completion of I-370, this area will have excellent access and visibility from the I-270 Corridor and is within two miles of Metro.
- The large acreage and ownership patterns on this site make it highly suitable for the Mixed-Use Planned Development (MXP) Zone, which permits large scale, comprehensively planned projects staged over an extended period of time and carefully controlled by site plan review procedures.

Because of the importance of the Corporate District to this Plan, the site has been carefully studied. This Plan proposes the MXP Zone because it presents the County with the best opportunity to re-develop this key parcel to the greatest advantage.

Approval of the MXP application would be conditional on the applicant's meeting numerous design guidelines. These guidelines should include, but are not necessarily limited to, the following:

- Provide prestige "signature" office or research and development buildings;
- Respect the existence of the Washingtonian Tower and other adjoining communities in terms of site design quality and provide a vegetative buffer on the western edge of the Washingtonian Tower property;
- Mitigate the effects of noise from proposed I-370 through design and construction techniques;
- Provide vehicular access via the proposed loop and spine roads;
- Locate prestige "signature" buildings in the northwest portion of the site;
- Encourage decked or underground parking;



- Enhance existing ponds and landscaping;
- Retain or relocate existing vegetation to other areas on-site or along existing Fields Road;
- Retain trees along edge of proposed ramp from eastbound I-370 to southbound I-270;
- Locate the major focal-point building complex between the Washingtonian Tower and the existing motel;
- Encourage conference and hotel facilities;
- Encourage an interrelated development of office and residential uses; up to 1500 residential units are envisioned by the Plan if residences are integrated throughout the site. The number should be reduced to approximately 750 units if residential development only occurs southwest of the Washingtonian Tower;
- Locate residential uses at a maximum density of 10 dwelling units per acre southwest of Washingtonian Tower;
- Encourage a variety in the types and price range of residential units; and
- Encourage a variety of heights in office and residential structures with highest intensity near the linear open space feature.

The 209-unit Washingtonian Tower Condominium is located on property zoned R-1B. No change is proposed in this zoning. Pedestrian access from this parcel to the newer development must be provided.

Base and Optional Zones. The Plan strongly encourages the development of the Corporate District in accord with the MXPZ Zone as the preferred method of development. The Plan recommends that new development not exceed a floor area ratio (FAR) of .75 over the entire site.

In the absence of an MXPZ application, the Plan recommends other optional zones for this area. They include R-H (Residential, High-Rise) and I-3 (Industrial Park). These zones require the property owner to submit to the Planning Board a detailed site plan showing how the property will develop. These zones may be requested by the developer at the time of Sectional Map Amendment.

#### B. R&D District

This district consists of a number of properties fronting Shady Grove Road, most of which are developed or committed to development, and several larger tracts of vacant land north of Key West Boulevard.

Area B-1 (a portion of the Crown Farm) comprises 82 acres. Now being farmed, this land is recommended for Low- to Moderate-Intensity Employment. Although the Zoning Plan shows I-3 for this property, re-zoning will not occur until a Master Plan Amendment is adopted. (See earlier discussion.)

Area B-2 is 45 acres in size and is presently zoned O-M (Office-Moderate

Intensity). The Plan recommends no change to the present O-M zoning for this parcel. The Plan does recommend an alternative optional zone for the property (MXPB) to encourage the owner to develop a mixed use center which would include some retail and residential as well as office uses.

The Plan establishes criteria for the granting of the MXPB application. The applicant will be expected to follow several design guidelines including, but not necessarily limited to, the following:

- Provide a pedestrian crosswalk midway between the proposed loop road intersections on Key West Avenue to allow for a connection from the commercial center to the Life Sciences Center mall extension to the south;
- Provide office/commercial uses on the central portion of site (south of stream);
- Provide a stormwater management pond upstream from the intersection of the existing water line and stream;
- Retain existing trees in proposed housing areas, to the extent possible;
- Provide a pedestrian connection to the eastern portion of Area B-3 (northeast of pond);
- Provide a pedestrian connection west across the loop road, approximately at its intersection with existing Decoverly Hall Road; and
- Provide vehicular access on both sides of the site from the loop road (encourage medians for left-turn lanes).

Area B-3 (4 acres) contains a single-family residence and adjoins Area B-2, which is zoned P-4. The western edge of the property is traversed by the proposed loop road. The Plan recommends medium-density (R-60 Zone) for this area, which is currently zoned R-200. The Plan designates the property for a TDR-10 option. The TDR-10 density is consistent with the existing and planned office/employment and moderate-density residential uses on the adjacent and surrounding areas.

The Plan encourages joint development of this parcel with Area B-2 in accord with the MXPB Zone.

The Plan establishes guidelines for future development. They include:

- Protecting the northern edge of the property which lies along a stream valley, and
- Providing a possible stormwater management pond east of an existing water line (that lies at the confluence of the stream).

Area B-4 (35 acres) fronts Key West Avenue. It is an important transition parcel in that it adjoins land to the north recommended for medium-density residential development.

A future Master Plan Amendment will determine the appropriate mix and intensity of employment uses. Maintaining an appropriate "edge" or buffer adjoining the residential area to the north will be a Plan Amendment concern.



Although the Zoning Plan recommends I-3 for this property, re-zoning from R-200 will not occur until a Master Plan Amendment is adopted.

Area B-5 (41 acres) is zoned C-2 and O-M.

Several office buildings with a combined floor area of 750,000 square feet have been approved and are under construction.

A small portion of the area (4 acres) has not yet been approved for development. Since it is zoned O-M (Office-Moderate Intensity), a site plan will be required before development is approved. The developer should prepare an overall design plan for this and the portion of the property now being developed to guide and coordinate the size, scale, character, and intensity of development.

The following design criteria should guide the preparation of an overall site plan for Area B-5:

- Utilize the south portion of the site for a stormwater management facility;
- Encourage access from proposed Omega Drive;
- Provide a connection to the interchange off-ramp from southbound I-278 as required by the County Department of Transportation and State Highway Administration;
- Limit development to four stories in height and a 0.5 FAR; and
- Provide a pedestrian connection to abutting parcels.

Area B-6 is 16 acres and fronts Key West Avenue. The Plan recommends no changes to the office employment land uses and the O-M zoning in this area.

At present, Decoy Hall Road provides access to existing office and retail uses (Bank of Bethesda, BNA publishing). Access to BNA will ultimately be via Key West Avenue (MS 28 Relocated), and for the bank, Shady Grove Road.

In addition, the Plan recommends that any future development of the BNA property should have access from Omega Drive.

Area B-7 (12 acres) is zoned for moderate intensity office uses (O-M Zone) except for a small portion of the property zoned R-200. The Plan recommends changing the R-200 Zone to the O-M Zone to allow for the proposed office development.

Area B-8 (24 acres), located along Shady Grove Road, is currently zoned R-200 and includes several scattered single-family residences. The Plan recommends moderate-intensity office uses (O-M Zone) for this area because of the extensive road frontage and to accommodate office uses related to the Life Sciences Center. Approval of site plans will be guided by several design criteria. These include:

- Compatibility with design guidelines for the Life Sciences Center site;
- Provide access from the Life Sciences Center proposed loop road; and
- Provide extra landscaping along Shady Grove Road to screen parking located at the rear of buildings facing the proposed loop road.

Rezoning will not occur prior to a Master Plan Amendment in accord with the Staging Plan recommendations. Rezoning should await completion of a Development Plan for the Life Sciences Center to help assure development which is compatible with the Life Sciences Center.

Area B-9 (11 acres) contains several scattered low-density, single-family homes currently zoned R-200. The majority of this area is proposed as part of the proposed improvements to the interchange of Shady Grove Road and I-270. The Plan recommends employment uses for the balance of the property.

### C. Bio-Technology District

This District contains the Shady Grove Life Sciences Center (formerly called the Montgomery County Medical Center) and other institutional uses.

Area C1 (211 acres) consists entirely of the Shady Grove Life Sciences Center. The County would like to attract a wide range of bio-medical industries and a university-affiliated research center to the Shady Grove Life Sciences Center.

Existing facilities include: Shady Grove Adventist Hospital, Psychiatric Institute of Montgomery County, Ambulatory Care Office Building, the central heating and cooling plant, fire station, and State of Maryland facilities.

When completed, the complex will contain a mixture of medical, educational, research, and supporting services to accommodate locations for new industries as well as the growth of existing life science research and development corporations and related industries. The amenities and support facilities include, but are not limited to: health and logging facilities, green areas, restaurants, pedestrian space, and convenience retail facilities.

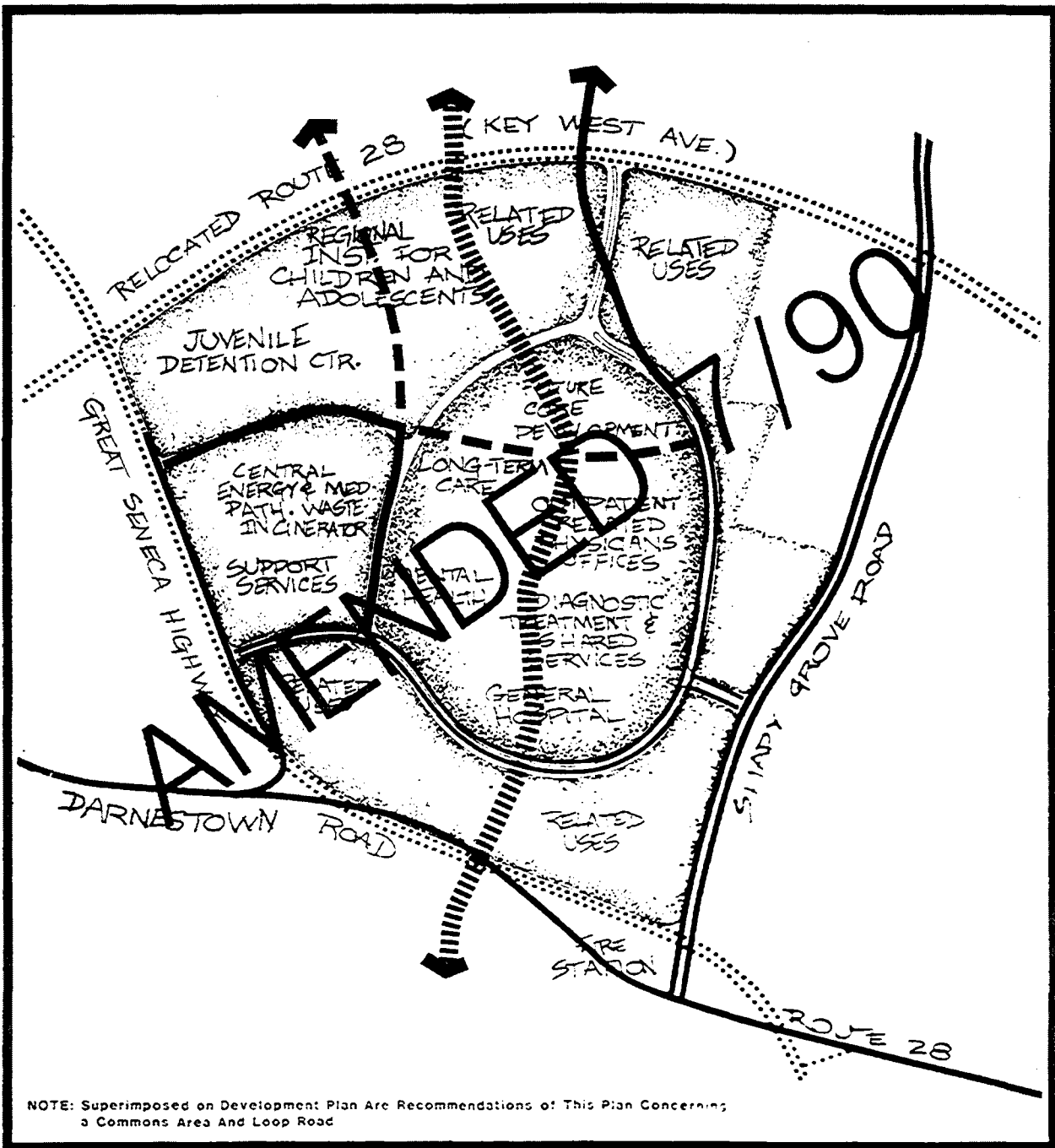
Development of the Shady Grove Life Sciences Center is guided by the Montgomery County Medical Center Development Plan, originally approved and adopted by the County Council in 1976. The Development Plan map is shown in figure 9.

Recently, the Medical Center Development Plan was amended to add several uses. They include:

- Speech, language, hearing, and physical therapy services;
- A retail establishment in the Ambulatory Care Office Building;
- Bio-medical research and development, and diagnostic and professional support services;
- Medical science and health care-related light assembly and production; and
- Scientific, medical, and health-related associations.

This Plan recommends that the Development Plan be re-examined for several reasons:

- The nature and scope of uses envisioned at the Life Sciences Center have substantially changed since 1976. The Development Plan text has



# MONTGOMERY COUNTY MEDICAL CENTER DEVELOPMENT PLAN

- ||||| Proposed Commons Area
- Existing Roads
- - - Proposed Road Extensions
- ..... Future Roads
- ▒ Medical Core
- ▒ Related Uses And Support Services
- Private Property

SOURCE: Approved And Adopted Montgomery County Medical Center Development Plan Montgomery County Government February 1976



Fig. 9



been amended to add additional uses, and even the name of the center has been changed to reflect a broader development scope (from Medical to Life Sciences Center).

- This Plan includes land use and design concepts which should be reflected in future development at the Life Sciences Center (e.g., a linear open space feature which extends the existing mall northward through the core area).
- A new zone has been developed (MXPD) which is appropriate for the Life Sciences Center. As an alternative to amending the Development Plan, the County should explore the advantages of applying for the MXPD Zone. Until that time, this Plan continues the existing R-200 Zone.

Because the Shady Grove Life Sciences Center is such an important part of the Shady Grove West Study Area, it merits a detailed design study separate from this Plan. The design study should be guided by the following land use objectives:

- Encourage the development of bio-medical research and development activities to enable the Life Sciences Center to become one of the finest medical research activity and care facilities in the nation;
- Encourage the development of the Life Sciences Center in accord with the MXPD Zone; until such time as an application is approved, the Plan recommends retaining the low density residential (R-200 Zone) category for the Life Sciences Center property;
- Retain floodplains and wetlands erodible soils in their natural state;
- Provide a pedestrian-oriented open space feature through the Life Sciences Center at the general location shown on the Land Use Plan map;
- Locate the pedestrian connection from the open space feature southward to the east side of the hospital;
- Provide pedestrian connections from the open space feature to outlying parcels;
- Continue to orient buildings close to the mall;
- Encourage mixed-use diversity and interdependence of functions on uncommitted land;
- Encourage mid-rise development of mixed uses adjoining Key West Avenue to provide visual focus and urban core for entire Life Sciences Center site;
- Encourage deck or underground parking to provide the opportunity for more landscaped areas and open space;
- Provide a location for a 200- to 400-room hotel/conference center in the core; and
- Encourage office/commercial and worker-related retail development east of the commons.

Area C-2 (22 acres) is not part of the Life Sciences Center complex but includes the State of Maryland facilities of the Noyes Detention Center and the Regional Institute for Children and Adolescents. The Plan recommends a continuation of the existing institutional land uses and the R-200 Zone which permits group residential facilities as special exceptions.

Area C-3 (7 acres) is the location of a temporary County fire station. A future, permanent fire station facility is planned for the site. The Plan recommends no change to the existing institutional land use or the R-200 Zone for the parcel. The MXPB Zone is appropriate for this parcel, if ever redeveloped.

#### D. University District

Area D (50 acres) is undeveloped and was donated to the County by the Gudelsky Foundation for public use as a memorial to Isadore Gudelsky. The County Office of Economic Development is currently programming the tract for major educational or institutional uses. This designation is compatible with the objectives of this Plan.

The Plan recommends the continuation of the low-density, single-family use (R-200 Zone) wherein institutional uses may be permitted by special exception. The Plan designates that property as suitable for the proposed MXPB Zone since it is part of the Life Sciences Center. The development of this area should be integrated in the development of the Life Sciences Center. The R-200 Zone should be retained until an application for the proposed MXPB Zone is approved. The Medical Center Development Plan would follow the established mandatory referral procedures including site plan and other reviews. In the interim, development proposals should be followed in the same manner as they are for the Life Sciences Center. In any case, the projected traffic impact of any proposed uses need to be reviewed as would any development in the area.

The Plan recommends several design guidelines for the property.

- Extend Shady Grove Road along the southeastern border.
- Provide a pedestrian connection northward to the hospital path and to the mall.
- Provide a stormwater management site, if needed, at the southern tip of the property.
- Allow for the relocated right-of-way of proposed Great Seneca Highway/ MD 28.
- Provide for noise attenuation along MD 28 and Shady Grove Road.

#### E. Conference Center/R&D District

This District is approximately 178 acres in size. A conference center would be highly desirable in this vicinity to complement the Life Sciences Center north of MD 28 and the university campus planned for the adjoining Gudelsky tract.

Area E-1 (178 acres) is the recommended location of the conference center and the R&D industrial park. The major planning issue regarding this property is whether R&D uses should accompany a conference center since this area is designated as residential by the County's General Plan since it marks the beginning



of the rural "wedge" area of Potomac. The relationship of R&D uses to the General Plan recommendation must be explored in more detail as part of a future Master Plan Amendment. For this reason, this Plan designates Area E-1 for Low- to Moderate-Intensity Employment but recommends that the existing residential zoning (R-200) be continued until a Master Plan Amendment is completed. That Amendment will examine the appropriate mix, type, and intensity of residential and employment uses; the capacity of the Master Plan road network to accommodate such uses; and the relationship of employment uses to surrounding residential areas.

The Planning Board's environmental analysis indicates that this area has several development constraints. Limitations that must be dealt with in any development scheme include the lack of nearby water and sewer facilities, excessive stormwater runoff and sediment contributions, high noise levels along MD 28 and Travilah Road, and soils with severe erosion potential. Shallow bedrock is also evident in this area. For all of these reasons, only development that assures maximum amounts of open space and environmental sensitivity should be approved in this District.

The type and density of development in this area will depend on the availability of sewerage service. The use of pumping stations and force mains, which are not recommended as a general practice, may be permitted until and unless service can be provided through gravity sewers if the developer(s): (1) pay the capital and operating costs for these temporary facilities, and (2) agree to provide service on a cost-sharing basis to the Gudelsky tract (part of the Life Sciences Center) if requested to do so by Montgomery County. Without sewer service, only low-density residential development is feasible, since poor soils and shallow bedrock require large lots for septic systems.

If this major obstacle is overcome, development which maximizes open space on this site will be encouraged. The location of this property in the headwaters of Piney Branch requires that extensive land disturbance be avoided and impervious surfaces be kept to a minimum so that there is very little increase in sedimentation in the stream. Only development assuring the maximum amount of open space and environmental sensitivity should be approved for this district.

The realignment of Shady Grove Road south of MD 28 to intersect Travilah Road or Piney Branch Road will be explored during the Master Plan Amendment process. Regardless of the alignment selected, setbacks, berms, or barriers will be necessary to deal with the potential impact on residents of noise and dust caused by trucks hauling crushed stone along the new alignment to MD 28.

Area E-2 (7 acres) consists of a gas station, restaurant, and vacant lot located at the southeast corner of Travilah Road and MD 28. The Plan continues commercial land uses at this site but recommends changing the existing C-1 zoning to the C-4 Zone. The C-4 Zone allows low-intensity commercial development but, unlike the C-1 Zone, includes an option for an increased amount of floor area if a site plan is submitted to the Planning Board and approved.

#### F. Residential District

The 213 acres located in this district are recommended for residential uses to support the proposed economic development activities in the R&D Village. Now being predominantly used for agricultural activities, the district is situated between existing townhouse communities to the west, proposed MXPB areas to the north and south, approved office/commercial to the east, and proposed residential areas to the southwest.

Area F-1 (96 acres) is predominantly used for agricultural activities. There are several agricultural buildings as well as one home. The Plan recommends medium-density residential uses (R-60 Zone) as the base density for this property, currently zoned R-200. The Plan further designates this area as a TDR receiving area, suitable for an optional density of up to ten dwelling units per acre (TDR-10). The proposed residential development on this site will help to provide housing opportunities for some of the future employees who will have jobs in the I-270/Shady Grove West Area.

Area F-2 (42 acres) is undeveloped and traversed by proposed I-370 Extended. It is located immediately east of the Warther tract, a medium-density residential subdivision in the city of Gaithersburg. The developer of Area B-6 is building on the Warther tract and intends to develop this area once the location of proposed I-370 Extended is finally determined. A portion of the area is severely affected by environmental constraints (roadway noise, highly erodible alluvial soils, and floodplains).

The Plan recommends medium-density residential land uses (R-60 Zone) for this area and an optional density of eight dwelling units per acre using TDR's. A density consistent with the adjoining Warther community could be achieved with future development clustered away from the environmentally sensitive areas. Achieving the maximum density under the TDR-8 option will depend on the dwelling unit type and size used on the site. The moderate-density residential development will provide housing to support the Shady Grove West Study Area's economic development activities.

The Plan recommends several design guidelines for the development of this area. They include:

- Providing a noise buffer for areas located along proposed I-370 Extended and Great Seneca Highway;
- Clustering housing east of the stream valley;
- Providing an attractive stormwater management facility; and
- Providing access for future housing through Area F-3 from the proposed spine road.

Area F-3 (54 acres) is generally undeveloped but interspersed with four scattered, single-family homes. Existing and planned land uses in the area are predominantly residential in character. The Plan recommends a medium-density residential land use (R-60 Zone) for this area, which is currently zoned R-200, and designates it as a TDR receiving area, suitable for a density of up to ten dwelling units per acre. This density is consistent with nearby land uses including office/employment, open space, and major roadway.

The Plan recommends that access to the property should be from the extension of the loop road and not from Decoverly Hall Road. Because of difficulties with the extension of the loop road, the County should agree to participate in acquisition of the remaining parcel in the future right-of-way. The loop road will replace old P-18 in the 1971 Gaithersburg Vicinity Master Plan.

The design guidelines for the development of this area include:

- Providing access solely from proposed spine and loop roads;



- Providing a possible stormwater management wet pond in the stream valley;
- Retaining a buffer of existing trees along proposed Great Seneca Highway and providing a noise buffer along proposed Key West Avenue;
- Protecting steep slopes along the north boundary and clustering density away from slopes; and
- Consolidating existing single-family units into future plans.

Area F-4 (17 acres) is an undeveloped area that lies immediately east of the city of Gaithersburg's Warther and Shady Grove Village townhouse communities. The Plan recommends keeping the existing single-family residential uses (R-200) and designates this area as a TDR receiving area, suitable for a density of up to five units per acre. The TDR-5 designation will provide for the same character of development as the surrounding medium-density uses. There is some uncertainty as to whether this density can be fully achieved, given the presence of the highway and the compatibility issues with the single-family units. This density increase is site specific and especially intended to serve the public purpose of implementing the Preservation of Agriculture and Rural Open Space Plan. Noise attenuation measures, such as buffer and planting along proposed I-70 Extended, should be encouraged.

A variety of dwelling types is encouraged.

Area F-5 (4 acres) is undeveloped and is bordered by the city of Gaithersburg corporate limits on three sides. The parcel adjoins the Shady Grove Village Condominium property. It should continue to be zoned for one-half acre residential uses (R-200 Zone). The Plan recommends retaining this wooded area for open space or passive recreational use or both. If this parcel develops in conjunction with other portions of the Crown Farm, the Plan encourages the developer to transfer, if possible, the density to those other portions.

#### Districts Outside the R&D Village

##### G. MD 28 Residential District

The proposed land use pattern in this District is residential. Existing or proposed residential development surrounds the District with only one exception: the County operated Public Services Training Academy.

This Plan proposes residential densities that allow detached and attached housing types and specifically recommends that a mix of both types be provided. Other portions of the Shady Grove West Study Area will provide apartments and higher-density attached units. This District is proposed as a transition to surrounding one-half acre and one-quarter acre lot subdivisions, so a greater proportion of detached housing is envisioned here than in other portions of Shady Grove West.

Area G-1 (158 acres) contains the Washingtonian National Golf Course and the Consumer Product Safety Commission (CPSC). It is adjacent to a portion of the Westleigh subdivision within the city of Gaithersburg.

The Plan recommends low-density residential uses (R-90 Zone) for this area. The Plan encourages the continuation of the public institutional use for the

Consumer Product Safety Commission but recognizes the probability of eventual alternative development. This Plan further designates this area as a TDR receiving area and recommends that it be allowed to develop to a density of four units per acre (TDR-4). This increased density can be attained only by the transfer of development rights from the Agricultural Reserve area of the County. This parcel lies within the Maximum Expansion Limits of the city of Gaithersburg, but the city has recently rejected an annexation request. (See Implementation Chapter for Annexation policy.)

The Plan recommends certain guidelines to help assure the compatibility of future development to surrounding uses. They include:

- Cluster housing to preserve natural features such as slopes, valleys, and ponds, and to avoid floodplains, steep slopes, and severely erodible soils;
- Retain trees at their present location. If this is not possible then they should be replanted on-site or selectively relocated to the proposed spine road;
- Provide noise abatement measures, if needed, along Muddy Branch Road;
- Create a dense buffer on the western boundary with evergreen trees;
- Retain a buffer of trees surrounding the CPSG facility;
- Plant trees along MD 28 to enhance the present rural character and provide a psychological noise buffer. Selective use of landscaped berms may be necessary for noise mitigation;
- Provide access from the proposed spine road connecting across Muddy Branch Road from Area F-2; and
- To assure compatibility, encourage the development of 10,000-square-foot lots along the Westleigh boundary.

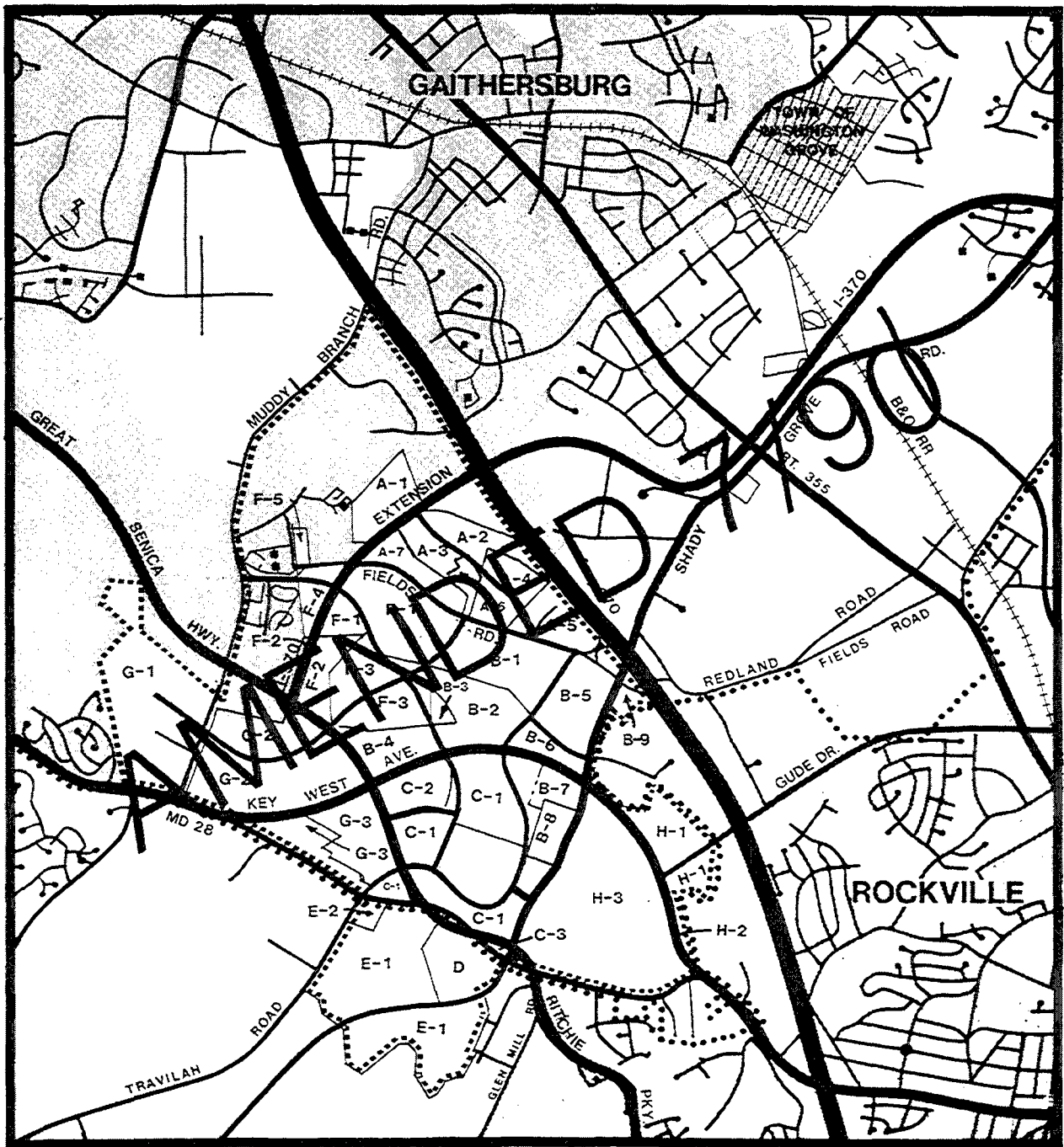
The Plan recommends that community facilities for the use of the residents should be part of the subdivision plan although a public, local, or community park is not warranted in this location. For a fuller discussion of the recreational needs of this area, see the Community Facilities Chapter.

Area G-2 (159 acres) is a working farm (Banks Farm).

The Plan confirms the existing low-density zoning (R-200 Zone) for this farm and recommends that ultimate land use be determined by a future Master Plan Amendment. This future Amendment will examine the option of preserving this area as open space and encouraging continued farming of the land.

Any future development of this area should achieve compatibility with the Belward Farm building group and its setting, recognizing the visual relationship between the house and MD 28 and between the building group and the future spine road to the north.

Future uses of the building group may include but not be limited to community services, cultural facilities, clubs, and the like. Vehicular and visual access to the buildings should be provided both from MD 28 and from the future spine road.



## SHADY GROVE WEST AREA - ANALYSIS AREAS

..... Study Area Boundary

- |   |                         |   |  |
|---|-------------------------|---|--|
| A | Corporate District      | E | Conference Center District               |
| B | R&D District            | F | Residential District                     |
| C | Bio-Technology District | G | MD. 28 Residential District              |
| D | University District     | H | Residential / R&D District (Thomas Farm) |

TABLE 2

SHADY GROVE WEST ANALYSIS AREAS  
SUMMARY OF ZONING RECOMMENDATIONS

Analysis Area Number	Acreage	Existing Development	Recommended Zoning Base/Optional	Potential Units Recommended <sup>1</sup> Base/Optional <sup>1</sup>	Net TDR's Over Base Density
<b>A. CORPORATE DISTRICT</b>					
A-1	25	--	R-60/MXPD	125/0	0
A-2	78	--	I-1/MXPD <sup>1</sup>	0/0	0
A-3	15	--	R-30/MXPD <sup>1</sup>	218/0	0
A-4	29	Golf Course	I-1/MXPD <sup>1</sup>	0/750	0
A-5	30	Motel, County Club	C-2/MXPD <sup>1</sup>	0/0	0
A-6	7	209 multi-family	R-10	209/209	0
A-7	33	--	R-60/MXPD	65/750	0
TOTALS	217			717/1709	0
<b>B. R &amp; D DISTRICT</b>					
B-1	82	--	R-200/I-3 <sup>2</sup>	164/0	0
B-2	45	--	O-M/MXPD	0/400	0
B-3	4	--	R-60/MXPD	20/0	0
B-4	36	--	R-200/I-3 <sup>2</sup>	72/0	0
B-5	37	950,000 s.f. (under construction)	C-2/O-M	-	0
B-6	16	100,000 s.f.	O-M	-	0
B-7	12	220,000 s.f.	O-M	-	0
B-8	24	1 house	R-200/O-M	48/0	0
B-9	11	3 houses	R-200/I-3	22/0	0
TOTALS	267			326/400	0
<b>C. BIO-TECHNOLOGY DISTRICT</b>					
C-1	211	Hospital Physicians Bldg.	R-200/MXPD	0/200	0
C-2	22	St. of Maryland Facilities	R-200	-	0
C-3	7	Fire Station	R-200/MXPD	-	0
TOTALS	240			0/200	

<sup>1</sup> Although the preferred optional zone for these analysis areas is MXPD, other optional zones which include site plan review will be considered at the time of Sectional Map Amendment if requested by the applicant. These site plan zones include I-3 as an alternate to I-1 and R-H as an alternate to R-30.

NOTE: Densities indicated are the maximum permissible, without the bonus for providing Moderately Priced Dwelling Units (MPDU's). Any subdivision of 50 or more units must include 12.5% MPDU's, in which case a density increase of up to 20% and optional development standards and unit types are permitted. Densities do not reflect cluster densities.

<sup>2</sup> A Master Plan Amendment and restudy of the I-3 Zone will precede rezoning to I-3.



TABLE 2 (Cont'd.)

Analysis Area Number	Acreage	Existing Development	Recommended Zoning Base/Optional	Potential Units Recommended Base/Optional	Net TDR's Over Base Density
<b>D. UNIVERSITY DISTRICT</b>					
D	50	--	R-200/MXPD <sup>3</sup>	100/100	0
TOTALS	50			100/100	
<b>E. CONFERENCE CENTER/R&amp;D DISTRICT</b>					
E-1	197	--	R-200/I-3 <sup>4</sup>	394/0	0
E-2	7	Convenience store offices	C-4	-	0
TOTALS	204			394/0	
<b>F. RESIDENTIAL DISTRICT</b>					
F-1	96	--	R-60/TDR-10	480/960	480
F-2	42	--	R-60/TDR-8	210/336	126
F-3	60	--	R-60/TDR-1	300/600	300
F-4	17	--	R-200/TDR-5	34/85	51
F-5	4	--	R-200	8/8	0
TOTALS	219			1,032/1,989	957
<b>G. MD 28 RESIDENTIAL DISTRICT</b>					
G-1	158	Golf Course	R-90/TDR-4	569/632	63
G-2	159	2 houses	R-200 <sup>5</sup>	318/318	0
G-3	64	Public Service Training Academy, Medical Clinic 10 houses	R-90/TDR-5	230/320	90
TOTALS	381			1,117/1,270	153
<b>H. RESIDENTIAL/R&amp;D DISTRICT (THOMAS FARM)</b>					
H-1	49	--	R-200/I-3	98/0	0
H-2	7	--	R-200/I-3	14/0	0
H-3	223	--	R-200 <sup>6</sup>	446/446	0
TOTALS	279			558/446	0
OVERALL TOTALS	1,857			4,244/6,114	1,110

<sup>3</sup> MXPD if developed jointly with Bio-Technology District MXPD

<sup>4</sup> A Master Plan Amendment and restudy of the I-3 Zone will precede rezoning all or part of this tract to I-3.

<sup>5</sup> A future Master Plan Amendment will examine alternate residential densities.

<sup>6</sup> A future Master Plan Amendment will explore the desirability of providing a mix of employment and residential uses.

Area G-3 (64 acres) is the location of the County Public Service Training Academy (PSTA), medical clinic, two churches, and scattered single-family homes.

The Plan recommends changing the existing one-half acre zoning (R-200) to one-quarter acre zoning (R-90) to reflect proposed development densities to the east and south. The Plan further recommends that the church property and scattered homes would be appropriate for institutional uses available in the R-90 Zone through the special exception process.

In the event that part of the PSTA property becomes available for residential development, the Plan recommends a TDR optional density of five units per acre. The Plan recommends several design guidelines for future development on the property which include:

- Possibly relocating the stormwater management facility from the other side of Great Seneca Highway to the north corner of the PSTA, and
- Retaining the wooded buffer on the south and west.

#### H. Thomas Farm Residential/R&D District

Area H-1 (49 acres) and Area H-2 (7 acres) are separated from the main portion of the Thomas Farm by Key West Avenue (MD 28 Relocated). Existing and planned land uses in the area north of Key West Avenue are predominantly office employment in character. The Plan designates these properties as suitable for office and industrial uses (I-3 Zone) due to their location near major planned roads and other similar uses. Industrial and office uses are, however, dependent upon the programming of adequate roadway improvements. Key West Avenue Extended is essential to service this area. Only when this roadway is programmed for construction will the property be suitable for rezoning to office and industrial uses. In the interim, the Plan recommends maintaining the R-200 Zone. Any development proposed should protect the stream valley, steep slopes, and the floodplain and buffer the site from proposed Key West Avenue.

Area H-3 (223 acres), the major portion of the Thomas farm, is presently used as a dairy farm. The Locational Atlas shows this property as the location of site #20/19, Windy Knoll Farm, which is the main farm building complex.

The ultimate or "end-state" land use of the Thomas Farm will be determined by a future Master Plan Amendment. Alternatives which will be examined include residential uses and moderate-intensity employment on all or part of the farm. Particular attention will be given to development which would be consistent with and supportive of the Life Sciences Center and related research activities.

Until a Master Plan Amendment is completed, Area H-3 should remain in the R-200 Zone.

The following design guidelines should be considered in any future Master Plan Amendment affecting the Thomas Farm:

- Preserving the scenic beauty of the farmhouse and drive by clustering new development away from them;
- Providing wet stormwater management ponds in two valleys near the eastern edge of the farm;

- Providing access from MD 28 and Shady Grove Road (at Life Sciences Center entrance);
- Retaining the woods in the stream valleys;
- Locating the stormwater management ponds upstream from the woods in the valley;
- Protecting steep slopes and stream valleys;
- Providing noise attenuation by devices such as landscaped berms along Shady Grove Road, MD 28, and proposed Key West Avenue Extended; and
- Providing larger lots along MD 28 to maintain the existing visual character along that roadway.

AMENDED 7/90

### AIRPARK STUDY AREA

This area is characterized by three major land use elements: industrial areas, residential areas, and the Montgomery County Airpark. The Airpark, the area's most prominent land use, is flanked by industrially zoned land, with areas of parkland off either end of the runway. These land uses separate the Airpark from the existing and future residential communities that constitute the remainder of the Study Area. The residential communities are diverse and include a wide range of densities, types of units, and types of tenure.

One of the major concerns of this Plan is the capacity of the master-planned roadway network as compared to the traffic generated by land use in the area and the traffic passing through the area. To address this concern, the Plan makes the following recommendations:

- A new road, Airpark Road Extended (A-268), should be constructed to provide parallel service to Muncaster Mill Road from MD 124 to proposed Shady Grove Road Extended. This road will provide much-needed, additional east-west traffic capacity. Without Airpark Road Extended, Muncaster Mill Road will eventually operate at an unacceptable level of service; and
- The majority of undeveloped industrial land adjacent to the Airpark is recommended for I-4 zoning. In the I-4 Zone, general offices are a special exception use. In reviewing applications for general offices, the Planning Board will review whether the traffic generated by the office development is compatible with the capacity of the roadway network.

Unlike Shady Grove West, the land use pattern in the Airpark Study Area is largely established. Instead of proposing new plan concepts for extensive amounts of vacant acreage, this Plan addresses land use and zoning for relatively small parcels surrounded by existing development. For this reason, most of the land use and zoning recommendations are presented in a tabular form at the end of this section.

### Land Use Plan Objectives

- To create a transition from the more urbanized I-270 corridor to the wedge area north and east.

- To reflect the capacity of the master-planned roadway network in land use recommendations.
- To channel employment and higher residential densities to areas which can be efficiently and effectively served by mass transit.
- To channel non-residential land uses to areas most affected by Airpark noise.
- To provide additional acreage for incubator industrial uses.

### Montgomery County Airpark

One of the major influences upon land use in the Airpark Study Area is the Montgomery County Airpark.

The Montgomery County Airpark is a small, general aviation airport located approximately seven miles from I-270 in the central portion of Montgomery County. Over 300 airplanes are based at the Airpark; most of these aircraft are of the single- and twin-engine propeller type. A substantial percentage of the flight operations consists of touch-and-go training flights in single-engine light aircraft. This type of aircraft usually generates relatively low noise levels. The corporate executives who use the Airpark use larger single-engine and small twin-engine aircraft, which provide corporate personnel transportation to and from other airports in the mid-Atlantic states. In 1980 there were approximately 131,000 operations (landings and takeoffs), making this Airpark the second busiest general aviation facility in the Washington metropolitan area.

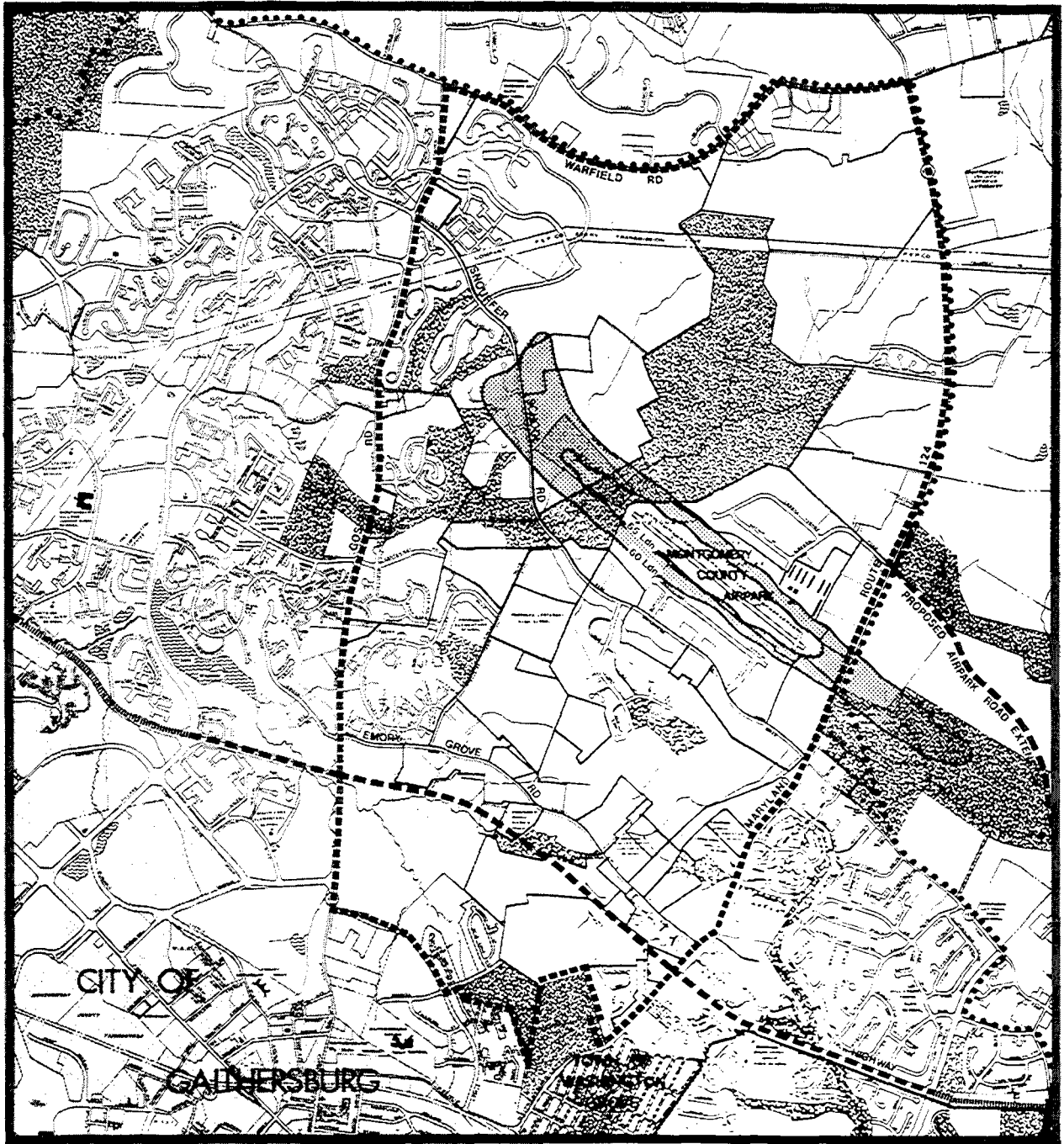
The Airpark's runway is oriented northwest to southeast. (See figure 11.) The preferred takeoff is to the southeast (Runway 14) when the wind is from the east or south, or when there is no significant wind blowing. Runway 32 is used when the wind is from the west or north. The prevailing wind conditions around the Airpark dictate use of Runway 32 for approximately 60 percent of the takeoffs, and Runway 14 for the remaining 40 percent.

Established flight paths in the vicinity of the Montgomery County Airpark are based on a racetrack pattern with the backstretch, or downwind leg, paralleling the runway to the northeast. Incoming flights enter the pattern at the far turns of the racetrack pattern. (See figures 12, 13.) Pilots taking off toward the northwest usually make a tight, 20-degree right turn over Snuffer School Road in order to avoid overflight of the existing residential area. This atypical flight path, known as the "Gibson turn," was established as residential development began to appear around the airport.





Saturday is generally the busiest day of the week at the Airpark. The busiest days of the year are usually Saturdays in May, June, and July, since there are more hours of daylight during these months.

The operation of an airpark raises many planning concerns, in particular noise and safety impacts on surrounding land uses. Detailed studies concerning both issues are included in the Technical Appendix. The conclusions of these studies are as follows:

- Noise and safety impacts, although important, are not severe enough to justify relocating or terminating the Airpark's operation;



## NOISE CONTOURS-YEAR 2000

- ..... Planning Area Boundary
-  Municipalities
-  Equal To Or Greater Than 65dBA Ldn
-  60-64 Ldn
-  Below 60 Ldn

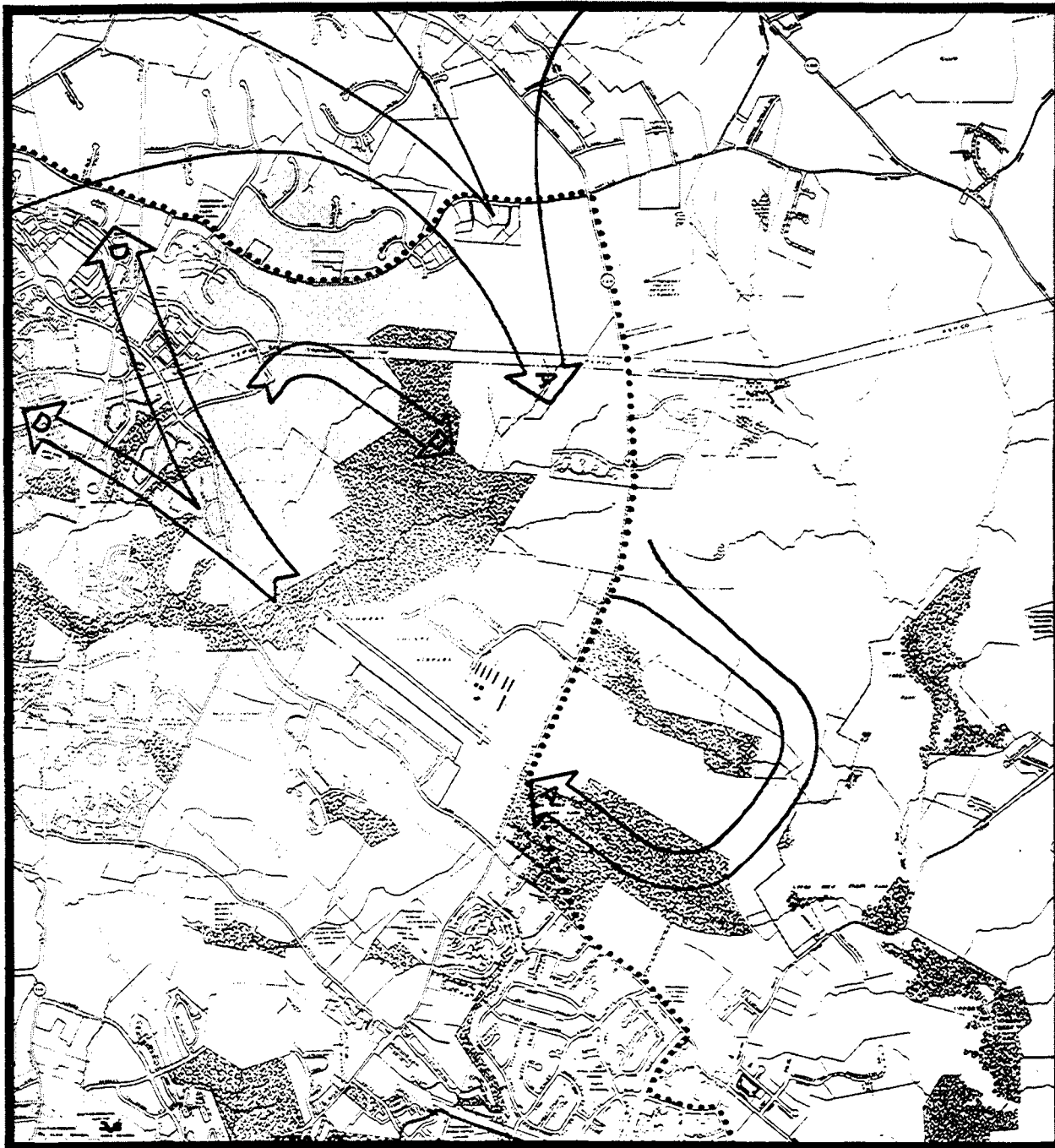
SOURCE: Preliminary Data By State Aviation Administration

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 Montgomery County Maryland

January, 1985



Fig. 11



## MONTGOMERY COUNTY AIRPARK AIRCRAFT FLIGHT OPERATIONS-NORTH OPERATIONS\*



North Departures (Takeoff)

North Approach (Landing)

Approximate Overflight Area While in Flight Pattern

\* Runway #32

\* Flight Pattern Altitude Is Approximately 600' Above Ground Elevation

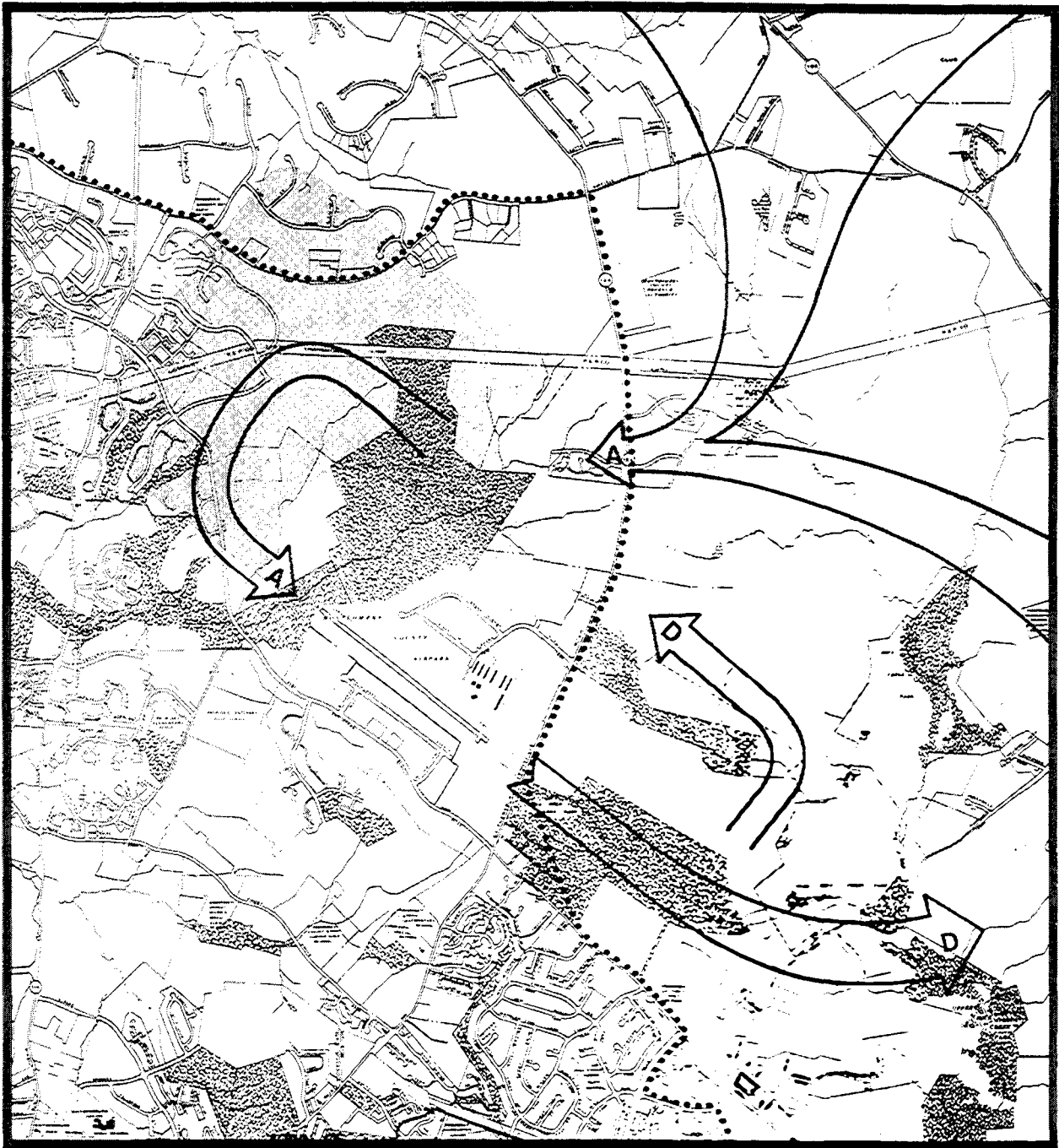
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Montgomery County Maryland

January, 1985

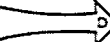
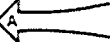



Fig. 12





# MONTGOMERY COUNTY AIRPARK AIRCRAFT FLIGHT OPERATIONS-SOUTH OPERATIONS\*

-  South Departures (Takeoff)
-  South Approach (Landing)
-  Approximate Overflight Area While In Flight Pattern
- \*Runway #14
- \*Flight Pattern Altitude Is Approximately 600' Above Ground Elevation

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Montgomery County Maryland

January, 1985



Fig. 13

- Land use proposals in the Airpark vicinity should locate non-residential uses in noise-impacted areas; and
- While the likelihood of planes crashing into homes is extremely remote, residential development in the vicinity of the Airpark should, if possible, provide contiguous open space for possible emergency landings.

This Plan supports the designation of an Airpark Noise Zone by the State Aviation Administration (SAA) and the Montgomery County Revenue Authority. This Noise Zone will include any area of land surrounding the airport within which the cumulative noise exposure level will be equal to or greater than the standard set for cumulative noise exposure (65 dBA Ldn for residential uses). The SAA will adopt the Noise Zone following public hearings and local government review. It will include a Noise Abatement Plan to ensure, insofar as possible, that the projected noise contours will be reduced to levels compatible with existing and planned land uses in the vicinity. This Noise Abatement Plan will use the land use and zoning recommendations of this Plan as the basis for developing its guidelines.

