THE MARYLAND-NATIONAL CAPITAL PARK & PLANNING COMMISSION

...on wedges and corridors

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ADOPTED
JANUARY 22, 1964

a general plan

for the maryland-washington regional district

. . . on wedges and corridors

is a staff proposal!

These recommendations of the technical staff of the Maryland–National Capital Park and Planning Commission will be used as the basis for public hearings

. . . on wedges and corridors

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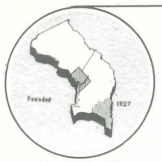
This General Plan for the Physical Development of the Maryland-Washington Regional District in Montgomery and Prince George's Counties was adopted pursuant to the provisions of Chapter 780, Laws of Maryland, 1959, as amended, by resolution of January 22, 1964 after 8 duly advertised public hearings held between January 3, 1963 and February 28, 1963.

JESSE F. NICHOLSON
Secretary-Treasurer

WILLIAM J. STEVENS
Chairman

THE MARYLAND - NATIONAL CAPITAL PARK AND PLANNING COMMISSION

REGIONAL AND METROPOLITAN DISTRICTS IN MONTGOMERY AND PRINCE GEORGE'S COUNTIES, MARYLAND



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January 22, 1964

TO THE RESIDENTS OF
MONTGOMERY AND PRINCE GEORGE'S COUNTIES:

This Commission is proud to present its adopted General Plan, "on wedges and corridors". The Plan serves as a general guide for development for a major portion of one of the Nation's most dynamic and fast-growing metropolitan areas.

Schematic in nature, the Plan establishes a framework around which future development can occur. It will permit effective design of urbanizing areas and development that will enhance the "liveability" of the area for the ensuing years. The Plan is unique in its versatile format. Persons possessing copies of the Preliminary Plan are receiving revisions in the form of map and text changes which convert the preliminary plan into the Plan adopted by this Commission. As new urban development concepts are evolved, further refinements of the Plan can be accomplished by the insertion of additional pages in the publication. Thus, "on wedges and corridors" can always be maintained as a current Plan.

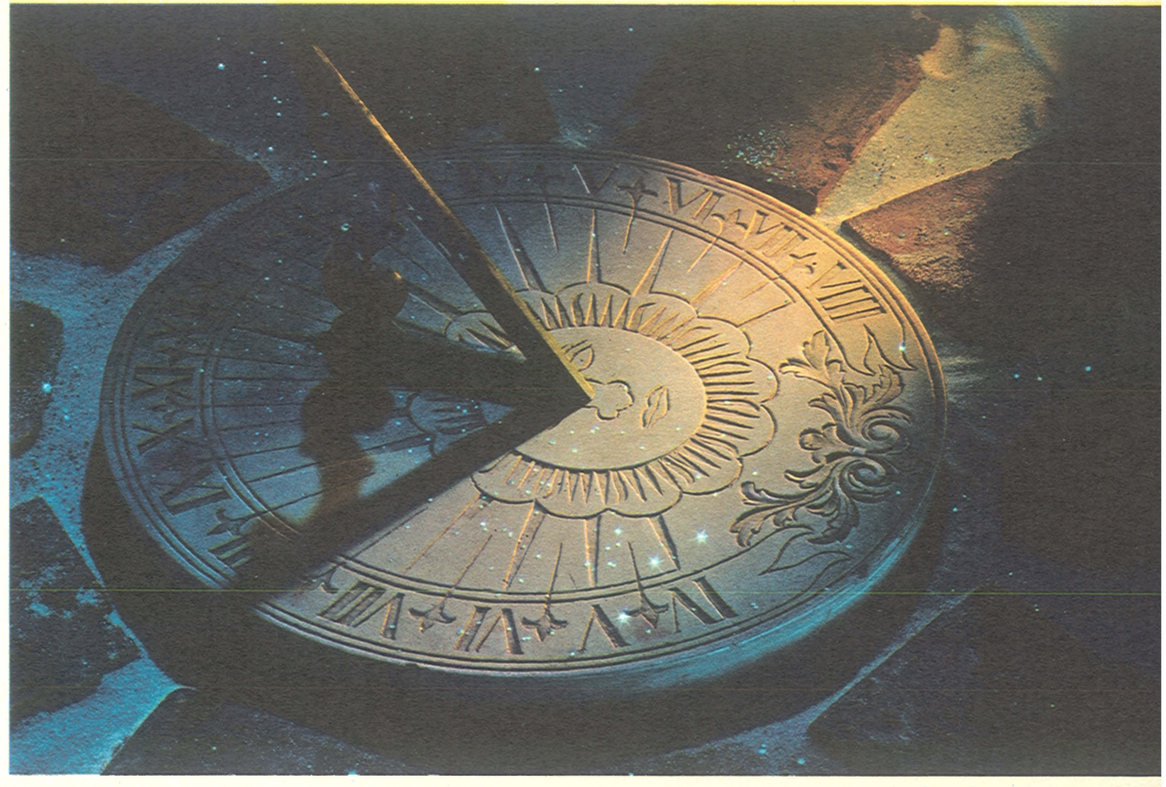
The General Plan is the foundation for an ambitious program which includes the development of planning area and watershed plans, the acquisition and development of park areas, the design of transportation facilities, and the search for new plan effectuation measures. All of these implement the intent of the General Plan - a better environment for us and our children.

William J. Stevens

William J. Stevens
Chairman

...on wedges and corridors

"If you can look into the seeds of time, and say which grain will grow and which will not, speak then to me. . . ."
—SHAKESPEARE.



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a general plan for the

maryland-washington regional district

in montgomery and prince george's counties

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

This report has been organized to tell you first

WHAT the plan proposes; second,

HOW the plan can be put into effect; and third,

WHY these recommendations are necessary.

FINALLY, there is an appendix of technical details for those who wish to dig deeply.

The Maryland-National Capital Park and Planning Commission

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Prince Georges County
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...on wedges and corridors

A Thought—

". . .; we will strive unceasingly to quicken the public's sense of civic duty; and thus in all the ways we will strive to transmit this City not less but greater, better, and more beautiful than it was transmitted to us."

—CITIZENSHIP OATH OF ANCIENT ATHENS.

After the conclusion of the Public Hearings on the General Plan, an Expediting Committee, composed of Commissioners

EVERETT R. JONES, Chairman
MRS. T. PAUL FREELAND
WILLIAM J. STEVENS
MRS. RUSSELL WILTBANK

was formed to evaluate the transcripts of the hearings, coordinate staff activities and present to the Commission recommended revisions to be incorporated into an adopted plan.

After extensive Commission discussion, conferences with the staff and other public agencies, the Plan was adopted on January 22, 1964.

INTRODUCTION

"The concept of the public welfare is broad and inclusive. . . . The values it represents are spiritual as well as physical, aesthetic as well as monetary. It is within the power of the legislature to determine that the community should be beautiful as well as healthy, spacious as well as clean, well balanced as well as carefully patrolled."

U.S. Supreme Court

YOUR STAKE IN PLANNING

As a citizen of Montgomery or Prince George's Counties you are one of 698,000 people living in the Maryland suburbs of the Washington Metropolitan Area, the eighth largest metropolitan area in the country. From its present size of 2 million population the metropolitan area will grow by the turn of the century to 5 million. That will make it as big as Chicago was in 1950, and bigger than Los Angeles in 1950 or Philadelphia today. Most likely you are already experiencing metropolitan problems, and if they are not solved you will feel them much more acutely in the future.

How much more time consuming and frustrating can your daily trip to the office get before "you've had it"? How many more people can crowd into your community before you feel completely "hemmed in"? How far into the distance will you let the rural countryside retreat before trying to preserve some of it for its soothing effect? These are questions you must answer, for without your support planning problems cannot be solved.

As suburbanites you have chosen to live outside the central city. Maybe you wanted sunlight coming through your windows, or more romping space for your children. Maybe you prefer the song of birds to the sound of buses, or maybe you just like a little extra room for gardening on your own land surrounding your own home. Most likely you have chosen to live in the Maryland suburbs because they offer pleasant living and good public services. But the suburbs are growing even faster than the Metropolitan Area as a whole.

Can the suburbs retain their advantages as they double in size in the next two decades, and double again by the Year 2000? The answer is yes, *if* the proper planning is done.

Without planning, a prospective home owner can buy a piece of property and a house, but he cannot purchase an unchanging environment. The kind of neighborhood he will be living in is beyond his individual control. Yesterday's suburbs have become swallowed up in today's city streets, and today's suburbia was yesterday's rural countryside. Without planning, the same pattern continuously repeats itself, and the pace is increasing. There's an obvious limit, reached when one city's suburbs begin to encroach on another's. Long before that time, though, many people have been defeated in their effort to live in the environment of their choice.

But with proper planning the "population explosion" need not be dreaded. There is still plenty of space for new communities without overcrowding and blighting older ones. Montgomery and Prince George's Counties encompass an area of about 1000 square miles. Urban development presently occupies less than 200 square miles of this area. The expected population 40 years from now will require the urbanization of only another 300 square miles. The rest, nearly one-half of the two-county area, will remain rural.

How useable this land will be, and how pleasant the suburbs will be to live in, depends to a large extent upon the success of planning. Good planning can create a pleasing variety of urban and semi-urban communities, all of them tributary to the District of Columbia, and each of them in harmony with the surrounding landscape. Somewhere within them every dweller in the Maryland suburbs can be assured of finding the environment of his choice.

Not only does the pleasantness of your community depend on planning, but so do your costs. Public funds may be saved on sewer trunkline construction if new construction is directed into easily sewerable areas, instead of being allowed to scatter aimlessly. Much greater savings may be realized by concentrating urban development along transportation routes which can supply convenient rapid transit to take peak loads off the highway system. For example the *Mass Transportation Survey Report* of 1959 (pp. 48, 71), comparing the auto dominant plan with the recommended plan including rapid transit, shows a saving of $121 million. Operating costs for schools can be minimized by organizing compact communities which will not require great expansions of the school bus system.

...on wedges and corridors

One of the biggest private costs you pay as a suburbanite is transportation—the second car and the endless chauffeuring of the kids here, there, and everywhere. These costs can also be curtailed by compact instead of scattered development, better local bus routes, shorter distances to local community facilities, and the use of rapid transit for major commuting trips.

In summary, you and every other resident of Montgomery and Prince George's Counties has a tremendous stake in the fulfillment of a workable General Plan. The stake is tangible as well as intangible. Both are equally compelling.

THE NEED FOR THIS PLAN

Planning has been going on in Montgomery and Prince George's Counties for 35 years and A General Plan was adopted in 1957, just five years ago. Why then is it necessary to have a new plan in 1962?

When the 1957 General Plan was prepared, the Maryland-Washington Regional District—the official name of the Commission's planning jurisdiction—included only 294 square miles. Today the Regional District, with more than 900 square miles, is three times as big and includes almost the total area of Montgomery and Prince George's Counties. The present plan includes all of the new territory added since the middle of 1957 as well as the previously planned area.

A second and equally important reason for this revision and expansion of the General Plan is the greatly increased activity in planning for the metropolitan area as a whole. With the publication of the MASS TRANSPORTATION SURVEY REPORT in 1959 and A POLICIES PLAN FOR THE YEAR 2000 in 1961, there is now a metropolitan-wide framework for planning which did not exist in 1957.

The purpose of this report is to help establish over-all policies for development of the Regional District and to relate these policies to the new metropolitan planning framework. Although detailed master plans for specific areas have, to some extent, already been drawn up in accordance with the major policies outlined on the following pages, the guidance of a firmly adopted and publicly supported General Plan will enhance the soundness and acceptability of detailed plans to be produced in the future.

WHY ...on wedges and corridors

The reasons for recommending the Corridor plan as the best plan of development for the Maryland-Washington Regional District are clear-cut.

In this report we would like to call our readers' attention to the tremendous development that is taking place all along the Atlantic coastal plain from New England to Virginia, and ask them to consider the impacts of that development on the Washington area. Some authorities hold that a single continuous city, a 'megalopolis', running from Washington north to Boston, is already in the process of formation. Perhaps this is a slight exaggeration; perhaps not. Certainly there is enough evidence that this may be the case to make everyone realize that a *laissez faire* attitude towards metropolitan area development is no longer tenable—neither in the District of Columbia and its environs, nor in any other urban complex in the eastern United States. Too much is at stake.

The work of professional planning agencies can no longer be tossed lightly aside with a let's-wait-and-see-what-happens attitude. What happens has been amply demonstrated during the past decade of explosive growth. Procrastination leads swiftly to urban chaos.

The era of exploration and settlement in America has been gone for some time, but its philosophy has died only slowly. Until very recently we have continued to treat our cities as indifferently as in the days when we could trek off to virgin territory whenever living conditions became too crowded or too messed up to suit our fancies.

We clung to the dream as long as we could, but we are at last facing up to the sobering fact: there is no other place to go. We must stay where we are and rebuild the frontiers we already possess, rather than wishing for different ones. If anyone doubts that the populace at large is now understanding this, and is getting serious about it, let him simply study a daily newspaper for the next week—or for any week—and note the number of stories that are devoted to metropolitan planning. Nearly every edition carries news and editorials about planning: planning for highways, urban renewal, new suburbs, improved school systems, area redevelopment projects, park and recreation expansion, rapid transit, and so on. Out of sheer necessity, the public has at last awakened to these problems. We have entered an Era of Metropolitan Planning

A recent decision by the President's Cabinet-level committee on Federal Office Space—to concentrate Federal construction in a largely rebuilt downtown Washington—has given strong impetus to the radial corridor and central core philosophy embodied in the *Year 2000 Plan*, and in the recommended General Plan for the Regional District. There will certainly be other such endorsements, and implementing actions, in the near future.

The recommended General Plan for the Maryland suburban area is a plan that reaches beyond the boundaries of the bi-county Regional District. It dovetails harmoniously with the long-range *A Plan For The Year 2000*, thus carrying the radial corridor concept into the heart of Washington and across the Potomac into the Virginia suburban area. Planning of this sort, reaching uninterruptedly across political boundaries, is absolutely essential in today's super-urbanized metropolitan regions. No plans of lesser scope can hope to meet the complex needs of area growth.

Clearly, all these considerations are compelling reasons why Maryland suburban residents should adopt the recommended General Plan and push it to a successful culmination.

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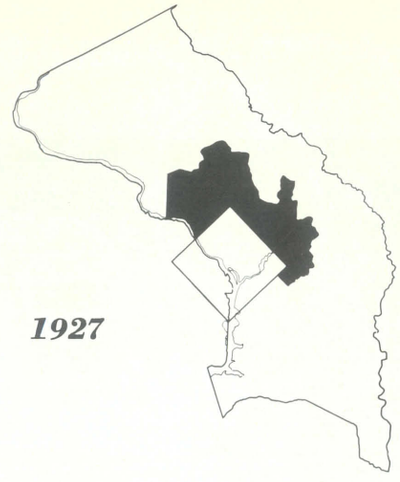

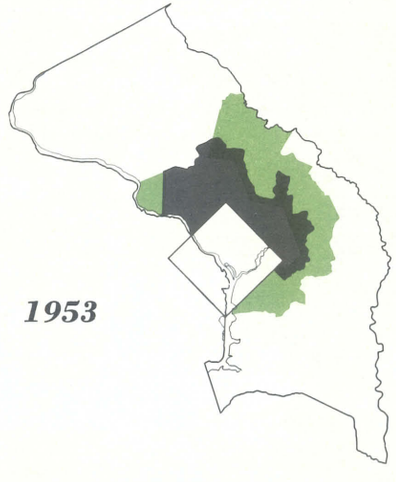

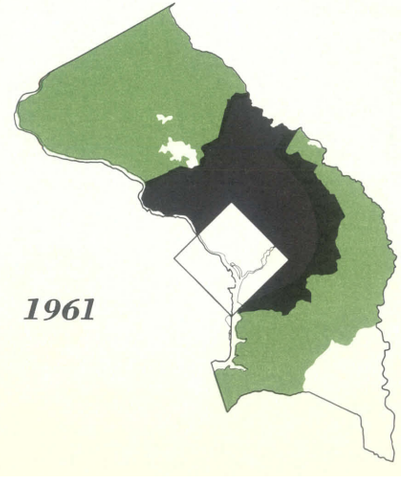

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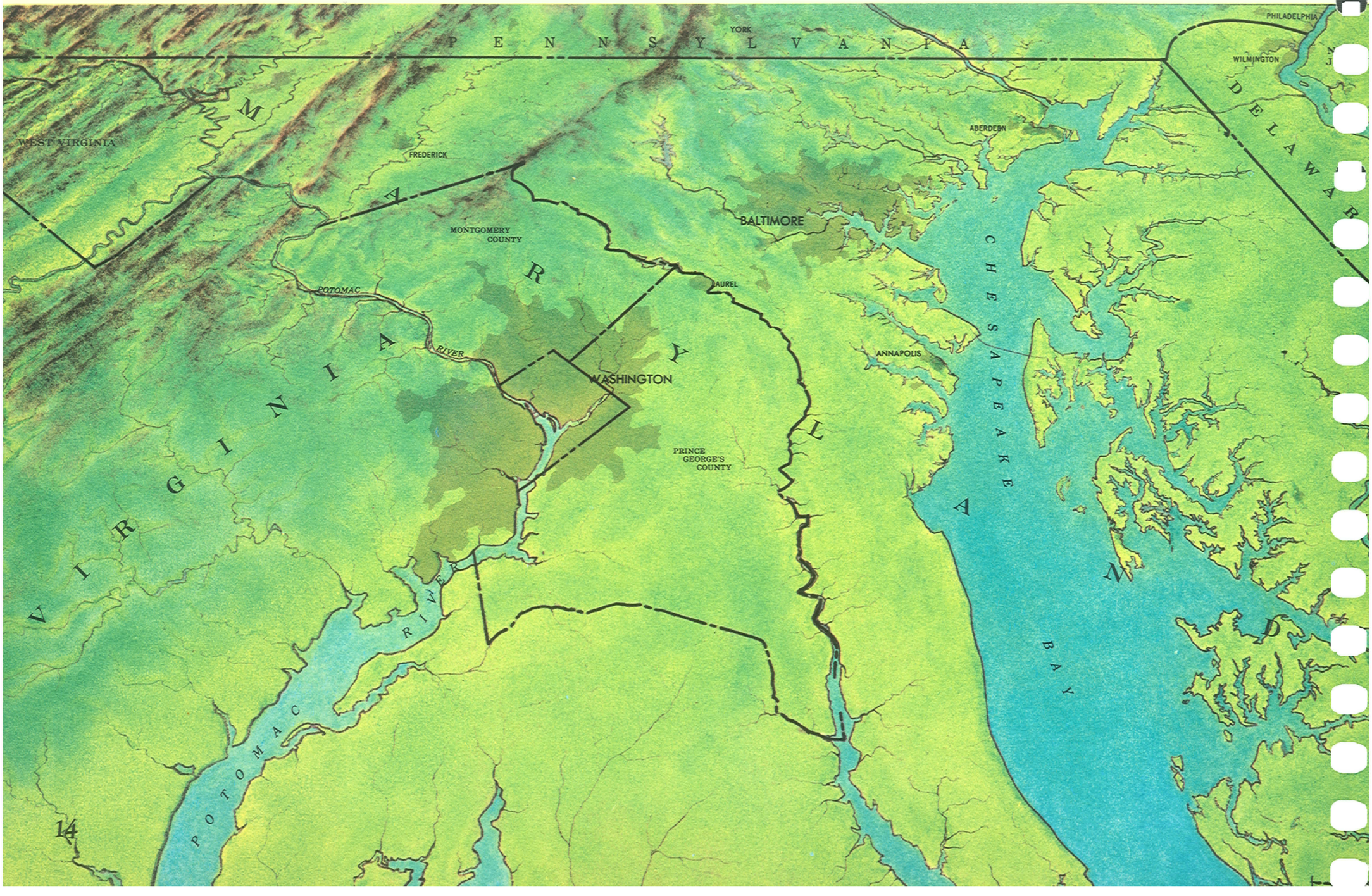
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VIRGINIA
POTOMAC RIVER

PART I

THE PLAN

...on wedges and corridors

GOALS

THE URBAN PATTERN

THE RURAL PATTERN

PUBLIC SERVICES

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CHAPTER 1

GOALS

A decent home in a suitable living environment for every American family.
U.S. HOUSING ACT OF 1949.

GOALS OF THIS PLAN

The best plan is the one which comes nearest to reaching the goals that you and your fellow citizens want to see accomplished. The General Plan is therefore based on these goals. First is the assumption that space for growth shall be amply provided on the basis of population, employment, and other trends. In accordance with this basic assumption, the following goals are those which will help most to improve the manner in which growth takes place.

USE LAND EFFICIENTLY

Land should be treated as one of our most precious possessions, using efficiently what we need for accommodating expected urban growth, and conserving the rest for the unforeseeable future. Land is too valuable an asset to be heedlessly wasted by allowing it to be developed aimlessly in a scattered pattern. Extravagant "leap-frogging" of development into the countryside and overemphasis on larger and larger residential lots waste the land and establish widespread patterns of land use which become obsolete before they are even fully developed.

ENCOURAGE AN ORDERLY CONVERSION OF UNDEVELOPED LAND TO URBAN USE

Public plans must be realistic in providing enough land for each type of urban development to meet the demands of urban growth. But at the same time public policy should not be used to inflate rural land prices artificially by extending urban zoning beyond realistic estimates of development needs. Equitable treatment of land owners demands that the need for expansion be met by opening land to development in a sequence which enhances orderly operations of the real estate market and reduces unsound speculation, leap-frogging, and excessive requests for rezoning.

PROTECT NATURAL RESOURCES AND ENCOURAGE THEIR PROPER DEVELOPMENT

Land is the basis of most natural resources, yet the 1960 Census tells us that we have less than 13 acres of it in the United States for each person in the population. This land includes all our farms, forests, mines, oil fields, mountains, deserts and parks as well as our residential, commercial and industrial areas. The total amount of land does not change but the amount per person is decreasing rapidly. With our exploding population and our rising standard of living, there is a potential danger of natural resources shortage. In addition to the land itself, certain special resources such as commercially workable sand and gravel deposits and quarryable stone are relatively scarce at locations near the urbanized area. These resources should be preserved until they are needed and then used efficiently. Resulting savings in transportation costs will be significant to the construction industry and to the consumer. Where possible, the best soils should be preserved for agricultural purposes. In addition, soil and watershed conservation practices should be employed to protect water supplies and topsoil.

MAINTAIN LARGE OPEN SPACES

Great expanses of open space in and near the urbanized area provide a feeling of freedom and relief to those urbanites who spend much of their time in the hustle and bustle of crowded shopping and working areas. Just to be able to get out and look at large open spaces or to surround oneself with a natural environment away from other people has a very desirable and soothing psychological effect. The inspiration and change of pace given by large open spaces are vital in addition to the enhanced opportunities for outdoor recreation. Furthermore, clean open space is the best environment for the preservation and proper use of natural resources. Maintenance of large amounts of clean open space, uninterrupted by scattered urban development, requires consolidated urbanization. Should it ever become necessary for future generations to urbanize part of the preserved open space, demolition of obsolete urban scatteration will not have to be the first step.

EXPAND OPPORTUNITIES FOR OUTDOOR RECREATION

The phenomenal demand for outdoor recreation, spurred on by rising living standards and increasing leisure time, must be met by utilizing both private and public lands. Many active sports can be enjoyed on local parks and playgrounds within urbanized areas and even in family backyards, but hunting, fishing, camping, hiking, swimming, horseback riding, boating, water skiing and other outdoor sports require more elbow room. Large expanses of water, shore fronts, forests and fields cannot be provided adequately within urban areas. Private property in the rural areas can meet a substantial part of the growing need for outdoor recreation facilities—to the profit of the private owners. Local and regional parks must fill the rest of the need. Government policy should support and encourage the use of both public and private lands in the Regional District for outdoor recreation.

FACILITATE THE ORDERLY AND EFFICIENT ARRANGEMENT OF PUBLIC UTILITIES AND SERVICES

Compact urban development, taking place in orderly stages, utilizes public investments in sewer and water lines, streets and highways, rapid transit, schools, parks, and other community facilities in the most efficient manner. The increased public costs required to bring services to scattered subdivisions should be avoided by not allowing such developments to spring up in areas where the necessary services cannot be efficiently provided.

PROVIDE AN EFFICIENT TRANSPORTATION SYSTEM INCLUDING RAPID TRANSIT

An efficient system of transportation must include rapid transit designed to meet a major part of the critical rush-hour need. Without rapid transit, highways and parking garages will consume the downtown areas; the advantages of central locations will decrease; the city will become fragmented and unworkable. The mental frustrations of congested highway travel will take its toll, not to mention the extra costs of second cars and soaring insurance rates. In Los Angeles where an automobile dominated transportation system reigns supreme, there is still a serious commuter problem even though "Approximately two-thirds of the city's downtown section is given over to streets and parking and loading facilities."* There is no future in permitting the Regional District to drift into such a "solution."

* "The Revolt Against Big-City Freeways," *U.S.News and World Report,* Jan. 1, 1962, p. 49.

ENCOURAGE GREATER VARIETY OF LIVING ENVIRONMENTS

by
New Towns
and
Residential Clusters

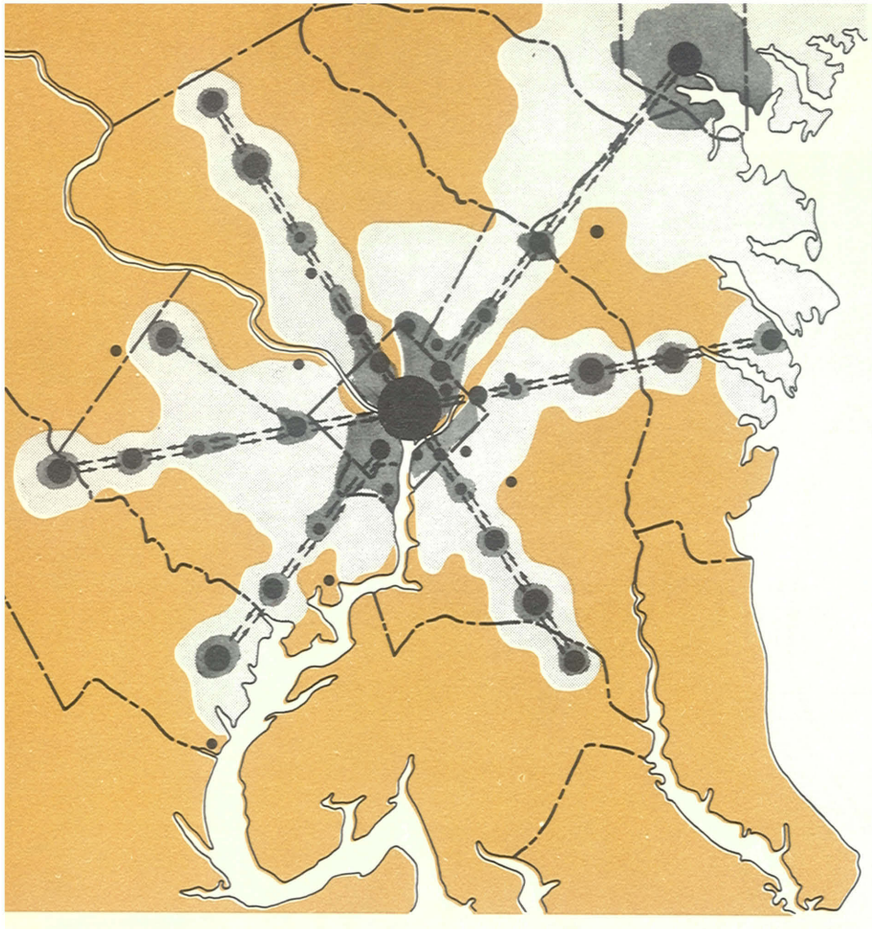
Large populations contain wide varieties of people, some young, some old, some married and some single, some with children and some without, some rich and some poor. These various types of people require different living environments. Provisions must be made for the requirements of all segments of the population and the changing ratios between them.

"New Towns" staged in the corridor plan afford the greatest opportunity to create in a concentrated, efficient and economical manner a range of choice of living environments. Cut from the whole cloth, such towns can be completely divorced from towns that "grew up" around a crossroad, an industry, a rail stop or the local grain and fuel center.

Planned and guided from their conception, new towns can profit by the pitfalls and inconveniences evident in much of our present sprawling urban development.

Residential areas need not consist of row after row of houses on uniformly sized lots or unimaginative blocks of apartments in strict zoning categories. Cluster developments which compatibly integrate single family homes on various sized lots, town houses, garden and high rise apartments, commercial and auxiliary uses can maintain strict density control of the cluster of uses.

A new town could thus be made up of a series of "clusters". The Town providing the employment, major commercial and cultural facilities with the clusters providing the essential variety of living space, local social, cultural and educational facilities—and, above all the physical arrangement of all components into a workable pleasant, and economically feasible whole. The total town would provide the fullest range of commercial services, employment, cultural opportunities, and living arrangements to meet the needs and desires of all segments of the residents, and result in a complex basically sufficient unto itself.



the radial corridor plan

New Town Center

Urbanized Area

Sub-center

Controlled Open Space

Main Communication Line

Source: A Plan for the Year 2000 The Nation's Capital, NCPC & NCRPC/

INVITE IMAGINATIVE URBAN DESIGN

Greenbelts — Cultural Base

Proper attention to many small refinements and amenities can contribute greatly to the development of pleasing urban communities. Small local parks and conservation strips, shade trees along the streets, proper landscaping of buildings and parking lots, underground power and telephone lines—all such refinements can add greatly to the quality and pleasing appearance of communities.

One of the concepts of design which lends imagination, integrity and identity to an area—whether it be a new town, a cluster development or an isolated existing community is the separation of uses by "greenbelts." These belts could range from rows of trees in a cluster to parklike greenbelts of sparsely used land delineating the shape of a new town.

Basic to the concept of imaginative design is the inclusion in the design of a cultural and social base—a sense of identity and pride—for each and every new town, residential cluster or existing community.

New towns may consider projects as ambitious as a zoo, a botanical garden, the exploitation of a natural resource, exhibition and art museums. Residential clusters could consider art centers, major libraries, concert facilities or even a symphony orchestra.

Imaginative design can create an identity for each community, a source of pride for the residents of the community, and establish competition between areas that fosters an appreciation for the betterment of all communities.

ASSURE IMPLEMENTATION OF THE PLAN

To be practical a plan must be acceptable within the framework of existing legal procedures or reasonable extensions of these procedures, and within the framework of financial capabilities. Public policy should provide for the practical implementation of the plan.

In the light of these goals four alternative urban patterns were analyzed: sprawl, average density, satellite, and corridor.

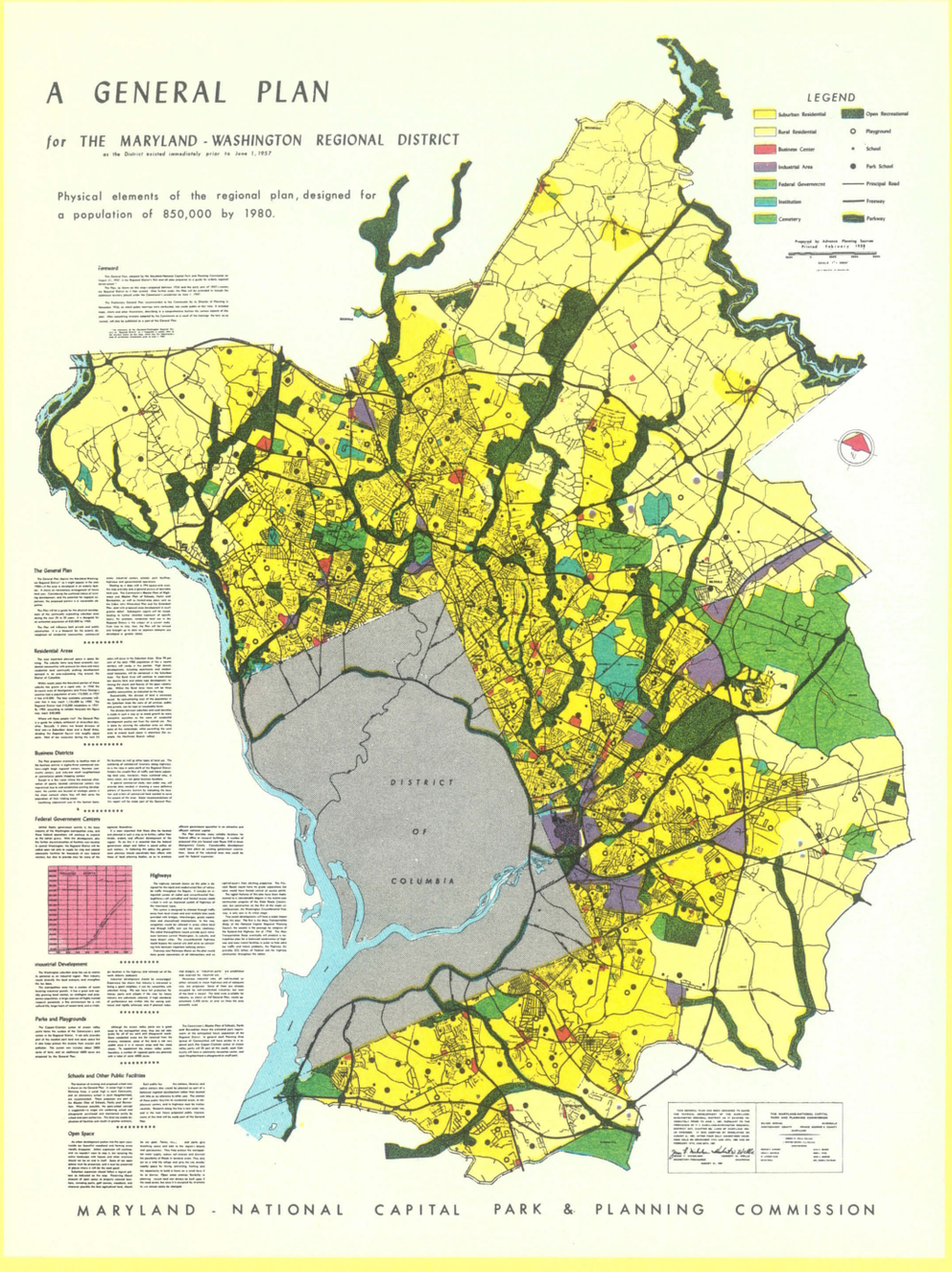
The corridor pattern proved to be the most likely to achieve all of the goals, and it is recommended for the Regional District.

GOALS OF THE YEAR 2000 PLAN

The above goals and the General Plan described in this report are consistent with A POLICIES PLAN FOR THE YEAR 2000: THE NATION'S CAPITAL, published by the National Capital Planning Commission and the National Capital Regional Planning Council. In summary the major regional policies stated in the *Year 2000 Plan* are:

- —Metropolitan growth should be based upon six corridors of urban development, four of the corridors being in the Maryland suburbs.
- —Downtown Washington should be encouraged to continue as the dominant employment center within the National Capital Region.
- —Each major corridor should be served by rapid transit and freeways making downtown accessible from all parts of the metropolis.
- —Major transit stations should provide the focus of relatively complete new communities in the corridors.
- —The regional network of freeways should be designed especially to handle those trips for which there will be no convenient rapid transit service.
- —Each new corridor community should have employment opportunities, complete community services, and a variety of housing types ranging from large estates to high density apartments.
- —Already urbanized areas should be encouraged to develop to their fullest capacity.
- —The areas outside the corridors should be kept open so as to guide urban growth in the corridor pattern and conserve rural resources.
- —Public policies should be coordinated to reinforce the above recommendations.

COOPERATION AT ALL LEVELS OF GOVERNMENT—FEDERAL, STATE AND LOCAL—WILL BE THE KEY TO THE WORKABILITY OF THE CORRIDOR PLAN



GOALS OF THE 1957 GENERAL PLAN

The principal goals adopted in the 1957 General Plan for the Maryland-Washington Regional District are still valid and are supplemented rather than changed by the goals and regional policies stated above. The stated purposes of the 1957 General Plan were to help create—

- ***orderly regional development*** with residential communities, shopping areas and employment centers built up in a harmonious fashion in relation to each other and with due attention to the preservation of large open spaces—parks, woodlands, and farms;
- ***well designed residential communities,*** free of scattered commercial and industrial uses, with good street widths and lot sizes and adequate local parks and playgrounds;
- ***well located and designed shopping centers*** that are convenient to reach and use and have no harmful effect on neighboring properties;
- ***planned industrial parks*** which will attract industry to the suburban area without injuring residential uses;
- ***a logical distribution of school and park facilities,*** with sites secured well ahead of rising land costs;
- ***a good regional highway system*** with well located main arterials and ample rights-of-way for future widening, purchased before roadsides are built up with houses and other uses;
- ***an improved system of rapid transit*** joining residential areas to business districts and centers of government and industrial employment.

CHAPTER 2

THE URBAN PATTERN

"Men come together in cities in order to live; they remain together in order to live the good life."

Aristotle

Economy, convenience, and pleasant surroundings are the key concepts of the General Plan. Economy arises from the compact form of urban development, easily reached by public services. Most important of these services is transportation, and this is reflected in the radial corridor shape of the urban pattern. This pattern is a simple and direct one with a major focus in downtown Washington. By concentrating most of the new urban development along transportation corridors convenience is maximized. But even though the largest number of people will want to travel along the major corridors, travel between corridors cannot be ignored. Two circumferential freeways and numerous lesser highways tie the whole Regional District together, affording adequate access to all parts of the urban pattern.

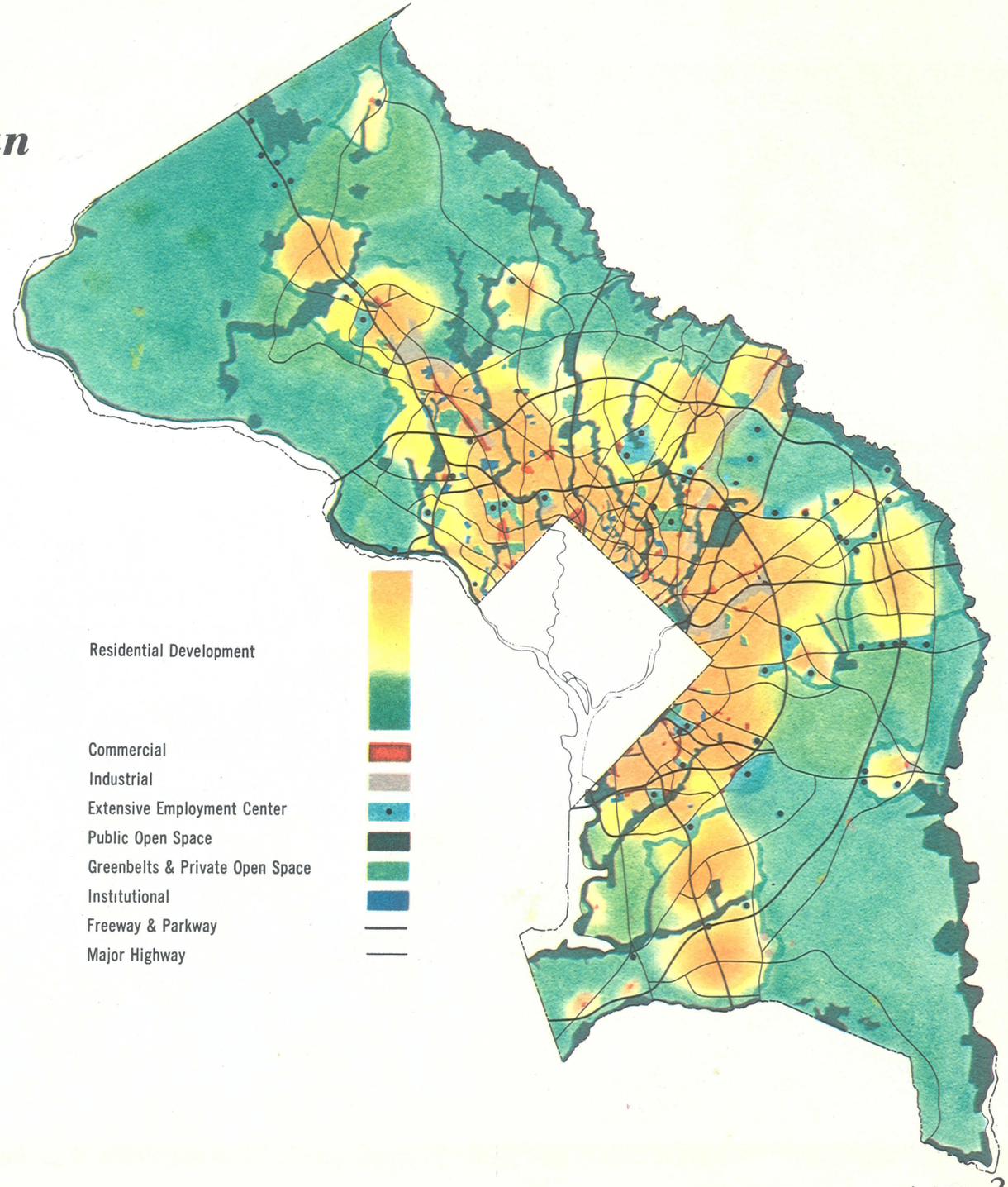
Careful study of the existing land use map shows that present development already recognizes the simplicity, convenience, and workability of the radial corridor pattern. By accepting this existing tendency toward radial development and by reenforcing it with public policy, the General Plan takes full advantage of natural forces working toward economy and convenience.

The radial corridor pattern also has inherent advantages which help to establish pleasant surroundings for everyday living. By stretching out along the radial transportation corridors the urban pattern takes on a star shape with rural open spaces alternating between the points and surrounding the corridor cities. Major rapid transit station locations supply a focus for the core of each of the corridor cities, giving them identities of their own. The brand new corridor cities offer the opportunity to start fresh far enough from the already urbanized area to be unaffected by pre-set urban patterns. Corridor cities in now-rural areas can be planned for pleasant living much better than if development were to occur in a scattered, haphazard, and uncertain pattern. Planning for "pieced-on" development at the edges of already urbanized areas, and running to catch up with unexpected trends of growth, are not satisfactory ways of providing pleasant living conditions compared to starting fresh in a complete, new, comprehensively conceived corridor city.

The centers of new corridor cities are spaced about four miles apart so that they can grow large enough to support a full variety of commercial, cultural, and social services, and still not crowd too tightly against the next city. This spacing will allow convenient rapid transit service with stops about two miles apart at the centers and edges of each corridor city.

The two-mile spacing of stops assures a large enough service area to make each stop worthwhile, yet will not reduce the transit to a slow start-and-stop operation which will exhaust the patience of commuters. Rapid transit, after all, must remain rapid.

generalized land use plan



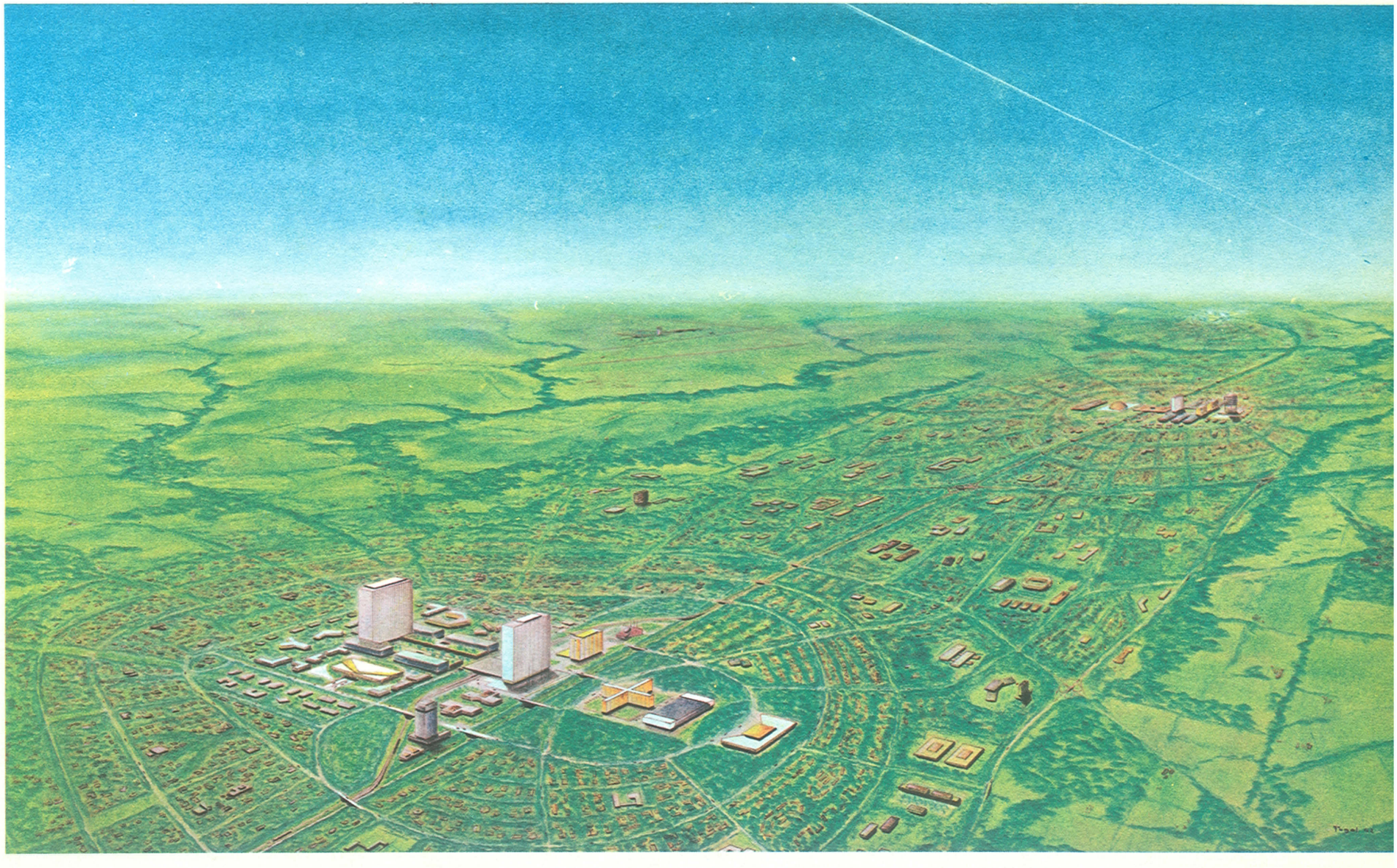
LOCATION

Of the four Maryland corridors the northwest corridor in Montgomery County is the largest and most complex. It will have two rapid transit routes in its broad urbanized base and two new corridor cities beyond Rockville, one at Gaithersburg and the other near Germantown. Considerable room for expansion northward into still another corridor city will be available in the Clarksburg area even after the Year 2000. Interstate Highway 70-S is this corridor's major limited access freeway. Natural corridor development is most pronounced in this corridor. Headquarters sites for the National Bureau of Standards and the Atomic Energy Commission have been chosen along the highway and numerous industrial firms, including I.B.M., Emerson Electronics and Fairchild-Stratos have followed suit.

Progressing clockwise, the next corridor centers around Interstate Highway 95, sometimes known as the third route to Baltimore. Urban development along this rather short corridor will straddle the Montgomery-Prince George's county line. Urbanization has already taken place as far out as the Naval Ordnance Laboratory, but the fact that sewer service beyond this point is only now becoming available has saved a good site for a new corridor city east of Fairland. A second corridor city will develop around the town of Laurel.

The third urban corridor is rapidly developing along John Hanson Highway (Route 50) toward Annapolis. The Belair portion of the City of Bowie will form the nucleus of a major city beyond the Capital Beltway.

The fourth corridor in the Regional District centers around a newly proposed freeway and rapid transit route southeast of Washington, eventually providing a new Bay crossing and route to the beaches. Development which has hardly begun in this corridor will take place generally between Indianhead Highway and Branch Avenue, with new city centers near Henson Creek, Clinton, and Brandywine. The recently opened Woodrow Wilson Bridge at Jones Point is spurring development in this corridor.



population distribution

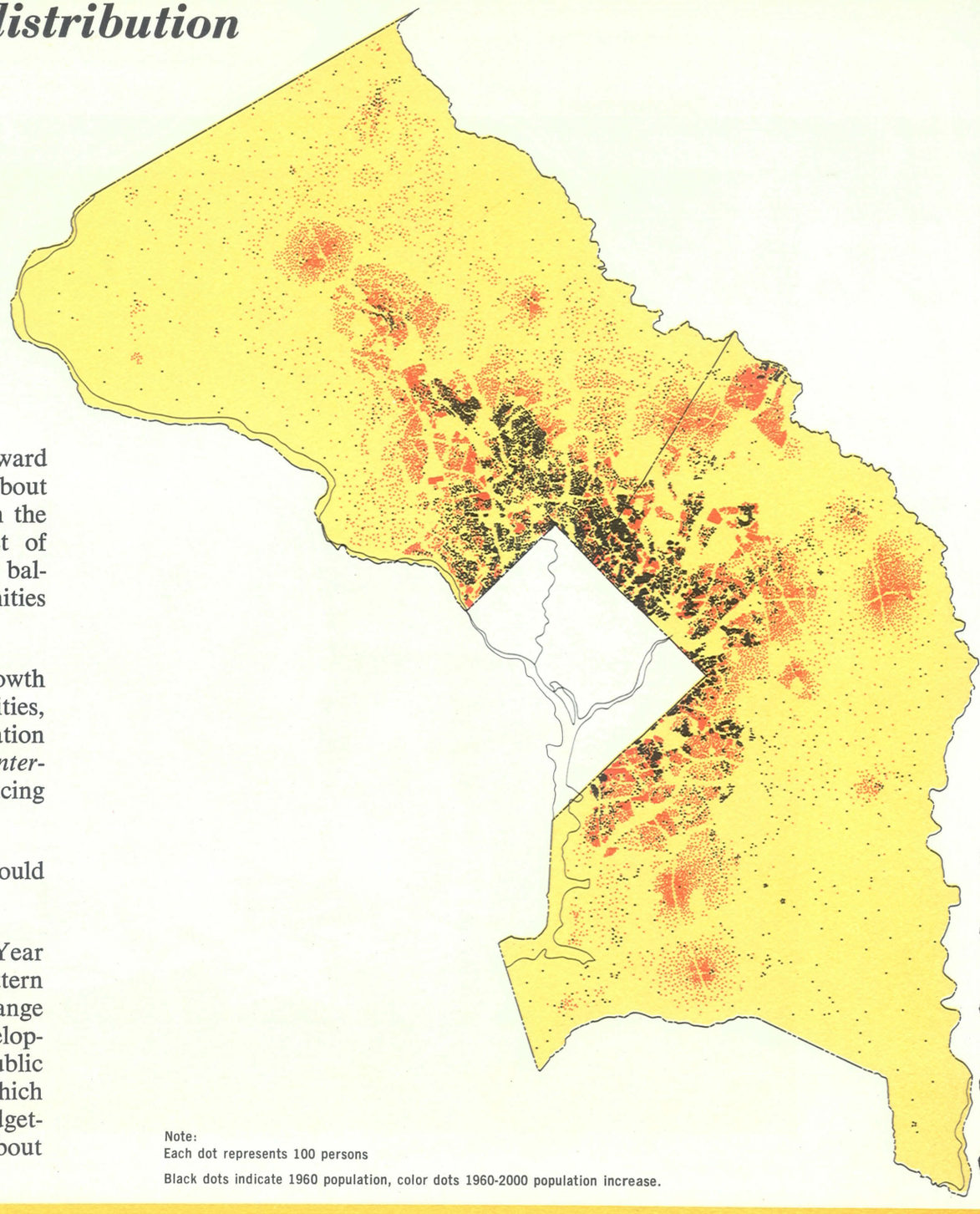
DISTRIBUTION OF GROWTH

Of course all population growth from this date forward will not be expected to take place in the corridor cities. About 63% of the growth in the next 20 years will take place in the ring of already urbanized land surrounding the District of Columbia, and 24% will occur in the corridor cities. The balance of population will be distributed in satellite communities and at scattered locations in the rural areas.

In the period between 1980 and the Year 2000, new growth is located to a much greater extent in the new corridor cities, some of which begin to approach their maximum population ranges of 75,000 to 125,000. (*The Baltimore-Washington Interregional Study* establishes this as an optimum size for reducing local travel needs.)

The growth of employment centers under this plan would closely parallel the growth of population.

The corridors will not develop overnight. Even by the Year 2000 all the space provided in the recommended urban pattern will not be used to its fullest capacity. This is a very long-range plan and if it is not carefully administered premature development could take place, resulting in undue burdens on public service systems. Orderly community development upon which pleasant living conditions are based, and orderly public budgeting upon which equitable taxation is based, will come about only if the plan is carefully implemented in stages.



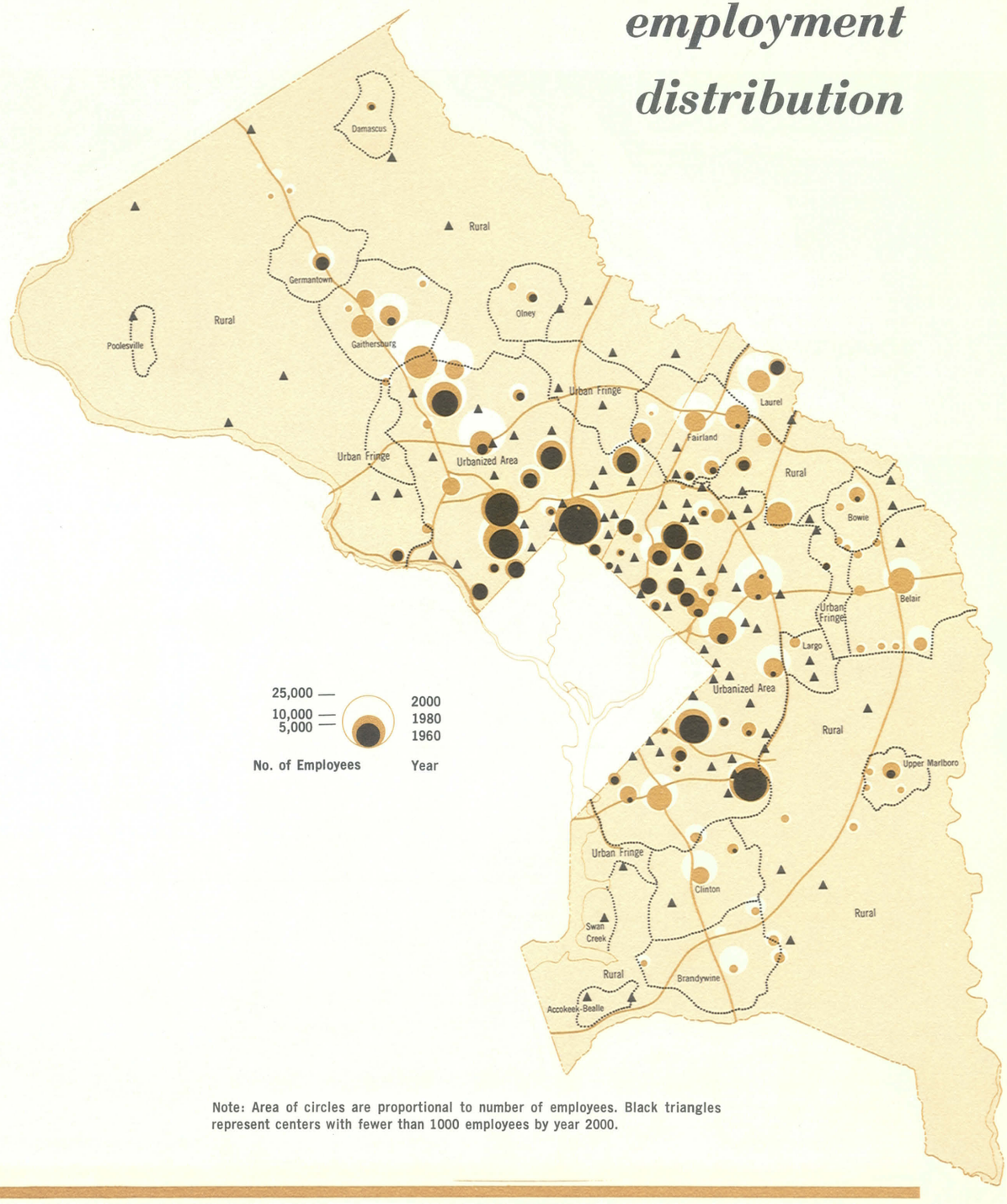
Note:
Each dot represents 100 persons

Black dots indicate 1960 population, color dots 1960-2000 population increase.

Population and Employment, Bi-County Area

AREA	1960	1980	2,000
GERMANTOWN	1,100	14,600	58,500
	2,100	3,800	11,100
GAITHERSBURG	8,087	54,500	101,000
	1,500	23,200	46,200
DAMASCUS	3,088	7,300	13,700
	400	1,200	2,200
OLNEY	2,246	8,600	22,000
	700	2,500	4,600
POOLESVILLE	300	2,300	3,700
	100	300	600
FAIRLAND	8,169	40,400	79,000
	800	16,300	41,700
LAUREL	9,971	37,600	90,500
	2,600	9,300	36,500
BELAIR	1,588	37,300	83,400
	100	13,500	28,500
CLINTON	4,863	22,100	66,100
	500	5,100	15,400
BRANDYWINE	2,057	8,800	40,500
	100	5,100	19,400
ACCOKEEK-BEALLE	1,300	2,200	5,300
	100	400	900
BOWIE	3,477	5,800	12,000
	500	4,300	8,000
LARGO	233	7,700	18,100
	—	2,600	5,500
SWAN CREEK	470	3,100	4,000
	—	300	400
UPPER MARLBORO	1,805	6,000	9,700
	1,100	4,100	6,900
RURAL	45,255	80,000	165,900
	5,200	11,700	27,300
URBAN FRINGE	10,912	38,700	59,300
	2,900	9,800	14,900
URBANIZED AREA	593,398	1,059,300	1,354,300
	159,300	322,300	459,900
Mont. Co. Total	340,924	643,400	995,000
	96,600	199,300	335,000
P. G. Co. Total	357,395	792,900	1,192,000
	81,400	236,500	395,000
Total Population	698,319	1,436,300	2,187,000
Total Employment	178,000	435,800	730,000

employment distribution



Note: Area of circles are proportional to number of employees. Black triangles represent centers with fewer than 1000 employees by year 2000.

CORRIDOR CITIES

Making the new corridor cities pleasant places to live, places with individual identities and home-town atmosphere, calls for an exercise in urban design. With the chance to begin from the beginning, this exercise is made easier. There are several examples which can be drawn upon: the "new towns" of England; Vallingby, outside Stockholm, Sweden; Brasilia, the new capital city of Brazil; New Delhi, the capital of India; Radburn, the first American version of the British "new towns"; and of course the "greenbelt" towns built by the Department of Agriculture during the 1930's. We in the Regional District are fortunate in having the original Greenbelt right in our midst.

Functionally, each new corridor city will resemble the schematic drawing on the next page. There will be a densely built but well designed core in the center, with a rapid transit station under a pedestrian plaza. The tall buildings around the plaza will house shopping facilities, offices, and apartments, all within easy walking distance. Urban parks, appropriate landscaping, and modern architecture will give a sense of spaciousness. The need for automobiles in the core will be kept at a minimum, but adequate parking space will be provided at the edge of these city centers for those who arrive by auto rather than by transit. Social cultural and educational activities will also be provided in each core so that the "downtown" area will have a vital function even after the workday is over.

Tall buildings will be the symbol of a core area, identifiable from several miles away. But their height is more than a symbol. It allows the great number of people, who must come together to make a downtown work efficiently, to be housed within a small area without overcrowding the land. The core will be quite unlike the usual business district of today. By using tall buildings interspersed with plazas and walkways, an air of spaciousness and freedom can be combined with utility, to the advantage of all. It has been proven many times that a concentrated business district is good business: each enterprise is helped by the customers of its neighbors. But instead of the present crowded and jumbled downtown maze, new cores will be highly accessible, uncluttered, and inspiring.

Surrounding the city's core will be a number of pie-shaped residential communities, each planned as a unit with a variety of housing types and with its own local shopping, educational, and recreational facilities.

The street and highway system within each corridor city will repeat the radial and circumferential system of the Metropolitan Area itself. But in this case the core area will replace downtown Washington as the focus for the radials, and the circumferentials will encircle the corridor city's own core. The core will be the most accessible part of the corridor city not only because of the rapid transit station but also because of the city's own street and highway system.

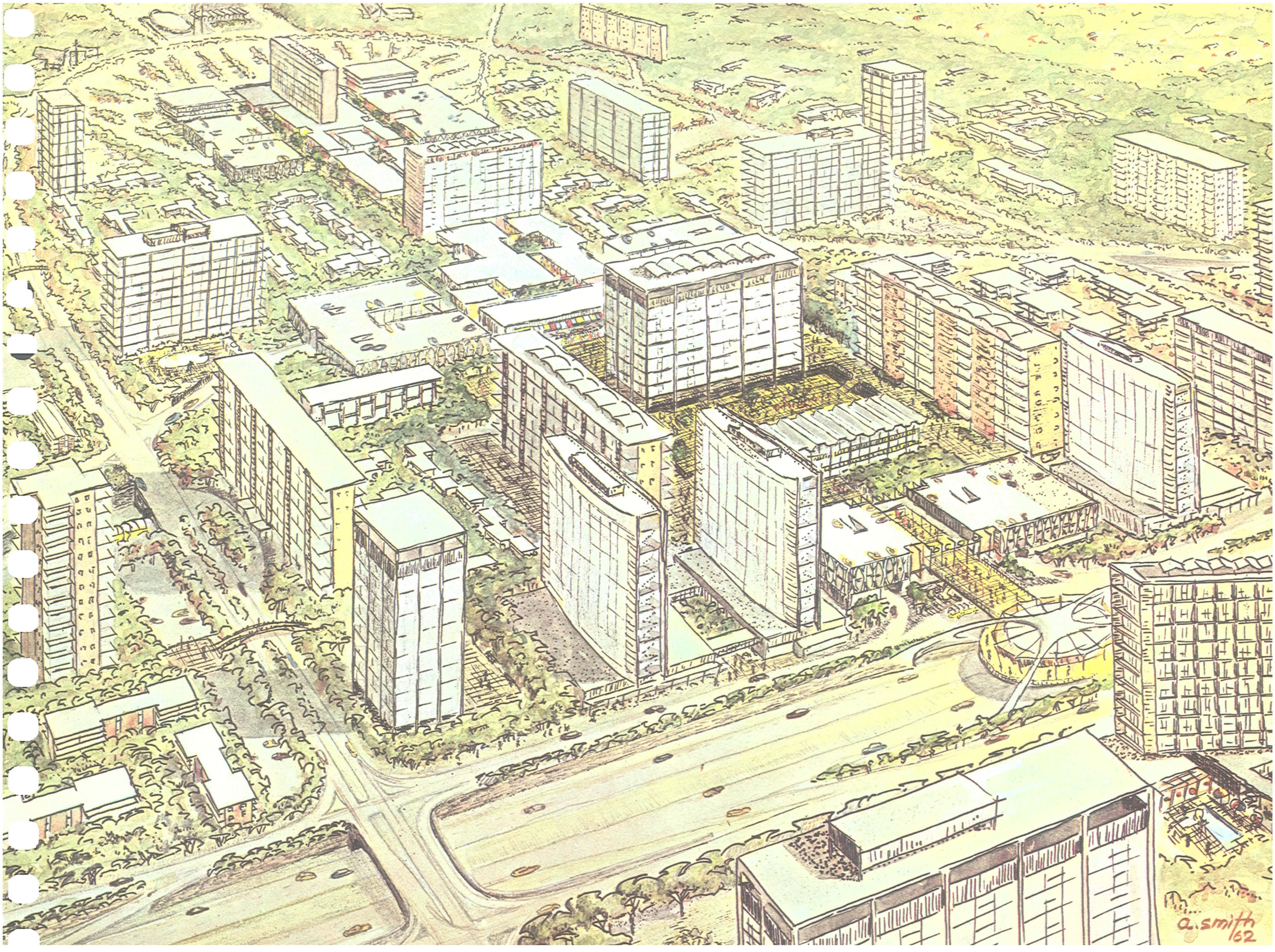
Pedestrian greenways will lead to each central core and to important local destinations within the surrounding residential communities.


medium low density residential 1-4 D.U./acre
medium density residential 4-10 D.U./acre
medium high density residential 10-30 D.U./acre
high rise apartments over 40 D.U./acre
intensive employment
extensive employment
natural resource & agricultural land
park & ride
freeway
transit line
interchange
arterial
transit stop
office center
regional commercial
park
high school
jr. high school
elem. school

Population densities of the corridor cities will gradually taper off from apartments in and near the core to half-acre and one-acre homesites at the outer edge. At the edge, also, will be found spacious regional parks for extensive outdoor recreation. Still another facility to be found at the edge of corridor cities is the industrial park with its campus-like atmosphere. Large automobile parking lots will be provided around "park and ride" rapid transit stations, also at the edge between corridor cities.

Great care will have to be taken so that these similar features of the corridor cities will not create a "stamped-out-of-the-same-mold" effect. Using natural drainageways instead of piped-in storm drains will give individual character to communities. Encouraging not only architectural harmony but also architectural variety can be most rewarding. Greater emphasis will be placed on flexible regulations such as cluster subdivisions and density control zoning to encourage relief from the monotony of standard rows of dwellings.

Cluster design will require more care in planning, with greater attention paid to natural features of the landscape, but the extra effort will be worth it. With imaginative design it will often be possible to put the same number of houses on a piece of land by pleasantly situating them in relation to a natural hill, a striking view, or a nice stand of trees as by simply lining them up in the wake of a bulldozer. Good planning is a small cost, well worthwhile in the increasingly competitive housing market of today. Values are higher and sales are easier in pleasant communities possessing individuality in landscaping, subdivision design, and architecture.

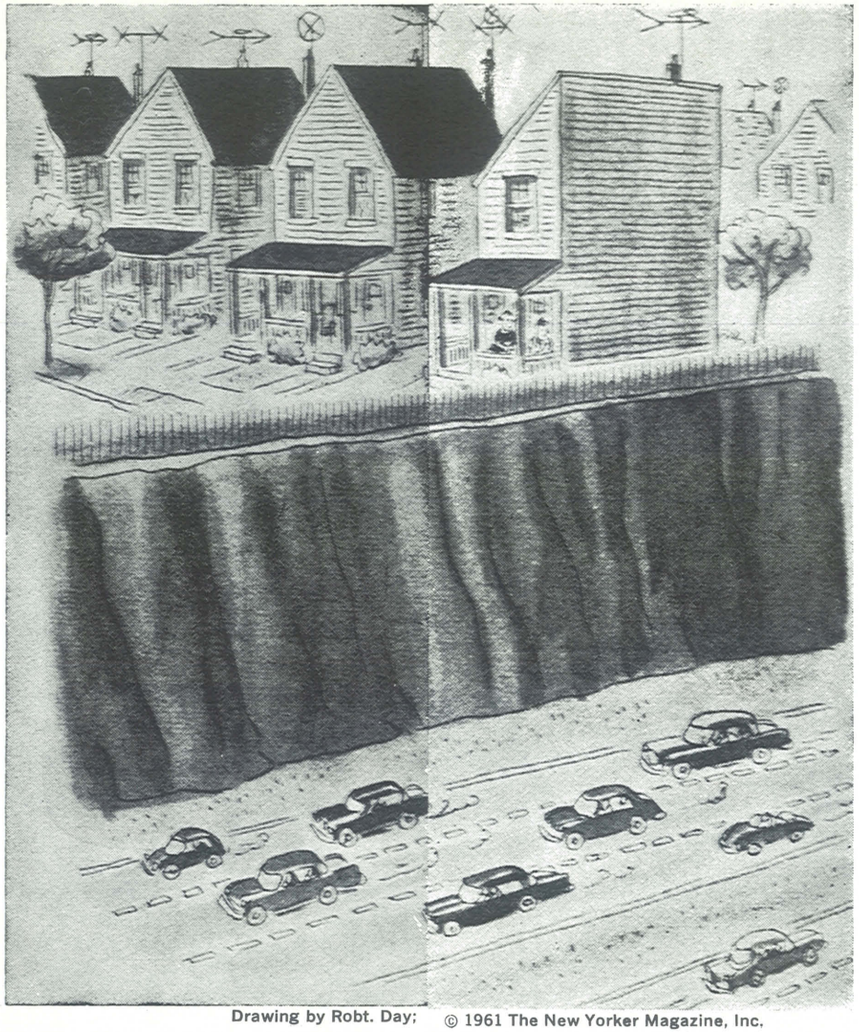

a. smith
62

THE URBAN RING

Ringing the District of Columbia and forming a base for each of the four urban corridors is the more or less solidly built up group of communities where most of us now live. This urban ring has many advantages such as quiet residential neighborhoods, widespread home ownership, and convenient new shopping centers.

But the urban ring also has its problems. Every time another new subdivision is tacked on a little farther out from what used to be the edge of things, the traffic through the older suburbs gets a little heavier. The new subdivision may be quiet and uncluttered by alien traffic, but the older ones must pay the price. Streets must be widened and by-passes built; an open field near a newly-important intersection becomes a gas station; old estates along transportation routes become shopping centers or apartment sites. Proper transitions between these new uses and the well established single-family homes surrounding them are often hard to establish, and the neighborhoods along the heavily travelled roads deteriorate. From this beginning, the trend is toward strip zoning. Resulting traffic problems resemble "hardening of the arteries." In recognition of the increased population, long established commercial centers expand into nearby residential neighborhoods, causing more transitional problems. The end result is a disease known as urban blight. This disease is contagious and is almost sure to spread where preventive measures are not taken.

"They were such nice neighbors. We were sorry to see them go."

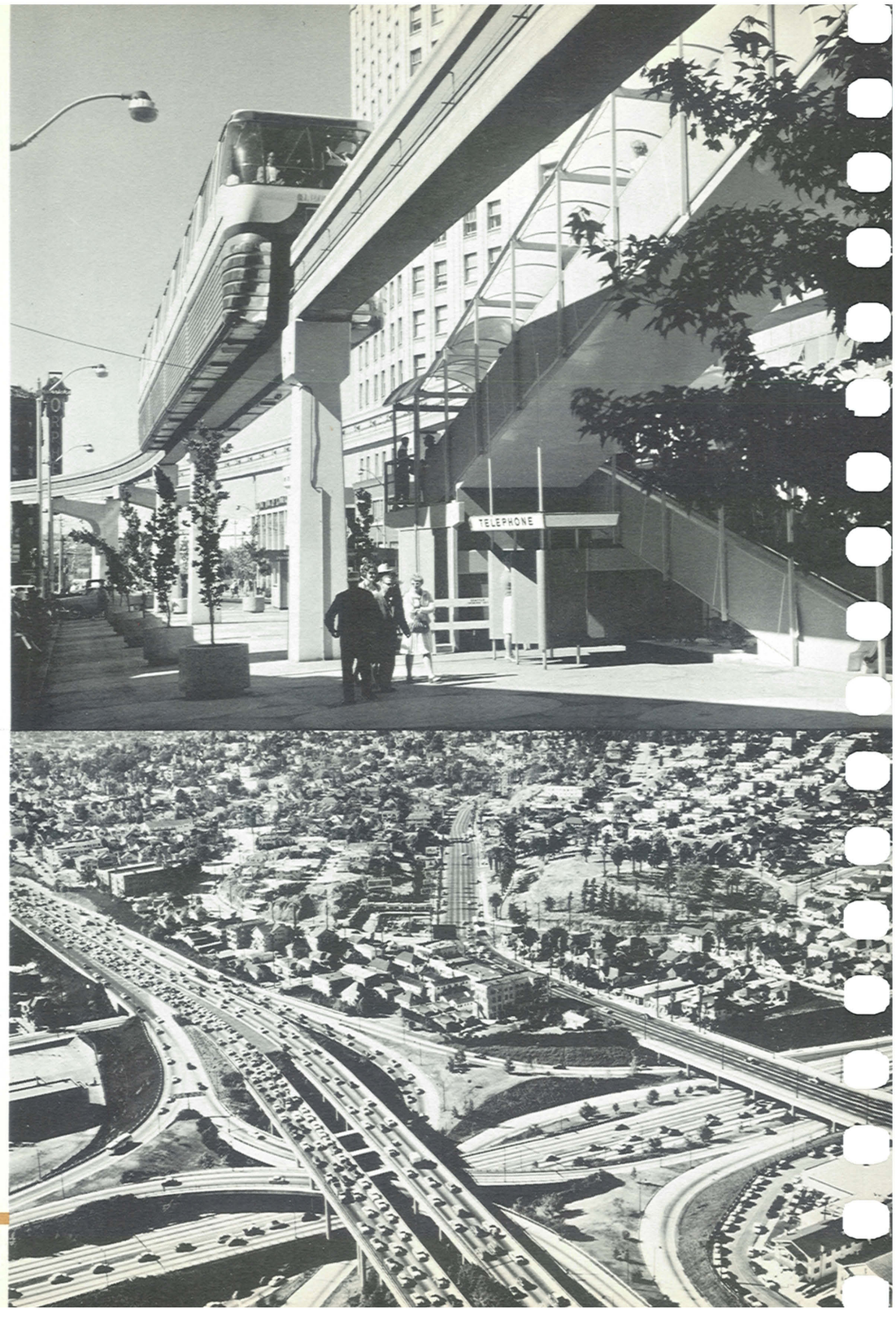


Drawing by Robt. Day;

To overcome these problems, many of the refinements described in connection with the new corridor cities can be gradually worked into the communities of the urban ring. Rapid transit and a few high-speed freeways will have to be painfully pushed through the ring, but once done this will keep through-traffic off the local streets and out of the quiet residential neighborhoods. Constant road-widenings will cease and stability will be returned to the close-in communities. Access to downtown Washington from the urban ring as well as from the new corridor cities will be greatly facilitated, but the major advantage to residents of the ring will come in the form of greatly reduced disruption to their established communities. This advantage cannot be had by freeway expansion alone. One track of rail rapid transit is equal in passenger capacity to 8 or 10 lanes of limited access freeway. Without rapid transit, the amount of land required for highways in the urban ring when Metropolitan Washington reaches a population of 5 million would be unbelievably great.

The high density cores recommended for new corridor cities are not feasible in the urban ring, where community design has already been determined. While the proposed transit lines are located in the most populous parts of the urban ring for convenience, pedestrian access to and from transit stations in the ring will not be so heavily relied upon. Greater emphasis will be placed on "park and ride" stations resembling the fringe parking areas now in use on some bus routes. The highway and transit systems will need to be conveniently tied together to compliment each other.

Like the highway and transit rights-of-way themselves, the required stations and parking lots will take space in the urban ring. Urban renewal may be necessary in some cases to make this space available, and to make the appropriate adjustments in the surrounding community.




BUS
STOP
S4
5120
12-92
BB-986
BUS
STOP

RENEWAL IN THE URBAN RING

Urban renewal in the ring communities will be useful in other respects than in making room for transportation systems. Older communities tend to deteriorate in their more vulnerable spots unless something is done to bolster them up. Evidences of blight are already visible here and there in the urban ring.

Until 1954 when the term "renewal" replaced it, "redevelopment" meant the complete clearing and rebuilding of an area. But today, renewal includes the rehabilitation and conservation of urban areas as well as clearance and rebuilding. It is a comprehensive program to halt deterioration of urban communities and stimulate them into renewed and healthy growth.

With the use of urban renewal, planning and zoning mistakes can be rectified, nonconforming uses which existed prior to zoning can be removed; older buildings can be restored before they mar the neighborhood too much; newer buildings can be kept in almost new condition; and most important of all—the missing amenities, including small open spaces, can be added to communities in need of them.

FUTURE GROWTH IN THE URBAN RING

Although the urban ring is substantially developed, it has by no means reached its ultimate population. As many as 460,000 more people may be finding new homes in the urban ring within the next 20 years. Planning in the urban ring will include new development as well as refinements to the old. As in the case of planning regulations for guiding growth in the corridor cities, improved zoning and subdivision ordinances will be needed in the urban ring to encourage greater flexibility of design in relation to natural views, terrain, and vegetation.

Special attention will have to be given to two other problems: (1) appropriate development of by-passed tracts of land, and (2) forming satisfactory transitions between potentially inharmonious types of land use.

The great danger accompanying by-passed tracts of land is that rezoning is frequently requested for them long after surrounding properties have been built up—with the expectation that development of the by-passed tract will be in harmony. Such expectations are often backed up by publicly adopted master plans. Yet, as long as the by-passed tract remains unused, there is the ever present danger of rezoning for a gasoline station, shopping center, or apartment project. Speculative bidding-up of such tracts with prices based upon unsound rezoning is common, and must be discouraged by firm public policy upholding adopted zoning plans. In addition, this firm policy should be reinforced by a constructive plan of action including a constant inventory of these danger spots, continuing analyses as to their suitability for inclusion in urban renewal projects or for use by public agencies, and a positive program for acquisition of those tracts which are suitable for public use.

There has already been some success in working out better transitions between potentially inharmonious types of development in the urban ring. Specific setback, screening, and landscaping conditions are being placed in the zoning ordinance to govern special exceptions in residential zones and off-street parking lots in or adjoining residential zones. The industrial park zone has strict performance standards governing smoke, heat, light, noise, and electrical emissions. Extra large setbacks and stringent site plan approval requirements also apply to the industrial park and high-rise apartment zones. With the continuance of such efforts, the transition problem can be overcome to the great benefit of the whole Regional District.

COMMUNITIES OUTSIDE CORRIDORS

Communities isolated from corridor development have been recognized and accounted for in the plan. Some of these communities scattered throughout the bi-county area, are proud of their "small town" atmosphere and are planned not only to preserve, but enhance, the desirability of small town living.

Upper Marlboro is the only community that has a sufficient degree of employment in the form of the Prince George's County Government, to exhibit the characteristics of a self-contained satellite.

Other communities such as Damascus, Olney and Accokeek will experience gradual growth in both single and multi-family residences but will remain dependent on the central city and the corridor cities for both major employment and shopping facilities.

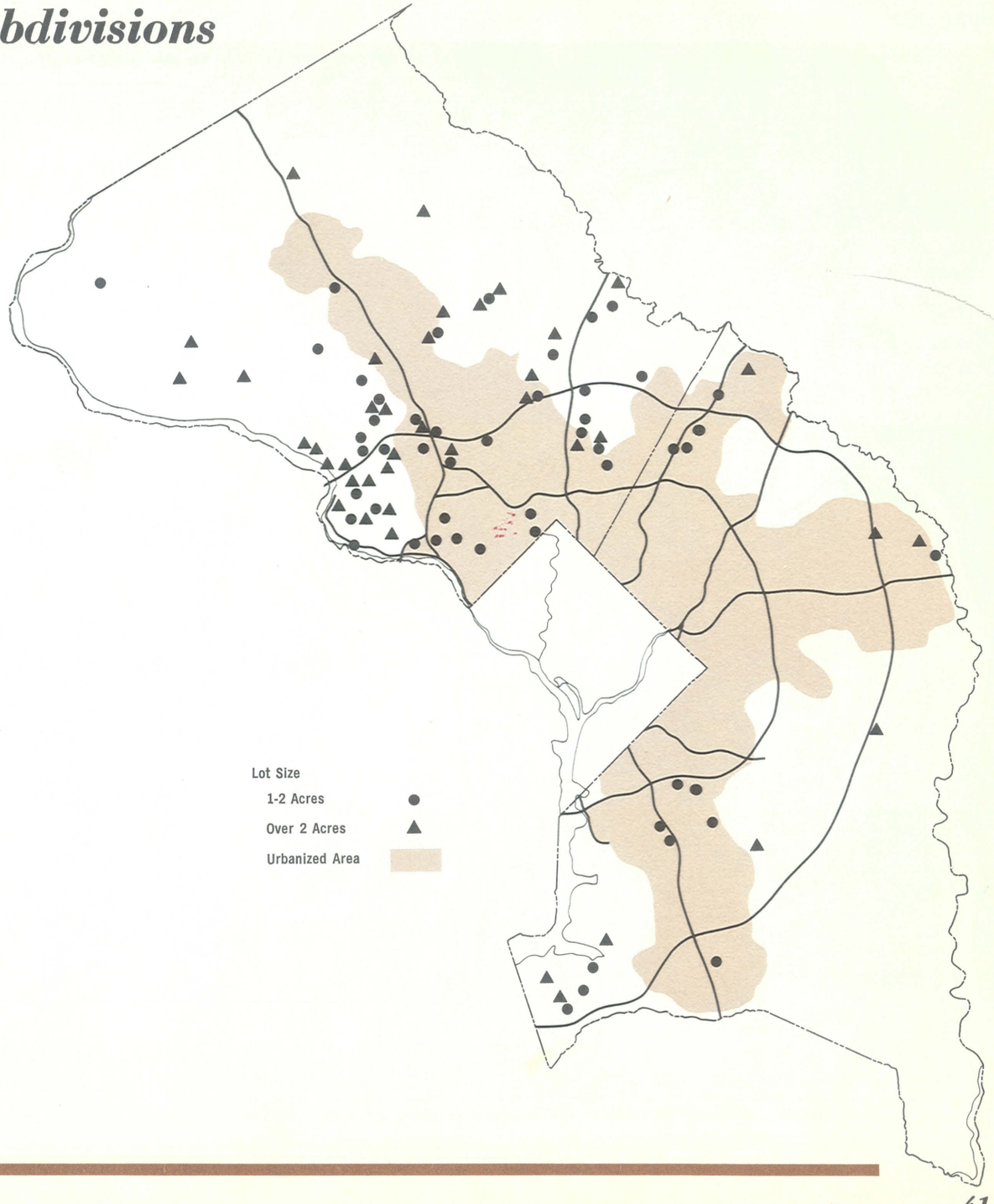
Geographical isolation from the trends of urban development, the cost and difficulty of providing public utilities, and soil conditions that are not receptive to septic systems are factors that will restrict the development of communities such as Poolesville, Barnesville, Darnestown, Laytonsville, Cheltenham, Naylor, Eagle Harbor and others to small, pleasant rural towns.

large lot residential subdivisions

1961

LARGE-LOT RESIDENTIAL FRINGES

Estate living on one or more acres is well established in the Potomac, Upper Rock Creek, and Upper Northwest Branch areas in Montgomery County, and the Moyaone Reserve area in Prince George's County.



MAKING THE URBAN PATTERN WORK

The following tools will help to achieve successful development of the urban pattern in accordance with the General Plan. They are explained in the chapters of *Part II, Carrying Out the Plan.*

- Adopt detailed master plans for local areas in accordance with the General Plan.
- Enact new conservation, apartment, town house, shopping center, and core commercial zones.
- Apply zoning in conformance with detailed master plans and in step with need.
- Improve special exception procedures under the zoning ordinance to help assure better urban design.
- Review all Federal, State, local and utility capital improvement projects to help assure conformance with adopted master plans.
- Improve procedures for preparing and reviewing long-range capital improvement budgets.
- Acquire additional parks.
- Appoint a Community Appearance Advisory Committee to act as a community conscience for the Regional District, spurring good public and private design.
- Maintain strict review of applications for all rezonings, subdivisions of land, building permits, and zoning site-plan approvals in order to help assure conformance with master plans and general regulations.
- Establish an urban renewal program to eliminate pockets of existing blight and to prevent new blight.
- Establish new tax policies relating land assessments to zoning, and extending preferential assessments to all open space uses of land.
- Improve intergovernmental cooperation and coordination.

...on wedges and corridors

CHAPTER 3

THE RURAL PATTERN

We must reaffirm our dedication to the sound practices of conservation, which can be defined as the wise use of our natural environment—it is, in the final analysis, the highest form of national thrift—the prevention of waste and despoilment while preserving, improving and renewing the quality and usefulness of all our resources.

PRES. JOHN F. KENNEDY

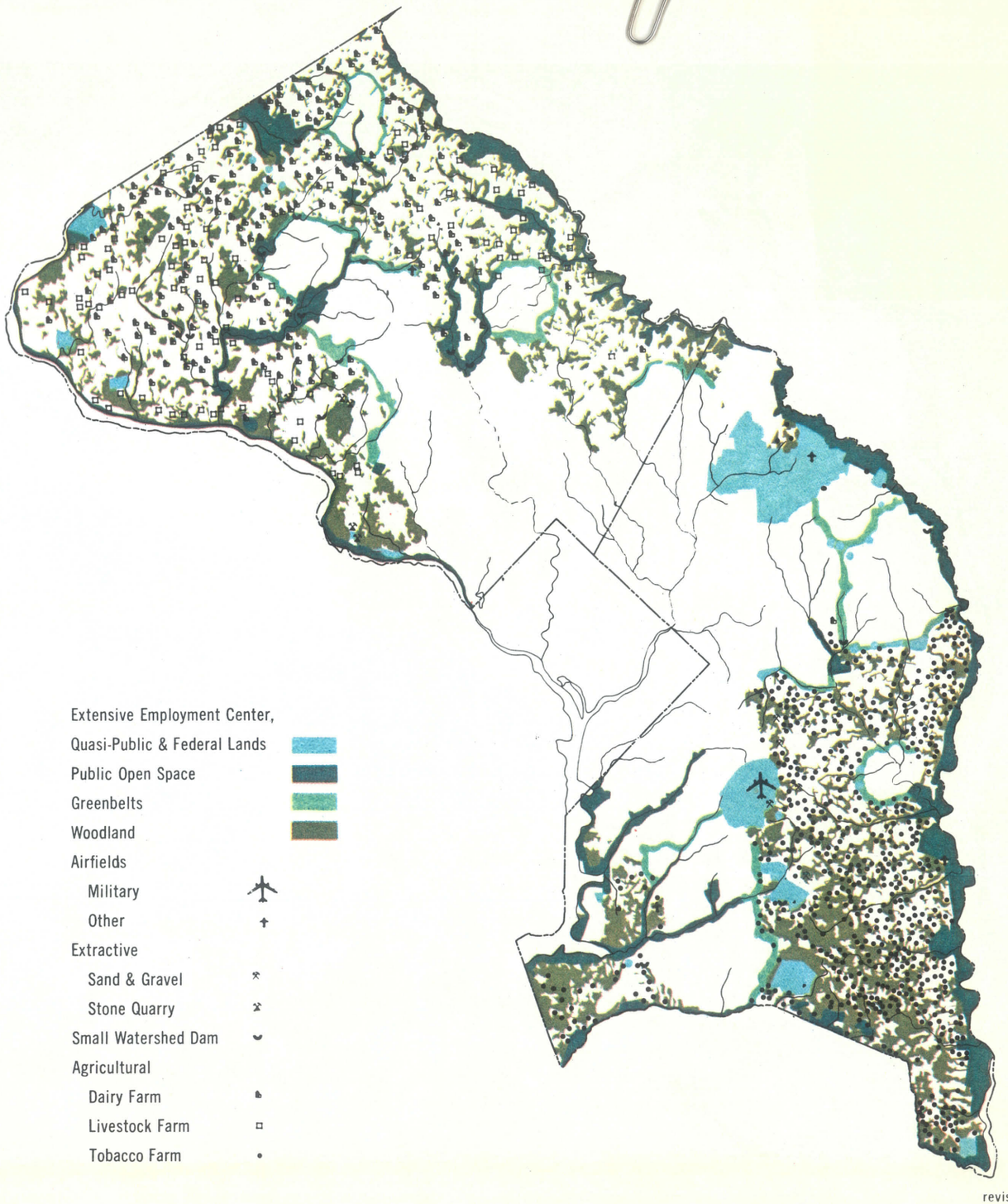
MOLD FOR URBANIZATION

The rural pattern recommended here has four broad purposes: 1) to help mold the urban pattern into an efficient and pleasant one, 2) to provide and protect large open spaces for the "change of pace" and recreational opportunities needed by present and future generations, 3) to provide a favorable rural environment in which farming, mineral extraction, hunting, fishing and other natural resource activities can be carried on without disruption, and 4) to conserve natural resources and protect the public water supply. Each of these purposes supplements the others. Together they make the rural pattern just as important as the urban pattern.

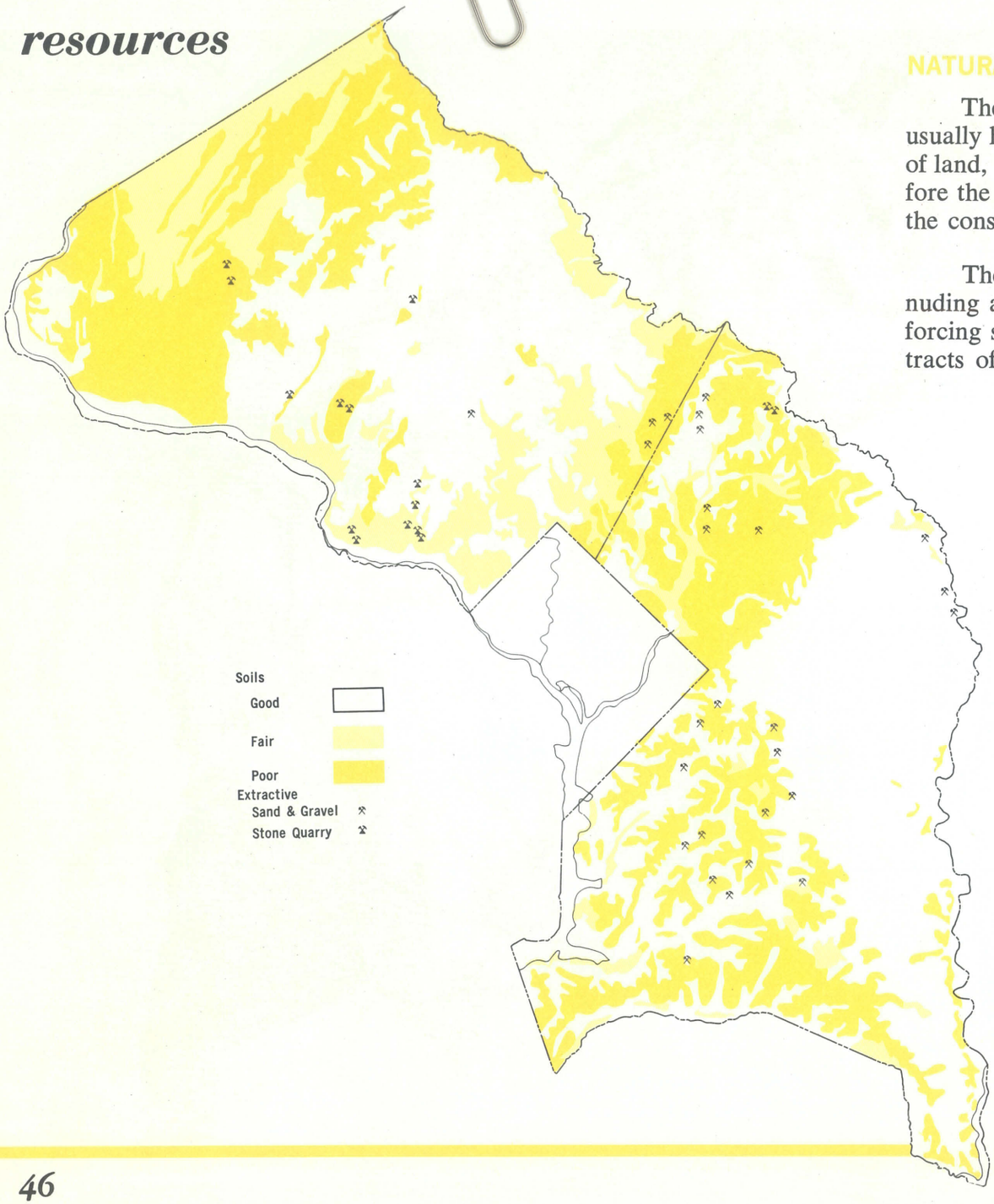
The facing map shows you the types and extent of rural land uses proposed at the edges of urban development forming the transition to a truly rural environment. Establishment of the rural land pattern will be among the chief concerns of the county legislative bodies and the Park and Planning Commission in the next few years. Once the pressure for continuous haphazard urban expansion is eased and properly guided, the rural environment can be patiently and productively nurtured in its own right.

The use of much of the land on the periphery of corridor developments for public ownership and uses will be an enduring buffer between rural and urban uses. The private rural uses recommended at similar locations will be sufficiently profitable to be equally enduring.

non urban uses



soils and mineral resources



NATURAL RESOURCE DEVELOPMENT

The many different land uses appropriate in rural areas usually have two things in common: they require large amounts of land, and they are directly related to natural resources. Therefore the well-being and stability of the rural uses depends upon the conservation and proper development of natural resources.

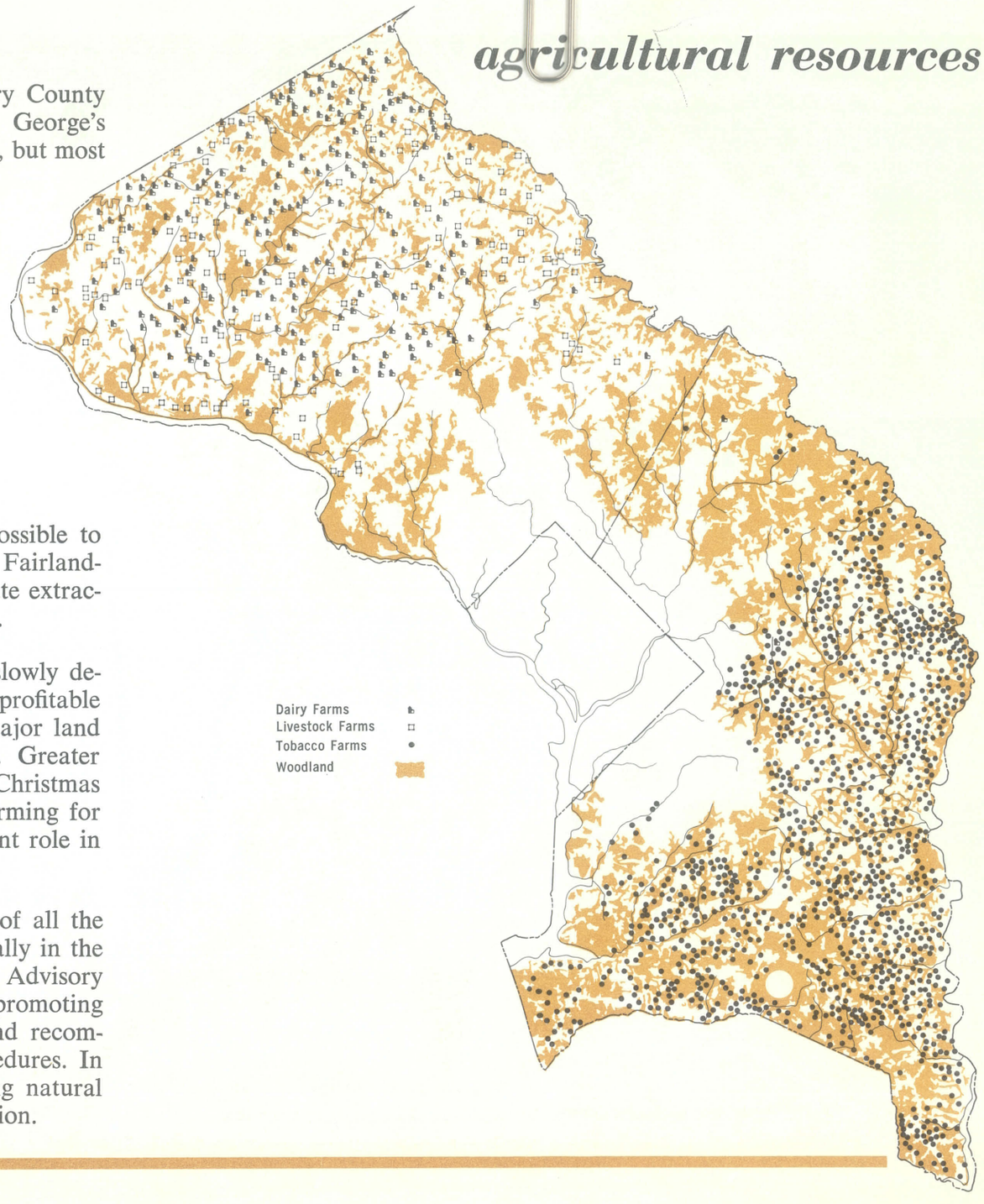
The intrusion of urban uses works against this end by denuding and eroding the landscape, damaging the water supply, forcing speculative prices to the point where large and efficient tracts of land for resource development are difficult or impossible to assemble, and preempting land overlying valuable stone, sand, and gravel deposits. Such problems would not arise if urban uses were kept out of rural areas. Public policy should protect rural areas so that their natural resources will remain useable.

Several natural resources in the Regional District support important businesses now and should be encouraged to continue this role. Among these resource businesses are:

- Crushed Stone
- Sand and Gravel
- Brick Making
- Dairying
- Cattle Breeding and Raising
- Poultry and Egg Production
- Tobacco Farming
- Truck Farming
- Nursery and Greenhouse Operations
- Sod Farming
- Tree Farming

agricultural resources

A few of these such as dairying in Montgomery County and sand and gravel near the Montgomery-Prince George's border occur partly within the projected urban pattern, but most fall within the areas to be retained for rural use.