Listed below are examples of the general types of noise abatement actions which the Revenue Authority might review and analyze for possible inclusion in the Noise Abatement Plan.

- Increase pattern altitude.
- Modify runway and flight path use.
- Restrict noisy maintenance operations.
- Relocate runways or certain types of operations.
- Acquire property when other noise abatement measures are not possible.

To assure that noise problems are promptly identified and addressed, the Revenue Authority should consider the following programs:

- noise complaint hot line;
- noise monitoring;
- full-time noise abatement staff; and
- airport operations advisory committee with both user and community representation.

This Plan has channeled non-residential uses to properties lying within the 60 Ldn noise contours. A new zoning category, the I-4 Zone, was developed to address the problems related to industrial land use in this part of the Study Area.

This Plan recommends against any future extension of the runway because of the potential impact on future land use and on existing residential development. This recommendation is not intended to inhibit the Airpark's operational expansion, however, and relates only to physical expansion. In evaluating any proposals for facility or operational modifications that might emerge from the SAA study regarding the establishment of an Airport Noise Zone, it will be necessary to determine their potential consequences--as well as their intent--in terms of safety, noise, and operational capacity. Therefore, no physical improvements or changes should be made to the Airpark pending the completion of the SAA study.

A Task Force has been established by the County Council to assess the importance (or necessity) of having an airpark located in Montgomery County and, if an airpark is deemed important, to evaluate its current location and either



develop recommendations for strengthening support for its current location or recommend alternative locations. The land use pattern proposed by this Plan should be re-examined in light of the findings of the Task Force.

### Relationship of Airpark to Rock Creek Planning Area

Recent SAA studies show projected noise for the year 2000 to be at levels (less than 60 dBA Ldn) which would be acceptable for residential development for all but a small portion of the Rock Creek Planning Area. This Plan reflects these noise projections.

This Plan supports light industrial land use in accord with the Low-Intensity, Light Industrial (I-4) Zone for 72 acres in the Rock Creek Planning Area that is partially affected by Airpark noise. A buffer between industrial and future residential uses will be provided through the requirements of the I-4 Zone. The permitted building and parking coverage on this parcel may be further constrained as a result of additional environmental analyses. The Rock Creek Master Plan recommends a water/sewer policy for the I-4 area and discusses land uses in this area in more detail.

The Transportation Plan recommends that a new arterial roadway, Airpark Road Extended (A-268), be built through the Rock Creek Planning Area. The proposed road would extend from the existing Airpark Road parallel to Muncaster Mill Road from MD 124 to proposed Shady Grove Road Extended. (See the Transportation Plan Chapter for additional information.) Without this roadway, Muncaster Mill Road between MD 124 and Shady Grove Road would operate at an unacceptable level of service given the projected traffic volumes generated by the full development of the Gaithersburg area as envisioned by this Plan.

The impact of this road on surrounding land use has been studied as part of the Rock Creek Master Plan Amendment process.

### LAND USE AND ZONING RECOMMENDATIONS BY DISTRICT

The Land Use Plan for the Airpark Study Area is shown in figure 14; the Recommended Generalized Base Zoning is shown in figure 15.

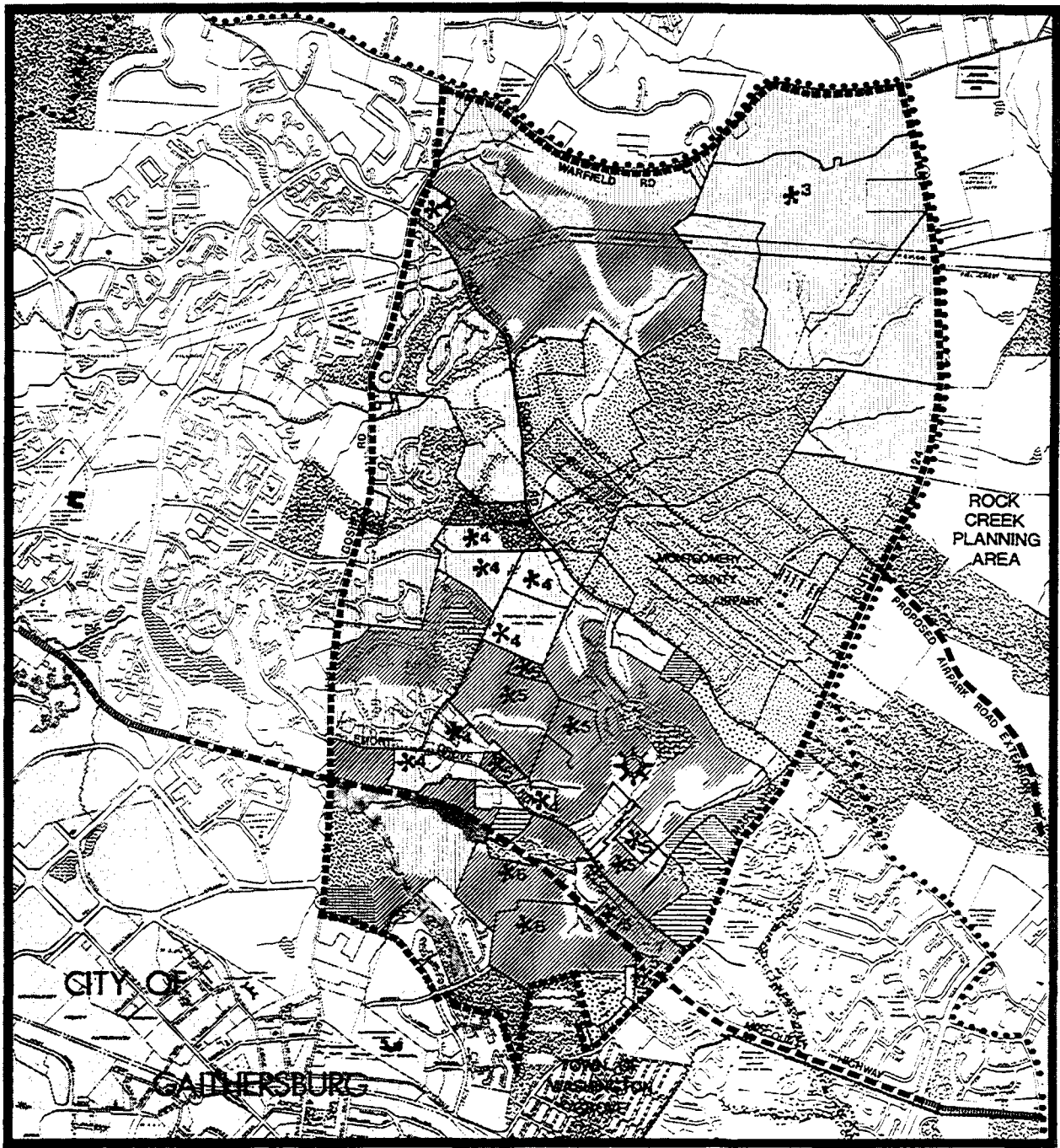
Like the Shady Grove West Study Area, the Airpark Study Area is so large that it must be divided into districts for purposes of planning analysis. These analysis districts are as follows:

- Midcounty Highway District
- Flower Hill District
- Airpark District

The boundaries of these districts are shown on the Airpark Area Analysis Areas map (figure 16). Table 3 is a zoning summary by analysis area.

#### Midcounty Highway District

The Midcounty Highway District includes Analysis Areas 1 through 13. These properties, all lying south of Emory Grove Road, will be affected by their proximity to the proposed Midcounty Highway. The design of this and other highways planned for this area should consider the need for noise abatement and protection of stream valleys.



## AIRPARK AREA-RECOMMENDED LAND USE

- |               |                                    |                           |                               |                        |                    |
|---------------|------------------------------------|---------------------------|-------------------------------|------------------------|--------------------|
| .....         | Planning Area Boundary             | Single-Family Residential | [Stippled Box]                | Industrial Park        |                    |
| -----         | Study Area Boundary                | [White Box]               | Suburban 2-4 Units/Acre       | [White Box]            | Private Open Space |
| [Sun Symbol]  | Planned Neighborhood (Flower Hill) | [Diagonal Lines Box]      | Medium-Density 5-6 Units/Acre | [Horizontal Lines Box] | Institutional      |
| *5            | TDR Density                        | [Dotted Box]              | Multi-Family                  | [Floral Box]           | Parks              |
| [Outline Box] | Municipalities                     | [Horizontal Lines Box]    | Commercial (Retail & Office)  |                        |                    |

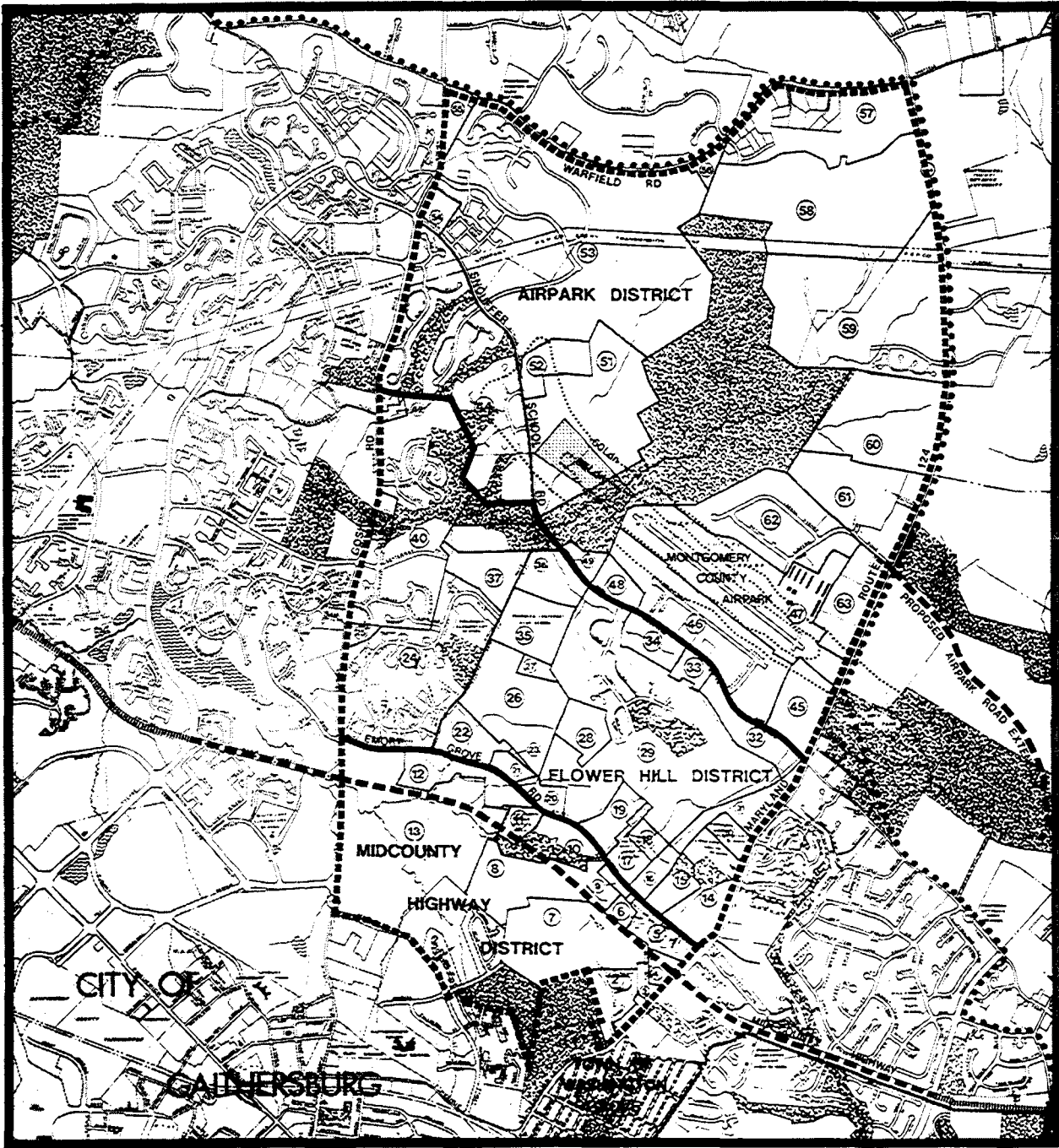
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 Montgomery County Maryland

January, 1985



Fig. 14





# AIRPARK AREA-ANALYSIS AREAS

- ..... Planning Area Boundary
- Study Area Boundary
- Proposed Highway
- ..... Projected Noise Contours
- Municipalities

 Parks

Midcounty Highway District: 1-13

Flower Hill District: 14-43

Airpark District: 44-63

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 Montgomery County Maryland

January, 1985



**Fig. 16**

TABLE 3  
AIRPARK ANALYSIS AREAS  
SUMMARY OF ZONING RECOMMENDATIONS

1	2	3	4	5	6
Analysis Area Number	Acreage	Existing Development	Recommended Zoning Base/Optional	Potential Units Recommended, Base/Optional <sup>1</sup>	Net TDR's Over Base Density
MIDCOUNTY HIGHWAY DISTRICT					
1	1	1 single family	R-200	2/2	0
2	21	171 townhouses 60 garden apts.	R-30 & RT-12.5	231/231	0
3	9	17 single family church	R-90	32/32	0
4	8	vacant	R-90/TDR-5	28/40	12
5	16	vacant	R-60	80/80	0
6	5	vacant	R-90/TDR-5	18/25	7
7	80	vacant	R-90/TDR-6 <sup>2</sup>	288/480	192
8	54	vacant	R-90/TDR-6	194/324	130
9	3	1 single family	R-200/TDR-5 <sup>3</sup>	6/15	9
10	25	100 single family	R-60	100/100	0
11	10	vacant school site	R-200	20/20	0
12	27	12 single family	R-200/TDR-4	97/108	11
13	(city of Gaithersburg not included in calculations)				
TOTALS	259			1096/1457	361
FLOWER HILL DISTRICT					
14	42	Upper County Community Center, Longview Special School, parkland	R-60	0	0
15	27	vacant	R-60	135/135	0
16	10	vacant; Flower Hill	R-60	50/50	0
17 & 18	23	vacant; Flower Hill	R-90/TDR-5	83/115	32
19	17	13 single family	R-200	34/34	0
20	8	6 single family	R-200/TDR-4	16/32	16

<sup>1</sup> Densities indicated are the maximum permissible, without the bonus for providing Moderately Priced Dwelling Units (MPDU's). Any subdivision of 50 or more units must include 12.5% MPDU's, in which case a density increase of up to 20% and optional development standards and unit types are permitted. Densities do not reflect cluster densities.

<sup>2</sup> The Plan recommends single family detached units at 4 units per acre near the town of Washington Grove's Forest Preserve.

<sup>3</sup> If developed in combination with other property, the Plan recommends TDR-5.

TABLE 3 (Cont'd.)

1	2	3	4	5	6
Analysis Area Number	Acreage	Existing Development	Recommended Zoning Base/Optional	Potential Units Recommended Base/Optional	Net TDR's Over Base Density
FLOWER HILL DISTRICT (Cont'd.)					
21	7	vacant	R-90/TDR-5	25/35	10
22	19	8 single family	R-200/TDR-4	38/76	38
23	1	vacant	R-90	4/4	0
24	141	501 townhouses 91 single family	R-90 & R-60	592/592	0
25	5	1 single family	R-90	18/18	0
26	67	175 townhouses	R-90/TDR-5	289/335	46
27	5	1 single family	R-90/TDR-5	18/25	7
28	18	vacant	R-90/TDR-5	65/90	25
29	250	39 townhouses 218 single family	P-N	1302/1302	0
30 & 31	37	vacant	R-200/P-N <sup>4</sup>	N/A	0
32	32	vacant	R-200/P-N	64/337 <sup>5</sup>	0
33	9	3 single family	O-M	N/A	0
34	17	54 townhouses 23 single family	R-90	77/77	0
35	32	vacant school site	R-200/TDR-4	64/128	64
36	20	vacant	R-200/TDR-4	40/80	40
37	28	54 single family	R-200/TDR-4	56/112	56
38	22	24 townhouses 27 single family	R-200/TDR-4	51/88	37
39	14	1 single family	R-200	28/28	0
40	157	328 townhouses 204 single family	R-90	532/532	0
41	7	1 single family	R-90 <sup>6</sup>	25/25	0
42	4	vacant	R-60 <sup>6</sup>	20/20	0
43	3	2 single family 1 church	R-60 <sup>6</sup>	15/15	0
TOTALS	1,022			3641/4285	371

<sup>4</sup> This acreage proposed for office and retail.

<sup>5</sup> 114 townhouses, 223 garden apartments proposed by developer.

<sup>6</sup> Clustering of development encouraged.

In analysis areas 42 and 43, in recognition of environmental constraints, the plan recommends townhouse development in accordance with the cluster provisions of the zoning ordinance.

(Amended 5/88)

TABLE 3 (Cont'd.)

1	2	3	4	5	6
Analysis Area Number	Acreage	Existing Development	Recommended Zoning Base/Optional	Potential Units Recommended Base/Optional	Net TDR's Over Base Density
AIRPARK DISTRICT					
44	183	107 townhouses 324 single family	R-200	431/431	0
45	33	vacant	I-4	N/A	0
46	98	light industrial uses	I-4	N/A	0
47	131	Montgomery County Airpark	R-200	N/A	0
48	13	2 single family	I-4	N/A	0
49	8	2 single family	I-4	N/A	0
50	323	parkland	R-200	N/A	0
51	134	vacant	I-4	N/A	0
52	16	vacant	I-4	N/A	0
53	392	212 townhouses 2 single family	T-S	1736/1736	0
54	10	vacant	R-200/TDR-4	20/40	20
55	9	4 single family	R-200	18/18	0
56	6	4 single family	R-200	12/12	0
57	22	1 single family	R-200	44/44	0
58	179	1 single family	R-200/TDR-3	358/537	179
59	185	1 single family	R-90 <sup>6</sup>	666/666	0
60	89	349 single family lots	R-MH	349/349	0
61	67	vacant and light industrial uses	I-1, I-4 <sup>7</sup>	N/A	0
62	85	light industrial uses	I-1, I-4 <sup>7</sup>	N/A	0
63	40	light industrial uses	I-4 <sup>7</sup>	N/A	0
TOTALS	2,023			3634/3833	199
OVERALL TOTALS	3,304			8371/9525	931

<sup>6</sup> Clustering of development encouraged.

<sup>7</sup> See text for discussion of I-4 Zone.

Another characteristic of this area is its proximity to the city of Gaithersburg and the town of Washington Grove. The Plan reflects these borders by recommending appropriate residential densities near existing or planned developments and recommending buffering when necessary.

This district has good planned or existing access to Metro, employment, and shopping areas. This access supports the Plan's recommendations for higher density on suitable vacant properties.

The presence of floodplains, streams, erodible soils, and steep slopes in parts of this district indicate that development should be clustered away from these features.

### Flower Hill District

The Flower Hill District includes Analysis Areas 14 through 43 and includes most of the land between Emory Grove Road and Snouffer School Road. The Hunt Cliff and Quail Valley residential areas are located in the western section, and the Flower Hill Planned Neighborhood, now under development, is located to the east.

The Flower Hill Planned Neighborhood is a significant land use in the Airpark Study Area. The Planned Neighborhood (P-N) Zone was originally granted to this area in 1969. The P-N Zone area today is 266 acres and is planned for approximately 1,300 dwelling units. (See Analysis Area 29.) The developer of the planned neighborhood also owns several other adjoining parcels and would like to combine these areas with the Flower Hill development to form a unified community. The Flower Hill community, when completed, will be oriented to a centrally-located, 24-acre park/school proposed in the development plan for this site.

This Plan recommends the addition of 60 acres to the Flower Hill Planned Neighborhood. One parcel (Area 32) is recommended to encourage the development of garden apartments in accord with the provisions of the Flower Hill P-N Zone. Two other parcels (Areas 30 and 31) which are recommended for inclusion in the Flower Hill P-N are recommended for commercial and office development. The P-N Zone provides site plan review which will allow the Planning Board to influence the arrangement of buildings, landscaping, lighting, and parking configuration.

Parcels 16, 17, and 18 are not recommended to be included as part of the P-N Zone due to their orientation to existing non-P-N development. If the development of Areas 17 and 18 is coordinated with the development of the Flower Hill community, residents may be able to use Flower Hill's recreation facilities.

### Airpark District

The Airpark District includes Analysis Areas 44 through 63. This is the area most seriously affected by overflights of aircraft using the Montgomery County Airpark. A new zoning category was created to guide development of industrial parcels in this area, the I-4 Zone. The Hunter's Woods subdivision is located here, and several other large residential subdivisions are developing in this area. Another significant land use is the Green Farm Conservation Park.



## SMOKEY GLEN STUDY AREA

The Smokey Glen Study Area is located in the southwest quadrant of the Gaithersburg Vicinity Planning Area north of MD 28, near Seneca Creek State Park. Zoning recommendations for this area are shown in figure 17.

This Plan confirms the R-200 and C-1 Zones on two parcels fronting MD 28. The character of these parcels, 163 acres and 12 acres respectively, has already been determined by existing or proposed development. The Plan recommends additional C-1 zoning (6,300 square feet) for the parcel fronting MD 28 near Quince Orchard Road, adjacent to Suburban Trust Drive-In Bank. This would provide for improved traffic circulation and parking for the bank.

This Plan confirms residential land use for two other areas but recommends a lower density (one home per 2 acres) to reflect environmental concerns and to respect environmentally sensitive areas. (See figure 18.)

One area is located west of Longdraft Road near Marmary Road. It is characterized by an established neighborhood of single-family homes on wooded lots. The residential lots range in size from one-half to three acres. There are several unbuilt parcels. The recommended alignment of the proposed Great Seneca Highway passes along the southwest edge of this area.

The Plan recommends two-acre lots and changing the zoning from R-200 to RE-2. Development under the cluster provisions of the RE-2C Zone would be preferable, but does not appear to be feasible due to current ownership patterns. Mature trees should be protected wherever possible to maintain the natural beauty of the area and to provide protection against erosion, siltation, and reduction of water quality. Presently, this area is served by individual septic systems. It has potential for a separate community sewer system.

The second area proposed for lowered density is located northeast of Riffle Ford Road and adjacent to Seneca Creek State Park. It contains the Smokey Glen Farm and generally vacant land interspersed with scattered single-family homes. Since 1958, Smokey Glen Farm has functioned as a private recreation area, providing outdoor parties for large groups. This area contains a significant amount of environmentally sensitive land with floodplains, steep slopes, and erodible soils. Several tributaries of Great Seneca Creek are located in this area.

The Plan recommends reducing the permitted density to one unit per two acres under the RE-2C Zone. Clustering is strongly encouraged to protect the environmentally sensitive areas. The western portion of this area probably could be served by a gravity sewer line parallel to the existing force main easement.

The Plan recommends development guidelines for the environmentally sensitive areas to help assure the compatibility of the development to surrounding uses. These guidelines should include, but not necessarily be limited to, the following:

- Stormwater management issues will be addressed at time of subdivision proposal;
- Mature wooded areas should be protected, wherever possible. Natural vegetation should remain along all streams;





- Development should be clustered away from streams, steep slopes, severely erodible soils, poorly drained soils, floodplains, and other environmentally sensitive areas;
- Development should be setback or otherwise buffered to prevent traffic noise impacts from MD 28 and Quince Orchard Road; and
- Detached homes should be located adjacent to existing detached homes.

## LAND USE AND ZONING RECOMMENDATIONS FOR OTHER AREAS

### Oakmont Community

Oakmont is a community located to the southwest of the town of Washington Grove. Oakmont is somewhat unique in the Gaithersburg Vicinity Planning Area because many of the homes are relatively old and are situated on large lots. The Oakmont Special Study Plan, which is available separately, was adopted in 1982; the approved and adopted Land Use Plan for Oakmont is shown in figure 19.

### Non-Contiguous Parcels

Several properties outside the study areas are proposed for re-zoning. These properties are discussed in tabular form and are shown in Figure 20.

Because of its size (74 acres), the Washingtonian Industrial Park property merits a separate discussion. The Washingtonian Industrial Park area is "L" shaped and situated on both sides of the proposed alignment of I-370, east of I-270. (See figure 20.) It is bounded on the northwest and northeast sides by a stream valley which separates it from the Summit Hall and Rosemont communities. Part of the stream lies in the city of Gaithersburg's municipal park.

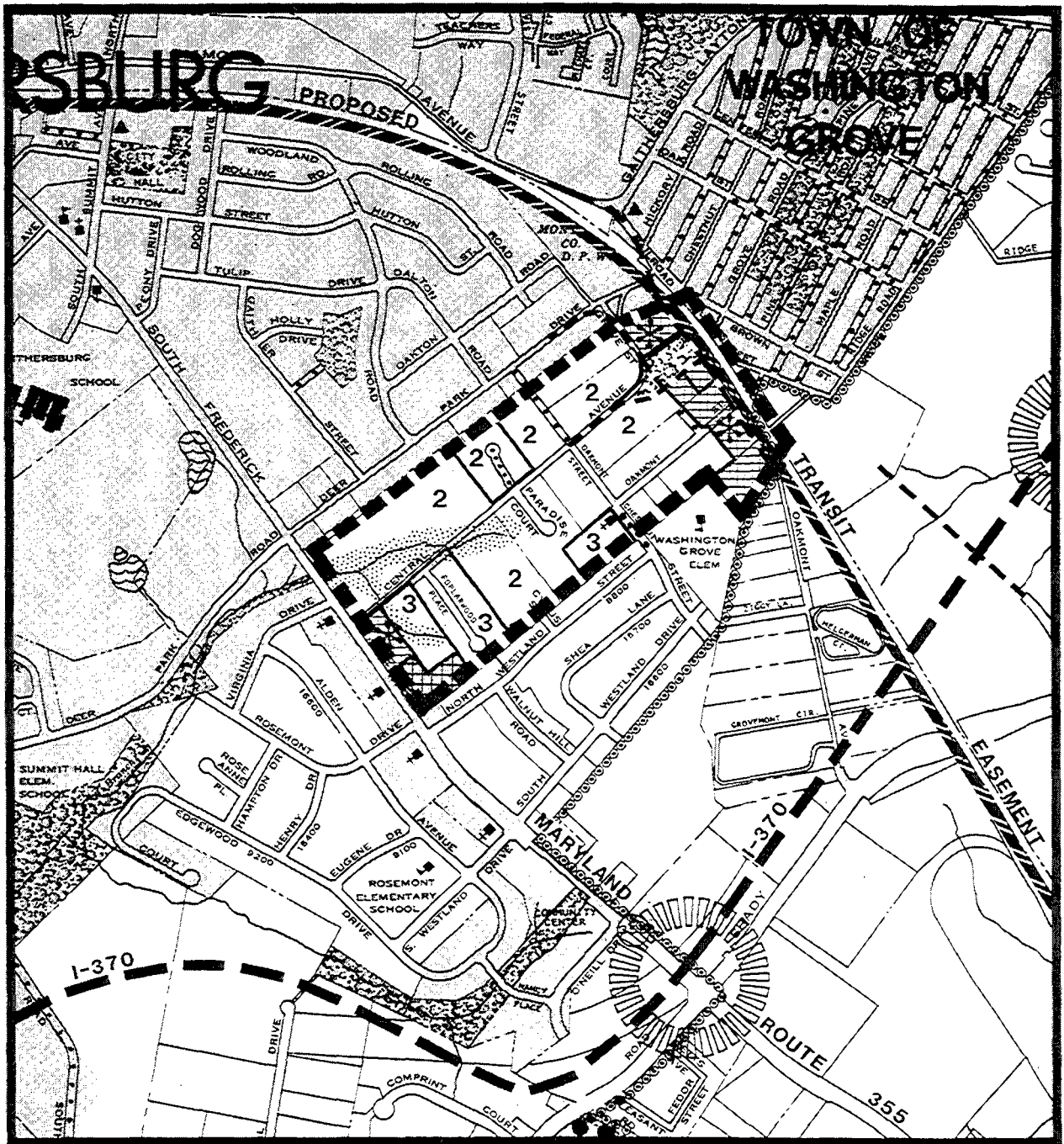
The only access to this parcel is from the south along Industrial Drive. The configuration of homes to the north of this property precludes access from that direction. The alignment for I-370 bisects the property,

The Plan recommends light industrial uses (I-4 Zone) for the majority of vacant land south and north of I-370. A band of R-200 zoning is retained on land adjoining existing residential development.

Other commercial/industrial zones which require site plan review (thereby allowing the Planning Board to review development plans for compatibility with adjoining residential development) would be appropriate here. These zones include O-M (moderate intensity office) and I-3 (industrial park). The staging chapter links rezoning to O-M or I-3 to the construction of certain roads.

### STAGING RECOMMENDATIONS FOR THE MD 28 CORRIDOR

A major concern throughout the Plan process has been traffic congestion along MD 28. MD 28 is currently at capacity and congested during rush hours. Although a road improvement program is programmed to provide more highway capacity, residents and local government jurisdictions fear that unless future development is staged very closely to highway availability, MD 28 will continue to experience unacceptable levels of service.



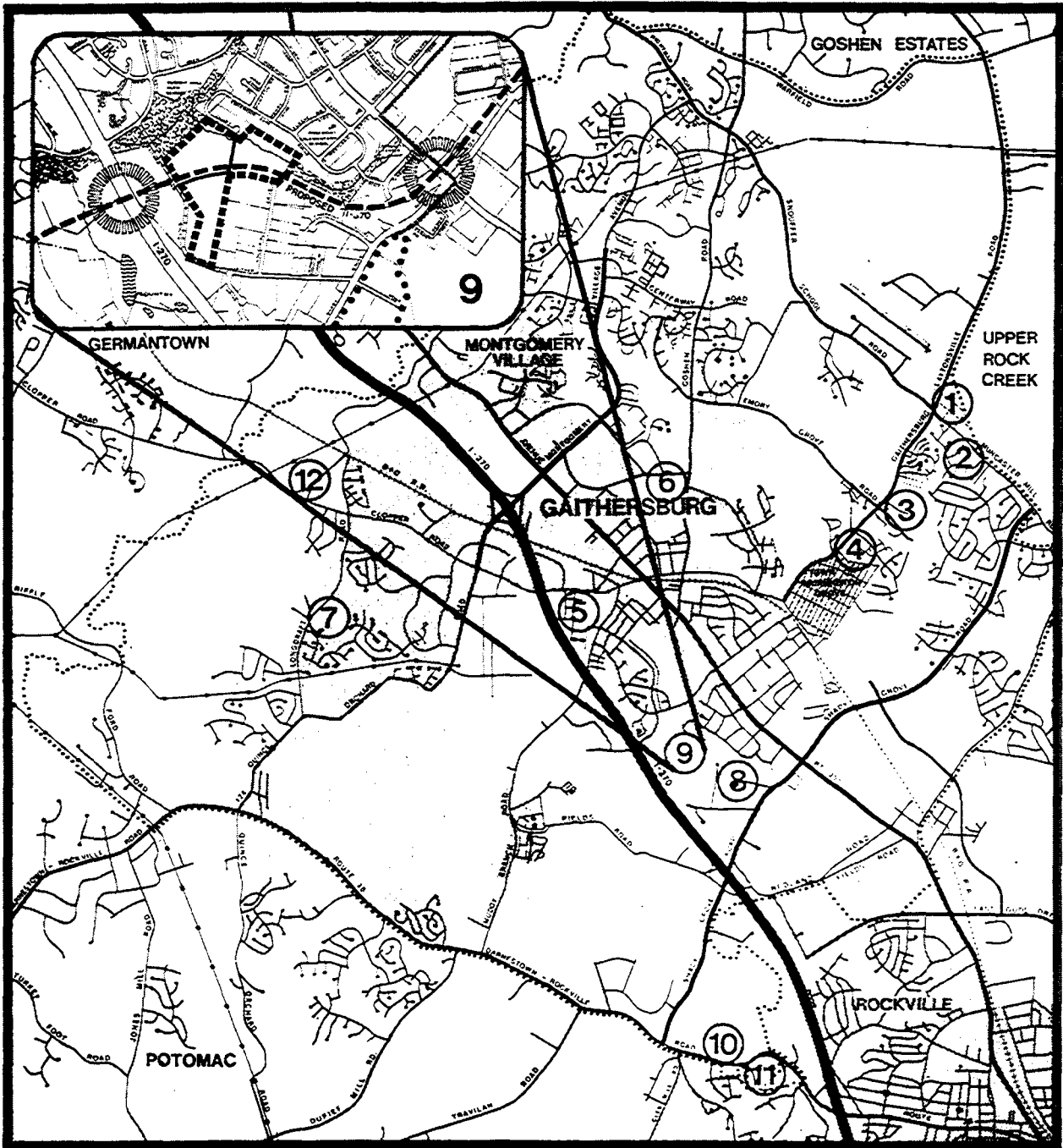
### ADOPTED OAKMONT LAND USE PLAN

- ⊙⊙⊙⊙ Boundary of Shady Grove Sector Plan
- ■ ■ ■ Analysis Area Boundary
- ▬▬▬▬ Proposed Roadways
- ▨▨▨▨ Transit Easement
- Municipalities
- \* See Text of Oakmont Special Study Plan
- 2 Residential (units/acre)
- ▨▨▨▨ Commercial-Retail
- ▨▨▨▨ Commercial-Office
- ▨▨▨▨ Conservation

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 Montgomery County Maryland January, 1985



Fig. 19



## NON-CONTIGUOUS PARCELS

----- Planning Area Boundary

□ Municipalities

1-12 These Parcels Will Be Included in Sectional Map Amendment

**APPROVED & ADOPTED GAITHERSBURG VICINITY MASTER PLAN**  
Montgomery County Maryland

January, 1985



Fig. 20

TABLE 4

NON-CONTIGUOUS ANALYSIS AREAS  
SUMMARY OF ZONING RECOMMENDATIONS

Analysis Area Number	Acreage	Recommended Zone	Comments
1	29	R-90 and C-4	<p>Existing single-family residences and restaurant/gas station located north of Muncaster Mill Road. R-90 Zone recommended for compatibility with R-90 development planned for opposite side of Muncaster Mill Road, and with area recommended for P-11 Zone along Gruffer School Road and MD 124. Separated from low-density areas of Upper Rock Creek Planning Area by pondland. Approximately 3 acres at this intersection recommended for C-4 zoning by this Plan. This location is already in use as a non-conforming commercial use under the R-28D Zone; rezoning to C-4 would allow the existing restaurant to continue in operation. Any redevelopment or additional commercial development at this location should be oriented towards MD 124 rather than Muncaster Mill Road. Access from the site onto Muncaster Mill Road should be located as far away from the intersection as possible.</p>
<p>AMENDED- SEE Page 56a</p>			
2	2	R-60	<p>Eight lots, one house, located south of Muncaster Mill Road. Emory Grove subdivision and townhouses in Laytonia community adjoin the property.</p>
3	37	R-60/TDR-6 and C-1	<p>Vacant surplus school site (14 acres) and adjacent 17-acre parcel (one single-family dwelling), located east of MD 124 directly across from the Up-County Community Center Swimming Pool complex. The Plan supports a small pedestrian scale shopping area at the surplus school site, if feasible, given the site's rough topography. The site is within walking distance of the Emory Grove community which has identified the need for a local shopping center since 1968. The community has submitted a Community Development Block Grant application to the County to develop approximately two acres of commercial use on the site. The exact amount of commercial zoning will be determined at the time of Sectional Map Amendment.</p> <p>The Plan confirms the 1971 Master Plan for medium-density residential uses for 12 acres of the surplus school site and the adjacent 17 acre parcel. The Plan designates the surplus school site as a TDR receiving area, suitable for a density up to 6 units per acre.</p>
4	2	R-60/RT-6	<p>This property is located west of MD 124 near Towne Crest Drive and immediately north of the Town of Washington Grove. The Town of Washington Grove is characterized by detached houses on a variety of lot sizes. Washington Square townhouses and apartments adjoin the property on the north. Existing and planned land uses in the area are predominantly townhouses and garden apartments, interspersed with single-family detached homes.</p> <p>Townhouses are appropriate for the site, but the density should be low enough to be compatible with nearby detached residences. The Plan recommends R-60 with an RT-6 option. Clustering away from the Town of Washington Grove's forest preserve is encouraged.</p>
5	11	R-20	<p>This area is located south of Diamond Avenue between Londonderry apartments and I-270. It is within the Maximum Expansion Limits of the city of Gaithersburg and part of a large enclave. Higher density is more compatible with surrounding uses and zoning.</p>

**AMENDED LANGUAGE FOR ANALYSIS AREA 1 IN ACCORD WITH APPROVED AND ADOPTED AMENDMENT TO THE GAITHERSBURG VICINITY MASTER PLAN, MAY 1988**

This Plan recommends the R-30 Zone, with an RT-6 Zone option, for 3.6 acres fronting Muncaster Mill Road. C-T zoning is recommended for the 1.1 acres known as the "Buice/Wheeler property." The C-T Zone is recommended west of Emory Street as a transition between the C-4 commercial uses to the west and residential development to the east. This Plan recommends that issues of compatibility be carefully addressed in an optional schematic development plan, as submitted, as well as at the time of site plan review, as required by the C-T Zone. Special attention will be given at the time of site plan review to designate features, such as appropriate height and overall visual character of buildings and the proper placement access only from MD 124 in accordance with the Master Plan recommendation that commercial uses in the area should be oriented to MD 124. The C-T Zone is used here in the nature of a buffer, and it should not extend east of Emory Street. The necessary right-of-way for the possible widening of MD 115 should be dedicated as part of the development process.

The area recommended for RT-6 is affected by improvements to the MD 124/Muncaster Mill Road intersection; a median strip will prevent residents from turning left onto Muncaster Mill from Emory Street.

The best way for the access problem from Emory Road to be solved is to create another internal street, beginning opposite Ivy Oak Drive, which would increase access to Muncaster Mill Road for residents. The key to such a road being constructed is redevelopment of all properties in the neighborhood since the road would traverse most of the parcels. Higher density zoning that R-90 would help provide an incentive for such redevelopment. To be consistent with past planning decisions regarding the residential character of Muncaster Mill Road, the higher density should be limited to residential uses.

The most appropriate zone would be RT-6. This zone is consistent with R-60 zoning south of Muncaster Mill Road. See map on page 56-b.

It should be noted that a density of 6 units per acre raises environmental and site plan concerns. For these reasons, this density may not be realized once stormwater management, noise, and buffering issues are addressed. The RT-6 Zone will provide flexibility in terms of site development. Since the main reason for recommending RT-6 in light of environmental concerns is resolution of the access problem, the RT-6 Zone is recommended only if all property owners apply for the zone. For this reason, the RT-6 Zone should not be applied by Sectional Map Amendment.

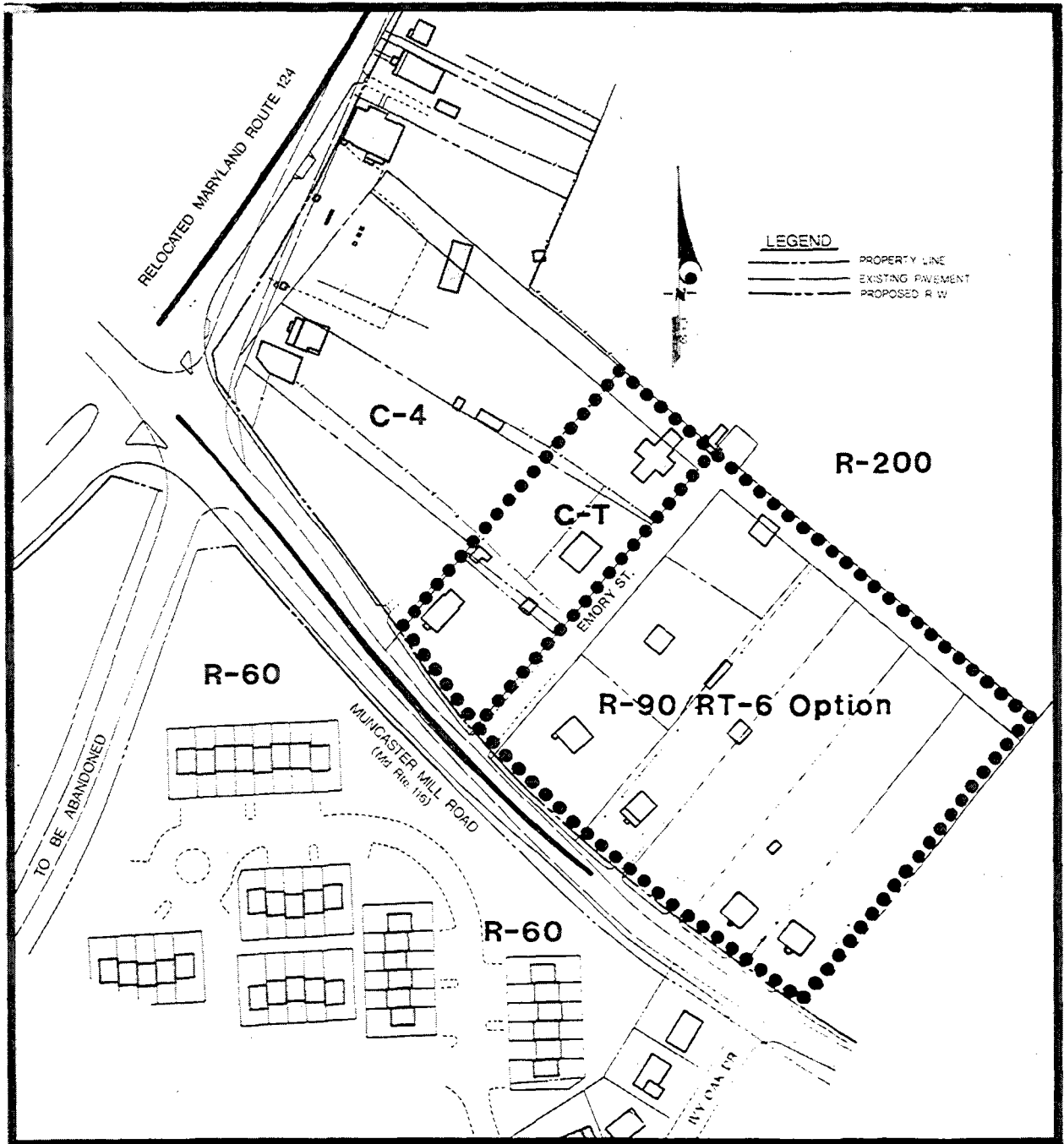
Finally, although the intersection improvement will create some local access problems, areawide transportation implications must also be considered. Many transportation decisions in the area have been made based upon the continued residential character of Muncaster Mill Road (e.g., the continued designation of Muncaster Mill Road as a primary<sup>1</sup> and the construction of Airpark Road extended as an east-west relief road rather than upgrading Muncaster Mill Road). For this reason, this Plan strongly supports continuation of residential uses east of Emory Street.

The necessary right-of-way for the possible widening of MD 115 should be dedicated as part of the development process.

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<sup>1</sup> Proposals have been made to redesignate Muncaster Mill Road from a primary to an arterial; however, no change will be made in the classification of Muncaster Mill Road until a comprehensive transportation study of the area is complete.





## RECOMMENDED ZONING PLAN FOR ANALYSIS AREA 1

R-90 Residential, 3.6du/ac  
 RT-6 Residential, Townhouses 6du/ac  
 ●●●● Study Area

C-T Commercial Transition

APPROVED AND ADOPTED GAITHERSBURG VICINITY MASTER PLAN  
 Montgomery County Maryland

MAY 1988



TABLE 4 (Cont'd.)

Analysis Area Number	Acreage	Recommended Zone	Comments
6	93	R-90	The Plan confirms the 1971 Master Plan recommendation of medium-density residential uses for the Asbury Methodist Home property.
7	10	R-90	Vacant area located east of Longdraft Road near Seneca State Park. Surrounded by medium-density residential development in the city of Gaithersburg. Higher density is consistent with existing development pattern.
8	2	I-1	Vacant, irregularly-shaped area located near cul-de-sac on Industrial Drive. Made up of portions of several other parcels. Surrounded by land recommended for industrial development and parkland in the city of Gaithersburg.
9	72	I-4/I-3 or O-M	See text for discussion.
10	5	R-90	Vacant property located south of MD 28 adjacent to city of Rockville. Higher density is consistent with existing development pattern.
11	39	R-90	This area is located south of MD 28 and west of city of Rockville National Capitol Research Park. It consists of several homes and an 11-acre vacant tract. A mixture of single-family detached homes, institutional uses, and office/industrial uses are located in the area. The 11-acre vacant tract was once the subject of annexation and a rezoning request to the city of Rockville's office building zone. The Planning Board reviewed the proposed zoning and supported the applicant's request for limited office development. The Planning Board recommended that strict controls be placed on the developer to reduce the impact of the office development on the nearby residential properties. Limited office development would provide a compatible transition between the office/industrial uses to the north and residential uses to the south.
12	35	R-90/ TDR-5	<p>The area is bounded to the east by Long Draught Road, to the west by Game Preserve Road, and to the south by Clopper Road. It is largely vacant except for the St. Rose of Lima Church, rectory, and several houses along Game Preserve Road. Bennington, a townhouse community developed at 9 units per acre, adjoins the area to the east; Seneca State parkland is located to the west.</p> <p>A mix of housing types (detached and attached) is highly desirable at this location because the property forms a transition between townhouses to the east and parkland to the west. Game Preserve Road is already developed with detached units and this low density, single-family detached character should continue. At the same time, higher density townhouses along Long Draught Road would be compatible given the presence of the Bennington townhouse community.</p> <p>To better achieve a mix of unit types, the Plan recommends the zoning be changed from R-200 to R-90 Zone. (A 2.6-acre parcel at the corner of Long Draught Road and Clopper Road is already zoned R-90 and recorded in single-family detached lots.) The Plan designates the site as a TDR receiving area, suitable for a density up to 5 units per acre.</p>

The staging recommendations included in this chapter address this concern.

The primary geographic focus of the staging recommendations is the Shady Grove West area. Staging development in the Shady Grove West area alone, however, will not address the issue of traffic congestion along MD 28. To be meaningful, a staging program must include all undeveloped, unrecorded properties which will ultimately generate traffic in the vicinity of MD 28. For these reasons, a MD 28 Corridor Area has been defined for purposes of staging. (See figure 21.)

To be meaningful, a staging program for the MD 28 Corridor must also examine through-trips from Germantown and other areas which use traffic capacity in this portion of the MD 28 Corridor. This Plan's staging recommendations reflect through-trips from adjoining planning areas because they are based upon a County-wide traffic model.

Many of the properties in the MD 28 Corridor are now located in Gaithersburg or Rockville or are planned to be annexed by them in the future. As part of this Master Plan process, both municipalities have agreed that these properties should be staged. This is extremely important because neither municipality has staging provisions in their plans or their subdivision regulations. Staging guidelines for key parcels in the Rockville and Gaithersburg portions of the MD 28 Corridor are included in this chapter.

#### What Staging will Accomplish

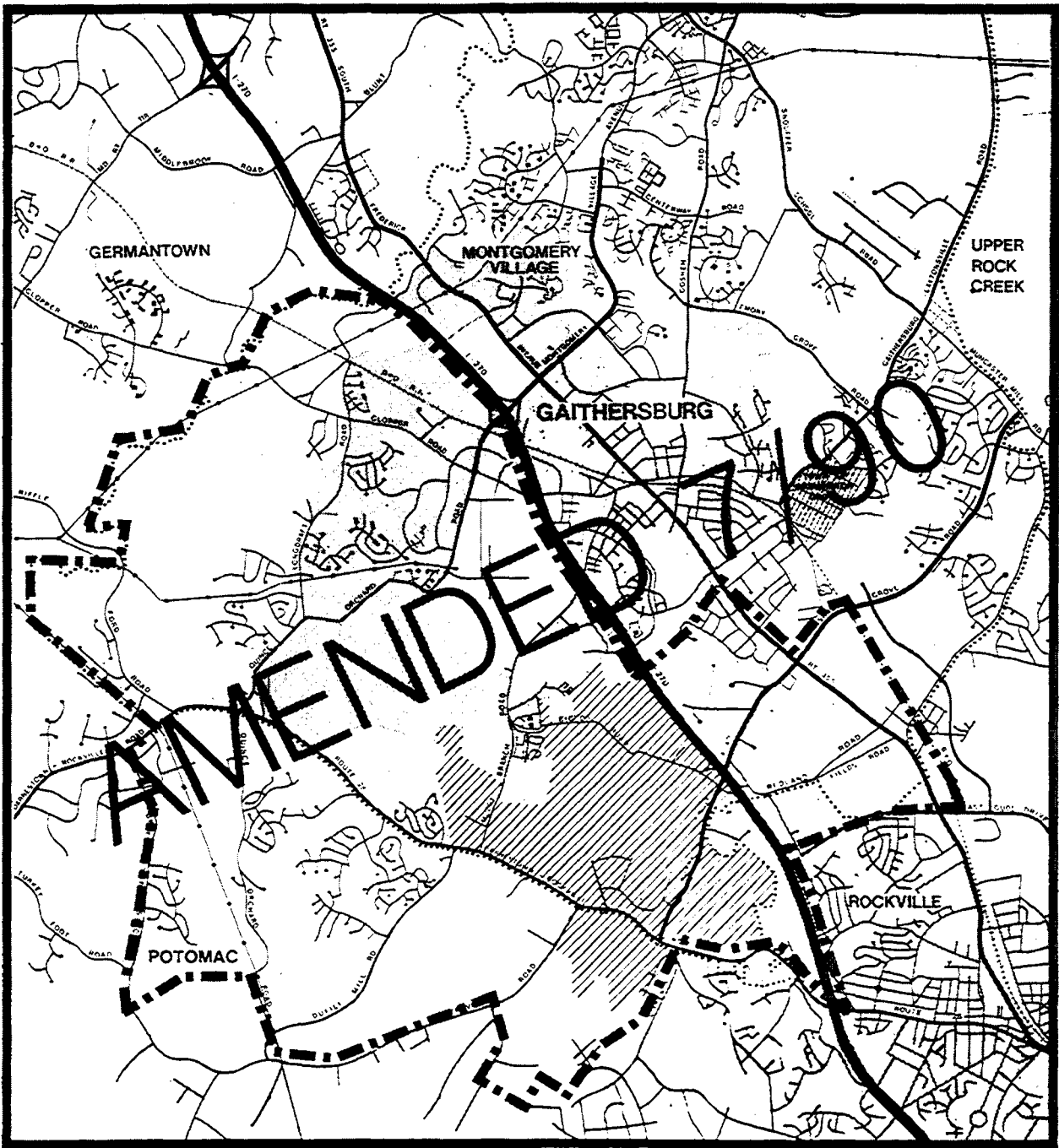
The Montgomery County Subdivision Ordinance requires the Planning Board to review all preliminary plans of subdivision for adequacy of programmed public facilities and to deny those for which it finds that existing and programmed facilities are not adequate.

The Adequate Public Facilities Ordinance (APF) Administrative Guidelines state that any project which is at least 80 percent funded for construction in the County 6-year Capital Improvements Program (CIP) or in the State Consolidated Construction Program will be considered as part of the transportation network.




The MD 28 Corridor is unique from other parts of the County because other parts of the County may require only one or two road projects to relieve congestion. In the MD 28 Corridor, at least eight major improvements are programmed to accommodate expected development. As a result, development may be approved under existing guidelines based on the traffic capacity provided by numerous roads programmed but not yet under construction. If, for any reason, the construction of a project or projects does not proceed on schedule, development may occur before needed traffic capacity exists. Communities along MD 28 may be subjected to long periods of inconvenience as a result.

This Plan cannot prevent "short-term" capacity imbalances during periods of actual road construction. Staging at the master plan level, however, will help prevent long periods of inconvenience due to unforeseen delays in the County and state construction program by linking new development to the awarding of road construction contracts rather than just the programming of construction.

The Implementation Chapter of this Plan discusses how this will be accomplished.



### MD. 28 CORRIDOR STAGING AREA

-  MUNICIPALITIES
-  STAGING AREA BOUNDARY
-  SHADY GROVE WEST AREA

**APPROVED & ADOPTED GAITHERSBURG VICINITY MASTER PLAN**  
 Montgomery County Maryland

January, 1985



Fig. 21

### Properties Affected by Staging Plan

The entire MD 28 Corridor is affected by this staging plan. The staging recommendations apply to all vacant, undeveloped properties in the corridor with the following exceptions:

- Vacant properties which have been recorded for development are excluded from the staging plan; and
- Vacant properties which have approved preliminary subdivision plans are excluded from the staging plan.

Properties in these two categories have proceeded through the development process already and have been reviewed in terms of traffic impacts. If owners of parcels in either of these two categories apply for resubdivision or if an approved subdivision plan lapses, then new development plans will be reviewed in accordance with the Plan's staging recommendations.