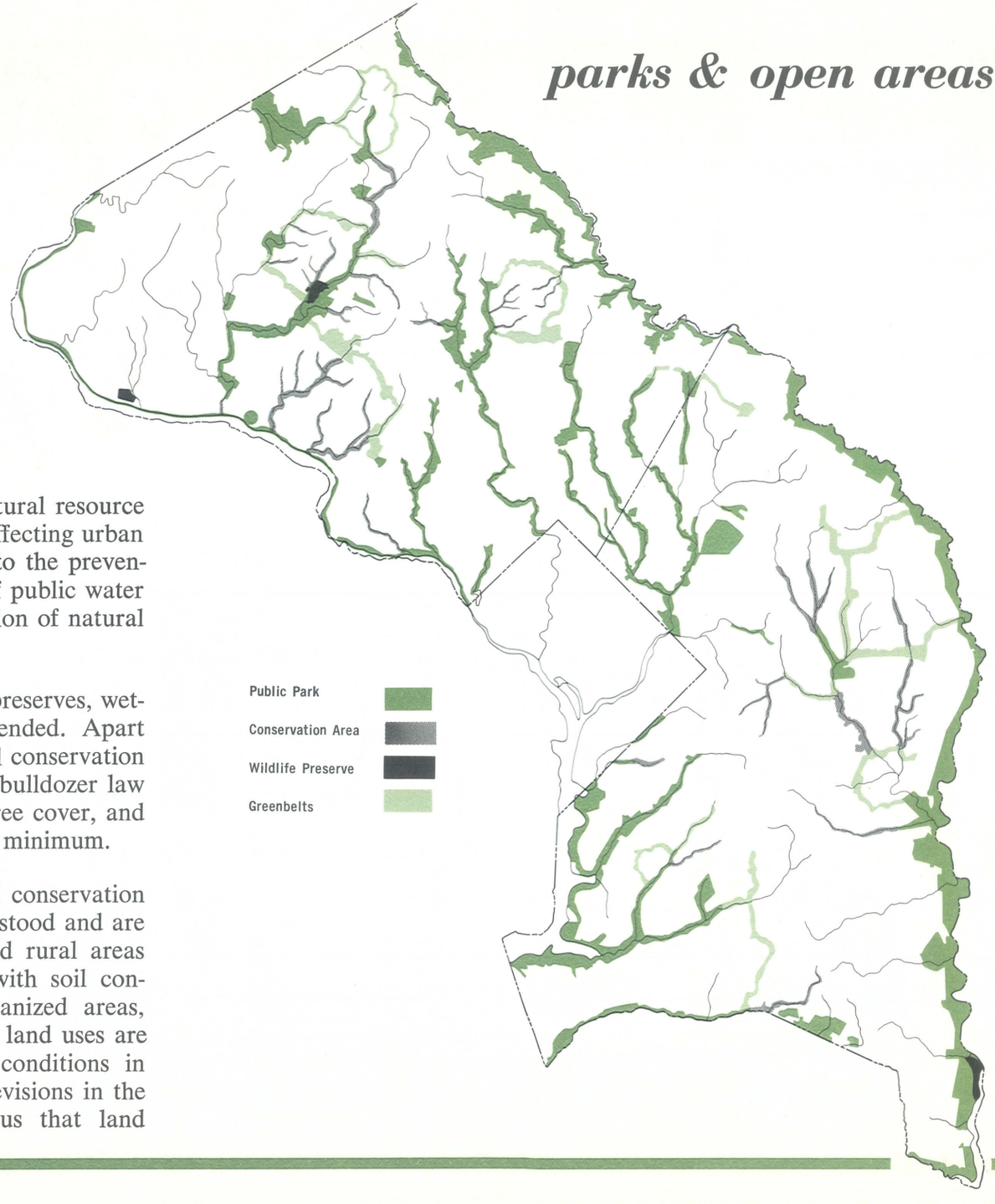


With a proper sequence of zoning, it will be possible to protect the valuable sand and gravel deposits in the Fairland-Laurel corridor until they are used and then rehabilitate extraction areas for profitable and timely urban development.

Despite great national surpluses of food and a slowly declining agricultural acreage in the Regional District, profitable farming can and should continue to be one of the major land uses in the rural wedges between urban corridors. Greater emphasis should be placed on such crops as sod, Christmas trees, landscaping materials, and cut flowers. Tree farming for lumber and wood pulp may also play a more important role in the agriculture of the Regional District.

To encourage the development and proper use of all the natural resources in the Regional District, and especially in the rural parts, the establishment of a Natural Resource Advisory Committee is recommended. Its duties should include promoting resource development, providing technical advice, and recommending sound conservation and rehabilitation procedures. In sum, it will mobilize every possible means of keeping natural resource business in profitable and harmonious operation.

parks & open areas



CONSERVATION

While conservation is an integral part of natural resource development, it is also a subject in its own right, affecting urban as well as rural areas. It is especially important to the prevention of floods and soil erosion, the safeguarding of public water supplies, the protection of wildlife, and the retention of natural values.

A number of existing and proposed wildlife preserves, wetlands, dams, and stream valley parks are recommended. Apart from specific conservation areas such as these, soil conservation districts and general regulations such as the anti-bulldozer law will be useful in keeping the loss of topsoil and tree cover, and the siltation of streams and flood control dams to a minimum.

The principles and devices employed in soil conservation and watershed protective measures are well understood and are successfully practiced on farm lands, forests, and rural areas throughout the country. This is not the case with soil conservation programs for urbanized and semi-urbanized areas, such as are found in the Regional District, where land uses are more complex and intensified. The particular conditions in these "rurban" areas require modifications and revisions in the standard rural-oriented procedures. It is obvious that land

covered to a substantial degree by rooftops and impervious pavements will have vastly different run-off and erosion conditions than land in rural areas, and that new techniques and special ordinances are required by our present-day civilization. Much work remains to be done in this field, though substantial studies of the special problems involved are now being advanced in the Washington area.

A case in point is the Task Force on Urban Siltation, sponsored by the Interstate Commission on the Potomac River Basin. The Task Force has a twofold purpose: (1) to pinpoint erosion and run-off conditions peculiar to metropolitan areas, and to recommend specific methods of control; (2) to formulate legislative and administrative programs for soil conservation that would become the metropolitan area counterpart to the rural programs of Soil Conservation Districts. Its recommendations are expected to provide useful assistance to conservation programs in Montgomery and Prince George's Counties.

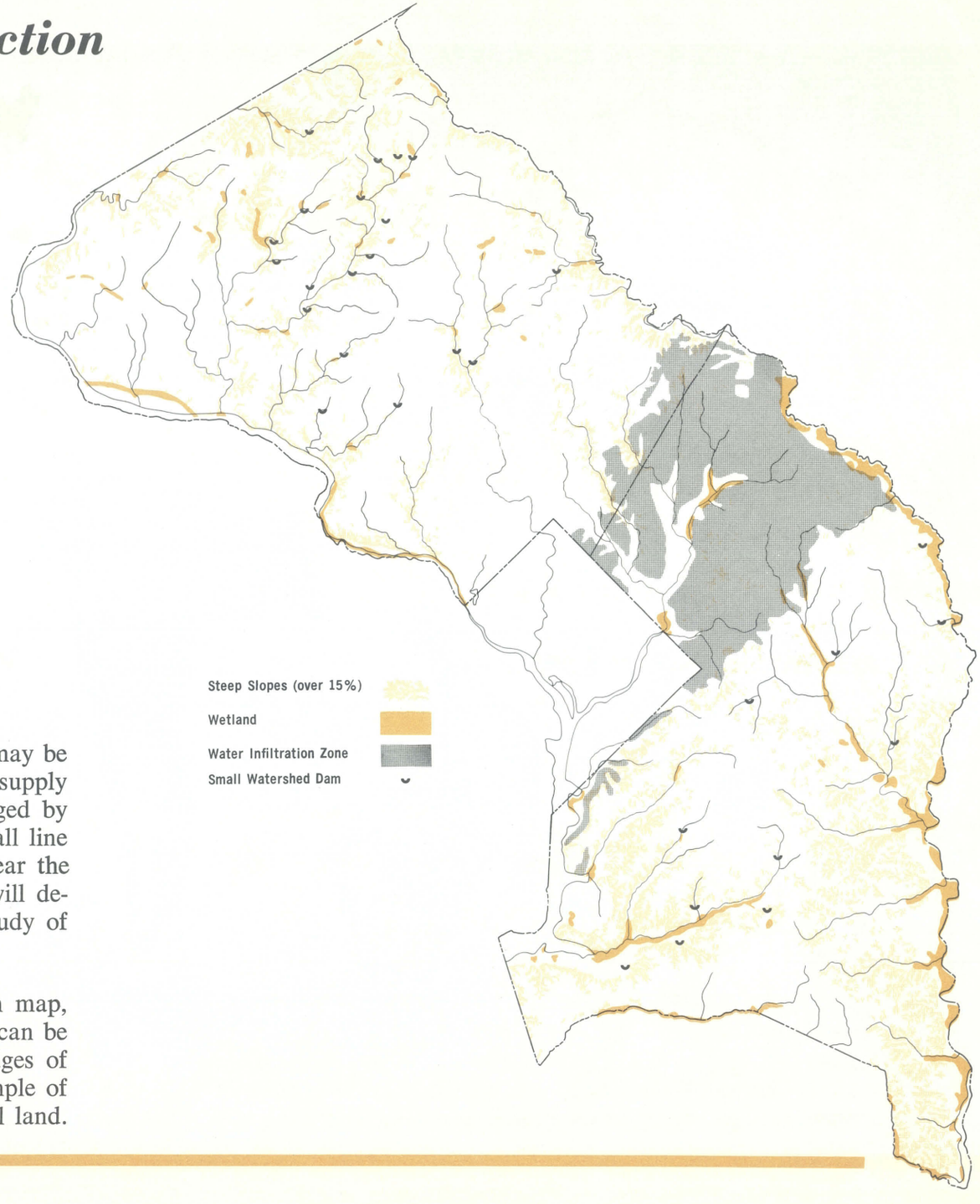
The construction of two impoundments, soon to be bulit by the Soil Conservation Service on the upper reaches of Rock Creek near Gaithersburg, marks another significant step towards meeting the watershed protection needs of the Regional District. These two impoundments will be the first ever built under the provisions of the Small Watershed Act (P.L. 566) in such a highly urbanized watershed as Rock Creek. Other P.L. 566 impoundments which may be built within the Regional District include the following: eight in the Seneca Creek Watershed, one on Muddy Branch, one on Watts Branch, two on the Piscataway, and possibly others on the Northwest and Northeast Branches of the Anacostia. Many of these have been surveyed and planned by the Soil Conservation Service in cooperation with the Corps of Engineers' Potomac Basin Study. They would be multi-purpose impoundments for flood control and recreation. Land stabilization practices are required by law in the watersheds upstream from P.L. 566 structures, and they would provide incidental downstream erosion benefits.

A number of small impoundments, mainly for the containment of silt, will be required on many other streams in the Regional District, where the highly urbanized character of the watersheds precludes silt prevention by the standard land treatment measures recommended for rural areas.

The corridor-wedge plan offers significant opportunities for a new approach to flood and silt control. Small dams to catch silt and control storm water could be located on streams draining run-off from the urban corridor. Highway fills could be used in building such impoundments, and in some cases the highways themselves could form the dam embankments.

It is not the function of the General Plan to specify in any great detail the soil conservation and watershed protection measures that will be employed within the Regional District. These measures will be spelled out as part of the continuing planning process. The Natural Resource Advisory Committee would be expected to take the lead in seeing to it that adequate conservation measures are used in the Regional District, and in bringing about closer coordination between the various federal, state and local programs in this field of endeavor.

watershed protection



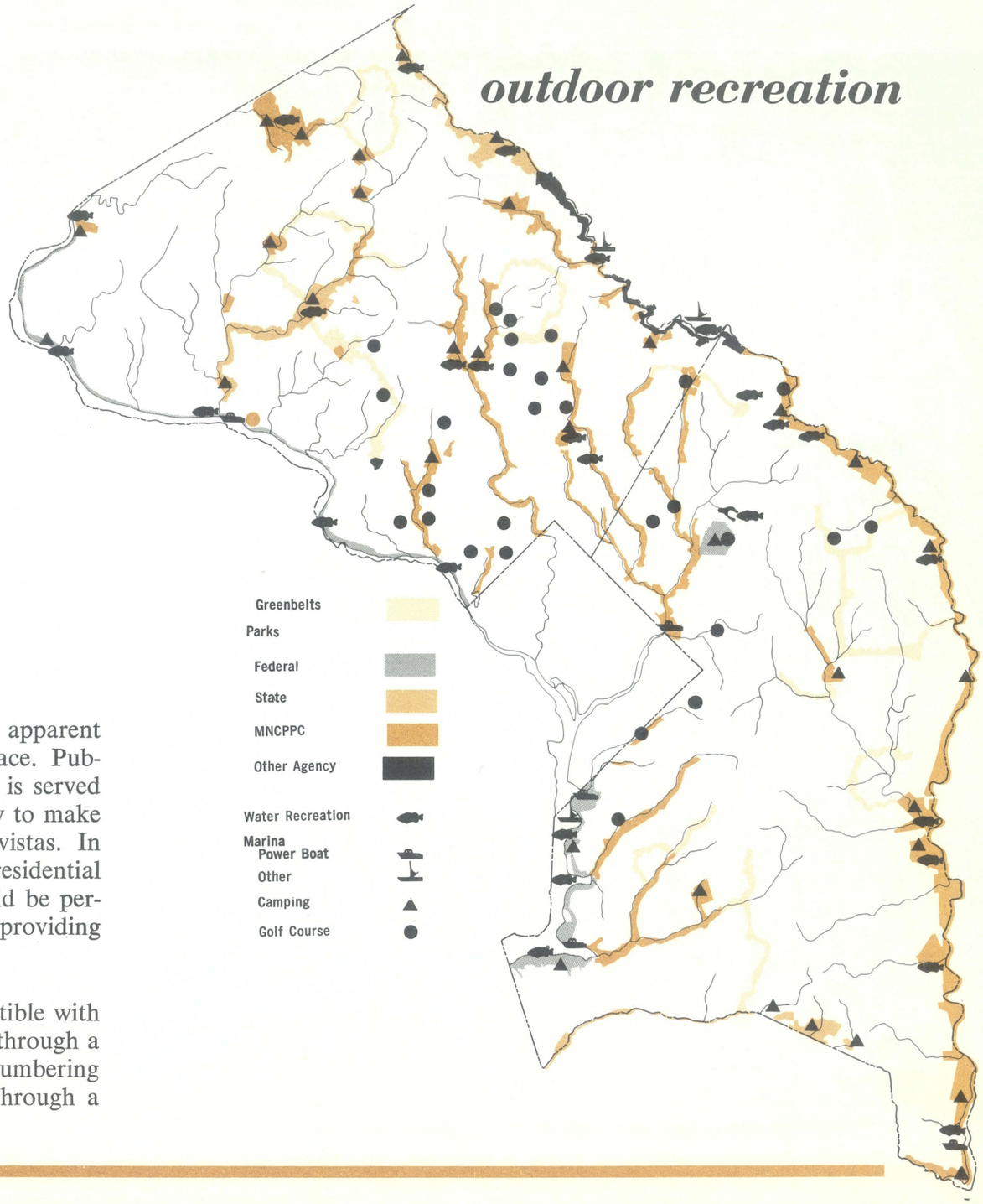
An important source of water supply in the future may be the tremendous 150 million gallon per day underground supply in Prince George's County. Since this supply is recharged by rainfall seeping into the ground in the area along the fall line between the Piedmont Plateau and the Coastal Plain near the Montgomery-Prince George's boundary, its usefulness will depend upon protection of the recharge area. Further study of how this might be done is needed.

Fortunately, as shown on the watershed protection map, many of the conservation needs in the Regional District can be met by the proper use of public open spaces at the edges of urban corridors. This kind of dual use is just one example of the possibilities for multiple use of open space and rural land.

RECREATION AND OPEN SPACE

Other striking examples of multiple use become apparent in the consideration of land for recreation and open space. Public ownership of land is not necessary if the purpose is served merely by looking at scenic vistas; it is only necessary to make sure that private uses of the land will not destroy the vistas. In many cases forestry, agriculture, very low density residential development, and other private uses of the land would be perfectly in accord with preservation of the view and with providing a feeling of open space.

Some types of active public recreation are compatible with private ownership and use of the land. A bridle path through a private farm or forest need not hamper agricultural or lumbering operations, nor will a hiking trail across a field or through a wooded meadow have an adverse effect.



The increasing trend toward recreational use of private land is illustrated by the many lumbering companies which open their forest reserves for picnicking, hunting, and camping.

> *In a nationwide survey, 518 forest products companies holding 58,140,936 acres of timberlands reported 97.4 per cent of these lands open to fishing, 92.3 per cent open to hunting. Through these lands, the survey showed, wind 37,255 miles of streams from which fishermen may try their luck. The survey showed 107 forest products companies operate 146 parks and 157 picnic areas, virtually all open to the public. Eighty-four companies reported definite plans for developing recreational facilities on their lands in the future. Visits by recreationists to all lands included in the survey were estimated at 6,057,660 a year.*
>
> *Recreation on those managed forests ranges from skiing in New England to big game hunting in the Pacific Northwest.*
>
> *The managed forest as a recreation area is a frontier hardly tapped or realized. While not every commercial acre of timberland is—or can be—open to recreation, it is the managed forest which holds the key to the recreation needs of the future.**

* *Our Forest Bounty,* Washington, D. C.: American Forest Products Industries, Inc., 1961, p. 11. See also an excellent pamphlet from the same source entitled *Why We Must Have Multiple Use Forest Management* (1961).

Many of these recreation uses are provided by public spirited companies, but in order to assure their continuance and expansion in and near the metropolitan area where high land values discourage it, there will be a very definite need for the public to purchase recreational rights on private farm and forest lands as the Maryland Game and Inland Fish Commission is already doing; or in many cases the same purpose could be served by the private owner simply charging recreational fees for the use of his land by members of the general public.

Golf and country clubs, facilities of such organizations as the Isaac Walton League and the Audubon Society, private camps, and other private facilities will also continue to add substantially to recreational opportunities in the Regional District, and they should be encouraged.

Even though private lands can provide a great deal of recreational opportunity and open space, there is a continuing need for expansion of the public park system. This system assures the public complete access to natural areas and to areas developed with specialized recreational features not otherwise available. It makes sure that recreational opportunities are available to the public in all parts of the Regional District, urban as well as rural. Most of the public park system will remain free so that its advantages can be enjoyed by all. And finally, the public park acquisition program can be used at critical points to divide urban areas from rural. Public parks will be a major user of land along the edges of urban corridors and in the rural wedges.

RURAL INCOME PROTECTION

It is inevitable that more than half the land in the Regional District will still be rural in the Year 2000. The income of land owners in the rural area will therefore depend upon enhancement of the rural environment by the preservation and development of natural rural values. This will be a principal task of the Natural Resource Advisory Committee.

The United States Department of Agriculture has recently issued a strong policy statement which can help greatly in achieving the rural development goals of the General Plan. Some of the programs proposed by the Department of Agriculture would

> *. . . provide for cost sharing with local agencies to acquire and develop recreational facilities around reservoirs, and for easements, cost-sharing, and loans to local organizations for development of selected flood plains, water courses, and other areas for wildlife, game, and recreation uses. And it would authorize loans and technical assistance to groups and individuals in the development of hunting, fishing and other recreational facilities.*
>
> *This would generate employment and income in rural areas. It would also support the established and well-regarded watershed program of the Department of Agriculture, providing a nucleus of open spaces for public uses . . . The purpose would be twofold: (1) to effect needed land use adjustments by converting some land, preferably cropland, to recreational uses, and (2) to meet a strongly developing need for more public recreational facilities.**
>
> *The demand for forest products will increase in the years ahead . . . Any major increase in forest lands would be useful particularly for recreation, for wildlife, for general use by a growing population and to provide a reserve.*
>
> *Under the program, owners would agree to plant trees on land taken out of crops and to protect and maintain the tree cover on such lands . . . The Government would share the cost of planting and would make annual payments to owners . . . The owner could be permitted to harvest forest products . . . provided such harvesting was carried out according to approved practices.***

The Department's program includes measures to strengthen family farms, but recognizes that "probably the most promising potential source of new economic opportunities in many rural areas is to be found in providing commerical enterprises, and various services connected with outdoor recreation and tourism."*** This is especially applicable to rural areas lying at the edges of major cities.

Rural income protection and expansion is a basic goal of the Department of Agriculture and likewise should be a basic goal of the public authorities in the Regional District. Success in reaching this goal means success in promoting a healthy rural environment for the open space wedges recommended in this General Plan.

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* U. S. Dept. of Agriculture, *Food and Agriculture: A Program for the 1960's,* January 30, 1962, pp. 8-9.
Another Department of Agriculture program urges conversion of cropland to trees.

** *Ibid.*, p. 11.

*** *Ibid.*, p. 13.

MAKING THE RURAL PATTERN WORK

Some of the many tools that can be employed to achieve successful development of the rural aspects of the General Plan are listed below and explained in *Part II, Carrying Out the Plan.*

- Protect and enhance rural values in the Regional District.
- Use limited access sewers to give adequate service to urban areas without encouraging urbanization in rural areas.
- Establish a Natural Resources Advisory Committee to
  - —*reinforce the purposes of rural zoning.*
  - —*make available technical information and advice to encourage the fullest and best use of rural properties, and*
  - —*Initiate special studies of rural problems.*
- Establish new tax policies relating land assessment to zoning, and extending preferential assessment to all open space uses of land.
- Deny premature subdivisions that would establish large-scale urban development in rural areas.
- Use park acquisition to separate rural areas from urban areas.
- Purchase public recreation rights and scenic easements to expand open space beyond publicly owned land.
- Encourage private land owners in the rural area to provide recreational opportunities for the public under multiple use, income producing arrangements.
- Cooperate with and coordinate the numerous Federal, State and local programs for rural development, conservation, and open space acquisition.

CHAPTER 4

PUBLIC SERVICES

Our national welfare therefore requires the provisions of good urban transportation . . . to help shape as well as serve urban growth.

PRES. JOHN F. KENNEDY

The pleasantness and convenience of everyday living in a modern urban society is largely dependent upon efficient systems of public service which form the basic framework for community well-being. These systems can be thought of in four groups: transportation, utilities, parks, and community facilities. All required public services should be provided in a logical sequence to facilitate development in accordance with orderly stages fulfilling the General Plan.

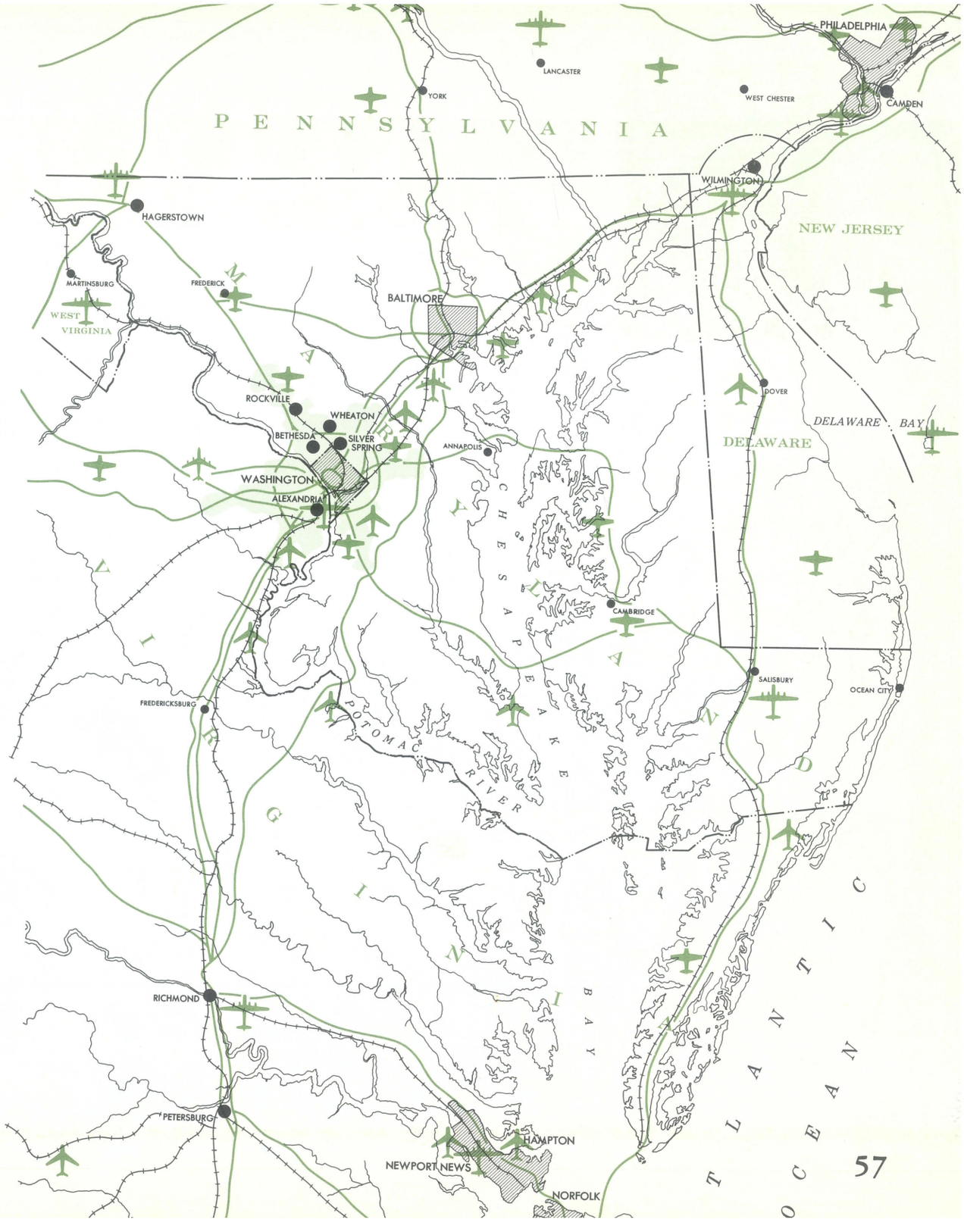
TRANSPORTATION

Workday commuting is the biggest problem to be overcome by the transportation system, because the volume of traffic is so much greater during rush-hour than at any other time. Forty per cent of all automobile trips and 50 per cent of all transit trips occur in just four hours of peak traffic.* Thus the transportation system which is more than adequate most of the time becomes badly overloaded at the rush-hour peaks.

The goal set by the 1959 Mass Transportation Survey was to design a transportation system which would "permit the large majority of the population to reach downtown Washington in 30 to 45 minutes during peak hours. It is also assumed that the transportation system will put each part of the region within a similarly reasonable travel time of most of the other focal points."** Highway and rail rapid transit facilities represent the only two real possibilities for achieving the goal. The recommended system must allow this goal to be reached even with a greatly expanded population and a much larger urbanized area.

* NCPC and NCRPC, *Mass Transportation Survey Report* (p. 26).
** *Ibid.*, (p. 20).

regional transportation



Washington Urbanized Area

Highway

Civil Airports

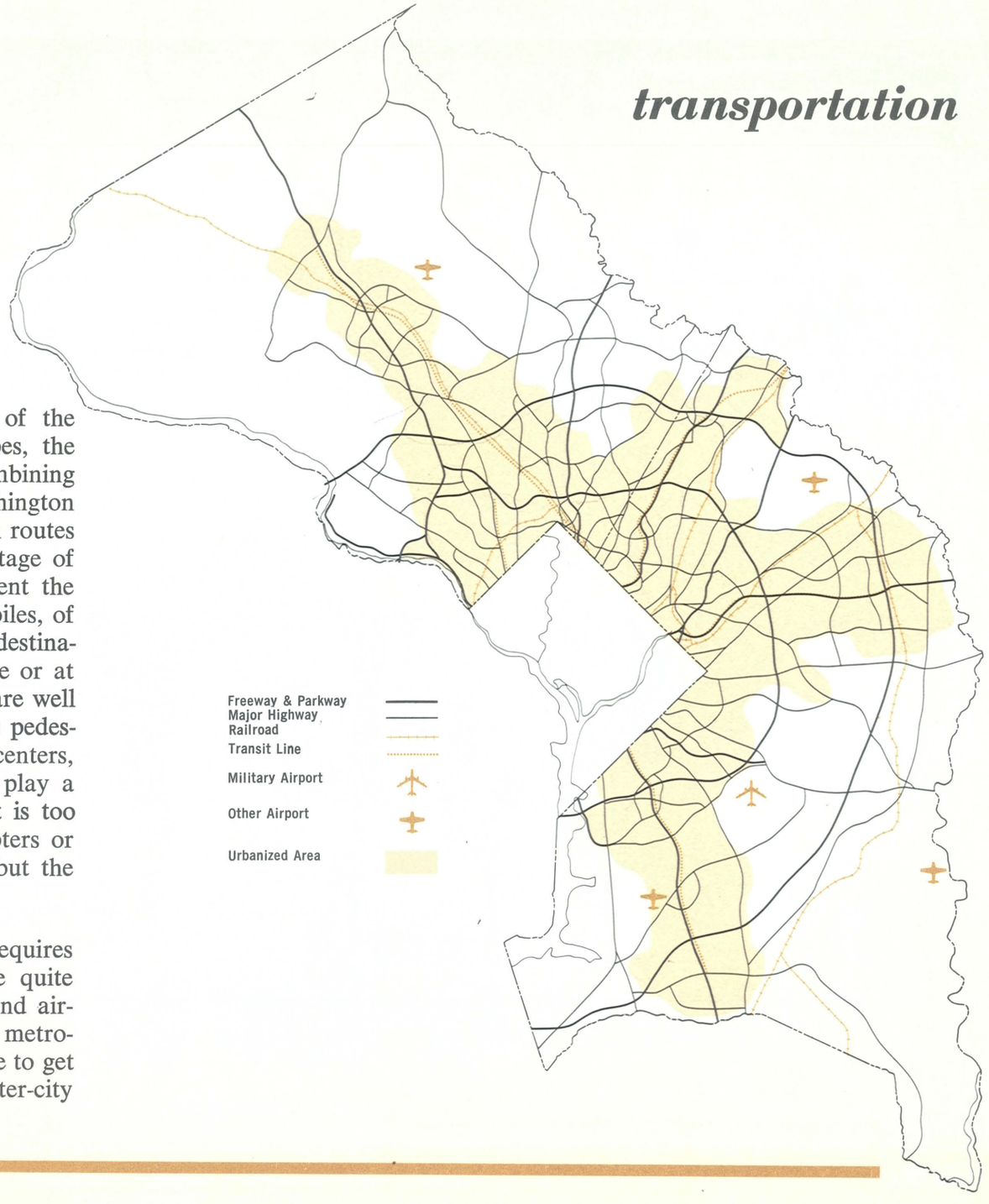
- Jet
- Major
- Minor

Military & Federal Airports

transportation

After analyzing alternate transportation systems of the auto-dominant, express bus, and rail rapid transit types, the Mass Transportation Study concluded that a system combining features of all three would be the best buy for the Washington Metropolitan Area. Rail rapid transit is efficient only on routes where large numbers of riders are likely to take advantage of its great capacity for moving crowds. To a lesser extent the same applies to an express bus system. Private automobiles, of course, can go almost anywhere at any time, but if the destination is a popular one parking is likely to be unavailable or at least hard to find and expensive. Taxis and local buses are well adapted to providing convenient, short-haul service. As pedestrian plazas become larger and more common in urban centers, moving sidewalks and small shuttle vehicles will also play a role as important links in the transportation system. It is too early to predict the role that may be played by helicopters or other means of air transportation within urban areas, but the possibility of a substantial role must be kept in mind.

Travel to points outside the Metropolitan area requires still other facilities. Although private automobiles are quite important for this purpose, railroads, inter-city buses, and aircraft are also of major importance. One objective of the metropolitan transportation system is to make it easy for people to get from any part of the metropolitan area to terminals for inter-city travel.



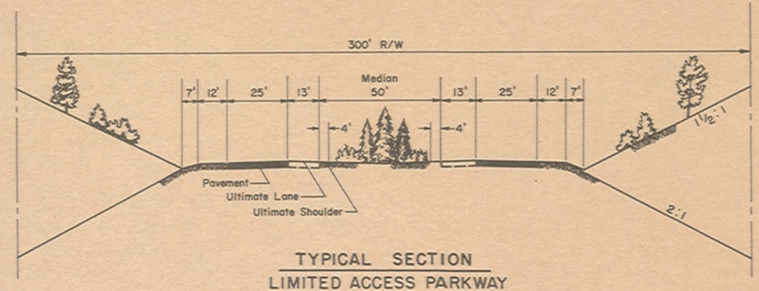
Highways. Four types of highways are shown on the General Plan, each having a special purpose: freeways, parkways, major urban highways, and major rural highways. The dual-lane freeways and parkways are all limited access, with no direct entrances from adjoining properties and having grade-separation interchanges that do away with grade crossings and traffic lights. Freeways and parkways together form a complete, high speed, urban and interstate system of radial and circumferential routes. These two types of limited access roadways differ primarily in that freeways serve all traffic, whereas trucks are forbidden on scenic parkways. A further difference in some cases will be the use of freeway median strips for rapid transit.

The major urban highways are not designed for high speed travel. Although these highways are divided by median strips and serve large amounts of through traffic, they have numerous cross-streets and traffic lights. Free access from adjoining properties is usually allowed. There are many more major urban highways than freeways and parkways, since they must serve all parts of the urban area rather than just the most heavily traveled routes.

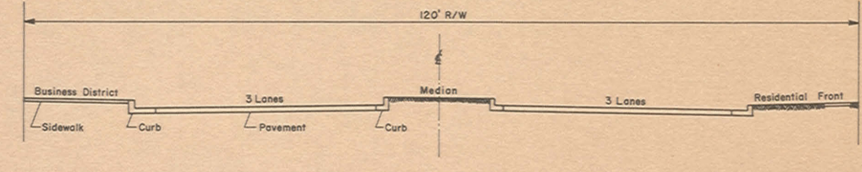
The major rural highways go out into the open space wedges to connect with the small communities such as Upper Marlboro and Damascus, and to encourage the rural economy. Some of these highways also lead to recreational areas. In most cases they will not carry high volumes of traffic for many years to come. Therefore, present plans call for constructing only one side of an eventual dual roadway.

Many local streets must be provided in addition to freeways, parkways, and majors mentioned above, but they are beyond the scope of this plan.

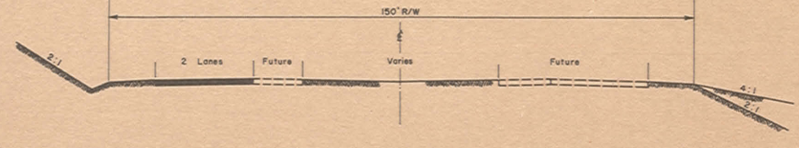
Parking lots, bus loading areas, and facilities for transferring between highway and rapid transit are integral parts of highway planning. These two are beyond the scope of this report, and will appear in more detailed plans.



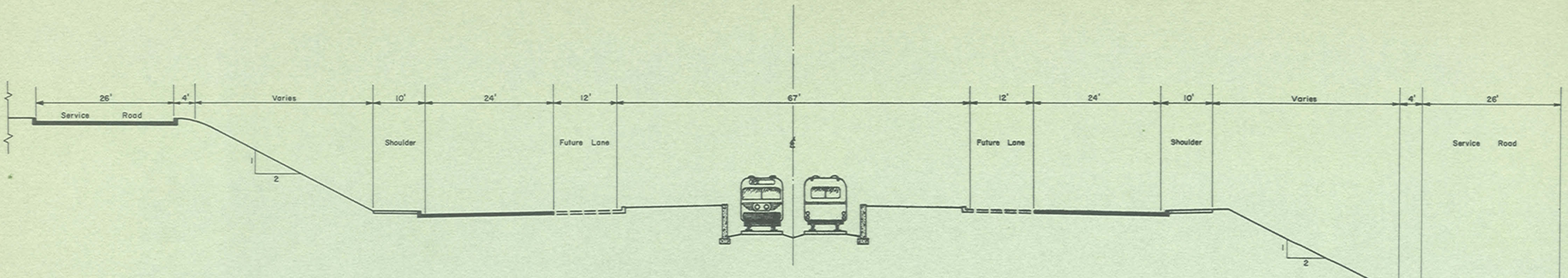
TYPICAL SECTION
LIMITED ACCESS PARKWAY



TYPICAL SECTION
MAJOR HIGHWAY
(URBAN)



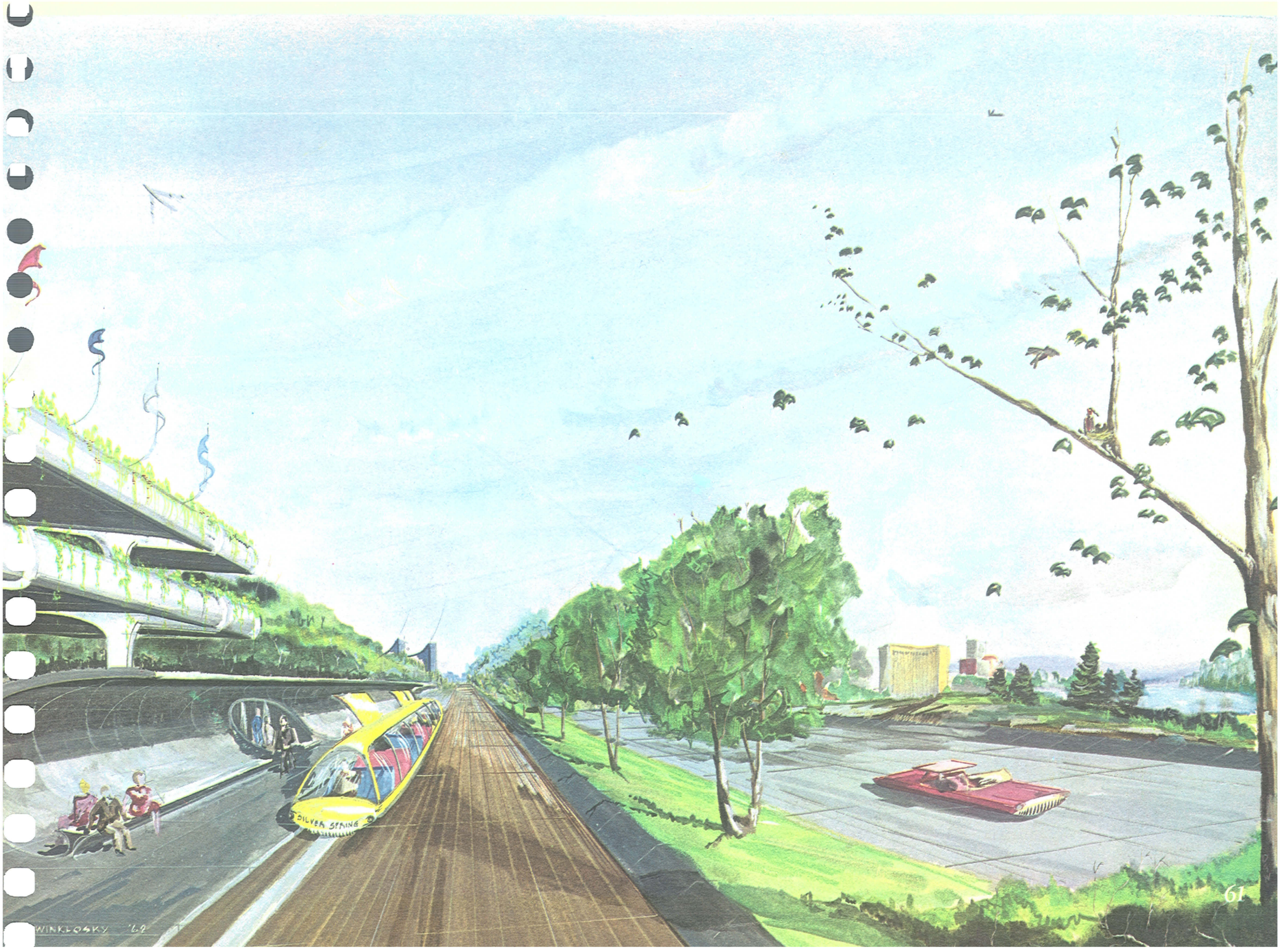
TYPICAL SECTION
MAJOR HIGHWAY
(RURAL)



TYPICAL SECTION – 4 LANE FREEWAY
MEDIAN STRIP RESERVED FOR FUTURE RAPID TRANSIT USE

Rapid Transit. Express buses may serve the function of rapid transit on some freeways, especially for circumferential trips. But the emphasis in this plan is on radial routes for rail rapid transit directly to and from downtown Washington. Rail rapid transit requires separation from highway traffic. This can be accomplished by using median strips between freeway lanes and existing railroad rights-of-way, or by building monorails above ground and subway tunnels underground. Each of the four methods of separating rapid transit from highway traffic may be useful in the Regional District, depending on the particular situation. The choice between them depends upon 1) minimizing the total of right-of-way and construction costs, and 2) minimizing the social disruption to existing communities.

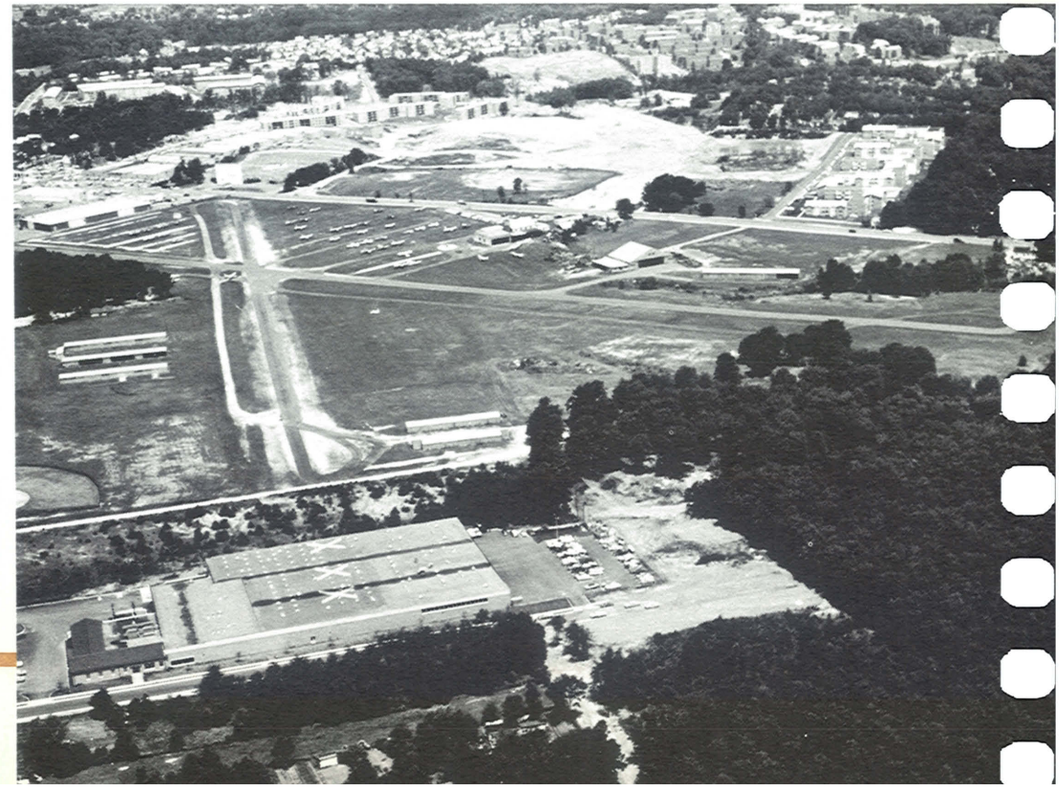
The Planning Commission's responsibility is in helping to find the most appropriate routes for rapid transit, reserving rights-of-way, reserving space for the necessary terminals, parking lots and other facilities along the routes, and in helping to avoid any adverse impact of these facilities on local communities. The National Capital Transportation Agency is responsible for the engineering, financing, construction, and operation of the rapid transit system. The Planning Commission and the State Roads Commission have been designated by the Governor of Maryland as his approving authority for NCTA plans.


SILVER SPRING
WINKLOSKY '69

Airports. Andrews Air Force Base, an important defense installation is the only large airport in the Regional District. It is not available to the general public, but it provides important military and diplomatic transportation services for the Federal government and is one of the largest employers in the Regional District. Highway transportation to the airport is well provided for by a parkway and two major highways. The big problem in keeping this airport serviceable is one of protecting the flight paths and noise areas against urban encroachment. Andrews is at the edge of the southeast urban corridor and will benefit greatly from the rural surroundings proposed in this General Plan. In addition, special airport zoning and the purchase of noise easements will be required both for the protection of the airport and the protection of the general public which might otherwise be induced to buy homesites too close to the inevitable noise in the flight paths. These flight paths are shown on the General Plan map as a warning.

There are also several small airfields in the Regional District to serve pleasure-craft and business planes. These small fields provide a great convenience because of their locations close to the urban area, and because of the scheduling difficulties brought about by heavy traffic at the crowded commercial airports. As in the case of Andrews, these small airports must be accessible by highways but protected from urban encroachment.

Small airports at the edge of urban corridor cities will play an important role in commuter transportation if helicopters or other vertical take-off vehicles come into wide use. All new airports must be very carefully located so as not to conflict with planned urban development. The Federal Government airfield on the Beltsville Agriculture Research Center is proposed for general aviation purposes, and a new airfield to replace Hyde Field near Clinton is proposed to complement the planned corridor city south of Clinton.



UTILITIES

The presence or absence of utilities can determine where urban growth will occur and where it will not. This is particularly true of sewer systems.

Electricity and telephone service are seldom controlling factors, since they are the easiest and cheapest utilities to install and can be made available anywhere in the Regional District. Water and gas lines are somewhat more restrictive, but are available in most areas. Sewers, however, are another matter. They can *not* be made available anywhere a developer might wish.

Even a small, gravity-flow sewer system is relatively expensive. If the system must cross watershed divides, requiring pumps and force mains, the cost is greatly increased; it is increased still more if the area to be served is far distant from an existing trunk sewer. In many such cases the cost is prohibitive.

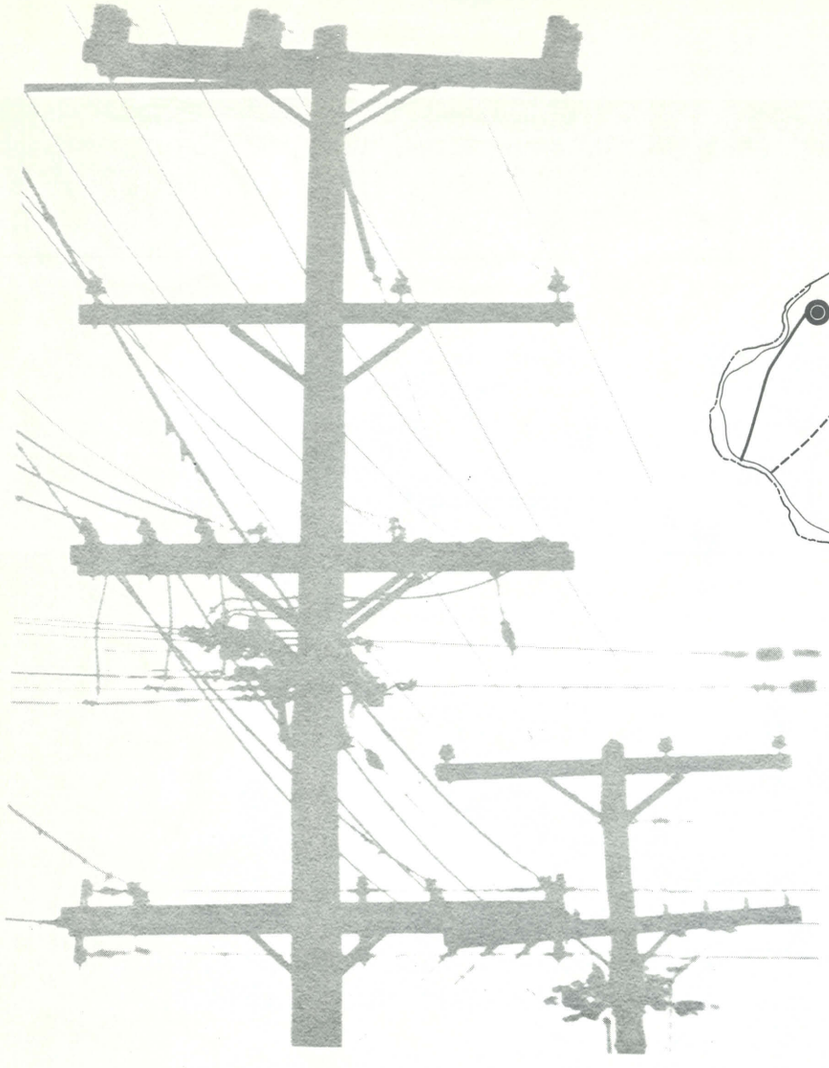
Whenever a trunk sewer is extended to serve a newly-developing subdivision beyond the previous limits of urbanization, an on-rush of construction is sure to follow. Frequently large amounts of surrounding land can be connected to the same sewer and a whole group of new subdivisions springs up. Obviously, then, the decision as to where and when construction of sewer lines should take place can be as powerful a factor in shaping urban development as zoning and subdivision regulations.

All three of these controls must be coordinated for maximum effectiveness in creating the urban pattern contemplated in the General Plan.

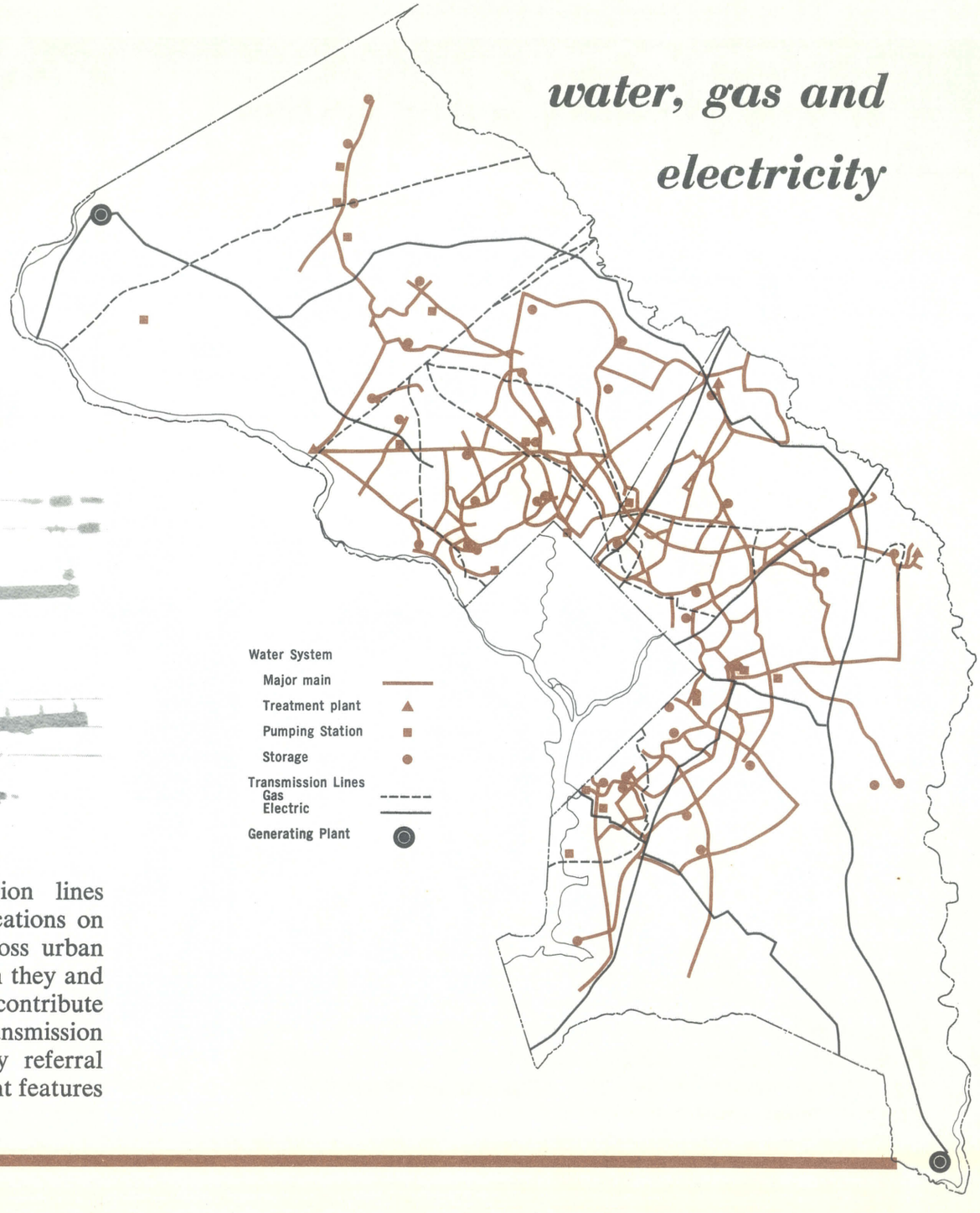
The utilities needed to serve developments recommended in the General Plan should be constructed with the following considerations in mind:

Water. Water lines should be provided wherever necessary, but always in direct relation to the population distribution recommended by the General Plan.

Gas. New storage facilities, needed to reinforce supplies during months of peak demand and hold down costs to consumers, should be located at the edges of the urban pattern to aid the transition between urban and rural uses. Care in placing major new pipelines around rather than through new corridor cities will save costly relocations as intensive development takes place.

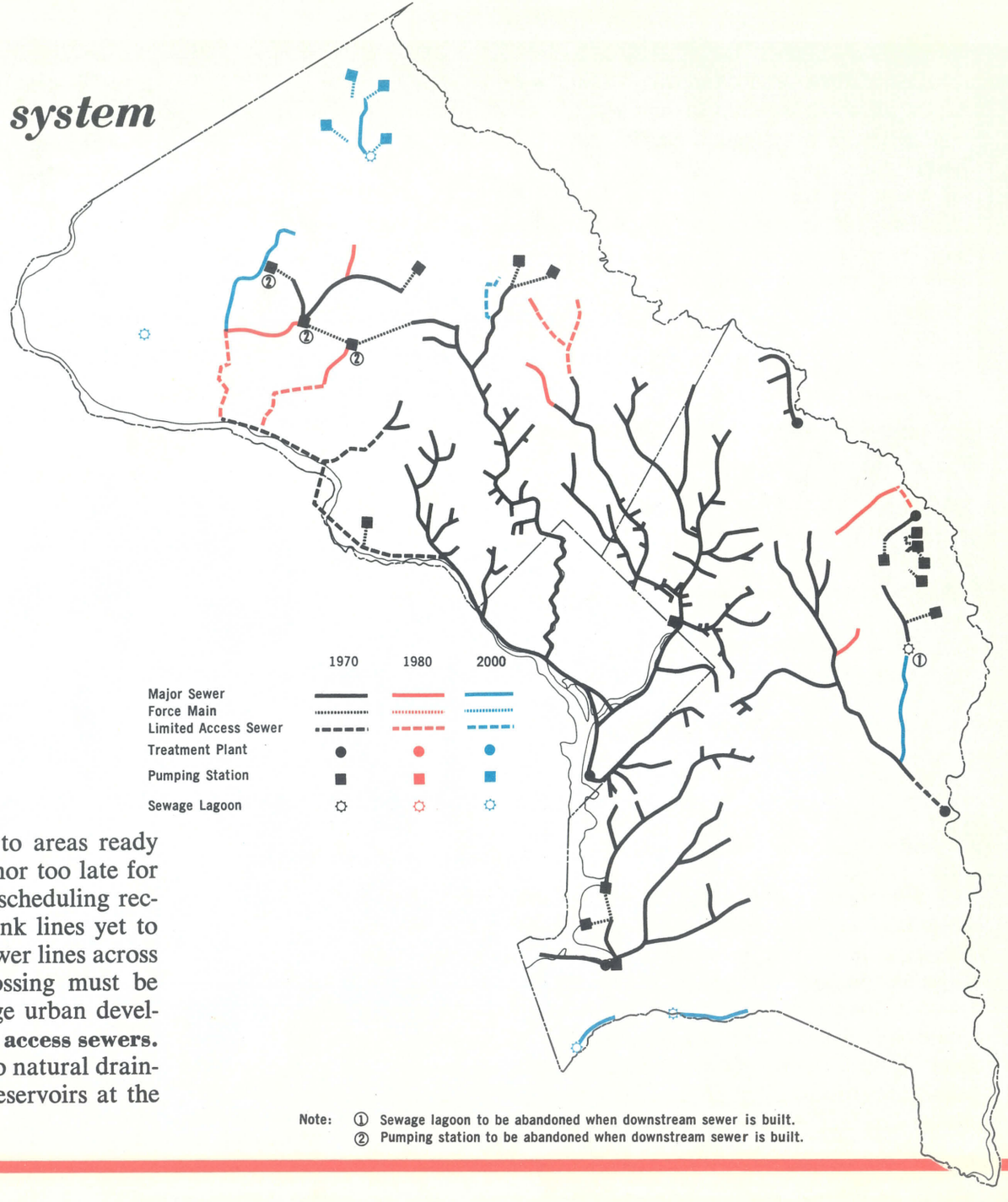


water, gas and electricity



Electricity and Telephone. Major transmission lines should, so far as possible, seek rural locations or locations on the edge of the urban pattern. Where they must cross urban areas and branch out into local distribution lines, both they and the local lines should be built underground in order to contribute to a more pleasant urban environment. All major transmission lines should be carefully checked under mandatory referral laws to make sure they do not conflict with development features of the General Plan.

staged sanitary sewer system



Sewers. Trunk sewers should be extended to areas ready for urbanization *when needed,* neither too early nor too late for the orderly sequence of growth. The map shows scheduling recommended by the Commission for the major trunk lines yet to be built. Wherever possible, the construction of sewer lines across rural zones should be avoided; where such crossing must be made, service connections which would encourage urban development should be prohibited by the use of **limited access sewers.** Storm sewers can be relatively short, emptying into natural drainage channels controlled by small dams and silt reservoirs at the edges of urban developments.

PARKS

The Park and Planning Commission has direct responsibility for the provision of parks and recreation centers. Stream valley parks acquired with the aid of Federal funds, granted under the Capper-Cramton Act to assure an appropriate system of metropolitan parks in the Nation's Capital, have been the mainstay of the park system in the Regional District until recently. Large regional parks are now becoming important supplements to the stream valley system. Youth centers are growing popular in bright-light locations, providing facilities for club meetings, dances, and other indoor activities on either an individual or group basis. Besides serving teen-agers, these centers are also proving attractive during the day for the activities of retired people.

Close cooperation with the Board of Education has resulted in the park-school concept. Under this concept park land is added to school sites to provide large playfields. This not only benefits the schools, but also provides local recreation facilities for the general public after school hours. Washrooms and even general purpose rooms in the school building sometimes can be made available to the public in connection with these park facilities.

Acquisition. Land for regional, local, and stream valley parks is reserved through the administration of subdivision regulations, and is acquired largely with funds raised by special park taxes. State parks along the Patuxent River and Seneca Creek and at Cedarville in lower Prince George's County are also part of the Regional District's public park system, as are Federal parks such as Greenbelt Regional and the George Washington Memorial Parkway. The acquisition program is being stepped-up; additional State and Federal funds are being sought.

In general, local parks, park schools, and youth centers will be in the urban communities where the people are; stream valley parks will be (as the name implies) where the major streams are; and regional parks will be where they can form a boundary between urban and rural environments.

Development. The development of recreational facilities on park lands is as important as acquisition and is therefore being stepped up to keep pace with population growth.

Park Standards. Six types of park areas will be acquired and developed as recommended by the Outdoor Recreation Resources Review Commission and defined as follows:*

Class I. *High Density Recreation Areas*
Areas intensively developed and managed for mass use, including playgrounds, playfields, swimming beaches, and any other facilities designed for intensive recreation.

Class II. *General Outdoor Recreation Areas*
Areas subject to substantial development for a wide variety of specific recreation uses, and as camping, picnicking, fishing, water sports and nature walks.

Class III. *Natural Environment Areas*
Various types of areas that are suitable for recreation in a natural environment and usually in combination with non-residential uses such as forestry.

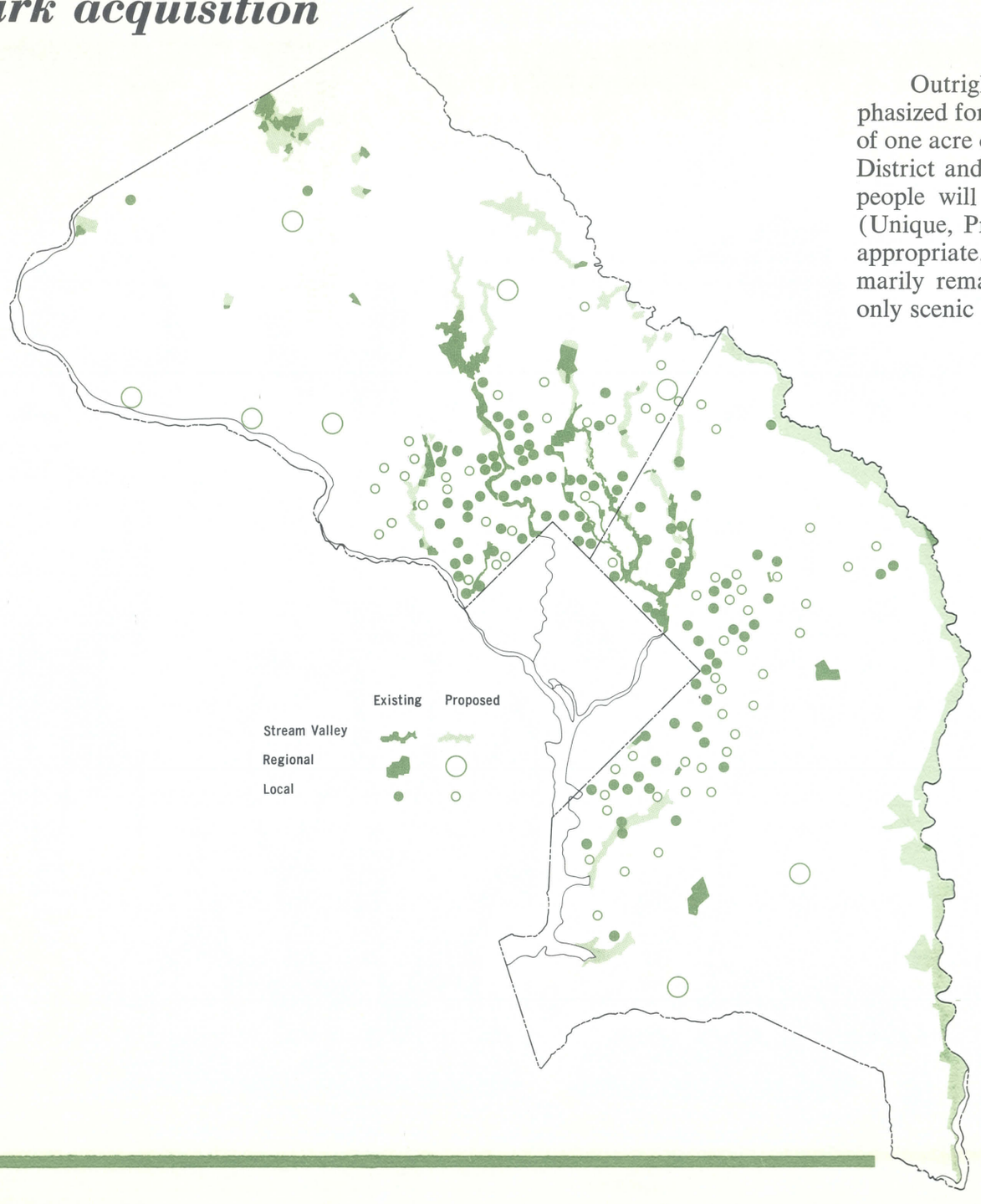
Class IV. *Unique Natural Areas*
Areas of outstanding scenic splendor, natural wonder, or scientific importance.

Class V. *Primitive Areas*
Undisturbed roadless areas, characterized by natural wild conditions, including "wilderness areas."

Class VI. *Historic and Cultural Sites*
Sites of major historic or cultural significance.

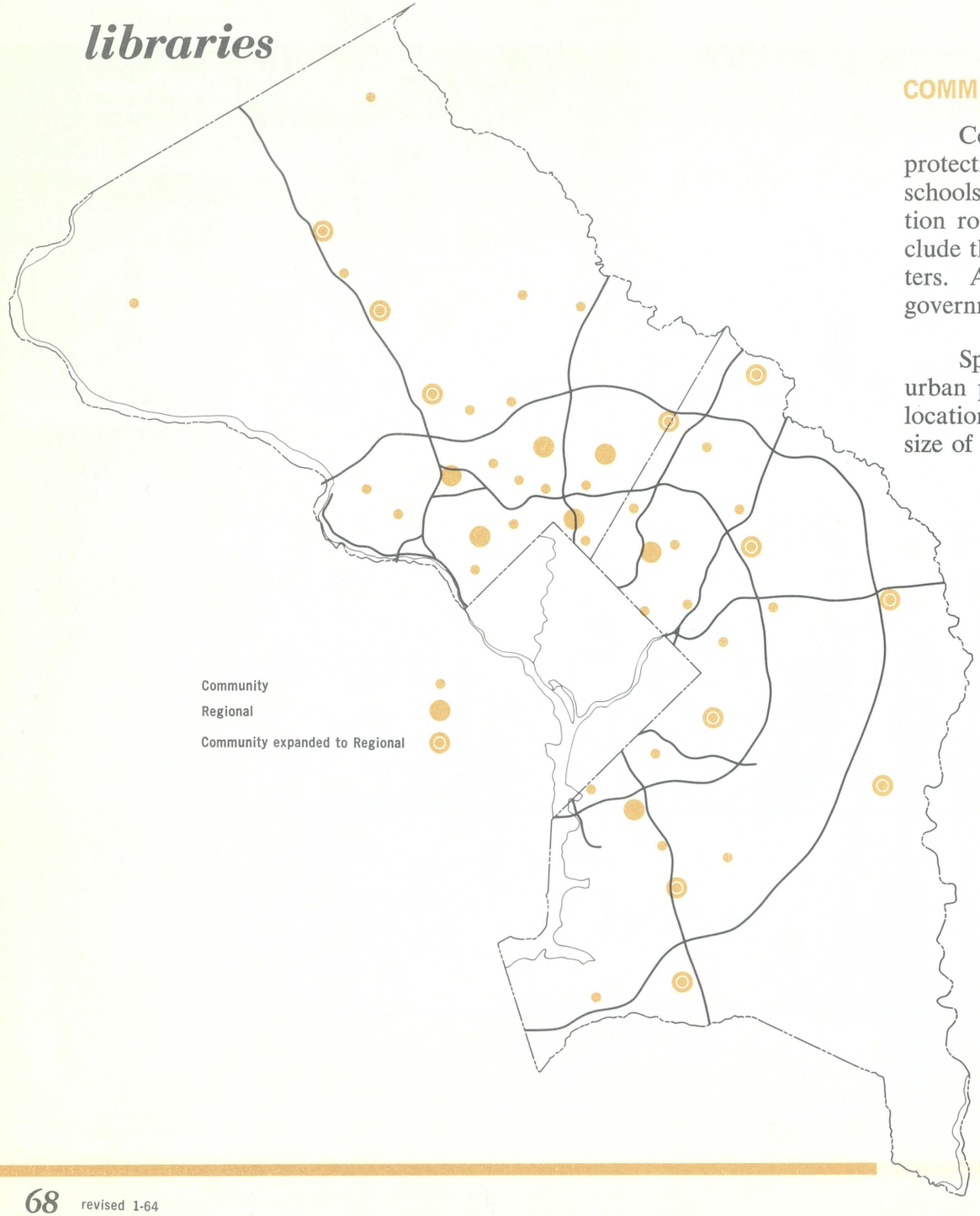
* For a fuller explanation, see "Chap. 6 Guidelines for Management," *Outdoor Recreation for America,* pp. 95-120.

park acquisition



Outright public ownership and development will be emphasized for Class I and Class II (Recreation) areas. Standards of one acre of Class I parks for each 600 persons in the Regional District and a ratio of one acre of Class II parks for each 100 people will be maintained or bettered. Class IV, V and VI (Unique, Primitive and Historic) areas will be acquired where appropriate. Class III (Natural Environment) areas will primarily remain in private ownership with the public acquiring only scenic or recreation easements.

libraries

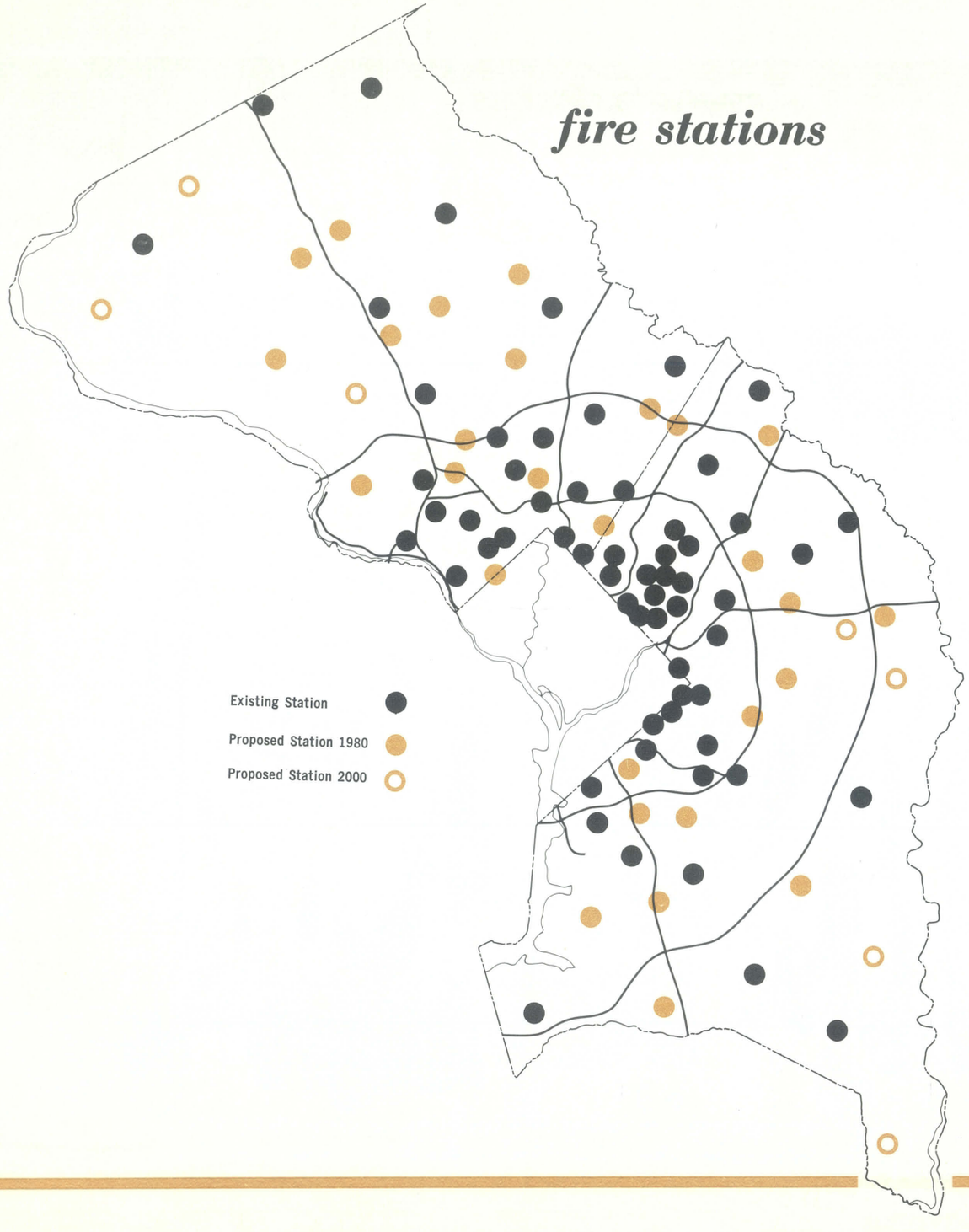


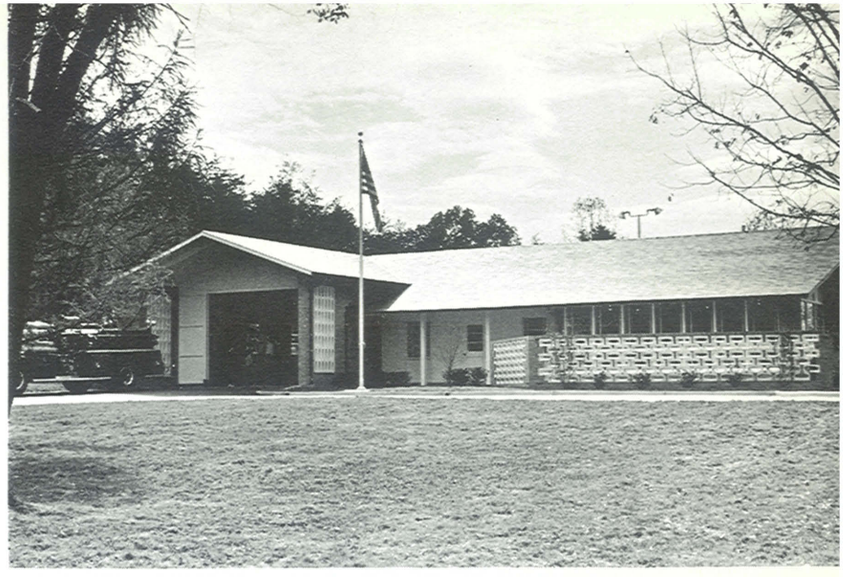
COMMUNITY FACILITIES

Community facilities fall into three categories: cultural, protective, and administrative. The cultural facilities consist of schools and libraries, plus art centers with auditoriums, exhibition rooms, and small meeting rooms. Protective facilities include the police and fire departments, hospitals, and health centers. Administrative facilities include courts and the various governmental offices.

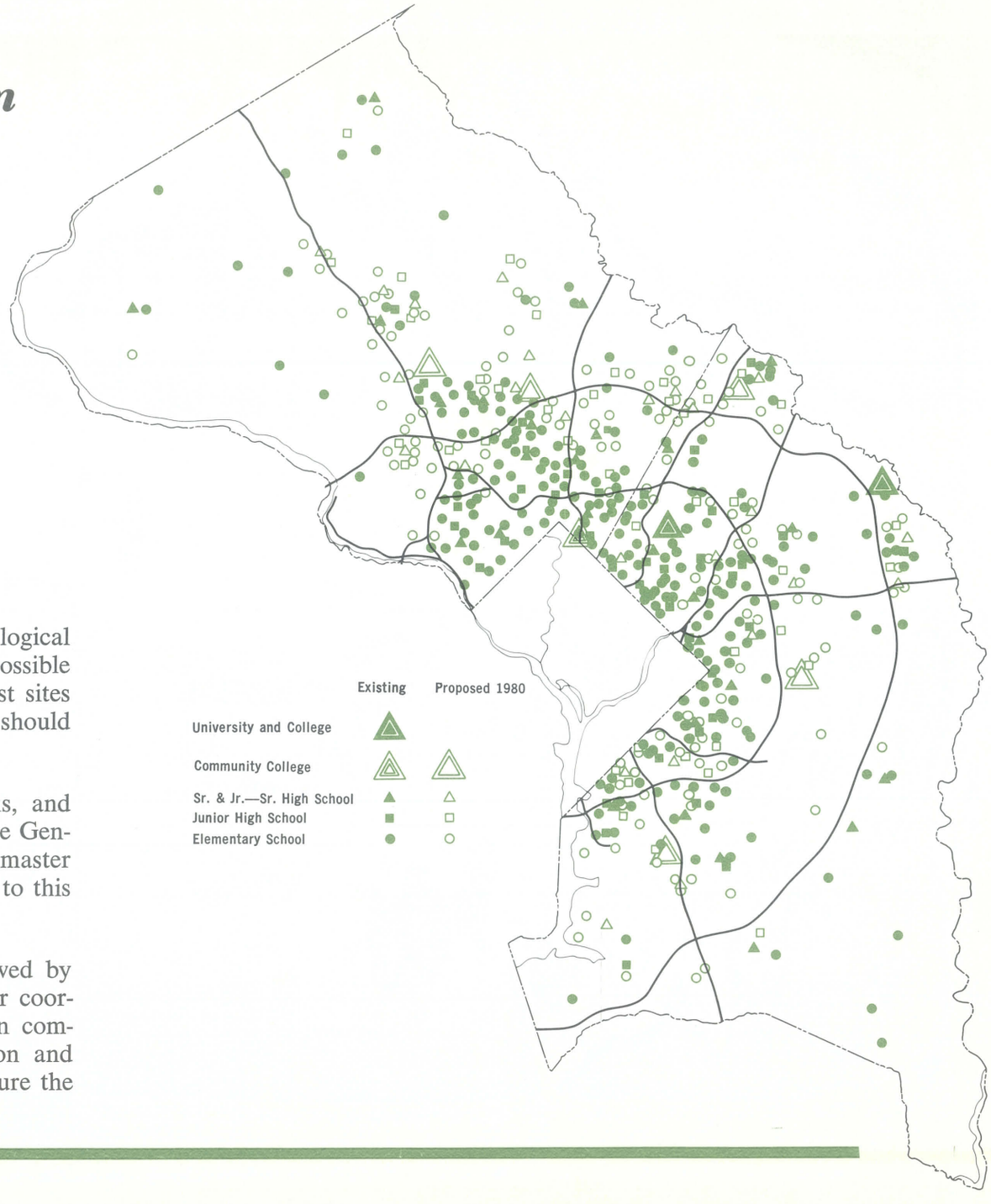
Space for all of these facilities must be found within the urban pattern, near the people they are to serve. Their sizes, locations, and functions need to be in direct proportion to the size of the community and the type of residents.

fire stations





public school system



Directing new urban growth into preplanned and logical patterns, as this General Plan recommends, will make it possible to select and acquire in advance of development the best sites for community facilities as well as parks. This procedure should result in substantial savings for the taxpayer.

The distributions of schools, libraries, fire stations, and health centers in the Regional District are indicated in the General Plan. They represent previous studies, including the master plans of schools and libraries, which have been adapted to this plan.

Individual sites for community facilities are reviewed by the Commission under mandatory referral legislation for coordination with adopted plans. A permanent site selection committee made up of staff members from the Commission and various other public agencies meets regularly to help assure the best choices for public building sites.

PROVIDING BETTER PUBLIC SERVICES

Better public services in accordance with the General Plan can be achieved by using the procedures listed below and explained in *Part II, Carrying Out the Plan.*

Transportation

- Coordinate the Master Plan of Highways with the corridor pattern of development.
- Cooperate with the National Capital Transporation Agency in establishing an efficient rapid transit system.
- Incorporate the General Plan transportation recommendations into detailed master plans, including provision for automobile parking, bus loading, and highway-to-transit transfer facilities.
- Protect airports with rural and airport zoning, and encourage noise studies to define areas unsuitable for residential subdivision.

Utilities

- Use the General Plan as a major criterion in County reviews of programs for the extension of water and sewer lines.
- Limit access to sewers where rural areas must be crossed.
- Strengthen mandatory referral authority over gas and electric utilities to avoid conflicts.
- Encourage the use of underground electrical and telephone wires.

Parks

- Coordinate the park acquisition program with the corridor-wedge form of development.
- Seek additional State and Federal matching funds for park acquisition.
- Use subdivision powers to better advantage for reserving and acquiring park land.
- Keep park development in step with growing population.

Community Facilities

- Continue the preparation of plans for community facilities in the Regional District, based upon the corridor-wedge distribution of population.
- Improve capital budgeting for community facilities by
  - —*automatic data processing for land use and population figures.*
  - —*more thorough review by the Commission of individual capital budgets*
  - —*a yearly capital improvements report combining all capital budgets in each county.*
- Continue and strengthen individual reviews of mandatory referrals.


CATERPILLAR

PART II

carrying out the plan

...on wedges and corridors

Planning without political follow-through is a futile waste of time just as political decisions without planning can be ruinous.
—Edward Higbee,
The Squeeze: Cities Without Space

No matter how skillfully designed, imaginative, or attractive a long range plan may be, it must be workable if it is to be of any use to the people living within its area. A plan is meaningless without firm policies capable of transferring it from the drawing board to actual construction. The laws needed to start the plan moving must either exist or be reasonibly capable of enactment. The same applies to the administrative machinery under which the plan will develop. Part II explores this most crucial aspect of the General Plan: the implementation, how the Plan can be made to work.

While there can be no guarantee that every aspect of the General Plan will be fulfilled, every effort has been made to insure that the Plan's goals are desirable and are possible of fulfillment. Some of the more imaginative aspects of the Plan—those that introduce new and higher standards of community planning—will be accomplished only with time, work, and above all, strong public support.

No single implementation proposal contained in this report constitutes a cure-all for the formlessness and waste of scattered development. The whole fabric of implementation should be considered as something akin to a broom—each item being a single straw, relatively unimportant in itself, but capable of doing an effective job when woven together with many others.

CHAPTER 5

ZONING

The most widely employed land-use control today is zoning; it is in fact the work horse of the planning movement in this country.
—CHARLES M. HARR,
Land-Use Planning: A Casebook on the Use, Misuse, and Re-Use of Urban Land.

Although zoning is one of the most basic tools for creating a better community, its usefulness is quite limited until a definite set of planning goals has been agreed upon. The General Plan supplies these goals and zoning thus becomes a powerful tool for carrying out the plan.

The adoption of this General Plan provides a firm and reasonable guide for detailed zoning plans and individual rezoning decisions. It allows zoning decisions to be based upon better criteria than simply "Would this rezoning cause excessive conflict or friction with nearby land uses?" Considerations of need, effect on highways, sewers and other public service facilities, plus functional relationships between land uses throughout the Regional District can be fully explored before zoning changes are made. Zoning can and should be used as one of the most important means of forming the recommended urban pattern and protecting the rural pattern. It can go a long way toward creating efficiency, pleasant living conditions, and a healthy local economy.

OVER-ZONING

An area is grossly "over-zoned" when there is so much land in particular classifications that no more than one-third of it can be used for its highest and best purposes in the next twenty years. This is the situation in the Regional District, especially with respect to residential zoning.

Present residential zoning in Montgomery and Prince George's Counties could accommodate almost 5½ times the present population, or over three million more people. The most realistic forecasts indicate a population increase of about 700,000 by the year 1980. This means that more than three-quarters of the unused land now zoned residential will not be used for residential purposes in the next twenty years. Every time land is rezoned to allow larger numbers of families per acre, this disparity between zoning and fulfillment grows greater.

Residential over-zoning in the Regional District is so pronounced primarily because of the practice of classifying almost all rural land reserves in the R-R zone which permits homesites of 20,000 square feet—less than one-half acre. To make matters worse in Prince George's County, the mere presence of public water connections reduces the minimum size residential lot to less than one-quarter acre.

Over-zoning in these proportions raises false expectations by artificially inflating land values to levels which cannot be realized through development. It substitutes a lottery ticket for an orderly land market, giving the property owner only a gambler's chance of realizing the zoned potential of his land. But most important of all from the public interest point of view, this over-zoning cripples the usefulness of zoning in bringing about the most appropriate use of land throughout the Maryland suburbs.

This degree of over-zoning is a crucial matter. It may be compared to the steering mechanism of an automobile which has has so much "play" that the vehicle cannot be steered by the driver well enough to avoid an accident. The basic purposes of zoning—to give a rational pattern to urban and suburban development—is defeated when the ratio of zoning to foreseeable use is so far out of balance.

rural residential zoning

1961

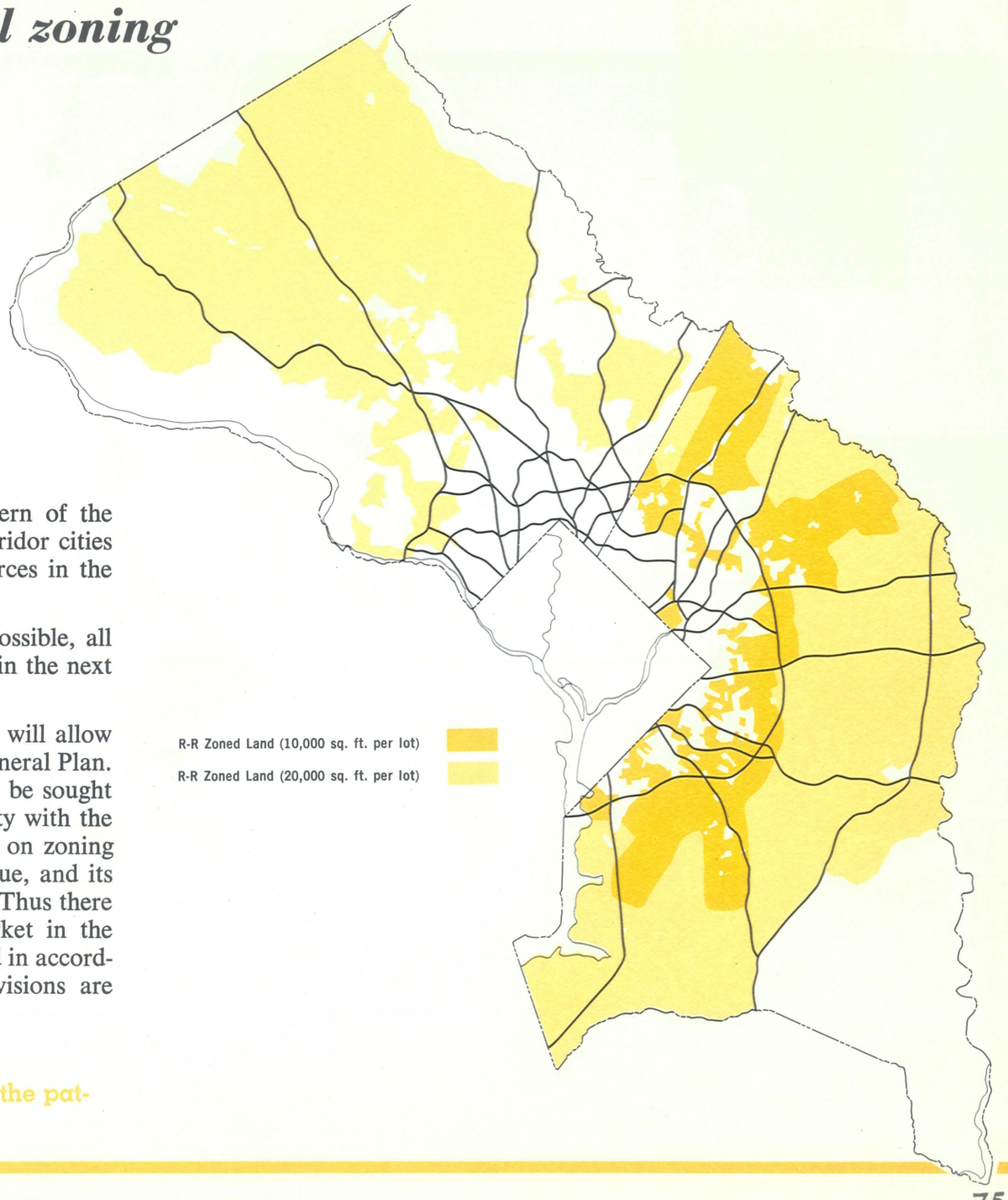
The General Plan recommends a review of all zoning on land not presently developed, followed by a set of zoning revisions submitted to the governing bodies of Montgomery and Prince George's Counties for their consideration. The revisions will have two principal objectives:

1. To coordinate zoning with the overall pattern of the General Plan, especially in regard to shaping the corridor cities and in establishing and protecting the natural resources in the rural areas.

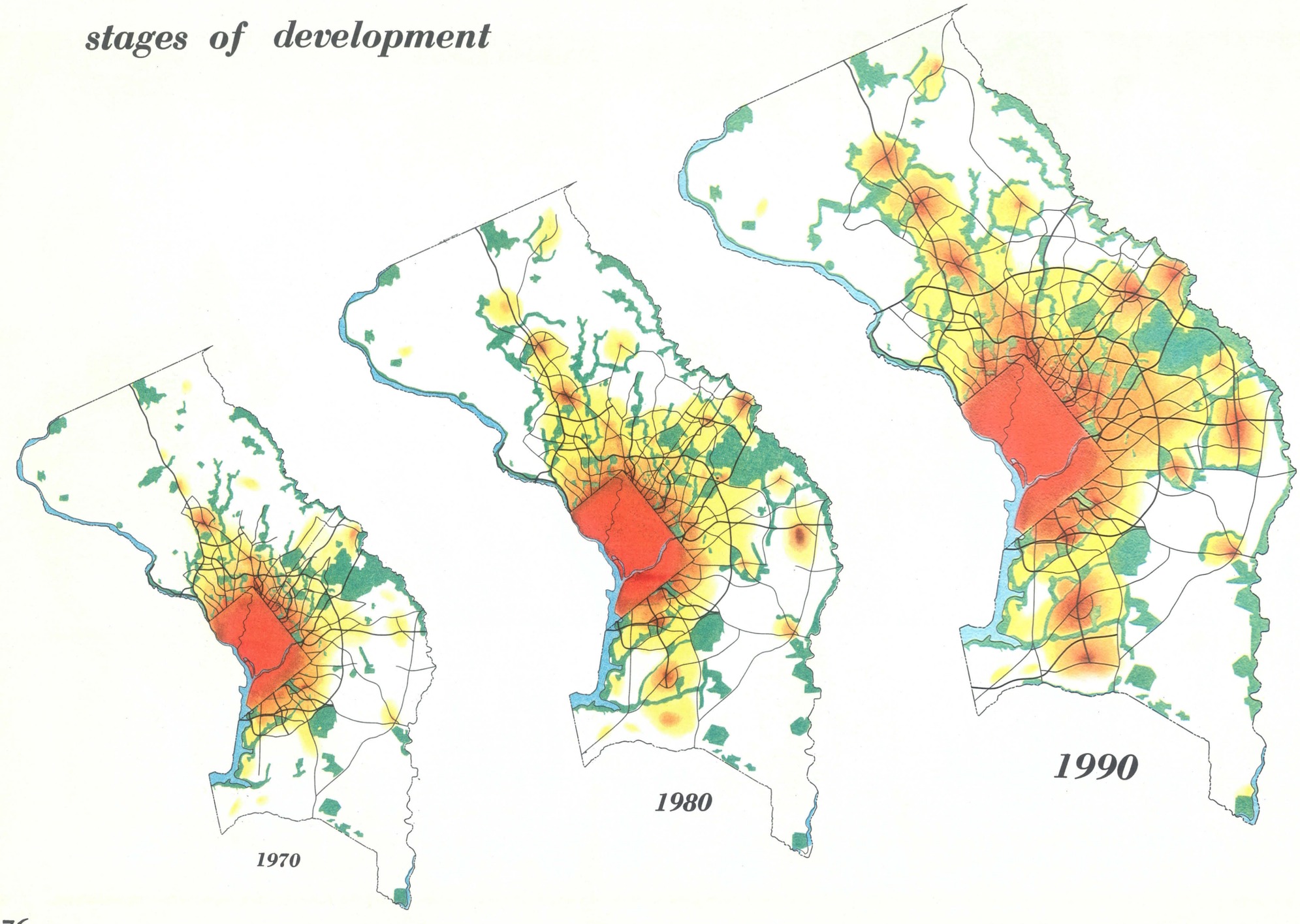
2. To return to the lowest residential density possible, all lands not to be utilized for residential expansion within the next 10 years.

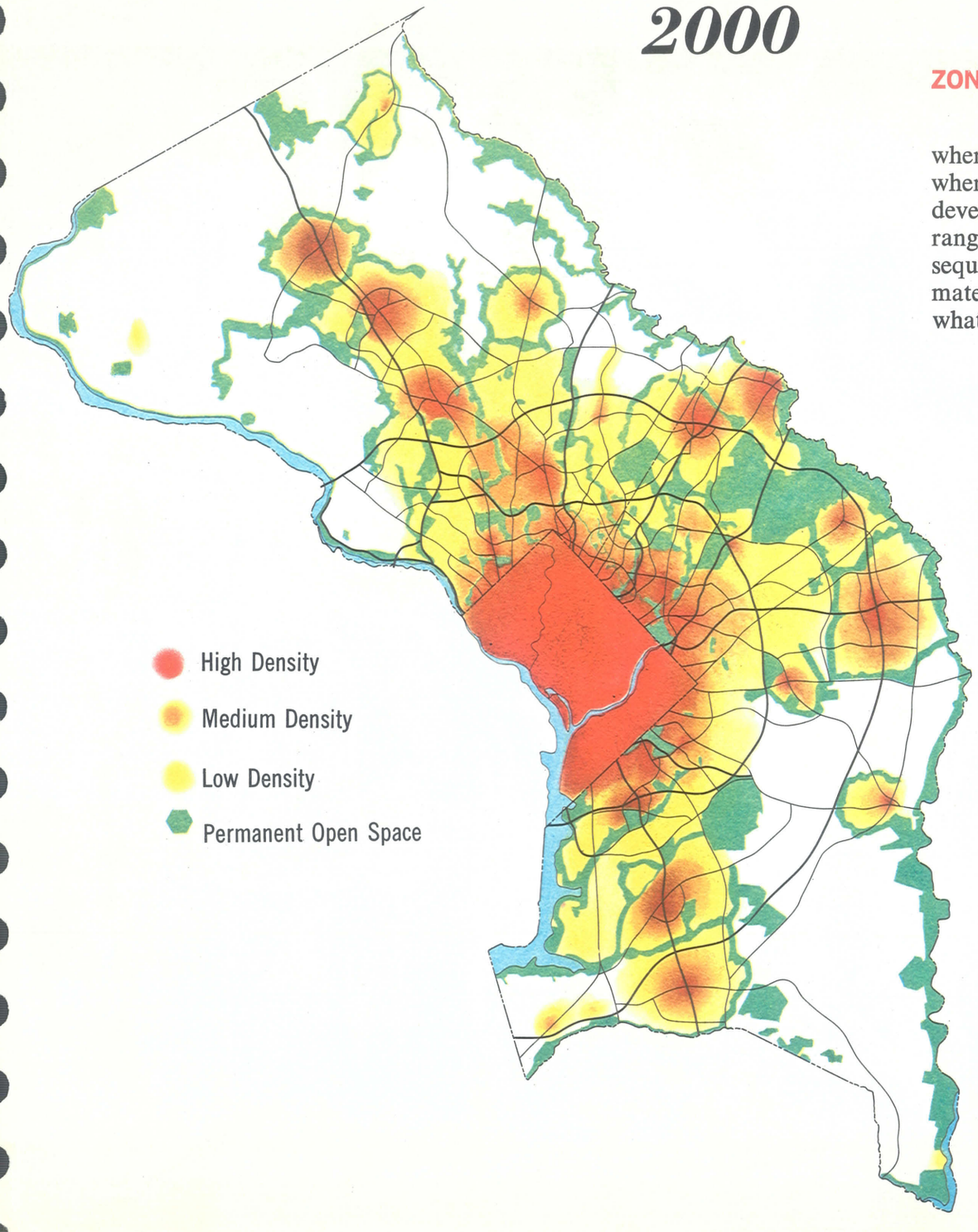
Present zoning in much of the Regional District will allow a residential density that is not compatible with the General Plan. In order to implement the plan, zoning changes must be sought to bring about a zoning pattern which is in conformity with the land use design adopted. Value of land is not based on zoning classification alone, but on its intrinsic economic value, and its ability to be absorbed into the framework of the plan. Thus there can be neither a reasonable nor a stable land market in the Regional District, nor can future development proceed in accordance with the General Plan, until such zoning revisions are accomplished.

ACTION: Coordinate zoning established by the pattern of the General Plan.



stages of development





ZONING BY STAGES

Sequential zoning, or zoning by stages, is a procedure whereby orderly growth of planned areas is permitted when and where the *need* for development arises, reserving other lands for development at a later date and in a fashion consistent with long range planning for the protection of the public interest. Under sequential zoning the private land owner would know approximately when to expect this development to occur, and know what type—or types—of land use are in store for his property.

Under a system of sequential or staged zoning, the areas opened to development would be pre-planned and pre-zoned in accord with detailed master plans. An entire new area would change its zoning at one time as sectional zoning map amendments are adopted, giving all the landowners of the area an equal opportunity to share in orderly growth. Since present R-R zoning was not designed to enhance rural activities, a zoning category similar to or more intensive than the R-A zone (2 acres) used in Montgomery County must be the holding device used to prevent scattered and inefficient, premature, urban type development, and to preserve precious open space.

Once a pattern of sequential zoning is firmly established, applications for rezoning will be more realistically attuned to the actual possibilities of development. Zoning for speculative purposes will be greatly reduced, and the individual home owner will no longer be at the mercy of arbitrary zoning changes made at the behest of neighboring land holders seeking a windfall.

ACTION: Use sectional map amendments to keep zoning in step with the urban development recommended by the General Plan.

RURAL ZONING

The zoning categories now in effect in Montgomery and Prince George's Counties are unequal to the job of shaping and preserving the natural resource wedges. Nowhere in Prince George's are lot sizes of more than 20,000 square feet (one-half acre) required. In Montgomery, two-acre zoning has been adopted for only a few locations, and then primarily for one compelling reason: to protect the Potomac and Patuxent watersheds from pollution and siltation. Even the most restrictive zones are residential, not specifically designed for protection of the rural environment.

With adoption of the General Plan, preservation of the natural resource wedges emerges as a second reason for the adoption of rural zoning—a reason just as compelling as protecting the rivers and watersheds. There are only two ways in which encroachment on the open spaces between the radial corridors can be prevented: the first is public acquisition of all the land between the corridors; the second is to restrict land uses to low-density, multiple-acre, rural ones. The first alternative is obviously both impossible and undesirable. Rural zoning, therefore, becomes a *must*.

The importance of preserving the natural resource wedges cannot be over-emphasized. They serve five essential functions in shaping the future Regional District by:

- Preventing the uneconomic scattering of suburban housing in the wedges, and permitting corollary savings and conveniences by concentratnig development within the urban corridors.
- Giving contrast and interest to the Regional District through the creation of distinctive variations in the character and density of development.
- Protecting the rural environment as a source of natural resource business.
- Assuring adequate open space for outdoor recreation.
- Protecting public water supplies.