### Relation of Staging Plan to Subdivision Review Process

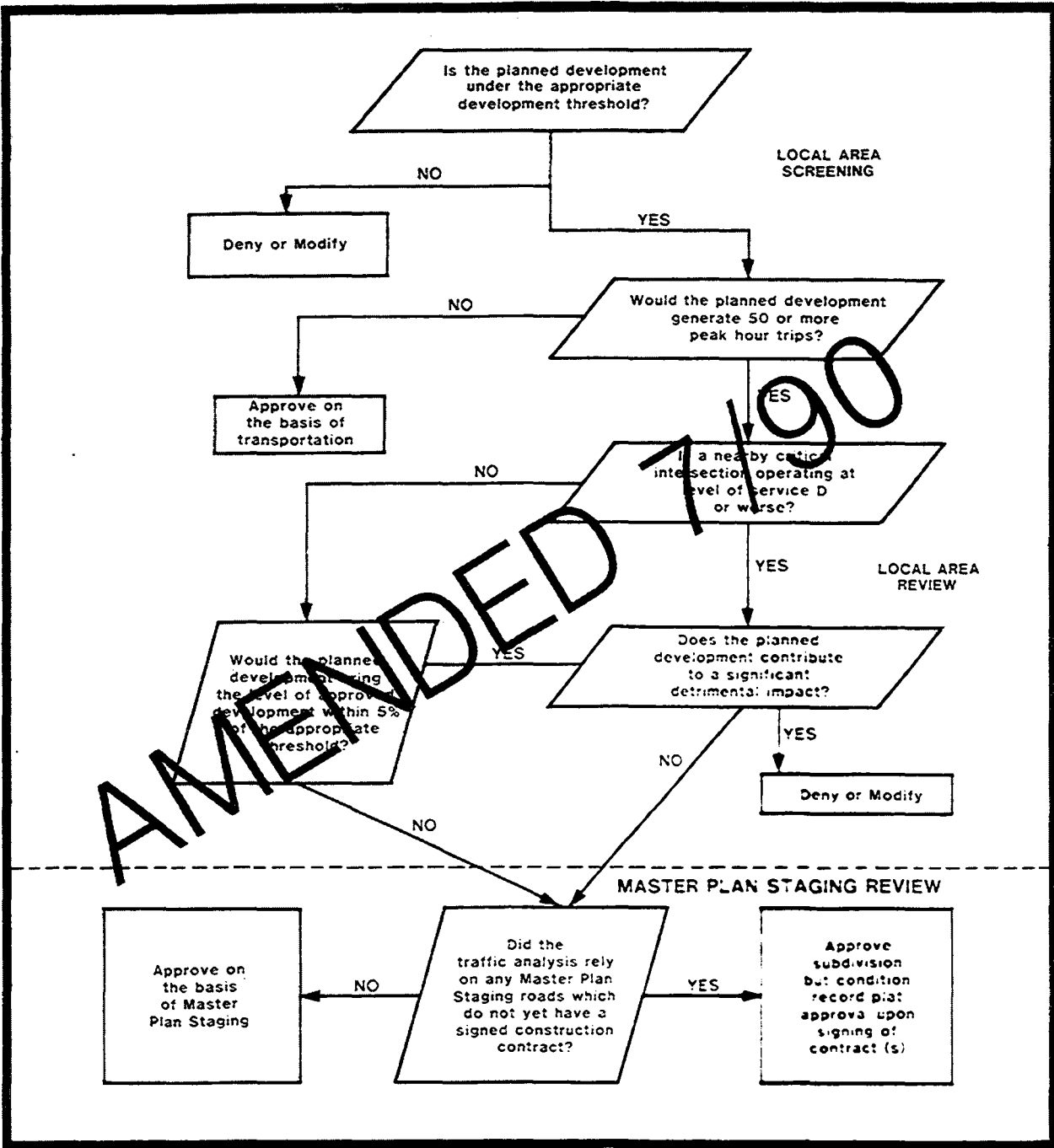
Properties which are shown in the early development stages will proceed through the regular subdivision process. The properties will be analyzed in terms of traffic impact in accord with the APP Administrative Guidelines. (See figure 22.) If a subdivision passes the APP test, the subdivision will be approved with a condition that it may not be recorded until the roads identified in the staging plan are under contract for construction. This approach will link the construction of new development to the construction of new roads.

### Staging Guidelines

As noted earlier, the primary objective of the staging plan has been to assure that the pace of development in the MD 28 Corridor is more closely related to available traffic capacity.

Other planning objectives, unrelated to transportation, have also guided the staging recommendations. They are:

- Office development in Shady Grove West should be staged over time to allow the market to evolve for higher intensity mixed uses envisioned by the Master Plan.
- Residential and office uses should be included at all phases of development to implement the Master Plan objective "to provide the opportunity for people to live and work in the same community." The appropriate balance between residential and office development is a matter of judgment as to the County's and each local area's relative employment, fiscal, and housing needs.
- The amount of development proposed in each stage reflects judgments as to road capacity and user demand. If a subdivision is so designed and located to facilitate public transit service, then additional development may be possible when transit service is programmed or provided. Similarly, if additional highway studies find more or less traffic capacity, then the specific recommendations of this Plan can and should be modified.



## RELATIONSHIP OF MASTER PLAN STAGING TO THE STANDARD APPROVAL PROCEDURE FOR TRANSPORTATION ADEQUACY



- Existing farming operations (Banks, Thomas, Crown) should be placed in later stages of development to encourage their continuation for some time. These farms may well remain in agricultural use for some time, but eventual conversion of the Crown and Thomas Farms would be desirable from a planning perspective to achieve the development objectives of the Gaithersburg Vicinity Master Plan. The timing of development and scale for the Banks Farm will be determined as part of a future Master Plan Amendment.
- Any staging policy for an area as large as this and with as many new highway projects will have to be reviewed and changed as new information becomes available. If any changes to the staging recommendations are deemed necessary, they will be made in the context of a Master Plan Amendment. In any event, a comprehensive Master Plan Amendment will occur before Stage III.
- Parcels which are already recorded which apply for resubdivision or which have approved preliminary subdivision plans which lapse will be reviewed in the same manner as a new preliminary subdivision plan.

#### Proposed Stages of Development: Shady Grove West Area

Existing areas of development and existing roadways in Shady Grove West are shown in figure 23.

The key parcels discussed in the staging plan are identified in figure 24.

This staging plan makes detailed recommendations for the Shady Grove West portion of the MD 28 Corridor. For the balance of the MD 28 Corridor, more generalized recommendations are presented since properties in the cities of Gaithersburg and Rockville are involved as well as properties in other County planning areas (Part of the Shady Grove Sector Plan).

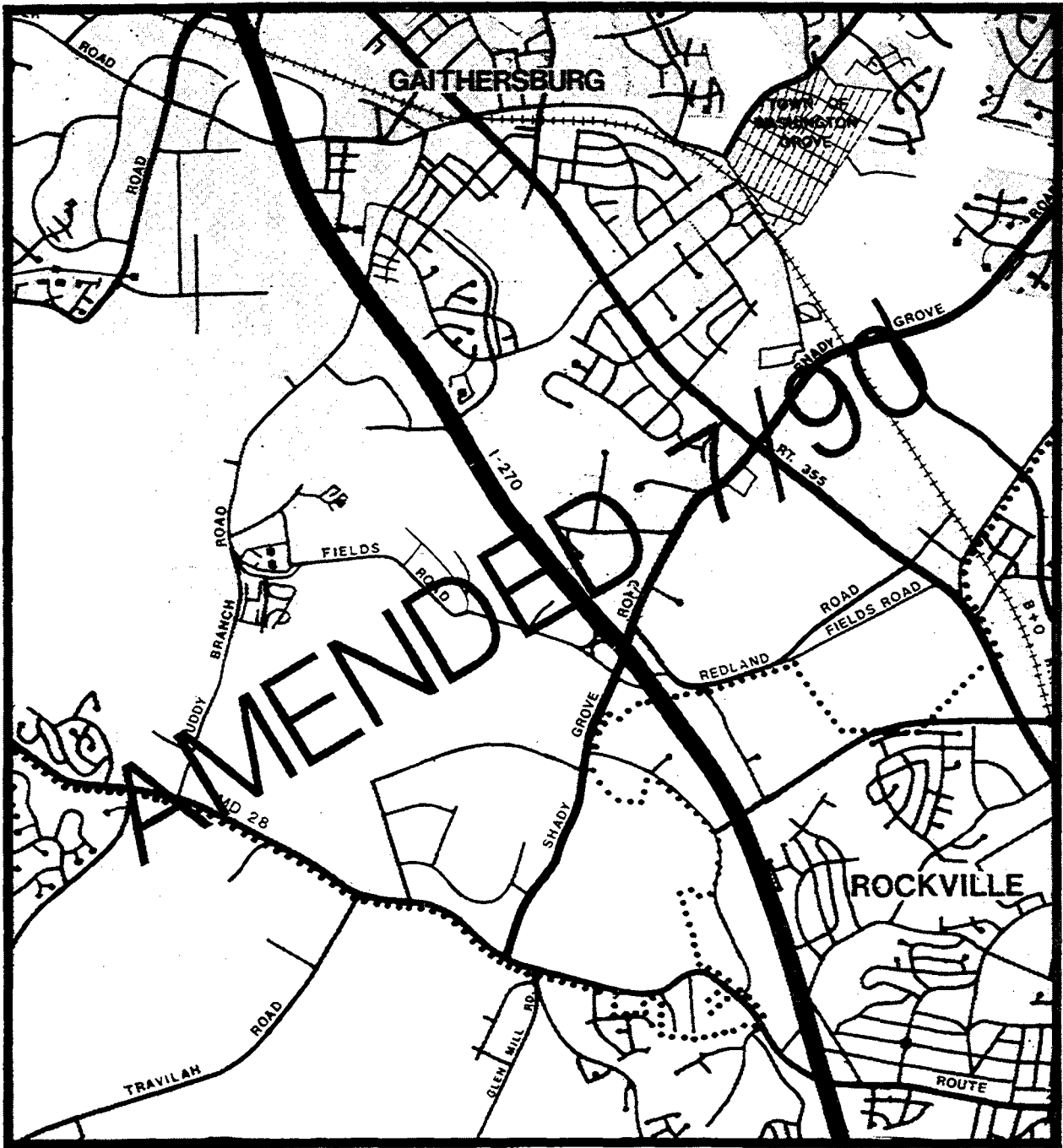
Three stages of future development are proposed by this Plan. (See figure 25 and table 5.) Each stage includes a series of transportation improvements and a certain amount of residential and non-residential development. Road improvements are grouped according to their programmed or planned construction dates. Roads are identified individually because different parcels are staged to the construction of different roads.

To develop a consistent and integrated staging approach, the staging recommendations of this Plan are complementary to the Planning Board's 1984 Comprehensive Planning Policy Report (CPP) and the development thresholds described therein.

Development for Stage I has been allocated based upon the traffic studies done as part of the CPP. The CPP analysis also reflects the significant changes in transit availability throughout the County and Gaithersburg area associated with the opening of Metro to Shady Grove.

Stage I includes a large number of roads and spans six years. Some development is keyed to roads which are scheduled to be constructed in the next one or two years; other development is keyed to roads which will be built later in the six-year period. Stage I does not include already approved and recorded plats because they have already been accounted for in determining threshold capacity remaining at the beginning of Stage I development.





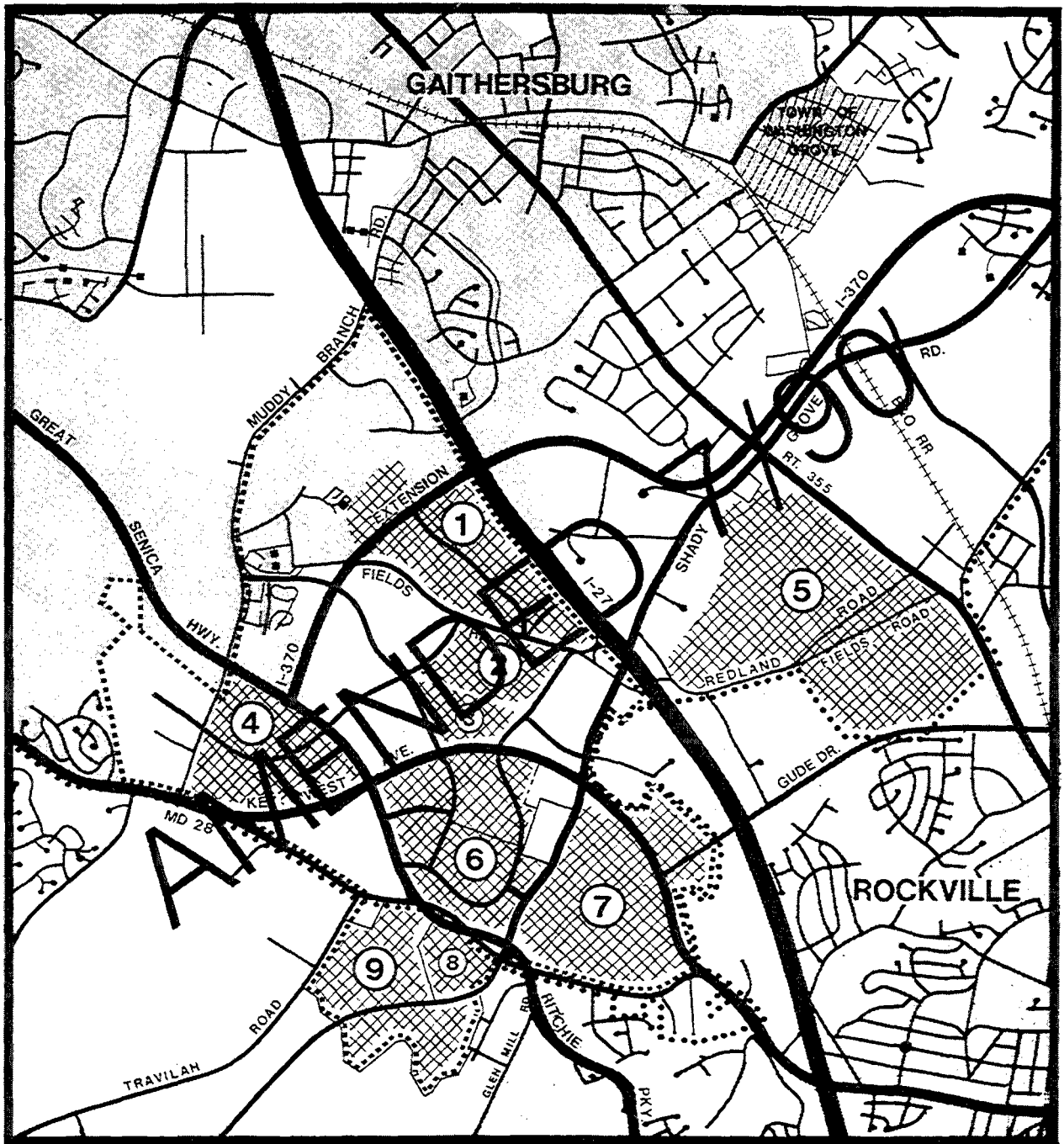
**SHADY GROVE WEST AREA -  
EXISTING DEVELOPMENT CONDITIONS (DECEMBER 1984)**

 EXISTING/COMMITTED DEVELOPMENT

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Montgomery County Maryland  January, 1985



**Fig. 23**



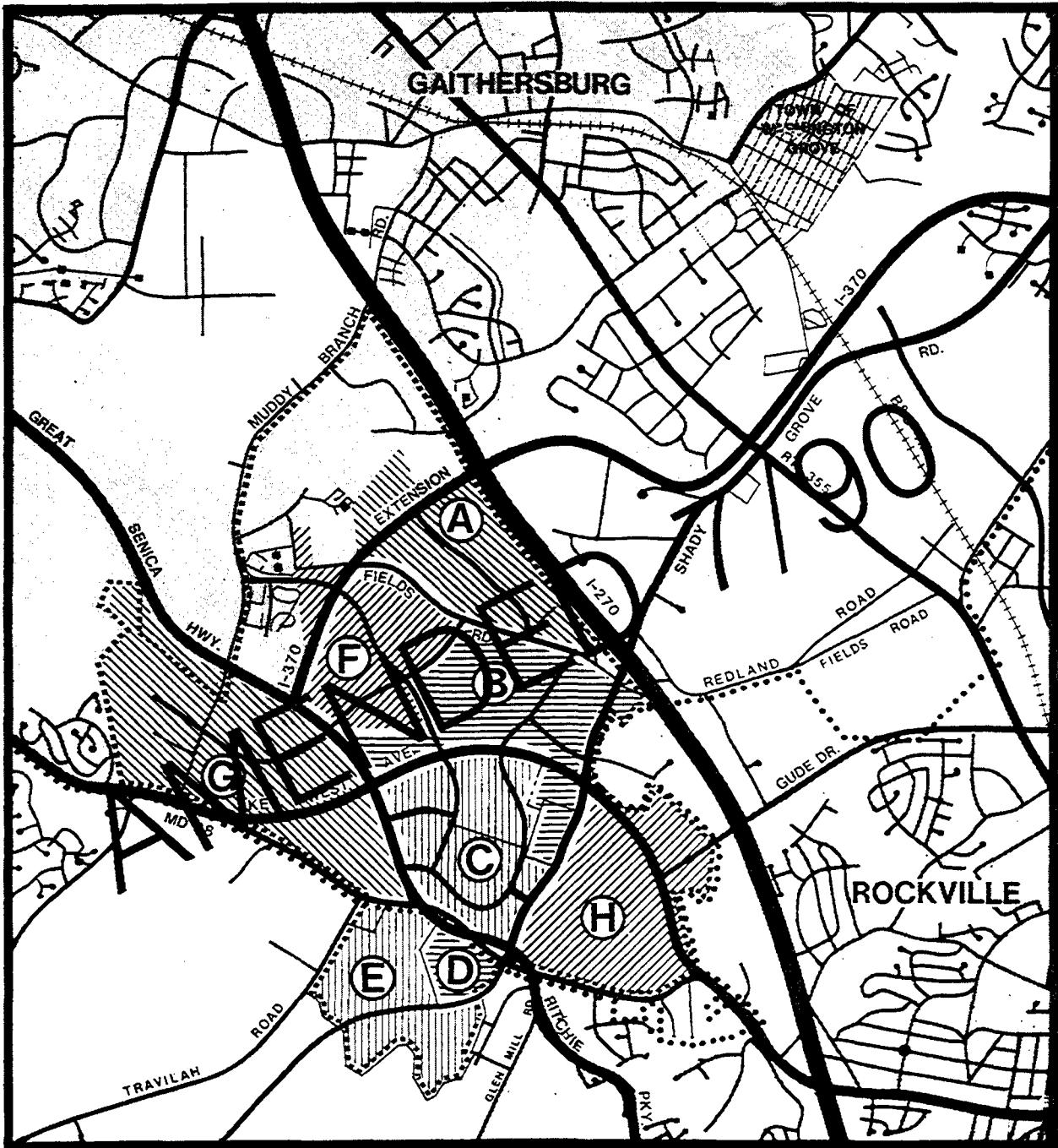
### SHADY GROVE WEST AREA - PLAN TERMINOLOGY

- |                        |                        |                   |
|------------------------|------------------------|-------------------|
| ① Washingtonian Center | ④ Banks Farm           | ⑦ Thomas Farm     |
| ② Crown Farm           | ⑤ King Farm            | ⑧ Gudelsky Tract  |
| ③ NUS Site             | ⑥ Life Sciences Center | ⑨ Percon Property |

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 Montgomery County Maryland January, 1985



Fig. 24



### SHADY GROVE WEST AREA - STAGING DISTRICTS

(A-F) R&D VILLAGE

- (A) Corporate District
- (E) Conference Center District
- (B) R&D District
- (F) Residential District
- (C) Bio-Technology District
- (G) MD. 28 Residential District
- (D) University District
- (H) Residential / R&D District (Thomas Farm)

..... Study Area Boundary

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 Montgomery County Maryland

January, 1985



**Fig. 25**

TABLE 5

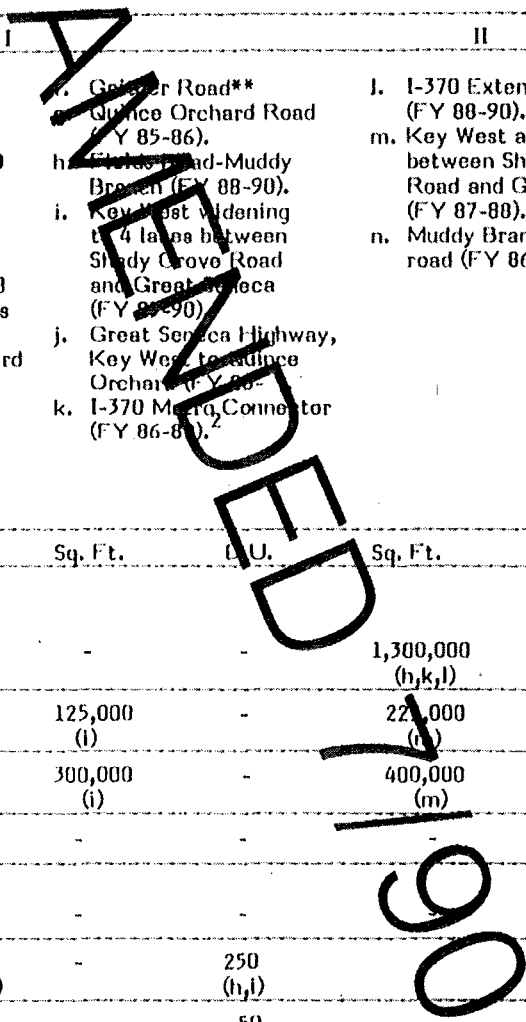
PROPOSED STAGING FOR SHADY GROVE WEST  
AREA OF THE MD 28 CORRIDOR

(Office, retail, commercial uses expressed in square feet; residential uses expressed in dwelling units)

Footnotes are explained in accompanying text.

STAGE	I		II		III	
EVENTS*	a. Shady Grove West to 6 lanes (FY 86-87).		g. Getzler Road**		l. I-370 Extended (FY 88-90).	o. Widening of I-270.
*(Construction dates reflect Approved 1985-90 CIP) See Footnote 1	b. Shady Grove/I-270 Interchange.		h. Quince Orchard Road (FY 85-86).		m. Key West as 2-lane road between Shady Grove Road and Gude Drive (FY 87-88).	p. Extension of Key West from Gude Drive east to MD 28.
**Under construction as of 12/84	c. Omega Drive**		i. Fields Road-Muddy Branch (FY 88-90).		n. Muddy Branch as 4-lane road (FY 86-90).	q. Widening of MD 28 from 2 lanes to 4 lanes or widening of Key West to 6 lanes.
	d. Key West: 2 lanes from Shady Grove to MD 28 & MD 28 spot improvements (FY 85-86).		j. Key West widening to 4 lanes between Shady Grove Road and Great Seneca (FY 85-90).			r. Widening of Key West between MD 28 and Great Seneca from 2 to 4 lanes and Great Seneca connection.
	e. Fields Road-Piccard Drive/MD 355.**		k. Great Seneca Highway, Key West to Quince Orchard (FY 88-90).			s. Widening of Ritchie Parkway (MD 28 to Falls Rd.)
			l. I-370 Metro Connector (FY 86-88).			t. Great Seneca Highway (Quince Orchard to Middlebrook).
	Sq. Ft.	D.U.	Sq. Ft.	D.U.	Sq. Ft.	D.U.
MAXIMUM ALLOWABLE DEVELOPMENT <sup>2</sup>						
A) Corporate District (Washingtonian) <sup>4</sup>	525,000 (a,b,c)	750	-	-	1,300,000 (h,k,l)	750 (o) See Note 6
B) R&D District <sup>4</sup>	225,000 (a,b,c,d)	-	125,000 (i)	-	225,000 (l)	-
C) Bio-Technology District (Life Sciences Center)	600,000 (a,b,c,d)	-	300,000 (i)	-	400,000 (m)	-
D) University District <sup>5</sup>	-	-	-	-	-	-
E) Conference Center/ R&D District	-	-	-	-	-	-
F) Residential District	-	250 (a,b,c,d)	-	250 (h,i)	-	250 (i)
G) MD 28 Residential District	-	50 (a,b,c)	-	50 (i,j)	-	200 <sup>7</sup> (l,m,n)
H) Residential/R&D District (Thomas Farm)	-	-	-	-	400,000 <sup>8</sup> (a,d,m)	-
TOTALS	1,350,000	1,050	425,000	300	2,325,000	750
TOTALS STAGE I & II					4,100,000	1,800

A Master Plan Amendment will determine Stage III recommendations for these areas.



FOOTNOTES FOR TABLE 5:

- 1 Some roads will be constructed during the time frame of Stages I and II but they are not staging events for Shady Grove West. They are shown for information. The roads which are needed for development in a district to proceed in Stage I must be under construction before Stage II can proceed.
- 2 The I-370 Metro Connector will be constructed during the time frame of Stage I but it will not become important to Shady Grove West until I-370 Extended is completed in Stage II.
- 3 The maximum allowable development shown in this table may only occur if a subdivision passes local area review (see Implementation section) at time of subdivision. The local area review process allows the traffic impact of a subdivision to be examined in more detail than at the Master Plan level and includes an examination of traffic impacts on nearby intersections.  
  
The 1985 threshold for residential development in the Gaithersburg Policy Area is 0. Additional residential development will only be approved under the threshold flexibility provisions or discount provisions of the Adopted Guidelines for administering the Adequate Public Facilities Ordinance.  
  
The threshold flexibility provisions allow approval above the threshold to be conditioned upon the future construction, by either the applicant and/or the government, of some public facility projects or the operation of a transit program which, if added to the approved Capital Improvements Program (CIP) as a programmed facility, will add capacity to the road network and result in the subdivision meeting the adequacy tests of local area review and will not result in lowering the areawide level of service.  
  
The discount provisions may permit subdivisions of 49 units or less to proceed if, in the judgment of the Planning Board, previously approved subdivisions in the area will not proceed to construction within 5 years.  
  
For a more complete discussion of APF guidelines, see the most recently adopted Comprehensive Planning Policies Report.
- 4 The NUS property (Area B-2) is presently zoned O-M. Unless the property owner applies for a change in the record plat or resubdivides the property or applies for the MXPD zone, the staging recommendation of this Plan would not apply to future development.
- 5 The University District is part of the Life Sciences Center and is included in the staging recommendations for the Life Sciences Center.
- 6 Development shown in Stage III could proceed prior to the widening of I-270 subject to future construction, by either the applicant and/or the government, of some other public facility projects or the operation of a transit program which, if added to the approved Capital Improvements Program (CIP) as a programmed facility, will add capacity to the road network and result in the subdivision meeting the adequacy tests of local area review and will not result in lowering the areawide level of service.
- 7 This capacity might be obtained by the programming of MD 28 improvements instead of "I, m, n" if such a substitution would result in acceptable levels of service and is supported by traffic studies done at time of subdivision. The balance of this development will be subject to staging decisions in the Stage III Master Plan Amendment.
- 8 If the segment of Key West Boulevard east of Gude Drive moves forward faster than anticipated in the staging plan, this parcel could proceed to development.

AMENDED

The majority of development in Stage I permits office uses — primarily in the Life Sciences Center. Residential development must be constrained because previously approved subdivisions and already approved record plats elsewhere in the MD 28 Corridor have all but absorbed the residential threshold for this area. Since the immediate road capacity problem is MD 28 itself, the residential component of Stage I involves properties oriented primarily to I-270 and Shady Grove Road.

Stage II includes road projects which were added to the 1985-90 CIP by the Montgomery County Council. Although only three roads are involved in Stage II, they will add significant traffic capacity to the MD 28 Corridor area.

During Stage II, the key roads required to support the Washingtonian property along I-270 will be under construction (I-370 Extended, I-370 Metro Connector, and Fields Road). The extension of Key West to Gude Drive will help relieve the Shady Grove Road/I-270 Interchange, thereby aiding the entire Shady Grove area. The I-370 Metro Connector may only be contracted for construction to Fields Road and not to Great Seneca Highway during Stage II. Traffic studies done at time of subdivision will take into account the status of I-370.

Traffic capacity along "old" MD 28 will still be a problem in Stage II. Therefore, even the amount of residential development shown in Stage II may not be possible as a result. The APF review at time of subdivision will determine the number of units which can be built. Any improvement to existing MD 28 would relieve this staging constraint.

Stage III includes all Master Plan roadways not yet 80 percent funded for construction. These roads are critical to full development of the MD 28 Corridor area. The widening of I-270 is now being studied and design work is underway. This Plan strongly recommends that the State Highway Administration begin work on a MD 28 study since a significant portion of the development in Stage III relates to MD 28.

Stage III may be broken down into more stages as individual road projects are programmed for construction and as more detailed traffic studies are completed. A Master Plan Amendment will precede Stage III.

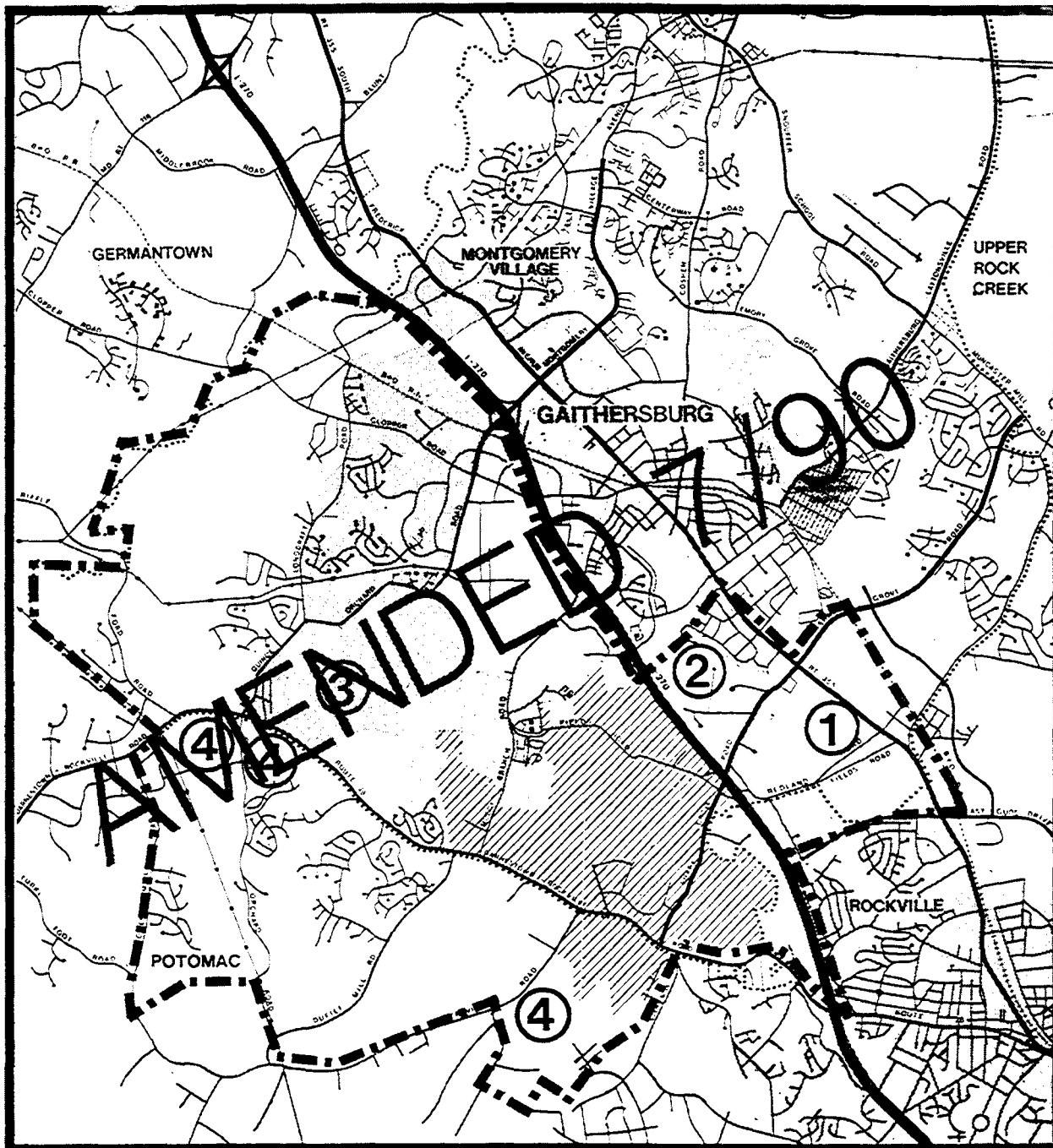
#### Staging Guidelines for Portions of MD 28 Corridor Outside Shady Grove West

As stated before, the staging recommendations for Shady Grove West will only be effective if vacant properties in the balance of the MD 28 Corridor are also staged. Key vacant properties are shown in figure 26. Staging recommendations for key parcels elsewhere in the MD 28 Corridor are summarized in table 6. The majority of development occurs in Stage III, thus allowing both Rockville and Gaithersburg adequate time to amend their master plans and regulatory processes to include a staging element.

The following staging guidelines are proposed by this Plan for vacant properties outside the Shady Grove West Area.

#### Washingtonian Industrial Area

1. The base zone for vacant land in the Washingtonian Industrial Park should be I-1 and I-4. The I-4 Zone allows offices only as special exception uses. This will allow applications for office development to be examined closely in terms of traffic generation. An application for O-M or I-3 zoning would be



### MD. 28 CORRIDOR STAGING AREA

Major Vacant Parcels Outside Shady Grove West

- |   |                                      |
|---|--------------------------------------|
|  MUNICIPALITIES        | ① KING FARM                          |
|  STAGING AREA BOUNDARY | ② WASHINGTONIAN INDUSTRIAL AREA      |
|  SHADY GROVE WEST AREA | ③ KENT FARM / NATIONAL GEOGRAPHIC    |
|   | ④ VACANT PARCELS SOUTH OF MD. RT. 28 |

**APPROVED & ADOPTED GAITHERSBURG VICINITY MASTER PLAN**  
 Montgomery County Maryland 

January, 1985



Fig. 26



TABLE 6

PROPOSED STAGING FOR PARCELS IN MD 28 CORRIDOR  
OUTSIDE OF SHADY GROVE WEST  
(Prepared July 1984)

(Office, retail, commercial uses expressed in square feet; residential uses expressed in dwelling units)

STAGE	I		II		III			
EVENTS*	a. Shady Grove West to 6 lanes (FY 86-87).		i. Quince Orchard Road (FY 85-86).		l. I-370 Extended (FY 88-90).		o. Widening of I-270.	
*(Construction dates reflect Approved 1985-90 CIP)	b. Shady Grove/I-270 Interchange.		j. Quince Orchard Road (FY 85-86).		m. Key West as 2-lane road between Shady Grove Road and Gude Drive.		p. Extension of Key West from Gude Drive east to MD 28.	
**Under construction as of 12/84	c. Omega Drive**		k. Fields Road-Muddy Branch (FY 88-90).		n. Muddy Branch as 4-lane road (FY 86-90).		q. Widening of MD 28 from 2 lanes to 4 lanes or widening of Key West to 6 lanes.	
	d. Key West: 2 lanes from Shady Grove to MD 28 & MD 28 spot improvements (FY 85-86).		l. Key West widening between Shady Grove Road and Great Seneca.				r. Widening of Key West between MD 28 and Great Seneca from 2 to 4 lanes and Great Seneca connection.	
	e. Fields Road-Piccard Drive/MD 355.**		m. Great Seneca Highway, Key West to Quince Orchard.				s. Widening of Ritchie Parkway (MD 28 to Falls Rd.)	
			n. I-370 Metro Connector (FY 86-89)				t. Great Seneca Highway (Quince Orchard to Middlebrook).	
	Sq. Ft.	D.U.	Sq. Ft.	D.U.	Sq. Ft.	D.U.	Sq. Ft.	D.U.
DEVELOPMENT:								
King Farm <sup>1</sup>	-	-	-	-	-	-	-	-
Washingtonian Industrial Area <sup>2</sup>	360,000 (b,e,f)	-	-	-	250,000 (k,m)	-	500,000 (o)	-
Kent Farm National Geographic <sup>4</sup>	-	-	-	-	-	-	7,000,000 (o,p,q,r)	-
Vacant Parcels South of MD 28 <sup>5</sup> (Potomac Master Plan Area)	-	-	-	-	-	-	-	1,335 (q)
TOTALS	360,000				250,000		14,500,000	1,335

<sup>1</sup> The King Farm is currently zoned residential (R-200) but planned for industrial uses (see Shady Grove Sector Plan). A future Master Plan Amendment will determine the amount and type of industrial uses and explore the possibility of including housing.

<sup>2</sup> See text for staging guidelines. The amount of development in Stage I assumes 1-4 industrial zoning (prices are special exception uses).

<sup>3</sup> Development shown in Stage III could proceed prior to the widening of I-270 subject to future construction, by either the applicant and/or the government of some other public facility projects or the operation of a transit program which, if added to the approved Capital Improvements Program (CIP) as a programmed facility, will add capacity to the road network and result in the subdivision meeting the adequacy tests of local area review and will not result in lowering the areawide level of service.

<sup>4</sup> Development yields cannot be accurately estimated since future Master Plan Amendments by the city of Gaithersburg will determine the build-out. For purposes of this chart, the Kent Farm and the balance of National Geographic build-out has been assumed at .4 FAR. In any case, future Master Plan Amendments which affect these properties should include a staging element.

<sup>5</sup> The development potential of this area has been calculated by applying 2 DU/acre build-out to vacant, uncommitted land.

appropriate once Gaither Road, Fields Road, and I-370 Metro Connector are under construction. More detailed traffic studies at time of zoning will help determine the actual amount of office square footage.

Additional small scale office "infill" may be permitted if detailed traffic studies indicate adequate intersection capacity.

#### King Farm

1. The zoning for the King Farm should continue to be R-200.

A Master Plan Amendment which will examine Metro accessibility will precede re-zoning. This future Amendment will examine the possibility of providing a mix of residential and office uses, a major open space component, and the suitability of the MXP Zone for all or part of the King Farm.

#### Recommended Guidelines for Parcels in City of Gaithersburg

The City of Gaithersburg Master Plan should be amended in a timely manner to include staging guidelines that are complementary to those suggested for Shady Grove West. Staging guidelines are particularly important for the following parcels:

1. The Kent Farm -- The City of Gaithersburg Master Plan designates the Kent Farm as a "concentric generate" with a mix of residential, retail, and office uses. The city's Plan should be amended to include a staging element which links build-out to needed road improvements.
2. The balance of the National Geographic property -- Although there are no plans at this time to expand National Geographic, this eventuality must be addressed.
3. Any future development of the GEISCO property beyond existing approvals.

#### Recommended Guidelines for Parcels in City of Rockville

The City of Rockville Master Plan should be amended in a timely manner to include staging guidelines which are complementary to those suggested for Shady Grove West. Staging guidelines are particularly important for the following parcels:

1. This Plan postpones a decision on the ultimate land use for the Thomas Farm until a future Master Plan Amendment. The widening of MD 28 south of the Thomas Farm and the widening of Ritchie Parkway are critical transportation events for Stage III development of the Thomas Farm. Development therefore should be staged to necessary road improvements.

The Thomas Farm is within Rockville's maximum expansion limits. If the Thomas Farm is annexed by the city of Rockville, the city should amend its Master Plan to link development to the widening of MD 28 south of the Thomas Farm and the widening of Ritchie Parkway. These improvements are important to the ultimate Stage III development.

2. The Rockville Master Plan should be amended to incorporate an appropriate staging element for the portion of the King Farm located within Rockville.

Alternatively, development should be staged in accordance with the recommendations of the Shady Grove Sector Plan and the Gaithersburg Vicinity Master Plan at time of annexation.

#### Potomac Master Plan Area (Parcels in MD 28 Corridor Area)

Future development in this area south of MD 28 should be staged to additional highway capacity along MD 28, as well as other Stage III highway improvements. This highway capacity could be provided either by widening MD 28 to four lanes east to the I-270 interchange or by widening Key West Boulevard to six lanes.

#### Linking Future Development to Road Construction

This Plan recommends that roads identified in the staging plan should be under construction before new development can proceed. To implement this policy, record plats for new development should not be approved until the construction contracts for the appropriate roads have been awarded.

The policy is different from current subdivision review procedures which consider any road that is 80 percent funded for construction in the County or state CIP as adding traffic capacity. The reasons for proposing a different approach in the MD 28 Corridor are existing traffic conditions, the magnitude of future road projects, and community concern about possible slippage in the road construction program.

#### Implementation Strategies

The actions which are necessary to implement the staging recommendations are discussed in the Implementation Chapter. A summary of these actions follows:

- Zone properties shown in Stage III as R-200; rezoning to a higher density should wait further refinement of Stage III. Stage III should be amended when the impacts of Stage I and II can be evaluated and when the timing of MD 28 improvements and I-270 widening are known.
- Any MXPDP applications in accordance with this Plan could be accepted at any time as long as the staging component of the MXPDP application conforms with this Plan's staging for the subject property.

Although the staging plan will be reflected in the MXPDP application, the actual location of development will not be predetermined by this Plan.

- Amend the administrative guidelines for the Adequate Public Facilities Ordinance to permit the staging approach outlined in this chapter (that is, the recording of new development plats should be linked to the awarding of contracts for the construction of new roads).
- Amend the Master Plan before Stage III and follow the Plan by a Sectional Map Amendment.
- Change the sewer and water priorities for all properties shown in Stage III to Priority 2 - no service envisioned for at least 6 - 10 years.
- Re-examine the 10-Year Water and Service Plan recommendations as part of the Master Plan Amendment which will precede Stage III.

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# Transportation Plan

This chapter makes recommendations regarding highways, mass transit systems, bikeways, and equestrian trails.

## GOALS AND GUIDELINES

The intent of this Plan is to ensure convenience, accessibility, and flexibility with regard to the area's circulation system in the following manner:

- Develop a highway network in coordination with the existing regional network.
- Develop quality public transportation systems and advance private ride-sharing and carpooling programs to reduce dependence upon single-occupancy automobile commuting.
- Encourage adequate residential and employment densities to support efficient public transit and carpool/vanpool programs.
- Encourage the provision of bikeways for commuter as well as recreational uses.
- Encourage the development of public and private pathways for pedestrian movement in concert with road design and construction.

## HIGHWAY RECOMMENDATIONS

A matter of great concern during the Plan process has been whether the Master Plan transportation system can handle the Master Plan "end-state" land use recommendations.

To allay this concern, Planning Board staff modeled the end-state road network and the potential end-state development pattern. This analysis confirmed

that the Master Plan road network could accommodate the potential Master Plan build-out.

Since the time of the road network analysis, many land use recommendations in the Shady Grove West area have been modified as a result of Plan worksessions. Thus, the determination that the traffic capacity of the Transportation Plan network can accommodate the end-state land use plan can no longer be made.

For this reason, a Master Plan Amendment will precede the rezoning of larger parcels in Shady Grove West. As part of this future Amendment, the ability of existing and future roadways to accommodate potential development will be examined. This analysis will influence the amount, type, intensity, and staging of employment and residential uses recommended in the Amendment.

This Plan recommends a limited amount of residential and employment uses. The traffic capacity of roads scheduled for construction in Stages I and II (see Staging Recommendations chapter) is sufficient to accommodate the land use development proposed for those stages on an areawide basis, although each parcel must be reviewed under the Local Area Transportation Review to ensure that it can be accommodated within the local area.

The roads shown on the Transportation Plan map (figure 27) are described in Table 7, Street and Highway Classifications.

A brief description of the major new roadways proposed by this Plan appears below. More detailed information on these and other roadways is included in the Technical Appendix.

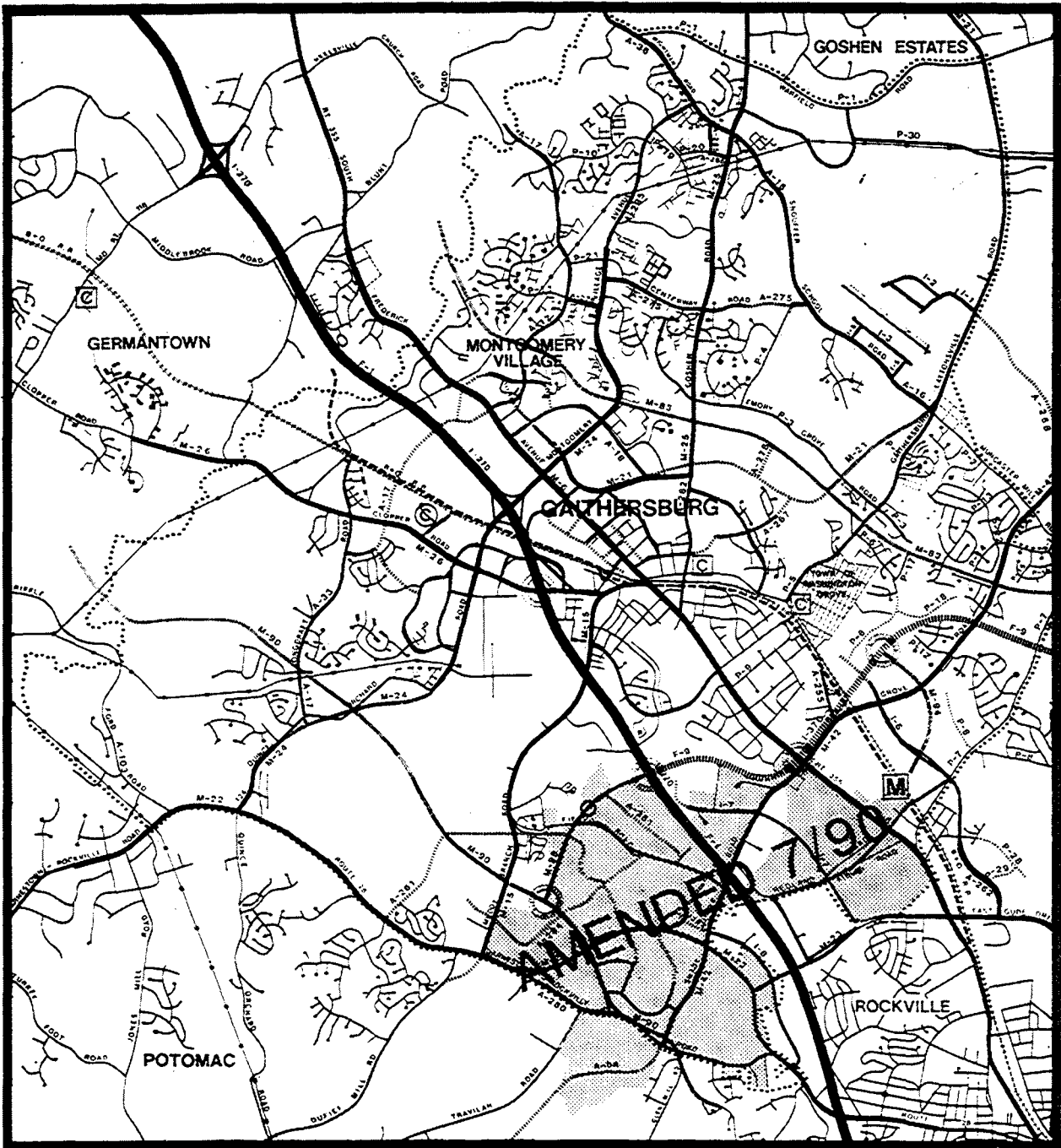
#### I-370 (Metro Access Highway) and Related Roadways

The construction of I-370 (Metro Access Highway) is the most important element to the implementation of this Plan.

Construction of this roadway is expected to begin by 1985 and to be completed by 1989. A connection from the I-370/I-270 interchange west to Great Seneca Highway is also planned. The construction of this road, called the I-370 Connector, is in the County Capital Improvements Program to be completed in FY 90. Fields Road will be reconstructed as an urban, arterial highway.

Fields Road between Omega Drive and the I-370 Connector is classified by the Transportation Plan as an arterial roadway (80-foot right-of-way) with a possible future 100-foot right-of-way. The Crown Farm, which abuts this roadway on the south side, is one of the areas for which final land use recommendations will be decided as part of a future Master Plan Amendment. It is possible that those recommendations will produce traffic volumes that require six lanes on Fields Road, in which case a 100-foot right-of-way would be the minimum. The 100-foot right-of-way assumes that sidewalks will be constructed on private property. Normally, a sidewalk is within the public right-of-way and follows the roadway. Because Fields Road terminates at a controlled major highway that almost immediately becomes a freeway-type facility, a pedestrian connection (at least on the Washingtonian side) is inappropriate. The specifics of the Fields Road cross section design may be atypical and should be determined as part of the development plan for the Washingtonian site. This Plan endorses that approach. Any additional right-of-way required by development on the Crown Farm would come from the south side.





# TRANSPORTATION PLAN

- ..... Planning Area Boundary
- Transit Easement
- M** Metro Station
- C** Commuter Rail Station-Existing
- ©** Commuter Rail Station-Recommended

	Existing	Proposed
Freeway (F-1)		
Major (M-1)		
Arterial/Industrial (A-1)		
Primary (P-1)		
Interchange		

NOTE: See Text, Actual Alignment May Differ

**APPROVED & ADOPTED GAITHERSBURG VICINITY MASTER PLAN**  
 Montgomery County Maryland January, 1985



**Fig. 27**

TABLE 7

## STREET AND HIGHWAY CLASSIFICATIONS

Project Number	Route Number	Name	Limits	Right-of-Way Width	Recommended Number of Lanes or Paving Width
<b>FREEWAYS</b>					
F-1	I-270	Washington National Pike	From Great Seneca Creek to Rockville City Boundary at Shady Grove Road	250'	8
F-9	I-370	Metro Access Highway/Intercounty Connector	From I-270 to Plan Boundary (Redland Road) (P-7)	300'	6
<b>CONTROLLED MAJOR HIGHWAYS</b>					
M-83	MD 115	Midcounty Highway	From Great Seneca Creek to Redland Road (P-7)	150'	4 to 6
M-90	-	Great Seneca Highway	From Great Seneca Creek to Shady Grove Road at West Ritchie Parkway	150'	4 to 6
<b>MAJOR HIGHWAYS</b>					
M-6	MD 355	Frederick Avenue	From Great Seneca Creek to Rockville City Boundary	120'	6
M-15	-	Muddy Branch Road	From Darnestown Road (M-22) to West Diamond Avenue (M-26)	120'	6
M-21	MD 124 (Part)	Oden'hal Avenue	From Lost Knife Road (A-18) to Girard Street Relocated	120'	4-6
M-21	MD 124	Gaithersburg-Laytonsville Road Relocated	From Midcounty Highway (M-83) to Warfield Road (P-1)	120'	4-6
M-22	MD 28	Darnestown Road/Key West Avenue	From Pepco Right-of-way to Rockville City Boundary	120	4-6
M-23	-	Gude Drive	From Key West Avenue (M-22) to Rockville City Boundary	120'	4-6
M-24	MD 124 (Part)	Quince Orchard Road/Montgomery Village Avenue	From Darnestown Road (M-22) to A-295 (500 feet north of Club House Road)	120'-150'	4-6
M-25	-	Goshen Road	From Oden'hal Avenue (M-21) to Warfield Road (P-1)	120'	4-6
M-26	MD 117/124	Clopper Road/West Diamond Avenue	From Great Seneca Creek to Muddy Branch Road (M-15)	120'	4-6
M-28	-	I-370 Extended (Sam Elg Highway)	From Great Seneca Highway (M-90) to I-270 (F-1)	150'	4 to 6
M-42	-	Shady Grove Road	From Great Seneca Highway (M-90) to Muncaster Mill Road (P-2)	120'	6
M-94	-	Metro Access Road	From Metro Access Highway/Intercounty Connector (F-9) to Metro Station	150'	4
<b>ARTERIAL HIGHWAYS/BUSINESS DISTRICT STREETS</b>					
A-16	-	Snouffer School Road	From Goshen Road (M-25) Gaithersburg-Laytonsville Road Relocated (M-21)	80	4
A-17	-	Longdraft Road/Watkins Mill Road	From Quince Orchard Road (M-24) to Great Seneca Creek (Excluding those portions within the City)	80'	4
A-18	-	Christopher Avenue/Lost Knife Road	From Gaithersburg City Boundary to Oden'hal Avenue (M-21)	80'	4
A-33	-	Longdraft Road	From Longdraft Road/Watkins Mill Road (A-17) to B&O Railroad	80'	4
A-34	-	Shady Grove Road Extended	From Great Seneca Highway (M-90) to Plan Boundary	80'	4
A-36	-	Wightman Road/Brink Road	From Great Seneca Creek to Goshen Road (M-25)	80'	4
A-103	-	Riffle Ford Road	From Great Seneca Creek to Darnestown Road (M-22)	80'	4
A-255	-	Oakmont Avenue	From Shady Grove Road to the Gaithersburg City Boundary	80'	4



TABLE 7 (Cont'd.)

Project Number	Route Number	Name	Limits	Right-of-Way Width	Recommended Number of Lanes or Paving Width
ARTERIAL HIGHWAYS/BUSINESS DISTRICT STREETS (Cont'd.)					
A-261	-	Fields Road	From I-370 Extended (M-28) to Omega Drive (A-261a)	100'	4
A-261a	-	Omega Drive	From Fields Road (A-261) to Key West Avenue (M-22)	100'	4
A-261b	-	Fields Road Relocated/ Diamondback Drive Broschart Road/Medical Center Drive	From existing Fields Road (Gaithersburg City Boundary) to Key West Avenue (M-28)	80'-100'	4
A-267	-	Brooks Avenue Extended	From Gaithersburg City Boundary to Oden'hal Avenue Extended (A-269)	80'	4
A-268	-	Airpark Road Extended	From Gaithersburg-Laytonsville Road (M-21) to Shady Grove Road (M-42)	80'	4
A-269	MD 124	Oden'hal Avenue Extended	From Girard Street Relocated to Midcounty Highway (M-83)	80'	4
A-275	-	Centerway Road	From Montgomery Village Avenue (M-24) to Snouffer School Road (A-16)	80'	4
A-276	-	Stedwick Road	From Watkins Mill Road (A-17) to Montgomery Village Avenue (M-24)	80'	4
A-278	-	New Road	From M-21 to Eastern Arterial (M-83)	80'	4
A-280	MD 28, existing	Damestown Road	From Key West Avenue (M-22) to Great Seneca Highway (M-90)	80'	4
A-284	-	New Road	From Washingtonian Country Club site to Fields Road (A-261)	80'-100'	4
A-285	-	Burr Oak Drive/Rothbury Drive	From Wightman Road (A-36) to Goshen Road (M-25)	80'	4
A-295	-	Montgomery Village Avenue	From M-24 (500 feet north of Club House Road) to Wightman Road (A-36)	80'	4
A-296	MD 28, existing	Damestown Road	From Great Seneca Highway (M-90) to Key West Avenue (M-22)	80'	4
INDUSTRIAL ROADS					
I-1	-	Airpark Road	From Gaithersburg-Laytonsville Road (M-21) to Montgomery County Airpark	80'	4
I-2	-	Cessna Avenue	From Airpark Road (I-1) to 1100 feet west	80'	4
I-3	-	Beechcraft Avenue	From 400 feet west of Bonanza Way to 200 feet east of Mooney Drive	80'	4
I-4	-	Bonanza Way	From Snouffer School Road (A-16) to Beechcraft Avenue (I-3)	80'	4
I-5	-	Mooney Drive	From Snouffer School Road (A-16) to Beechcraft Avenue (I-3)	80'	4
I-6	-	Crabbs Branch Way	From Redland Road (I-10/P-7) to 2300 feet North of Shady Grove Road	80'	4
I-7	-	Gaither Road	From Gaithersburg City Boundary to Gude Drive (M-23)	80'	4
I-8	-	Research Boulevard	From Rockville City Boundary to Rockville City Boundary	80'	4
I-9	-	Redland Road	From Piccard Drive to Crabbs Branch Way (I-6)	80'	4

TABLE 7 (Cont'd.)