In keeping with the above five functions, rural areas should not be thought of as areas devoid of residences and people. Residences will be allowed, but only on large lots individually developed primarily for the use of the people whose livelihood is dependent on the rural area. The exclusion of small lot residential subdivisions will not only preserve the character of the rural areas, but enhance the economic potential of the land for efficient and practical non-urban uses.

The major uses permitted and encouraged in the rural zone should be of four types:

1. Natural resource business, including agriculture, forestry and mineral extraction.

2. Outdoor recreation, including private camps, resorts, golf courses and country clubs, public recreation on private agricultural and forestry lands, wildlife and hunting preserves, water and waterfront recreation, shooting ranges, and public parks, forests, historical and scenic reserves.

3. Conservation, including flood control dams, siltation basins, wetlands, and wildlife refuges.

4. Miscellaneous uses on large sites, including kennels, hospitals, sanitariums, nursing homes, child care homes, public utilities, airports, cemeteries, and institutional uses.

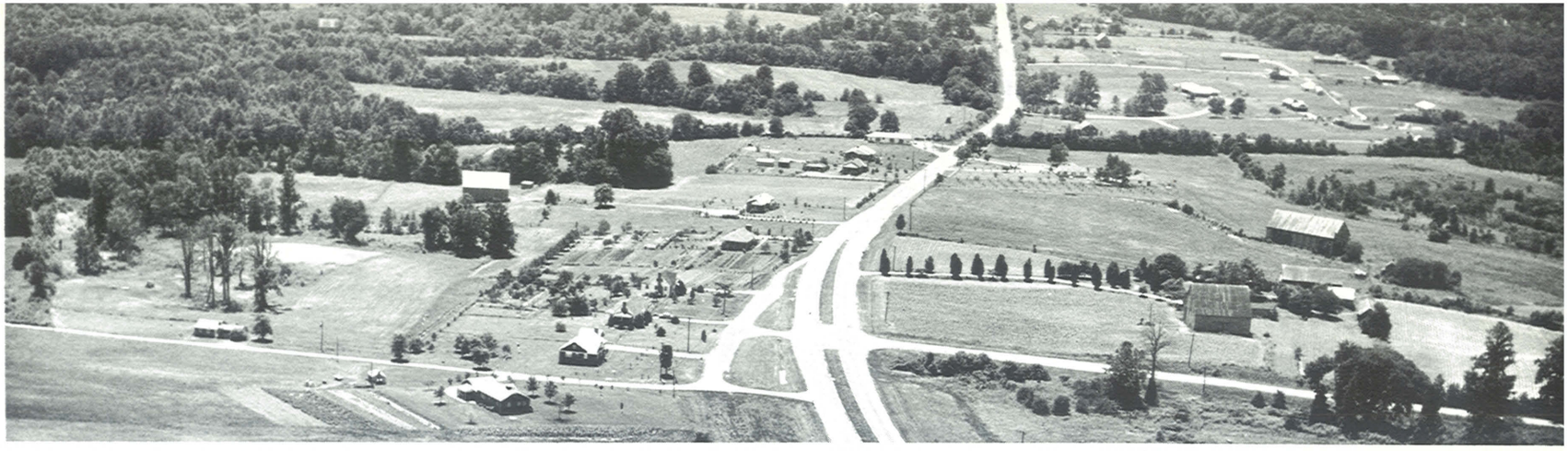
The rural zone should be the dominant zone in the open space wedges between the urban corridors, and should also be used to reserve areas programmed for future development of the new corridor cities.

CONSERVATION ZONING

In certain limited cases outstanding natural resources, and areas where indiscriminate urban development would be against the public interest, occur within the urban pattern. Examples are sand and gravel deposits, steep slopes, and flood plains. To preserve these areas for future extraction or watershed protection, or to avoid unsafe or unhealthful conditions as the result of improper development, it will be necessary to put these urban areas into a conservation zone in which all uses and alterations of the natural terrain and vegetation are subject to special permits approved by the Board of Zoning Appeals.

The locations of this zone will be recommended to the respective District Councils by the Park and Planning Commission on the basis of soil, geologic and topographic information now becoming available. Generally speaking, construction should be prohibited in this zone unless it can be shown to be in accord with the public interest. Specifications for mineral extraction should include regulation of access roads, protective setbacks, methods of operation, and plans for restoration of the land when the venture is terminated. The restoration should be guaranteed by either an adequate performance bond, or by a special use tax applied during the period of operations.

ACTION: Enact and use conservation zones.



RESIDENTIAL ESTATE ZONING

An area as large and diverse as the 1,000-square-mile Regional District obviously requires a fuller range of zoning categories than is now available. As pointed out in the section on overzoning, there is a great deal more land zoned for small lot residential development than can ever be used. Reclassifying much of this land for one, two and five acre single-family residences will be a great help in reducing the amounts of overzoned land to more manageable proportions.

There are presently a number of areas in both Montgomery and Prince George's Counties where the dominant pattern of residential development has been in tracts of one acre or more. (See map on page 41.) It is eminently desirable to encourage a reasonable spread of this pattern and to protect it with consistent zoning.

Estate zoning should be employed wherever the character of the area warrants it. Such action will assure the stability of estate areas and will allow public services to be planned on a proper scale in relation to the low density of population. Finally —and very importantly—estate zoning should be employed in "buffer" areas between the corridor cities and the natural resource wedges to provide a reasonable transition and reduce pressures for the continuation of urban zones beyond their optimum limits.

ACTION: Increase the use of residential estate zones.

MULTI-FAMILY ZONING

To make a full range of choices available in multi-family housing and to provide additional tools for creating the new corridor cities, two new residential zones are needed.

The most important is a very high density apartment zone designed for the core areas of these new cities, within walking distance of employment opportunities and the rapid transit system. The number of apartments allowed might be as high as 60 per acre, compared to the present maximum of 48. Convenience should be the key concept of this zone and its use should be restricted to the core locations which are served by rapid transit. Spaciousness in the core area will be accomplished by judiciously spaced multi-story development, boulevard type thoroughfares, pedestrian malls, and compact commons or parks.

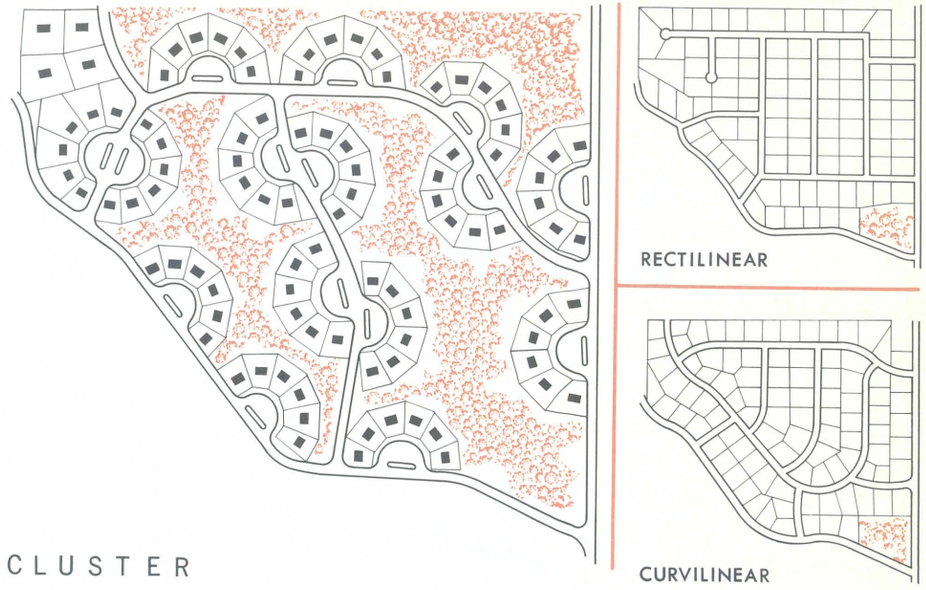
The second zone is for town-houses. Less demanding on the supply of land than single-family housing and having some of the convenience and economy of apartment living, town-houses represent to many people an attractive balance between yard space and yard work. This zone may be useful in some cases for achieving attractive transitions between higher and lower density developments, as well as for satisfying the housing needs of part of the Regional District's population.

ACTION: 1) Enact and use a higher density apartment zone for the core areas of new corridor cities. 2) Enact a new town-house zone.

PLANNED COMMUNITY ZONING

The idea of planned community zoning is to promote variety in development and flexibility in urban design. These are valid objectives, but without careful coordination with a comprehensive public plan this type of zoning could lead to a continuation, or even an acceleration of all the unfortunate aspects of haphazard urban sprawl. Planned community zoning should not be used as the excuse for each sizeable piece of property becoming an island unto itself. While this might result in some well designed neighborhoods, the urban pattern as a whole would deteriorate in efficiency, convenience, and usefulness.

There is great danger that planned community zoning will be thought of as fitting in so well with its surroundings that considerations of proper location will be ignored. A planned community with the ultimate in imaginative and inspiring internal design might be proposed in a rural wedge and be accepted because of reluctance to turn down such an outstanding job of architectural and site planning. This occurrence would begin the process of urban sprawl all over again and the General Plan would become useless. The rural environment would not remain productive; the urban corridors would have their development potential siphoned off; the cost of sewer services would climb unnecessarily; rapid transit could not be effective; and freeways would dominate the landscape. It is essential, therefore, that planned community zoning not become a substitute for the General Plan. Only the General Plan can take the over-all view of the Regional District, and only the General Plan can properly determine the location of areas for concentrated development.



Note: These three possible subdivisions of a development tract with ninety-four lots show cluster pattern, left; rectilinear pattern, top right; and curvilinear plan, bottom right. Only 6,000 lineal feet of streets are needed for cluster. Grid calls for 12,000 feet, curvilinear layout needs 11,600 feet. Lots in the cluster plan were reduced from one acre to three-quarters of an acre to provide added privacy and less maintenance expense. The number of lots (94) remains the same as in the other two layouts permitting the "saved" balance, approximately one-half of the area of the tract, to be devoted to open part.
Source: Urban Land Institute, technical buttetin 40

The recently adopted average density residential zones had the same objectives in mind as planned community zoning, but they are not so bold nor so dangerous. A more familiar name for the flexible type of building envisioned under these zones is cluster development, in which dwellings are grouped together on a small portion of the available land while the rest remains open for common recreational use. Planned community zoning would allow a mixture of housing types including both multi- and single-family, and maybe even a little commercial development. But the present average density zones allow only single-family homes. It is perfectly feasible with these and other existing zones to design excellent urban communities. Much monotony of the past has resulted primarily from mass production and lack of imagination rather than poor zoning.

There are many difficult legal and administrative problems to be solved in making planned community zoning effective. A Residential Planned Community (RPC) zone has been tried in Prince George's County for more than a decade and been found unworkable. The intensive uses shown on the approved "community plan" have been built first, and then used as the evidence of a change in character of the neighborhood which can be used in court to justify rezoning of other parts of the same property for more intensive uses contrary to the original plan. There is also the question of how open spaces, created by this type of flexible zoning, will be cared for if the project is not a rental one. Greater experience is needed to solve these and other problems. At least part of this experience will come with greater use of the average density residential zones.

Five conclusions about planned community zoning are apparent:

- The variety and flexibility of urban design envisioned as resulting from it would be desirable.
- It should not include any industrial development nor any commercial development other than a strictly limited amount directly serving the planned community.
- It should be evolved slowly and carefully.
- Average density residential zoning should be encouraged as a first step.
- Planned ccmmunity zoning should be located only within the urban pattern recommended in the General Plan.

ACTION: Strive continuously to encourage flexible and imaginative residential design.

COMMERCIAL AND INDUSTRIAL ZONING

Commercial and industrial zones should exclude residences both because good residential neighborhoods cannot be maintained in such areas, and because business and industry can function more effectively where space allotted them is uninterrupted by housing.

Even within commercial and industrial zones, specialization of uses is desirable. A shopping district with large gaps between shops is uninteresting and functions poorly in comparison with one where shops are continuous. This is equally true whether the gaps are vacant, or used for residences, automobile parking, offices, or some unrelated commercial or industrial activity. On the other hand, an area exclusively for offices becomes a ghost town after working hours. To overcome this disadvantage in the larger commercial centers, ground floors of office buildings should be used for stores, shops, theaters, bowling alleys, and similar uses which would keep the streets alive and interesting. Specialization within industrial zones is necessary so that related services are close to one another and so that activities which would interfere with each other are separated.

To achieve the most workable and most interesting arrangement of commercial activities in complex business centers and the cores of new corridor cities, it may become necessary to use three dimensional zones in which different uses are permitted at ground level than at higher levels. A typical example might be stores on the ground floors with offices above. In special cases where compact development around a rapid transit station is desired, this type of zoning might provide for certain types of commercial activity on lower floors with apartments above.

The practice of requiring site plan approval has great potential for improving the appearance and workability of shopping and employment areas. Such a requirement may be employed to develop commercial centers that are more compatible with their surroundings and to mold the cores of new corridor cities into unified and convenient areas around their pedestrian malls and transit stations.

Increased attention should be given to setback and screening requirements where commercial and industrial zones adjoin residential land.

ACTION: 1) Exclude residences from all existing commercial and industrial zones. 2) Study the techniques of layered zoning and greater specialization of uses in commercial and industrial zones. 3) Prepare and enact new zones to accommodate complex business centers and the cores of new corridor cities.

AIRPORT ZONING

Current zoning provisions regulating building heights in airport flight paths are in need of overhaul and revision. Proper use of rural zones or specially designed zones allowing uses not adversely affected by high noise levels may also be useful in protecting airports from urban encroachment. A model airport zoning ordinance prepared by the Federal Aviation Agency is being studied to determine the best course of action.

ACTION: Prohibit intrusion of incompatible development into airport approach zones and high noise level areas by judicious use of zoning.

ZONING AND THE BOARDS OF APPEAL

The Boards of Appeal have authority to grant special exceptions under the zoning ordinances, and thereby fall heir to an important planning function. Yet they do not have professional staffs familiar with the issues at stake. To insure that special exceptions conform to the concepts of the General Plan, it is imperative that closer liaison be developed between the Boards of Appeal and with the Park and Planning Commission. In order to establish this closer liaison, the Commission must receive not only the notices of special exception hearings, but also complete information and drawings indicating what is being proposed. The Commission will provide staff services to the Boards in cases where such service is needed. Zoning ordinances should be amended to set forth better criteria for use of the Boards in granting special exceptions, and written opinions of the Boards should include enough detail to enable enforcement without reference to hearing transcripts and obscure exhibits.

ACTION: Recommend that the county governments instruct the Boards of Appeals to make available to the Park and Planning Commission complete information for each application and include Park and Planning Commission recommendations and comments as part of their official records.

REZONING AND THE MASTER PLANS

Even an imperfect plan is better than no plan at all. This is the justification for seeking a requirement of larger-than-normal votes when the District Councils rezone property contrary to adopted master plans. A two-thirds majority of the full Council is required to overrule the will of a municipal council in Montgomery County, but only a simple majority is presently required to overrule a master plan. The plans deserve at least as much weight as the voice of municipalities. It is, therefore, recommended that a two-thirds majority be required in each county to rezone land contrary to an adopted master plan or a municipal recommendation, and that the reasons for an adverse decision be given in the written opinion of the District Council.

ACTION: Amend the Regional District Act to require a two-thirds majority of a District Council to overrule the zoning recommendations of a municipality, or the recommendations of a Planning Board in accordance with adopted master plans.

CHAPTER 6

TAX POLICIES

A substantial reform of the tax systems is essential, whether public expenditures must be increased or can be reduced.
—President's Commission on National Goals

Public planning policies affect land values and land values affect the private development of the Regional District. Therefore, the success of any General Plan is largely dependent upon keeping public policies, land values, and development in proper relation to each other. Establishing real estate tax assessment procedures which recognize public planning policies will go far toward doing this. Zoning restrictions, and the preferential treatment of certain land uses which are to be encouraged, should be reflected in assessments.

It may be argued that taxation should be used only for producing revenue and not for influencing private real estate development, but no matter what the intent, any real estate tax will have some effect on development. The purpose here is to assure that this effect is favorable to General Plan objectives rather than harmful.

RELATING LAND ASSESSMENTS TO ZONING

There can be no other equitable basis for assessing land than its fair market value. Up to the present this basic rule has been imperfectly applied in the Regional District, in that zoning categories have been considered to affect market values only in terms of the three major classifications: residential, commercial, and industrial. This is an over-simplified rule of thumb which fails to reflect true conditions.

It is well known to all who understand local real estate that the market value of land varies materially for each of the subclassifications of zoning in Montgomery and Prince George's Counties. These differences in value should be reflected in the real estate tax that each owner is required to pay. Otherwise, those who secure zoning changes for speculative advantage are being subsidized, while property owners in low density zones are carrying an inequitable share of the tax burden.

County tax assessment officers should increase their staffs as necessary to avoid a backlog of assesment inequities, to capture revenues which are now lost, and to take better account of adopted zoning.

Equitable and prompt realty reassessments, following immediately on the heels of rezoning approvals, will do much to discourage purely speculative rezoning requests based upon overly optimistic estimates of the need for land in intensive classifications. Property owners will not be very eager to pay higher taxes when they are aware that the odds against making windfall profits are slim.

ACTION: Establish administrative procedures to more fully recognize the relationship of zoning to assessed values of real estate.

RELATING PREFERENTIAL ASSESSMENTS TO LAND USE

Educational and religious uses of land have traditionally been exempted from real estate taxes in Maryland. In 1960 farm lands were also given preferential treatment whereby they are to be assessed only in relation to their value for agricultural uses so long as they are being farmed. Special tax treatment is in order when it can be shown to be in the public interest. The public interest is clear in the case of educational and religious uses, but it is not so clear in the case of agricultural uses. We need to take a second look at privileged agricultural assessments.

Agricultural Assessments

Preserving rural incomes and encouraging farms to remain important providers of open space in the metropolitan scheme of things are legitimate justifications for preferential tax treatment of farm land. The 1960 statute giving a privileged assessment status to lands actively devoted to agriculture is based on a determination of whether or not a *bona fide* farm exists. On the surface this measure sounds laudable, but the specific wording of the Act has often had the effect of subsidizing land speculators and urban developers, encouraging urban sprawl contrary to the principles of this General Plan.

The Act states, in effect, that any land used as farm land must be taxed as farm land if the owner requests preferential treatment. Under this present wording, the courts have already held that even when an owner has had his land rezoned for commercial use, he may still enjoy the privilege of the low farm assessment. It has also been held that the actual filing of a subdivision plat on the land, dividing it into building lots, is no cause for revoking the privileged assessment. In either case, all the ex-farmer needs to do to reap his tax privilege is to keep a crop in the ground as a holding operation up to the moment he is ready to cash in on his excess profits. This state of things obviously discourages the *bona fide* farmer, and tends to convert him into a land speculator.

The basic difficulty with the existing law is that the privileged farm assessment is not tied to zoning. The law should require that farms, to qualify for the low assessment, must be in a rural zone or, if such zone has not been enacted, the qualifying farm should be in the largest lot residential zone. This provision would close the loophole in the existing law and make it a truly effective means of aiding farmers and preserving metropolitan open space in the form of agricultural lands. The privileged assessment and resulting low tax bill should be considered the public's payment to maintain a highly desirable type of open space.

Other devices for preserving farm land as open space may have to be tried if the preferential assessment procedure cannot be made to work properly. Two possible devices are deferred taxation payable when the farm is sold, and a capital gains tax on the sale of farm land. Although these tax collections might have the desired effect of decreasing land speculation with farms that should remain rural, they present numerous administrative difficulties.

ACTION: Amend the state Agricultural Assessment Act to require rural or large lot residential zoning, in addition to agricultural use, on land receiving preferential tax treatment.

Extension of Preferred Assessments

Agriculture is only one of the planned uses of land in the open space wedges separating the urban corridors. A whole concert of uses must be encouraged to maintain both the character and the viability of the rural and conservation zones. Many of these uses serve the same important function as the farm—to keep the open space open. Consequently, preferential tax treatment to encourage them may also be justifiable.

The 1960 amendment to Article 15 of the Declaration of Rights of the Maryland Constitution appears to permit preferential tax assessment of all open space uses. Therefore it is recommended that implementing legislation be enacted by the State Legislature to apply preferential assessments to lands used for such purposes as country clubs, golf courses, and community swimming pools.

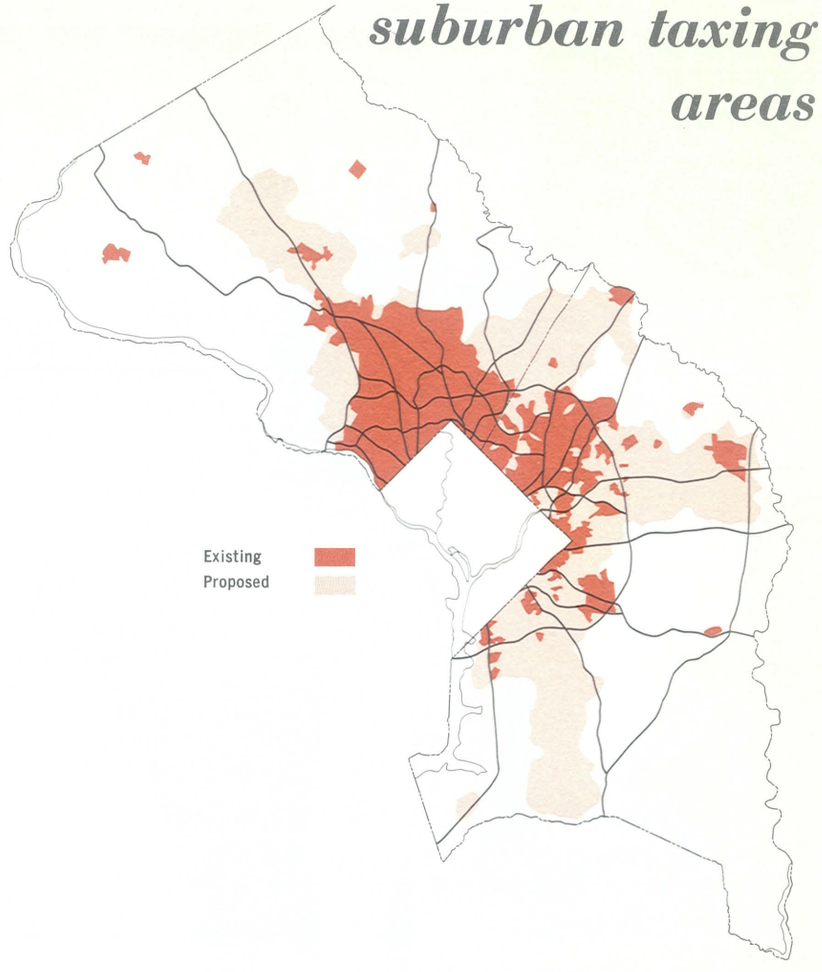
ACTION: Enact a State law granting preferential tax treatment to those conservation and recreation uses of land which provide permanent open space.

SPECIAL TAX DISTRICTS

In order to collect adequate revenues to provide for street cleaning and maintenance, street lighting, storm drainage and other urban services, special tax districts are established in urban parts of the counties and additional taxes are collected. The largest such district is the Suburban District in Montgomery County. As the urban pattern recommended by the General Plan develops, this district should be expanded to coincide with it. The many small and scattered Special Improvement Districts in Prince George's County should be consolidated into a single district covering all unincorporated portions of the suburban area. Sectional zoning map amendments opening new areas to intensive urbanization in accordance with sequential zoning procedures, mentioned in the preceding chapter, should be followed immediately by an expansion of the appropriate county's suburban tax district to include these new areas of high service costs.

If average lot size and planned community developments become more widely used, open spaces for recreational use in connection with them will become numerous and the maintenance cost will become great. Owners' associations may manage some of these open spaces but the public may fall heir to others. Public costs of this kind should be defrayed, at least in part, by either a tax resembling front foot benefit charges or by putting cluster developments into special tax districts for maintenance charges.

suburban taxing areas



ACTION: 1) Utilize State legislation to consolidate Special Improvement Districts in Prince George's County into a single "suburban district". 2) Expand the "suburban district" in both counties to coincide with the area in which urbanization has or is taking place, or is about to take place.

CHAPTER 7

SUBDIVISION CONTROLS

No plat of any subdivision of land within the Regional District shall be admitted to the land records of either Montgomery or Prince George's County, or received or recorded by the clerks of the courts of said counties, until the plat shall have been submitted to and approved by the Commission and such approval be endorsed in writing on the plat by its Chairman and Secretary. The filing or recordation of a plat of a subdivision without the approval of the Commission is void.

—Regional District Act

Zoning alone, which deals essentially with lot sizes, building sizes and locations, and the types of activity to be permitted in certain areas, cannot be expected to guarantee pleasant development. Other tools must be called on for the creation of living environments possessing charm and character.

Take the hypothetical case of yourself and a friend of yours, and assume that you both bought houses in the suburbs ten years ago. There was little difference between the houses you bought: both were in sparsely built-up areas, the zoning was identical, the houses were in the same price range and built of comparable materials. No one could say that one was a better buy than the other . . . at that time. Today it is all too obvious who got a bargain and who got stung.

The environs of your friend's house are still substantially wooded; the neighboring residences are attractively landscaped, well spaced, and barely visible from the road; a nearby stream valley has become a park. Whereas your house sits starkly in the middle of a treeless plain; rows of monotonously similar houses stretch out on both sides of you; the stream that once meandered pleasantly past your back lawn is a muddy, eroded ditch. Was your friend a wiser buyer than you, or what happened?

What happened was that your friend was lucky in the suburban roulette game and you weren't. In your friend's case, individuals with an appreciation for the landscape bought the nearby properties; in your case developers with their earth-moving equipment got there first. All you could do was watch the destruction from your picture window and wish there was someone to sue. There wasn't, because no zoning ordinances were violated, and in this hypothetical case there were no subdivision regulations to back-up the zoning.

Subdivision controls are concerned with the *quality* of individual developments, taking up where zoning leaves off. They can go far towards protecting the money and personal efforts that go into the making of an attractive home. Subdivision regulations require that a registered professional engineer take the responsibility for laying out the new lots and streets in accordance with publicly adopted master plans, zoning regulations, and sound engineering practices. Various governmental agencies including the Park and Planning Commission check the plans to see that all necessary utilities are available, and that all public regulations have been complied with. Proper street widths, street grades, drainageways, pedestrian walkways and reservations for public parks or buildings are required. Streets must intersect at safe angles. Excessive numbers of intersections and through streets in residential neighborhoods are discouraged. Thus the quality of development is raised.

But even with the present subdivision regulations, high quality development is not guaranteed. Much land is being divided into lots prematurely, without adequate reservations or dedications of land for public purpose, and with too little regard for conservation practices. Public agencies too often disregard subdivision regulations altogether in cases involving their own properties. Pedestrian walkways are not always adequately provided, and developers attempt to lay out lots too close to airfields. These deficiencies need attention now.

PREMATURE SUBDIVISIONS

The review of subdivision plans should occur shortly before development of the property in question. Too often in the past subdivision plans have been approved regardless of whether the subdivider could start construction, right away, ten years later, or never, and the approval cannot be rescinded at a later date. As a result, the eventual use of the idle property is frozen, even though surrounding lands may have been developed in an entirely different manner. Obviously, approval of the plans as near as possible to the actual time of development is necessary to prevent developments that are grossly out of keeping with their surroundings.

A start toward eliminating premature subdivision of land has been made in Montgomery County with the recent adoption of a requirement for the posting of performance bonds before subdivision plats become officially recorded. This guarantees that development is imminent, that a financially able developer is on the job, and that all public improvements such as streets and sewers required for the protection and welfare of home buyers will be constructed. A similar requirement has been recommended to the Prince George's County Commissioners.

Zoning adopted in conformance with this General Plan, and in accordance with the staged procedures recommended, will avoid premature subdivisions by making large scale subdivisions uneconomical in the rural zoned areas.

The State enabling act gives the Planning Commission, with cooperation from the governing bodies of Montgomery and Prince George's Counties who must adopt the local regulations, the right to control subdivisions in order to provide for:

> *The avoidance of such scattered or premature subdivision as would involve danger or injury to health, safety, or welfare by reason of the lack of water supply, drainage, transportation, or other public services or necessitate an excessive expenditure of public funds for the supply of such services . . .*

These provisions clearly enable the denial of premature subdivisions, and would have particularly wide application where the subdivisions would "necessitate an excessive expenditure of public funds . . ." This provision can become an important tool in accomplishing one of the major goals of the General Plan: to concentrate developments and public services within the urban corridors, while keeping the rest of the countryside open or only sparsely developed. The authority and intention of using this power to deny premature subdivisions should be explicitly spelled out in the locally adopted subdivision regulations.

ACTION: 1) Adopt a requirement for performance bonds in the Prince George's County subdivision regulations. 2) Clarify the wording of subdivision regulations in both counties, indicating the intention and ability to deny premature subdivisions.

REQUIRED RESERVATIONS

The same Maryland law quoted above authorizes the enactment of regulations to reserve land from proposed subdivisions for schools, public buildings, parks, playgrounds, and other public purposes. Such reservations have in fact been applied to subdivisions in the Regional District.

Under present limitations, however, the regulations are not operative until after the developer has filed his subdivision plan for approval. In the meantime, serious damage may have been done to the required public sites. A potential developer can do practically anything he wishes with his land, short of building on it, as soon as he takes title. No permit is required to remove all the trees and regrade the land before filing an application for a subdivision. The damage is often irreparable.

Several things should be done to remedy this deplorable situation. Initially, action should be taken by the respective counties to enact and use ordinances to regulate large scale clearing and grading of land.

A corollary tool will be the "Park and Conservation Plans" adopted as elements of future detailed master plans. These plans will identify areas of unusual conservation importance and propose measures for preservation and proper development.

The Planning Commission needs legislation allowing it to initiate reservation plats in cases where greater certainty of control is required for lands designated for public use on adopted master plans.

The present three-year time limit on reservation plats has proved too short to assure public purchase within that time. As things now stand, a reserved piece of land not bought by the public within three years can be reclaimed and used by the private owner contrary to the public interest. An extension of the time limit should be sought from the State Legislature and all government agencies for whom land is reserved should take steps to provide adequate land acquisition funds for this program. Affected agencies are primarily the County governments, the State Roads Commission, the National Capital Transportation Agency, the Park and Planning Commission, and the School Boards.

Reservations of land for future rapid transit facilities and rights-of-way should be specifically among the purposes stated in the State enabling act and the local subdivision regulations so that no possible question can be raised on this point.

ACTION: 1) Explore legal means of regulating destructive large scale clearing and grading of land. 2) Amend the Regional District Act to extend the reservation period, to allow the Park and Planning Commission to initiate reservation plats, and to specify land for rapid transit as a valid object of reservation.

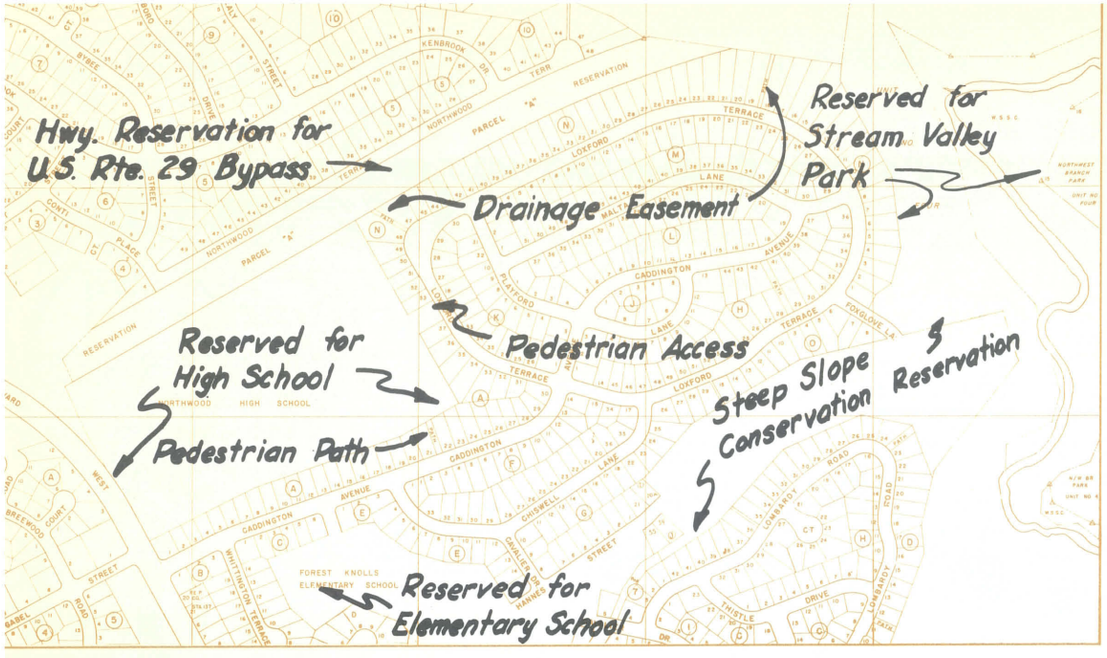
DEDICATIONS OF LAND

Local streets, pedestrian walkways, conservation areas, and occasionally parks traditionally have been required to be dedicated for public use. The need for these facilities is directly related to the new development and there is no question of who benefits. Unusually large subdivisions have been required to dedicate school sites because only this one subdivision would benefit from the school. A series of small subdivisions, however, can produce just as much need for public land as a single large one. Yet none of the small subdivisions is large enough to contribute anything except its part of the street system.

In some states, fees are charged for subdivisions when the area to be developed is too small for the dedication of lands needed for schools, playgrounds, and other public purposes. This provision is eminently fair since the residents of the new subdivision will have to use schools and other public facilities which must be located on other land, acquired from other owners. Obviously the subdividers of such tracts have an obligation to shoulder their share of the burden. In some cases the small subdivision may be located so that it can dedicate a portion of the land needed for public use; in other cases, the obligation would be met entirely by means of fees in lieu of such dedication. The fees should be made proportional to the number of dwelling units constructed, and should be paid by the developer. These fees should be spent for improvements to the local area where they are collected.

Present enabling acts do not provide for such fees. A revision of State law providing power to require fees in lieu of dedication of public lands should be sought as a means of providing revenue for land acquisition without constantly increasing the burden on the taxpayer.

ACTION: Amend the Regional District Act to require fees in lieu of dedication when adequate dedication would be inappropriate.



CONSERVATION OF NATURAL FEATURES IN SUBDIVISIONS

In cases where conservation measures need to be developed or applied to protect the public interest, the required clearing, grading, seeding, landscaping, and other improvements should be included in the subdivision performance bond guarantee. This is especially true for land to be turned over for public maintenance. The park and conservation element of detailed master plans will be a great help in determining the proper treatment for individual parcels of land.

Natural stream beds, steep slopes and flood plains can be protected and turned into assets through the use of subdivision controls. Buildings can be kept off unsuitable portions of land by the establishment of building restriction lines. Stream valleys can be turned into dedicated or reserved storm drainage and recreational facilities. The street layout can be required to take the routes requiring least bulldozing and disruption to natural features of the land and natural vegetation.

The maintenance of conservation areas turned over to the public could be financed by special district taxes or benefit charges.

PUBLIC AGENCY PLATS

In the past, awkward situations have arisen because some public agencies have failed to record their properties through the regular subdivision procedures. These procedures are designed to provide the service of checking properties for conformance to highway and other plans affecting the proper location of buildings and to establish record plats clearly showing correct property and building lines. It is not only a convenient way to avoid conflicts, it is also an important aid to coordinating the location of public services in accordance with the General Plan. The subdivision regulations should be amended to unmistakably require subdivision approval of all public building sites as one step in complying with the long accepted practice making it mandatory that all public land and construction projects be referred to the Park and Planning Commission for coordination with adopted plans.

ACTION: Amend the Regional District Act to require all public agencies to record their properties by plat through regular subdivision procedures.

PEDESTRIAN ACCESS

The Outdoor Recreation Resources Review Commission has identified walking for pleasure as an outdoor recreation activity second only to driving for pleasure in terms of popular participation. And it is a growing activity. Walking also remains an important means of transportation, especially for school children.

However, pedestrian traffic does not mix well with automobile traffic. It is largely up to subdivision controls to provide adequate walkways. This may be done by including extra widths for sidewalks in street rights-of-way, by requiring special walkway dedications where streets do not exist, and by providing for pedestrians in reserved or dedicated conservation and park areas.

Akin to pedestrian traffic is bicycle traffic. The same methods may be used in providing for both.

SUBDIVISIONS AND AIRPORTS

Airport flight paths and noise areas, in this day of large planes and powerful jet engines, become even less suitable for human occupancy than flood plains, swamps, and steep slopes. The Federal Housing Administration has recognized this by refusing to insure housing mortgages in such areas. Even the United States Supreme Court has spoken on the subject, saying that damages in these areas are such as to make airport owners liable for them.

Local subdivision regulations should recognize flight path and noise areas as unsuitable for residential construction. The Federal Aviation Agency is cooperating in the task of defining the precise areas affected. When airport areas unsuitable for subdivision are adequately identified they should be mapped and zoned for protection of the public health, safety and welfare. Meanwhile, subdivisions in questionable areas should be denied subject to reapplication when the problem areas are clearly defined. The General Plan map shows the approach zones within which development should be discouraged.

Some areas that are already subdivided and developed may have to be bought and abandoned under urban renewal or similar programs.

ACTION: Encourage the appropriate State and Federal authorities to make studies of noise levels around Andrews Air Force Base and other airfields, so that areas unsuitable for subdivision can be more accurately mapped.

CHAPTER 8

PARK AND OPEN SPACE ACQUISITION

. . . on wedges and corridors . . .

. . . vast as the demand for outdoor recreation presently is, it pales beside what may be expected in future years.
President's Outdoor Recreation Resources Review Commission

The park and open space acquisition program has the primary purpose of providing land to meet the outdoor recreation needs of our growing and increasingly recreation-minded population. In addition to providing out-of-doors enjoyment, the outdoor recreation areas contribute to the mental health, physical fitness, and nature education of people using them. They also provide a source of income for land owners and concessionaires, and can contribute to the conservation and multiple use of the Regional District's land and water resources.

At the same time the park and open space acquisition program is a key element in separating urban and rural areas, encouraging rural uses to prosper and urban uses to cluster together efficiently. While many small parks and open spaces will be needed inside the urban areas to lend quality and convenience, most of the large parks and open spaces will be located at the edges of the urban pattern.

Many different acquisition methods will be needed to establish the desired park and open space system.

PURCHASE

Outright purchase of park land is the surest way to provide recreation facilities and help form the transition between urban corridors and natural resource wedges. But since the amount of land that can be purchased is limited by available funds, it is of utmost importance to concentrate on acquiring park lands where they will have maximum effect and usefulness.

The present park plan for 1980 proposes to expand public holdings from the present 6,500 acres to 40,000 acres. Costs of this park system in the next 20 years are estimated at $25.5 million.

Park purchases have been accelerated in recent years, resulting in more than a 50% expansion of the system since the beginning of 1958. Over two-thirds of the present park land is in stream valleys, but both local and regional parks outside the stream valley system are now receiving greater attention. The stepped-up pace of acquisition should be maintained and even increased.

The park acquisition program is reviewed every year to show specific plans for each of the next five years and a long term summary for lands to be acquired in later years. The annual review presents an excellent opportunity for bringing the acquisition program into closer conformance with the General Plan. Special attention will be given to the strategic location of large regional parks where urban corridors meet rural wedges.

RESERVATION

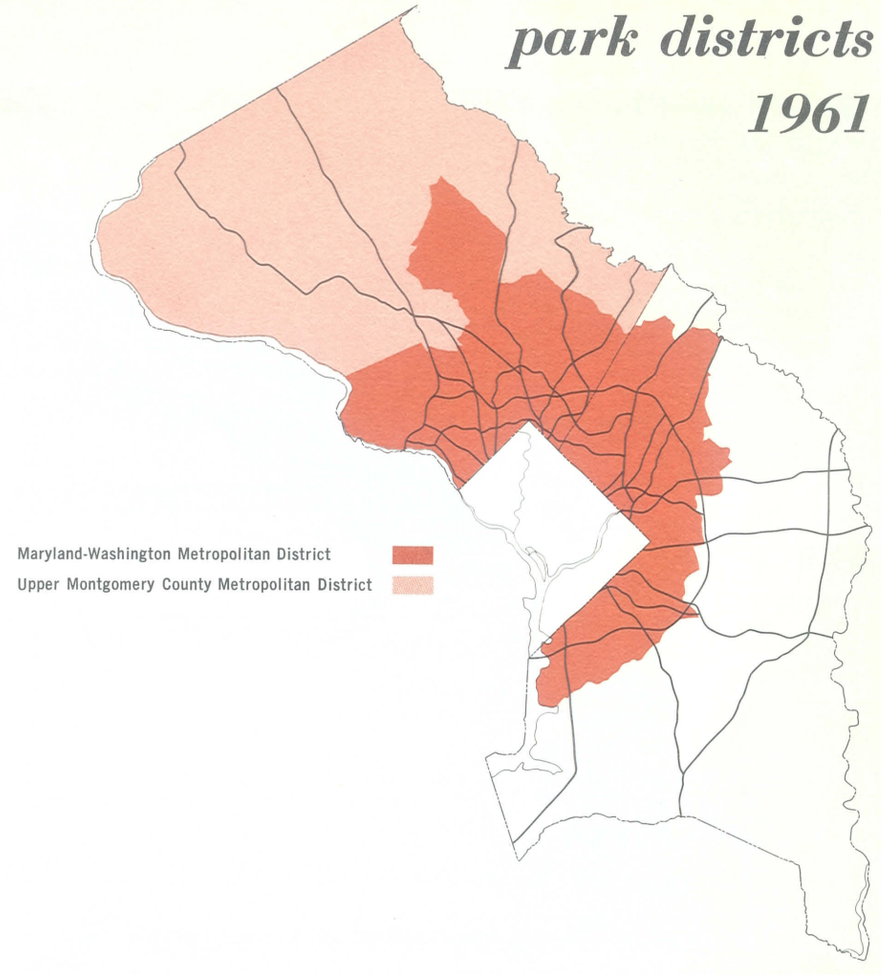
Lands to be acquired for parks in conformance with the General Plan can be reserved in the public interest through the subdivision regulations. There is great need not only to reserve park sites for later acquisition, but also to protect the sites from harmful destruction of trees and earthmoving. Reservation laws should be strengthened to assure this protection.

PARK AND OPEN SPACE REVENUES

Park and open space acquisition is basically financed by local real estate taxes collected for the Park and Planning Commission with the approval of State and County legislation. Nearly 70% of the park system is in lower Montgomery County where the tax rate has been highest. The park tax was raised not long ago in suburban Prince George's County and the first regional park in the County has been acquired near Clinton. A small park tax is also levied in upper Montgomery County where some large parks are being acquired. In addition, it would be only fair to seek a small park tax from rural Prince George's County. The difference in tax rates—higher in urban areas and lower in rural—is justified by the fact that public parks and open spaces are needed mostly to satisfy the needs of the urban population.

Park district boundaries for urban rates should periodically be expanded to include new areas of urban development. This can best be done by local authorities at the time sectional map amendments to the zoning ordinance are granted in accordance with sequential zoning procedures explained in Chapter 5. The same method of expansion was suggested in Chapter 6 for the "suburban districts". The urban park tax districts should coincide with the suburban districts.

A secondary source of local park and open space revenue based on user fees could be tapped in the future if necessary.



All park and open space revenues will be spent in accordance with adopted master plans upon which the public and the County governments will have had an opportunity to comment. The park purchase and park development programs will continue to be carried out within the orderly framework of a long-range capital improvement budget.

ACTION: 1) Expand the park jurisdiction of the Commission to coincide with its planning jurisdiction. 2) Establish a park tax in rural Prince George's County comparable to the Upper Montgomery County tax.

STRETCHING LOCAL REVENUE

Federal Aid. Since 1930 the Federal government has been stretching local park revenues in the Washington area by supplying one-third the land cost of stream valley parks. At present there is a new open space program under which up to 30% of open space acquisition costs can be paid for by the Housing and Home Finance Agency. Programs for converting farm land to recreational and conservation uses are being developed by the Department of Agriculture, and the Department of Interior has just established a new Bureau of Outdoor Recreation dedicated to expanding the opportunities for outdoor recreation with more national parks and aid to local park systems.

The Park and Planning Commission is taking fullest possible advantage of stream valley aid under the Capper-Cramton Act and has recently applied to the Housing and Home Finance Agency for aid under the open space program. Aid under other Federal programs will be applied for as it becomes available.

The new Federal open space program provides greater aid to agencies which are following comprehensive metropolitan plans. The Commission has qualified for the maximum 30% aid, based on its bi-county authority, its close cooperation with the National Capital Regional Planning Council in preparing this General Plan, and its participation in an interstate agreement pledging cooperation with Virginia portions of the Metropolitan Area.

The Commission is in complete accord with the recommendation of the Outdoor Recreation Resources Review Commission that *"Surplus Federal land suitable for outdoor recreation purposes should be made available to State and local governments at no cost . . ."** Federal aid in maintaining the Beltsville Agricultural Research Center as a major open space is particularly important.

State Aid. The State of Maryland is acquiring a new park along Seneca Creek in Montgomery County, and already owns the Cedarville State Forest in southern Prince George's and Charles Counties. The State has also agreed to match the Commission's funds on a 50-50 basis for acquisition of park lands along the Patuxent River. Such activities as these should continue with increased emphasis.

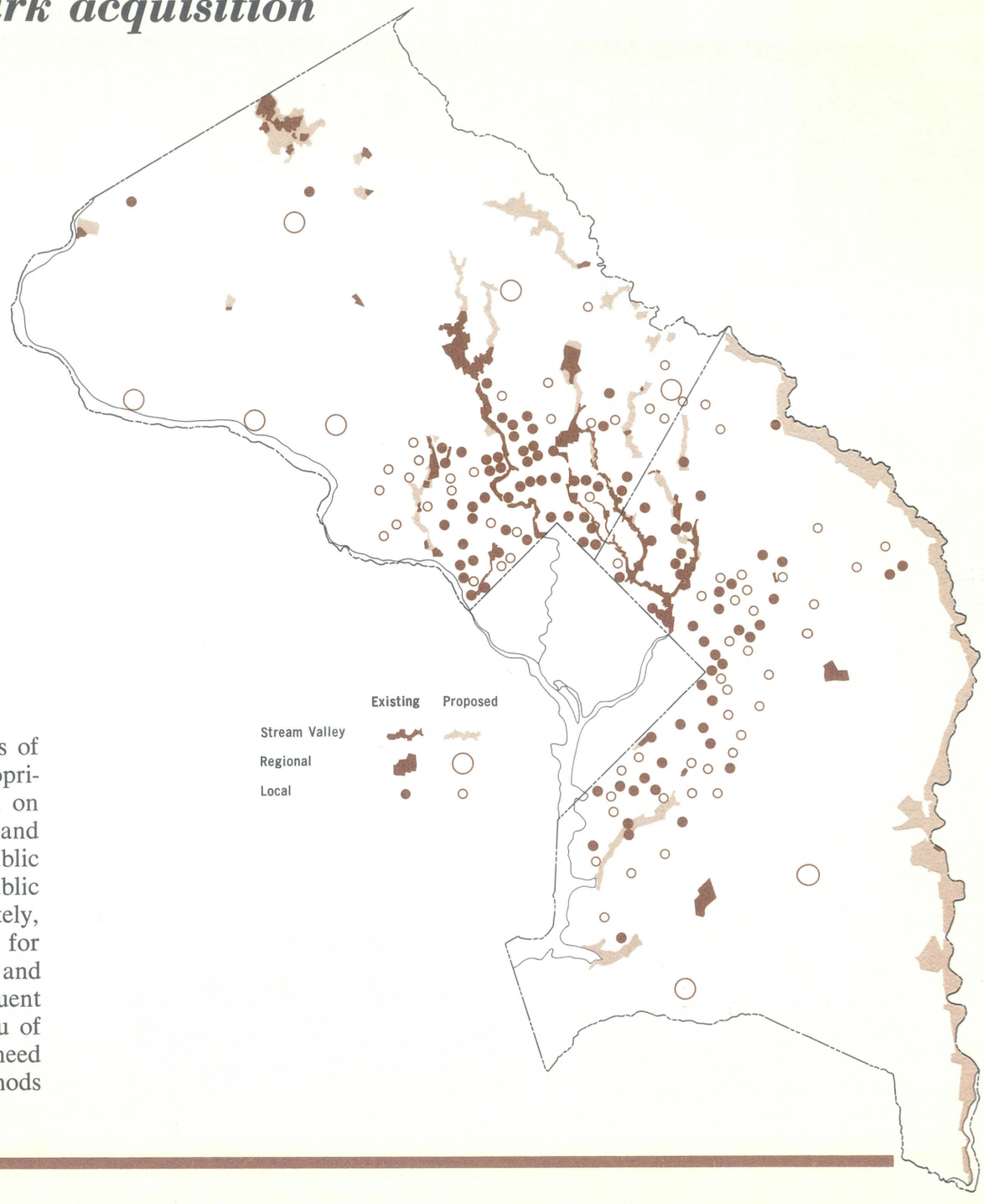
Installment Buying. The Commission's program of buying farms for future recreational needs, by paying certain prescribed amounts each year over a number of years until the complete price is met, is proving very successful. By allowing the farmer to continue living on his farm and operate as usual until the last payment is made, the Commission gets a lower price. This program can probably be continued and expanded to everyone's benefit.

Multiple Use Arrangements. Many kinds of recreation and open space enjoyment such as hunting, fishing, camping, hiking, and nature study can be practiced by the public without full public ownership of the land and without excluding other private uses, such as agriculture and forestry. By acquiring only partial rights to lands suitable for multiple use, the outdoor recreation program can be greatly expanded at relatively small cost. These possibilities should be studied thoroughly and the Commission should be given the authority, which it now lacks, to purchase partial rights to land.

ACTION: Amend State legislation to allow the Commission to purchase partial rights to land.

* *Outdoor Recreation for America,* p. 134.

park acquisition



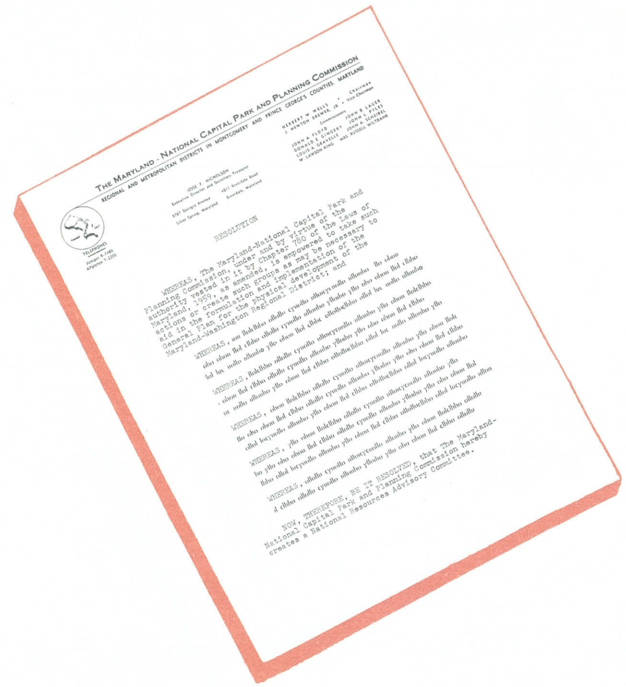
Other Methods. Several other methods of acquiring needed open space may be appropriate in certain cases to reduce the demand on park funds. Possibilities include gifts of land from philanthropic citizens, leasing out public lands for limited purposes when full public rights do not need to be exercised immediately, land transferred from excess acquisition for other public purposes such as highways, and transfer to the Commission of tax delinquent land. Required dedications and fees in lieu of dedication, as suggested in Chapter 7, also need serious study as potentially important methods of local park acquisition.

CHAPTER 9

on wedges and corridors . . .

NATURAL RESOURCES ADVISORY COMMITTEE

Our nation, looking toward a future of continuing economic progress, is well advised to take stock of its natural resources.
—Twentieth Century Fund


THE MARYLAND - NATIONAL CAPITAL PARK AND PLANNING COMMISSION
REGIONAL AND METROPOLITAN DISTRICTS IN MONTGOMERY AND PRINCE GEORGE'S COUNTIES, MARYLAND

HERBERT W. WELLS, Chairman
J. NEWTON BREWER, JR., Vice-Chairman
Commissioners
JOHN A. FLOYD, JOHN B. LAUER
DONALD E. GINGERY, JOHN L. PYLES
LOUIS A. GRAVELLE, JOHN A. SCHEIBEL
W. LAWSON KING, MRS. RUSSELL WILTBANK

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8787 Georgia Avenue, Silver Spring, Maryland
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RESOLUTION

WHEREAS, The Maryland-National Capital Park and Planning Commission, under and by virtue of the authority vested in it by Chapter 780 of the Laws of Maryland, 1959, as amended, is empowered to take such actions or create such groups as may be necessary to aid in the formulation and implementation of the General Plan for the physical development of the Maryland-Washington Regional District; and

WHEREAS, ...

WHEREAS, ...

WHEREAS, ...

WHEREAS, ...

WHEREAS, ...

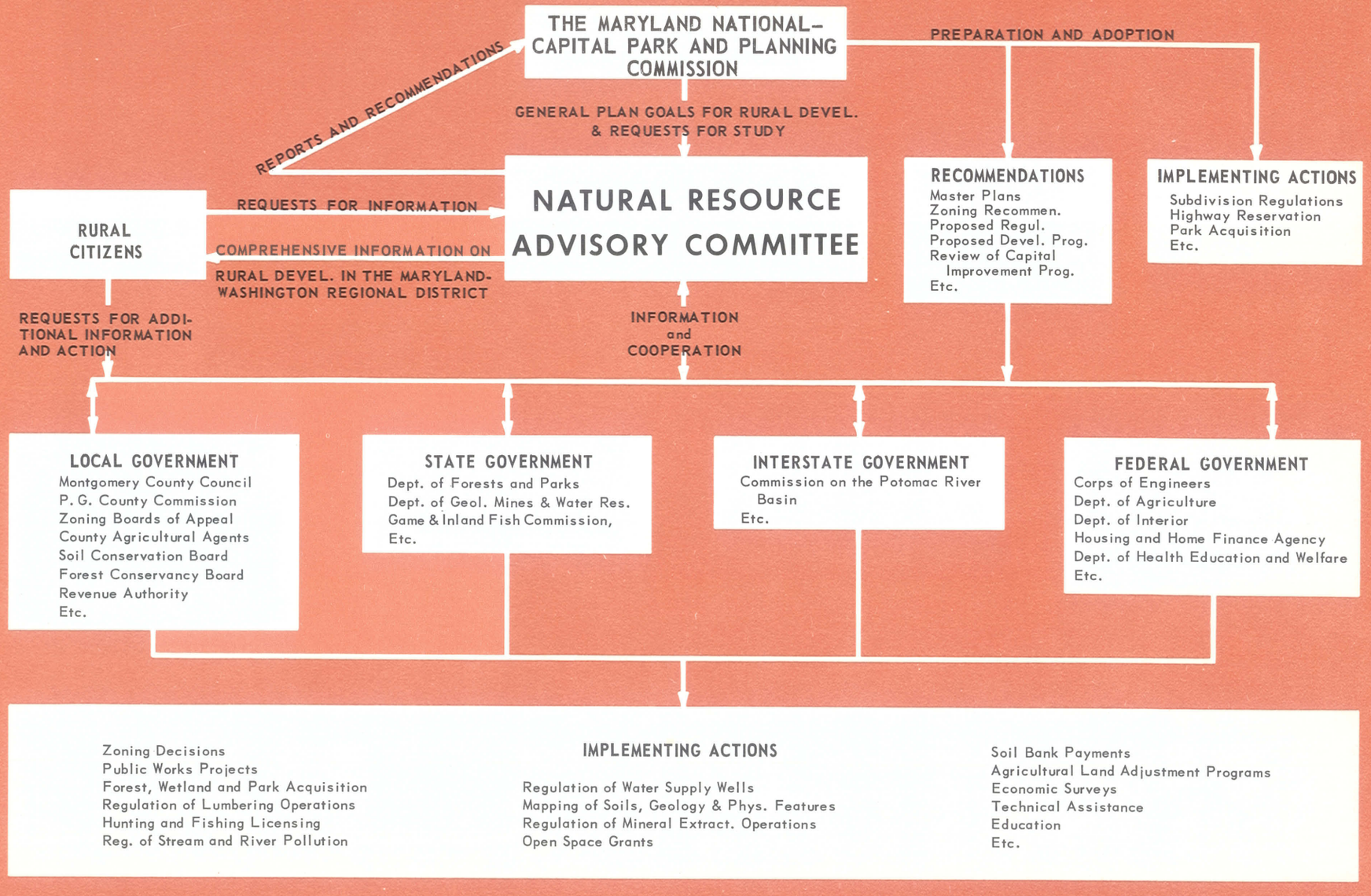
NOW, THEREFORE, BE IT RESOLVED, that The Maryland-National Capital Park and Planning Commission hereby creates a National Resources Advisory Committee.

To help carry out the rural features of the General Plan, the Park and Planning Commission needs the help of a Natural Resource Advisory Committee. This Committee's role would be to advise the Commission on all resource subjects, expressing the needs of natural resource businesses and helping to formulate equitable means of regulating harmful or objectionable activities. The Committee will have Commission staff assigned to it to help it define resource potentials in rural areas, promote resource development in accordance with the General Plan, and supervise resource use. The Committee should also be extremely valuable in bringing about closer intergovernmental cooperation and action, and in providing convenient information services in the field of natural resource development. Its activities should be designed to inform the residents of the open space wedges about the complete range of assistance programs available to them, and help them to make the most of their natural resources.

Members of the Natural Resource Advisory Committee will include professional farmers and members of State and local agencies concerned with agricultural, forestry, conservation, mineral extraction, and recreational uses of land and water in the Regional District, and will report directly to the Commission. The Committee's assigned staff will provide professional planning skills in the field of natural resource protection and development. In addition to assisting the Resource Committee, this staff will assist in the preparation of detailed master plans, working very closely with County Agricultural Agents; Soil Conservation Districts; the State Departments of Forests and Parks, Game and Inland Fish, Geology, Mines and Water Resources; the Interstate Commission on the Potomac River Basin; the U. S. Army Corps of Engineers; and the Natural Resources Institute at the University of Maryland.

ACTION: Enact a State law that 1) recognizes the Commission's Natural Resources Advisory Committee, 2) allows State officials to serve on it, and 3) directs State agencies to cooperate with it.

ROLE OF THE NATURAL RESOURCE ADVISORY COMMITTEE IN PROMOTING RURAL DEVELOPMENT



CHAPTER

10 URBAN RENEWAL

Miserable and disreputable housing conditions may do more than spread disease and crime and immorality. They may also suffocate the spirit by reducing the people who live there to the status of cattle. They may indeed make living an almost insufferable burden. They may also be an ugly sore, a blight on the community which robs it of charm, which makes it a place from which men turn. The misery of housing may despoil a community as an open sewer may ruin a river.

—U. S. Supreme Court

Urban renewal is one of the most powerful tools available for carrying out the General Plan recommendations, especially in the older sections of the urban area. It is a comprehensive program stressing prevention of urban blight as well as rehabilitation and rebuilding. Federal financing is available to defray as much as two-thirds of project costs.

Following a Maryland amendment in 1960, the State Legislature gave urban renewal authority to Montgomery County and the cities of Rockville and Takoma Park. The 1962 session of the General Assembly granted the same authority to Prince George's County and to the cities of College Park, Hyattsville, Mt. Rainier, Laurel and Glen Arden.

Several parts of the Regional District are now in need of rebuilding. Some of the deteriorated areas, close to commercial centers, have attracted private investors who are replacing the old buildings with apartment houses and commercial and industrial developments. Other blighted sopts, which either cannot be acquired without the public power of eminent domain or which are unsuitably located for profitable private redevelopment, will require public renewal programs. Public urban renewal may also be required to make proper adjustments around new rapid transit stations and freeways in the already built-up areas.

In addition, the broader problems of preventing deterioration and blight, in the Regional District as a whole, will need community-wide attention by public agencies. Typical concerns should be for:

- Bringing deficient public facilities up to standard.
- Solving isolated land use problems, especially on land inflated in value and by-passed by developers, or on land along transitions between zoning districts.
- Removing non-conforming uses and correcting past zoning mistakes.
- Strengthening the enforcement of building, housing, health, and zoning ordinances.

In order to carry out these public responsibilities intelligently and efficiently, it will be necessary to keep a running inventory of neighborhood and community characteristics which can be used to identify areas needing urgent attention. By this method, a comprehensive program of renewal can be prepared and dovetailed with the various capital improvement and related programs of government. The Planning Commission's established experience with land use, zoning, and similar information for the Regional District will be made available for urban renewal studies. The coordination of urban renewal programs with the General Plan and detailed master plans for local areas, and coordination with the review of public capital improvement programs, will also be provided by the Commission.

To assure that the Commission's recognized planning authority and unique experience is used to assist urban renewal programs, the Commission should be specifically designated in State enabling legislation as the official planning agency for all urban renewal projects undertaken by public agencies in the Regional District. The General Plan will have substantially greater chances of being realized if this is done.

ACTION: Enact State legislation making the Park and Planning Commission the official planning authority for all public urban renewal projects undertaken in the Regional District.

CHAPTER 11

COMMUNITY APPEARANCE ADVISORY COMMITTEE

It seems to us that aesthetic considerations are relative in their nature. With the passing of time social standards conform to new ideas. As a race our sensibilities are becoming more refined, and that which formerly did not offend cannot now be endured. That which the common law did not condemn as a nuisance is now frequently outlawed as such by the written law. This is not because the subject outlawed is of a different nature, but because our sensibilities have become more refined and our ideals more exacting. Nauseous smells have always come under the ban of the law but ugly sights and discordant surroundings may be just as distressing to keener sensibilities. The rights of property should not be sacrificed to the pleasure of an ultra-aesthetic taste. But whether they should be permitted to plague the average or dominant human sensibilities well may be pondered.

—Supreme Court of Wisconsin

By far the major portion of urban development in the Regional District has been and will continue to be privately conceived and carried out. While it is true that local officials can regulate this development in order to protect the public health, safety and welfare, it is alo true that imaginative design cannot be legislated. Excellent architecture and landscaping are the products of private architects, engineers, and landscape architects doing their best work for enlightened clients under a favorable climate of public opinion.

A Community Appearance Advisory Committee, made up of outstanding civic leaders, architects, engineers, and landscape architects, should be established to give advice on trends in architectural style, on the preservation of worthy historical buildings and sites, on ways of improving the unity, contrast, and accent of private building design, to keep a watchful eye on the enforcement of building, housing and zoning ordinances, to sponsor competitions for annual awards recognizing excellent urban design, and generally to fill the gap where legislative control does not apply. The Committee would become, in effect, a community conscience prodding developers and public agencies alike toward excellence in city building.

Subdivision design as well as building and landscape design would benefit. The use of flexible zoning and subdivision controls for aesthetic gains rather than simply economic gain would be encouraged.

ACTION: Appoint a Community Appearance Advisory Committee for the Regional District.

STOP EROSION OF COMPREHENSIVE PLANNING

Some recent circumstances are symptoms of a dangerous trend away from comprehensive planning. One example is the increasing amount of municipal annexation. Such annexations, in some instances, are evident attempts to establish and expand rival planning agencies with their own plans and planners. Not only is this inefficient, it more importantly indicates the delusion that everything will be fine once local control is firmly entrenched. Somehow it is hoped that if regionwide problems are ignored they will go away. ***Withdrawing from the Regional District, into provincialism, will solve no one's basic problems.***

The trend toward fragmentation of planning powers in Montgomery and Prince George's Counties should be reversed, and replaced by much closer working relationships between the Park and Planning Commission and the County governments, school boards, municipalities, and Sanitary Commission.

ACTION: Enact State legislation to leave all subsequently annexed areas under the jurisdiction of the Park and Planning Commission.

State Court Upholds Acts Of Area Park Agency

After being in business 36 years, the Maryland-National Capital Park and Planning Commission has been assured by the State's highest court that what it has been doing is legal.

The Maryland Court of Appeals rejected a Laurel builder's contention that the General Assembly violated two sections of the State Constitution when it created the planning agency in 1927. The ruling upheld a Prince Georges Circuit Court decision.

At stake in the suit, filed by Samuel G. Middleman, was the legality of several million dollars worth of bonds issued by the Commission for park acquisition and development. In addition, the legality of all previsous Commission decisions was involved in the constitutional issue, the first of its kind to confront the agency.

The Court of Appeals observed that "it may be contended that if the Commission was not validly created, all of its acts . . . were void and unsupportable."

Middleman argued that the special act creating the Commission violated a section of the Constitution which prohibits the General Assembly from passing special laws "in any case for which provision has been made by an existing general law."

The Appeals Court dismissed this contention because it ignored the complex problem "presented by the desirability of uniform zoning and planning in a metropolitan area embracing parts of two counties."

The Washington Post July 20 1963

INCREASE COUNTY PARTICIPATION IN PLANNING DECISIONS

A number of events in the past five years have set the stage for increased County participation in planning. Planning Commissioners are now appointed directly by the County governing bodies, and the Commission's planning and park taxes must be approved by the Counties. Both Counties also review the Sanitary Commission's capital improvement programs for sewer and water projects which have such far-reaching effects upon planning, but only in Montgomery County is there a veto power—which, in the absence of a General Plan for up-county areas, has not yet been applied comprehensively.

The stage is set but the play is just beginning. Prince George's County needs to acquire the veto power over trunk sewers. Both Counties need to have more frequent meetings with the Planning Commission. Both County governments also need to help resolve conflicts between the General Plan and Sanitary Commission plans, using persuasion where possible and the veto power where necessary, and insisting upon the use of limited access sewers when trunks must traverse rural areas. The psychology of competition between legislators and planners needs to be changed into one of mutual understanding and cooperation toward common goals.

ACTION: 1) Amend the Washington Suburban Sanitary District Act to give the Prince George's County Commissioners a veto over the construction, timing, or access to trunk sewers.

MAKE FULL USE OF ALL GOVERNMENT AGENCIES

Objectives of the General Plan are broad. They affect nearly every agency of government in the Regional District, and in turn are affected by nearly every one of these agencies. If the General Plan goals become generally accepted they should guide government activities of many kinds. Each activity so guided will lend strength to the plan and bring its goals closer to realization.

The General Plan will give new emphasis to some programs, while adding new functions to others. An example of new emphasis is found in the discussion of tax assessment procedures (Chapter 6). An example of new functions might very well appear in the case of revenue authorities. Montgomery County, for instance, has a somewhat general purpose revenue authority which can own and manage properties acquired through bond issues paid off with revenues from the properties themselves. So far a golf course to increase recreational opportunities in the county and an airport to increase commerce have been acquired. If the corridor city concept of this General Plan is accepted, the Revenue Authority might very well be called upon to buy land in the core areas for later resale. This new role for the Revenue Authority would prevent premature construction and assure the proper type of development after resale. The success of urban redevelopment projects indicates that a program such as this could work very satisfactorily.

ACTION: Explore imaginative uses of government programs and procedures related to community development, and establish those that show promise of carrying out the General Plan.

STRENGTHEN CAPITAL PROGRAMMING

Many elements of the concert of policies necessary to implement the General Plan eventually express themselves as construction programs and budget items. The most important of these show up in documents such as the Washington Suburban Sanitary Commission's five-year sewer and water programs, the Montgomery County capital improvement budget, the 12-year construction program of the State Roads Commission, Board of Education construction and site acquisition budgets, and the Park and Planning Commission's own five-year park acquisition and development program. If the items in these budgets appear in an orderly sequence directly related to the stages of development expected on the basis of the General Plan, it will be possible to finance the advance site acquisition and construction activities required to provide all the essential and desirable public services for the urban communities at the time they are needed.

The capital budgeting process is such that it can result in properly sequenced facilities only when it can be based upon a firmly adopted General Plan. In the absence of such a plan the only way to make a budget is to include items after the need has been brought about by private developments. After-the-fact budgeting of this sort leads to crash programs aimed at catching up and patching up. Double-shift schools, over-crowded highways and similar symptoms which have been common in the past are characteristic of unguided urbanization.

In the past the Park and Planning Commission has exercised its right to comment upon many of the capital improvement budgets mentioned above. With the adoption of this General Plan, however, the capital programming process will become so important that it will be the Commission's policy to prepare detailed comments covering the relationship of the General Plan to each and every capital budget that outlines public programs for the physical development of the Regional District. All agencies making significant capital expenditures will be encouraged and assisted in preparing adequate long-range capital improvement budgets. Agencies not now preparing such budgets to cover their capital expenditures should be required to do so. All capital budgets will be combined and published by the Commission on an annual basis with appropriate comments. For the first time this publication will make available a comprehensive review of all capital improvement expenditures, showing how well they are coordinated and whether one program is growing at the expense of another.

STRENGTHEN MANDATORY REFERRAL PROCEDURES

The mandatory referral law requires that all public agencies and utilities submit plans for new facilities to the Planning Commission before an acquisition or construction project is undertaken. This provision is for the primary purpose of checking the location of these facilities against adopted development plans to make sure that possible conflicts are identified. This reduces the chance of having projects at cross purposes with each other. Such review by the Planning Commission provides a valuable service to land acquisition and construction agencies as well as protection for the objectives of the General Plan. Unfortunately, some projects have been submitted only after land acquisition and other commitments have been made. At that stage a mandatory referral is useless except under very extreme circumstances.

Violations of the mandatory referral law do not appear to be considered serious by those who committ them. Obviously the law needs to be strengthened. This can be done by clearly designating violations as grounds for conviction under the penalties of a misdemeanor. The difficult task of enforcement remains, but the inclination to disregard referral procedures can be substantially reduced by restricting the present practice that requires one public agency to pay the costs of moving another's existing facilities when a new project would conflict. This requirement makes sense only if the existing facilities were originally located in accordance with a comprehensive plan designed to minimize conflicts. A public agency or utility establishing a new facility should not be required to pay for the relocation of conflicting facilities established by another agency contrary to the recommendation of the Park and Planning Commission. Restricting the liability for relocation payments to cases of unavoidable conflict will place the full responsibility for overruling the Commission's recommendation directly on the agency doing the overruling.

The mandatory referral process is closely allied to capital programming and should be done in concert with it. This General Plan provides a firm basis upon which to judge all mandatory referrals. Public agencies and utilities overruling Planning Commission recommendations based on the General Plan should be required to make a public statement in writing, giving the reasons.

ACTION: 1) Amend the Regional District Act to clearly designate violations of mandatory referral provisions as misdemeanors, and to require public statements in writing from the responsible government agency or utility company giving the reasons for projects undertaken contrary to Park and Planning Commission recommendations. 2) Amend appropriate State legislation to require all costs for the relocation of projects undertaken without the approval of the Park and Planning Commission to be paid by the agency or utility responsible for the undertaking.

STRENGTHEN METROPOLITAN PLANNING

The small staff and budget of the National Capital Regional Planning Council do not enable it to meet its full responsibilities. The Council is financed only by direct appropriations from Congress, with no provision for local cost sharing or participation in the various Federal programs of planning aid. This state of affairs leaves metropolitan planning fragmented between Federal interests in the National Capital Planning Commission; the transportation interests in the National Capital Transportation Agency, the various highway departments, and the transit regulatory commission; plus the sewer interests in the Regional Sanitary Board and the water supply interests in the U. S. Army Corps of Engineers and Interstate Commission on the Potomac River.

Since the Federal interest in the Washington area is so large, it is very necessary to have better information about plans for new government installations. These plans must be metropolitan in scope and tied closely to transportation, sewerage, and other regional plans. The Regional Council needs to take a more active role in coordinating Federal and local interests. This is only one example of how metropolitan planning needs to be strengthened.

A more appropriate method of financing the Regional Planning Council must be found in order for it to adequately coordinate metropolitan planning in the Washington Area. Without sound, comprehensive metropolitan planning, many of the Regional District's problems cannot be solved.

ACTION: Strengthen the National Capital Regional Planning Council.

...on wedges and corridors

CHAPTER 13

A VIGOROUS PLANNING PROGRAM

The making of the general plan, including its parts, amendments, extensions, or additions, the protection of and the carrying out of the plan, and the exercise of all planning, platting, zoning, subdivision control, and all other powers granted in this sub-heading to the Commission or to the County Council of Montgomery County or the County Commissioners of Prince George's County, shall be with the purposes of guiding and accomplishing a coordinated, comprehensive, adjusted and systematic development of the Regional District, the coordination and adjustment of said development with public and private development of other parts of the State of Maryland and of the District of Columbia, and the protection and promotion of the health, safety, morals, comfort, and welfare of the present and future inhabitants of the Regional District.
—Regional District Act

The General Plan should be considered as a dynamic instrument rather than a finished product. Its goals and its major patterns are firm, but its details must evolve and develop to meet the emerging needs of the people who will be served by the Plan. It is neither possible nor desirable to spell out each zoning line, every street and highway, or every public park and building site that will be needed between now and the turn of the next century. People's needs are not that rigidly predictable.

A vigorous planning program continues to be needed, staging development in proper sequence and adding specific details in accordance with future circumstances. Detailed planning activities will be reviewed annually in the Five-Year Planning Program which has become part of the Commission's regular budget.

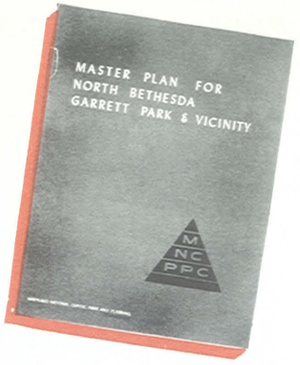
In order to assure comprehensive planning in Prince George's County those areas now beyond the jurisdiction of any public planning agency should be brought into the Regional District.

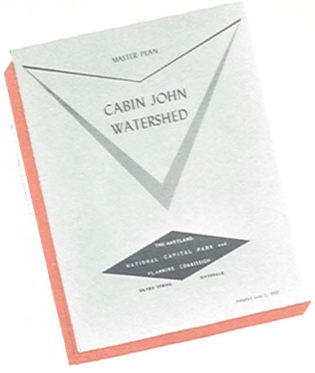
PUBLIC SERVICE PLANS

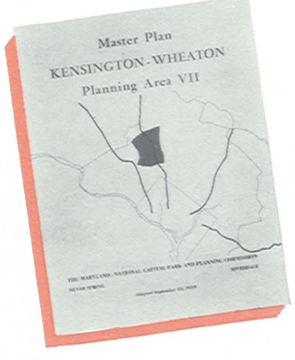
Plans for providing public services in the Regional District have long been a primary concern of the Park and Planning Commission. The Master Plan of Highways, first prepared in 1932, was revised in 1945, adopted in 1953, and readopted with further revisions in 1955. It is now undergoing another revision to bring it into conformance with this General Plan. The first Master Plan of Parks was adopted in 1932. A Master Plan of Schools, Parks and Recreation was adopted in 1956 and has been partially revised by local area plans and by the Master Plan of Parks and Recreation Areas adopted in 1961. In addition, a Master Plan of Libraries was prepared in 1959. Bi-county plans for fire stations and public health centers are in preparation. Plans for other facilities such as hospitals, art centers, police stations, county service buildings, refuse disposal sites, public parking lots, and land for rapid transit have also received study in the past.

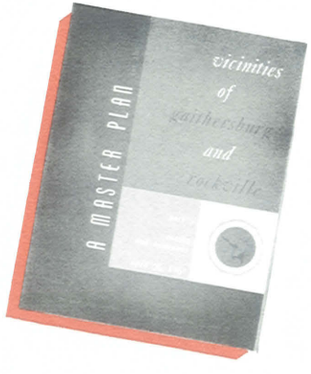
Comprehensive plans for all these facilities are being prepared and constantly up-dated as a basis for judging capital improvement budgets in relation to General Plan policies.

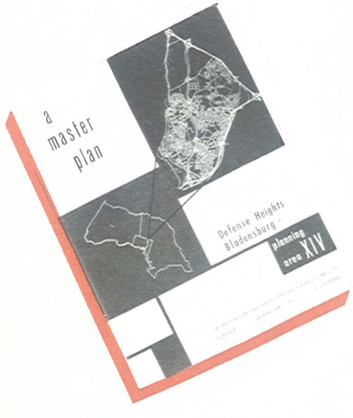
planning program

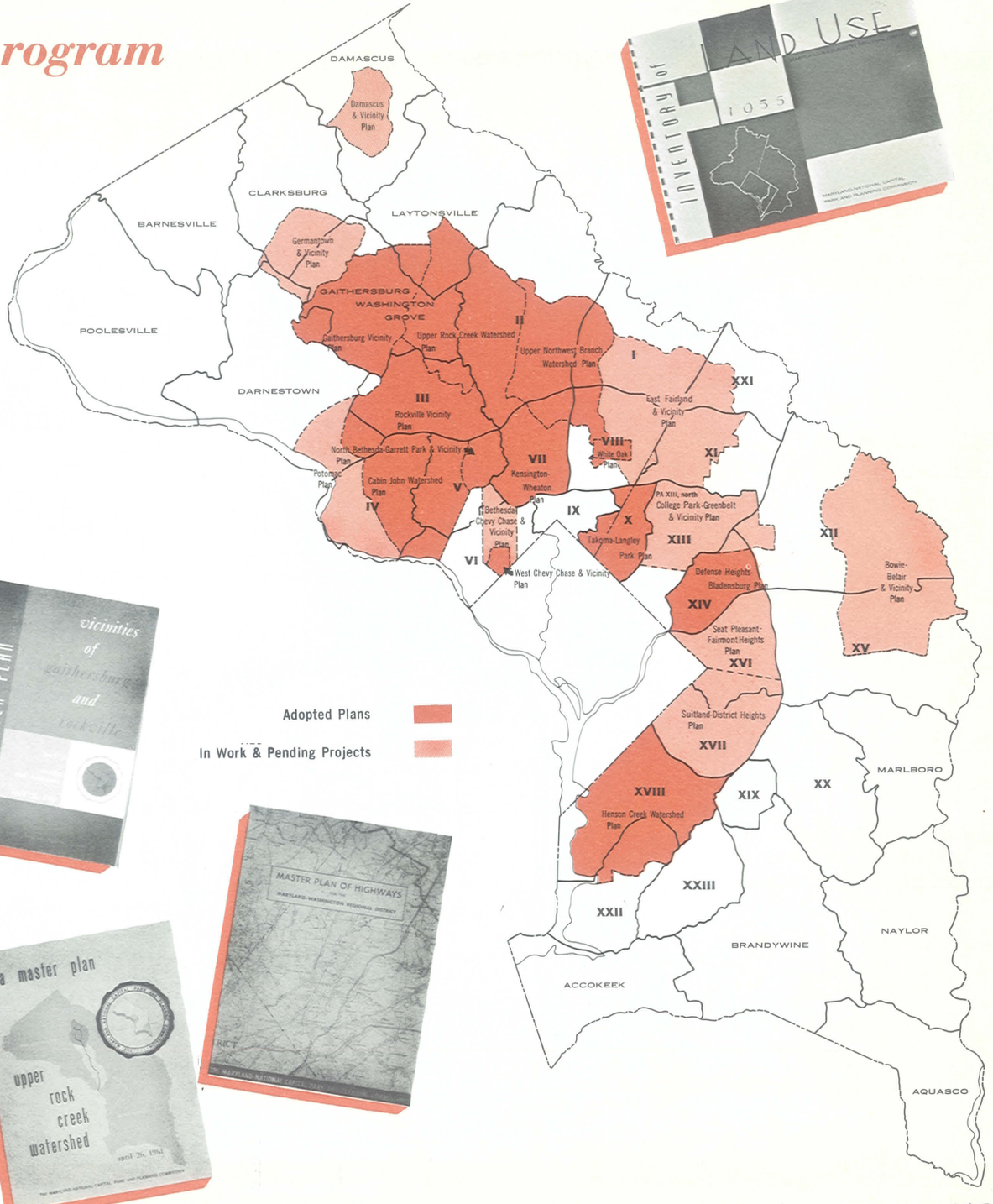












LOCAL AREA PLANS

Master plans for the Henson Creek Watershed, the West Chevy Chase Area, the White Oak Area and the Takoma-Langley Park Planning Area have been recently adopted.

The pace of local area planning must be maintained. Limited revision of some adopted master plans will be required to bring them into conformity with the General Plan, but the major task will be to prepare local area plans for new areas of growth and for certain areas in the urban ring.

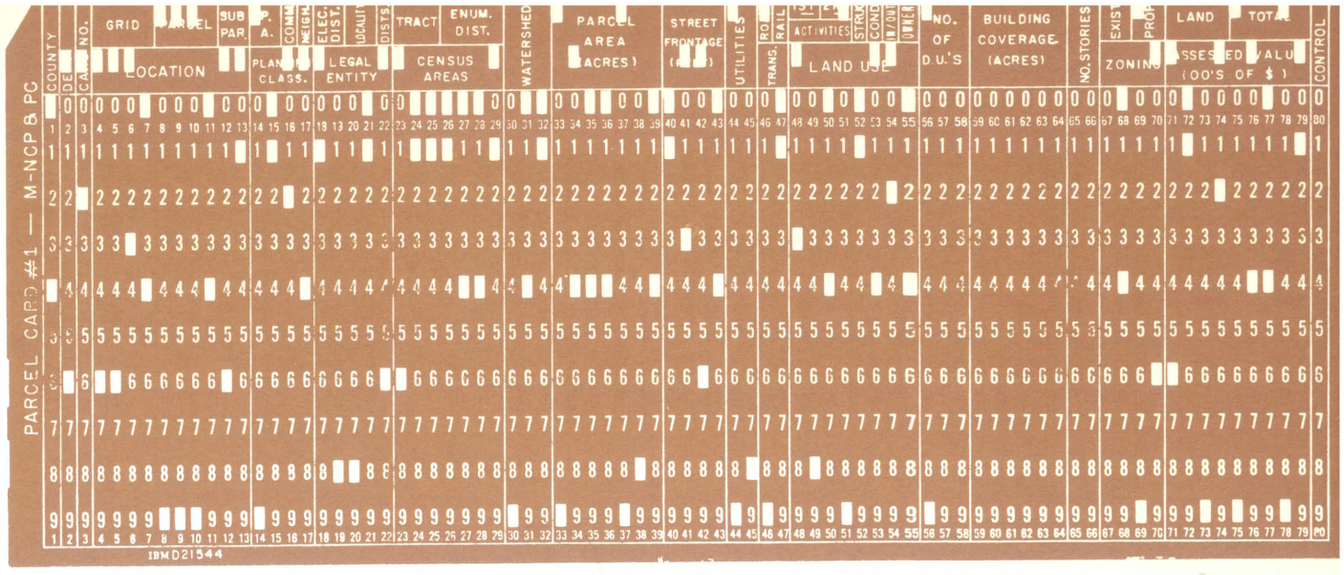
These local area plans will be of utmost importance in preparing sectional zoning map amendments which will form the basis for properly controlling the sequence of development, as well as for solving local land use, transportation, and public service problems.

SPECIAL PROJECT PLANS

Specific small-scale problems often arise, such as revitalizing a business district, establishing new corridor city cores, establishing park-and-ride rapid transit stations, or rehabilitating a blighted residential neighborhood. These problems require very detailed project planning in which the Park and Planning Commission and other public agencies take part. As urban renewal comes into use in the Regional District, the need for project planning will increase greatly.

PLAN IMPLEMENTATION

Detailed reviews by the Commission of applications for zoning amendments and special exceptions, subdivision plans, capital budgets, and mandatory referral projects are time consuming, but they accomplish the indispensable function of constantly keeping adopted plans in the forefront of public decision-making. Such reviews are the bread and butter of effective planning. They must remain a major part of the planning program.



RESEARCH

The making of plans and the review of procedures for carrying out the plans is based upon constant research into population, economic, social and physical characteristics of the Regional District and the Washington Metropolitan Area. The increased planning activity of recent years is requiring a greatly stepped-up research program to support it. Automatic data processing is becoming a must.

The Commission's data needs have been studied by a team of experts from George Washington University in preparation for establishing an automatic data processing system. Efficient collection of data for this system will require a great deal of cooperation between the Commission, the County governments, and other public agencies. At the metropolitan level there are hopeful signs that a comparable data system will be established through the National Capital Regional Planning Council and the Metropolitan Washington Council of Governments. These two systems are absolutely necessary to the maintenance of an adequate research program.

Special research studies, such as the recent soils suitability and ground water resource studies completed for the Commission by consultants, will be necessary from time to time. The resources studies to be done for the Natural Resources Advisory Committee will be prominent among them.

Research results will be made available to the public through the publication of Technical Bulletins and Information Bulletins.

ACTION: 1) Expand the Regional District to include all of Prince George's County. 2) Step-up the production of public service, local area, and project plans. 3) Maintain vigorous efforts to implement these plans. 4) Increase the emphasis on economic, social, and other research, including the establishment of an automatic data processing system, as a basis for higher quality planning.

PART III

trends and alternatives

...on wedges and corridors

Up to now this report has been concerned with describing the recommended General Plan and enumerating the mony tools that may be employed in making the Plan a working, functioning reality.

It is time now to step back and look at the trends and the major alternative growth patterns which were considered in developing the recommended plan.

TRENDS

ALTERNATIVES

M
NC
PPC

CHAPTER

14 THE TRENDS

. . . on wedges and corridors

. . . the great thing in this world is not so much where we stand, as in what direction we are moving.

—Oliver Wendell Holmes

LAND FOR RESIDENTIAL LIVING

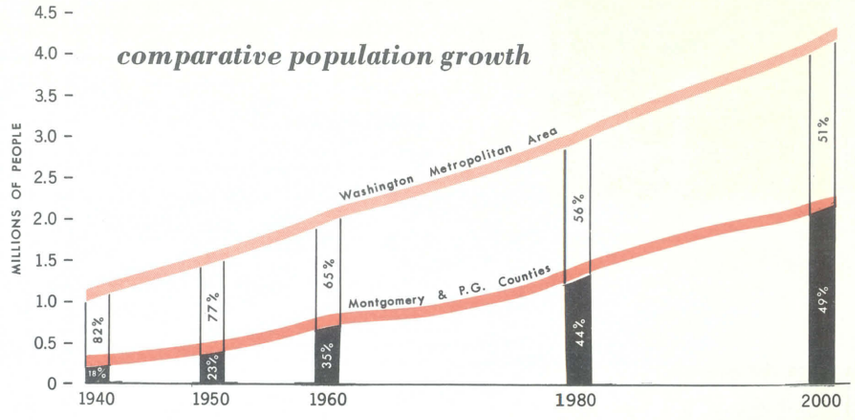
Population Growth. Montgomery and Prince Georges Counties are the fourth and fifth fastest-growing suburban counties in United States metropolitan areas of one million population and more. In the past half-century (1910-1960) the population of the two Counties increased from 68,000 to 698,000, a growth of over 1,000 percent. The increase was fairly modest during the first thirty years of this period, reaching only about 173,000 in 1940. From 1940 on, however, the population has doubled every ten years.

Following the 1940 Census, conditions were exactly right for triggering the sudden outburst; nearly all the available land within the District of Columbia had been developed and occupied, the family automobile had become commonplace, and highway improvements had made commuting practical well out into the country. With the coming of World War II and the expansion of Federal government, the growing population flowed out from the District in all directions. By 1960, thirty-five percent of the metropolitan population had settled in Montgomery and Prince Georges Counties.

As could be expected, the closer-in areas urbanized first, rapidly becoming indistinguishable from the District of Columbia. Then the growth spread farther and farther out, following no particular pattern except what was dictated by the existing roads and sewage facilities.

While statistics show that the rate of growth is now slowing down, the growth in total numbers is still very substantial and will continue to be so. By 1980 the Regional District will be host to a population of about 1,435,000—45 percent of the Metropolitan population, and approximately double the number of people in 1960. By the year 2000 the bi-county figure will reach nearly 2,190,000, which is more than the total population of the entire present-day Washington Metropolitan Area.

As mentioned earlier, these figures in themselves are no cause for alarm. There is ample room in the 1,000 square-mile area of the Regional District to house that many people and more. The only problem is where and how they are to be housed. If the question is left entirely to chance, the Regional District is sure to become a congested, formless urban agglomeration where people will continue to reside only because the living environment elsewhere is no better.



U.S. Bureau of Census Data; Projections by NCRPC and Office of Business Economics (U.S. Dept. of Commerce)

Residential Land Use in the Past. Before reaching any conclusions as to how the future population is to be housed, it is important to see how the present-day population is accommodated.

The Regional District is largely an area of detached, single-family houses. In 1960 there were 140,488 such residences, housing 78 percent of the total population. In the same year 40,010 apartment units accounted for 15 percent. The remaining 7 percent were living in row houses, duplexes, or two-family dwellings. Practically all of the apartments and row houses have been built since 1940, and most are in the close-in areas surrounding the District of Columbia.

The great majority of the single-family houses are built on small lots of 6,000 or 9,000 square feet. There are, however, some enclaves of homes built on larger tracts of land. While these large-lot residences account for only a small percentage of the total population, their existence gives a degree of eye-appeal and variety to some suburban areas—qualities that are sadly missed in other sections, where the rule of minimum construction standards and maximum profits has resulted in cramped monotony.

Many tracts of land easily served by utilities, and offering direct access to the city, were quickly developed to the saturation point. Often in the developers' rush to make maximum profits, inadequate reservations were made for parks, playgrounds, highway expansion, access roads, and other community needs.

Trends in Housing. Two quite divergent trends have become noticeable in the Regional District during the past several years: one, an increased demand for apartments; and two, a tendency to build more expensive houses on larger building sites than the customary 6,000 or 9,000 square-foot lots.

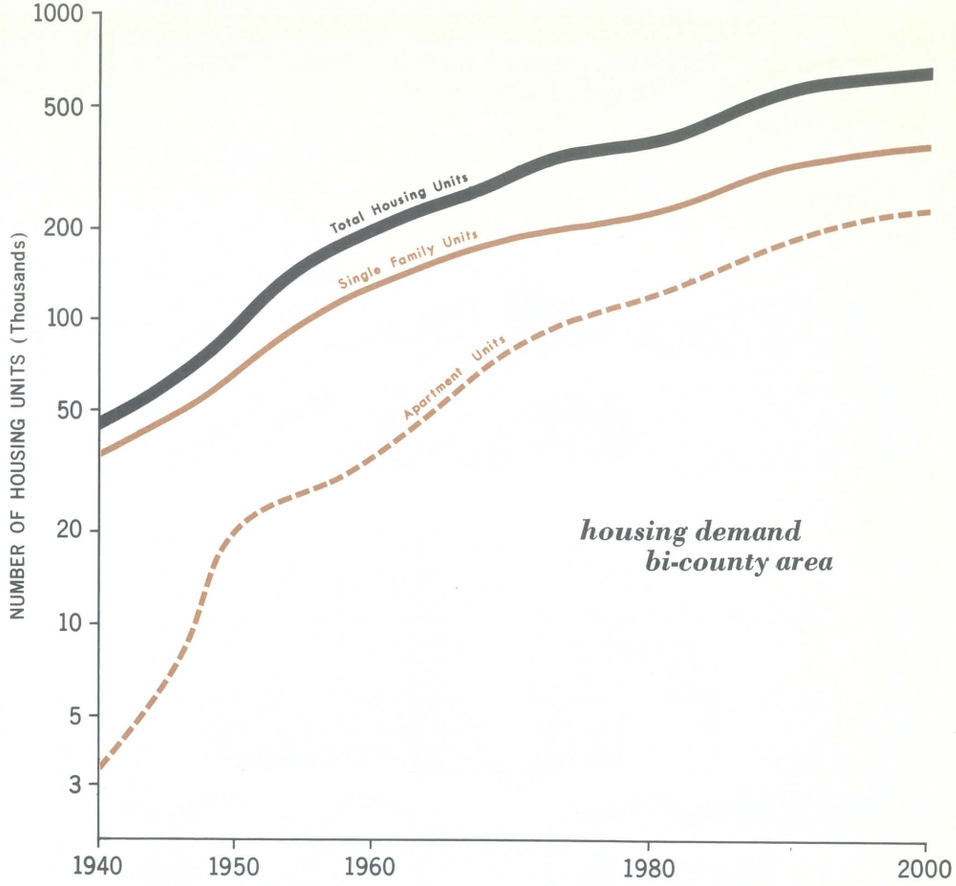
The rising demand for apartments comes mainly from two opposite groups: the fairly old, and the young adults. Greater economic security permits the elderly to move to apartments and live in chore-free, compact quarters of their own. At the other end of the scale, the increasing number of early marriages and the high cost of houses force many young couples to seek moderately-priced apartments until they can afford the houses they will want in later years.

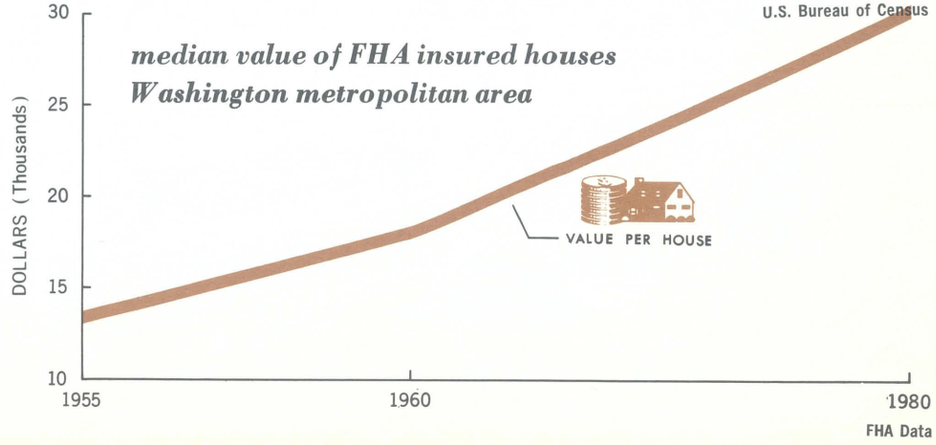
The rapid rise in apartment demand is illustrated by the fact that the number of apartments in Montgomery and Prince Georges Counties increased from 2,034 in 1935 to 48,407 by the end of 1961. In 1961 alone, 5,065 apartment units were built. A relatively high level of apartment construction can be expected to continue in the future.

A corresponding decrease in the percentage of single-family home construction is to be expected, but the total number of houses will continue to increase. Their cost will also increase substantially.

The average purchase price of new homes, under mortgages insured by the Veterans Administration, increased from $5,940 in 1945 to $15,325 in 1961.

Another indication of the trend to more expensive housing is to be found by comparing the values of FHA-insured homes in 1955 with those of 1960. In this five-year period the median value of FHA-insured homes in the Washington area rose from $13,559 to $17,953. In 1955, 34.7 percent of the houses were valued below $10,000. In 1960, practically no homes were valued that low.





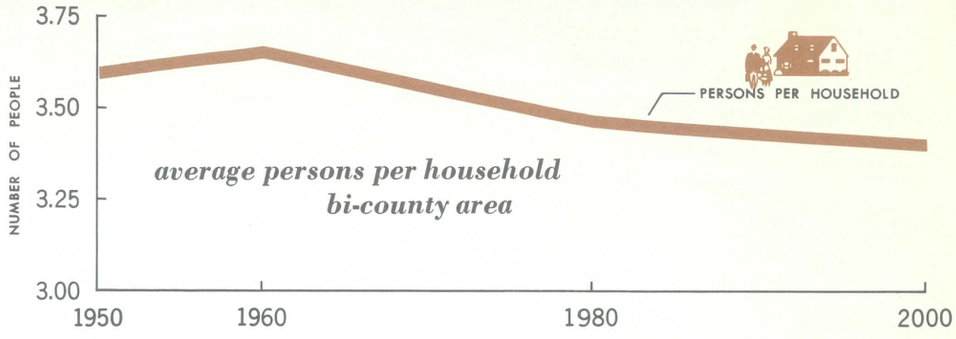
The proportionate increase in expensive homes—those valued at $20,000 and above—is particularly noteworthy. In 1955, only 3.3 percent of the houses fell in this category. In 1960, the proportion had risen to 28.2 percent. Assuming that this trend will continue, the median value of houses in the Regional District will be $30,000 by 1980, and 50 percent of all houses will cost more than that figure.

The implications of this changing price structure are obvious. People usually don't build expensive homes on postage-stamp building lots. The houses of the future will require more land. There is certain to be a trend toward more spacious lots than those of 6,000 and 9,000 square-feet that have been standard in the past. This trend should be recognized and provided for today to avoid frozen obsolescence in zoning.

A third housing trend is also significant. Average household sizes are decreasing. For the United States as a whole, household size has decreased from 3.42 persons per family in 1950 to 3.29 in 1960. This has been explained by one authority in terms of longer life-spans, greater economic security for the elderly, and younger marriages.[1] Another authority has attributed the decline to a transition from three generation households to two generation households, and a considerable increase in one-person households.[2]

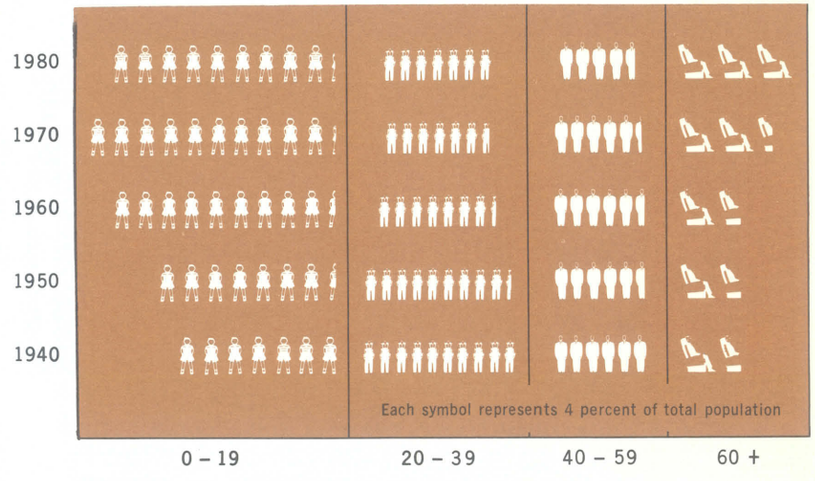
Although this general decline in household size has not shown up yet in statistics for the Regional District, it is very likely to in the next few years. If it does, the number of new households to be planned for will increase faster than the number of people.