Project Number	Route Number	Name	Limits	Right-of-Way Width	Recommended Number of Lanes or Paving Width
PRIMARY RESIDENTIAL STREETS					
P-1	-	Warfield Road	From Wightman Road (A-36) to Gaithersburg-Laytonsville Road (M-21)	70'	24
P-2	-	Muncaster Mill Road	From Shady Grove Road (M-42) to Gaithersburg-Laytonsville Road (M-21)	70'	36
P-3	-	Emory Grove Road	From Whetstone Drive (M-25) to 2000 feet east of Gaithersburg-Laytonsville Road (P-5)	70'	36
P-4	-	Strawberry Knoll Road	From Emory Grove Road (P-3) to Centerway Road (A-275)	70'	36
P-5	MD 124, existing	Gaithersburg-Laytonsville Road	From Gaithersburg City Boundary to Gaithersburg-Laytonsville Road Relocated (M-21)	70'	36
P-6	-	Amity Drive/Amity Drive Extended	See Shady Grove Sector Plan	70'	36
P-7	-	Redland Road	See Shady Grove Sector Plan	70'	36
P-8	-	Needwood Road Extended	See Shady Grove Sector Plan	70'	36
P-9	-	Central Avenue	See Oakmont Special Study Plan	70'	36
P-10	-	Apple Ridge Road	From Watkins Mill Road (A-17) to Montgomery Village Avenue (A-295)	70'	36
P-11	-	Stedwick Road	From Watkins Mill Road (A-17), north of Club House Road, to Watkins Mill Road (M-24), south of Club House Road	70'	36
P-12	-	Briardale Road	See Shady Grove Sector Plan	70'	36
P-13	-	Miller Fall Road	From Muncaster Mill Road (P-2) to Midcounty Highway (M-83)	70'	24
P-14	-	Mill Run Drive	From Redland Road (P-7) to Park Mill Drive (South)	70'	24
P-15	-	Beauvoir Boulevard	From Mill Run Drive (P-14) to 300 feet south of Blanchard Drive	70'	24
P-16	-	Roslyn Avenue	From Redland Road (P-7) to Beauvoir Boulevard (P-15)	70'	20' Roadway
P-17	-	Taunton Drive	See Shady Grove Sector Plan	70'	24
P-18	-	Epsilon Drive	See Shady Grove Sector Plan		
P-19	-	Arrowhead Road	From Montgomery Village Avenue (A-295) to Hickory View Place	70'	36'
P-20	-	Rothbury Drive	From Arrowhead Road (P-19) to Burnt Oak Drive (A-285)	70'	36'
P-21	-	Club House Road	From Watkins Mill Road (A-17) to Montgomery Village Avenue (M-24)	70'	36'
P-22	-	Park Mill Drive	From Miller Fall Road (P-13) to Mill Run Drive (P-14)	70'	36'
P-30	-	Fieldcrest Road Extended	From Gaithersburg-Laytonsville Road (M-21) westward	70'	36'

\* Divided Arterial.

The Transportation Plan shows an interchange on the I-370 Connector between I-270 and Fields Road. This interchange will serve the Washingtonian tract and will be constructed by the developer of that tract, subject to design approval by the State Highway Administration and Montgomery County. By removing traffic from the I-370 Connector east of Fields Road, this interchange will relieve traffic conditions at the intersection of Fields Road and the I-370 Connector, which is expected to be an at-grade intersection. Should the design of the proposed interchange for the Washingtonian tract prove to be unacceptable, an interchange at Fields Road may be studied. The roadway, shown on the Plan as an arterial road but without a number, represents the road that will connect the interchange and Fields Road near Omega Drive and serve the Washingtonian tract. Both alignment and design of this road are to be determined as part of the Development Plan for the Washingtonian.

The construction of I-370 is the only feasible alternative for the provision of needed access to the actively developing Shady Grove Road area. Existing corporations will need additional traffic capacity to enable them to expand and remain in the Gaithersburg area. Additional capacity is also needed to attract desirable new industries to the Gaithersburg area. Unless the employment base can continue to expand, an increasing proportion of the real estate tax load will shift to County homeowners.

Construction of I-370 will ease traffic congestion on Shady Grove Road by providing an alternative route for through traffic. Currently, one-half of the average daily traffic on Shady Grove Road is through traffic. Without the construction of I-370, this proportion is projected to remain relatively constant over the next 25 years. By having I-370 accommodate most of the through traffic, Shady Grove Road will be able to accommodate the traffic from development on the currently vacant land in the area. Thus, this highway will serve the County by carrying more than just the peak-hour, Metro station-related traffic.

The approved I-370 alignment extends westward to Great Seneca Highway. This extension is needed to provide access for Metro-oriented traffic, as well as that destined for I-270 from MD 28 and the Fields Road/Muddy Branch Road area.

#### Intercounty Connector (ICC)/Rockville Facility (RF)

The 1971 Gaithersburg Vicinity Master Plan moved the alignment of the Outer Beltway northward to the Shady Grove Area. Later, upon determination by Virginia jurisdictions that no such road would be needed south of the Potomac River, the alignment west of I-270 was deleted, resulting in redesignation of the road as the ICC/RF between I-270 and I-95 in Prince George's County.

The master-planned alignment of the ICC/RF includes the master-planned alignment of the I-370 highway. The ICC/RF endorsed in this Plan extends from Great Seneca Highway to the Baltimore-Washington Parkway in Prince George's County. It would not be built to interstate highway standards but it would be a limited access highway. This Plan has deleted the planned link between MD 28 and Great Seneca Highway because Muddy Branch Road is a parallel roadway, considered to be an adequate alternative.

The Maryland Department of Transportation (MdDOT) recently studied several alternative alignments in its study of the ICC/RF, including the "no-build" alternative. A preferred alternate was selected (Alternate G) and the State Highway Administration will seek location approval for this alternate. The

construction of this highway is important in terms of providing a direct link between the manufacturing and research and development activities in the I-270 Corridor with the markets and suppliers in the Baltimore-New York corridor and with the facilities at BWI Airport. Other benefits of a new east-west highway such as the ICC/RF include:

- diversion of through traffic from local roads;
- provision of increased mobility for residents of the County and the region;
- reduction of congestion on other major roads, particularly I-270 and the Capital Beltway (I-495); and
- support for future master planned development in Gaithersburg, Germantown, and Clarksburg.

### Great Seneca Highway

The proposed Great Seneca Highway, previously referred to as the Western Arterial, will extend from Middlebrook Road in Germantown south to Ritchie Parkway at MD 28. This highway would provide a parallel route to I-270 between Gaithersburg and Germantown. It will enable residents of the two "corridor cities" to take advantage of the employment opportunities in either area without adding further to the congestion on I-270 or MD 28 west of I-270. Residents in Germantown and in the Quince Orchard area will easily get to the Shady Grove Metro station via this highway and I-370. With the link to Ritchie Parkway, employment opportunities in Gaithersburg and Germantown will also become more accessible to residents in Rockville. Accordingly, construction of this highway is essential to the land use recommendations of this Plan as well as the Germantown Master Plan.

### Goshen Road

Improvements are recommended from Oden'hal to Snouffer School Roads. These may include the reduction of horizontal and vertical curves, improvement of intersections, and widening. This highway is anticipated to be heavily used by traffic generated from several major developments along its length, as well as major residential development of Montgomery Village East, north of Snouffer School Road and east of Goshen Road. The transportation analysis for this Plan indicates the need for such improvements.

### Proposed Airpark Road Extended (A-268)

The Plan recommends that a new arterial road (Airpark Road Extended) be provided from MD 124 to Shady Grove Road Extended. This road is needed to accommodate the proposed development in the Airpark area. It will also alleviate congestion on Muncaster Mill Road and its intersection with MD 124.

### Maryland 28

The section of existing MD 28 between the future Great Seneca Highway and the future Key West Avenue (at its eastern terminus) has been classified as an arterial roadway (A-296) with a recommended width of two to four lanes. The Planning Board recommends that the ultimate width of existing MD 28 should be

studied as part of the State Highway Administration's project planning of MD 28. This Plan supports the construction of Key West Avenue as relocated MD 28 with existing MD 28 to be a less important roadway.

Many highways endorsed by this Plan are already planned or programmed for construction. The Technical Appendix describes these roadways and their anticipated completion dates. They include:

- Construction of Key West Avenue (MD 28 Relocated)
- Improvements to MD 124/I-270 Interchange
- Improvements to Shady Grove Road/I-270 Interchange
- Improvements to Shady Grove Road
- Replacement of MD 355 bridge over the B&O Railroad
- Construction of Midcounty Highway (Eastern Arterial)
- Construction of Great Seneca Highway
- Upgrading of Quince Orchard Road (MD 124) between Clopper Road and MD 28
- Improvement and realignment of Muddy Branch Road between MD 28 and MD 117

The Recommended Highway Plan map shows the ultimate highway system just as the Land Use Plan describes the ultimate development pattern. This Plan, as every master plan, relies upon the Adequate Public Facilities Ordinance and the Comprehensive Staging Plan to stage new development to the provision of needed roads. In addition, this Plan has another staging element that is designed to provide a closer timing control between new development and the construction of the roads needed to accommodate the traffic generated by that development.

Highway Cross Sections are shown in figure 28.

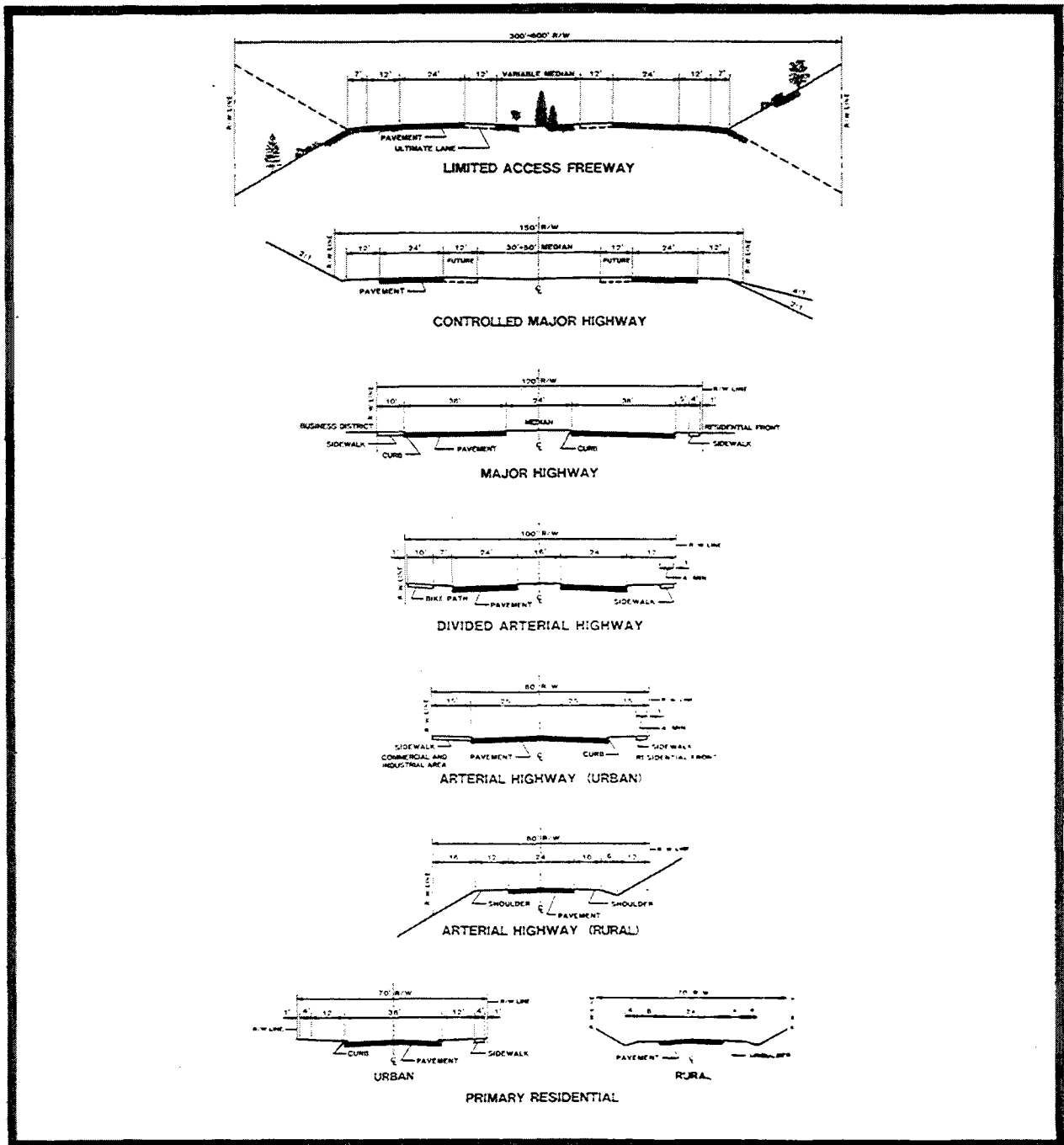
## MASS TRANSIT RECOMMENDATIONS

The Shady Grove Metro station represents the first major component of the mass transit system needed to support development of the I-270 Corridor, as envisioned in the General Plan. By providing a viable and attractive transportation alternative, it will also contribute to the realization of various energy and environmental policy goals.

The components of the Mass Transit Plan include commuter rail, Metro, transit easements, and bus service.

### Commuter Rail

Commuter rail provides a viable alternative to the automobile. Commuter rail service is currently provided to area residents from the Gaithersburg station in the "Olde Towne" area and from the station within the town of Washington Grove. About 700 patrons use this commuter rail service daily. The Plan recommends that commuter rail service be continued and that an additional station be provided at Metropolitan Grove Road. This service will enable local residents using the rail line to have access to Metro by transferring at the Rockville or Silver Spring stations. Should the Silver Spring commuter rail station be relocated closer to the Metro station, the commuter rail line would form a cross-County link between the two arms of the Metro Red Line. An intermodal (Metro/ commuter rail) terminal at Silver Spring is one option being evaluated by the MdDOT, but there are no specific plans for such a project at this time.



# HIGHWAY CROSS SECTIONS

## Metro

The Metro system to the Shady Grove station opened in December 1984. At issue is the ability of potential riders to utilize the parking facilities planned for 3,000 cars at the Metro station. Of the programmed service roadways, only the widening of Shady Grove Road to six lanes was complete by that date. The completion of the programmed portion of Midcounty Highway and the MD 355 bridge over the B&O Railroad tracks within the city of Gaithersburg will follow the opening of the Shady Grove Metro station.

The portion of the Midcounty Highway between Montgomery Village Avenue and Goshen Road and between MD 124 and Shady Grove Road was complete by the time Metro service began. Without the central portion, the Midcounty Highway traffic must divert from Midcounty Highway to Emory Grove Road in order to reach Shady Grove Road and access to the Metro station. The extension of Centerway Road to Snouffer School Road, which was opened to traffic in October 1984, will alleviate some of the short-term congestion related to the Metro-oriented commuter traffic.

The MD 355 bridge over the B&O Railroad tracks was under construction when Metro service began. The recently completed, five-lane segment to the north and the six-lane segment to the south were in service. Traffic will be maintained during construction either over the two-lane bridge or by an at-grade crossing. Otherwise, traffic will utilize alternative routes through the "Olde Towne" section of the city of Gaithersburg at the rail crossing on South Summit Avenue. The Plan strongly recommends that the highways necessary to provide adequate access to the Metro station be completed at the earliest possible date.

## Transit Easement

Although there is no current plan to extend Metro service beyond the Shady Grove station, it is important to retain a right-of-way for future bus or rail extension through Gaithersburg to Germantown and possibly to Clarksburg, should it be determined that Metro or other transit alternatives are feasible. The proposed alignment is shown in Figure 27. The Plan recommends that this right-of-way be kept available for such an extension through the Gaithersburg area.

## Ride-On

Public bus transit service is currently provided in the Gaithersburg area by the County's Ride-On system. The system has been incrementally expanded, including more frequent service, new routes, and extension to begin serving the Germantown area. The system connects with Metrobus service in Rockville. When Metro opens, additional area bus service should be added and existing routes should be modified to serve the Shady Grove Metro station. The bus restructuring plan for these changes is currently being considered by the County. Public forums were held in the Fall of 1982 and further community meetings were held through 1983. Final hearings and service decisions occurred in mid-to-late 1983. Successful implementation of the economic development opportunities in this area will require a major increase in Ride-On or Metrobus service in order to provide an attractive alternative to automobile commuting.



## BIKEWAY PLAN RECOMMENDATIONS

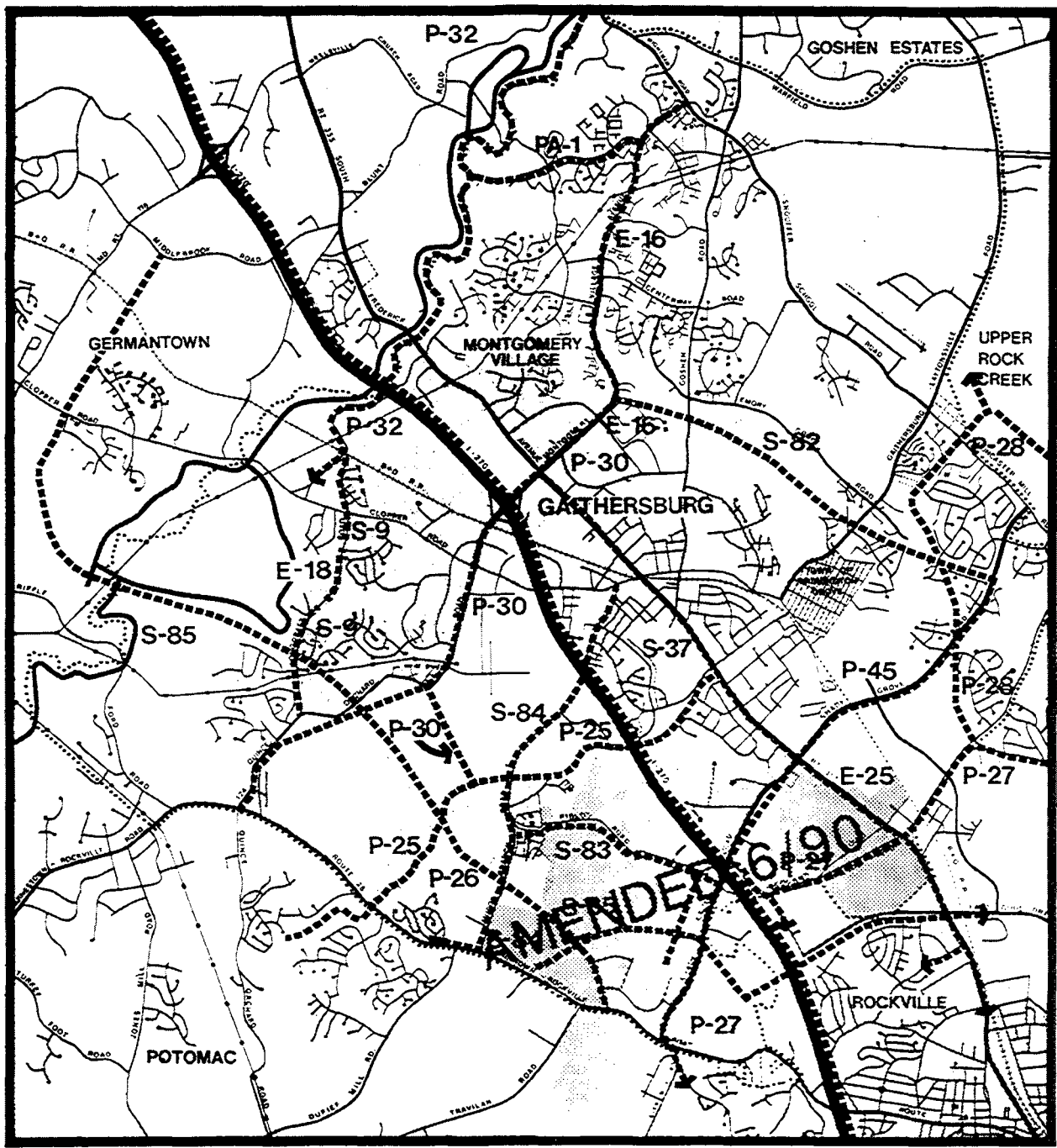
The bikeway recommendations of this Plan reflect the 1980 Montgomery County Master Plan of Bikeways. This Plan proposes two changes to the Master Plan of Bikeways. The first change is the deletion of that portion of Route P-32 which is proposed to traverse a golf course. A new bikeway (PA-1) is proposed instead; it will follow an existing street (Apple Ridge Road) and will provide a better connection between Montgomery Village Avenue and Seneca Creek State Park. The second change is a new alignment for P-83 along Fields Road. This Plan proposes to make Fields Road discontinuous at I-370. The bikeway should follow Fields Road (west of I-370) proceed north along I-370 to become part of the road system serving the Washingtonian tract and rejoin Fields Road in the vicinity of Omega Drive.

The proposed location of bikeways is shown in figure 29.

## EQUESTRIAN TRAILS SYSTEM

There are a number of equestrian trails in Montgomery County which have been established and maintained by user groups on an informal basis. Figure 29 displays the general locations of a portion of this existing equestrian system. The trail shown is an important link between the Goshen and Damascus area and Seneca Creek State Park. Both the equestrian trail and one of the bikeways have to cross I-270 and MD 355. By coordinating the engineering of each crossing, the two trails can be safely accommodated. If the crossing is to be an underpass, the main thing to consider is that a horse and rider are taller than a bicycle and rider. If the crossing is to be an overpass, the approach or ramp becomes the critical factor.

The continued use and enjoyment of these trails is being threatened by future development. Therefore, this Plan recommends that an attempt be made to accommodate these trails as development occurs. Section 50-30 of the Subdivision Regulations was amended in 1982 to provide that the Planning Board, through subdivision process, may require dedication to public use of rights-of-way or platting of easements for equestrian trails. The Plan recommends further that those portions of the equestrian system located on public lands be continued with appropriate regulations and user group maintenance.



## BIKEWAYS AND EQUESTRIAN TRAILS

..... Planning Area Boundary

□ Municipalities

**NOTE:**

Bikeways Shown in Conjunction  
With Roadways Are Not in All Cases  
Designated by a Project Number

----- Bikeways

E Existing

S Programmed

P Planned

PA Proposed (Planning Area)

— Proposed Equestrian Trail

} Master Plan of Bikeways Designation

TABLE 8  
GAITHERSBURG VICINITY BIKEWAYS

EXISTING BIKEWAYS						
Project #	Name	Location	Classification	Length (miles)	Condition	Jurisdiction
E-16	Montgomery Village Ave.	Lost Knife Road Wightman Road	Class I (sidewalk)	2.5	Asphalt and Concrete: Unsigned	County DOT
E-18	Longdraft Road	Seneca Creek State Park	Class I	0.3	Asphalt	County DOT
PROGRAMMED BIKEWAYS						
Project	Name	Location	Classification		Jurisdiction	Remarks
S-37	Frederick Ave. MD 355	Shady Grove to Montgomery Village Avenue	Class I (sidewalk)		McDOT	CIP Road Project
S-83	Fields Road	Muddy Branch to Omega Drive	Class I		MCDOT	CIP Road Project
S-84	Muddy Branch Road	MD 28 to MD 117	Class I		MCDOT	CIP Road Project
S-85	Great Seneca Highway	MD 28 to Middlebrook Road	Class I		MCDOT & McDOT	CIP Road Project
S-82	Midcounty Highway	Shady Grove Road to Montgomery Village Avenue	To Be Determined		MCDOT	CIP Road Project
PROPOSED BIKEWAYS						
P-25	Muddy Branch	Turkey Foot Road to Fredrick Avenue	Class I		M-NCPPC	
P-27	Shady Grove Access	Needwood Road from Rock Creek to Redland then south to Metro station then south to Shady Grove Road at I-270, thence south via Shady Grove Road to MD 28	Class II & To Be Determined		MCDOT	
P-28	Shady Grove North Access	Linear open space from Redland Road at Need- wood Road north to Rock Creek at Muncaster Road	Class I		M-NCPPC/ MCDOT	
P-30	Quince Orchard Road MD 124	MD 355 to Muddy Branch Park via Quince Orchard Road and linear open space	Class I		MCDOT/ McDOT	
P-45	Shady Grove	MD 115 (Muncaster Mill Road) Fields Road	Class I or II		MCDOT	CIP Road Project
PA-1	Apple Ridge Road	Montgomery Village Avenue to Seneca State Park	To Be Determined		MCDOT/ Developer	
	I-270	MD 127 to I-270 split	Class I		McDOT	CIP Road Project
	Quince Orchard Road	MD 28 to MD 117	-		MCDOT	
	Key West	MD 28 to Gude Drive	-		MCDOT	

# Community Facilities

Public community facilities, such as schools and parkland, should be adequate to serve the population projected by this Plan.

This chapter describes several existing and planned community and public facilities in the Gaithersburg area. The major conclusions are:

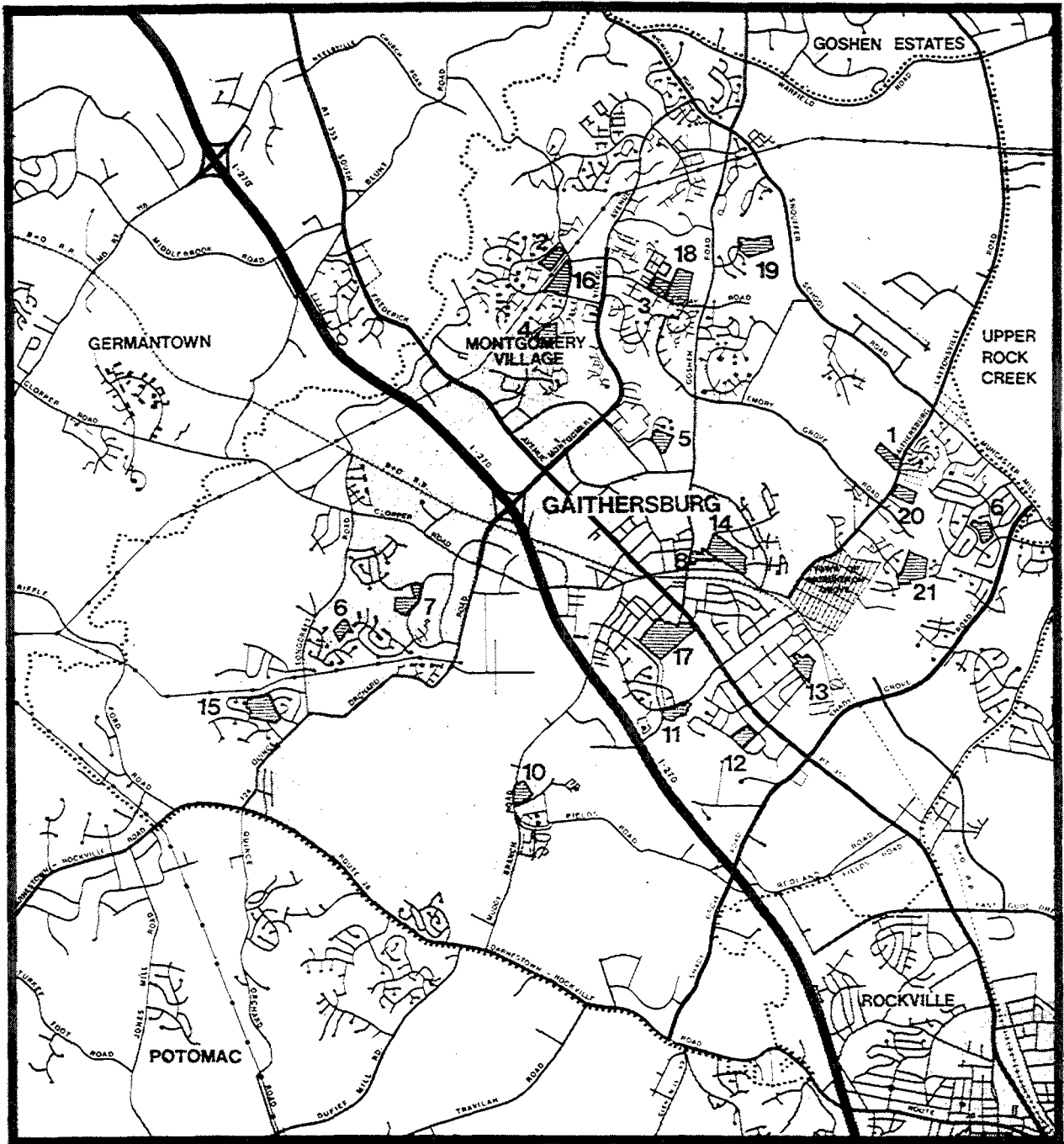
- Except for ballfield recreational areas, the Gaithersburg area generally has adequate park and recreational facilities to serve both the existing population and that anticipated with approved subdivisions.
- The number of future school sites shown on the 1971 Gaithersburg Vicinity Master Plan should be reduced.

## GOALS AND GUIDELINES

- Provide community facilities which promote the health, safety, and welfare of a variety of users including the elderly, the handicapped, and children.
- Provide conveniently located parks and other facilities for both active and passive recreation to meet the needs and interest of various segments of the community.
- Promote access to recreational opportunities and facilities.
- Provide appropriate facilities to meet the general and specialized educational needs of area residents.

## PUBLIC SCHOOLS

The Land Use Plan's recommendation concerning future school sites reflects the Board of Education's (BOE) 15-Year Comprehensive Plan for Education



## EXISTING AND FORMER SCHOOL SITES



MUNICIPALITIES



PLANNING AREA BOUNDARY

SPECIAL SCHOOL

1. Longview

ELEMENTARY SCHOOLS

2. Stedwick

3. Whetstone

4. Watkins Mill

5. South Lake

6. Diamond

7. Brown Station

8. Gaithersburg

9. Mill Creek Towne

10. Fields Road

11. Summit Hall

12. Rosemont

13. Washington Grove

JUNIOR HIGH SCHOOLS

14. Gaithersburg

15. Ridgeview

16. Montgomery Village

HIGH SCHOOLS

17. Gaithersburg

FORMER SCHOOL SITES

18. Stewartown

19. Charlene

20. Emory Grove

21. Muncaster

Facilities. The Board of Education's demographic projections show a continued decline in the school-age population in Montgomery County as a whole throughout the 1980's. These projections are consistent with the Planning Board's growth forecast model. Based on these projections, the planned number of school sites indicated on the proposed Land Use Plan Map (see foldout map) has been significantly reduced from the 1971 Gaithersburg Vicinity Master Plan.

Four school sites in Gaithersburg have been declared surplus or unneeded (see figure 30). The future use of these sites is a major land use concern. Although any recommendation of the use of former school sites must go through a separate review procedure by the County government, the County Council has analyzed the potential land use of these sites as part of the planning process. The recommendations for disposition of surplus sites are as follows:

Charlene Elementary (10 acres)

This site is located east of Goshen Road and is the school portion of a previously designated park school site. According to the BOE staff, due to lower pupil yields from development and a slower pace of development, the site is no longer needed. This Plan recommends continuation of R-90 zoning and recommends the site should be considered for a park, since it is adjacent to an undeveloped local park site. The site is wooded and could provide an important recreational area to the surrounding townhouse and single-family development. The school site was dedicated to public use as part of a cluster subdivision and, therefore, cannot be used for housing.

Emory Grove Elementary (14 acres)

This site is located east of MD 124 near Emory Grove Road and has been conveyed to the County. This Plan recommends that the site be used for market rate housing (R-60/TDR-6) and for a small local commercial area (C-1 Zone). Recreational facilities are currently available at the Emory Grove Local Park directly across MD 124. (See Land Use and Zoning Recommendations Chapter, Non-contiguous Parcels, for additional information.)

Muncaster Junior High (20 acres)

This site is located on Taunton Drive west of MD 124, near the proposed Midcounty Highway in the Mill Creek Towne community. It was once the proposed location of the Upper County Community Center and Swimming Pool complex, now located at the northwest quadrant of MD 124 and Emory Grove Road. The site is situated between Gaithersburg Junior High and Redland Middle School. According to the BOE staff, the location of the Muncaster site relative to the other schools and the eventual conversion of Gaithersburg Junior High School to a two-grade intermediate school eliminate the need for retaining this site. The Plan recommends that the site be used for non-assisted housing. It is not suitable for assisted housing due to the dominance of that type of housing in the immediate area. The Plan recommends continuation of the parcel's existing R-90 zoning, with an option to increase density to six units per acre through the TDR program (TDR-6).

Stewartown Junior High (20 acres)

This site is located on Centerway School Road adjacent to Montgomery Village. According to the BOE staff, lower pupil yields from residences in the

service area and a slower pace of development indicate that it will not be needed. The Plan recommends continuation of the R-90 Zone, and recommends that the site be developed as an active (field sport) recreation area for the residents of the communities in and adjacent to Montgomery Village. The site should be transferred to the M-NCPPC Parks Department and included in the Capital Improvements Program (CIP) for funding, design, and construction.

Since schools provide important community recreation facilities, when a school site is declared surplus its suitability for a local-use park should be given serious consideration. Additionally, as fewer schools are being constructed, there is a greater demand for parks to provide public active recreation facilities. This Plan recommends utilization of four undeveloped school sites (Strawberry Knoll, Blueberry Hill and Charlene Elementary Schools and Stewarttown Junior High School) for recreational purposes. The latter two sites have been declared surplus.

## PARK AND RECREATION FACILITIES

Park and recreation facilities to serve Gaithersburg residents are provided by public parks, schools, and private recreation facilities. Residents are served by facilities within the Gaithersburg Vicinity Planning Area as well as facilities located in areas immediately adjacent to it.

Parkland within the Gaithersburg area is provided by several separate agencies or jurisdictions: the city of Gaithersburg, and the town of Washington Grove, which provide parks and recreation areas within their corporate limits; the M-NCPPC; the Montgomery Village Foundation; and the state of Maryland. Existing and planned public parkland is shown in figure 31.

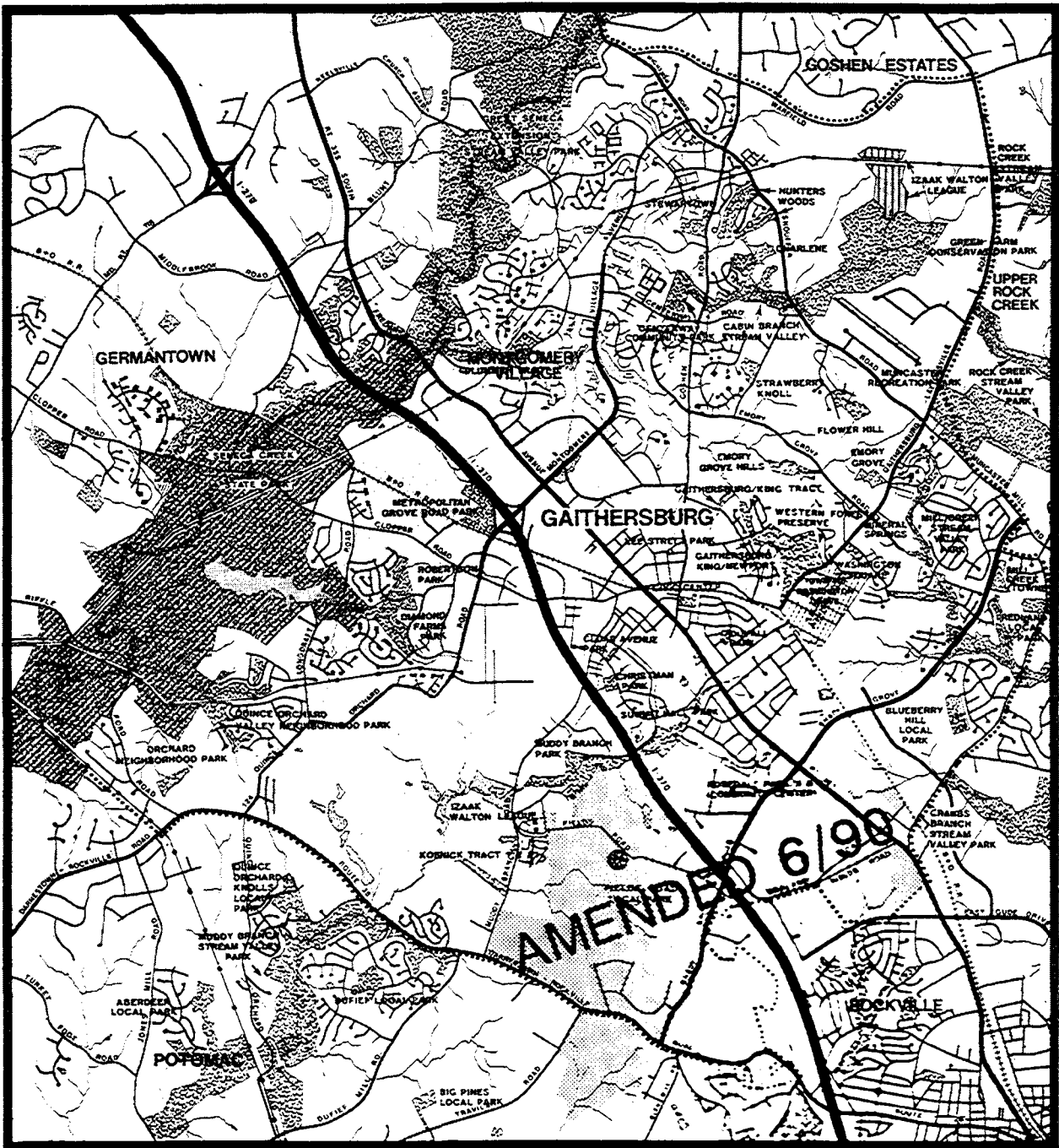
Parks in the Gaithersburg area serve both active and passive recreation needs. There are approximately 1,260 acres of M-NCPPC parkland in the Planning Area. Approximately 90 percent of the acreage is in stream valley and conservation parkland, with the remainder in local-use parks.

Passive recreation is provided primarily by stream valley and conservation parks. These parks are predominantly undeveloped, but may contain a few picnic/playground areas and trails. The 200-acre Green Farm Conservation Park will eventually serve as a historic, interpretive, conservation center. The Seneca Creek State Park follows Great Seneca Creek. The M-NCPPC owns the land upstream from MD 355 and the state of Maryland owns 5,600 acres along both sides of Great Seneca Creek, downstream from MD 355, to the Potomac River. A lake, built on Long Draught Branch in the state park, provides water-oriented recreational opportunities.

Local parks provide active recreation opportunities for Planning Area residents. These parks contain a variety of recreation facilities, ranging from picnic/playground areas to courts and ballfields (see table 9). In the Gaithersburg Vicinity Planning Area, there are six existing local parks, one under construction, and seven proposed for acquisition or construction over the next few years. Several parks in the Potomac area also serve the residents living close to MD 28 in the Gaithersburg Vicinity Planning Area.

The 1978 Park, Recreation and Open Space Master Plan (PROS) suggests that the community park concept be utilized wherever feasible to increase the flexibility of recreation programming and to decrease park maintenance costs.





**PARKS**

.....	Planning Area Boundary		Existing M.N.C.P.&P.C.
	Municipalities		Proposed M.N.C.P.&P.C.
	State		Izaak Walton League Conservation Area
	Municipal		

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 Montgomery County Maryland January, 1985

NORTH

**Fig. 31**

TABLE 9

EXISTING AND PLANNED PUBLIC PARKLAND AND PARK FACILITIES  
IN THE GAITHERSBURG VICINITY AREA

Name	Current Acreage	Ultimate Acreage	Comments
<u>LOCAL USE PARKS</u>			
<u>Developed or Under Construction</u>			
Emory Grove Local	9.9		Open shelter, picnic area, playground equipment, baseball field, lighted basketball court, two lighted tennis courts.
Mill Creek Town Local	9.7		Playground equipment, softball field, multi-use court.
Quince Orchard Valley Neighborhood	41.5		Community building, open shelter, playground equipment, lighted basketball court, two lighted tennis courts, playfield, hiker-biker path.
Washington Square Neighborhood	5.0		Open shelter, playground equipment, two basketball courts, two tennis courts, playfield.
Stewartown Local	13.0		Lighted tennis courts, picnic area playground equipment, softball field, lighted basketball court.
Blueberry Hill Local	2.0		A recreation shelter, athletic fields, tennis courts, play equipment.
Strawberry Knoll Community	10.6		Two athletic fields, tennis courts, play equipment. A soccer field has also been proposed for construction on the adjacent school site.
<u>Planned Acquisition and/or Development</u>			
Charlene Local Park	10	20	This proposed community park would be developed on a dedicated park school site. The Board of Education does not anticipate the need for the school site. Development may include: shelter, athletic field, play equipment, picnic area and trails.
Orchard Neighborhood Park		11+	This park could include play equipment, picnic area.
Fields Road Local *	10		Development may include: athletic fields, courts, play equipment.
Flower Hill Local	4.6	9.8	Development may include: athletic fields, tennis courts, multi-use courts, play equipment, hiker-biker path.
Redland Local	10.0		Development include: athletic field with lighted parking, lighted tennis courts, lighted multi-use courts play equipment.
Centerway Community Park (Stewartown Jr. High School Site)			Development may include: athletic fields, courts, etc.

\*See Shady Grove Study Area Master Plan

TABLE 9 (Cont'd.)

Name	Current Acreage	Ultimate Acreage	Comments
<u>STREAM VALLEY PARKS</u>			
Great Seneca Extension Community Park*	826*	846*	Facilities could include: play equipment, tennis courts, athletic fields, equestrian and hiker-biker trails.
Cabin Branch	71		Development may include: hiker-biker paths, picnic areas, picnic shelters, playground equipment.
Mill Creek	44		None.
-----			
<u>CONSERVATION PARKS</u>			
Green Farm	204		Restoration of an historic house to eventually serve as an historic interpretive conservation center.
-----			
<u>RECREATIONAL PARKS</u>			
Gude Drive**	161		This facility is currently a landfill which is to be converted to a park which may include: athletic field, archery ranges, picnic areas, amphitheatre, astronomy study area and hiker-biker trail.
Muncaster**	105		Future facilities may include: ballfields, picnic areas, playground equipment.

\* This park is located on the boundary of the Gaithersburg Vicinity Planning Area. Acreage listed is for the portion of the park near Gaithersburg.

\*\* Site is located outside Gaithersburg Vicinity Planning Area, but proposed facilities are intended to also serve Planning Area residents.

Note: Budget constraints may necessitate a deferral in construction of proposed parks.

Community parks are larger than local parks and contain more programmable facilities. There are three potential community park sites in the Gaithersburg area, two of which are dependent on utilization of undeveloped school sites. They are the proposed Strawberry Knoll, Centerway, and Great Seneca Extension Community Parks.

## FUTURE PARK NEEDS

New park and recreation facilities are needed to serve the additional population proposed in the Gaithersburg Area. As few new schools will be constructed, a greater burden is placed on public parks and private developments to supply future recreation needs.

### Local Park Needs

The need for future local park facilities was estimated in the 1978 PROS Plan. These needs have been projected to the year 1990. Projections indicate that approximately six additional tennis courts and six additional ballfields will be needed by 1990 for the Planning Area. As local facilities for residents of the city of Gaithersburg are provided by the city, these estimates only apply to the population outside the city limits.

Facility needs for 1990 could be met as follows:

	<u>Tennis Courts</u>	<u>Ballfields</u>
Charlene Local Park	0	1
Redland Local Park	2	1
Strawberry Knoll Local Park	2	1
Flower Hill Local Park	2	1
Stewartown Site (Centerway Park)	$\frac{0}{6}$	$\frac{2}{6}$
TOTAL	$\frac{6}{6}$	$\frac{6}{6}$

The timing of park development is coordinated as much as possible with housing development. Parks in the northern portion of the Gaithersburg Vicinity Planning Area are scheduled for construction between now and 1990 as much of the housing in this area is either already in existence or under development. Budget constraints, however, may necessitate a deferral in construction of these parks.

An additional local park in the Shady Grove West Study Area is also proposed for acquisition and development after 1989. The timing of this park may be accelerated if development of housing in the area south of Fields Road occurs earlier.

The need for unprogrammed neighborhood parks<sup>1</sup> is not quantitatively analyzed by the updated PROS Plan. However, it does recommend that acquisition of neighborhood parks adhere to the following criteria:

In new areas of housing construction, developers should be encouraged to provide sufficient private neighborhood areas and facilities, so that no additional public neighborhood park need be purchased.

<sup>1</sup> Neighborhood parks are small parks that provide informal recreation opportunities and do not have programmable ballfields.

Dedication of neighborhood parks may also be accepted provided the site is suitable for the development of neighborhood recreation facilities and does not pose exceptional maintenance problems.

This Plan recommends that these criteria be followed with respect to neighborhood parks in the Gaithersburg Vicinity Area. The Plan proposes one neighborhood park in the Smokey Glen Study Area.

#### Non-Local Park Needs

Two recreational parks (Gude and Muncaster) will be constructed adjacent to the Planning Area and will serve Gaithersburg Vicinity residents. These parks will provide a large number of active recreation facilities (such as ballfields) to help meet County-wide needs. They will also include other specialized facilities, such as an adventure playground and an archery range.

Additional stream valley park needs include completion of land acquisition in the Cabin Branch, Great Seneca, and Mill Creek Stream Valleys.

#### Private Recreation Facilities in Developing Areas

Housing developers have an obligation to see that the recreation needs of future residents are met by either existing or proposed public parkland, private recreation facilities within the development, or by dedication of land suitable for future park development.

The development of private open space areas to service various age groups can be done relatively inexpensively by encouraging the provision of sitting areas, pathways, open play areas, and playgrounds in attractive open spaces.

Large office and commercial complexes should provide amenities for their employees and customers. These may include, for example, landscaping, sitting areas, and outdoor places to eat a bag lunch.

#### Montgomery Village Recreation and Open Space Facilities (1980)

Substantial recreation and park facilities are available to residents of Montgomery Village by virtue of automatic membership in the Montgomery Village Foundation. With the exception of school site facilities, all were built by the developer and are maintained, at no cost to the County, by the Montgomery Village Foundation. It is important that at least a portion of each undeveloped school site in the Village be transferred to the Montgomery Village Association for field sport recreation, if the site is not needed for school construction. For example, the ballfield site on Apple Ridge Road should be retained by the Association even if a portion of the site is ultimately used for non-school purposes.

#### Upper County Community Center and Outdoor Pool Complex

A regional facility complex composed of a community center and a 50-meter outdoor pool is located at the northwest quadrant of MD 124 and Emory Grove Road. The complex includes: a gymnasium, social hall, multi-purpose room, meeting space, and a weight and exercise room. Recreational, social, and educational programming are sponsored by the Montgomery County Department of Recreation. In addition, a bike path is proposed for a portion of MD 124. The bike path will provide pedestrian access to the community center and pool. Day care

facilities may also be provided in the future.

#### Other Community Facilities

Other community facilities are also important to the life of the community. The County library system has four regional libraries. The largest and newest is in Gaithersburg. It is also the reference branch for fine arts and performing arts. This facility should adequately serve the projected needs of the community.

The Gaithersburg Health Center, which includes a mental health office and children's center, is presently located in temporary, rented quarters in the Gaithersburg Square Shopping Center. A permanent location for the health center will be proposed after further study. A conceptual project is recommended in the adopted FY 1984-1990 CIP for an approximately 30,000-gross-square-foot, County-owned office and clinic space. The facility is to be located in an area accessible to public transportation in central or northern Gaithersburg. Agencies housed in the new facility will include health, social services, labor services (family resources), and others as appropriate. If need arises in the future, the new facility will be upgraded to form part of a regional community service center.

The Shady Grove Life Sciences Center complex is located at Shady Grove Road and MD 28. This 207-acre complex, when completed, will contain a variety of public and private hospitals and institutions. A more complete discussion of the Life Sciences Center is contained in the Land Use and Zoning Recommendations Chapter.

# Environmental Concerns

The Plan for the Gaithersburg Vicinity Area reflects an analysis of environmental constraints and assets. The components of the analysis include soil conditions, water quality and quantity, noise attenuation, energy efficiency, and water and sewer systems. The results of site specific analyses are incorporated in the Land Use and Zoning Recommendations Chapter, and additional background information is contained in the Technical Appendix.

## GOALS AND GUIDELINES

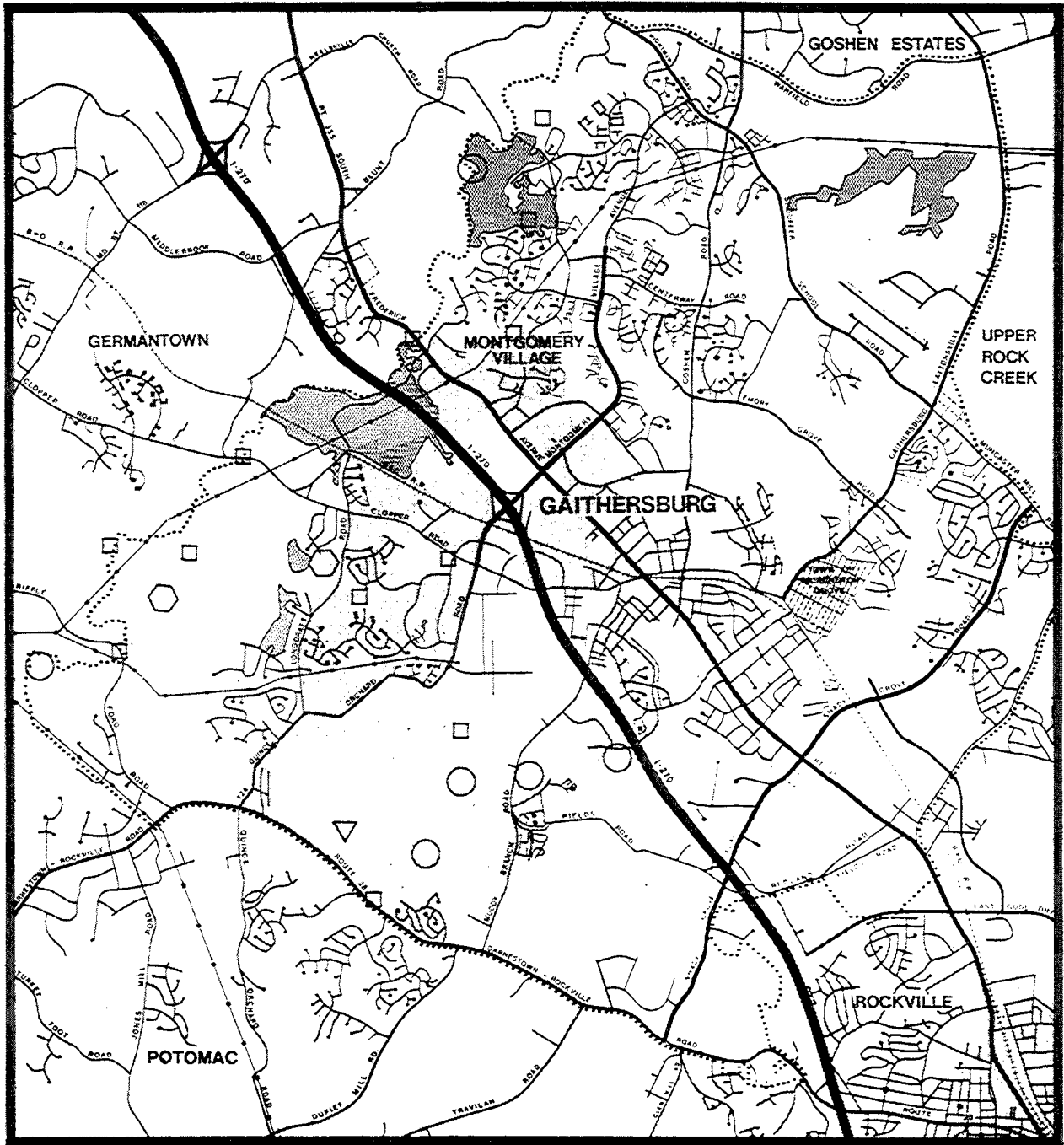
To protect and preserve the area's natural and environmental resources, this Plan recommends the following:

- Maintain the Planning Area's natural features, particularly stream valleys and other environmentally sensitive areas.
- Maintain the recreational and scenic qualities along Great Seneca Creek.
- Assess and control the environmental impacts of development to preserve natural features and ecological quality.
- Provide a system of stormwater management facilities in developing areas.

## ENVIRONMENTALLY SENSITIVE AREAS

Areas which are considered "environmentally sensitive" due to their sensitivity or lack of adaptability to man-made or natural changes are shown in figure 32. The headwaters portion of a stream basin is generally considered to be the most environmentally sensitive. Development in headwater areas can magnify water pollution and flooding impacts at downstream locations. The Planning Area includes the headwater portions of the following streams: Cabin Branch, Whetstone





**ENVIRONMENTALLY SENSITIVE AREAS**

..... Planning Area Boundary	□ Fish Sampling Stations
▭ Municipalities	○ Wildlife Habitat
<b>SOURCE:</b> Seneca Creek/Muddy Branch Functional Plan And Associated Inventories	▽ Water Fowl Sanctuary
	⬡ Unique Vegetation
	▨ Mature Woodlands

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Montgomery County Maryland

January, 1985

NORTH

**Fig. 32**

Run, Long Draught Branch, Rock Creek, Muddy Branch, Piney Branch, and Watts Branch. Wherever possible, lower development densities are recommended for these areas.

As a "corridor city," Gaithersburg can expect additional residential and commercial/office development. However, only land uses utilizing best management practices are considered acceptable from an environmental perspective in these sensitive areas. Any relaxation in the application of these practices would adversely affect stream quality.

Environmentally sensitive areas also include aquatic and wildlife habitat, wetlands, mature woodlands, and unique vegetation. Both the Functional Master Plan for Conservation and Management in the Seneca Creek and Muddy Branch Basins (referred to as Functional Plan) and Seneca Phase II Watershed Study indicate various major areas recommended for protection. These recommendations are incorporated by reference in this Plan and are generally reflected in the recommendations in the Land Use and Zoning Recommendations Chapter.