[1] Donald J. Bogue, *The Population of the United States,* Glencoe, Illinois: The Free Press, 1959 (pp. 711-712).
[2] Philip M. Hauser, "The Census of 1960", *Scientific American,* Vol. 205, No. 1, July, 1961. (p. 45).



U.S. Bureau of Census

population by ages - Washington metropolitan area



U.S. Bureau of Census, NCRPC, and NCPC.

Residential Land Needs. Taking into account the growing population, the increasing number of households, the greater demand for apartments, and the preference for increased lot sizes, it is estimated that new residential neighborhoods will require 70 square miles of land by 1980 and another 90 square miles by the year 2000.

LAND FOR EMPLOYMENT

High Incomes. The Regional District is among the nation's most prosperous areas. Payrolls in the two counties have increased substantially in recent years: from $97.6 million in 1954 to $150.5 million in 1958, an increase of more than 54 percent. Although later figures are not available, there is no doubt that this affluent pace is continuing.

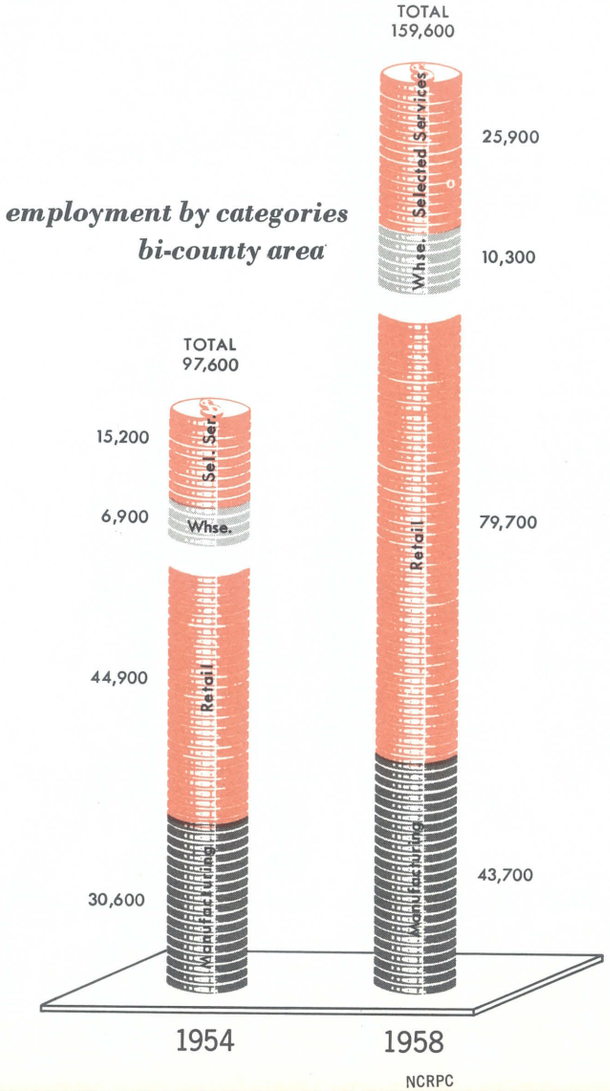
Average annual incomes of families living in the Regional District are estimated at about $8,400—among the nation's highest. The average family income in the United States as a whole is only $5,700. This comparison demonstrates that residents of the Regional District enjoy a sizeable income over and above personal expenses for necessities. The area is therefore a prime market for luxury merchandise and services.

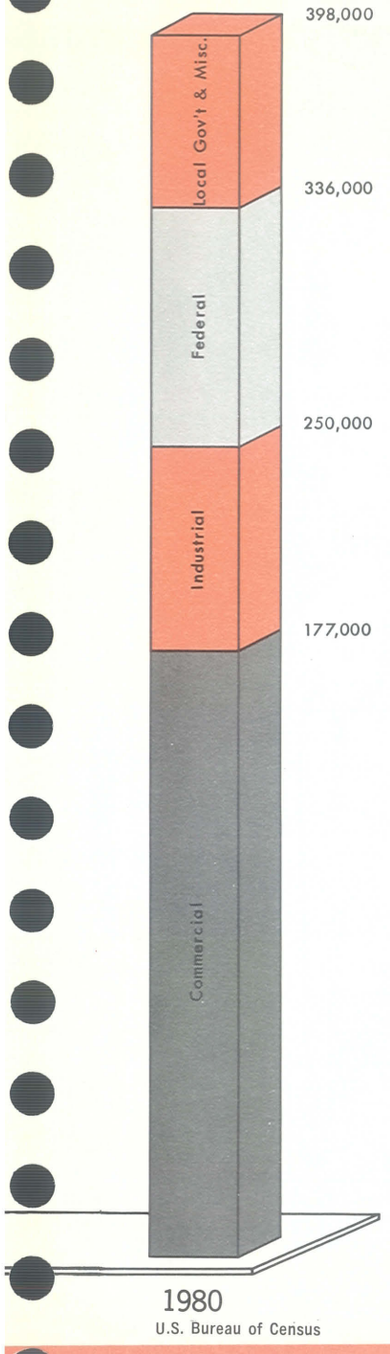
Low Unemployment. The Washington labor market area, including the Regional District, has one of the lowest unemployment rates in the nation: 2.4 percent as of September, 1961. This contrasts sharply with the national unemployment rate of 6.8 percent during the same period.

The reason is found in the nature of the area's economic base. Federal employees accounted for 22 percent of total employment in the Regional District for 1960. State and local governments employed another 10 percent. This means that 32 percent of all workers were on government payrolls. The stability of such employment is well known.

The largest single group of non-government employees in the Regional District (18 percent) are engaged in retail trade—another quite stable type of employment, since expenditures for consumer goods are kept on an even keel by the large stable government employment.

Manufacturing employment, the most sensitive to cyclical dips in the economy, accounts for only 5.8 percent of all Regional District employees.





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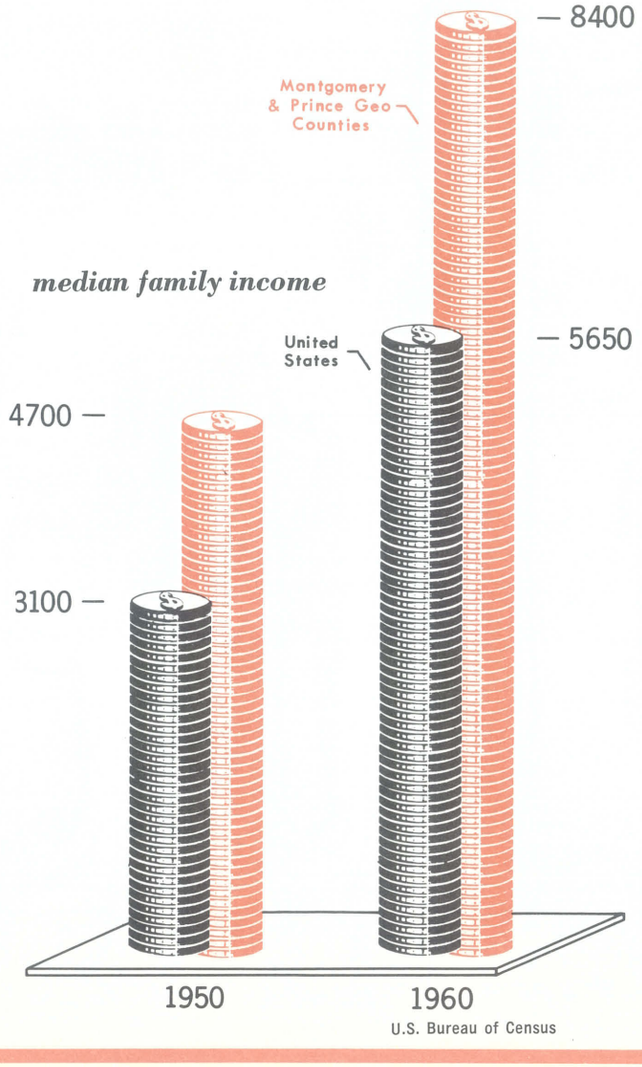


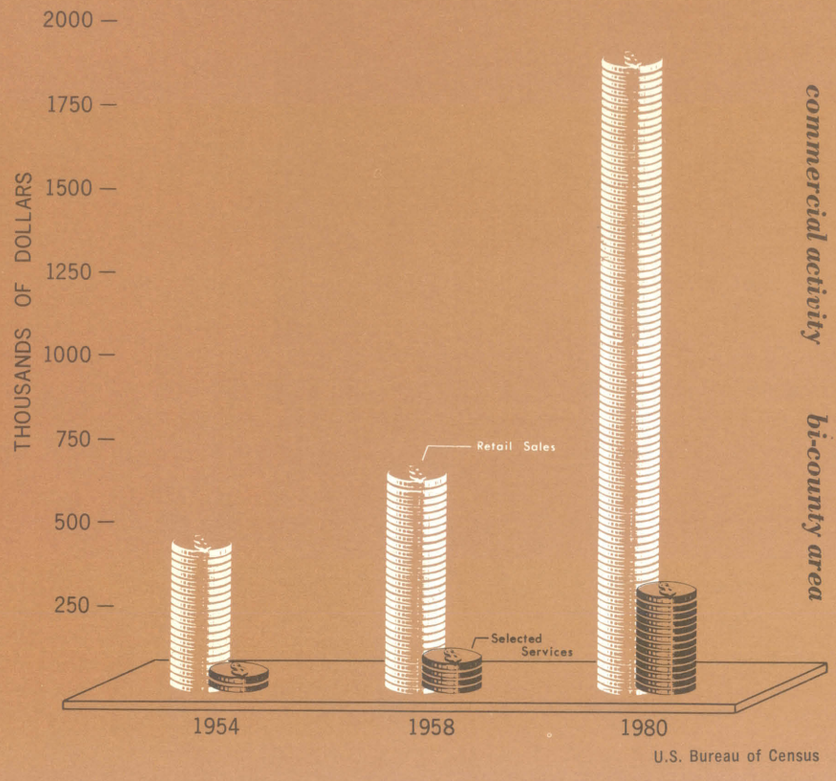
U.S. Bureau of Census

Location of Employment. Forty percent of all jobs in the Washington Area are in downtown Washington. Downtown will grow and continue to be the largest single employment center. But already more than one-third the Federal employment is in the suburbs, along with a similar proportion of other jobs.

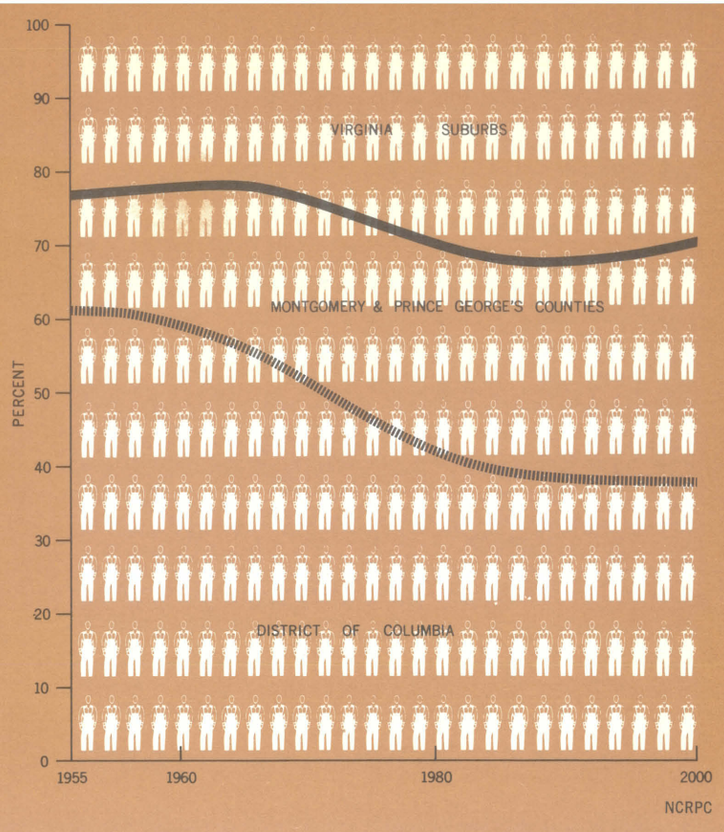
Suburban employment, compared to downtown Washington employment is very dispersed. The largest suburban center has only about 15,000 jobs, compared to 380,000 in the downtown center. More than three-quarters of the remaining employment is located in very small centers with less than one thousand jobs apiece. Such dispersal cannot be economically served by public transportation, so the highway system has been overburdened with private cars. If more of the suburban employment were concentrated in centers of at least 10,000, efficient public transportation could be supplied.

Even with downtown expansion, future employment will be located more and more in the suburban parts of the metropolitan area. An efficient location policy is therefore becoming increasingly important. The largest part of future employment will be in offices which can be easily centralized, but small local shopping centers and the increasing demand for industrial parks also need to be recognized.

Government Employment. Federal employment in the Washington Metropolitan Area has risen from a very few thousand in 1900 to about 315,000 in 1960. According to the National Capital Regional Planning Council, this figure may rise to 450,000 by the year 2000. The Maryland suburbs will get an increasing share of this rise.



commercial activity bi-county area

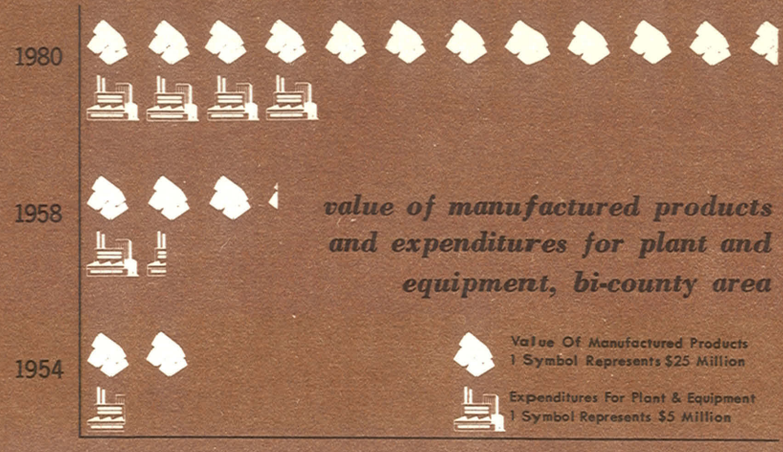


percent of employees by jurisdictions

Commercial Employment. Commerce in the Regional District has been growing at a rapid pace in recent years. Between 1954 and 1958 retail sales increased from $425 million to $651 million. Services provided by cleaning shops, laundries, beauty and barber shops, advertising agencies, credit agencies, employment agencies, auto repair garages, hotels, motels, and commercial recreation establishments increased from $45 million to $78 million during the same period. If these rates of increase continue, as they are likely to, retail sales will approach $1.9 billion in 1980 and the commercial services will reach about $309 million. These are signs of rapidly growing commercial employment.

Industrial Employment. A distinctive feature of the industrial segment of the area's economy is the rapid rise of research and development firms. There were only a handful of these firms a few years ago, but today they constitute an important element in the suburban economy. These firms work in the fields of plastics, automation, electronics, data processing, missile propulsion, laboratory instrumentation, operations analysis, flight simulation, and many other activities of a highly specialized nature.

Such firms find the Washington area especially suited to their operations, since it gives their executive and technical employees the opportunity for face-to-face discussions with their opposite numbers in the governmental agencies, with mutual advantages to both. Furthermore such firms can draw on the



large scientific manpower pool in the Washington area. As of 1960, there were 57 research and development firms in the Regional District, employing 8,806 people.

The value of all manufacturing in the Regional District rose from $48.5 million in 1954 to $80.5 million in 1958. The projected value for 1980 is $290 million. Increasing investment for plant and equipment indicates that manufacturing production and employment will continue to rise.

A report on the economic development of Metropolitan Washington, prepared about four years ago for the Joint Congressional Committee on Washington Metropolitan Problems, pointed out the relatively small industrial activity compared to the potential of the market area. "Here in the Washington Area is one of the greatest consumer markets in America . . . and it offers a tremendous potential for market-oriented types of industry."* Already at Landover in Pringe Georges County there is one of the largest food processing and distributing plants on the East Coast. Consumer industries can be expected to grow at a faster rate than the population in future years until they catch up with the area's potential.

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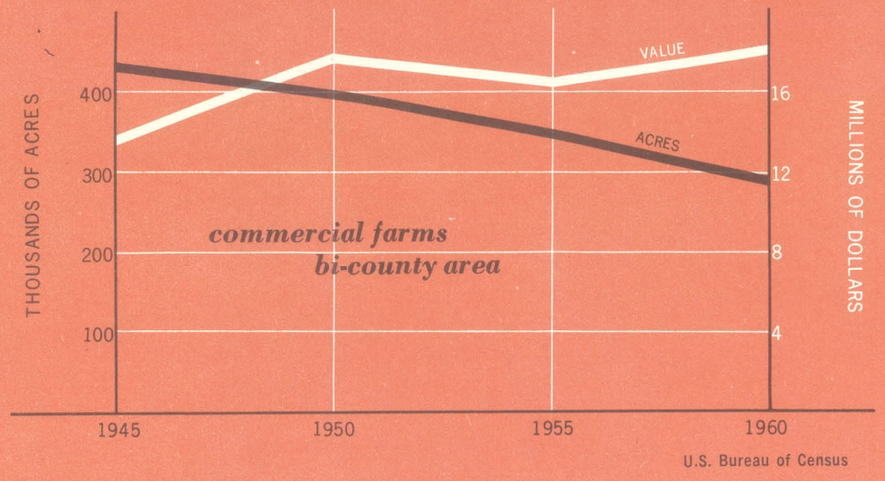
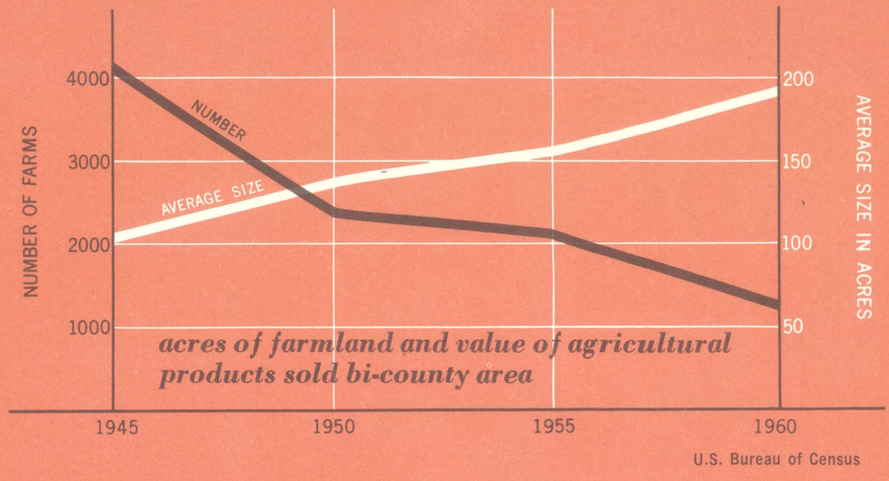
* "Statement of Philip Hammer," *Hearings on Washington Metropolitan Area Economic Development,* Joint Committee on Washington Metropolitan Problems, Congress of the United States (85th Congress, 2nd Session), July 8, 9, and 10, 1958 (p. 144).



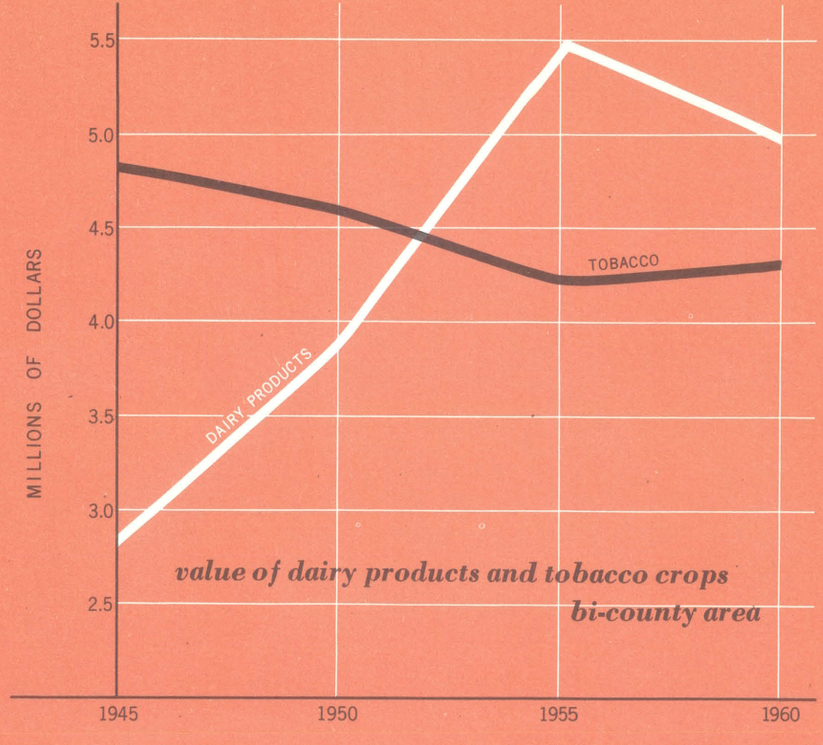
U.S. Bureau of Census



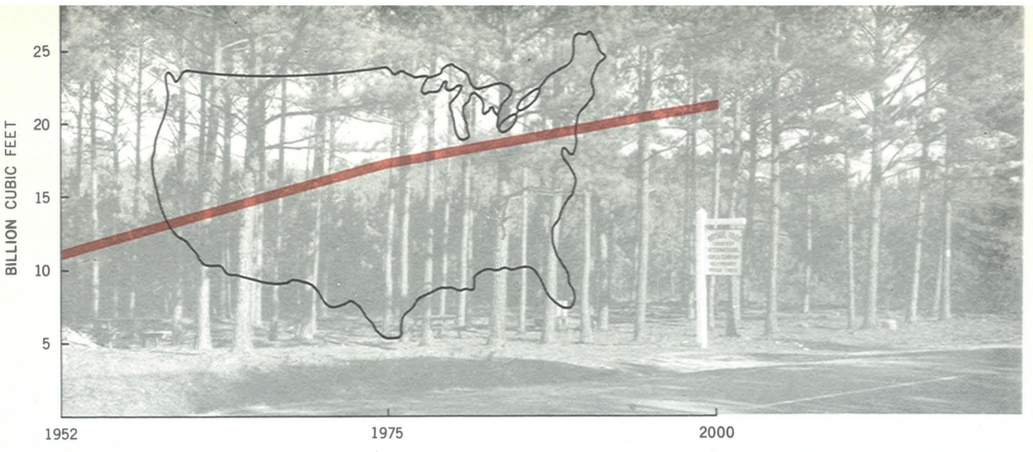
U.S. Bureau of Census

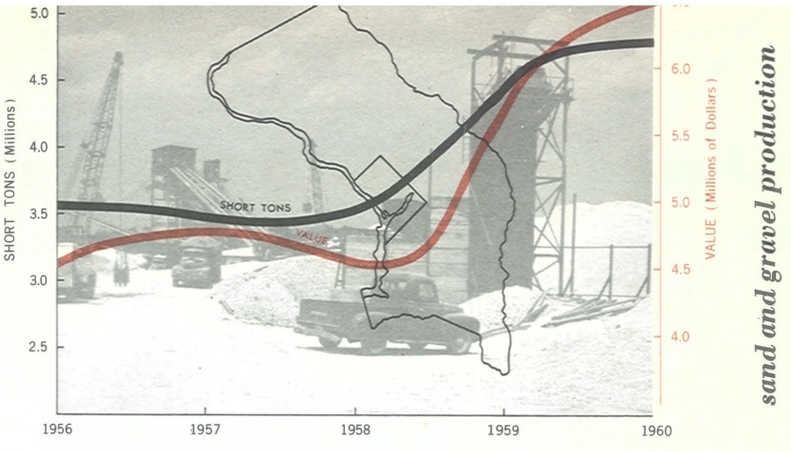
Agricultural Employment. Though accounting for no more than 3 percent of employment, agriculture is still an important segment of the area's economy. The value of produce from Regional District farms in 1959 was slightly over $17 million—about the same level as for the previous ten years. Taking into consideration the large number of farms that have been swallowed up by suburban developments, and the considerable number that are farmed half-heartedly while waiting to sell out for the 'right price', this means that the remainder—the bona fide productive farms—must be making reasonably good incomes. There is no reason why they should do less well in the future, provided they are given reasonable tax consideration and are otherwise protected from urbanization pressures.

The U. S. Farm Census indicates, for Montgomery and Prince George's Counties, that there were 440,000 acres of farmlands in 1944, and only 294,000 in 1959. There has been a corresponding decline in the number of Class I and Class II commercial farms, from 312 in 1944, to 262 in 1959. Each of these farms, however, is producing over $20,000 worth of produce per year. In Montgomery County the chief source of farm income is from dairy products, which for 1961 totaled over $6,000,000. Tobacco is the chief farm product in Prince



Maryland-Virginia Milk Producers Association and
U.S. Bureau of Census





Based on U.S. Bureau of Census Data

George's County. Seven million pounds of tobacco were harvested in 1959, having a cash value of $4.2 million.

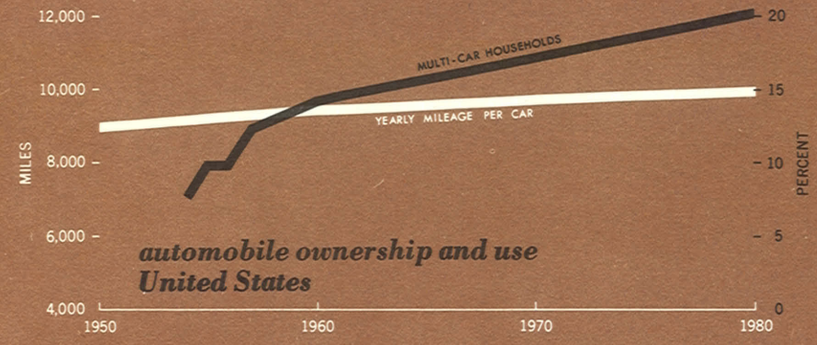
There are several other types of farm operations being carried on at the present time, all of which may become increasingly important in the future provided farming is protected and encouraged under the General Plan's program for preservation of the rural wedges. These include livestock raising, nurseries, greenhouses, sod farms, and truck farms (principally peas, beans, and corn).

Commercial Use of Natural Resources. In spite of extensive bulldozing for suburban developments, about 35% of the Regional District remains in forests, and much of it is of commercial value. About 18 million board feet of lumber and 4,000 cords of pulpwood are harvested annually, bringing in a return of something over a million dollars each year. For the past several years there has been a noticeable trend against selling timber on a single-shot, clear-cutting basis. Tree farming under sustained yield practices allows the owners of small forests to earn cash by selling off mature trees while at the same time putting their remaining timber in condition to mature faster and bring in continuing profits in the future. The U. S. Forest Service reports that, with proper management, there was never a better time to make a small forest pay.

Mineral extraction, of sand, gravel, crushed stone, and brick clay has been a small but growing segment of the Regional District's economy in past years. Sand and gravel production, for example, rose from about 3.5 million tons in 1956 to nearly 5 million tons in 1960, while the market value of the product rose from $4,560,000 to $6,500,000.

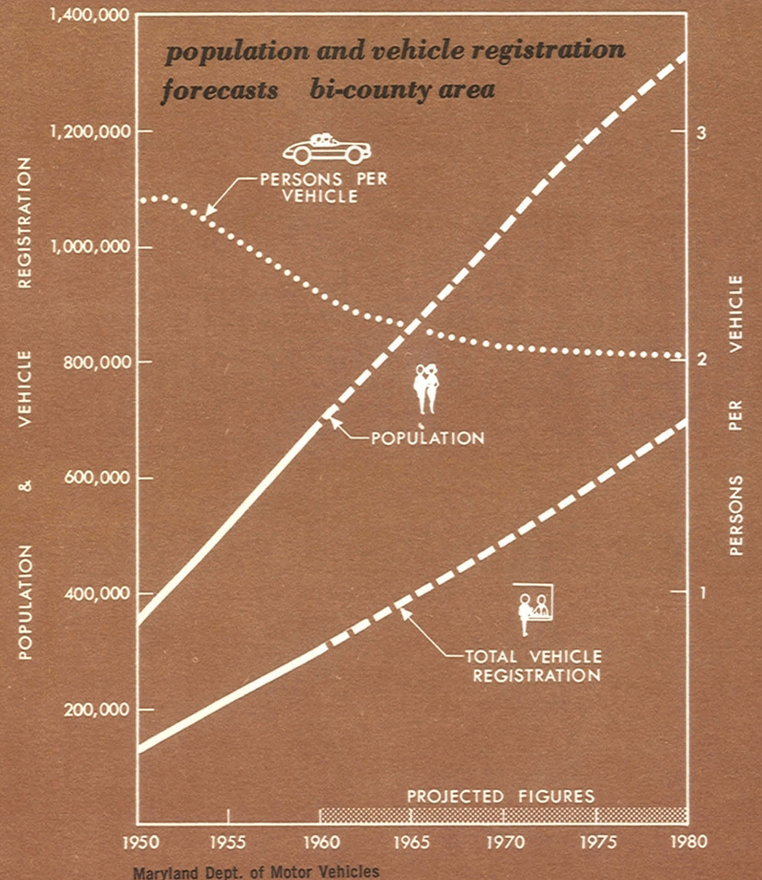
Although employment in these resource industries is not large it is important. There is a steadily rising demand for local building materials, which can be supplied only if urban development is prevented from encroaching on known mineral deposits.

Overall Employment Projections. From the 1960 level of 178,000 jobs in the Regional District, it is estimated that total employment will reach 398,000 by 1980 and about 730,000 by the year 2000. The land needed for all these additional government, industrial and commercial employment centers will be about 15 square miles between now and 1980, and another 30 square miles between 1980 and the year 2000.



automobile ownership and use
United States

U.S. Bureau of Public Roads and Auto Mfg. Assoc. data.



Maryland Dept. of Motor Vehicles

LAND FOR TRANSPORTATION

Streets and highways account for about 30 percent of the land area in typical residential subdivisions of the recent past. And now freeways are beginning to cut huge swaths across the landscape, taking even more land for transportation. But this is still only part of the whole picture. Automobile parking lots are just as necessary as streets and highways. Public parking lots in Montgomery County alone occupy more than 40 acres. All this does not seem so bad in outlying subdivisions where there is plenty of space, but it does seem outrageous in closer-in communities where commuting traffic concentrates, demanding more and more space. It is time to wonder whether some of the more congested areas will be able to survive the onslaught.

Is the automobile about to conquer the city, or has it already done so? The situation is getting worse instead of better. Automobile registrations are climbing not only because population is growing but also because two and three car families are becoming typical. And on the average, each car is being driven farther each year than in the preceding year. There is a question whether new highway construction can keep pace with the automobile manufacturers, but if it does, there is the even graver question of whether there will be room in the city for anything other than highways and parking lots. We cannot afford to lose the employment, social, and cultural advances of urban living just because we love our automobiles.

A transportation system based only on highways demands too much land. Thus, a more efficient one, including rail rapid transit, must be devised.

LAND FOR CONSERVATION AND RECREATION

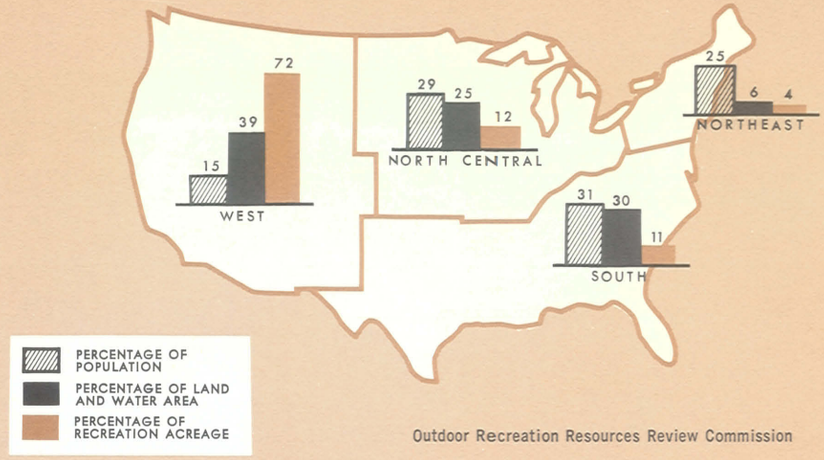
The need for protecting mineral deposits and maintaining a rural environment so that agriculture and forestry can prosper

has already been indicated. In the past, land for these uses has been drastically reduced, out of proportion to need, by the intrusion of urban uses scattered aimlessly here and there through the countryside, encouraging speculators to buy out farmers long before the land was needed for urban uses. Such practices have wasted land by allowing it to lie idle, and at the same time have created pressures for far-flung and unnecessary sewer and water facilities. To avoid these unfortunate circumstances in the future, rural areas should be kept rural and mineral deposits wherever they occur should be protected for future use.

However, these are by no means the only conservation needs. Other important ones are soil conservation, the conservation of water resources, and the conservation of open space for outdoor recreation. These conservation needs are closely related to each other and to the conservation of mineral, agricultural, and other rural resources. The same land can be, and sometimes has been, used for more than one of these purposes. Multiple-use land management in effect multiplies the amount of open land available while at the same time increasing the owner's return from his land holdings.

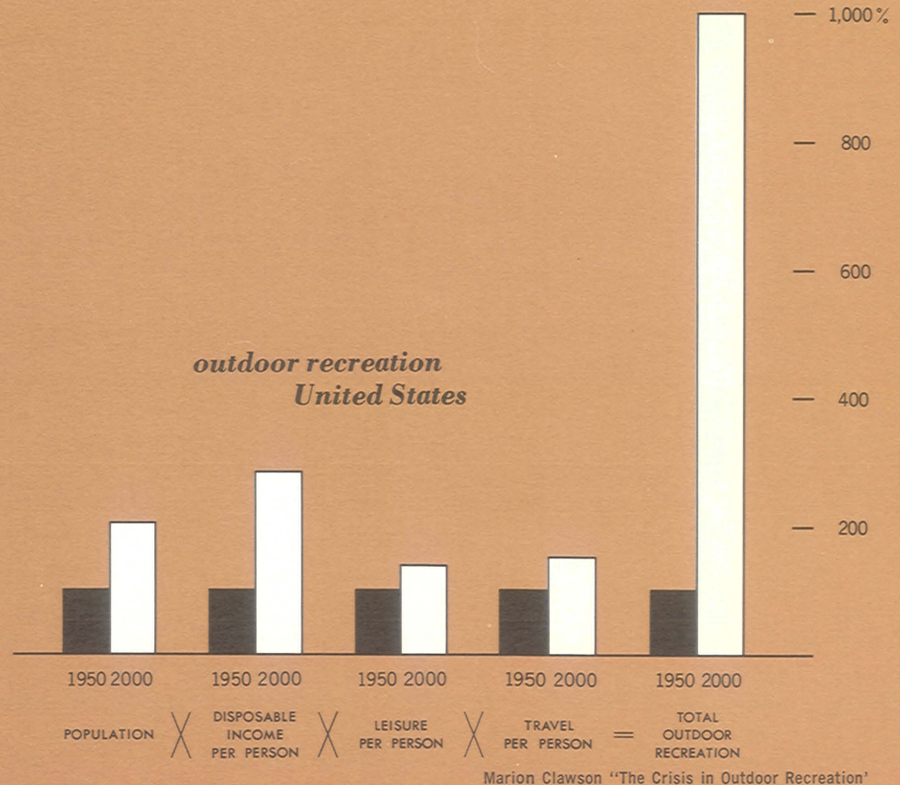
Water Supply. The foresightedness of the State and local authorities who organized the Washington Suburban Sanitary Commission in 1918 cannot be praised too highly. The WSSC, which was set up to construct and operate the water supply and sewage disposal facilities for the Maryland suburbs, is an excellent example of advance planning for future needs in the field of water resources. This advance planning has enabled WSSC for many years to maintain a pollution-free, reasonably-priced source of drinking water from its reservoirs on the Patuxent River, and to prevent contamination from entering the many small streams in the Regional District that flow into the Patuxent and the Potomac watersheds.

regional distribution of population, area and recreation acreage, 48 contiguous states, 1960



Outdoor Recreation Resources Review Commission

outdoor recreation United States



Marion Clawson "The Crisis in Outdoor Recreation"

However, as suburban developments have mushroomed far out into the countryside, water supply and pollution control problems have been magnified beyond anything foreseen by the founders of the WSSC. The Patuxent is no longer capable of supplying the domestic water needs of present-day populations, and the WSSC had to tap the Potomac River in 1961 to provide a supplemental water supply for the Maryland suburbs. Larger withdrawals from the Potomac are in prospect for the future, and eventually this will become the major water supply source for the area.

But even the Potomac is not inexhaustible. Population trends and the growing per capita use of water in the Regional District and elsewhere throughout the Washington area demonstrate that normal water demands will exceed the Potomac's minimum dependable flow by about 1975. The Army Corps of Engineers has developed a series of alternate plans for storing and regulating the flows of the Potomac, and one of these plans will probably be adopted within the next year or so.

The District Engineer for the Corps has recommended construction of nine large dams and about 400 small dams, plus the reservation of sites for seven other large dams on the Potomac River and its tributaries within the next ten years. The largest of these dams on the Potomac would be in Montgomery County near the mouth of Seneca Creek and would require about 19,000 acres of County land. Some land for small dams would also be needed in Montgomery County. Two water supply dams on the Patuxent River have already required about 2,480 acres and another 3,360 acres will be purchased along this river for watershed protection and recreation. Regardless of which plan for development of the Potomac River is adopted water supply and watershed protection measures will require large amounts of land in the Regional District.

Sewage Disposal. For many years the sewer system of the WSSC has been conveying the Regional District's water-borne wastes to the District of Columbia's sewage treatment plant for disposal. Supplementary means of waste disposal will soon be needed as the Maryland suburban area continues to extend beyond the geographical limits of service by the D.C. treatment plant. Development in several Prince George's County watersheds eventually will have to be served by additional permanent sewage treatment plants located on the Potomac and Patuxent Rivers south of Washington. But until the limited access trunk sewers and permanent plants at these locations can be justified, small populations upstream can be adequately served by temporary oxidation ponds.

The recent trend towards these "oxidation ponds"—or sewage lagoons—is worthy of note here, since they may be called upon to solve temporary waste disposal problems developing in several outlying areas of the Regional District. They are simply wide, shallow ponds scooped out of the earth for the containment of domestic sewage. The sewage settles to the bottom of the pond, where it is made harmless by the action of algae. A surprisingly clear liquid remains at the top. The chlorinated outflow from these ponds compares favorably with the quality of discharges from modern sewage treatment plants.

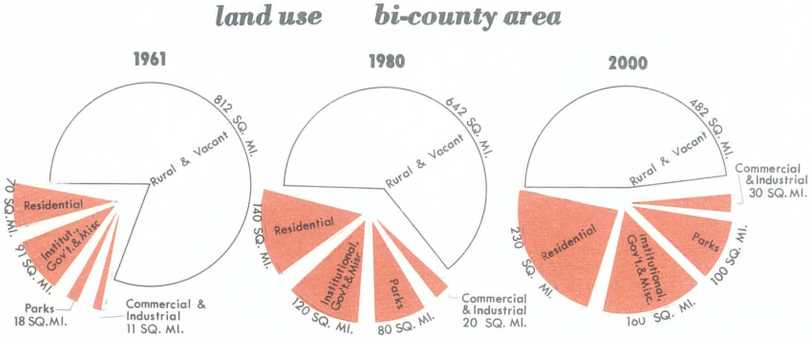
The Corps of Engineers' plans for dams in the Potomac River Basin play as important a part in pollution control as in water supply. In fact twice as much water must be stored in dams to dilute and flush away sewage as to supply water for our homes and businesses. This is doubly important on the Potomac River along the shores of the District of Columbia and lower Prince George's County because the tide keeps trying to push the sewage back up-stream. Even the best treatment plants do not remove the need for diluting and carrying off wastes.

Other Benefits from Dams. By stopping the rampaging waters that follow big storms and spring thaws, dams play an important role in flood prevention and erosion control. But recreation is perhaps the most dramatic benefit from dams, large and small. The President's Outdoor Recreation Resources Review Commission has found that "water is a magnet. Wherever they live, people show a strong urge for water-oriented recreation." [1] ORRRC also found that "Since World War II, there has been increasing recreation use of reservoirs. The availability of water recreation in areas that previously had little answered a tremendous need, and this is particularly significant because these reservoirs were not built for recreation. . . . In future planning for water impoundment projects, the recreational potential should be considered from the start." [2] Indeed, dams are some of the best examples of multiple-use resource development. This has been proven time and time again in the past, and there is no reason why it should not be proven again in the Regional District.

The Maryland State Economic Development Commission recently had a study prepared for it showing the economic benefits which could be derived from the construction of a major dam on the Potomac.[3] This report makes it clear that recreation can be a very big business and a major dam could be a great economic asset as well as an asset in many other respects.

Recreation Trends. "The demand is surging. Whatever the measuring rod—visits to Federal and State recreation areas, fishing license holders, the number of outboard motors in use—it is clear that Americans are seeking the outdoors as never before. And this is only a foretaste of what is to come." [4] "The measure of the problem:" according to the ORRC is that, "outdoor recreation activity, already a major part of American life, will *triple* by the year 2000." [5] Outdoor recreation in all its forms is a tremendous user of land. Public parks in the Regional District have been and will continue to be expanded to meet the growing demand. Expansions already planned will increase the present 10 square miles of parkland to more than 60 square miles. In addition there will be plenty of need for private recreation land.

[1] *Outdoor Recreation for America,* p. 87.
[2] Ibid.
[3] Harry G. Clement, *River Bend: Its Potential Economic Significance for Maryland,* a report prepared by Checchi and Company, Annapolis, Maryland, for the Maryland Department of Economic Development, November, 1961.
[4] Ibid., p. 35
[5] Ibid., p. 47



Note: See Summary Statistical table in appendix for Planning Area Analyses

SUMMARY OF LAND NEEDS

The projection of past trends shows the gigantic needs for land to be put to new uses. The primary purpose of the General Plan is to guide these new uses into an efficient, pleasant, and workable pattern from which the public at large and the individuals that make it up will gain the greatest possible satisfaction.

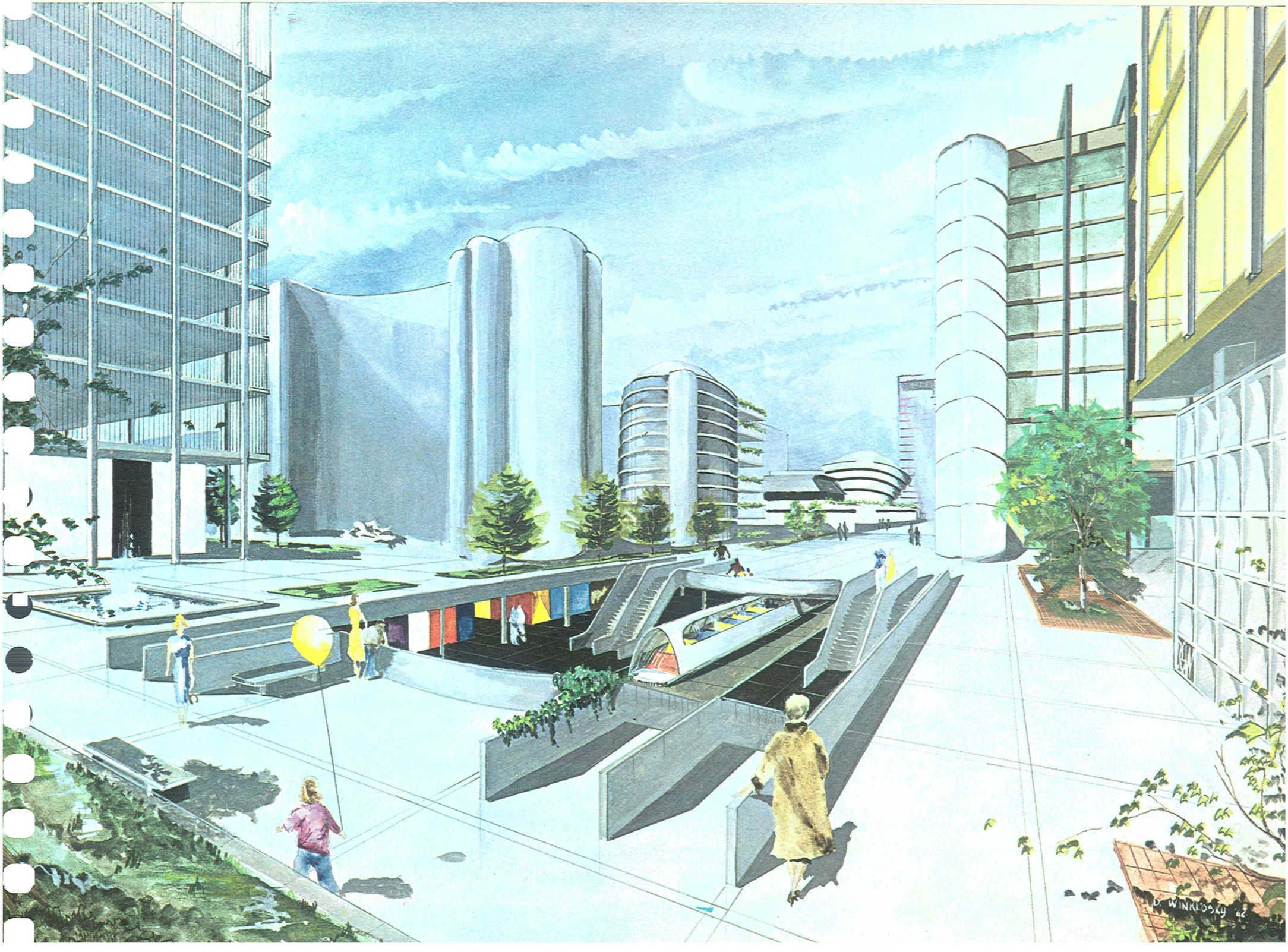
CHAPTER

15 THE ALTERNATIVES

Choose always the way that seems the best, however rough it may be; custom will soon render it easy and agreeable.
—PYTHAGORAS

The general conclusion to be learned from the trends reviewed in Chapter 14 show that the Regional District is growing rapidly in all respects; and so are its needs. And plan for the area must satisfy these needs.