#### Stormwater Management Recommendations

The recommendations in the Functional Plan use both the preventative approach--which manages the watershed to prevent problems before they occur--and the remedial approach--which attempts to solve existing problems. The Functional Plan includes such recommendations as:

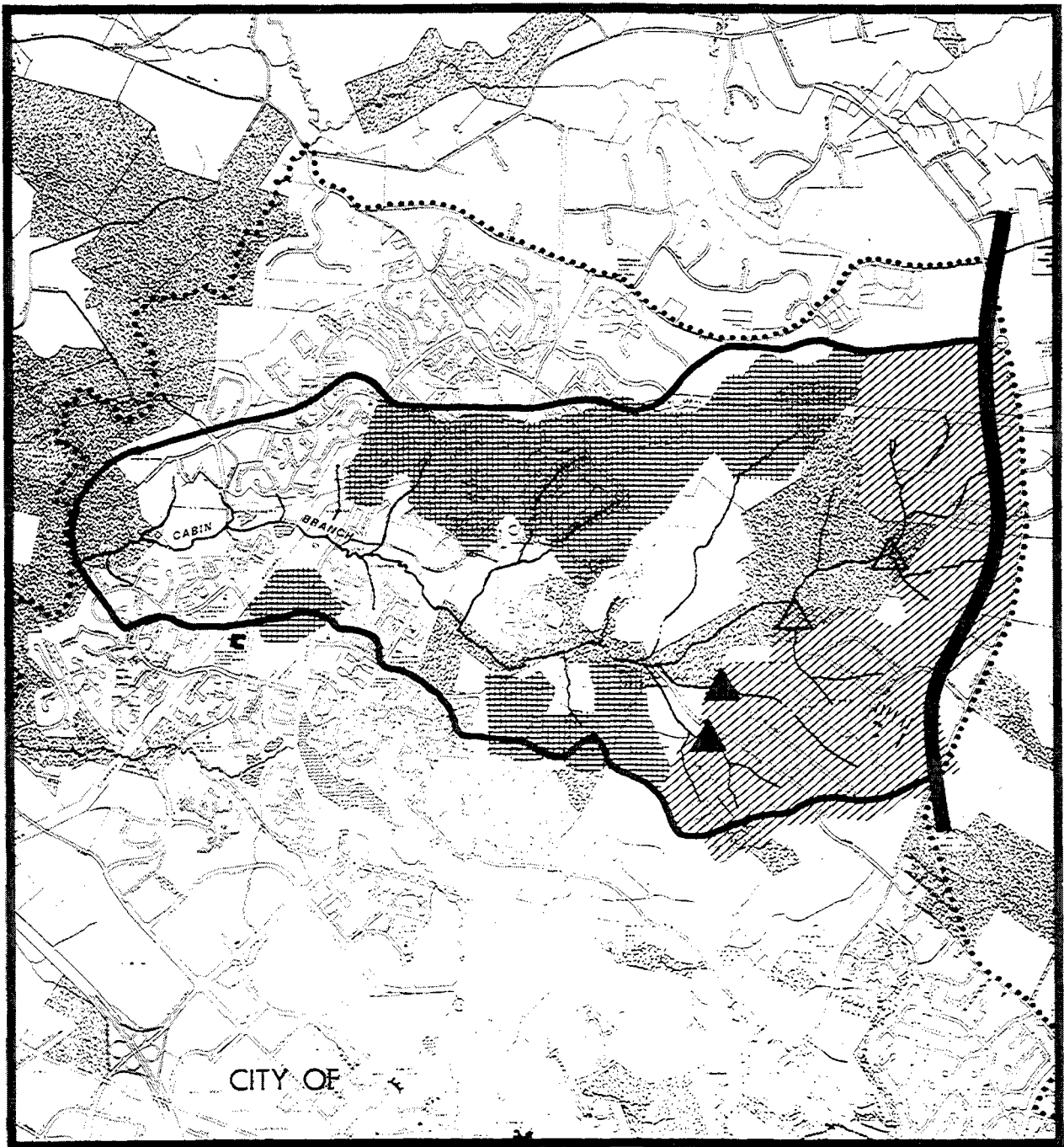
- The provision of small and large scale stormwater management facilities.
- The acquisition or dedication of park and conservation areas.
- Structural improvements to bridges and conveyance systems.
- Structural improvements to protect developed areas subject to flooding.

Single-purpose stormwater management studies have also been completed for the study areas. Cooperative efforts between the County Department of Environmental Protection (DEP) and the Montgomery County Planning Board have produced the Shady Grove Study Area Preliminary Stormwater Management Plan and the Cabin Branch Sub-watershed Stormwater Management Plan, which covers much of the Airpark Study Area. The locations of facilities identified in the Cabin Branch study are shown in figure 33.







Each study provides the technical documentation and justification for possible stormwater management facilities for these developing basins. The urban design plan for Shady Grove West (described in the Land Use and Zoning Recommendations Chapter) incorporates the findings of the former study; the facilities are conceptually located so that they may also function as scenic amenities. More site-specific analyses, with respect to cost-effectiveness, would be needed prior to their inclusion in the County's CIP.

#### Watershed Development Guidelines

Site-specific analysis of each property is beyond the scope of this Plan. However, general recommendations which should be used as a guide to such analysis before development plans are formulated and submitted for development review are included in the Technical Appendix.



### CABIN BRANCH STORMWATER MANAGEMENT PLAN\*

-  Existing Central Stormwater Management Structures
-  Proposed Central Stormwater Management Structures
-  Area Controlled By Existing And Proposed Onsite Stormwater Management Facilities
-  Area Controlled By Existing And Proposed Central Stormwater Management Facilities
-  Planning Area Boundary
-  Watershed Boundary

\* Information Provided By County Department Of Environmental Protection

**APPROVED & ADOPTED GAITHERSBURG VICINITY MASTER PLAN**  
Montgomery County Maryland

January, 1985



Fig. 33

## NOISE CONCERNS

Since high noise levels restrict certain types of human activity, each land use category has certain limits which should not be exceeded if the land use is to maintain its proper function. Guidelines and development policies should be based on these natural limits. This Plan recommends the reduction of noise impact through the use of setbacks, building placement and design, and noise performance guidelines enforced through the subdivision and site plan review processes.

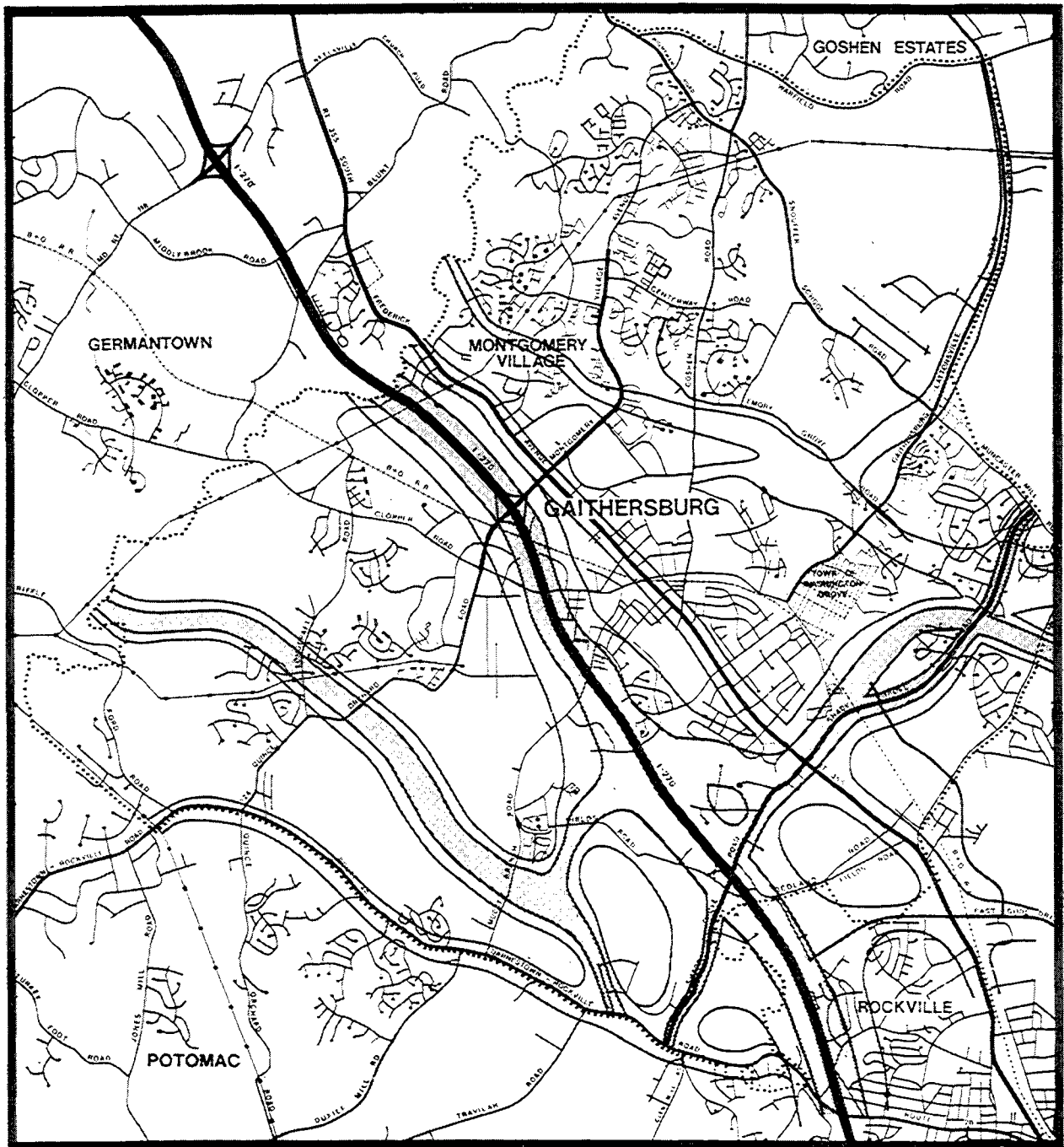
### Transportation Noise

There are a number of roads, both existing and proposed, which will impact development of the vacant parcels in the study areas. Shady Grove West, I-370 and relocated MD 28 present the major noise impacts while Smokey Glen and the Airpark Study Areas will respectively be subjected to noise emanating from Great Seneca and Midcounty Highways (Eastern Arterial).

The responsibility for provision of noise mitigation measures must be a joint effort of highway agencies, land use planning agencies, and private developers. As a general policy, the design of new and reconstructed highways will include evaluation of noise attenuation measures to protect existing and approved developments. Cooperation and coordination of the abovementioned agencies and private developers are essential to the provision of cost-effective highway noise mitigation. The M-NCPPC, for its part, will continue to include noise as a consideration throughout the land use planning and development approval processes. New development near existing highways shall utilize the techniques listed below to achieve the 60 dBA  $L_{dn}$  level.

- Encourage development of compatible land uses (commercial, office, industrial, recreation, and open space) through the planning process.
- Develop high noise areas with site-specific, noise-compatible land uses such as parking lots, garages, storage sheds, recreation areas, open space, stormwater management facilities, or any other use that allows noise-sensitive residential dwellings to be placed away or buffered from highways.
- Construct landscaped berms or man-made barriers such as walls or acoustical fencing to reduce noise to acceptable levels.
- Orient multi-family and other attached structures so that the facade acts as a barrier and buffers private outdoor areas (patios) from roadway traffic.
- If measures designed to produce suitable exterior noise environment are infeasible or insufficient, interior levels of 45 dBA  $L_{dn}$  should be maintained through acoustical treatment of the building shell.
- Encourage notification of future residents in noise-impacted areas.

The Projected Roadway Noise Contours map (see figure 34) provides a general indication of areas of maximum possible roadway noise impacts, based on traffic conditions with ultimate development as recommended in this Plan. These contours do not take into account potential attenuation through natural or man-made features. A table showing projected noise contours at ultimate development for selected roadways is included in the Technical Appendix.



## PROJECTED ROADWAY NOISE CONTOURS

..... Planning Area Boundary

 Areas Exposed to Traffic Noise Levels of at Least 60 dBA.Ldn

 Areas Exposed to Traffic Noise Levels of at Least 65 dBA.Ldn

**Note:**

Only Impact Areas Extending at Least 370 Feet From Centerline of Road Are Plotted.  
Boundaries of Impact Areas Are Approximate

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Montgomery County Maryland 

January, 1985



Fig. 34

Noise impacts in Gaithersburg are compounded by noise from the B&O Railroad, which passes through the city. Although most of this corridor has already been developed, there are undeveloped parcels adjacent to the railroad along Clopper Road and Shady Grove Road. Train passbys produce the most significant noise peaks in the area, ranging from 80-90 dBA at 150 feet. Several at-grade crossings through the city of Gaithersburg require the sounding of a warning whistle which produces peaks from 95 to 105 dBA at 50 feet. In most instances, intervening non-residential development will alleviate the effect of these levels to some degree. For the undeveloped parcels, this Plan recommends the same solutions listed for highway noise plus a minimum building restriction line of 100 feet from the tracks, due to a vibration hazard (as recommended by U. S. Department of Housing and Urban Development).

#### Aviation Noise

The future use of the Airpark is of critical importance in the determination of appropriate land uses in its vicinity. Noise impacts and safety concerns, due to aircraft overflights, should be the major land use determinants for areas in proximity to the ends of the runway.

The Plan has devoted a portion of the Land Use and Zoning Recommendations Chapter to a discussion of the Airpark and its effect on land use in the vicinity. This Plan recommends approval and implementation of the State Aviation Authority's "Noise Zone" as a comprehensive framework for making the Airpark a "good neighbor."

# Implementation

The Master Plan for Gaithersburg Vicinity, as approved by the Montgomery County Council and adopted by the Planning Commission, serves as a guide to the area's physical development. Public agencies and officials use the Plan to evaluate planning proposals and to allocate resources. The private sector also refers to the Plan for planning guidance.

Montgomery County has an opportunity to take advantage of the strong market potential for housing and employment in the Gaithersburg area. To do so, it must foster the Plan's recommendations by assuring the timely availability of necessary facilities and by regulating the quality of development. Among the measures available to implement the Plan's proposals and related County policies are the following:

- Sectional Map Amendment
- Zoning Text Amendments
- Capital Improvements Program Code
- Water Supply and Sewerage Systems Plan
- Subdivision Regulations
- Comprehensive Planning Policies (CPP)
- Transfer of Development Rights
- Inter-jurisdictional Issues
- Noise Containment Techniques for Montgomery County Airpark
- Historic Sites Master Plan and Ordinance

## SECTIONAL MAP AMENDMENT (SMA)

An SMA is a comprehensive rezoning process which zones all properties within a planning area to correspond with the zoning recommendations in the master plan. The Planning Board files the SMA and the Council, after public hearing, adopts the zoning. Once the rezoning occurs, it is the legal basis for all future local map amendment requests for euclidean zones.



The SMA only implements euclidean (base) zones and those floating zones having the owner's concurrence, and which do not require a development plan at the time of rezoning. The Planned Development (PD) Zone and Mixed-Use (MXPD) Zone require separate applications as local map amendments.

A Sectional Map Amendment for the entire Gaithersburg Vicinity Planning Area will implement this Plan's zoning recommendations.

The Generalized Zoning Plan for Shady Grove West is shown in figure 35. In the Shady Grove West Area, a rezoning recommendation for development until Stage III will be used for those lots of the affected properties already zoned R-20B. Rezoning of these parcels must await adoption of a Master Plan Amendment.

All other properties will be zoned in accordance with the base zoning recommendations described in the Land Use and Zoning Recommendations Chapter.

### ZONING TEXT AMENDMENTS

During the course of this Plan process, it became evident that modifications to the I-3 (Light Industrial) Zone were needed to accommodate the changing character of research and development firms. The I-3 Zone should be examined and amended prior to or in concert with the adoption of a future Master Plan Amendment.

### CAPITAL IMPROVEMENTS PROGRAM (CIP)

The CIP is the County's funding and construction schedule over a six-year period for all public buildings, roads, and other facilities planned by the public agencies. The County Executive is responsible for its yearly preparation. When approved by the County Council, it becomes an important part of the staging mechanism for the Plan.

The Technical Appendix of this Plan identifies projects that are either currently scheduled or which should be included in the future to implement Master Plan recommendations. Those projects currently scheduled are listed as well as those recommended by this Master Plan. The County and state agencies responsible for design and development of each project are indicated.

### WATER SUPPLY AND SEWERAGE SYSTEMS PLAN

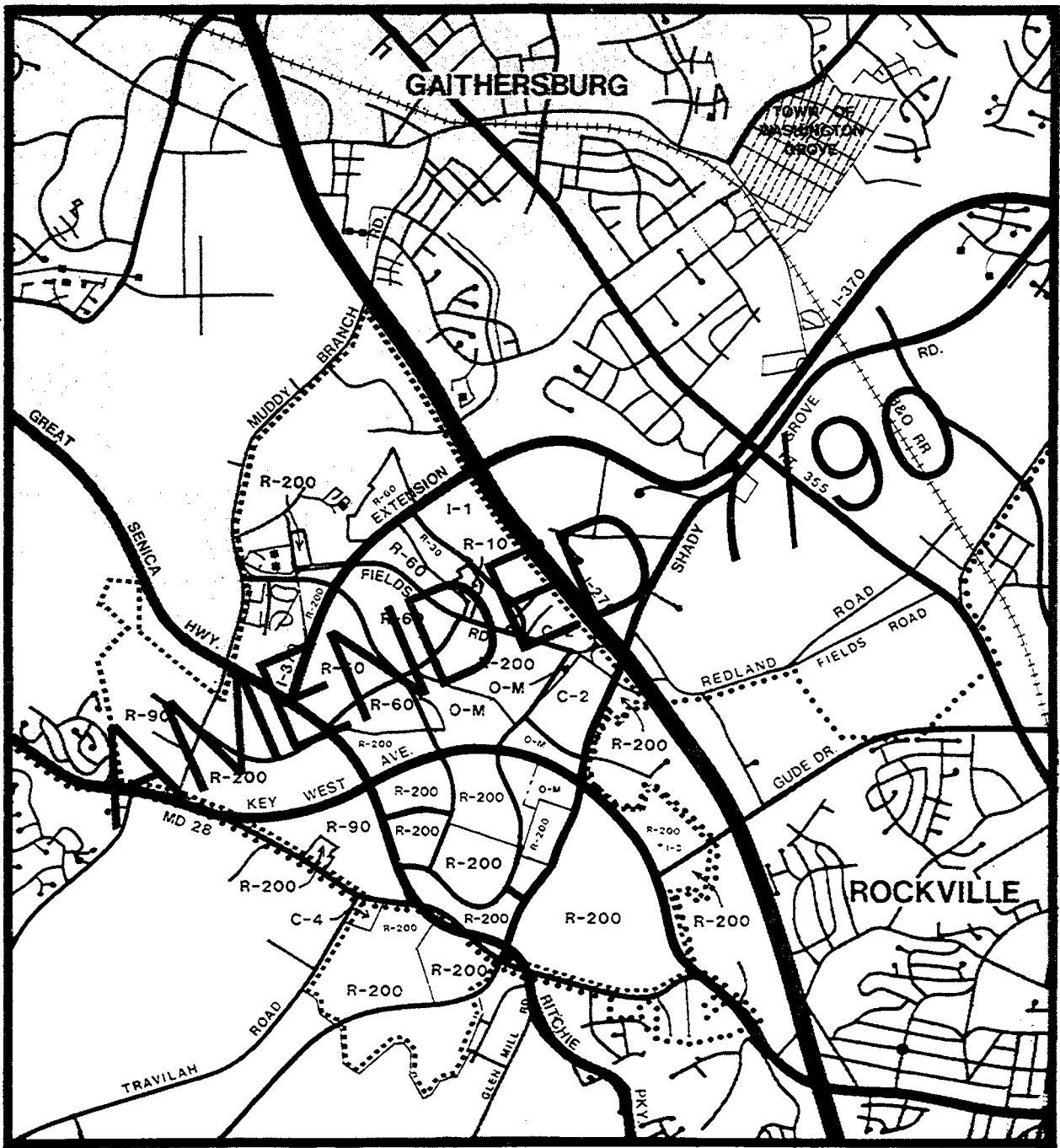
The Comprehensive Ten-Year Water Supply and Sewerage System Plan is the County's program for providing community water and sewerage service. Most of the Gaithersburg area is either currently being served or scheduled to be served in the near future.

The following list describes three levels of sewerage and water distribution priority recommendations used throughout this section:

Priority 1: Designates that service is existing or planned within 6 years.

Priority 2: Designates that service is planned within a 7-10 year period.

Priority 3: Designates that service is not planned within a 10 year period.



**SHADY GROVE WEST AREA -  
RECOMMENDED SECTIONAL MAP AMENDMENT ZONING**

- ..... Planning Area Boundary
- ..... Shady Grove West Boundary

\* I-3 Must Be Requested By Property Owner

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Montgomery County Maryland

JANUARY, 1985



Fig. 35

### Water Service and Systems Adequacy

New development within most of the study areas would either have water service immediately available or service could be provided without difficulty to any of these areas once service is requested and approved.

Most of the Gaithersburg area lies within the Montgomery County "high pressure zone." The Washington Suburban Sanitary Commission (WSSC) recently analyzed the water storage needs of the "high pressure zone" and concluded that there is an immediate need for additional storage.<sup>1</sup> The WSSC recently completed a facility plan addressing these needs (CIP Project W-37.16) and a design study is underway.

The WSSC analysis also identified the need for a separate pressure zone to serve higher ground elevations in the Airpark area. A facility plan for this area is completed and the most recent CIP includes funds for the construction of an elevated storage tank along the east side of MD 124, about 1800 feet south of Warfield Road (Project W-56.00). A pumping station (Project W-56.01) is being constructed at the intersection of Snouffer School and Strawberry Knoll Roads as part of this project. (Refer to the Technical Appendix for a listing of CIP projects.)

Once the new "high pressure zone" project is completed, finished water storage will be sufficient to provide for the development expected to occur through 1995 under the Planning Board's intermediate growth forecasts. The Airpark facilities will be sized to meet ultimate demands.

### Sewer Service and Systems Adequacy

Most of the Gaithersburg area has sewer service readily available and, with the exception of the Gudelsky-Percon area south of MD 28, most of the area north of the Airpark and in Shady Grove West Area could be served in the future by minor extensions of the existing sewer system.<sup>2</sup> They are in the Priority 1 service category.

To the north of Analysis Area 58 is the Goshen Estates property, for which sewer service is not envisioned. The Plan assigns this parcel "Priority 3."

All other properties in the Airpark Area are shown as "Priority 1," which will enable the property owners to proceed through the subdivision process. (These properties will still be subject to the Adequate Public Facilities Ordinance.)

To help implement the staging recommendations for the Shady Grove West Area, properties which are not recommended for development until Stage III are shown as "Priority 2." The properties affected include the Banks, Thomas, King, Percon, and part of the Brown areas. The "Priority 2" designation will help defer development by deferring the extension of sewer service. A sewer category change

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<sup>1</sup> Washington Suburban Sanitary Commission. Distribution System Storage Study, Project 6.02, June 1980.

<sup>2</sup> WSSC is preparing a Western Montgomery County Facilities Plan which will determine adequacy of the existing system and assess future needs.

for these parcels should not be approved until the Master Plan Amendment, which is to precede Stage III, is completed.

Recommended Sewer Service Priorities are shown in figure 36.

## SUBDIVISION REGULATIONS

Subdivision regulations govern the process of dividing land into parcels, blocks, and lots. The Adequate Public Facilities Ordinance (APFO) is an important part of the subdivision regulations. The APFO requires that "public facilities. . . adequate to support and service the proposed subdivision" must be existing or programmed for construction before the Planning Board may grant approval of a preliminary plan of subdivision. The APFO helps assure new development does not proceed unless needed roads are in place or imminent.

At a finer scale, the detailed site plans and optional method of development plans carry out the policies and recommendations of the master plan. As there is flexibility in the layout of buildings and other features on the site, the Planning Board and its staff carefully review the elements with ample room for public input.

## COMPREHENSIVE PLANNING POLICIES (CPP)

In 1982, the Board adopted its first annual Comprehensive Planning Policies (CPP) Report. The CPP incorporated a new set of guidelines for the Board to follow in administering the APF Ordinance. Thus, the interrelationship of the various County programs and plans, particularly in terms of the provision of public facilities, is more clearly defined. The CPP is used as a growth management tool. As the Board reviews and updates it yearly, there is the opportunity to re-evaluate whether proposed public facilities are adequate to serve anticipated development.

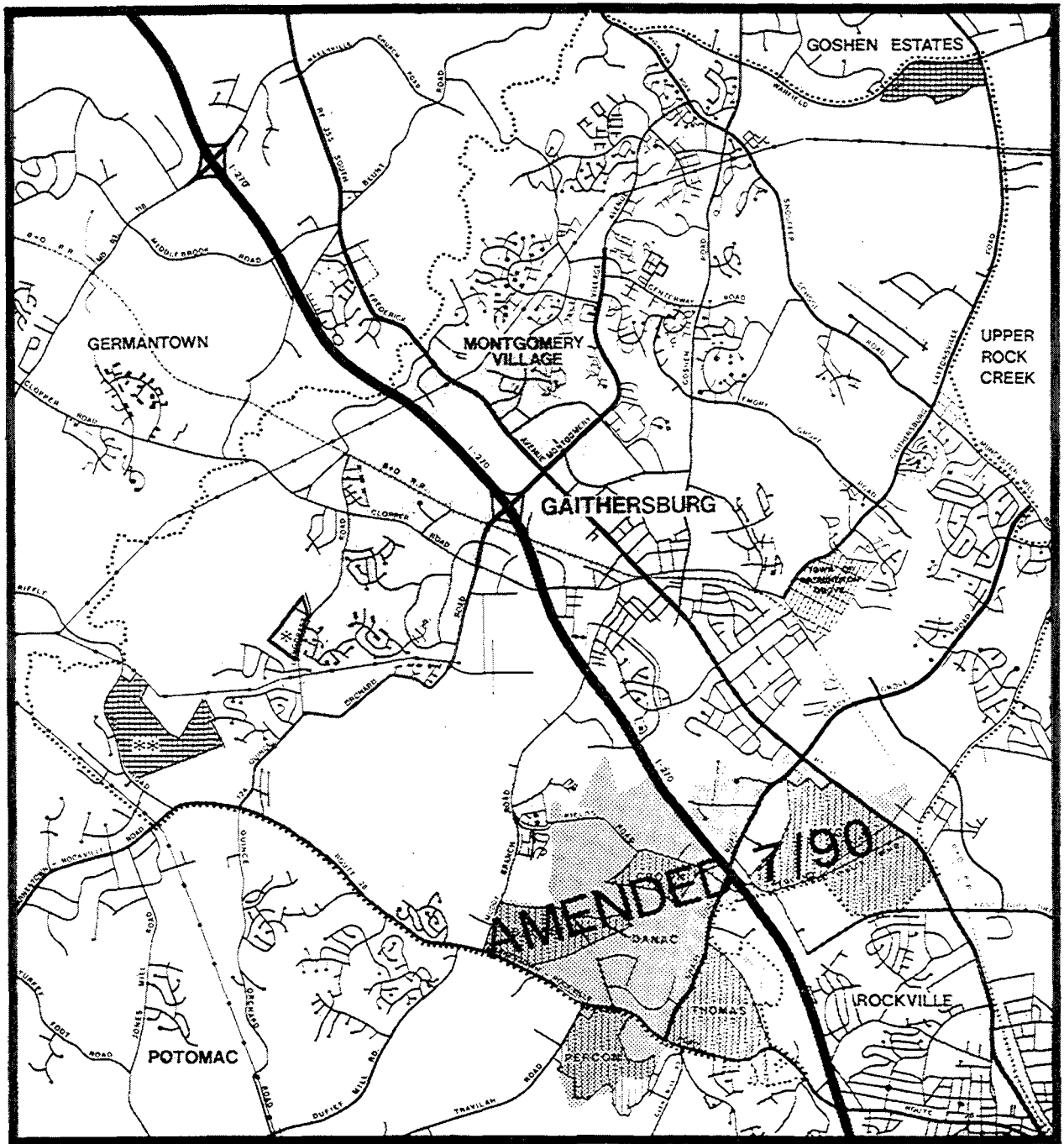
Future CPP reports will incorporate by reference, the staging recommendations of this Master Plan. This will mandate a more rigorous APF test in terms of transportation adequacy. A record plat for a subdivision may be approved only when the major roads used in the traffic analysis are under contract for construction. Although the staging plan identifies which roads are to be considered as staging events, other roads may be required as the result of more detailed traffic studies.

By "under contract for construction," this Plan intends that a contract has been signed for construction of a road.

Figure 22 shows how the Shady Grove West staging plan recommendations will be incorporated into the standard APFO subdivision review process.

## TRANSFER OF DEVELOPMENT RIGHTS (TDR)

The Plan recommends the suitability of development on certain properties using the TDR option as part of its plan to preserve agriculture in the County. The goal of the Agricultural Preservation Plan is to retain farmland in the upper portion of the County. To do so, development of certain agricultural lands must be discouraged or prevented. The Agricultural Preservation Plan developed two mechanisms for farmland preservation in the Agricultural Reserve: the first reduces permitted residential development in the Agricultural Reserve to a very low density, and the second creates a mechanism to transfer development rights from the Agricultural Reserve to other parts of the County.



## RECOMMENDED SEWER SERVICE PRIORITIES

..... Planning Area Boundary

□ Municipalities

□ PRIORITY ONE  
Sewer Exists or is Planned Within 6 Years

▨ PRIORITY TWO  
Sewer is Planned Within a 7-10 Year Period

▨ PRIORITY THREE  
Sewer is Not Planned Within 10 Years

\* This area recommended for Priority One because water pollution problems in Clopper Lake may occur if more septic systems are located in this parcel.

\*\* Priority One recommended upon Planning Board approval of preliminary plan using cluster option.

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Montgomery County Maryland

January, 1985



Fig. 36

The TDR approach permits development rights to be transferred from parcels in the Agricultural Reserve to designated "receiving areas" in other parts of the County. Receiving areas are those places where development rights are transferred to increase residential density. The TDR process is illustrated in figure 37.

Each master plan, as it is developed, is examined to determine whether it should contain receiving areas and, if so, how many. The location of receiving areas must be consistent with the master plan's limitations on the ability and desirability of development in certain areas. These limits must be within the range of planned public facilities such as roads, utilities, parks, and schools. Receiving areas must be compatible with existing and planned development on adjacent or surrounding areas. They must also meet the County-wide criteria (refer to Montgomery County Zoning Ordinance) established for the designation of receiving areas.

This Plan designates some of the analysis areas in the Shady Grove West and Airpark Study Areas as TDR receiving areas. These areas are recommended to be developed up to the optional TDR density (which does not include the MPDU bonus) indicated for that area, if TDR's are applied. The subject development must have passed the Adequate Public Facilities test and include at least the minimum number of TDR's permitted to be used under the master plan designation.

A 179-acre property in the Airpark Area is recommended for sewerage service only if it is developed at the TDR optional density. (See Analysis Area 58.)

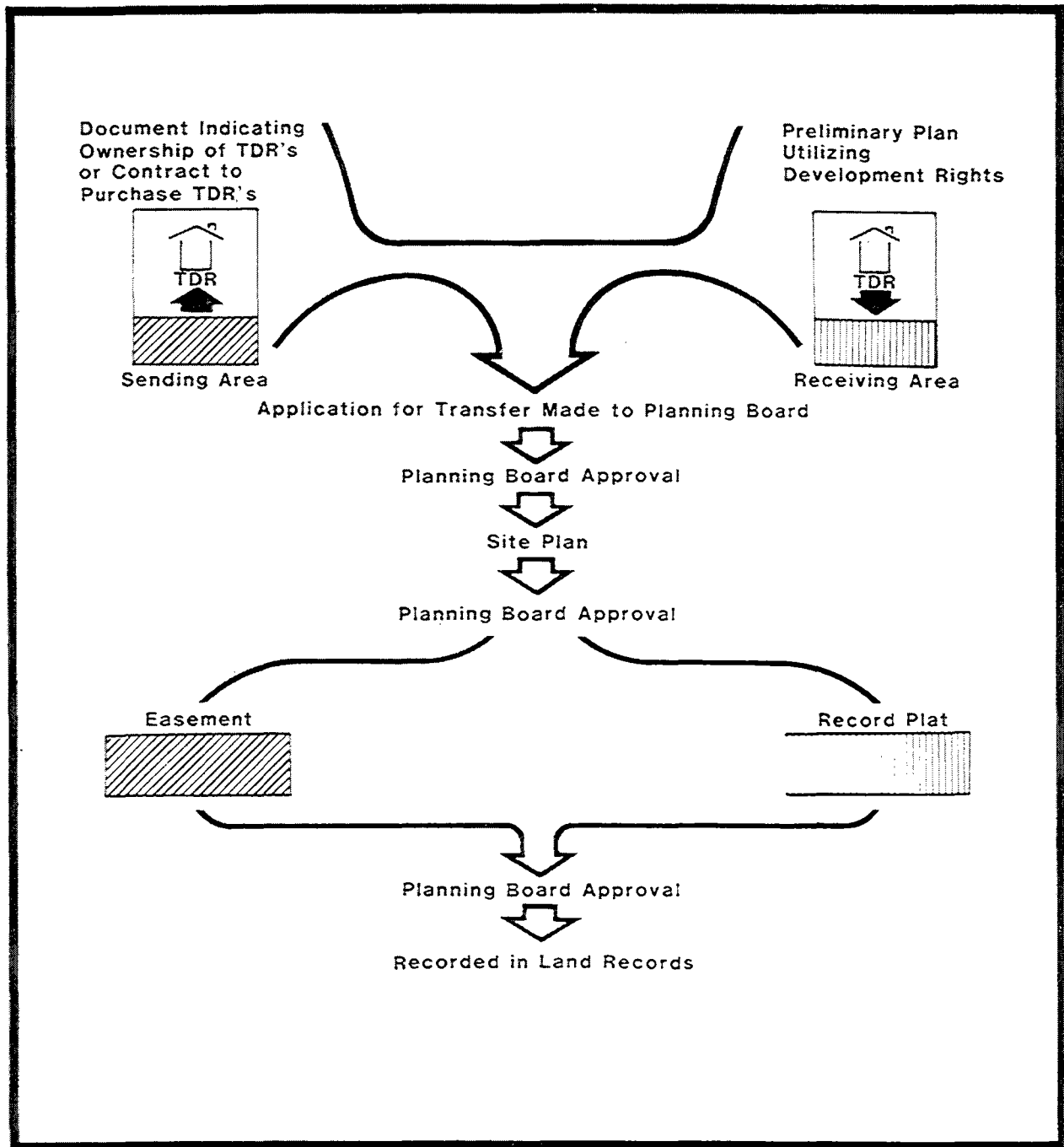
This Plan recommends the use of TDR's on several properties which are located within the expansion limits of the cities of Rockville and Gaithersburg. The Plan recommends that the cities and the County explore mechanisms for the accomplishment of these designations. Requiring the recordation of TDR easement at the time of annexation may be a method of achieving this goal.

#### INTER-JURISDICTIONAL ISSUES

The cities of Rockville and Gaithersburg and the town of Washington Grove are directly affected by the recommendations of this Plan. Many of the undeveloped parcels border on one of these jurisdictions and a number of them lie within the maximum expansion limits (MEL) established by the two cities.

The concerns of these jurisdictions have been carefully considered throughout the planning process. Two principal sets of issues dominate these inter-jurisdictional considerations: those associated with annexation policies and those related to development scale in the Shady Grove West Study Area.

The only geographic restrictions on annexation are: (1) the property cannot be within the corporate limits of any other municipality, (2) the property must be contiguous to the existing corporate area, and (3) no new enclaves totally encircled by a municipality may be created. The annexation process can be initiated by persons who own land or live in the area to be annexed or by the legislative body of the municipality. The acceptance of an annexation request is at the option of the municipal corporation and is subject to the consent of 25 percent of the registered voters and 25 percent of the property owners in the area to be annexed. It is also subject to a petition to referendum by either 20 percent of registered voters in the area to be annexed or 20 percent of the qualified voters of the municipality. The effect of these provisions is that municipalities cannot, in most cases, compel



## TRANSFERABLE DEVELOPMENT RIGHTS PROCESS

This illustration depicts, first, the ownership or contract to purchase development rights from a farmer in the sending area by a developer. The developer files, with the Montgomery County Planning Board, a preliminary plan of subdivision for property in the receiving area using at least two-thirds of the possible development rights transferable to the property. This represents the application for transfer. Once the preliminary plan of subdivision is approved by the Planning Board, the developer then files a detailed site plan for the receiving property for approval by the Planning Board. Following site plan approval, the developer would prepare a record plat. An easement document limiting future residential development in the sending area is prepared, conveying the easement to the county. Upon approval of the easement document and record plat by the Planning Board, the easement and the record plat are recorded in the land records and the transfer of development rights is complete.

annexation for developed areas; conversely, area inhabitants or owners contiguous to a municipality cannot compel annexation by the municipality.

When property is proposed to be annexed, several issues arise. The cities may not, for five years, rezone the property to a different land use or higher intensity than is shown on the County's current master plan unless the County Council consents to such rezoning. The cities, therefore, refer all annexation requests to the Montgomery County Planning Board and County Council for review prior to city action on the request. This provides an opportunity to address any proposed rezoning as well as other concerns, such as the removal of the property from MPDU requirements, the TDR program and the constraints of the Adequate Public Facilities Ordinance.

#### Annexation Policy Guidelines

During work on this Plan, the two cities proposed an explicit policy agreement on annexation issues. The Plan supports the development of a mutually acceptable agreement on MEL and annexation policy.

The Plan also recommends that any land annexed by either Gaithersburg or Rockville include a staging component in the annexation agreement, similar to that which would be in effect if the tract remained outside the city. Without such a staging component, there could be an imbalance between the land use recommendations and road facilities. The County's attempts to match development with transportation capacity will be frustrated if the County and the cities do not use similar standards for evaluating traffic impact.

Although state law does not require a staging component, such a component may be included if mutually agreed to in the annexation agreement. In those instances, therefore, where the County Council's approval for rezoning is required, that approval shall be granted only if the owner of the subject property and the municipality enter into a staging agreement or, otherwise, guarantee the adequacy of public facilities. The staging agreement should be recorded in the land records of the municipality or provide assurance that it can be enforced by the city.

A number of the areas that lie within the MEL of Gaithersburg and Rockville are identified by the Master Plan as TDR receiving areas. The citizens of the cities share in the benefits of the County's efforts to preserve agricultural and open space. The "wedges and corridor" concept as stated in the General Plan assumes that development in the corridor should be increased as a result of restricting development in the "wedges". The Transfer of Development Rights program is a logical tool to accomplish this objective and should not be limited to corridor areas within the County and not within the cities. The County will, therefore, continue to recommend to the cities that they require the use of TDR's in their annexation agreements when TDR receiving areas are involved. In the absence of such requirement, the Plan recommends that upon annexation of such parcels, the County Council not concur in zoning densities greater than the base density shown in the Master Plan. For purposes of the requirements in Article 23-A, subsection 9(c) of the Maryland Annotated Code, the Master Plan land use shall be considered to be the base density.

#### A Process for Addressing Areas of Mutual Concern

This Plan recommends that the County and the municipalities of Rockville and Gaithersburg enter into the following two agreements:



1. The cities of Rockville and Gaithersburg, in concert with the County, should agree to adopt a mutually acceptable staging approach for the MD 28 area, and agree to establish a system for the remaining I-270 Corridor area. This staging program can be tailored to each jurisdiction but should be consistent in terms of data and methodology.
2. The cities of Rockville and Gaithersburg and the County should agree to develop a memorandum of understanding on maximum expansion limits and annexation issues. This agreement would provide the policy basis for reviewing all future annexation applications.

## NOISE CONTAINMENT TECHNIQUES FOR THE MONTGOMERY COUNTY AIR-PARK

The Plan supports the efforts by the Montgomery County Revenue Authority to develop, with the assistance of the State Aviation Administration (SAA), a Noise Abatement Plan. The purpose of the Noise Abatement Plan is to reduce or eliminate the amount of land exposed to noise levels exceeding 60 dBA Ldn, through the application of the best available technology. The operational characteristics of the Airpark will be controlled in terms of such factors as growth of usage, restrictions on noisy maintenance operations, and modifications of the runway and flight path use. The Revenue Authority, as the airport operator, will enforce the provisions of the Noise Abatement Plan.

The Plan also supports the efforts of the SAA to designate a noise zone at the Montgomery County Airpark. The SAA has identified projected noise contours exceeding 60 dBA Ldn around the Airpark. Based on the operational characteristics of the Noise Abatement Plan, the SAA will develop noise contours as projected five years into the future. Once these contours are developed, the SAA will hold a public hearing. After full consideration of the public hearing testimony, the SAA will adopt a noise zone encompassing the noise-impacted area. The County, through its police powers, will then adopt regulations to control land uses within the noise zone.

### Notification

The Plan recommends that potential homebuyers be made aware of the presence of the Airpark and its impacts prior to their purchasing a home in the Airpark area. Under the master plan disclosure provisions of the Montgomery County Code, a homebuyer has the opportunity to review the applicable master plan. Thus, the information provided in this Plan will assist in notifying prospective homebuyers of the presence of the Airpark and its impacts. The Plan also recommends that a formal disclosure of the presence of the Airpark be made.

These measures occur late in the home selection process, generally after one has selected a particular home. Therefore, the Plan further recommends that the Revenue Authority place well-designed signs in the area indicating the direction of and distance to the Airpark. These signs will indicate, early in the prospective homebuyer's shopping, that the Airpark is in the vicinity.

## HISTORIC SITES MASTER PLAN AND ORDINANCE

There is a variety of historic resources in the County. Some are protected from adverse state or federal actions through identification on the Maryland State Inventory or the National Register of Historic Places. The County, recognizing the

need for additional protection for these sites and for sites of local significance, enacted its own historic preservation legislation in 1979.

Under the Historic Preservation Ordinance, Chapter 24A of the County Code, resources identified on the Locational Atlas and Index of Historic Sites in Montgomery County are afforded limited, interim protection from demolition or substantial alteration. Permits for such actions are withheld by the County until the Planning Board reviews the site to determine whether it will be added to the Master Plan for Historic Preservation. The permit may be issued if the site is not added to the Master Plan.

If included in the Master Plan, the Ordinance provides additional controls over the maintenance, alteration, and demolition of designated resources.

The architectural and historic significance of the Gaithersburg Vicinity resources identified on the Locational Atlas and Index of Historic Sites in Montgomery County were reviewed as part of this Master Plan. (See figure 38.) As a result of this evaluations, the Plan recommends the Master Plan for Historic Preservation be amended to include the following sites:

20/4 Nathan Dickerson Farm

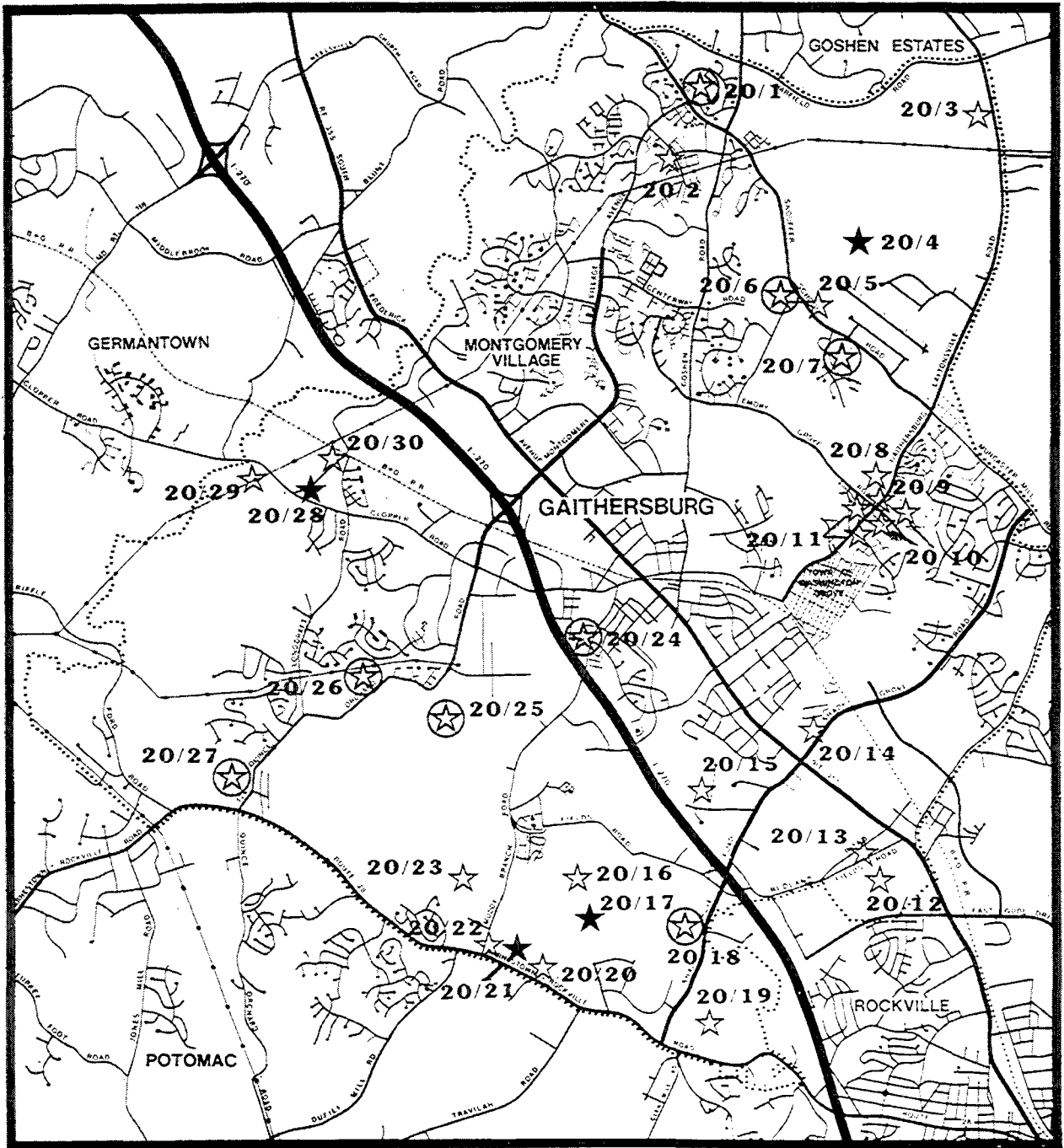
- Excellent example of late Federal style frame farmhouse built around 1836.
- Associated with Nathan Dickerson, prominent citizen and two-time County Commissioner.

20/17 England/Crown Farm

- Victorian style structure with intricate bracket work and cornice along its main facade.
- Typical Maryland farmstead with log tenant house.

20/21 Belward Farm/Ward House

- 1891--Significant as an example of a high style, late 19th century farmstead.
- Queen Anne House exemplifies high style Victorian architecture. This two-story frame house features shingled gables and a two-story porch with turned posts.
- Built by Ignatius B. Ward, farmer, storekeeper, and postmaster for Hunting Hill.
- The environmental setting includes the Queen Anne style house, some representative outbuildings, and the significant shade trees which combine to define the historic farmstead. The setting also includes the tree-lined drive in order to preserve the historic relationship of the farmstead to the road. At the time of development, special attention should be given the siting of structures to provide a view of the house from MD 28.



## EVALUATED HISTORIC RESOURCES

- ★ Sites Designated on the Master Plan for Historic Preservation
- ☆ Sites Removed From the Locational Atlas
- ⊛ Sites Removed From Locational Atlas  
(associated structures no longer standing)
- ▭ Washington Grove National Register Historic District  
(under jurisdiction of the town of Washington Grove)

**APPROVED & ADOPTED GAITHERSBURG VICINITY MASTER PLAN**  
 Montgomery County Maryland

January, 1985



Fig. 38

## 20/28 St. Rose's Church and Cemetery

- Excellent example of 19th Century rural church incorporating significant Gothic Revival architectural elements.
- One of the earliest Catholic parishes in the northern part of the County.

The area sites listed in table 10 were reviewed either as part of this Plan or at previous public hearings and were found not suitable for regulation under the Historic Preservation Ordinance. This Plan recommends their removal from the Locational Atlas. Although removed from the Locational Atlas these sites will remain on the Maryland Historical Trust's Inventory of State Historical Resources.

TABLE 10  
SITES TO BE REMOVED FROM THE LOCATIONAL ATLAS  
AND INDEX OF HISTORIC SITES

Site	Name	Planning Board Hearing Date
20/1	Remus Dorsey Tenant House**	4/5/83 - 4/6/83
20/2	Dorsey Cemetery	4/5/83 - 4/6/83
20/3	Shaw Cemetery	4/5/83 - 4/6/83
20/5	Snouffer Schoolhouse	4/5/83 - 4/6/83
20/6	Urah Bowman House**	6/17/82
20/7	Day Farm Barns**	9/25/80
20/8	Emory Grove Camp Meeting Grounds	7/5/83 - 7/6/83
20/9	Emory Grove Methodist Episcopal Church	7/5/83 - 7/6/83
20/10	Mineral Spring Houses	4/12/84
20/11	Sylvester Thompson's Store	4/12/84
20/12	Field's King Farm	4/12/84
20/13	Watkins Farmhouse	4/12/84
20/14	Peters House/Monument View Hill	7/22/82
20/15	Gaither/Howes House	4/5/83 - 4/6/83
20/16	Heater/Crown Farm	4/5/83 - 4/6/83
*20/18	Thompson House**	10/9/83
20/19	Windy Knoll Farm	4/5/83 - 4/6/83
20/20	Hunting Hill Church	4/5/83 - 4/6/83
20/22	Hunting Hill Store and Post Office	4/5/83 - 4/6/83
20/23	Ward/Garrett Cemetery	4/5/83 - 4/6/83
*20/24	Mills House**	1/20/83
20/25	Briggs Farm #1**	7/24/80
20/26	Briggs Farm #2**	4/12/84
20/27	Pleasant View Church**	6/17/82
20/29	Woodlands Site and Smokehouse	4/5/83 - 4/6/83
*20/30	Railroad Underpass	4/12/84

\* Recommended for designation by the Montgomery County Historic Preservation Commission.

\*\* No longer standing.

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APPROVED AND ADOPTED GAITHERSBURG VICINITY MASTER PLAN

TECHNICAL APPENDIX

January 1985

Note: Only a limited number of copies of this Technical Appendix are available. Copies have been placed in local libraries for public review. Please contact Lyn Coleman (495-4565) or Pat Plunkett (495-4600) for further information.

This document contains information used during the Master Plan process. No attempt has been made to update it.

The Maryland-National Capital Park and Planning Commission  
8787 Georgia Avenue, Silver Spring, Maryland 20907

## ABSTRACT

**TITLE:** Approved and Adopted Gaithersburg Vicinity Master Plan  
Technical Appendix

**AUTHOR:** The Maryland-National Capital Park and Planning Commission

**SUBJECT:** Background data and analysis for the Gaithersburg Vicinity Master Plan

**DATE:** January 1985

**PLANNING AGENCY:** The Maryland-National Capital Park and Planning Commission  
8787 Georgia Avenue, Silver Spring, MD 20910-3760  
and  
14741 Governor Oden Bowie Drive, Upper Marlboro, MD 20870

**SERIES NUMBER:** 1915852506

**NUMBER OF PAGES:** 75

**ABSTRACT:** This document contains maps and supporting background data to support the land use and zoning recommendations of the Gaithersburg Vicinity Master Plan. Economic, housing and transportation forecasts are included; future and programmed roadway, sewerage and water projects are described in detail; and environmental guidelines for future development are discussed.

Price \$1.50

The analyses in this Appendix were used to develop recommendations for the Final Draft Gaithersburg Vicinity Master Plan. The Montgomery County Planning Board staff prepared this report which is provided for information only. It has not been submitted to, nor has it been approved by, the Planning Board or County Council.

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

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## THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

The Maryland-National Capital Park and Planning Commission is a bi-county agency created by the General Assembly of Maryland in 1927. The Commission's geographic authority extends to the great majority of Montgomery and Prince George's Counties: the Maryland-Washington Regional District (M-NCPPC planning jurisdiction) comprises 1,001 square miles, while the Metropolitan District (parks) comprises 919 square miles, in the two Counties.

The Commission has three major functions:

- (1) the preparation, adoption, and from time to time amendment or extension of the General Plan for the physical development of the Maryland-Washington Regional District;
- (2) the acquisition, development, operation, and maintenance of a public park system; and
- (3) in Prince George's County only, the operation of the entire County public recreation program.

The Commission operates in each county through a Planning Board appointed by and responsible to the county government. All local plans, recommendations on zoning amendments, administration of subdivision regulations, and general administration of parks are responsibilities of the Planning Boards.

## TABLE OF CONTENTS

This Technical Appendix includes background data and analysis which support the land use and zoning recommendations of the Final Draft Gaithersburg Vicinity Master Plan. Economic, housing and transportation forecasts are included in the Appendix. Future and programmed roadway, sewerage and water projects are described in detail; and environmental guidelines for future development are discussed.

	<u>Page</u>
APPENDIX 1 Gaithersburg Vicinity Master Plan Process Summary . . . . .	1
APPENDIX 2 Background Data . . . . .	3
A. Transportation . . . . .	3
B. Traffic Forecast Model . . . . .	14
C. Housing . . . . .	18
D. Economic Development . . . . .	25
E. Community Facilities . . . . .	36
F. Environmental Concerns . . . . .	40
G. Montgomery County Airpark . . . . .	48
* APPENDIX 3 Definitions . . . . .	55
APPENDIX 4 Proposed Water Projects/Sewerage Projects . . . . .	63
APPENDIX 5 Cost for Projects Recommended in the Gaithersburg Vicinity Master Plan. . . . .	67

## LIST OF MAPS

	<u>Page</u>
1. Intersections at Level of Service D or Lower . . . . .	5
2. Selected Roadway Improvements . . . . .	7
3. Great Seneca Highway Alignments . . . . .	11
4. Traffic Analysis Zones . . . . .	15
5. Gaithersburg Market Area . . . . .	29
6. Shady Grove Road Area Traffic Zones . . . . .	31
7. Community Facilities . . . . .	39
8. Severely Limited Soils . . . . .	41
9.. Environmental Constraints . . . . .	43
10. Airpark Noise Contours - Year 2000 . . . . .	52
11. Planned Water Facilities . . . . .	64
12. Planned Sewer Facilities . . . . .	65

## LIST OF TABLES

	<u>Page</u>
A. How Level of Service is Determined . . . . .	4
B. Status of Selected Roadway Improvements . . . . .	8
C. Population in Gaithersburg Area as Compared to Montgomery County: 1960-1980 . . . . .	20
D. Trends in Population Growth for the Gaithersburg Area as Compared to Montgomery County: 1960-1980 . . . . .	20
E. Percentage Distribution by Age, 1980 Population - Gaithersburg Area and Montgomery County. . . . .	22
F. Dwelling Units and Population, Gaithersburg Area and Montgomery County: 1970, 1980, 1985, 1990 . . . . .	24
G. Dwelling Units and Population Increases, Gaithersburg Area and Montgomery County: 1970-1980, 1980-1985, 1985-1990 . . . . .	24
H. Existing Office, Manufacturing and Warehouse Development, Gaithersburg Market Area, 1978 . . . . .	28
I. Development Potential of Industrially and Office Zoned Vacant Land (1978) Gaithersburg Market Area . . . . .	28
J. Development Potential for Office and Research Development Facilities, Shady Grove Road Area (1981). . . . .	30
K. Office Employment (1978-1988), Gaithersburg Market Area and Montgomery County . . . . .	30
L. Gaithersburg Area and County Non-Residential Construction, Gross Floor Area (Square Feet), January 1, 1979 through May 30, 1982 . . . . .	32
M. Gross Floor Area Non-Residential Construction, Montgomery County and Gaithersburg Area; Gaithersburg Space as a Percent of County Space, 1979 through May 30, 1982 . . . . .	33
N. Existing Retail Development (1978), Gaithersburg Market Area . . . . .	35
O. Development Potential of Commercially Zoned Vacant Land (1978), Gaithersburg Market Area . . . . .	35
P. Public Schools Serving Gaithersburg - Current and Projected Enrollment (1982-1989) . . . . .	37
Q. Projected Noise Contours for Selected Roadways . . . . .	47



APPENDIX 1

GAITHERSBURG VICINITY MASTER PLAN PROCESS SUMMARY

PURPOSE

EVENT

ACTIVITY

Public forums, and meetings with business organizations and community groups to identify and discuss issues.

Joint Issues Forum 10/25/79  
 Community Facilities Forum 10/21/80  
 Emory Grove Village Tenants Assoc. 11/5/80  
 Joint Housing Forum 11/13/80  
 Joint Retail & Employment Forum 12/9/80  
 Deer Park/Oakmont/Walnut Hill Area Residents  
 3/1/81  
 Suburban Maryland Home Builders Assoc.  
 4/15/81  
 Community Housing Resources Board 4/23/81  
 Washingtonian Tower Condo. Inc. 5/12/81  
 I-270 Corridor Employers Group 5/14/81  
 Montgomery Village Foundation 5/18/81  
 Joint Transportation Forum 5/27/81  
 Joint Transportation Follow-up Workshop  
 6/10/81

Staff gathers and organizes data and issues.

Staff analyzes data and issues and prepares Staff Draft Plan.

STAFF DRAFT PLAN

Opportunities for public participation.

Open House 11/21/81  
 Public Forum 12/1/81  
 Planning Board Worksessions & Revisions  
 12/7/81 through 1/18/83  
 Planning Board Approval

Staff analyzes issues and concerns raised, and prepares draft responses.

PRELIMINARY DRAFT PLAN

Opportunities for public participation.

Planning Board Public Hearing on  
 Preliminary Draft 4/5/81 and 4/6/81  
 Planning Board Worksessions & Revisions  
 4/81 to 7/83  
 Planning Board Approval August 5, 1983

Staff analyses and responds to issues and concerns raised.

FINAL DRAFT PLAN

Opportunities for public participation.

County Council Public Hearing on Final Draft  
 County Council Worksessions  
 County Council Approval  
 Planning Commission Adoption

Staff analyzes and responds to issues and concerns raised.

GAITHERSBURG VICINITY MASTER PLAN PROCESS SUMMARY (Cont'd.)

PURPOSE

EVENT

ACTIVITY

APPROVED AND ADOPTED PLAN

THE SECTIONAL MAP AMENDMENT PROCESS

	Preparation of Sectional Map Amendment	Staff prepares recommended rezoning application based on approved Zoning Plan.
	Planning Board Approval to File Sectional Map Amendment with District Council	
Opportunities for public participation.	District Council Public Hearing District Council Worksessions	Staff analyzes and responds to issues and concerns raised.
	Approval by District Council to enact Zoning Changes	

## APPENDIX 2

### BACKGROUND DATA

#### A. TRANSPORTATION

The traffic capacity of master planned roads influenced land use recommendations for the Gaithersburg Vicinity Area. A transportation model which projects the impact of new development upon future roads was used during the plan process to balance traffic generation and roadway capacity. A description of the model is included in this section.

The I-270 Corridor is planned to be served by a set of major roadways basically parallel to the axis of the corridor. These parallel roadways are connected by other cross-corridor roadways like rungs on a ladder. The more the elements of the ladder are in place, the more effective the network. At present, several key pieces have not been constructed causing stress on the existing framework, particularly at the intersections. The major highway improvement and construction projects now being programmed will relieve many of the current problems. There will, however, always be periods when traffic volume exceeds the existing capacity. The balance between traffic and capacity in a master plan should be achieved when the roads and land uses are all developed. In the intervening years, incremental staging decisions will be handled through the Adequate Public Facilities Ordinance (APF) and the County's Capital Improvements Program (CIP), as guided by the Comprehensive Planning Policies Report (CPP). This section describes road improvements now underway or planned for construction.

#### Existing Conditions

Traffic flow in the Gaithersburg area is characterized by heavy use of its arterial routes, particularly by commuters during the morning and evening rush hours. (See page 5 .) In addition, there is heavy congestion around the Gaithersburg I-270 interchanges, which are characterized by substandard design. Several of the principal roadways in the area, including MD 355, Shady Grove Road, Montgomery Village Avenue, Clopper Road (MD 117), and MD 28 exhibit severe congestion. Large amounts of commuter and general traffic are already carried by MD 115 and MD 124 which, in addition, will serve as important future access routes to the Shady Grove Metro station.

Several intersections along the heavily travelled commuter routes currently experience Level of Service (LOS) D or E conditions. (See Table A for an explanation of the LOS measures.) Examples of such intersections include MD 355/Shady Grove Road, MD 355/ Montgomery Village Avenue (MD 124), Shady Grove Road/Gaither Road, Shady Grove Road/Choke Cherry Road, Clopper Road/Quince Orchard Road (MD 124), MD 28/Shady Grove Road, MD 28/Glen Mill Road, MD 28/Muddy Branch Road, and MD 28/Travillah Road. These intersections are shown on page 5 .

In response to these conditions, several roadway improvements in the Gaithersburg area have been placed in the current CIP for design and construction funding. These improvements will address both existing and projected transportation problems. The improvements listed below are among those shown on page 7 and contained in Table B.

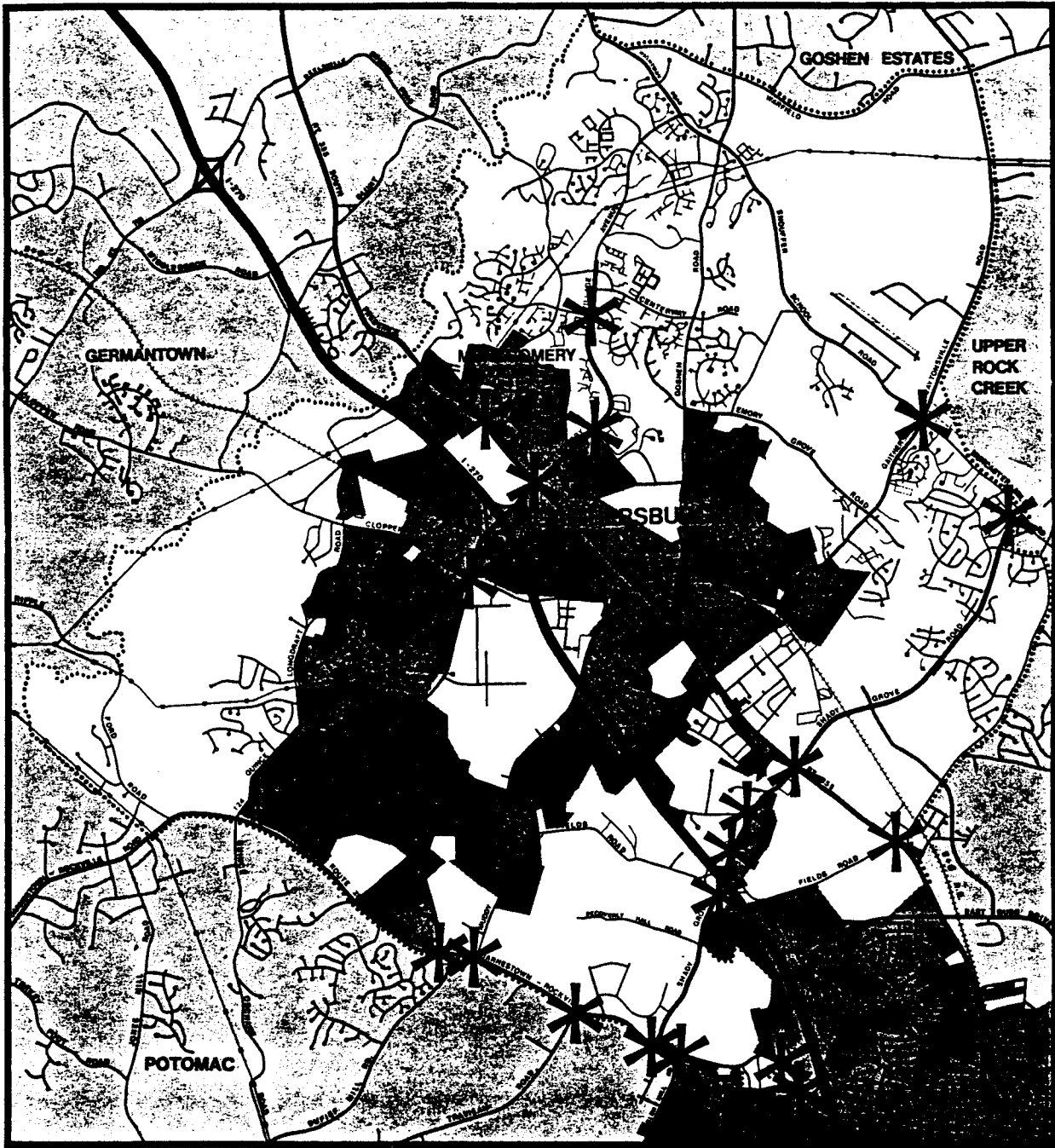


## TABLE A

### HOW LEVEL OF SERVICE IS DETERMINED

"Level of service" is a traffic engineering term which describes conditions on a segment of roadway. There are six levels, ranging from free flowing conditions to very heavy traffic with extremely unstable flows and long delays. "Levels of service" are identified alphabetically. The terms are as follows:

<u>Level of Service</u>	<u>Characteristics</u>
"A"	Free unobstructed flow, no delays. All traffic signal phases sufficient in duration to clear all approaching vehicles.
"B"	Conditions of stable flow, very little delay. A few signal phases are unable to handle all approaching vehicles.
"C"	Conditions of stable flow, delays are low to moderate, full use of peak direction signal phase(s) is experienced.
"D"	Conditions approaching unstable flow, delays are moderate to heavy. In a significant number of signal phases, during short durations of the peak traffic period, traffic will not clear a signalized intersection.
"E"	Conditions of unstable flow, delays are significant, signal phase timing is generally insufficient. Congestion exists for extended duration throughout the peak period.
"F"	Very long delays. Jammed traffic conditions.



**INTERSECTIONS AT LEVEL OF SERVICE D OR LOWER**  
 ..... PLANNING AREA BOUNDARY  
 [shaded] MUNICIPALITIES  
 \* BASED ON EXISTING TRAFFIC AND INTERSECTION CONFIGURATION AS OF 1982

**GAITHERSBURG VICINITY MASTER PLAN** — Final Draft  
 Montgomery County, Maryland **SEPTEMBER, 1983**

### Key West Avenue/MD 28

Key West Avenue (MD 28 Relocated) will be extended from the Great Seneca Highway west to MD 28. Two lanes of Key West Avenue, from Shady Grove Road to the Great Seneca Highway, are under construction as a joint County and private developer project. Included in this project are spot improvements to existing MD 28. While the exact scope of these improvements is still being developed, it is anticipated that improvements to intersections and widening of selected roadway sections will be included.

Phase I improvements include the construction of two lanes of an ultimate four-lane roadway from Shady Grove Road to Great Seneca Highway. Phase II improvements include: (1) extending Key West Avenue from Great Seneca Highway to MD 28 as two lanes of an ultimate four-lane facility; (2) widening MD 28 to a four-lane facility from approximately Treworthy Road to its intersection with Key West Avenue; (3) widening MD 28 to four lanes between Shady Grove Road and Glen Mill Road; and (4) widening MD 28 to four lanes from Research Boulevard east to the existing four-lane section at I-270.

### MD 124/I-270 Interchange

The Phase I improvements to the MD 124/I-270 interchange have been programmed for construction by the Maryland Department of Transportation (MDDOT). These improvements include the widening of Clopper Road from I-270 up to and including improvement of the Clopper Road/Quince Orchard Road intersection. New ramps will be constructed where I-270 passes over Clopper Road. These ramps will include southbound Clopper Road to southbound I-270, northbound I-270 to northbound Clopper Road, and northbound I-270 to eastbound Montgomery Village Avenue.

In addition, the city of Gaithersburg, the state of Maryland, and developers of adjacent properties will widen Clopper Road between Longdraft Road and Quince Orchard Road.

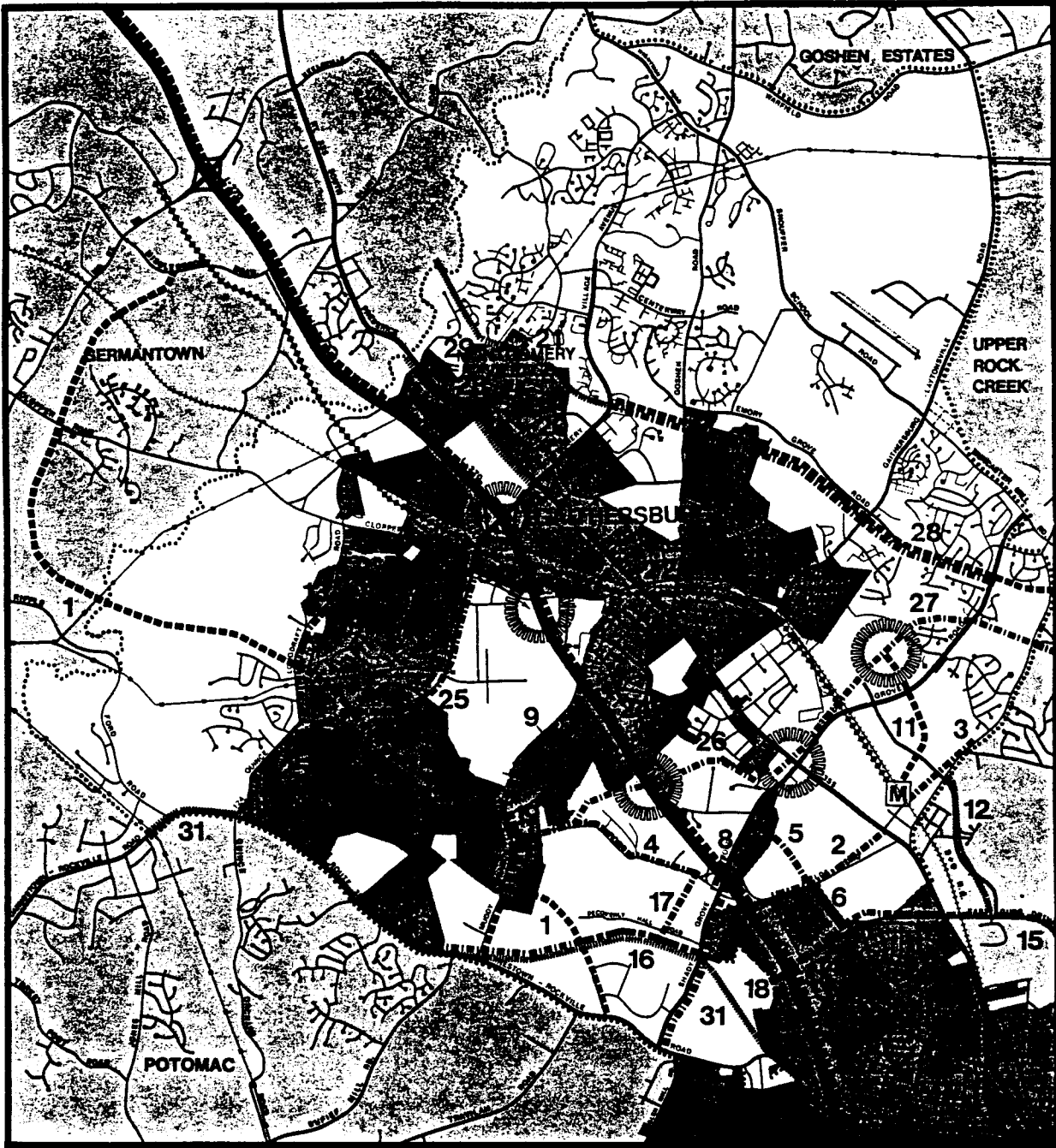
### Shady Grove Road/I-270 Interchange

Improvements to the Shady Grove Road interchange have been added to the County CIP. These improvements are intended to provide additional ramp capacity and to enhance circulation and safety in the area.

### Shady Grove Area Road Improvements

The improvements to the Shady Grove Road interchange are closely related to a series of other programmed roadway improvements designed to upgrade the road network surrounding the interchange. These improvements include:

- (1) The widening of Shady Grove Road from four to six lanes between I-270 and Briardale Road;
- (2) The construction of a three-lane bridge paralleling the existing Shady Grove Road Bridge over I-270;
- (3) The upgrading of Fields Road between Piccard Drive and MD 355;
- (4) The completion of Gaither Road between Shady Grove Road and Fields Road;



**SELECTED ROADWAY IMPROVEMENTS**

.....	PLANNING AREA BOUNDARY	-----	UNDER CONSTRUCTION
■	MUNICIPALITIES		PROGRAMMED
		-----	PROJECT PLANNING
		-----	MASTER PLANNED
		.....	TRANSIT EASEMENT

**GAITHERSBURG VICINITY MASTER PLAN** —

Montgomery County, Maryland

Final Draft  
SEPTEMBER, 1983

Scale: 1" = 10,000' (1" = 3048m)

North Arrow

TABLE B

## STATUS OF SELECTED ROADWAY IMPROVEMENTS

Map No.	County Projects	Under Construction	Programmed <sup>1</sup>	Project Planning	Master Plan	Number of Lanes	
						Existing	Ultimate
1	Great Seneca Highway: Middlebrook Road to MD 28 <sup>2</sup>			X		0	4-6
2	Fields Road: Piccard Drive to MD 355		X			2	4
3	Fields Road-Redland Road: West of B&O Railroad to Needwood Road		X			2	4
4	Fields Road: Muddy Branch Road to Omega Drive		X			2	4
5	Gaither Road: End of existing paving, east of Shady Grove Road to Fields Road		X			0	4
6	Gaither Road: Fields Road to Gude Drive				X	0	4
7	Shady Grove Road: Corporate Court to MD 28		X			4	6
8	Shady Grove Road: Second bridge over I-270 and Interchange		X			0	3
9	Muddy Branch Road: MD 28 to MD 117		X			2	4-6
10	Midcounty Highway (Eastern Arterial): Shady Grove Road to Montgomery Village Avenue (2 lanes by Montgomery County) <sup>3</sup>		X			0	4-6
11	Crabbs Branch Way: End of existing paving south of Shady Grove Road to Redland Road	X				0	4
12	Crabbs Branch Way: End of Existing paving south of Redland Road to Gude Drive				X	0	4
13	Longdraft Road: Quince Orchard Road to Clopper Road (portion of project through Great Seneca Park completed)		X			2	4
14	Gude Drive: Research Boulevard to MD 355 (County participation with city of Rockville)		X			0-2	4-6
15	Gude Drive: MD 355 to Southlawn Lane (adding the southerly 2 lanes)		X			2	4-6
16	Key West Avenue: Shady Grove Road to MD 28 <sup>5</sup>	X	X			0	4-6
17	Omega Drive: Fields Road to Key West Avenue		X			0	4
18	Research Boulevard: Connection between existing northern and southern sections (city of Rockville)		X			0	4
Map No.	City of Gaithersburg Projects	Under Construction	Programmed <sup>6</sup>	Project Planning	Master Plan	Number of Lanes	
19	Muddy Branch Road: Street reconstruction (participation with Montgomery County)	X				2	6
20	Russell Avenue: Montgomery Village Avenue to Watkins Mill Road		X			0	4
21	Watkins Mill Road: Planning and engineering design and construction at existing bridge near MD 355		X			0	4

TABLE B (Cont'd.)

Map No.	State Projects	Under Construction	Programmed <sup>7</sup>	Project Planning	Master Plan	Number of Lanes	
						Existing	Ultimate
22	MD 355: South Summit Avenue to Chestnut Street		X			4	6
23	MD 355: Montgomery Village Avenue to Great Seneca Park				X	2	6
24	I-270 Improvements: Great Seneca Park to city of Rockville			X		6	8
25	Quince Orchard Road (MD 124): MD 28 to MD 117 (County and developer participation) <sup>4</sup>		X			2-4	4-6
26	I-370: Fields Road to Metro Access Road		X			0	6
27	Intercounty Connector: I-370 to Redland Road			X		0	6
28	Midcounty Highway (Eastern Arterial); Redland Road to Montgomery Village Avenue <sup>8</sup>			X		0	4-6
29	Midcounty Highway: Montgomery Village Avenue to Great Seneca State Park				X	0	4-6
30	I-270/MD 124 Interchange		X				
31	MD 28: I-270 to western edge of Planning Area				X	2	4

- 6
- 1 Programmed in the Adopted Montgomery County FY 84-89 Capital Improvements Program.
  - 2 See attached project planning alternatives.
  - 3 Two lanes by the County.
  - 4 Partially constructed by developer.
  - 5 Partially constructed.
  - 6 Programmed in the city of Gaithersburgs FY 83-88 Capital Improvements Budget.
  - 7 Programmed in the 1983-1988 State Consolidated Transportation Program, (SCTP).
  - 8 Four lanes by the State.

- (5) The reconstruction of Fields Road between Muddy Branch Road and Shady Grove Road; and
- (6) The construction of Omega Drive between Fields Road and Key West Avenue.

#### MD 355

The widening of MD 355 (Frederick Avenue) between Shady Grove Road and South Summit Avenue and between Chestnut Street and Montgomery Village Avenue is now complete.

The MDDOT has programmed the next project, from South Summit Avenue north to Chestnut Street, to include the replacement of the narrow two-lane bridge over the B&O Railroad. This project will not be completed prior to the 1984 opening of Metro.

#### Midcounty Highway (Eastern Arterial)

The County, in its CIP, has programmed the construction of a two-lane roadway in the Eastern Arterial alignment between Montgomery Village Avenue and Shady Grove Road. This roadway, named the Midcounty Highway, although not expected to be completed by the time the Shady Grove Metro station is opened, will be a key element in providing access to the station from the northern and eastern sections of the Gaithersburg area. This roadway will be a realignment of MD 115.

#### Great Seneca Highway (Western Arterial)

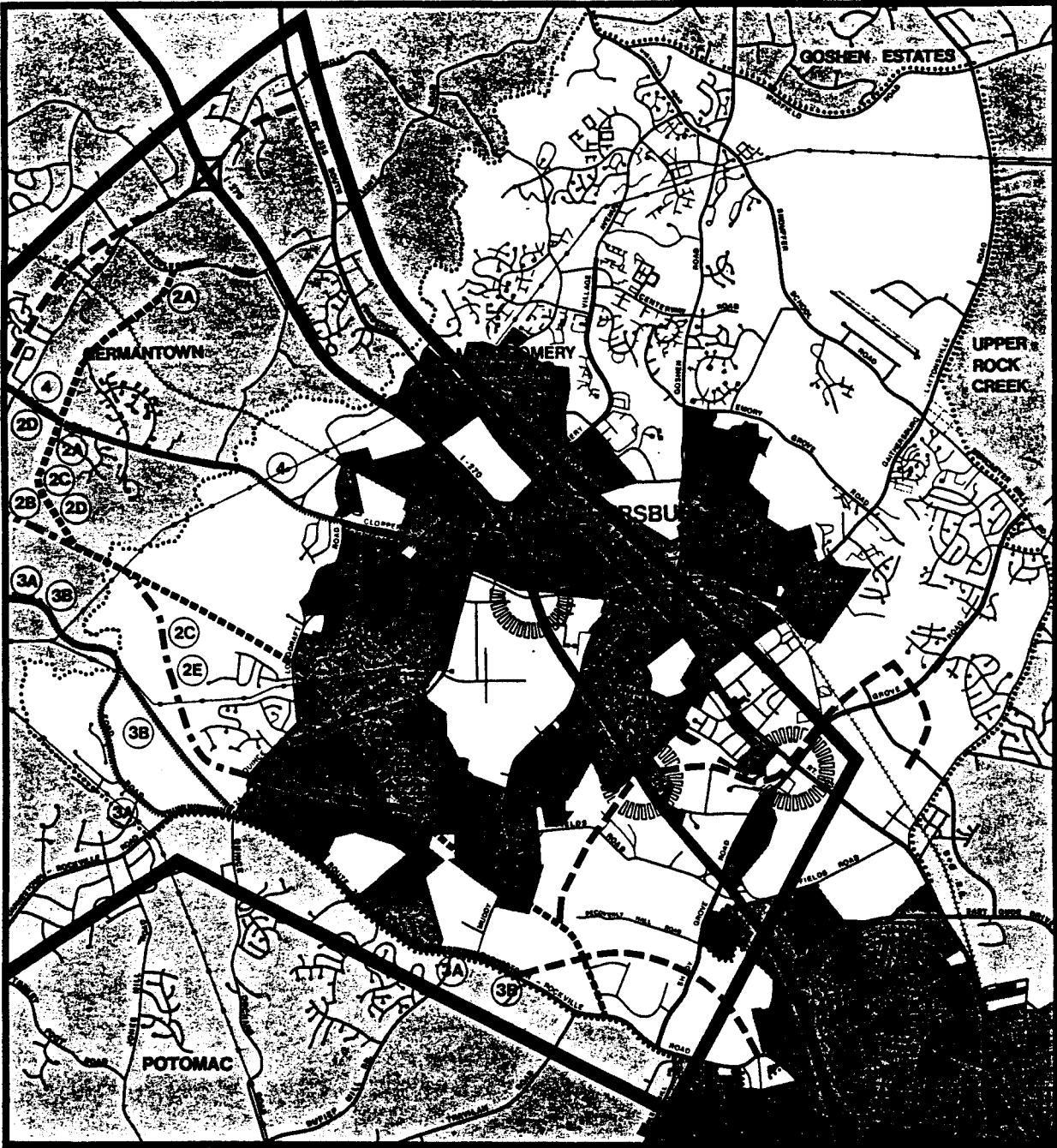
Funds for the construction of Great Seneca Highway are in the current CIP and are presently in the project planning stage. This roadway is needed to provide parallel access to I-270 and will accommodate traffic from the continued residential and employment growth on the west side of the I-270 Corridor. Thirteen residential subdivisions containing 7,214 dwelling units have been approved based on this roadway being in the CIP. The alignments currently contained in the project planning study are shown on page 11.

#### Quince Orchard Road (MD 124)

Quince Orchard Road is programmed for upgrading between Clopper Road (MD 117) and MD 28 to provide additional capacity and relieve safety problems. The adjacent portion of the city of Gaithersburg has experienced considerable residential and employment growth. Also, the proposed General Electric Information Services Company (GEISCO) office complex will be located adjacent to Quince Orchard Road. This roadway improvement will be a joint effort by the state, the County, the city, and GEISCO.

#### Muddy Branch Road

Muddy Branch Road is programmed for improvement and realignment between MD 28 and MD 117. The Federal Highway Administration recently gave location approval for the alternative which corresponds to the Master Plan location. Developers of subdivisions in the city of Gaithersburg will construct portions of the roadway adjacent to their properties.



**GREAT SENECA HIGHWAY ALIGNMENTS**

.....	PLANNING AREA BOUNDARY	▬	LIMIT OF GREAT SENECA HIGHWAY STUDY AREA
▬	MUNICIPALITIES	▬	MASTER PLAN ALIGNMENT (2A)
		▬	MODIFICATIONS TO MASTER PLAN ALIGNMENT (2B, 2C, 2D)
		▬	WIDENING OF EXISTING ROADS (ALTERNATES 3A, 3B, 4)
		▬	OTHER MAJOR ROADS PROPOSED IN STUDY AREA

NOTE: ALIGNMENTS SHOWN ARE APPROXIMATE

**GAITHERSBURG VICINITY MASTER PLAN** — Final Draft  
 Montgomery County, Maryland — SEPTEMBER, 1983



## Future Transportation Directions

A critical issue that was raised by citizens of the Gaithersburg area is whether new highways are needed in light of the current energy situation. Local and national evidence, as well as the widespread professional judgement of transportation planners, indicates that the need for highway improvements will not be lessened to any significant degree by short-term energy shortages or the long-term national response to the energy problem.

After an analysis of the cost and availability of gasoline, it was concluded that there will be a continuing demand for vehicular trips. In particular, this analysis indicates that:

- (1) Peak hour work trips will be least impacted by the energy situation and ultimately, it is these trips that determine the need for highway capacity;
- (2) Increased cost of energy will be offset by the mandated and market trend to more energy-efficient cars;
- (3) The ability of transit to increase its ridership due to energy shortages and price increases is limited by its capacity, routes, and frequency of service. Overall, there is no decrease in the need for road improvements such as I-370 (which will provide improved vehicular access to the Metro station and Midcounty Highway); and
- (4) Existing population and potential growth create the need for both road improvements and transit opportunities.

We learned at least four lessons from analyzing the two energy crises and the recent non-crisis years. During the 1973/1974 energy crisis, one basic public response was to reduce discretionary travel (such as shopping and social trips) to a significantly greater degree than to reduce automobile travel for work-related purposes. This resulted in a larger percentage decrease in daily travel rather than peak period travel. The United States Department of Transportation's news releases on national traffic trends showed that there was a similar response to the most recent gasoline shortage in 1979. Given this observation, we concluded that while short-term responses to energy shortages would decrease in Average Daily Trips (ADT), the peak hour requirements would still require the full capacity forecasted for roadway improvements.

A second lesson learned was that the major factor causing people to change their transportation behavior was gasoline availability, not cost. It is the "hassle factor" and the uncertainty of getting any gasoline that causes people to reconsider where, when, and how they travel, or whether to travel at all. The major price changes for gasoline in 1973/1974 and 1979, by themselves, have had marginal impact on increasing conservation or in getting people to ride transit or to carpool. During the period 1974-1979, while the nominal price of gasoline increased somewhat, the cost in constant dollars declined relative to the Consumer Price Index (CPI). This had the effect of continuing the historic trend of having cheap energy available for personal transportation, while at the same time was counter-productive to fostering greater utilization of transit.

Another response to the energy situation was a marked switch to more energy-efficient cars. To some degree, this has been interdependent with national policy efforts and with specific legislation requiring new cars to average 27 miles per gallon by 1985.

The net effect in the short and long term will be that people will drive more energy-efficient cars, thereby keeping travel demand high while conserving gasoline at the same time.

A final lesson learned, in part from these energy shortages, was that people who wished to shift their travel to transit were limited by the capacity of the transit system, especially in the peak period. The general response in the Washington metropolitan area and in many other metropolitan areas in 1973-74 was that transit ridership increased by about 10 percent. The ridership statistics, both locally and nationally in 1979, showed short-term ridership gains on transit on the order of 20 percent. The number of bus trips and frequency of service on many of the major routes provided by the various transit authorities generally have a very direct relationship to the "normal" transit ridership. Most service standards are such that the amount of peak period service which is provided allows for a certain percentage of standees, often as high as 40 percent, before additional bus services are added. Consequently, most transit services have little slack capacity to handle short-term ridership increases, especially during the peak periods.

## HIGHWAY ALIGNMENTS

The Plan recommends changing the alignment of several of the major highways from those on the 1971 Master Plan. The proposed realignment of Quince Orchard Road (MD 124) has been previously changed from that shown on the 1971 Master Plan. Some changes recommended in this Plan reflect changes within the city of Gaithersburg, some are based on recommended changes in land use, and some are made due to a more detailed study of the individual highway alignments through this planning process.

In the Airpark Area, proposed changes in the alignments of M-21 and A-267 reflect the changes made by the city of Gaithersburg in its subdivision approvals in that area. The alignment of Oden'hal Avenue was also changed to provide a safer intersection with Goshen Road. The development plan for Montgomery Village has been amended to reflect this change.

In the Shady Grove West area, there is a number of proposed changes in road alignments. These changes respond to changes in land use, the identification of potential historic sites, and to the policy of protecting stream valleys. These alignments are subject to change during the subdivision process or as a result of the project planning studies now underway on several of the roadways in the area.

The recommended alignment of I-370 between I-270 and MD 355 has changed as a result of the project planning study on that highway. The alignment recommended by this Plan avoids the apartment buildings built in the alignment shown on the 1971 Master Plan. The alignment passes closer to the Rosemont subdivision and north of the cul-de-sac of Industrial Drive. Thus, less residual land is left north of the I-370 alignment.

The recommended alignment of Key West Avenue Extended south of Shady Grove Road is also changed from that in the 1971 Master Plan. It passes to the east of a parcel of land in the Thomas Farm District located in the Shady Grove West area, rather than passing through its center.

The proposed interchange at Muddy Branch Road/I-270 and the link of I-370 between Great Seneca Highway and MD 28 shown in the 1971 Master Plan are deleted from this Plan. The Muddy Branch Road interchange has been deleted because it does not meet

current federal standards for distances between interchanges. The I-370 link between MD 28 and Great Seneca Highway has been determined to be unnecessary as other planned roadways are sufficient to carry the projected traffic.

## B. OVERVIEW OF TRAFFIC FORECAST MODEL

Traffic forecasts are an integral part of the planning process. Traffic forecasts are projections of traffic volume on existing and future roadways based on future land uses. Forecasts for the major roadways in the Gaithersburg area reflect the land uses proposed in this Plan.

The overall approach for developing traffic projections for the Gaithersburg area follows the technique developed by the MDDOT for the I-370 project planning study. This approach starts with region-wide traffic volumes which are then "broken down" into smaller sub-areas.

Aggregate traffic volumes for the region were obtained from the Metropolitan Washington Council of Governments (COG) regional traffic simulation model, TRIMS (Transportation Integrated Model System). These overall traffic volumes assume various roadway improvements and reflect regional forecasts of household and employment growth. These overall traffic volumes were then broken-down by smaller sub-zones (see map on page 15) according to the amount of employment and residential activity forecast for the sub-zones. There are 86 internal and 24 external sub-zones in the Gaithersburg Vicinity Master Plan Area. (For comparison, the I-370 project planning study area has 42 internal sub-zones and 18 external sub-zones).

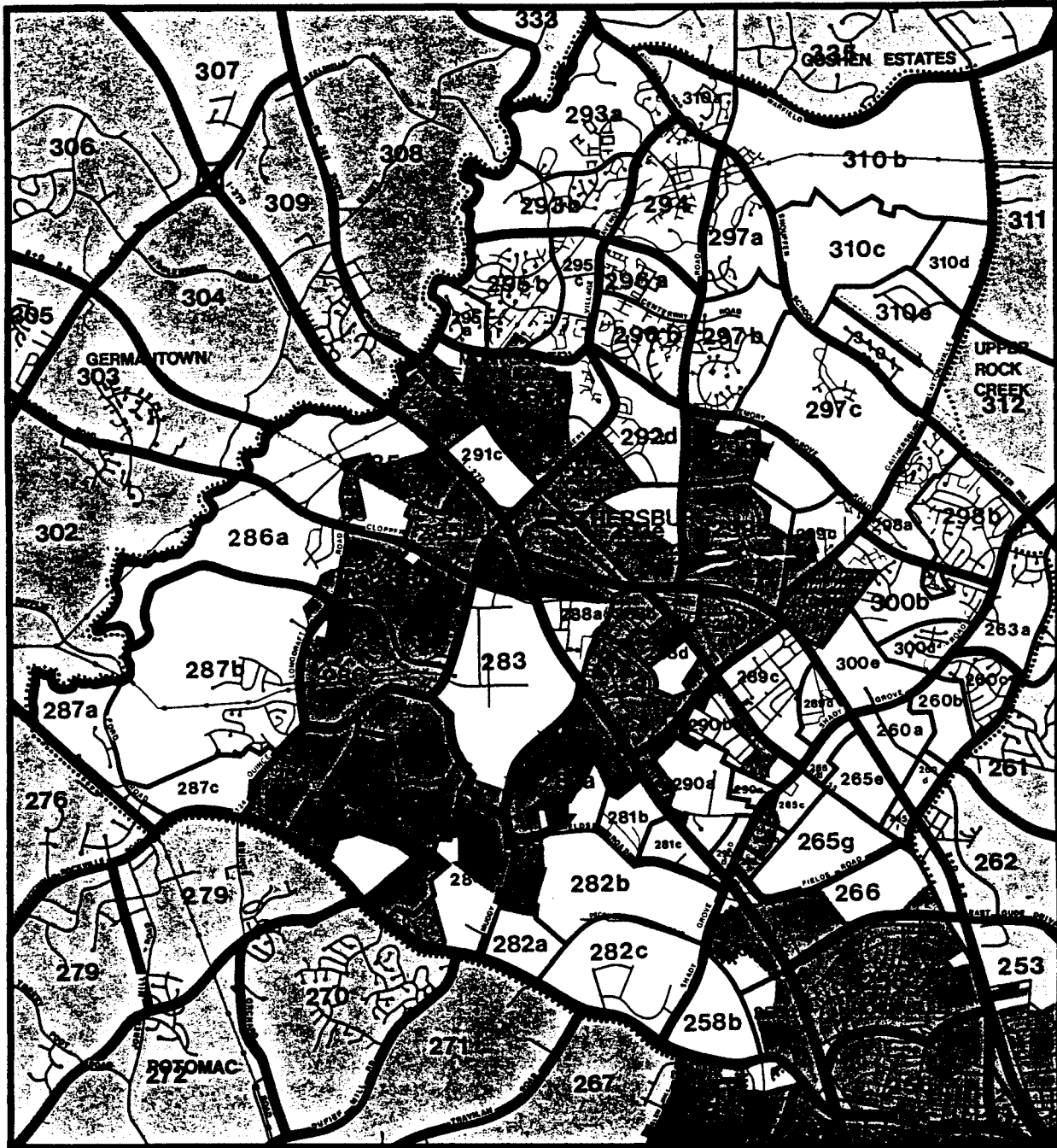
The traffic capacity of major master planned roadways was then estimated. A list of the key roads incorporated in the model and the number of lanes assumed is shown in Table B. The traffic forecasts are based upon I-270 as an 8-lane freeway and the Intercounty Connector. A series of alternate paths was then established for traffic movements between the 110 traffic sub-zones. Approximately 8,000 individual trip paths were developed for the Gaithersburg Vicinity Area. The number of trips between each of the 110 traffic sub-zones was determined to develop a sub-zone trip table. (See the detailed discussion below.) Those trips were then assigned to the corresponding path between the zones, and the traffic volumes were accumulated by the computer.

An analysis was carried out to see if the capacity of each of the various paths was exceeded. "Hand adjustments" were made to those paths which had volumes in excess of that particular route's capacity. This adjustment diverted trips to alternate paths with available capacity. If the available capacity on the alternate paths was still exceeded by the projected traffic volumes after adjustment, then additional roadway improvements or modifications of the area land use recommendations were made to the Plan. This process is detailed further below.

### Specific Procedure for Trip Table Generation

The following procedures were taken for developing the sub-zone trip table:

- Step 1 Obtain district level trip table for Designated Year (DY) from COG. Obtain district level land use forecasts for DY for households and employment.
- Step 2 Set up equivalency list between COG district and sub-zones level.



**TRAFFIC ANALYSIS ZONES**  
 ..... PLANNING AREA BOUNDARY  
 MUNICIPALITIES  
 TRAFFIC ZONE BOUNDARY  
 TRAFFIC ZONE SUB-AREA BOUNDARY

**GAITHERSBURG VICINITY MASTER PLAN** —  
 Montgomery County, Maryland

**Final Draft**  
**SEPTEMBER, 1983**

Step 3 Determine land use projections for employment and households at the sub-zone level.

Step 4 Develop internal-to-internal sub-zone trip table.

4a) Divide district P-A trip table in half because

$$\frac{1}{2} (P-A) + \frac{1}{2} (P-A)^T = O-D$$

Where: P-A: Production - Attraction

O-D: Origin - Destination

T: Transpose

4b) Divide Land Use projections for zones by Land Use projections for districts to get "Percent Land Use for each zone within the district." Do this step separately for households and employment.

4c) Multiply the  $\frac{1}{2} (P-A)$  district trip table by the "Percent Land Use for each zone with the district." For each zone-to-zone pair, the corresponding district trips are multiplied by the percent of households, then the percent of employment land uses for those two zones within the corresponding district.

4d) Take the transpose of this new zone-to-zone trip table.

4e) Add new trip table to transpose to arrive at the final internal-to-internal zone trip table.

Step 5 Develop external-to-internal trip table

5a) Identify COG node number/links corresponding to externals at zone level.

5b) Using Select Link Data from COG TRIMS runs, determine the number of trips on each external link destined to/originating from zones internal to the study area.

5c) From Land Use projections for zones develop the "Percent Land Use for each zone within the COG zones." Multiply households in each zone by 10, employees in each zone by 5 and sum together. Then divide these numbers for each zone by the total for the COG zone.

5d) Multiply these "Percentages of Land Use projections for zones" by the number of trips to each COG zone to determine the number of trips to each zone.

5e) Reverse table to get internal-to-external trip table.

Step 6 Develop external-to-external trip table.

6a) Follow steps (5a) and (5b), except find the number of trips to external COG zones instead of internal COG zones.

- 6b) For each external COG zone, estimate the percentage of trips traveling through the Study Area using each pair external links to access the external COG zone.
- 6c) Multiply percent trips using external link pairs times the number of trips destined/originating from the external COG zone.
- 6d) Sum up the total number of trips using each external link pair.
- 6e) Take half of the external to external trip table.
- 6f) Take the transpose of the table resulting from Step (6e).
- 6g) Sum the transpose trip table (Step 6f) to the non-transpose (Step 6e) to obtain final trip table for external-to-external trips.

Assumed Roadway Capacity and Screening Criteria

The following ADT volumes were used as the assumed roadway capacity for the different roadway classification in the Gaithersburg Vicinity Master Plan. These ADT volumes are the base service volumes at LOS "D", conditions of unstable flow, of the Highway Capacity Manual.

Daily Roadway Service Volumes Used in the Plan

Number of Lanes	With No Left Turn Lanes	With Left Turn Lanes	Divided Roadway	Freeways
2	10,000	13,000	-	-
4	21,000	27,000	30,000	54,000
6	33,750	42,000	47,000	82,500
8	46,000	54,000	60,000	105,000

Most of the daily traffic volumes projected for the Gaithersburg area assumed full land use development and master planned roadways were less than these base service volumes shown in the above table. However, certain roadways such as Muncaster Mill Road and Fields Road have projected traffic volumes which exceed these service volumes. In reviewing these conditions, the following two criteria were used:

- 1) If the projected traffic volume on a link exceeded 25 to 50 percent over the daily roadway service volume, then careful review was given to the land use recommendations to see if modifications on the land use could be made which would have resulted in less impact; and
- 2) If the projected volume exceeded 50 percent over the daily roadway service volume, then reduction of the impacted area's development intensity was made or additional roadway improvements were recommended by the Plan to lower the projected volume less than 50 percent.

The above criteria were developed in reviewing the service volume at LOS "E", conditions of unstable flow, of the Highway Capacity Manual and the midpoint LOS "E" concept used in the CPP. Since the service volumes at LOS "D" were used as the assumed roadway capacity in the Gaithersburg Plan, use of the above criteria was necessary to review the reasonably allowable traffic conditions consistent with the CPP. For a comparison of daily roadway service volumes used in the Gaithersburg Vicinity Master Plan and in the CPP Transportation Model, the following table was developed to show the ADT volumes 50 percent over service volume at LOS "D" used in the Gaithersburg Vicinity Plan and the ADT volumes at midpoint LOS "E" used in the CPP.

Comparison of ADT Volumes Used in the Gaithersburg Vicinity Plan and CPP

Number of Lanes	With No Left Turn Lanes		With Left Turn Lanes		Divided Roadways		Freeways	
	Plan	CPP	Plan	CPP	Plan	CPP	Plan	CPP
2	16,970	15,000	N/A	19,500	-	-	-	-
4	33,200	31,500	41,200	40,500	44,640	45,000	77,750	81,000
6	N/A	50,625	N/A	63,000	67,000	70,500	116,650	123,750
8	N/A	69,000	N/A	81,000	N/A	90,000	155,500	157,500

As shown in the above table, the criteria of 50 percent over service volume at LOS "D" used in the plan is generally equivalent to the criteria of the midpoint LOS "E" ADT volumes used in the CPP. Also a review of observed traffic in the Montgomery County roadways reveals daily traffic volumes higher than 50 percent over the service volume at LOS "D" used in the plans for comparable roadways. Therefore, the analytical approach and the criteria being used in the Plan for balancing roadway capacity and land uses for the Plan is fair and reasonable.

It has been a general practice to review the ADT volumes at roadway links in this size of master plan analysis than the peak hour volumes at intersection level. The traffic demand forecast on the roadway link is considered as more reasonable analytical approach in the master plan analysis since the finer intersection-level traffic analysis can be done at a later stage during the development review process.

**C. HOUSING**

A principal planning and development objective of the Gaithersburg Vicinity Plan is to provide the opportunity for people to live and work in the same community. This can be achieved by:

- Providing a wide range of housing of various types, sizes, and price ranges for a representative cross section of the community;
- Providing adequate, suitable land for housing development in close proximity or readily accessible to employment opportunities; and

• Providing housing and supporting retail and service facilities that are compatible with existing communities.

During the past two decades, the Gaithersburg area emerged as the fastest growing section of the County. Located within the I-270 Corridor, it serves as a major receiving area for the County's continuing suburban growth. Appropriate zoning regulations, large tracts of land suitable for development, and adequate urban infrastructure (existing and programmed) have stimulated production of reasonably priced housing, especially attractive to first-time homebuyers. The area has also benefited from substantial industrial development, much of it being high technology firms representing the vanguard of new American economic growth. These firms provide numerous job opportunities for the Gaithersburg area's resident and future population.

The rapid pace of the Gaithersburg area's growth has slowed during the last two years, essentially due to the current economic recession and to the widened inability of households to afford new housing. The latter, aside from inflation-fed prices for new housing, has been caused by sharp rises in mortgage interest rates, substantially raising monthly carrying costs for prospective homebuyers. Most recent mortgage rate reductions have spurred an upturn in area homebuilding activity, and the Gaithersburg area is once again expected to lead the County's new housing production gains.

To meet the existing needs for affordable housing in the County and also to provide housing for employment gains in the I-270 Corridor, the Plan encourages the development of more affordable housing, represented by townhouses and condominiums. The Plan further encourages that public facilities needed to serve new residential development be provided in a staged, orderly fashion.

### Population and Housing Trends

Between 1950 and 1970, Montgomery County's population grew from 164,401 to 522,810. Population growth during the 1970's, however, fell substantially to an average annual rate of only 5,600, less than one-third the annual rate of the previous two decades.

Contrary to the general County experience, population in the Gaithersburg market area during 1970-80 increased from 22,100 to 61,667, reflecting a 179 percent growth, as compared to a 10.8 percent growth for the entire County. (See Tables C and D.) The I-270 Corridor, of which Gaithersburg is the largest component, emerged as the County's major growth area.

As indicated previously, the Gaithersburg area has provided an abundance of sites for new, moderate-cost housing. Not only has the area served to house employees of the new employment centers in the I-270 Corridor, but it has also provided a major avenue for the County's on-going suburban growth. During the 1970-80 period, the Gaithersburg area captured 70 percent of the total County population increase. This substantial capture resulted not only from the nearly 40,000 population gain within the Gaithersburg area but, equally important, from the large scale population losses which occurred within the County's inner-suburban ring, represented by such areas as Bethesda, Silver Spring, and Wheaton.

During 1970-80, the Gaithersburg housing inventory grew from 7,114 units to 22,824 (a gain of 15,710 units), representing an annual average increase of nearly 1,600 units.



TABLE C  
 POPULATION IN GAITHERSBURG AREA  
 AS COMPARED TO MONTGOMERY COUNTY: 1960-80

	<u>1960</u> <u>Population</u>	<u>1970</u> <u>Population</u>	<u>1980</u> <u>Population</u>
Montgomery County	340,300	522,810	579,053
Gaithersburg Area	7,600	22,100	61,667
Percent Market Area to County	2.2%	4.2%	10.7%

Source: 1960, 1970, and 1980 U.S. Census of Population.

TABLE D  
 TRENDS IN POPULATION GROWTH FOR THE GAITHERSBURG AREA  
 AS COMPARED TO MONTGOMERY COUNTY: 1960-80

	<u>Increase in Population</u>		
	<u>1960-70</u> <u>Population</u>	<u>1970-80</u> <u>Population</u>	<u>1960-80</u> <u>Population</u>
<u>Montgomery County</u>			
Number	181,510	56,243	238,044
Percent Increase	53.6%	10.8%	70.2%
<u>Gaithersburg Market Area</u>			
Number	14,500	39,566	54,066
Percent Increase	190.8%	179.0%	711.3%
Percent of County Increase	8%	70.4%	22.7%

Source: 1960, 1970, and 1980 U.S. Census of Population.

This gain represents nearly 35 percent of the total 1970-80 inventory gain for the entire County. During the previous decade of the 1960's, the Gaithersburg area housing increase amounted to only 6.1 percent of the total County housing inventory gain.

Housing gains for the Gaithersburg area and for the entire County during the 1970's were irregular in pace, primarily reflecting the adverse impacts of the 1973-75 recession. During 1974-75; building permit activity for the entire County dropped below 2,000 units a year. This low-point of permit activity is compared to 1971-72, when County building permit activity amounted to over 10,000 units annually. Residential building permit activity in the County rose steadily after 1975, and the Gaithersburg area homebuilding activity reasserted itself by claiming an increasing share of total County activity.

During 1970-74, the Gaithersburg share of total County housing construction amounted to 32 percent; during 1974-78, the Gaithersburg share increased to 41 percent. During 1980-81, however, the Gaithersburg area completions diminished to 33 percent of total County activity. This reduction did not reflect declines in Gaithersburg production levels; rather, the decrease was due to increased production in other parts of the County, notably within the Fairland/White Oak Area.

#### Changes in Population Characteristics

The most outstanding demographic change in Montgomery County has been the substantial decrease in average household size, which fell from 3.65 persons in 1960 to 3.30 person in 1970, and to only 2.77 persons in 1980. Although County population increased by only 10.8 percent during the 1970's, household growth increased nearly threefold over population, by 32.2 percent.

Reduced average household size has resulted from a number of demographic dynamics. These include an increasing incidence of "empty nest" households among those over 50 years of age (the near-elderly), an increasing incidence of smaller, non-family households, postponement of childbearing, and residual households comprising widows, widowers, and those divorced. Perhaps the largest single dynamic has been the very large increase in the number of single person households. In 1970, single person households constituted 13.5 percent of dwelling unit residents; by 1980, the percentage had increased to 21.0 percent. This is a proportional increase of 55.6 percent over the 10-year period.

In 1980, the Gaithersburg area contained 22,824 dwellings, of which 51 percent were multi-family rentals (principally garden and high-rise apartments), and condominium units. This percentage was substantially higher than the total County share of multi-family units, which was 33 percent.

The median age of residents in the Gaithersburg area is 26.4 years, considerably lower than the County-wide median of 32.1, indicating that the area has been serving as a major receiving area for new suburban growth which attracts large numbers of first-time homebuyers and new households seeking moderate-price rentals. (See Table E.) There is also a higher percentage of population under 10 years of age, indicating the presence of younger families with children. This age profile is consistent with the presence of larger than average household sizes among homeowners in the Gaithersburg area. Parallel with this is the substantially lower proportion of persons aged 55 and over. All of the foregoing, as suggested earlier, describe Gaithersburg fulfilling a typically suburban

TABLE E  
 PERCENTAGE DISTRIBUTION BY AGE, 1980 POPULATION,  
 GAITHERSBURG AREA AND MONTGOMERY COUNTY

Age Group	Montgomery County (Percent)	Gaithersburg Area (Percent)
0 - 4	5.8	8.5
5 - 9	6.6	8.0
10 - 14	8.5	8.5
15 - 19	8.8	7.8
20 - 24	8.0	10.2
25 - 34	17.4	25.1
35 - 44	14.1	14.5
45 - 54	11.9	8.3
55 - 64	10.1	4.8
65 & over	<u>8.8</u>	<u>4.3</u>
Total	100.0	100.0
Median Age	32.1	26.4
Percent Population under 20	29.7	32.8
Percent Population 55 & over	18.9	9.1

Source: 1980 Census; unpublished tabulation of Research Division, MCPB.

Note: Montgomery percentages based on total population; Gaithersburg on household population. Only 287 persons in Gaithersburg in group quarters, as compared to nearly 62,000 household population.

growth function, i.e., attracting many first-time homebuyers and renters, particularly those with young children or who are ready to start childbearing.

### Effects of Increases in Housing Prices and Interest Rates

National housing statistics have described a steady rise in the cost of new and existing housing. Between 1971 and 1981, the median price of a new house in the United States rose from \$25,200 to \$68,900, and from \$24,800 to \$66,400 for existing houses. For new houses, the percentage increase during the 10-year period amounted to 173 percent, and for existing homes, 168 percent. During that same period, the CPI for the nation increased by 124.5 percent. Median prices for new housing, therefore, rose 40 percent more rapidly than costs of all consumer items. This price rise differential, in itself, has contributed to widening the affordability gap, i.e., the decreasing proportion of householders who can afford a median-priced house.

The affordability gap takes on additional dimensions in the Washington metropolitan area market because of its higher housing prices, as compared to housing prices in other major metropolitan area markets. During the first quarter of 1982, according to the National Association of Homebuilders (NAHB), which cites data collected by the Federal Home Loan Bank Board (FHLBB), the average cost of new and existing houses financed in the Washington metropolitan area was \$123,400, as compared to a corresponding average of \$90,700 for all of the 32 metropolitan markets that the FHLBB surveyed.

Two reservations are required with regard to the Washington metropolitan area's housing market. Washington area household incomes are higher than in many other of the nation's housing markets, and this tends to offset the higher price levels. Also, the Gaithersburg area has been characterized by more modest housing prices which have been achieved through the high proportion of townhouse development.

During the last several years, however, the most critical factor for widening the affordability gap has been the high levels of mortgage interest rates. In November 1981, Washington area rates had peaked at approximately 18 percent. More recently, as the result of the current recession and a diminished demand for credit from business, industry, and consumers, the prevailing mortgage interest rates have dropped substantially. Prevailing conventional (non-FHA and VA) interest rates dropped to approximately 13.2-13.5 percent by February 1983.

The NAHB has estimated (based upon its analytical model, which presumes a new home purchase with a \$60,000, 30-year term, 13.5 percent interest mortgage) that less than 15 percent of the nation's households can afford to buy a home on the basis of paying one-fourth of income for housing expenses, which includes principal and interest mortgage payments, real estate taxes, hazard insurance, and utilities. The affordability percentage rises to about 27 percent on the basis of payment of one-third of household income for these housing costs.

Studies by the Research and Special Projects Division, Montgomery County Planning Board suggest that prospective homebuyers are somewhat economically better off than those for the nation as a whole. On the basis of a \$77,000, 14 percent, 30-year term mortgage for a \$102,500 home, it is estimated that approximately 22 percent of County households could purchase a home on the basis of paying one-fourth of income for housing costs.

TABLE F  
 DWELLING UNITS AND POPULATION  
 GAITHERSBURG AREA AND MONTGOMERY COUNTY  
 1970, 1980, 1985, 1990

	1970	1980	1985	1990
Gaithersburg Area				
Dwelling Units	7,114	22,824	28,024	32,774
Population	22,101	61,667	73,700	82,500
Montgomery County				
Dwelling Units	161,303	206,793	226,893	249,393
Population	522,810	579,053	587,000	622,000

Source: U.S. Census and also Research and Special Projects Division, Montgomery County Planning Board; 1985 and 1990 estimates are "high scenario" computations, based upon higher rates of population and housing gains.

TABLE G  
 DWELLING UNITS AND POPULATION INCREASES  
 GAITHERSBURG AREA AND MONTGOMERY COUNTY  
 1970-80, 1980-85, 1985-90

	1970-80	1980-85	1985-90
Gaithersburg Area			
Dwelling Units	15,710	5,200	4,750
Population	39,566	12,033	8,800
Montgomery County			
Dwelling Units	45,490	20,100	22,500
Population	56,243	7,947	35,000
Gaithersburg as a Percent of County			
Dwelling Units	34.6%	25.9%	21.1%
Population	70.3%	151.4%	25.2%

Source: U.S. Census and also Research and Special Projects Division, Montgomery County Planning Board; 1985 and 1990 estimates are "high scenario" computations, based upon higher rates of population and housing gains.

## Future Projections

The continued expansion of employment opportunities in the I-270 Corridor and availability of land for new residential construction will continue to support population and housing increases in the Gaithersburg area. Several major employers have recently established new facilities in the I-270 Corridor or have announced intentions to do so. Among these are GEISCO, Digital Communications Corporation, and the Bendix Corporation. Increases in retail and service jobs will run parallel to the Gaithersburg area's population growth.

In-migration of new residents, as contrasted to natural increases of current residents, is expected to be the major source of the Gaithersburg area's population growth. During the 1970's, almost 70 percent of its population increase was the result of in-migration of new residents. Population is expected to increase by nearly 21,000 persons between 1980-90. During the same period, the housing inventory is expected to grow by nearly 10,000 units; most will serve in-migrant households. (See Tables F and G.)

For the Gaithersburg area, the forecasted population growth between 1980-90 suggests an increase of 34 percent. Housing unit (household) growth should register a 43 percent increase during the same period. The latter projection is derived from continuing decreases in average household size, a characteristic of maturing suburbs. During this period, the Gaithersburg area is expected to provide about 23 percent of the County's growth in housing stock, but 49 percent of the County's population growth. The substantially larger population share is attributable to a continuing declining population in the older, mature suburbs of the County, with a fairly static housing inventory and a continuing reduction in average household size in these areas.

The Gaithersburg area, as of 1982, had issued sewer authorizations to accommodate a total of nearly 12,000 dwelling units. This should readily accommodate the forecasted growth of 10,000 additional units. Thus, the Gaithersburg area should be able to continue to serve substantial portions of total County growth needs.

## D. ECONOMIC DEVELOPMENT

The employment characteristics of the Gaithersburg area were first studied in 1978. (See Ten Year Market Analysis, 1978-1988, of the I-270 Market Area, Planning Board, Research Division.) This section summarizes this report and updates the Market Study on the basis of post-1978 changes and developments. The Gaithersburg Market Area includes the Gaithersburg area and a portion of the city of Rockville.

As described in the Housing section, the Gaithersburg area has developed during the last two decades into the fastest growing section of the County. To reiterate, during the 1970-1980 decade, the Gaithersburg area registered a 179 percent population growth, as compared to a 10.8 percent growth for the County. This accounted for 70 percent of the total County population increase. During the same period, dwelling unit production in the area constituted over one-third (35 percent) of total County housing growth. The much larger proportional population gain reflects substantial declines in down-County areas during the same period.

Paralleling the above residential growth has been the Gaithersburg area's rapid expansion in industrial and services/retail employment. The new area jobs have been

filled both by area residents and by commuters from elsewhere in or outside the Washington metropolitan area, with the latter notably from the Frederick County area.

### Recent Trends in the Office Market

During the 1960's, several federal agencies and high technology firms elected to locate in the Gaithersburg area. This established the area's identity as a preferred site for such development. The National Bureau of Standards and IBM were in the vanguard, and others rapidly followed. The I-270 Corridor has, within a relatively short period of time, become a center for advanced technology industries, professional firms serving national and international markets, and federal agencies concerned with highly technical and advanced scientific programs and services.

Paralleling this development has been the rapid, large-scale suburban development of the Gaithersburg area. This consumer base of new suburban households has, in turn, attracted the professional, service, and retail functions that serve such development. These firms and professionals have been accommodated in an expanded inventory of office and retail space. Parallel warehouse development also has responded to the storage, distributive, retailing, and infant-industry development needs of the area. Table H shows the office, manufacturing and warehouse inventories, and retail employment in the Gaithersburg area in 1978 for each of five market sub-areas, shown on page 29 .

During the 1970's, other parts of the County and the Washington metropolitan area also attracted high-technology firms and establishments. Despite this competition, the Gaithersburg area continues to exercise great appeal for firms and installations that seek a high quality locational image.

The employment needs of new firms and businesses in the Gaithersburg area have been served by a highly educated and skilled labor pool. Shortages of skills and occupations will be filled, as they have been in the past, by in-migrants from elsewhere in the metropolitan area or from outside.

Industrial and commercial development in the Gaithersburg area have contributed to Montgomery County's increased ability to provide jobs for its residents. During the 1970-1980 decade, the proportion of County residents who both lived and worked in the County increased from 52 to 58 percent. This figure was even higher for the Gaithersburg area. A 1981 survey found that 74 percent of Gaithersburg area residents worked within the County, with 35 percent of those residents working within the Gaithersburg area itself.

Montgomery County has enjoyed a favorable employment position within the entire Washington metropolitan area economy. Its share (by place of employment) of total metropolitan area jobs grew from 15.6 percent in 1970 to 17.8 percent by 1980. The greatest growth in County-based jobs occurred in services, with 41 percent of total jobs gained between 1978 and 1980 occurring in that sector. Jobs in wholesale and retail trade grew by 16 percent during that same period. Governmental employment between 1978-1980 grew by 16 percent; this sector of employment, however, has been declining in the combined area of Montgomery-Prince George's-Charles Counties since 1980, according to the Maryland Department of Human Resources.

The 1978 report of the Montgomery County Economic Development Advisory Board, Montgomery County's Economy: Current Problems and Economic Development Potential,

identified several constraints to the growth of existing firms and the attraction of major new companies. Three of the major constraints identified were: inadequate transportation services, a climbing tax rate, and rising housing costs.

A subsequent report by the same Board, Initiatives for Economic Progress, (1979) focused upon prospective economic development in the Shady Grove Study Area. The following sets forth salient findings of that report:

There is a serious lack of coordinated implementation planning for public facilities by local, state and federal government agencies to serve the public and to accommodate both public and private major developments.

While our County is investing enormous resources into comprehensive planning, the net result is that some private development seeking approval for construction is now in jeopardy of being denied based on the County's Adequate Public Facilities Ordinance. These denials are due to deficiencies in public facilities which are not being built by the government in support of its own master plans.

The Study Area includes property under the jurisdiction of Montgomery County and the cities of Rockville and Gaithersburg. Each of these political entities has different development policies and regulations. For example, a project which could not be constructed within the County's jurisdiction due to inadequate public facilities can be constructed in either of the two cities. This results in serious inconsistencies in government service to the public.

Clearly, if the Gaithersburg area's previous pace of economic development is to continue, the County must assure the timely provision of corollary facilities, especially, improved highway capacity to serve the I-270 Corridor.

#### Future Projections

The development potential of industrially-and office-zoned vacant land in Gaithersburg is estimated in Table I.

The Gaithersburg area continues to enjoy availability of vacant, industrially-zoned land. There are 1,662 acres of vacant land within the Gaithersburg Market Area which are available for office or industrial uses. The vast majority of this acreage is located in the Shady Grove Road area, on both sides of I-270.

Table J indicates by traffic zone (see map on page 31) the number of square feet of office and research and development facilities in the Shady Grove Road area that are existing, approved for development, currently proposed for review, and could be developed in the future. Projections of the number of employees have been made on an average of 250 square feet of floor area per employee. These figures describe where projects are in the development approval process, but do not indicate a time for their actual construction and completions.



TABLE H  
 EXISTING OFFICE, MANUFACTURING AND WAREHOUSE DEVELOPMENT  
 GAITHERSBURG MARKET AREA, 1978

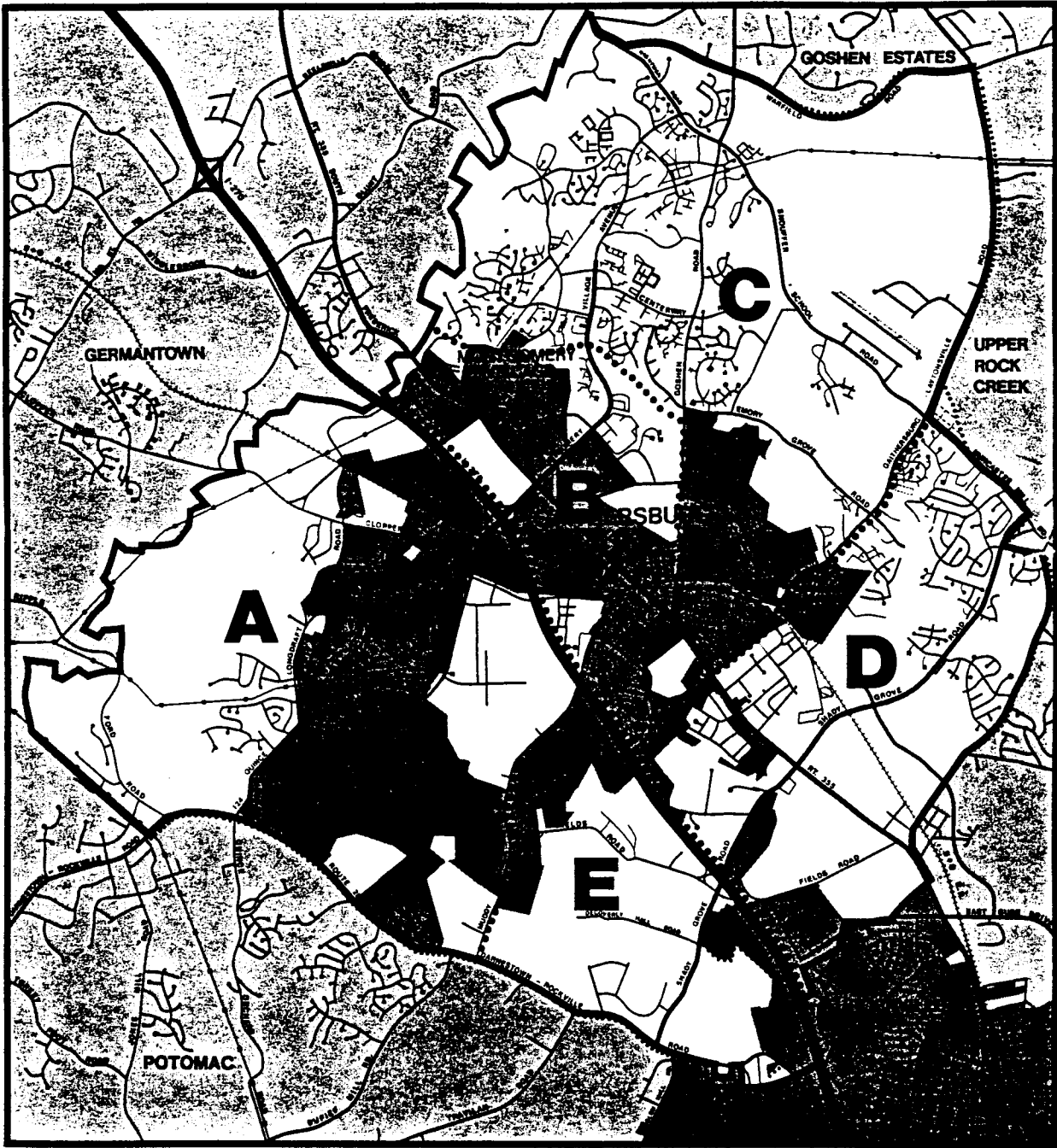
Market Subareas	Square Feet	Estimated Employees
A	256,400	10,470
B	595,300	7,040
C	296,800	3,230
D	2,609,700	7,690
E	<u>1,388,200</u>	<u>3,130</u>
TOTAL	5,146,400	31,560

Source: Ten Year Market Analysis (1978-1988): I-270 Market Area, M-NCPPC, November 1980.

TABLE I  
 DEVELOPMENT POTENTIAL OF INDUSTRIALLY-AND OFFICE-ZONED  
 VACANT LAND (1978)  
 GAITHERSBURG MARKET AREA, 1978

Market Subareas	Acres	Square Feet	Estimated Employees
A	347.8	1,560,080	6,783
B	102.2	477,740	2,077
C	324.7	3,842,850	16,708
D	351.4	4,371,260	19,006
E	<u>536.1</u>	<u>1,805,160</u>	<u>7,848</u>
TOTAL	1,662.2	12,097,090	52,422

Source: Ten Year Market Analysis (1978-1988): I-270 Market Area, M-NCPPC, November 1980.



**GAITHERSBURG MARKET AREA**

- ..... PLANNING AREA BOUNDARY
- MUNICIPALITIES
- ..... BOUNDARY OF MARKET SUBAREAS

**GAITHERSBURG VICINITY MASTER PLAN** — Final Draft  
 Montgomery County, Maryland SEPTEMBER, 1983

Scale: 0 500 1000 1500 METERS / 0 500 1000 1500 FEET

TABLE J  
DEVELOPMENT POTENTIAL FOR OFFICE AND RESEARCH  
DEVELOPMENT FACILITIES  
SHADY GROVE ROAD AREA (1981)

Traffic Zone	Existing Square Feet	Approved Square Feet	Proposed Square Feet	Future Square Feet
281	160,000	2,400	-	3,400,000
282	300,000	1,400,000	250,000	870,000
258	1,435,000	946,000	300,000	2,200,000
265	810,000	209,000	-	1,670,000
266	650,000	870,000	500,000	1,300,000
290	<u>410,000</u>	<u>1,150,000</u>	<u>-</u>	<u>325,000</u>
TOTAL	3,765,000	4,575,000	1,050,000	9,765,000
Employees	15,060	18,300	4,200	39,060

(Assumes 250 square feet per employee.)

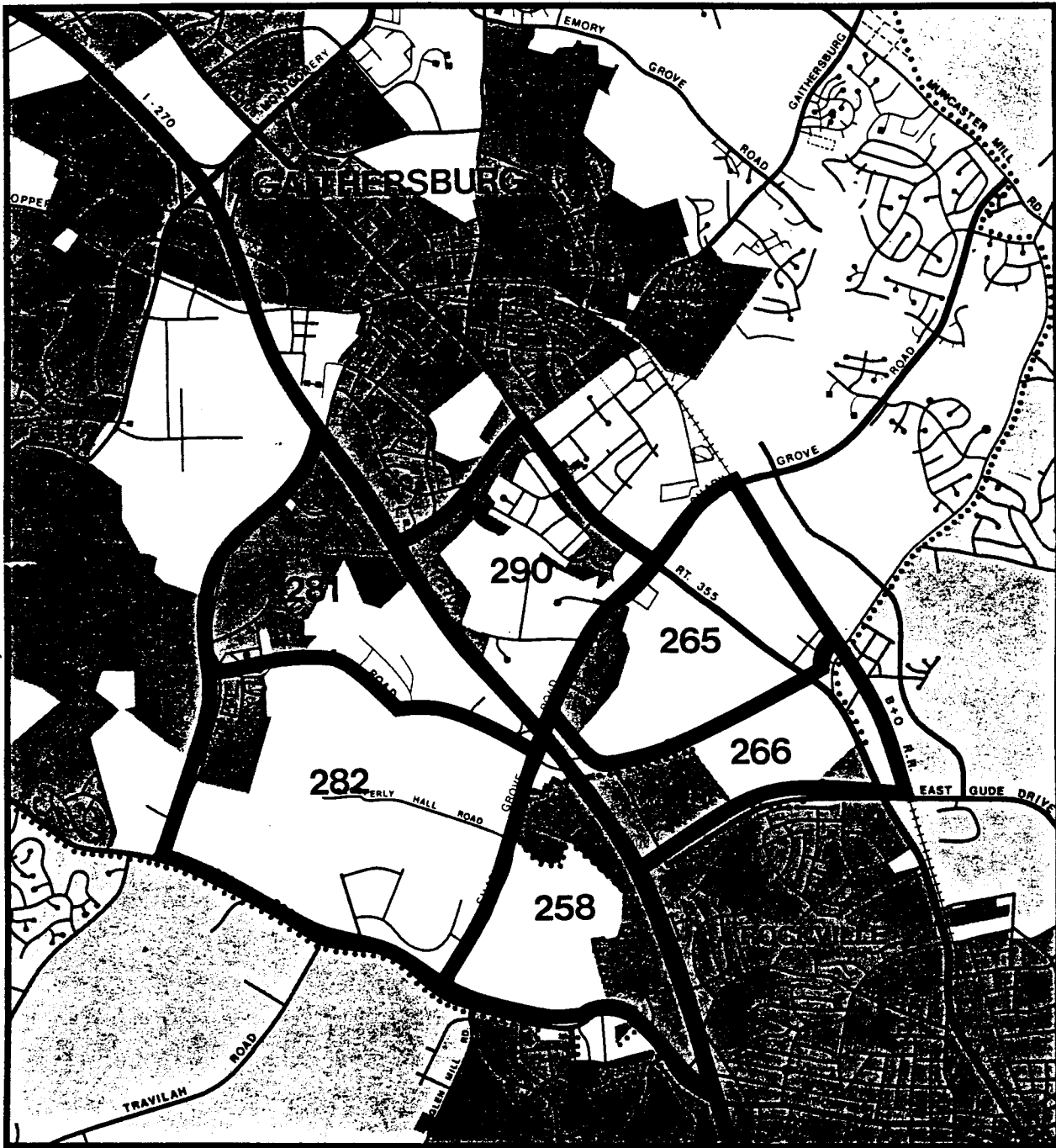
Source: Montgomery County Planning Board staff estimates based on subdivision files, discussions with city of Rockville Planning Department staff and with area landowners and developers during 1981.

TABLE K  
OFFICE EMPLOYMENT (1978-1988)  
GAITHERSBURG MARKET AREA AND MONTGOMERY COUNTY

	Gaithersburg Market Area	Montgomery County	Market Area as Percent of County
1978 Non-government Employees	31,560	135,250	23.3%
1988 Non-government Employees	47,560	175,250	27.1%

Note: Reflects estimated growth of 4 million square feet in Gaithersburg Market Area and an average of 250 square feet per employee. Also assumes that 50 percent of total County employment consists of private office-type jobs.

Source: Ten Year Market Analysis (1978-1988): I-270 Market Area, M-NCPPC, November 1980.



 **SHADY GROVE ROAD AREA TRAFFIC ZONES**

 **PLANNING AREA BOUNDARY**

 **MUNICIPALITIES**

**GAIHERSBURG VICINITY MASTER PLAN**

Montgomery County, Maryland



**Final Draft**  
**SEPTEMBER, 1983**

TABLE L

GAITHERSBURG AREA AND COUNTY NON-RESIDENTIAL CONSTRUCTION  
GROSS FLOOR AREA (SQUARE FEET)  
January 1, 1979 through May 30, 1982

	1979		1980		1981		1982		Total	
	Gaithers- burg	% County	Gaithers- burg	% County	Gaithers- burg	% County	Gaithers- burg	% County	Gaithers- burg	% County
Office	111,668	14	134,361	8	837,489	28	311,950	40	1,395,468	23
Retail	175,253	46	114,548	21	34,340	9	112,628	58	436,769	29
Ind./Whse.	377,834	44	86,947	28	407,304	56	211,790	37	1,083,875	44
TOTAL	664,755	32	335,856	14	1,279,133	31	636,368	41	2,916,112	29

Source: U.S. Census and Research and Special Projects Division, Montgomery County Planning Board; 1985 and 1990 estimates are "high scenario" computations, based upon higher rates of population and housing gains.

TABLE M

GROSS FLOOR AREA NON-RESIDENTIAL CONSTRUCTION  
 MONTGOMERY COUNTY AND GAITHERSBURG AREA;  
 GAITHERSBURG SPACE AS A PERCENT OF COUNTY SPACE  
 1979 through May 30, 1982

Year	Office Space		Retail		Industrial		Other	
	County	Gaithers- burg	County	Gaithers- burg	County	Gaithers- burg	County	Gaithers- burg
<u>1979</u>								
Square Feet	812,204	111,668	378,526	175,153	856,311	377,834	21,543	0
Percent		13.8		46.3		44.1		
<u>1980</u>								
Square Feet	1,598,158	134,361	554,174	114,548	315,574	86,947	89,350	59,452
Percent		8.4		20.7		27.6		66.5
<u>1981</u>								
Square Feet	2,965,365	837,489	379,961	34,340	722,431	407,304	0	0
Percent		28.3		9.0		56.4		
<u>1-1-82 to 5-30-82</u>								
Square Feet	781,699	311,950	195,304	112,628	575,125	211,790	0	0
Percent		39.9		57.7		36.8		

Source: Montgomery County Planning Board, Research and Special Projects Division, December 1982.

The abovementioned economic report examined the I-270 Corridor in terms of housing, retail, hotel, and employment markets. Table K shows that Gaithersburg Market Area employment was expected to grow from 31,560 in 1978 to 47,560 in 1988, an increase from 23.3 percent to 27.1 percent of the County's non-government office employment.

The Planning Board's public facility threshold analysis (1982 Comprehensive Planning Policies report) showed a Gaithersburg area transportation capacity starting in 1977 that would support 37,000 additional commercial, retail, and industrial jobs. By 1981, space for 9,200 of these potential jobs had already been provided, and there was capacity for 13,800 more, as reflected in approved sewer authorizations. Remaining potential sewer authorizations could provide space development to accommodate 14,000 additional jobs.

Between January 1979 and May 1982, 1.31 million square feet of industrial, 1.40 million feet of office, and 437,000 square feet of retail space were added to the Gaithersburg area's respective inventories. (See Tables L and M.) This translates into a potential average annual employment increase of 2,600 a year: 800 industrial space employees, 1,500 office workers, and some 300 retail jobs.

If all the above space were to be absorbed as produced, and that pace were to continue, it would take about 5.4 years to build out to the threshold-defined limit of growth, i.e., 14,000 additional jobs. Actually, it is expected that such absorption will take as much as eight to ten years. Office space development in 1981 and the first five months of 1982 proceeded at a pace six times greater than in the previous two years. Office space in the Gaithersburg area, as in all other parts of the metropolitan area, has been substantially overbuilt, clearly in excess of previously demonstrated absorption experience. Even with the expectation of a mid-1983 recession recovery start, it is likely that it will take a few years to adsorb the completed and on-line new office space construction.

### Retail Market

Most recent retail space development in the Gaithersburg area has been dominated by the massive Lakeforest Mall regional shopping center, providing nearly 1.1 million square feet. There is general recognition that the size and diversity of Lakeforest Mall substantially over anticipated regional demands and capture rate capacities. The Planning Board's previous I-270 market study, at the time of Lakeforest Mall construction, predicted that it would take approximately ten years for this regional shopping center to attain its desired levels of shoppers and sales volume.

Shopping centers such as Lakeforest Mall are characterized by their provision of "shoppers goods," products that are bought infrequently, are more costly, and which are often selected on the basis of comparison shopping. In contrast to these goods are those provided by "convenience" retail outlets such as supermarkets, drug stores, dry cleaners, beauty parlors, and hardware stores. These goods and services are sought regularly, and customers tend to patronize such stores on the basis of such factors as accessibility and ease of parking. Such convenience outlets are typically found in neighborhood shopping centers in which supermarkets provide one of the principal anchors.

The foregoing differentiation is set forth to support the conclusion that the Gaithersburg area is currently oversupplied with shoppers goods outlets. Nevertheless, it can accommodate additional convenience retail outlets to support continuing residential

TABLE N  
 EXISTING RETAIL DEVELOPMENT (1978)  
 GAITHERSBURG MARKET AREA

Market Subareas	Square Feet	Estimated Employees
A	372,500	940
B	1,544,500	4,580
C	186,750	640
D	284,100	740
E	<u>20,500</u>	<u>260</u>
TOTAL	2,408,350	7,160

Source: Ten Year Market Analysis (1978-1988): I-270 Market Area, M-NCPPC, November 1980.

TABLE O  
 DEVELOPMENT POTENTIAL OF COMMERCIALY ZONED  
 VACANT LAND (1978)  
 GAITHERSBURG MARKET AREA

Market Subareas	Acres	Square Feet	Employees
A	58.9	206,930	560
B	86.5	263,760	712
C	21.7	78,850	218
D	11.2	43,950	119
E	<u>25.8</u>	<u>78,640</u>	<u>213</u>
TOTAL	204.1	672,130	1,822

Source: Ten Year Market Analysis (1978-1988): I-270 Market Area, M-NCPPC, November 1980.



suburban growth of the area and provide an improved geographical balance of such convenience centers within the area.

Table N shows that in 1978, prior to the completion of Lakeforest Mall, the Gaithersburg area contained 2.4 million square feet of retail space, providing employment for an estimated 7,000 persons. Land zoned for retail development in 1978 provided a potential for an additional 670,000 square feet. (See Table O.) The combined 1978 inventory and the Lakeforest Mall development totaled approximately 3.5 million square feet, with an employment potential for some 10,000 persons.

On the basis of existing shopping space, and taking into account post-1978 and anticipated population and household increases in the Gaithersburg area, it is calculated that there is a need for an additional 152,500 square feet of retail space, exclusively of the convenience nature. This would represent approximately two full-size neighborhood shopping complexes, plus a moderate amount of free-standing, smaller stores. At the present time, two such convenience centers are in the planning and leasing stages, and both are located in the Goshen Road/Oden'hal area. Additional sites considered suitable for convenience shopping center development are located along Muddy Branch Road south of I-270, on Goshen Road near Snouffer School Road, and on East Diamond Avenue near MD 124.

In order to achieve a greater geographical balance of convenience shopping, this Plan recommends an additional site in the Airpark area for a full-size convenience shopping center to serve the Flower Hill Planned-Neighborhood. An additional center is also recommended in the Shady Grove West area to serve the residents and employees in the immediate area. Such modest overbuilding of convenience goods outlets is considered very temporary, within acceptable risk parameters, and is consistent with the rapid residential development of the area. These locations are shown on the recommended Land Use maps for the Study Areas.

### Planning Implications

This section has described the Gaithersburg area's emergence and rapid growth as a major employment center. Continued employment and population growth in the area is consistent with its designation as a "corridor city," i.e., having sufficient total population and density to support corollary retail, services, and employment facilities.

It has been pointed out that the area's on-going and proposed growth will soon overtax its existing and programmed road capacity. The addition of I-370 capacity will extend the saturation threshold. Existing and prospective employers will increasingly seek assurance that their places of work and commerce will be accessible to employees, customers, and suppliers.

## E. COMMUNITY FACILITIES

### Schools

The Land Use Plan's recommendations concerning future school sites reflect the School Board's 15 Year Comprehensive Plan for Educational Facilities. Enrollment projections from that plan for the twelve elementary schools, three junior high schools, one special education and one high school located in the Planning Area are shown in Table P.

TABLE P

PUBLIC SCHOOLS SERVING GAITHERSBURG  
CURRENT AND PROJECTED ENROLLMENT  
(1982-1989)

School Name	Revised State- Rated Capacity	Grades Served	Actual Total Enrollment 9/82	Projected Total Enrollment					
				1983-84	1984-85	1986-87	1987-88	1988-89	
Brown Station	756 <sub>2</sub>	K-6*	680	688	687	710	747	763	775
Diamond	789 <sup>1</sup> /766 <sup>2</sup>	K-6	626	606	590	591	620	641	656
Fields Road	543	HS-6**	377	400	428	483	518	555	582
Gaithersburg	760	K-6	586	601	658	740	850	959	1054
Mill Creek Towne	769	HS-5	597	592	602	598	615	621	626
Rosemont	389	HS-6	352	357	383	380	390	404	413
South Lake	550	K-6	491	501	511	520	535	557	563
Stedwick	670	K-6	608	584	580	581	557	561	561
Summit Hall	526	HS-6	371	342	318	313	319	339	353
Washington Grove	546	K-6	530	527	529	549	554	584	611
Watkins Mill	616 <sub>3</sub>	HS-6	431	415	434	469	502	545	581
Whetstone	670 <sub>4</sub>	K-6	567	554	552	579	584	601	602
Montgomery Village	1025/975 <sup>4</sup>	7-9	893	838	728	615	595	575	575
Ridgeview	1180 <sub>4</sub>	7-9	956	993	997	955	937	912	950
Gaithersburg	1245 <sup>3</sup> /1195 <sup>4</sup>	7-9	1098	1074	1000	925	880	860	895
Gaithersburg	1680 <sup>1</sup> /1670 <sup>2</sup>	10-12	1412	1321	1292	1282	1245	1147	1047
Longview Special Education	190		145						

<sup>1</sup> Capacity of 1982-83.

<sup>2</sup> One special education class added. <sup>3</sup>Relocatable classrooms.

<sup>4</sup> No relocatable classrooms.

\* K = Kindergarten. \*\*HS = Head Start.

SOURCE: 15-Year Comprehensive Master Plan for Educational Facilities, Montgomery County Public Schools, January 1983.

## Gaithersburg Library

The Gaithersburg Vicinity Planning Area is served by the Gaithersburg Library, largest of the County's four regional libraries (Wheaton, Rockville and Bethesda are the others). It is a new 30,000 square foot facility that provides service to up-County residents. Located at 18330 Montgomery Village Avenue, the building contains a general reading room with seating for 200 people, space for 150,000 books, a reference room, a children's room, an art collection room, two meeting rooms which can accommodate 40 and 150 people respectively, and a small conference room for groups up to 12. Other amenities include listening stations for phonograph records and tapes, rotating display cases, and a book return depository. Situated on a three-acre site, the building is designed to maintain maximum energy efficiency and to be easily accessible to handicapped individuals.

Current library policy is directed towards housing in-depth collections at the regional libraries, while stocking the local libraries with popular and best seller items, basic reference materials, consumer magazines, and information. Bethesda is the main library for business materials, Rockville is the municipal and state government reference branch, and Gaithersburg is the fine arts and performing arts branch.

## Public Utilities

Community water and sewerage service is provided by the Washington Suburban Sanitary Commission (WSSC). The WSSC is a bi-county agency serving both Prince George's and Montgomery Counties. Most of the Gaithersburg area is currently served or programmed for service within the next two years. The Montgomery County Council establishes the sewer and water service priorities through the Comprehensive 10-Year Water Supply and Sewerage System Plan, reviewed twice yearly.

The Potomac Electric Power Company (PEPCO) provides electric power to the Gaithersburg area. The current policy is to put utilities underground as part of new construction, adding to the attractiveness of new communities.

## Protective Services

The County and the city of Gaithersburg provide police protective services to the residents of the Planning Area under the terms of a 1978 Memorandum of Understanding between the police departments of the two jurisdictions. This agreement calls for the Montgomery County Police Department to provide police service within the city to the same extent as it does elsewhere in the County, and to assist the city by sharing data with them. The primary responsibility of the city police is to augment the County police, who provide the basic level of police protection service in the area.

Fire protection to the Planning Area is provided by Stations 8 and 28 of the County's Gaithersburg/Washington Grove Fire Department and Station 31 of the Rockville Fire Department.



## F. ENVIRONMENTAL CONCERNS

This chapter describes water-related concerns (erosion, flooding, stormwater management) in the Gaithersburg area and proposes general development guidelines to help protect water quality as development occurs.

Background data relating to noise and air quality is also presented.

### LAND IMPACTS

#### Soils, Slope, Geology

The most severely limiting and sensitive soils in the Gaithersburg Vicinity are wet floodplain soils, highly erodible soils on steep slopes, and those soils found in association with the shallow, dense (ultramafic) bedrock conditions existing in isolated patches within the Planning Area. Floodplain soils occur along Great Seneca Creek and its tributaries. The Glenelg and Manor soils found on these steep slopes cut by streams are very susceptible to erosion which cause downslope or downstream sediment problems. The floodplain soils have obvious construction limitations because of wetness and the potential for flooding. These severely limited soils are shown on page 41.

In the Airpark Study Area, such soil conditions are found along the upper reaches of the Cabin Branch and Whetstone Run streams. However, these limitations are somewhat less severe in this area because it is less steep.

The Shady Grove West Study Area includes Muddy Branch and its tributaries, with areas in the eastern section draining to Watts Branch, and areas south of MD 28 draining to the upper reaches of Piney Branch, a sub-watershed of Watts Branch. These limited areas should be protected either through park acquisition or be reserved for open space in cluster-type development. North of MD 28, near the Shady Grove Life Sciences Center, the soils are underlain by ultramafic rock. Chrome and Conowingo silt loam soils are found in conjunction with this geologic feature. The Chrome soils are rocky and have shallow depth to bedrock, thus limiting construction of buildings with basements. In some instances, the soil is so severely eroded that bedrock is exposed. The Conowingo soils contain some clays which swell when wet and shrink as they dry, causing foundations and paved surfaces to crack, buckle, or warp. Site-specific soil and geologic testing can help determine specific construction requirements in these areas.





Floodplain, soils, and slope problems are particularly acute in the area near Smokey Glen Farm. Large areas along the tributaries of Great Seneca Creek are covered by floodplain (alluvial) soils. Manor soils are present along the steep banks. The extent of these soils leaves a reduced area of suitable soils along the ridge lines.



#### Water Quality

The Gaithersburg Vicinity Planning Area is located within portions of the Seneca Creek, Muddy Branch, Rock Creek, and Watts Branch basins. (See map on page 43.)

One of the best and simplest overall indicators of watershed stream quality is the total percentage of watershed imperviousness. Significantly higher-density/imperviousness results in higher quantities of stormwater runoff and often higher water pollution levels.



	<b>SEVERELY LIMITED SOILS</b>
	PLANNING AREA BOUNDARY
	MUNICIPALITIES
	SOILS HAVING SEVERE LIMITATIONS FOR HEAVY CONSTRUCTION AND/ OR RESIDENTIAL BUILDINGS WITH BASEMENTS

**GAITHERSBURG VICINITY MASTER PLAN** — Final Draft  
 Montgomery County, Maryland   **SEPTEMBER, 1983**

Water pollution can be categorized as either non-point source (pollution which emanates from a diffuse source or sources) or point source (pollution which emanates from a relatively concentrated source or sources). The only point sources in the area are the Seneca Waste Water Treatment Plant (with a 5.0 million gallon per day capacity, and an excellent effluent rating) and the Montgomery Village Sewage Treatment Plant, which is not in operation.

Stormwater runoff is the major source of non-point water pollution. The quality of stormwater runoff is related principally to the type of land over which the runoff flows. For water quality purposes, land uses can be characterized as either "urban/suburban" or "rural/agricultural."

In the "urban/suburban" areas, stormwater flows over sidewalks, streets, parking lots, and other highly impervious areas. Substances that are washed off include petroleum derivatives (gas, oil, grease), road salt, de-icers, litter, pet animal wastes, lawn and garden products, and disintegrated asphalt. In rural areas, stormwater flows over cultivated fields, feedlots, and pastureland and washes off pesticides, fertilizers, and livestock wastes.

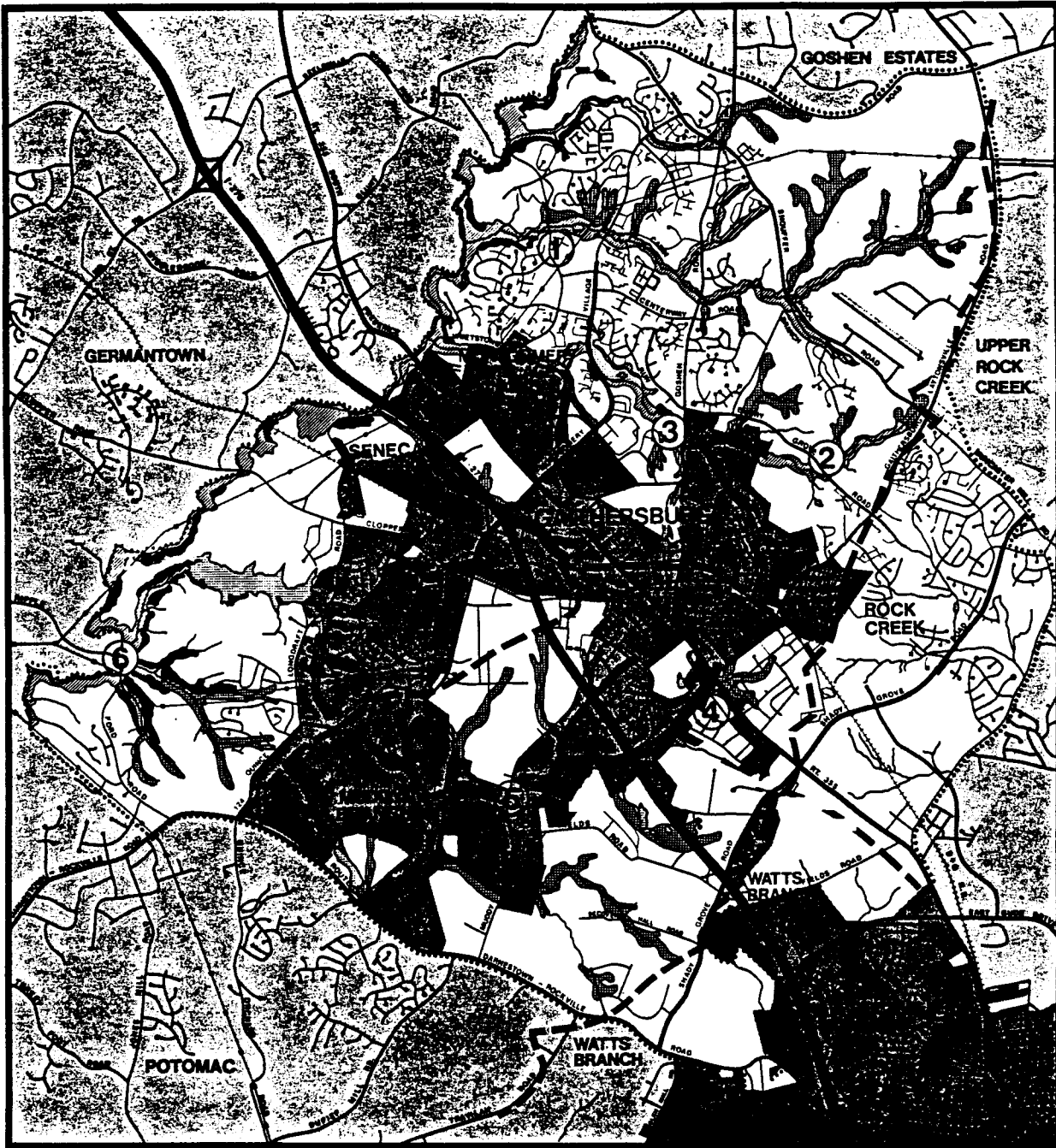
While the rate at which these substances wash off is much more rapid in urban/suburban areas, the overall effect from both types of land uses is essentially the same. Once carried into natural watercourses, all of these substances become in-stream pollutants. It is widely documented that they are responsible for the subsequent deterioration of water quality in terms of increased biochemical oxygen demand, excessive nutrient levels, active toxins, and potential carcinogens.








The Water Resources Administration of the State of Maryland's Department of Natural Resources has designated all of the streams in the Gaithersburg Vicinity as "Class I Waters," suitable for water contact recreation and aquatic life. These waters should be acceptable for activities in which the human body comes in direct contact with the surface water. They should also allow for the growth and propagation of fish, other aquatic life, and wildlife.


The Montgomery Department of Environmental Protection, County Water Quality Control Section has conducted a program of stream quality monitoring for streams within the major basins in the Gaithersburg Planning Area. Data on these streams from Water Quality of Streams in Montgomery County, Maryland, 1979 includes the following descriptive water quality ratings:

<u>Basin</u>	<u>Stream</u>	<u>1978 - 1979</u> <u>Water Quality Index</u>	
		<u>1978</u>	<u>1979</u>
Great Seneca Creek	Cabin Banch	Permissible	Permissible
	Long Draught Branch	Good	Good
	Whetstone Branch	Good	Permissible
Muddy Branch		Good	Permissible

Class Types: excellent, good, permissible, poor or bad.



	<b>ENVIRONMENTAL CONSTRAINTS</b>		
.....	PLANNING AREA BOUNDARY		FLOODPLAINS
	MUNICIPALITIES		ALLUVIAL SOILS
			SLOPES OF 25% OR GREATER
			MAJOR RIDGE LINES
			EXISTING FLOODING PROBLEMS (see text for descriptions)

**GAITHERSBURG VICINITY MASTER PLAN** — Final Draft  
 Montgomery County, Maryland  SEPTEMBER, 1983

0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000 8500 9000 9500 10000  
 FEET



## Upland and Stream Channel Erosion

Natural flooding and accelerated runoff from urbanizing areas are conditions that contribute to stream channel erosion. If stormwater runoff is left unmanaged, it may create problems stemming from accelerated erosion and sedimentation rates. There not only exists the potential loss of valuable topsoil, but many other adverse impacts also result from the transport and deposition of sediment in natural waterways. These include: accelerated erosion of streambanks, increased turbidity, increased treatment costs at water filtration facilities, and the blanketing of fish food supplies and nesting areas. Sedimentation also diminishes water storage capacity in reservoirs, creating the need for more frequent dredging at higher costs.

Stream channel erosion is a problem in the Great Seneca Creek, Long Draught Branch, and Whetstone Run sub-basins, and the Muddy Branch basin. New development in the upper watersheds of these streams may increase stream channel erosion. Recommendations contained in both the Functional Master Plan for the Seneca Creek and Muddy Branch Basins and Seneca Phase II Watershed Study regarding erosion should be incorporated into development proposals.

## Flooding

Flooding is a threat to human life and property. Development of land will, if uncontrolled, increase the occurrence and intensity of flooding. As the percentage of impervious land increases (due to development of housing, highways, and shopping centers), on-site infiltration of stormwater decreases, resulting in higher volumes and higher peak runoff in stream channels over a relatively short period of time. In many cases, flooding is increased as the channel capacity is more frequently exceeded, creating in-stream erosion and greater flood damages. Present flooding problems in the Gaithersburg area are caused by existing development, as well as by constrictions at roads and bridges. Both the Functional Plan for the Seneca Creek and Muddy Branch Basins and Seneca Phase II Watershed Study list a number of recommendations which should be incorporated into all public or private development activities in the problem areas.

## Flooding Problem Areas

The map on page 43 shows flooding problem areas identified in both studies. The following is a description of the nature of the problem at each identified location:

- On Cabin Branch, Watkins Mill Bridge is a low-level bridge that appears to be designed to permit periodic overtopping of the road by high stream flows. Its hydraulic capacity is limited and exhibits a 10 percent or greater chance of being flooded in any given year;
- On Whetstone Run, on the north side of Emory Grove Road, there is a residence located in the floodplain. The problem is made worse by a culvert for Emory Grove Road which has a limited hydraulic capacity where it crosses a tributary of Whetstone Run. This stream crossing exhibits a 10 percent or greater chance of being flooded in any given year;

- On Whetstone Run, west of Goshen Road, a horse barn is in the 100-year floodplain;
- On Muddy Branch, a single-family residence located on Rosemont Drive near MD 355 is very close to the floodplain;
- Muddy Branch Road, at the stream crossing, presents the most severe problem. It has an existing potential of being overtopped at a 3-year frequency and, under ultimate development, it could be expected to flood yearly. The proposed reconstruction of Muddy Branch Road will eliminate this problem; and
- On the Great Seneca Creek, the bridge at Riffle Ford Road is subject to flooding at a 15-year frequency for existing development. For ultimate development, the frequency is once in 10 years.

### Watershed Development Guidelines

Site-specific analysis of each property is beyond the scope of this Plan. However, the following general recommendations should be used as a guide to such analysis before development plans are formulated and submitted for development review.

The following recommendations are applicable to all types and scales of development that may occur in the area:

- Encourage clustering of development to optimize location and efficiency of stormwater and land management measures;
- Avoid development on steep slopes (above 25 percent), severely erodible soils, poorly-drained soils, floodplains, groundwater recharge areas, or other environmentally sensitive locations;
- Retain natural vegetation with emphasis on the preservation of mature wooded areas. Vegetation should be retained as an undisturbed natural buffer strip along all streams;
- Preserve environmentally-sensitive areas such as wetlands, steep slopes, or those with poor soils;
- Prohibit development in the ultimate 100-year floodplain;
- Utilize the floodplain buffer required by the subdivision regulations and building code to help protect natural waterways from potential degradation as development proceeds. This buffer should be expanded on a case-by-case basis where necessary to accomplish the intent of the requirements;
- Avoid unnecessary (and potentially massive) upland erosion by phasing land clearing and grading with the actual start of construction. Natural vegetation should be retained to the extent possible to protect against erosion and to trap sediment generated on site. Spoil piles should be covered or other protection provided, such as straw bales, to reduce sediment transport;

- Carefully evaluate, and avoid where possible, the conversion of any stream or spring into a piped storm sewer system;
- Avoid the installation of any in-stream structures which will prevent or inhibit the natural movement of aquatic life;
- Divert stormwater flows from areas vulnerable to erosion through the use of diversion techniques such as interceptor berms or diversion dikes;
- Employ techniques to reduce the velocity of water at all locations where stormwater is concentrated, such as the outfalls of stormwater detention ponds, to reduce upland and channel erosion; and
- Wherever feasible, employ drainage systems such as grass-lined or stone-filled ditches and swales instead of concrete pipes or channels.

The following recommendations are designed to reduce the negative impacts on natural drainage systems that may be associated with large scale, medium to high density development:

- Reduce stormwater runoff volumes and velocities by incorporating drainage systems into large impervious expanses. These systems might include "dutch drains" (gravel-filled ditches with an optional pipe in the base, used as dividing strips between parking lots or as a drain for small parking lots or driveways), drainage swales, or grass-lined or stone-filled ditches;
- Install litter traps in and along drainage ditches, culverts, roadways, and parking lots to reduce biochemical oxygen demand loading of waterways;
- Consider, in areas with large areas of impervious (i.e., impenetrable) surface, such as shopping centers, providing runoff storage above that normally required by Montgomery County Soil Conservation District;
- Utilize oil and grease controls in large parking lots to reduce the washing of oil and grease into ground water or streams;
- Require stormwater management techniques, structural and non-structural, to control the quality and quantity of runoff from new development;
- Cluster proposed development to protect natural waterways and accommodate the siting of sediment basins and stormwater management facilities; and
- Provide adequate maintenance of stormwater catchment basins and drainage pipes.

## NOISE CONCERNS

The Roadway Noise Map in the Land Use Plan text provides a general indication of area of maximum possible roadway noise impacts, based on traffic conditions with ultimate development as recommended in this Plan. These contours do not take into

TABLE Q  
 PROJECTED NOISE CONTOURS FOR SELECTED ROADWAYS,  
 ULTIMATE CONDITIONS

Road Name	Route No.	Range of Distances (feet) From Road Centerline to 60 dBA, Contour Line*
Darnestown - Rockville Road	MD 28	305 - 560
Midcounty Highway	MD 115	109 - 576
Eisenhower Highway	I-270	1385 - 2143
Emory Grove Road	-	42 - 95
Fields Road, southwest of I-270	-	217 - 398
Frederick Road	MD 355	258 - 533
Gaithersburg Bypass	-	236 - 383
Gaithersburg-Laytonsville Road	MD 124	83 - 408
Great Seneca Highway	-	398 - 910
Gude Drive	-	373 - 651
Key West Avenue	-	275 - 406
Longdraft Road	-	131 - 235
Metro Access Highway/ Intercounty Connector	I-370	460 - 1298
Montgomery Village Avenue	-	187 - 524
Muddy Branch Road	-	171 - 347
Muncaster Mill Road	MD 115	308 - 325
Quince Orchard Road	-	190 - 275
Research Boulevard	-	198 - 208
Shady Grove Road	-	260 - 825
Snouffer School Road	-	175 - 400
Warfield Road	-	48 - 81

\* The location of a noise contour may change along the length of a road due to variation in projected traffic volume, traffic speed, and/or truck mixes in different segments of the road.

This analysis assumes each road and adjacent areas is level, and traffic is free flowing. Noise attenuation due to berms/barriers, topographic changes or road cuts, shielding by buildings, etc. is not taken into account.

Source: Montgomery County Planning Board, Environmental Planning Division, 1983.

account potential attenuation through natural or man-made features. Table Q illustrates the projected noise contours at ultimate development for selected roadways.

## AIR QUALITY

Air quality problems in the Washington metropolitan area result primarily from vehicular exhaust, particularly from automobiles. The State Implementation Plan (SIP) has been adopted to control pollution emissions. Ozone, which reaches the highest levels in the summer, is a regional pollutant, identified in the most current SIP as the most pervasive air pollution problem in the Washington metropolitan area.

Localized air quality problems occur on or near high volume, congested roadways and intersections where high levels of carbon monoxide (CO) are produced. Some indications of high CO levels are available. There are several ways to minimize CO problems. Sensitive residential areas should be set back from congested areas to allow for natural dispersion of CO. At high density, congested locations, ventilation systems should be designed to avoid drawing high CO levels into structures.

### G. MONTGOMERY COUNTY AIRPARK

The presence of the Montgomery County Airpark has strongly influenced land use recommendations for surrounding properties. This section includes a brief history of the Airpark, describes business use at the Airpark and summarizes existing County policies regarding Airpark expansion. Studies regarding safety and noise are also highlighted.

	No. of Runways	Length of Runways	Width of Runways	Instrument Landing System	Other Comments
Montgomery County Airpark	1	4200'	75'	no	-
Frederick Municipal	3	4000'	100'	yes	-
Carroll County (Westminster)	1	3230'	60'	no	no easements on surrounding property
Manassas Municipal	2	3700'/5700'	100'	yes	easements bought fee simple
Davis Airpark (Montgomery County)	1	2200'	30'	no	limited hangar space
Leesburg Godfrey Field	1	3500'	75'	no	no easements, no land use conflicts

## Development Background

Recognizing an imminent void in service to the aviation community in the late 1950's when Congressional Airport on Rockville Pike was committed to shopping center development, the County Council approved a proposal from a private developer to build the Montgomery County Airpark. The 122-acre general aviation facility, built entirely at the developer's expense as part of an industrial park, was deeded to the Montgomery County Revenue Authority in 1958. The developer retained a 99-year lease for operation. Its amenities include a 4,200-foot paved runway, paved taxiways, a terminal building, hangars, paved and grass tie-down areas, parking areas, runway lighting, radio and visual landing aids, and fuel service.

Other general aviation airports in the Washington region compare to the Montgomery County Airpark is as follows:

## Economic Overview

The airport developer pays the Revenue Authority an annual rent equal to the tax that would be paid on the improvements if the facility were privately owned. The July 1, 1982, rent billing was \$14,569.80, one-half of which must be escrowed for airport improvements. According to the Revenue Authority, land purchase, engineering, and lighting improvement expenditures have exceeded the escrow account.

Original development and subsequent improvement costs are nearly amortized. The airport developer leases the facility to an operator who pays a monthly rental.

## Financial Assessment - Condemnation Costs

One consideration in regard to reducing the noise and safety impacts of the Airpark on the surrounding existing and proposed development is to relocate the facility. In addition to finding an acceptable alternate location there would be significant problems associated with terminating operations at the current location.

Seventy-seven years remain on the lease. Approximately \$18½ million would be attributable to lease value alone. Improvements and derivative business income (fuel sales, repair service, aircraft sales, flight training, and charter service) indicate a condemnation cost of \$30-\$50 million. The lease provides for reversion of the land to the developer, should the facility cease to function as an airport. Additionally, termination of operations would require reimbursement of development funds to the Federal Aviation Administration.

It does not, therefore, appear reasonable to relocate the facility or to terminate its operation. What needs to be done is identify compatible land uses for the surrounding area and take reasonable measures to mitigate the impacts of the operation of the Airpark. Issues of noise and safety are discussed below as is the proposal for a noise abatement program and the establishment of a noise zone.

## Business Use of the Airpark

A survey of business use of the Airpark, conducted by the Gaithersburg Chamber of Commerce in November 1981, produced ambiguous findings. This survey resulted in 72

successful interviews out of 282 firms contacted. Six of these firms reported that they do use the Airpark for business purposes, but that they use it "infrequently," and feel that major regional airports are suitable alternatives. However, these firms expect to make greater use of the Airpark in the future.

Sixty-six responding firms do not use the Airpark and feel strongly that the major regional airports are suitable alternatives. But this latter group also indicated that they view the Airpark as essential to area business and feel strongly that the Airpark will be of long term benefit. Neither group of respondents (users and non-users) view the nearby Frederick Municipal Airport as a viable long-term alternative.

Although there is no strong evidence that the Airpark is presently a major element in the County's economic development, it may be in the future. The convenience of its present location and the difficulty in finding another suitable airport location enhance its value to the business community and the County. Therefore, in spite of the lack of evidence of strong direct support for the Airpark by the local business community, this Plan seeks to maintain the integrity of the Montgomery County Airpark as a factor in the economic investment climate of the I-270 area.

### Safety

Montgomery County Airpark operates without a control tower to guide landing airplanes. Aircraft landings are governed by the pilot's visual perception of the airport runway, his radio communications with airport personnel on the ground, and observation of federal aviation laws.

Residents living near the Airpark are concerned about the potential for accidents in the area. Three events in 1982-1983 brought attention to this situation: a near miss of a home by a plane taking off from the Airpark, an unscheduled landing in a field where homes will be built in the future, and a fatal crash off the end of the runway. Nonetheless, the State Aviation Administration (SAA) does not feel that safety is a critical problem because the airport has a good long-term safety record and because it operates according to accepted rules and regulations.

A report prepared in August 1981 for Kettler Brothers, entitled, Analysis of Safety and Noise Factors for the Montgomery County Airpark, by Howard Needles Tammen & Bergendoff, presents the following conclusion concerning safety:

"In summary, statistics on a national basis indicate that with the present number of aircraft operations, the Airpark can expect some form of aircraft accident in the airport traffic pattern or within a mile of the airport (but off the airport) once in each 1 or 2 years."  
(p. 6)

The location of these accidents, should they occur, has been statistically evaluated by the National Transportation Safety Board. Based on 1978 nationwide data, 45 percent of all general aviation accidents occur on the runway or on airport property. It should be noted that the area of high accident potential off the airport generally corresponds to the area of high noise impact.

Although the airport is designed to assure safety and its regulations are directed towards reducing the possibility of accidents, they cannot be entirely prevented. Therefore, developments occurring within the airport's normal flight pattern should take the existence of those patterns into account. While the likelihood of planes crashing into homes is extremely remote, these developments should, if possible, provide contiguous open space for possible emergency landings.

### Noise

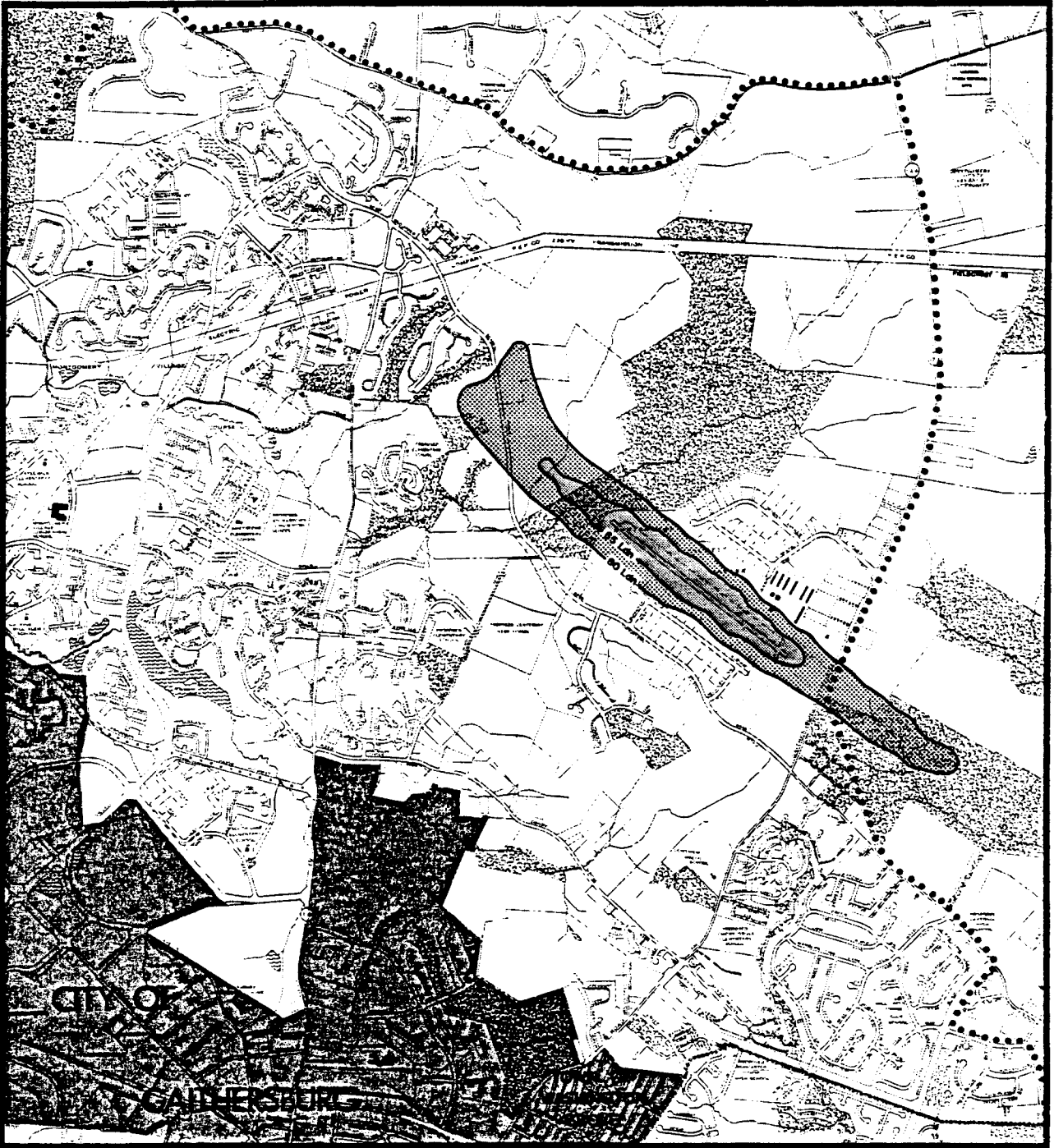
The degree of noise tolerance is a largely subjective issue that reflects individual and community values. While the likelihood is that most noise complaints would originate from residential areas where the highest noise levels occur, complaints can and do occur beyond the usual standards for noise impact (the Ldn 60 day-night average sound level contour) and in other areas far removed from the Airpark. It is reasonable to expect, therefore, that some people living in the remote environs of the Airpark will feel affected, even though their homes are located well outside the projected noise contours.

The day-night average sound level (Ldn) is a measure of the average noise environment at a prescribed location, over a 24-hour period, with a 10 dBA penalty for noise occurring in the nighttime hours (10 P.M. - 7 A.M.). For calculating Ldn values resulting from aircraft operations, the following factors are considered: the number of landings and takeoffs by different aircraft types, the noise characteristics of each of these aircraft types, the way in which each aircraft is flown, the track that it follows, the runway it uses, and the time of day the flight occurs.

Land use compatibility criteria provide a basis for determining the extent of existing land use conflicts with aircraft noise and the suitability of land for various types of uses in the vicinity of the Airpark. The U.S. Department of Housing and Urban Development classifies the area between the Ldn 55 and 65 contours as "normally acceptable" for residential construction. The SAA has adopted noise standards to assess the compatibility of various land use types in the vicinity of airports. The SAA standard for residential uses is also Ldn 65 dBA, but the SAA has recommended a more stringent criteria of Ldn 60 dBA for general aviation airports such as the Montgomery County Airpark. This Land Use Plan has recommended compatible land uses (non-residential) in areas with aviation noise greater than Ldn 60 dBA. Further discussion of the SAA's involvement in airpark/land use compatibility issues follows later in this chapter, in the discussion on the proposed Airpark Noise Zone, and in the Implementation Chapter.

It should be noted that a cumulative noise descriptor, such as Ldn, is not the only indicator of an individual's potential for disturbance by aircraft noise. The day/night average does not address the issue of the "single event noise," the noise likely to occur each time an aircraft flies past a certain point. The number of these single event noises during any one day will be equal to the number of aircraft operations on that day; the loudness and duration of the noise will be determined by the type of aircraft and its flight altitude. For example, aircraft landing at the Airpark follow a standard glide slope of three degrees. This means that an airplane will be descending approximately 350 feet per mile on its approach. If it is coming straight in, it will be flying at roughly 350 feet above ground level at a distance of one mile from the end of the runway, and 175 feet at one-half mile. As can be seen on page 52, there is a large area that is potentially subject to a relatively high noise level due to the proximity of aircraft on arrival and departure from the airfield.





**NOISE CONTOURS-YEAR 2000**

.....	PLANNING AREA BOUNDARY		EQUAL TO OR GREATER THAN 65dBA Ldn
	MUNICIPALITIES		60-64 Ldn
			BELOW 60 Ldn

SOURCE: PRELIMINARY DATA BY STATE AVIATION ADMINISTRATION

**GAITHERSBURG VICINITY MASTER PLAN** —

Montgomery County, Maryland

0 250 500 1000 METERS  
0 1000 2000 3000 4000 5000 FEET

Final Draft  
SEPTEMBER, 1983

### Existing Public Policy

After three years of study to determine the aviation needs of the County and the role that the Airpark should play, the Ralph M. Parsons Company completed their report for the Revenue Authority in 1969. In 1970, based on this report, the County Council found that an expanded airpark facility at its current location would not appear to be essential to the continued economic growth of the County, and that environmental pollution could be severe should the Airpark be enlarged at its present location. Based on these findings, the County Council adopted Resolution 6-2796 on April 7, 1970, which provided that:

1. The existing Montgomery County Airpark should not be expanded either by lengthening the existing runway or by constructing an additional runway, and
2. The Revenue Authority and County officials should continue to study the feasibility and availability of alternative locations for an airpark facility so that, should the need exist, a new facility might be programmed for a less congested, more remote area of the County.

Accordingly, this policy was incorporated into the 1971 Master Plan for the Gaithersburg Vicinity:

"A recent study, sponsored by the Montgomery County Council, concluded that there is a demonstrated need for longer runways to accommodate different types of aircraft. The County Council, however, has determined that the increased activity and the noise of the larger planes and jets would be detrimental to the residential communities which have been established within the area influenced by the Airpark. Therefore, the established public policy is to improve the safety and convenience of the present Airpark, but no expansion of the Airpark facilities is authorized." (p. 21)

Since that time, the County's land use decisions and developments in the Airpark Study Area have been predicated on this policy. In May of 1971, however, the Airpark's operator made an unauthorized extension of the runway, which brought the runway from 3,150 feet to its present length of 4,200 feet. This extension has encouraged a limited but increasing number of operations by small jets, in contradiction to established public policy. It should be pointed out that noise contours projected to the year 2000, shown on page 52, assume that this policy will continue.

Some aviation interests feel that the current public policy regarding the expansion of the Airpark should be re-examined. In 1982, the Airpark operator proposed to extend the runway by 800 feet and install an instrument landing system (ILS). This suggestion has significant implications for the Land Use Plan, the most important of which is to change the flight path from the circular pattern to a straight line glide and takeoff path which extends over a much larger area, much of which is already residentially developed. Whether such a change in the facility constitutes a safety improvement cannot be simply stated. The need for an expanded facility must also be questioned in view of the

relatively close proximity to the Frederick Airport which has a similar 4000-foot runway length and an operational ILS.

The Davis Airpark is a small general aviation airpark in the Goshen Woodfield area. The specific use of the Montgomery County Airpark, relative to Davis, is under review by various government agencies at this time.

## APPENDIX 3

### DEFINITIONS

Adequate Public Facilities Ordinance (APF): A provision in the subdivision regulations which requires that existing and programmed public facilities be sufficient to accommodate proposed private development. The APF is administered by the Montgomery County Planning Board.

Advanced Wastewater Treatment (AWT): A sewage treatment method or process beyond normal (secondary) sewage treatment to increase the removal of pollutants, to remove potentially harmful substances, and/or to produce high quality effluent suitable for reuse or discharge. Sludge is a major by-product of the advanced wastewater treatment process.

Agricultural Reserve: Primary agricultural areas of Montgomery County which include the majority of the county's remaining working farms, and certain other non-farm land uses.

Alluvial Soils: Soils made up of sand, silt and other loosely consolidated sediments deposited on land by streams.

Aquifer: A water-bearing layer of permeable rock, sand, or gravel.

Areas of Critical State Concern: Areas in the State of Maryland which have such unusual or significant importance that future use is of concern to the state. Legislation enacted in 1974 requires counties, municipalities, and the City of Baltimore to recommend areas within their jurisdiction for consideration by the Department of State Planning for designation as Areas of Critical State Concern. Major examples in Montgomery and Prince George's Counties include significant sand and gravel deposits, land along the Potomac River, and natural trout waters such as Paint Branch.

Assisted Housing: Housing which is built and/or operated with government financial assistance, including subsidies, low interest loans, or mortgage guarantees. There are two types of assisted housing: moderate-income housing, for which the eligibility standard for residents is an income less than 80 percent of the metropolitan area median income; and low-income housing, for which the eligibility standard is less than 50 percent of the metropolitan area median income.

Base Density: The maximum number of dwelling units or square footage of nonresidential space per unit of land that can be built in an area in the absence of bonuses which accrue from the application of transferable development rights (TDR's), floating zones, planned development zones, or public amenities and benefits recommended in a master plan; that density which is reasonable and acceptable from a planning perspective without consideration of such bonuses.

Base Zone: A euclidean zone recommended in a master plan to achieve the base density.

Best Management Practices (BMP): A practice, or combination of practices, that is the most effective and practical means of preventing or reducing flooding, erosion, and pollution generated by stormwater runoff.

Biochemical Oxygen Demand (BOD): A measure of the demand on a water body's dissolved oxygen supply generated over a period of time by the biological decomposition of organic matter in the water.

Biota: The flora and fauna of a region or area.

Buffering: Isolation or separation of different land uses by a third land use, by open space, or by a physical separator such as a wall. Low density offices and townhouses are frequently used to separate commercial and detached residential areas.

Building Elevation: A vertical view of one side of a structure, usually the front or side facing a street.

Capital Improvements Program (CIP): A County government six-year program prepared by the County Executive and adopted by the County Council which identifies the County's construction program and funding requirements for public facilities. It is subject to annual review and revision.

Carrying Capacity: (1) The capacity of public roads to carry traffic at a reasonable level without congestion. (2) The capacity of the water and sewerage system to supply water and carry off liquid waste generated by development.

Chemical Oxygen Demand (COD): A measure of the amount of a water body's dissolved oxygen supply that would be used in completely oxidizing added chemical compounds.

Cluster Development: An option in the subdivision regulations which permits lots of varying shapes and sizes, some smaller than the minimum otherwise permitted in a conventional subdivision, and some with different types of dwelling units, in return for improved design and provision of common open space. The average density achieved in cluster subdivisions is often slightly higher than in conventional subdivisions.

Comprehensive Planning Policies (CPP): An amendment to the County General Plan which establishes development thresholds for all parts of the County based on the carrying capacity of existing and programmed public facilities. The most important of these facilities are roads, sewerage systems and water lines. As new facilities are programmed in the CIP, the thresholds are revised. The objective of the CPP is to stage growth so that growth is in balance with the facilities needed to serve it.

Concept Plan: A generalized idea or set of ideas that forms the basis for a master plan.

Day/Night Noise Levels ( $L_{dn}$ ): An average sound pressure level, reflecting the variations in noise over time, including a weighting for nighttime (10 p.m. - 7 a.m.) levels to account for the greater degree of distraction experienced at night while trying to sleep. This descriptor is currently being used by the U.S. Environmental Protection Agency and the State of Maryland for their noise standards.

Decibel (dBA): The standard expression for units of sound, with a weighting to account for the sensitivity of the human ear.

**Development Right:** One dwelling unit of transferable density in the transferable development rights program. Also see Transfer of Development Rights.

**Dissolved Oxygen (DO):** The concentration of oxygen dissolved in water, usually expressed in milligrams per liter.

**Drainage Area:** The area of a drainage basin or watershed. Also called catchment area, watershed, and river basin.

**Easement:** A contractual agreement to gain temporary or permanent use of and/or access through a property.

**Effluent:** Liquid outflow from a wastewater treatment process, such as primary, secondary, or advanced wastewater treatment.

**Equivalent Noise Level ( $L_{eq}$ ):** Steady sound pressure level which, for a given period of time, contains the same sound energy as the actual time varying sound during the same time period.

**Euclidean Zone:** A zone in which certain uses are permitted, as a matter of right, but they are subject to rigid requirements such as lot size; front, side and rear setbacks; and height limits. A euclidean zone may be applied for either by the property owner or by the government, and thus may be applied by sectional map amendment. Maryland law states that a local map amendment rezoning to a euclidean zone is permissible only if there has been a change in the character of the neighborhood or a mistake in the original zoning. error). Also see Sectional Map Amendment and Local Map Amendment.

**Floating Zone:** A zone which is in the nature of a special exception. Normally a floating zone is applied by local map amendment on application of the property owner or other person having a proprietary interest. Before a floating zone can be granted, it must meet specific tests stated in its "purpose clause" and must be found to be compatible with surrounding land uses.

**Flood Frequency:** The frequency with which a flood may be expected to occur at a site in any average interval of years. For example, frequency analysis defines the "100 Year Flood" as being the flood that will, over a hundred years, be equaled or exceeded on the average only once or, statistically, has only a one percent chance of occurring in any year.

**Floodplain:** That area of land adjoining a stream which is inundated temporarily by water whenever the stream overflows its banks. The ultimate 100-year floodplain represents the area which would be inundated by flooding due to a 100-year frequency storm after the ultimate planned development occurs.

**Floor Area Ratio (FAR):** The ratio of the gross floor area of a building to the area of the lot on which it is located. Parking and unoccupiable space in the building are generally excluded from the computation. For example, a building with gross floor area of one acre on a two acre lot would have a Floor Area Ratio of 0.5.

**General Plan:** The county-wide comprehensive plan entitled On Wedges and Corridors, adopted in 1964 and updated in 1969. It provides the overall framework for the county's future. Each master plan adopted since 1969 amends the General Plan.

Groundwater: Subsurface water from which wells and springs are fed and which provides the base flow of streams.

Headwater: (1) The source of a stream. (2) The water upstream from a structure or point on a stream.

Hydraulic Capacity: The volume of flow which can effectively be handled by man-made structures or natural streams.

Impervious Surface: That portion of the land surface through which water cannot penetrate.

Impoundment: A pond, lake, basin, or other space, either natural or man-made, used for the storage, regulation, and control of water.

Infrastructure: The built facilities such as streets, bridges, schools, water and sewer lines, other utilities, parks, etc., that service a community's developmental and operational needs.

Interceptor Berm: A temporary ridge of compacted soil constructed across disturbed areas to shorten the length of exposed slope, thereby reducing the potential for erosion by intercepting storm runoff and diverting it to a stabilized outlet or sediment trap.

Level of Service (LOS): A traffic engineering term which describes conditions on a segment of roadway. There are six levels, ranging from free flowing conditions (level of service "A") to very heavy traffic, extremely unstable flows, and long delays (level of service "F").

Local Map Amendment: A change of zoning, normally sought by the owner or other person having a proprietary interest. Applications for local map amendments may be filed only during the months of February, May, August, or November, and are considered according to procedures specified in the zoning ordinance. A local map amendment can include more than one tract of land. Land can be combined for purpose of rezoning. Approval of a local map amendment normally requires the affirmative vote of a majority (four members) of the County Council. If the proposed rezoning is contrary to the zone recommended in a master plan, however, approval requires affirmative vote of five Council members, unless the Planning Board has recommended in favor of that approval, in which case, a four-vote majority of the Council is sufficient for approval.

Master Plan: A document which guides the government and private individuals in the way an area should be developed. In Montgomery County, master plans amend and/or detail, for portions of the county, the recommendations of the County's General Plan.

Mixed-Use Development: The integration of different, usually compatible or mutually supportive land uses on a site or into a single building or complex.

Moderately Priced Dwelling Unit (MPDU): A dwelling unit which meets price levels specified under Chapter 25A of the Montgomery County Code. The levels are adjusted annually by the County Executive. Developments of 50 or more units must include at least 12.5 percent which are MPDU's.

**Noise Abatement Plan:** A detailed program of changes in airport operations which has as its goal the reduction or elimination of impacted land use areas.

**Nonpoint Source Pollution:** Pollution that enters a water body from diffuse origins in the watershed and does not result from discernible, confined, or discrete sources.

**Non-Structural Controls:** Measures designed to mitigate negative watershed impacts associated with storm flows, usually accomplished through site design, the application of conservation practices such as density control, or buffering.

**On-Site Stormwater Management:** Stormwater management techniques applied within a given site boundary, usually near the source of stormwater runoff.

**One-Hundred Year Ultimate Floodplain:** The floodplain that would result from a 100-year frequency flood, calculated on total development in a watershed.

**Operational Controls:** Methods for improving traffic flow that do not involve major physical change to a roadway. Examples include progressive signal timing, reversible lanes, left or right turn lanes, carpool and bus lanes, or turn restrictions at intersections.

**Optional Density:** Density in dwelling units, or square footage of nonresidential space per unit of land, that would be compatible with surrounding land uses (existing and proposed) and would be within the carrying capacity of the public facilities. Optional density can be achieved through the use of various bonuses, including transferred development rights (TDR's) or planned development (PD). Also see Planned Development Zoning and Transfer of Development Rights.

**Park Take-Lines (also called park acquisition lines):** Proposed boundaries for park acquisition and inclusion in the county park system. Areas considered for stream valley parks generally include floodplains, steep slopes, and sites of environmental sensitivity.

**Planned Development Zoning (PD):** A group of "floating" zones which allow a broad range of housing types, flexibility of design, a mix of land uses and which encourage better land planning with greater efficiency, convenience, and more amenities than conventional, or euclidean, zoning categories. A development plan must be approved at the time of zoning.

**Planning:** The orderly, reasoned process of evaluating the existing and future needs of an area and its residents, and the preparation of alternatives and recommendations to meet those needs.

**Point Source Pollution:** Pollutants emanating from specific and identifiable sources and discharged to specific locations. These pollutants are often liquids discharged from a pipe.

**Preferential Runway System:** A diversion of traffic away from noise-sensitive areas by use of a preferred runway which is directed toward less populated areas. For a one runway system, this may also refer to a preferred direction of landing or takeoff under neutral wind conditions.

**Progressive Signal System:** A series of traffic lights, timed to permit groups of vehicles to pass through several successive intersections without stopping.



**Receiving Area:** An area designated on a master plan to receive transferred development rights. The addition of development rights permits a higher density of development than that permitted by the base density, but the density may not exceed that recommended in the master plan. The base density may be increased by one dwelling unit for each development right received. Development rights are transferred by easement and the transfer is recorded in the county land records. Also see Base Density and Transfer of Development Rights.

**Retention Pond:** A natural or artificial impoundment that maintains a permanent water supply.

**Ride-On:** Local, county-operated minibus system.

**Runoff:** That portion of precipitation in a drainage area that is discharged from the area in to streams. Runoff can pick up pollutants from the air or the land and carry them into the stream.

**Schematic Development Plan:** A development plan for Planning Board review and County Council approval submitted as part of an application for the rezoning of land into floating zones at the option of the applicant. Such schematic development plans limit development to that specified in the application.

**Sectional Map Amendment:** A comprehensive rezoning, initiated by the Planning Board or County Council, covering a section of the County, and usually including several tracts of land. It normally follows a master plan study. It may propose various zones to be applied to various individual tracts. The County Council must hold a public hearing on a proposed sectional map amendment. Since enactment of a sectional map amendment is considered a legislative action of the government, and is intended as a comprehensive implementation of public policy, it does not require a finding of a change in the character of the neighborhood or a mistake in the original zoning. Approval is by majority vote of the council.

**Sending Areas:** Areas located within the Agricultural Reserve, which have a basic right of development under the rural density transfer zone of one unit per 25 acres, but which are assigned transferable development rights at one unit per five acres.

**Setback:** The required distance that a proposed structure or parking area must be located from the property lines or from other buildings. Setbacks are specified in each zone.

**Severely Limited Soils:** Soils which have properties so unfavorable and difficult to correct or overcome as to require major soil reclamation and special construction measures.

**Site Plan:** A detailed plan, required in certain zones, that usually shows proposed development on a site in relation to immediately adjacent areas. It indicates roads, walks, parking areas, buildings, landscaping, open space, recreation facilities, lighting, etc. The Planning Board must approve the site plan before building permits can be issued.

**Special Exception (Use):** Uses not permitted by right in a zone but which may be permitted subject to a specific request for permission and a grant of approval by the Montgomery County Board of Appeals.

Staging: An element of a master plan and the county's growth management system which coordinates the schedule of public facility construction with the pace of private development.

Stormwater Management: The application of various techniques for mitigating the adverse effects of stormwater runoff.

Subdivision: (1) The division of a lot, tract, or parcel of land into two or more lots, plots, sites, tracts, parcels or other divisions for the purpose, whether immediate or future, of sale or building development. (2) The recombination of lots previously created into a new configuration.

Ten Year Comprehensive Water Supply and Sewerage System Plan: The program of the Washington Suburban Sanitary Commission, subject to approval by the County Council, for the provision of water and sewerage service in Montgomery County.

Transfer of Development Rights (TDR): The conveyance of development rights, as authorized by local law, to another parcel of land and the recordation of that conveyance among the land records of Montgomery County. Also see Receiving Area and Sending Area.

Transit Serviceable: Locations of sufficient population, employment, and/or commercial density to enable them to be served efficiently by public transit.

Turbidity: A measure of light penetration into a water body, and therefore the depth to which green plants will grow.

Two Year Storm: A storm with a 50 percent statistical probability of being equalled or exceeded in a given year.

Ultimate Land Use: Future land use as prescribed by the most recent master plan assuming total implementation of that plan. In actual practice, development densities rarely exceeds 80 percent of ultimate land use.

Unique Vegetation: Individual plant species or vegetative communities which are highly uncommon within a given area.

Vehicular Capacity: A measure of the maximum number of vehicles that can pass through a given road segment, or intersection, during a given time period. Capacity is measured for each level of service (LOS). Also see Level of Service.

Vesting: Rights which accrue to a land owner during the development process as various approvals are obtained.

Watershed: The area contained within a topographic divide above a specified point on a stream; the area which drains into that stream.

Wildlife Habitat: An area which supplies the factors (i.e., food, cover, water, etc.) necessary for the existence and propagation of wildlife.

Zoning: The division of a municipality or county into districts for the purpose of regulating the use of private land. These zones are shown on an official atlas which is part of the zoning ordinance. Within each of these districts the text of the zoning ordinance specifies the permitted uses, the bulk of buildings, the required yards, the necessary off-street parking, and other prerequisites to obtaining permission to develop.

Zoning Map Amendment: A change to the zone on a given parcel or group of parcels, as shown on the zoning atlas. Also see Local Map Amendment and Sectional Map Amendment.

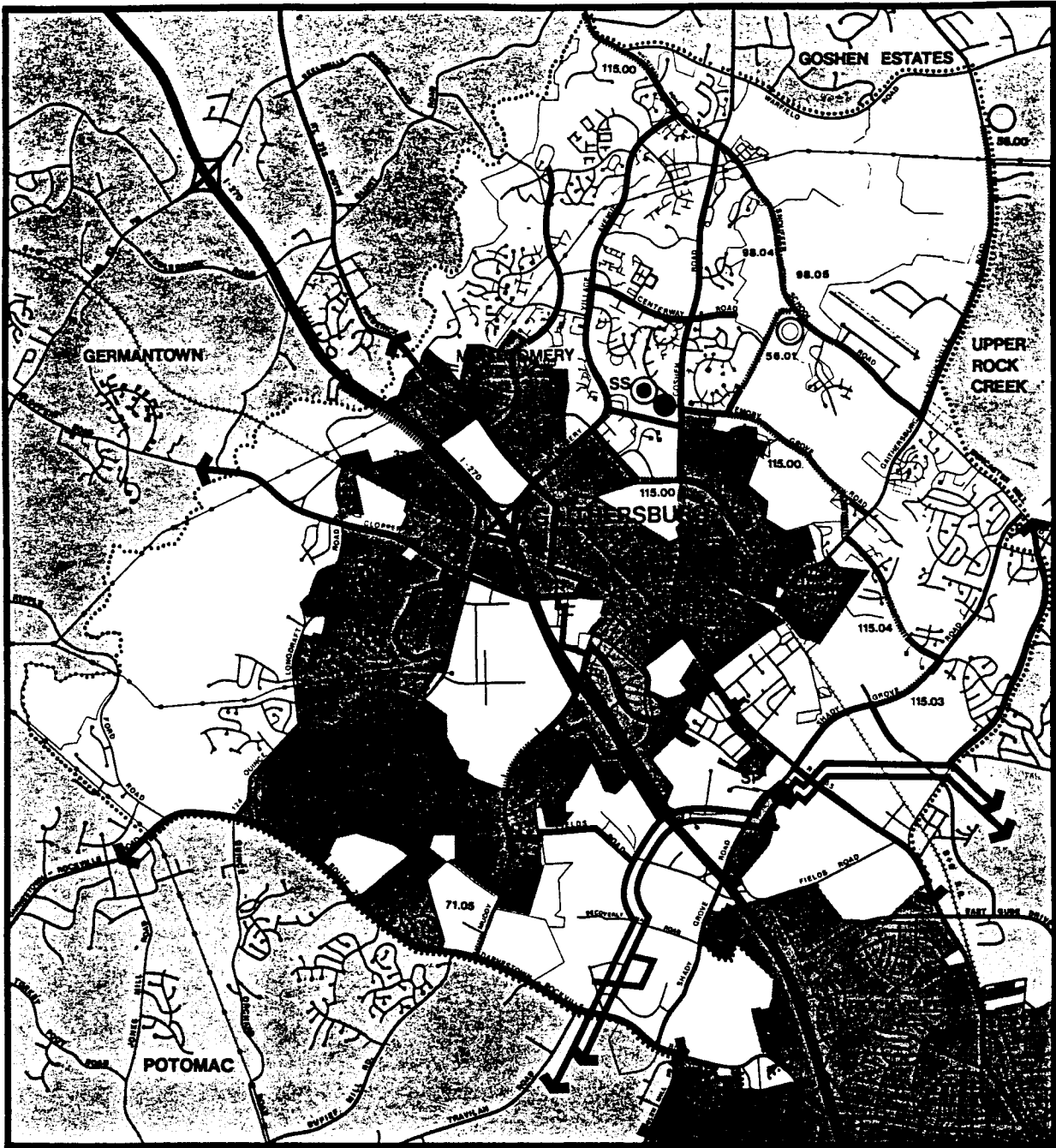
Zoning Text Amendment: A change to the regulations of a given zone or zones, as stated in the text of the zoning ordinance.

## APPENDIX 4

### PROPOSED WATER PROJECTS

Storage and transmission line projects proposed for the study area are listed below. In addition to the active CIP projects, Project W-115.00 is included in the CIP as a dependent project, meaning that it will be built in the future when the need develops.

<u>Project Number</u>	<u>Project Name</u>	<u>Estimated Cost (\$000)</u>	<u>Project Description</u>
W37.04	270 Water Line	4,303	13,985 feet of 48 inch water main along 270 from Montgomery Village Avenue to Middlebrook Road.
W-56.02	Snouffer School Road	248	3,320 feet of 16 and 24 inch water main along Strawberry Knoll and Snouffer School Roads.
W-56.03	Strawberry Knoll Road Water Line	102	1,150 feet of 24 inch water main along Strawberry Knoll Road south of W-56.02.
W-71.05	Muddy Branch Road Water Line	445	4,290 feet of 24 inch water line along Muddy Branch Road between MD 28 and Fields Road.
W-98.03	Hunters Woods	75	1,410 feet of 16 inch water line along Snouffer School Road north of W-98.04.
W-98.04	Fulks Property	213	3,400 feet of 16 inch water line along Snouffer School Road north of W-56.02.
W-115.03	Shady Grove Road	520	3,300 feet of 30 inch water line along Shady Grove Road west of Briardale Road.
W-115.04	Amity Drive Water Line	176	1,705 feet of 24 inch water line from intersection of Amity Drive and Taunton Drive to Briardale Road.
W-115.05	Watkins Mill Road Water Line	180	2,600 feet of 16 inch water line along Watkins Mill Road from Travis Avenue to Watkins Mill Drive.



**PLANNED WATER FACILITIES**

..... PLANNING AREA BOUNDARY

MUNICIPALITIES

	EXISTING	PLANNED
<b>WATER STORAGE TANKS</b>		
ES Elevated Storage		
SP Stand Pipe		
SS Surface Storage		
<b>WATER PUMPING STATIONS</b>		
<b>TREATED WATER TRANSMISSION</b>		

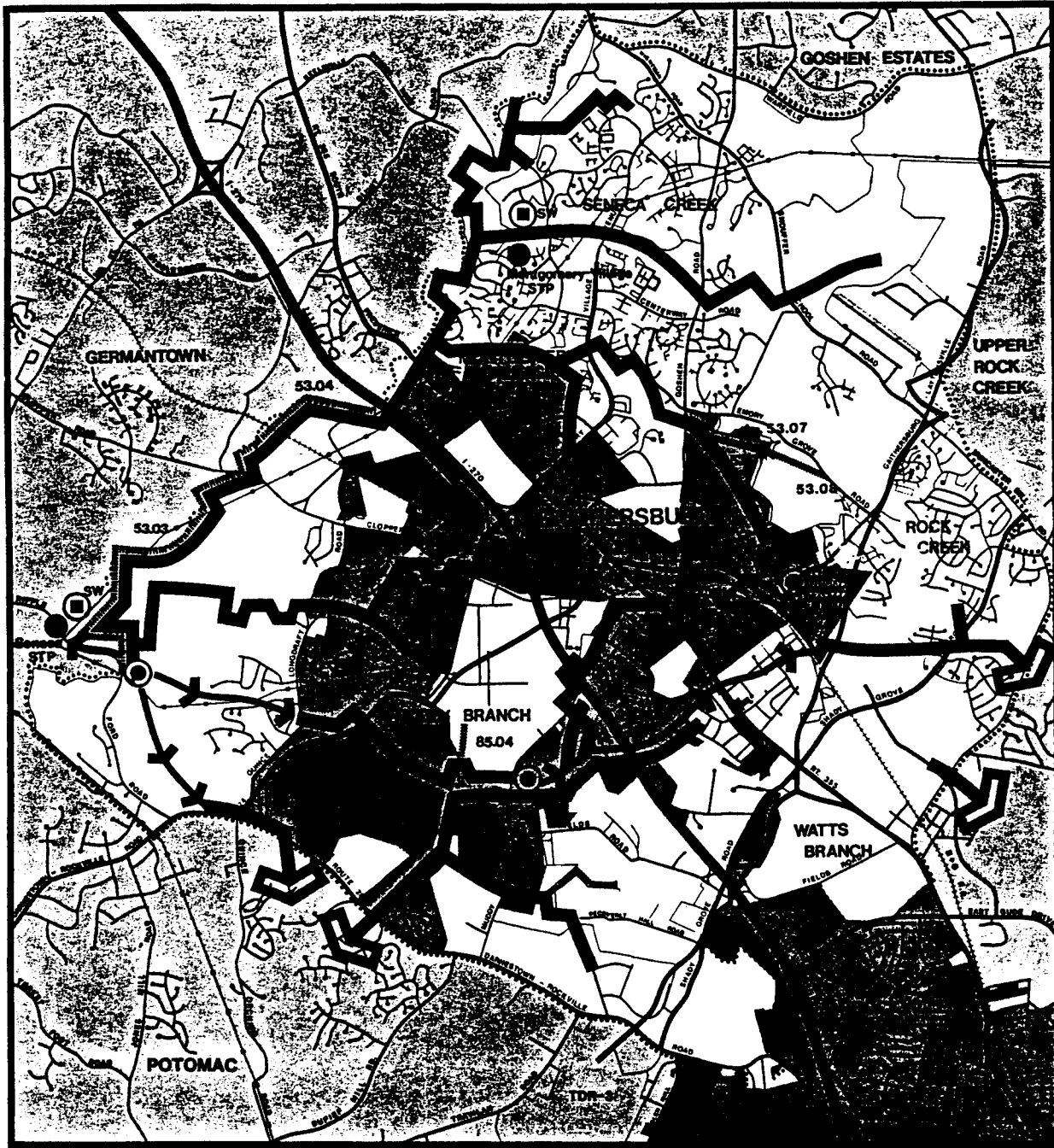
SOURCE: MONTGOMERY COUNTY 1984-89 CAPITAL IMPROVEMENTS PROGRAM

**GAITHERSBURG VICINITY MASTER PLAN**

Montgomery County, Maryland

0 2000 4000 6000 8000 10000  
 0 200 400 600 800 1000  
 METERS

Final Draft  
 SEPTEMBER, 1983



**PLANNED SEWER FACILITIES**

..... PLANNING AREA BOUNDARY

MUNICIPALITIES

FORCE MAINS

BASIN LINES

	EXISTING	PLANNED
SEWAGE PUMPING STATIONS		
DISCHARGE POINTS		
SEWAGE TREATMENT PLANTS (STP)		
INTERCEPTORS, OUTFALLS		

SOURCE: MONTGOMERY COUNTY 1984-85 CAPITAL IMPROVEMENTS PROGRAM

**GAITHERSBURG VICINITY MASTER PLAN**

Montgomery County, Maryland

Final Draft  
SEPTEMBER, 1983

Scale: 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 FEET

Scale: 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 METERS

<u>Project Number</u>	<u>Project Name</u>	<u>Estimated Cost (\$000)</u>	<u>Project Description</u>
W-56.00	Airpark Pressure Zone Storage	3,994	2 mg elevated storage facility and 8,000 feet of 16 inch water line along MD 124 from Airpark Road to site.
W-56.01	Airpark Pressure Zone Pumping Station	859	5.5 mgd pumping station south of Strawberry Knoll Road at intersection with Snouffer School Road.

Source: Adopted Fiscal Years 1983-1988, CIP.

#### PROPOSED SEWERAGE PROJECTS

The proposed 1984-89 Capital Improvements Program (CIP) include Project S-49.09, the Rock Creek Facility Plan, which will examine measures to increase the capacity of the Rock Creek interceptor. Projects S-53.03 and S-53-04, the Great Seneca Relief Sewers, are included in the CIP as dependent projects, meaning that they will be constructed when needed. Other active CIP projects in the study area are listed in the following table.

<u>Project Number</u>	<u>Project Name</u>	<u>Estimated Cost (\$000)</u>	<u>Project Description</u>
S-85.07	Muddy Branch, Branch C	412	1,630 feet of 15 inch sewer along Branch C of Muddy Branch.
S-53.01	Seneca Whetstone Run Branch J	504	4,550 feet of 15 inch sewer along Branch J of Whetstone Run.

Source: Adopted Fiscal Years 1983-1988, CIP.

APPENDIX 5  
COST FOR PROJECTS RECOMMENDED IN THE GAITHERSBURG VICINITY MASTER PLAN  
ROADS

Facility Type, Name and Location	Project Description	CIP Status <sup>1</sup>	Estimated Project Cost (1984 Dollars)
<u>FREEWAYS</u>			
F-1 I-270 - Washington National Pike	From Great Seneca Creek to Planning Area Boundary; Paving Width 8 lanes divided, 4.3 miles; R/W 250'	--	\$ 24,668,000
I-370 Metro Access Highway	From I-270 to Plan Boundary (Redland Road); Paving Width 6 lanes divided	FY 88-90	10,254,000
F-9 I-370 Connector	From I-270 to Great Seneca Highway, Paving Width 6 lanes divided; R/W 120'	FY 88-90	9,725,000
Intercounty Connector	From I-370 to Redland Road, Paving Width 6 lanes divided, R/W 300'	--	18,264,000
<u>Controlled Major Highways</u>			
M-83 MD 115 Midcounty Highway	Montgomery Village Avenue to Shady Grove Road; R/W 120' to 150', Paving Width 4 lanes divided, 3 miles	FY 84-88	8,843,000
M-90 Great Seneca Highway Phases II & III	From Great Seneca Creek to MD 28 at West Ritchie Parkway; Paving Width 6 lanes divided, R/W 150';	FY 86 and Beyond 6-Year Program	33,197,000
<u>Major Highways</u>			
M-15 Muddy Branch Road	From MD 28 to MD 117; Paving Width 4 lanes divided; R/W 120';	FY 86-90	11,091,000
M-22 MD 28 Darnestown-Rockville Road/Key West Avenue	From Riffleford Road to Muddy Branch Road; Paving Width 4 lanes divided	--	3,655,000
M-2 Shady Grove Road Extension- Muncaster Road	From Muncaster Mill Road to Olney-Laytonsville Road, R/W 120', Paving Width 4 lanes divided	--	5,542,000
M-23 Gude Drive Extension (I-270 Bridge)	From MD 355 to Research Boulevard; Paving Width 4 lanes divided; R/W 120'	FY 84-85	4,565,000



COST FOR PROJECTS RECOMMENDED IN THE GAITHERSBURG VICINITY MASTER PLAN  
ROADS (Cont'd.)

Facility Type, Name and Location	Project Description	CIP Status <sup>1</sup>	Estimated Project Cost (1984 Dollars)
<u>Major Highways (Cont'd.)</u>			
M-24 MD 124 (Part) Quince Orchard Road	From Clopper Road to the GEISCO site and from GEISCO site to MD 28; R/W 120'; Paving Width 4 lanes divided	FY 84-85	3,699,000
M-21 MD 124 Relocated (Part) Oden'hal Avenue/ Gaithersburg/Laytonsville Road	From Snouffer School Road to Goshen Road, Paving Width 4 lanes divided	--	4,593,000
M-22 MD 28 Key West Avenue	From Shady Grove Road to Gude Drive Extended, R/W 120'; Paving Width 4 lanes divided	FY 87-88	3,434,000
M-22 MD 28 Key West Avenue	From MD 28 to Shady Grove Road, Paving Width 4 lanes divided, R/W 120'	FY 85-90	4,553,000
M-22 MD 28 Key West Avenue Extension	From Gude Drive to MD 28, Paving Width 4 lanes divided R/W 120'	--	1,752,000
M-26 MD 117-124 Clopper Road/ West Diamond Avenue	From Great Seneca Creek to Muddy Branch Road, Paving Width 4 lanes divided, R/W 120'	--	3,178,000
M-25 Goshen Road	From Emory Grove Road to Snouffer School Road; Paving Width 4 lanes divided, R/W 120'	--	3,504,000
<u>Arterial Highways/Business District Streets</u>			
A-16 Snouffer School Road	From Goshen to MD 124, Paving Width 4 lanes divided, R/W 80'	--	3,240,000
A-36 Shady Grove Road Bridge/ Interchange	Design and construction of new ramps from Shady Grove Road to I-270 (northbound and eastbound) and second bridge over I-270	FY 86	8,180,000
Shady Grove Widening East	From MD 28 to Briandale Road, Paving Width 6 lanes divided	FY 84	2,068,000
Shady Grove Widening West	From Corporate Boulevard to MD 28, Paving Width 6 lanes divided, 1.2 miles	FY 85-87	1,580,000

COST FOR PROJECTS RECOMMENDED IN THE GAITHERSBURG VICINITY MASTER PLAN  
ROADS (Cont'd.)

Facility Type, Name and Location	Project Description	CIP Status <sup>1</sup>	Estimated Project Cost (1984 Dollars)
<b>Arterial Highways/Business District Streets (Cont'd.)</b>			
A-17 Watkins Mill Road Bridge	From Watkins Mill Elementary School to Travis Road, Paving Width 4 lanes divided	FY 86-87	1,032,000
A-261 Fields Road	From Muddy Branch Road to Omega Drive, R/W 80'; Paving Width 50 feet	FY 88-90	4,717,000
	From Piccard Drive to MD 355, R/W 80'; Paving Width 4 lanes divided	FY 85-86	3,865,000
	From Muddy Branch to I-370 Extended, Paving Width 4 lanes	--	6,903,000
A-261a Omega Drive	From intersection of Fields Road and I-270 ramp to Key West Avenue, R/W 80'; Paving Width 50 feet	FY 85-86	1,886,000
A-268 Airpark Road Extended	From MD 124 to Shady Grove Road, R/W 80'; Paving Width 50 feet, 1.8 miles	Pre Study FY 85	4,448,000
A-95 Fieldcrest Road Extended	From MD 124 to East Montgomery Village Avenue, R/W 80', Paving Width 4 lanes divided	--	2,386,000
A-275 Centerway Road Extension	From Snouffers School Road to Centerway Road, Paving Width 4 lanes, R/W 80'	FY 84	621,000
A-280 Existing MD 28	From Key West Avenue to Great Seneca Highway and from Glen Mill Road to Research Boulevard; Paving Width 4 lanes divided	--	3,558,000
A-284 Diamond Back Drive	From Muddy Branch Road to Fields Road; Paving Width 4 lanes divided	--	3,935,000
A-17 Longdraft Road	From Quince Orchard to Clopper Road, R/W 80'; Paving Width 4 lanes divided	FY 86-87	2,524,000

COST FOR PROJECTS RECOMMENDED IN THE GAITHERSBURG VICINITY MASTER PLAN  
ROADS (Cont'd.)

Facility Type, Name and Location	Project Description	CIP Status <sup>1</sup>	Estimated Project Cost (1984 Dollars)
<u>Industrial Roads</u>			
1-7 - Gaither Road	From Shady Grove Road to Fields Road, R/W 80'; Paving Width 50 feet	FY 85-86	2,368,000
1-9 Fields Road/Redland Road	From B&O Railroad to proposed Crabbs Branch Way; R/W 80';	FY 85	3,274,000
1-6 Crabbs Branch Way	From existing end of paving on Crabbs Branch Way to south of Redland-Fields Road, R/W 80', Paving Width 4 lanes	FY 84	1,813,000
<u>Other Transportation Projects</u>			
Gaithersburg Commuter Rail Station	Improvement of the rail passenger station at Gaithersburg	FY 85-87	330,000
MD 115/MD 124 intersection	Improvement of the MD 115/MD 124 Snouffer School Road intersection	FY 85	460,000
TOTAL			<u>\$213,705,000</u>

NOTE: 1. Projected construction schedule from the Adopted FY 85-90 Capital Improvements Program.

COST FOR PROJECTS RECOMMENDED IN THE GAITHERSBURG VICINITY MASTER PLAN  
SCHOOLS

Facility Type, Name and Location	Project Description	CIP Status	Estimated Project Cost (1984 Dollars)
<u>SCHOOLS</u>			
Flower Hill Elementary School	A new 700 student elementary school built on the Flower Hill site.	Scheduled to open in September 1985	\$ 4,892,000
Washington Grove Elementary School	Modernization	FY 85	2,006,000
Elementary School-Fields Road area	Construct new 700 student park school on site at Fields Road between Muddy Branch and Shady Grove Road.	None: site to be acquired and facility to be constructed when needed	4,500,000 <sup>2</sup>
Elementary School-Thomas Farm area	Construct new 700 student park school on site at Shady Grove Road and MD 28 east of Life Sciences Center.	None: site to be acquired and facility to be constructed when needed	4,500,000 <sup>2</sup>
Elementary School-Warther Tract area	Construct new 700 student school on site on Muddy Branch Road north of Great Seneca Highway.	None: site to be acquired and facility to be constructed when needed	4,500,000 <sup>2</sup>
Elementary School-Quince Orchard Road area	Construct new 700 student school on site at Quince Orchard Road near National Geographic Society.	None: site to be acquired and facility to be constructed when needed	4,500,000 <sup>2</sup>
Elementary School-Woodward Road area	Construct new 700 student school on site south of Emory Grove Road near Flower Hill Planned Neighborhood.	None: facility to be constructed when needed	4,500,000 <sup>2</sup>
Elementary School-Strawberry Knoll Road area	Construct new 700 student park school (Strawberry Knoll or Independence) on site on Strawberry Knoll Road.	None: facility to be constructed when needed	4,500,000 <sup>2</sup>
Elementary School-Warfield Road area	Construct new 700 student park school on site at Warfield Road in Montgomery Village East Development.	None: site to be acquired and facility to be constructed when needed	4,500,000 <sup>2</sup>
Blueberry Hill Elementary School-Redland Road area	Construct new park school on site west of Redland Road and east of Shady Grove Road Extended adjacent to Blueberry Hill Local Park.	None: facility to be constructed when needed	4,500,500 <sup>2</sup>
High School-Quince Orchard Road	Construct new 1600 student school on site near MD 28 and Quince Orchard Road in the vicinity of National Geographic Society.	None: site to be acquired and facility to be constructed when needed	20,000,000 <sup>2</sup>
High School-Strawberry Knoll Road Area	Construct new 1500 student school on site on Strawberry Knoll Road near Centerway Road.	None: facility to be constructed when needed	20,000,000 <sup>2</sup>
Gaithersburg High School	A 16 classroom addition and improvements to core facilities.	FY 85-86	3,912,200
High School-Watkins Mill (formerly called Seneca High)	Construct new 1600 school on site at the western edge of Montgomery Village, adjoining Seneca Creek.	None: facility to be constructed when needed	20,000,000 <sup>2</sup>
<b>TOTAL</b>			<u>\$106,810,000</u>

NOTE: 1. The exact location has not yet been determined.  
2. Acquisition and equipment costs not included.

COST FOR PROJECTS RECOMMENDED IN THE GAITHERSBURG VICINITY MASTER PLAN  
WATER AND SEWER DISTRIBUTION SYSTEM

Facility Type, Name and Location	Project Description	CIP Status	Estimated Project Cost (1984 Dollars)
<b><u>WSSC SEWERAGE PROJECT</u></b>			
Gudelsky Tract Station	A temporary package pumping station	FY 86	\$ 563,000
Muddy Branch Basin (Shady Grove West Area)	Possible major relief sewers in the Muddy Branch Basin and new service (estimated at \$5 million) to the Gudelsky/Percon Tract	--	10,000,000 <sup>1,3</sup>
Cabin Branch and Whetstone Run Basin (Airpark Area)	Possible major relief sewers in Cabin branch and Whetstone Run	--	2,000,000 <sup>2,3</sup>
<b><u>WSSC Water Project</u></b>			
Airpark Pressure Zone Storage	A 2 mgd elevated storage facility to be designed in an desirable manner	FY 85	4,804,000
Airpark Pumping Station	A 5.0 mgd water pumping station (ultimate capacity 5.5 mgd)	FY 85	1,123,000
Muddy Branch Road Main, Part 3	2,000 feet of 24 inch diameter water main	FY 86	212,000
Muddy Branch Road Main	4,290 feet of 24 inch diameter water main	FY 88	474,000
"Fulks Property" Parts IV and V	1,000 feet of 16 inch diameter water main	FY 85	69,000
Muddy Branch Road Water Main, Part 2	1,735 feet of 24 inch diameter water main	FY 86	185,000
<b><u>WSSC Dependent Water Project<sup>4</sup></u></b>			
Warfield Road and MD 124	7,100 feet of 16 inch diameter		
Goshen Road and Warfield Road Water Main	4,500 feet of 16 inch diameter, 3,000 feet of 24 inch diameter		
Muddy Branch Road Water Line	4,530 feet of 24 feet diameter		
Emory Grove Road Water Line	5,630 feet of 24 feet diameter, 1,500 feet of 20 feet diameter		
<b><u>Stormwater Management Project</u></b>			
Crabbs Branch Subwatershed SWM RC	Two-pharse stormwater management system for Crabbs Branch	FY 85	3,020,000
Shady Branch Site 5 SWM MB	Design and installation of a stormwater detention structure	FY 86	545,000
<b>TOTAL</b>			<u>\$22,995,000</u>

**COST FOR PROJECTS RECOMMENDED IN THE GAITHERSBURG VICINITY MASTER PLAN  
WATER AND SEWER DISTRIBUTION SYSTEM (Cont'd.)**

**NOTES:**

1. The cost does not take into consideration the cost of likely improvements to the Muddy Branch SPS or the possibility of future storage facilities that might be necessary to attenuate peak flow rates entering the Dulles Interceptor.
2. The cost does not take into consideration of the costs for possible improvements to the Seneca Creek trunkline system, the Seneca SPS and Seneca Treatment Plant.
3. In general, these are planning level costs derived by approximating the sizes and lengths of necessary sewer facilities needed to augment the existing sewer facilities. However, the actual sizes and lengths of these facilities could change after more detailed flow/capacity and economic analyses. In addition, possible expansion to existing pumping stations and the Seneca Treatment Plant, the likely rerouting of flows between Seneca, Muddy Branch and Rock Creek, and the possible additions of in-basin storage facilities are factors that could significantly add to these costs. The Western Montgomery Sewerage Facilities Plan, in addition to identifying specific impacted areas, will present a more detailed cost impact of alternative sewage facilities based on alternative sewer routes between Muddy Branch and Seneca Creek basins.
4. There are some projects in the developmental stage for which a realistic schedule of expenditures could not be developed at the time Adopted FY 85-90 CIP was formulated. The implementation of these projects is dependent upon additional actions such as service request, further evaluation of need, etc.

COST FOR PROJECTS RECOMMENDED IN THE GAITHERSBURG VICINITY MASTER PLAN  
PARKS

Facility Type, Name and Location	Project Description	CIP Status <sup>1</sup>	Estimated Total Project Cost (1984 Dollars)
<b><u>PARKS</u></b>			
<b><u>Local Use Parks</u></b>			
Blueberry Hill Local Park	Acquisition of an additional 10 acres and additional development of an existing 10-acre local park	FY 85	\$ 485,000
Centerway Community Park	Acquisition and development of a proposed 20-acre community park	FY 87	245,000
Charlene Local Park	Additional acquisition and development of a 20-acre local park	FY 90	217,000
Flower Hill Local Park	Acquisition of 10 additional acres and development of a 14.5 acre local park	FY 90	260,000
Orchard Neighborhood Park	Acquisition and development of a proposed 10-acre park	FY 90	64,000
Redland Local Park	Development of an existing 10-acre local park	FY 85	382,000
Stewartown Local Park	Additional development of an existing 13-acre local park	FY 84	319,000
Strawberry Knoll Local Park	Development of an existing 10-acre local park portion and 10-acre school portion of a 20-acre park school	FY 85	265,000
Fields Road Local Park	Acquisition and development of a 10-acre local park located west of Shady Grove Road and south of Fields Road	--	270,000 <sup>2</sup>
<b><u>Stream Valley Parks</u></b>			
Cabin Branch Stream Valley Park	Acquisition of 42 additional acres	Acquisition through FY 87; no development planned	544,000 <sup>3</sup>
Great Seneca Extension Stream Valley Park	Acquisition of 1009 additional acres and additional development	FY 84 to Beyond 6-Year period	6,189,000
Mill Creek Stream Valley Park	Acquisition of 3 additional acres	Acquisition through FY 87; no development planned	--
<b><u>Conservation Parks</u></b>			
Green Farm Conservation Park	Restoration of an historic house on an existing conservation park	Development not currently proposed	25,000
<b><u>Recreational Parks</u></b>			
Gude Drive Recreational Park <sup>4</sup>	Acquisition and development of a proposed 161-acre park	FY 88-90	1,235,000
Muncaster Recreational Park <sup>4</sup>	Development of an existing special recreational park	FY 90 and beyond 6-year period	994,000
<b>TOTAL</b>			<u>\$11,494,000</u>

- NOTE:**
1. Adopted FY 85-90 Capital Improvements Program.
  2. Represents estimated future development cost only; acquisition may be through dedication at the time of subdivision.
  3. Represents estimated land acquisition cost.
  4. Site is located outside Gaithersburg Vicinity Planning Area, but proposed facilities are intended to serve Planning Area residents.

COST FOR PROJECTS RECOMMENDED IN THE GAITHERSBURG VICINITY MASTER PLAN  
OTHER PROJECTS

Facility Type, Name and Location	Project Description	CIP Status	Estimated Project Cost (1984 Dollars)
<u>OTHER PROJECTS</u>			
Fire Training Facility Improvement	Provide the capability to simulate high hazard fire and rescue situations under field conditions	FY 84	\$ 120,000
Gaithersburg Station 28 Heating Repairs	Provide for the replacement of the roof mounted gas fired heating and air conditioning unit	FY 85	53,000
Gaithersburg Station 8 Improvements	Replacement of the existing front driveway and the upgrading of the heating system	FY 84	140,000
Up-County Community	30,000 gross square foot of County-owned office and clinic space	FY 89	4,363,000
Upper County Community Center	Recreation center having approximately 18,000 net sq. ft. of usable floor space	FY 85	2,439,000
TOTAL			<u>\$7,115,000</u>
GRAND TOTAL, not inclusive of all projects			<u>\$362,119,000</u>