Not only the trends, but also the goals described in Chapter 1, provide the yardstick for judging the desirability and adequacy of alternative plans for development of the Regional District. It is the purpose of this Chapter to present and analyze the four major patterns in which this development could take place. The corridor pattern was finally chosen as the basis for this General Plan, but only after careful comparison with the three alternative patterns known as Sprawl, Average Density, and Satellite.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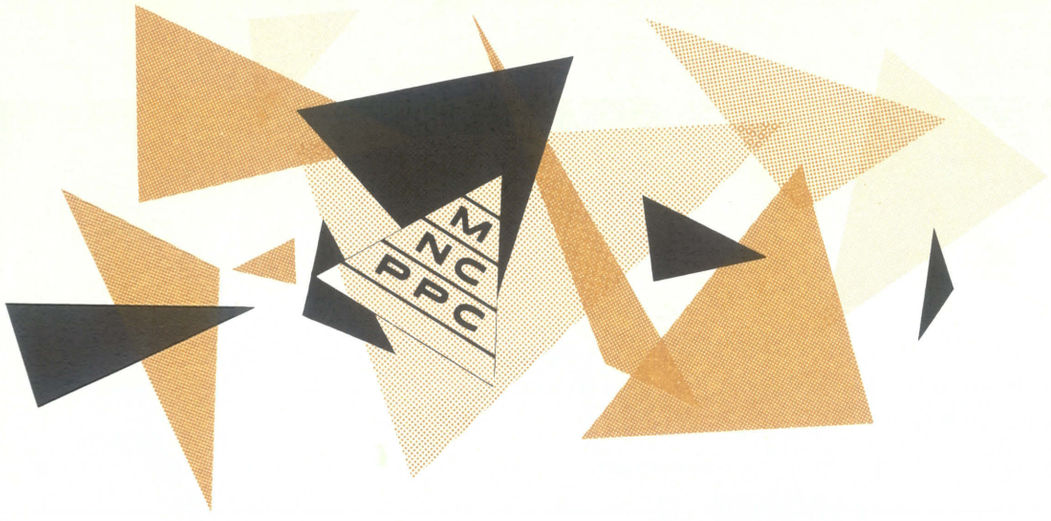


SPRAWL PATTERN

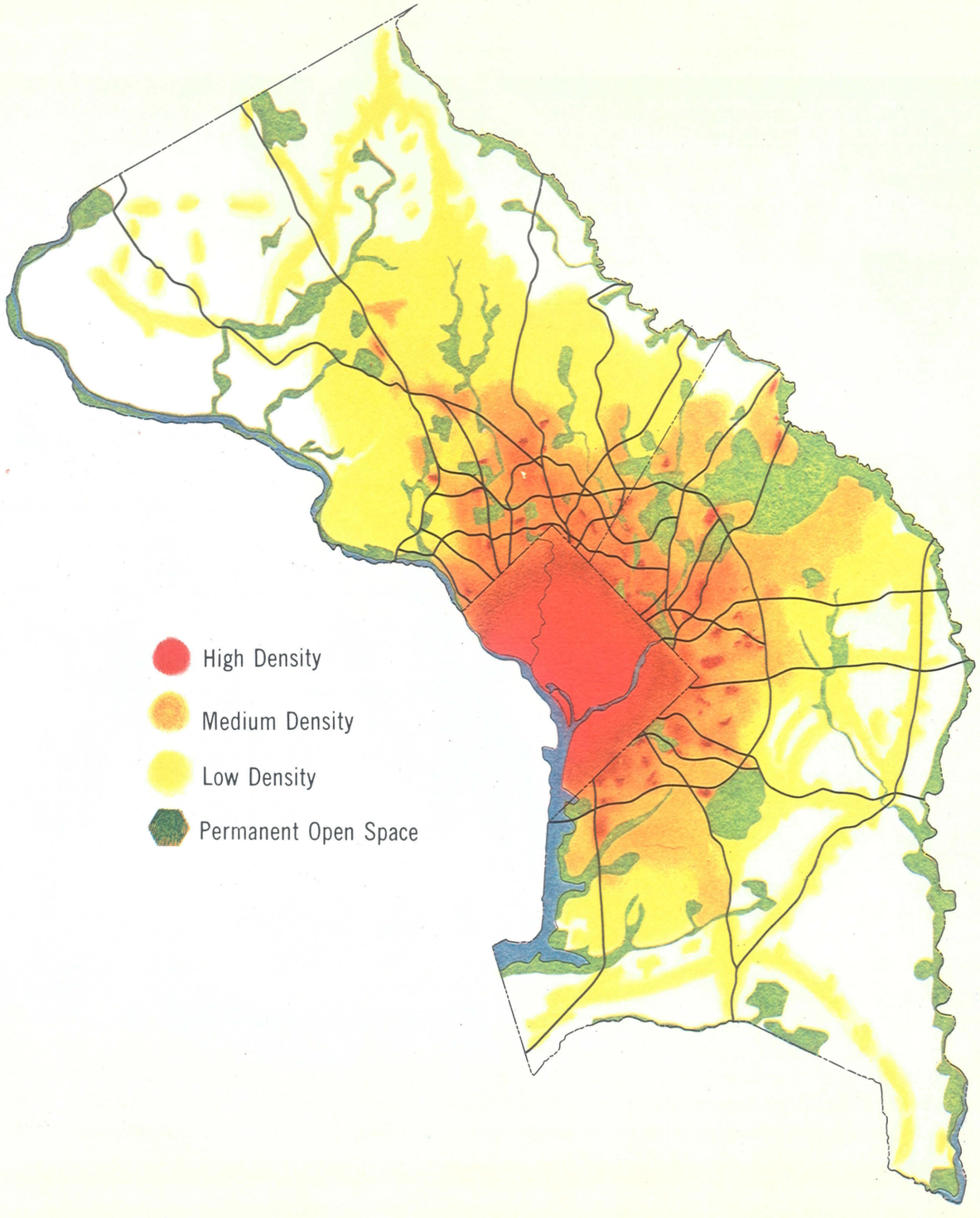
Under the sprawl pattern of development, new growth would follow its present trend of expanding outward in all directions at low densities, seeking always the lowest priced land. Sprawl takes place naturally in the absence of energetic and coordinated public policies to guide new growth. The problems that have been created by sprawl in the past would be magnified in the future if this pattern is allowed to continue.

Sprawl is characterized by scattered urban development, "septic villages" without adequate public facilities, unpredictable demands for service which can only be met by catching-up after a period of inadequacy, increased costs for public services, and the dominance of private automobiles. As a result taxes continue to go up; rush-hour traffic gets worse; public transportation is too slow and infrequent; living environments become inconvenient and less pleasing than they should be. Knowing what development will occur at any particular time and location is impossible.

Sprawl takes place in a series of hops, skips, and jumps leaving large amounts of undeveloped land between fully developed subdivisions. Emphasis at first is on single-family housing occupying low cost land, but the value of by-passed land rises, often to the point where it is no longer available for single-family use. Real estate taxes based upon the vacant condition of land, instead of its value for uses allowed under existing zoning, encourage landowners to hold on and seek more intensive zoning later. The inflated price of by-passed land is very often used to justify zoning changes contrary to public plans and the established character of the neighborhood. In this way individual land owners play the dominant role in determing the location of shopping centers, employment centers, and apartment projects. Community-wide planning tends to give way to individual initiative and the largely unrestricted forces of the real estate market. Thus the community ends up with development contrary to the convenient and harmonious plan it set out to follow. Sprawl is largely the result of permissive and even passive planning—planning by reaction rather than by initiation of positive public policies.

More than anything else, past experience with sprawl demonstrates that a more compact and stable form of development is necessary to satisfy the goals that should guide future development in the Regional District.

sprawl pattern



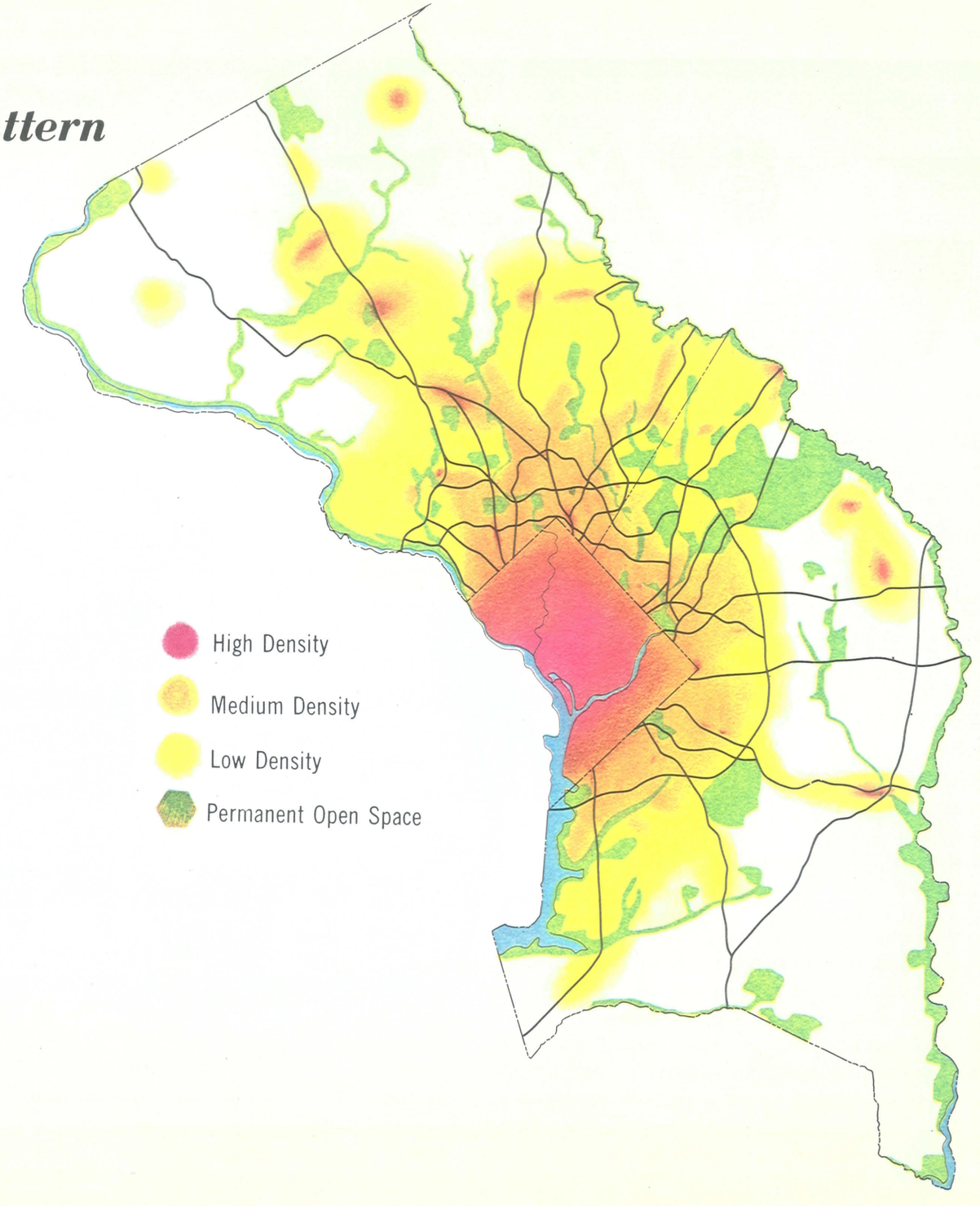
AVERAGE DENSITY PATTERN

In 1960 the Commission published and held public hearings on *A Preliminary Master Plan of Residential Land Use*. Although this plan was not adopted, it has been used as the basis for the average density development pattern. The term "average density" refers to the way in which the *Residential Land Use Plan* proposed various average residential densities for all parts of the Regional District, neighborhood by neighborhood, consistent with the need for urban land, the existing character of development, and topographic conditions influencing extensions of the gravity sewer system.

As an alternative to unlimited sprawl the average density development pattern might be characterized as controlled sprawl. The 1960 plan showed for the first time that much of the rural land in Montgomery and Prince George's Counties would not be needed for urbanization many years hence, even with a continuation of suburban building for relatively low numbers of families per acre. It attempted to set a pattern of urban concentration which would protect the rural areas from scattered urbanization; and it proposed that the natural tendency toward uniform and monotonous expansion of the suburbs be broken up and given variety by alternating areas of high and low densities. Limited use of rapid transit was proposed, but highway transportation was primarily relied upon. Although urban residences were clustered most heavily along major radial freeway and highway routes, there were for the most part no clear boundaries separating urban and rural areas. Finally, Germantown and Levittown were proposed as separate towns of moderate size outside the solidly urbanized area.

The average density development pattern is therefore an evolutionary stage between uncontrolled sprawl and the highly compact satellite and corridor patterns. It shows moderate urban concentration in a fuzzy corridor pattern with two rudimentary satellite cities beyond.

average density pattern



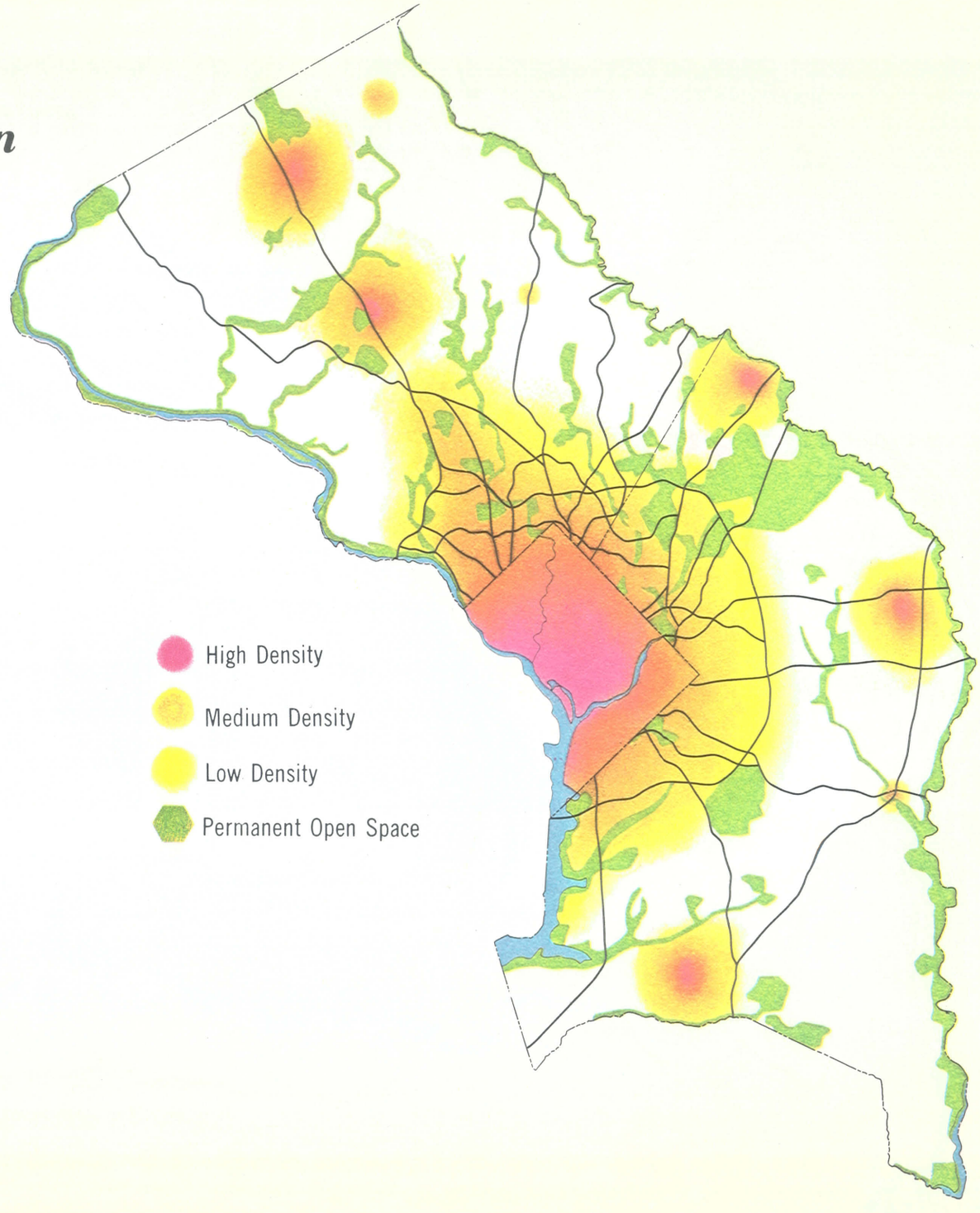
SATELLITE PATTERN

A satellite pattern of development would put much of the new urban growth into brand new cities some distance outside the presently urbanized area and separated from it by permanently rural country-side. The advantage of this pattern is that it would prevent the ceaseless urban expansion that so often engulfs everything in its path and leaves little if any large-scale open space within easy range of most urbanites. Occupants of a satellite city would have the further advantage of not feeling so lost in the mass; they would be encouraged to develop a feeling of identity with their separate satellite communities.

The specific satellite pattern shown here for the Regional District has five new cities of about 100,000 persons each. These new cities would have important advantages of unified and pleasant community design providing wide ranges of living environments and job opportunities. But they would still be considerably dependent upon the central city of Washington. Therefore, an efficient system of transportation including both freeways and rapid transit would be required. Recognizing this, the proposed satellites were located along the four radial freeway and rapid transit routes.

The Satellite pattern's biggest advantage, large expanses of open space on all sides, is also its biggest disadvantage. It increases the length of travel to the central city and it presents insurmountable problems of open space protection. The pressures for urbanization along the radial transportation routes between the satellites and the central city would be extremely difficult to withstand short of large scale public land purchasing.

satellite pattern



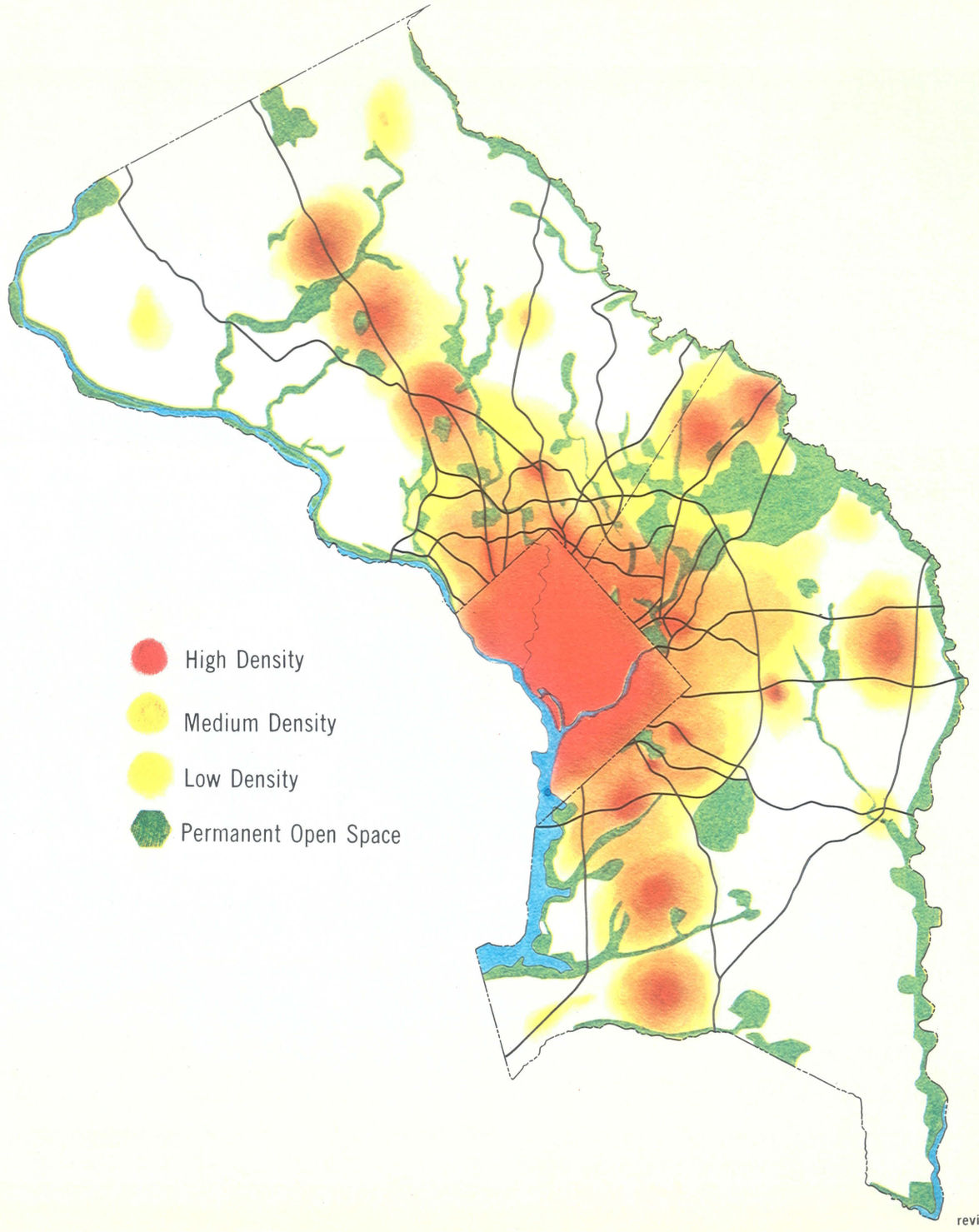
CORRIDOR PATTERN

Like the satellite pattern, the corridor plan concentrates new urbanization in well defined areas separated from the rural countryside. The chief difference is that the corridor pattern pulls the satellites closer together along the four major transportation routes. In this way, the corridor pattern retains the advantages of concentrated and well organized urbanization without trying to retain large open spaces along the corridor axis between centers of population. Thus, transportation to the central city is facilitated while implementation problems are reduced.

The new corridor cities with about 100,000 people each will provide convenient services, pleasant living conditions and wide ranges of choice among housing types and job opportunities. Additional services and choices will be available along the radial transportation routes centering on downtown Washington where the greatest number of employment, business and social opportunities concentrate. The need for circumferential travel between corridors will be restricted largely to limited access beltways.

Efficient rapid transit depends upon relatively few highly traveled routes supported by closeness of residences and businesses to its stations, frequent service, fast and comfortable equipment. It is only under these conditions, found in the corridor pattern and to a somewhat lesser extent in the satellite pattern, that rapid transit will be attractive to a large enough number of people so that the insatiable need for highways and freeways can be brought under control.

corridor pattern



EVALUATION OF ALTERNATIVES

In weighing the advantages and disadvantages of these four alternative patterns of development it is best to compare them directly with each other in terms of whether they would help or hinder achievement of the goals set forth in Chapter 1.

USE LAND EFFICIENTLY.

The aimless, scattered pattern of sprawl, with its extravagant leap-frogging and overemphasis on larger and larger residential lots, obviously hinders the efficient use of land. The average density pattern might be called neutral in achieving the goal of efficient land use, since it reduces aimless scattering, but it does not encourage and could not accommodate high density commercial and residential areas such as those which would be built in the cores of new corridor or satellite cities. Both the satellite and corridor patterns make positive contributions toward achieving the efficient use of land.

ENCOURAGE AN ORDERLY CONVERSION OF UNDEVELOPED LAND TO URBAN USE.

The sprawl pattern, with its traditional over-zoning and leap-frogging, is diametrically opposed to the achievement of this goal. The satellite pattern is not haphazard, but in its effort to separate new cities from the old, it contains both an element of leap-frogging, and a built-in threat of unplanned urbanization in the open space along the connecting transportation routes. The average density and corridor patterns extend previously developed areas in sequence and would therefore assist orderly conversion. Break-throughs of unplanned development into rural areas are least likely to occur in these two patterns.

PROTECT NATURAL RESOURCES AND ENCOURAGE THEIR PROPER DEVELOPMENT.

Sprawl's haphazard invasion of rural areas disrupts the rural environment and intrudes upon activities such as quarrying which become obnoxious in close quarters. Septic villages and disruption of storm run-off may occur under sprawl with too little warning for adequate watershed protection measures to be taken. Thus, both the lack of predictability and the wasteful use of land contribute to the tendency of sprawl to work against natural resource protection. By contrast, the concentration of urban uses and their predictable locations are characteristics of the other three patterns quite advantageous to conservation and rural development programs.

MAINTAIN LARGE OPEN SPACES.

Again the scattered pattern of sprawl works against the goal. An urban house, even a whole urban subdivision, may spring up almost anywhere under the sprawl pattern. Houses may line the rural highways giving the impression that an area is heavily developed while in reality only a small proportion is actually urbanized. The average density pattern would cut up open space into relatively small and unusable pieces by alternating large and small lot areas instead of consolidating residential areas and separating them from rural areas. Satellite and corridor patterns propose preservation of the largest possible rural open spaces within easy reach of most urban areas.

EXPAND OPPORTUNITIES FOR OUTDOOR RECREATION.

All four patterns of development would allow expansions of public park systems. But since an adequate expansion of outdoor recreation opportunities must rely to a great extent on private rural land, it must rely upon the protection and enhancement of rural areas. Here again sprawl is least adequate: average density is somewhere between; satellite and corridor patterns are most adequate.

FACILITATE THE ORDERLY AND EFFICIENT ARRANGEMENT OF PUBLIC UTILITIES AND SERVICES.

Preliminary cost studies up to 1980 have been made for sewerage systems, rapid transit, highways, libraries, fire stations, and schools. The capital cost of trunk sewers and pumping stations for the sprawl pattern is about $12 million more than for the other patterns. For rapid transit the corridor pattern would cost about $40 million more than either sprawl or average density, but $11 million less than the satellite pattern. For highways the sprawl and satellite patterns are most expensive, with the average density and corridor patterns significantly less expensive. There is very little difference in the cost of alternative library systems, but the population in the corridor and satellite patterns would be served much more conveniently than in the sprawl and average density patterns. Calculations for fire station systems show sprawl well above the other patterns in cost, with satellite about $1 million less, and the others another $500,000 lower. Balancing school bus costs against varying land costs under the four patterns, it appears that there would probably be very little net relative difference in capital costs between the alternatives. However, under the corridor plan more advance site purchase can be accomplished at no additional cost. Combining all these costs and the related character of service, both the satellite and sprawl patterns turn out to be considerably less efficient than either the corridor or average density patterns. After 1980 the corridor's advantage is expected to become even greater.

PROVIDE AN EFFICIENT SYSTEM OF TRANSPORTATION INCLUDING RAPID TRANSIT.

Aside from capital costs, already mentioned, operating subsidies and private costs are of vital importance to an efficient transportation system. Both depend to a large extent on convenience, for convenience is the greatest value of a transportation system. The sprawl and average density patterns allow population to disperse so much that convenient transportation for most people is possible only by extensive use of private automobiles. This raises private costs for second cars, operating expenses, and parking. It also means that a frequent rapid transit service, if possible at all, would get so little business as to require great subsidies. The corridor and satellite patterns on the other hand would increase the convenience and use of rapid transit, and support it with little or no subsidy. This in turn would reduce automobile costs and congestion.

ENCOURAGE GREATER VARIETY OF LIVING ENVIRONMENTS.

The largest possible variety of living environments depends upon the presence of rapid transit as well as an adequate highway and freeway system. High density cores of the new satellites and corridor cities should prove to be points of great interest, but at the same time would become points of great congestion without rapid transit. They would be unworkable with sprawl and average density patterns which must rely primarily on automobile transportation.

INVITE IMAGINATIVE URBAN DESIGN.

A great deal of imaginative urban design could take place under all four patterns. The satellite and corridor patterns, however, have the greatest possibilities because of their great variety and their greater reliance on rapid transit. Variety in modes of transportation, densities of urbanization, and the functional relationships between different land uses, stimulates imaginative design. Rapid transit will save vast expanses of urban land from the standard monotony of extra highway or freeway lanes and mammoth parking lots with row upon row of cars. Rapid transit will also encourage high quality rebuilding in older parts of the urban area where increased accessibility and value are created. In sharp contrast, excessive reliance on the automobile in the sprawl and average density patterns would diminish the effects of and opportunities for imaginative design.

ASSURE IMPLEMENTATION OF THE PLAN:

Sprawl is no problem at all to implement except for the tremendous highway construction program and the chronic catching-up required by the uncertainties of scattered development. These problems do not damage the form of sprawl, they only make living in it disagreeable. The average density pattern escapes the uncertainty of sprawl but is otherwise similar, so it is assured of reasonably good implementation. Putting the corridor pattern into effect is somewhat more difficult in that it calls for stronger control of open space and of the high density core areas, but it requires no unreasonable departure from existing procedures and growth trends. The satellite pattern, however, calls for all the controls needed for implementing the corridor pattern, plus an abrupt interruption of growth along major radial transportation routes. Breaking such a strongly established trend would prove very difficult, and perhaps impossible.

SUMMARY OF EVALUATION.

Summarizing the advantages and disadvantages of the four alternative development patterns in terms of the ten goals, the corridor pattern rates highest overall, with satellite second, average density third, and sprawl a poor fourth. The satellite pattern would have rated nearly as high as the corridor except that it was more expensive and harder to implement. The average density pattern has several advantages but they are offset by disadvantges. Sprawl's only advantage is its ease of implementation.

COMPARATIVE ANALYSIS OF DEVELOPMENT PATTERNS

Goals	Alternatives* Sprawl	Av. Den.	Satellite	Corridor
1. Use land efficiently	−	0	+	+
2. Encourage an orderly conversion of undeveloped land to urban use	−	+	−	+
3. Protect natural resources and encourage their proper development	−	+	+	+
4. Maintain large open spaces	−	0	+	+
5. Expand opportunities for outdoor recreation	−	+	+	+
6. Facilitate the orderly and efficient arrangement of public utilities and srvices	−	+	−	+
7. Provide an efficient transportation system including rapid transit	−	−	+	+
8. Encourage greater variety of living environments	−	−	+	+
9. Invite imaginative urban design	−	−	+	+
10. Assure implementation of the plan	+	+	−	+
Acceptance Factor	−8	+2	+4	+10

(Number of plus factors minus number of negative factors)

*+=positive contribution toward achievement of goal.
0=achievement of goal not decisively helped or hurt.
−=works against achievement of goal.

...on wedges and corridors

PART IV

Bibliography

URBAN PLANNING

Baltimore Regional Planning Council. . . . *Land-Use and Transportation.* Summary. Tech. Rpt. #7-S. Baltimore: Maryland State Planning Commission, 1960.

Chapin, F. Stuart, Jr. *Urban Land Use Planning.* New York: Harper, 1957.

Clawson, Marion, "Suburban Development Districts: A Proposal for Better Urban Growth," *The Journal of the American Institute of Planning,* Vol XXVI, No. 2 (May 1960), pp 69-83.

Denver Inter-County Regional Planning Commission. *Standards for New Urban Development.* Master Plan Rpt. #13. Denver: July 1960.

Edwards, William B. . . . *A General Study of Cluster Housing and its Problems.* A paper for Land-Use Planning Seminar, May, 1961.

Gibberd, Frederick. *Town Design.* New York: Rheinhold, 1953.

Haar, Charles M. *Land-Use Planning: a Casebook on the Use, Misuse and Re-Use of Urban Land.* Boston: Little, Brown & Co., 1959.

Higbee, Edward. *The Squeeze; Cities without Space.* New York: William Morrow, 1960.

Mandelker, Daniel R. *Green Belts and Urban Growth.* Madison: University of Wisconsin Press, 1962.

Maryland, Montgomery County. *Report of Committee on Awards for Best Subdivisions of the Year.* 1961.

Maryland-National Capital Park and Planning Commission. *Looking Ahead, 1958-1980;* A General Plan. Silver Spring: Aug. 1957.

McLean, Mary, ed. *Local Planning Administration.* Chicago: International City Managers Association, 3rd ed., 1959.

National Capital Planning Commission. *A Policies Plan for the Year 2000; The Nation's Capital.* Washington: National Capital Planning Commission and The National Capital Regional Planning Council, 1961.

Nelson, Richard L. and Aschman, Frederick T. *Real Estate and City Planning,* Englewood Cliffs, New Jersey: Prentice-Hall, 1957.

Stein, Clarence S. *Toward New Towns For America.* New York: Reinhold, 1956.

U.S. Congress (85th, 2d Sess.), Joint Committee on Washington Metropolitan Problems. *Land Planning Considerations in the Washington Metropolitan Area.* Washington: GPO, 1958.

"Vallingby, Cité Satellite de Stockholm," *L'Architecture d'Aufourd'heri* (Jan. 1956), pp. 66-68.

Webster, Donald H. *Urban Planning and Municipal Public Policy.* New York: Harpers, 1958.

RURAL PLANNING

Ahearn, Vincent P. Jr. *The Zoning Problem and its Significance to the Sand and Gravel Producer.* Washington: National Sand & Gravel Association, n.d.

American Forest Products Industries Inc. *Proceedings of the Forest Land-Use Conference.* Washington: Sept. 21-22, 1961.

Our Forest Bounty. Washington: 1961.

Why We Must Have Multiple Use Forest Management. Washington: 1961.

Bivens, John A., Jr. *Agricultural Land-Use in Metropolitan Areas,* A Master's Thesis. Atlanta: Georgia Institute of Technology, 1960.

Committee for Rural Development. *Forests in Rural Development.* Rural Resource Leaflet No. 2. Washington: GPO, 1957.

Connecticut. Department of Agriculture and Natural Resources. *A Local Conservation Commission for your Community.* Hartford: n.d.

Davision, E. K. *Some Thoughts on the Mineral Aggregate Industries.* Washington: National Sand & Gravel Association, 1961.

Greber, Jacques, "Ottawa's 'Rural Zone'," *Town and Country Planning.* Vol. XXX, No. 2 (February, 1962), p. 87.

Herfindahl, Orris C. "What is Conservation? . . ." *Reprint Number 30.* Washington: Resources for the Future, August, 1961.

Maryland. Board of Natural Resources. *Sixteenth Annual Report, 1959.* Annapolis: 1959.

Maryland. Board of Natural Resources. *Wetlands of Maryland.* Baltimore: Maryland Game and Inland Fish Commission, 1956.

Maryland. Board of Natural Resources. *Geology and Water Resources of Prince Georges County.* Bul. #10. Department of Geology, Mines and Water Resources. Baltimore: 1952.

Michigan. State University. Department of Agriculture Economics. *Effects of Suburbanization Upon Rural Land Use.* Tech. Bul. #253, in Cooperation with U.S.D.A., Agricultural Research Service, 1955.

National Sand and Gravel Association. *How Los Angeles Solved its Zoning Problem.* Washington: 1960.

Case Histories; Rehabilitation of Worked-Out Sand and Gravel Deposits. Washington: National Sand & Gravel Association, 1961.

New Jersey. Rutgers University Planning Service. *Rural Planning . . .* prepared for Rural Advisory Council, New Jersey Dept. of Agriculture. New Brunswick: 1961.

Schellie, Kenneth L. *What Land Planning Means to the Extractive Industry.* Washington: National Sand & Gravel Association, 1961.

Stocker, Frederick D. "Urbanization, Agriculture and Rural Government," *The County Officer,* Vol. 26 (March, 1961), pp 74-75.

U.S.D.A. *After a Hundred Years;* The Yearbook of Agriculture, 1962. Washington: GPO, 1962.

Food and Agriculture; A Program for the 1960's. Washington: GPO, 1962.

Grass Waterways in Soil Conservation. Leaflet #477. Washington: GPO, 1960.

Land; The Yearbook of Agriculture, 1958. Washington: GPO, 1958.

U.S.D.A. Economic Research Service. *Preferential Assessment of Farmland,* by Peter House. Washington: GPO, 1961.

Some Problems in Assessing Farmland in the Urban Rural Fringe, by Frederick D. Stocker. Washington: GPO, 1961.

Taxation of Farmland on the Rural-Urban Fringe,

ERS-13. Washington: GPO, 1961.
Talks on Rural Zoning, by Erling Solberg, A Series of Talks on Rural Zoning made Between 1951 and 1959. Washington: 1960.
U.S.D.A. Forest Service. *Forest Industry Opportunities in Rural Development.* Agr. Info. Bul. #22. Washington: GPO, 1960.
Managing the Small Forest. Farmers Bul. #1989. Washington: Rev. 1957.
Public Forestry Assistance for Small Woodlands. PA #409. Washington: GPO, 1959.
U.S.D.A. Land and Water Resource Policy Committee. *Preliminary Report on Land and Water Policy for the U.S.D.A.* Washington: GPO, 1962.
U.S.D.A. Soil Conservation Service. *Consultation on Land Use Planning and Technical Assistance on Non-Agricultural Land.* Gen. Memo. SCS-2 (rev.). Washington: GPO, 1961.
Facts About the Watershed Protection and Flood Prevention Act. (P.L. 566, as amended). Washington: GPO, 1957.
Soil Survey Montgomery County, Maryland. Washington: GPO, 1961.
U.S. Department of Interior. Mines Bureau. *Sand and Gravel,* by Perry G. Cotter and Jewel B. Mallory. Washington: GPO, 1961.
Stone, by Perry G. Cotter and Nan C. Jenson. Washington: GPO, 1961.
Virginia. Fairfax County Planning Division. *A Natural Resources Development Plan.* Fairfax: Master Plan Section, 1961.

PARKS, RECREATION AND OPEN SPACE

American Institute of Park Executives. *The Crisis in Open Land.* Bulletin produced as a result of a Park Education Workshop meeting held at Michigan State University, Feb. 9-13, 1959.
Baltimore Regional Planning Council. *Standards for Parks, Recreation Areas and Open Spaces.* Tech. Bul. #2. Baltimore: Maryland State Planning Commission, Nov. 1958.
Butler, George D. *Recreation Areas;* Their Design and Equiment. 2nd ed. New York: Ronald Press, 1958.
Clawson, Marion. "The Crisis in Outdoor Recreation," *American Forests* (March and April, 1959). Reprint #13. Washington: Resources for the Future, Inc.
Ledermann, Alfred and Trachsel, Alfred. *Creative Playgrounds and Recreation Centers.* New York: Frederick A. Praeger, 1960.
Maryland-National Capital Park and Planning Commission. *Master Plan of Schools, Parks, Recreation.* Silver Spring: 1956.
Planning Conference on Open Spaces. Silver Spring: April, 1961.
Outdoor Recreation Resources Review Commission. *Outdoor Recreation for America.* Washington: GPO, 1962.
Pennsylvania. University. Fels Institute of Local and State Government. *The 'Preservation of Open Space in Suburban Municipalities.* Prepared for Tredyffrin Township Planning Commission. Philadelphia: Dec. 1959.
Slayton, William L. *The Open-Space Land Program of the New Frontier,* an address before the Penjerdel Open Space Conference, Cherry Hill Inn, Haddonfield, N. J.: 1961.
Solberg, Erling D. *Open Space Control,* an address before the Committee on Urban Research, Highway Research Board, Annual Meeting, Washington, D. C., Jan. 11-15, 1960. Washington: U.S.D.A. Agr. Res. Service, 1960.
Reserving Open Space for the Future, an address before the Organization of Cornell Planners, Fall Conference. Ithaca: Cornell University, Nov. 19, 1960.
U.S.D.A. Forest Service. *Starting a Community Forest.* Washington: GPO, 1950.
Williams, Wayne R. *Recreation Places.* New York: Reinhold, 1957.
Wright, Eber L. *Open Space and Density Control.* Cleveland: Case Institute of Technology, 1961.

COMMUNITY FACILITIES

American Library Association. *Public library service; a guide to evaluation with minimum standards.* Chicago: ALA, 1956.
Brown, Roscoe, Jr. *Predicting school enrollments.* Monograph #1. New York: School of Education, New York University, c1961.
California. Fresno City Planning Commission. *Land Use and the Fresno Air Terminal.* Fresno: 1959.
Cleveland. Metropolitan Services Commission. *A Study of Community Health Services in Cleveland and Cuyahoga County, Ohio.* Vol. I. Cleveland: Nov. 1957.
Educational Facilities Laboratories, Inc. *The Cost of a Schoolhouse.* New York: c1960.
Federal Aviation Agency. *Noise Abatement Procedures.* Washington: GPO, Nov. 1960.
Federal Housing Administration. *Dulles International and Andrews Air Force Base.* Circular Letter #56. Washington: April, 1961.
Green, Howard Whipple. *An analysis of location of Health Centers.* Cleveland: Cleveland Health Council. Feb. 1956.
Maryland-National Capital Park and Planning Commission. *Preliminary Master Plan of Libraries.* Sept. 1959.
The Ruberoid Company. *3rd Annual Design Competition Awards to Stimulate Long-Range Planning for Medical Care Facilities in the Community.* New York: 1962.
Saint Paul. City Planning Board. *Plan for Fire Stations.* Community Plan Rept. #11. Saint Paul: Nov. 1961.
Schenk, Gretchen Knief. *County and Regional Library Development.* Chicago: American Library Association, 1954.
Thompson, Richard G. *A Study of Shopping Centers.* Research Rpt. #16. Berkeley: Institute of Business & Economic Research, University of California, 1961.
Tulsa Metropolitan Area Planning Commission. *1975 Metropolitan Tulsa Airports and their Relationship with Surrounding Land Use.* Tulsa: June, 1960.
1975 Metropolitan Tulsa Fire Station Needs. Dec. 1959.
U.S. Department of H.E.W. *School sites;* Selection, Development, and Utilization, by James L. Taylor. Sp. Pub. #7. Washington: GPO, 1958.

TRANSPORTATION

Griffin, C. W., Jr. "Car Snobs, Commuters, and Chaos," *Harper's Magazine,* Vol. 224, No. 1346, (July, 1962), pp. 53-58.

Maryland-National Capital Park and Planning Commission. *Master Plan of Highways.* Silver Spring: 1953.

National Capital Planning Commission and National Capital Regional Planning Commission. *Mass Transportation Survey Report.* Washington: GPO, 1959.

Owen, Wilfred. *The Metropolitan Transportation Problem.* Washington: The Brookings Institution, 1956.

U.S. Congress (85th, 2d Sess.), Joint Committee on Washington Metropolitan Problems. *Metropolitan Transportation,* a staff report. Washington: GPO, 1958.

U.S.News and World Report. "The revolt against Big-City Freeways," Vol. LII, No. 1 (Jan. 1, 1962), p. 49.

Wingo, Lowdon, Jr. *Transportation and Urban Land.* Washington: Resources for the Future, 1961.

UTILITIES

California. Oakland Street Department. *Moving Ahead from Obsolete Overhead Wiring to Modern Undergrounding.* Oakland: Nov. 1961.

Planning for Public Works, prepared under the Direction of the Special Assistant to the President for Public Works Planning. Washington: GPO, 1957.

U.S. Army Engineer, Baltimore District. *Potomac River Basin Study.* Information Bulletin. Baltimore: 1961.

U.S. Congress (85th, 2d Sess.), Joint Committee on Washington Metropolitan Problems. *Metropolitan Water Problems,* a staff report. Washington: GPO, 1958.
Sewage Disposal and Water Pollution, a staff report. Washington: GPO, 1958.
Water Supply, a staff report. Washington: GPO, 1958.
Water Supply and Sewage Disposal, a staff report. Washington: GPO, 1958.

Wolman, Abel, Geyer, John C., and Beavin, Benjamin. *Patuxent Regional Sewerage Report.* Baltimore: 1961.

Wolman, Abel, and Geyer, John C. *Report on Sanitary Sewers and Waste Water Disposal in the Washington Metropolitan Region.* Baltimore: 1962.

POPULATION, ECONOMIC AND SOCIAL TRENDS

Automobile Manufacturers Association, Inc. *Automobile Facts & Figures.* Detroit: 1962.

American Forest Products Industries, Inc. *Maryland Forest Facts: 1960 edition.* Washington: 1960.

Bogue, Donald J. *The Population of the United States.* Glencoe: The Free Press, 1959.

Clapp, Raymond F. *Metropolitan Washington Population Trends in the Sixties.* Washington: National Capital Planning Commission, National Capital Regional Planning Council, Government of the District of Columbia, 1962.

Clawson, Marion Held, R. Burnell & Stoddard, Charles H. *Land for the Future.* Baltimore: Johns Hopkins Press, c1960.

Council for Economic & Industry Research, Inc. *Economic Base Study for the General Development Plan, National Capital Region.* Washington: June, 1956.

Dewhurst, J. Frederic and Associates. *America's Needs and Resources.* New York: The Twentieth Century Fund, 1955.

Hauser, Philip M., "The Census of 1960," *Scientific American,* Vol. 205, No. 1 (July, 1961).

Pfouts, Ralph W., ed. *The Techniques of Urban Economic Analysis.* West Trenton: Chandler-Davis Publishing Co., c1960.

"Survey of Buying Power," *Sales Management,* Vol. 84, No. 2 (July 10, 1960), Vol. 86, No. 10 (May 10, 1961). Entire issues.

Maryland. Department of Forest and Parks. *The Forests of Montgomery and Prince George's Counties,* by A. R. Bond. Annapolis: 1961.

Maryland State Soil Conservation Committee. *The First 20 Years.* College Park: 1958.

Maryland University. *Maryland Agricultural Trends, by Counties, 1900-1960,* by A. B. Hamilton. College Park: Dept. of Agricultural Economics, Mis. Ext. Pub. #60, 1961.

Maryland University. Agricultural Experiment Station. *An Economic Study of Maryland Tobacco Farms,* Mis. Pub. #311. College Park: 1957.

U.S.D.A. Forest Service. *The Timber Resource in Maryland.* Upper Darby: Northeastern Forest Experiment Station, 1955.

U.S. Bureau of Census, *U.S. Census of Business, 1958 and prior years, Selected Services, Maryland.* Washington: GPO, 1960.
Retail Trade, Maryland. Washington: GPO, 1960.
Wholesale Trade, Maryland. Washington: GPO, 1960.
Manufacturers, Maryland. Washington: GPO, 1960.
"Construction Reports, Authorized Construction—Washington, D. C. Area," C41-5, Feb. 1960, C41-26, Oct. 1961.
U.S. Census of Population: 1960. General Social & Economic Characteristics, Maryland. Final Rept. PC (1)-22C. Washington: GPO, 1961.
U.S. Census of Housing: 1960. Vol. I, States & Small Areas, Maryland. Final Rept. HC (1)-22. Washington: GPO, 1962.

U.S. Department of Commerce. Office of Business Economics. *Economic Base Survey of the Potomac River Service Area.* Washington: GPO, 1961.

U.S. Congress (85th, 2d Sess.), Joint Committee on Washington Metropolitan Problems, *Economic Development in the Washington Metropolitan Area,* a staff study (A Committee Print). Washington: GPO, 1958.

INTERGOVERNMANTAL RELATIONS

Advisory Commission on Intergovernmental Relations. *Governmental Structure, Organization, and Planning in Metropolitan Area.* U.S. Congress (87th, 1st Sess.). House of Representatives, Committee on Government Operations. Washington: GPO, 1961.

The Commission on Intergovernmental Relations. *A Report to the President for Transmittal to the Congress.* Washington: GPO, 1955.

Connery, Robert H. and Leach, Richard H. *The Federal Government and Metropolitan Areas.* Cambridge: Harvard University Press, 1960.

U.S. Congress (85th, 2d Sess.). Joint Committee on Washington Metropolitan Problems. *The Governing of Metropolitan Washington,* a staff study. Washington: GPO, 1958.

U.S. Congress (86th, 1st Sess.). Joint Committee on Washington Metropolitan Problems. *Meeting the Problems of Metropolitan Growth in the National Capital Region:* Final Report. Washington: GPO, 1959.

U.S. Congress (87th, 1st Sess.). House of Representatives, Committee on Government Operations. *Government in Metropolitan Areas:* Commentaries on a Report by the Advisory Commission on Intergovernmental Relations, A Committee Print. Washington: GPO, 1961.

POPULATION, BY PLANNING AREA
MONTGOMERY AND PRINCE GEORGE'S COUNTIES
1960, 1980, 2000

MONTGOMERY COUNTY

PLANNING AREA		POPULATION		
NO.	NAME	1960	1980	2000
I	Burtonsville	5,302	22,631	37,681
II	Olney	18,015	48,565	83,463
III	Rockville	28,055	75,316	106,867
IV	Potomac	2,700	21,782	39,846
V	North Bethesda	32,875	66,889	97,120
VI	Bethesda	60,862	81,165	104,105
VII	Kensington–Wheaton	72,129	85,362	98,098
VIII	Four Corners–Colesville	27,063	59,605	80,542
IX	Silver Spring	42,066	47,009	59,575
X	Takoma Park	24,826	27,275	32,188
	Barnesville	2,071	2,200	8,296
	Clarksburg	3,136	9,829	41,448
	Damascus	4,488	11,822	25,188
	Darnestown	4,100	6,699	12,471
	Gaithersburg–Washington Grove	9,187	67,050	139,185
	Laytonsville	2,133	6,339	22,550
	Poolesville	1,920	3,900	6,377
	Total County	340,928	643,438	995,000

PRINCE GEORGE'S COUNTY

PLANNING AREA		POPULATION		
NO.	NAME	1960	1980	2000
X	Takoma–Langley Park	49,255	75,719	86,457
XI	Beltsville	8,830	21,789	39,979
XII	Lanham–Bowie–Belair	12,911	66,518	131,683
XIII	Hyattsville–College Park	74,260	111,597	127,853
XIV	Bladensburg–Defense Heights	43,191	80,457	98,153
XV	Largo–Belair	3,962	37,472	82,072
XVI	Seat Pleasant	37,729	72,373	89,622
XVII	Suitland–District Heights	38,884	77,426	100,028
XVIII	Oxon Hill	42,763	122,067	148,213
XIX	Andrews A.F.B.	3,428	3,428	3,428
XX	Largo, South	3,840	5,824	8,204
XXI	Laurel	11,276	44,186	106,674
XXII	Fort Washington	4,788	20,095	31,674
XXIII	Clinton	3,913	20,880	63,710
	Marlboro	3,305	9,708	13,703
	Brandywine	8,084	14,094	41,041
	Accokeek	3,448	5,507	14,565
	Naylor	1,910	1,961	2,580
	Aquasco	1,618	1,784	2,348
	Total County	357,395	792,885	1,191,987

planning areas

INVENTORY OF ZONING IN ACRES BY PLANNING AREA
ZONE—DESCRIPTION

Montgomery County	R-A Agri. Res.	R-E Res. Estate	R-R Rural Res.	R-90 One-family Det. Rest. Res.	R-60 One-family Det. Res.	R-40 One-family Semi-Det. and 2-family	R-30 Multi-family Low Dens. Res.	R-20 Multi-family Med. Dens.	R-10 Multi-family High Dens.	C-0 Comm. Office	C-1 Local Comm.	C-2 Gen. Comm.	I-1 Light Ind.	I-2 Heavy Ind.	I-3 Ind. Park	TOTAL (excluding water and islands)	Water	Islands	TOTAL LAND AND WATER
I. Burtonsville	8,905		7,686							1	12	7				16,611	249		16,860
II. Olney	16,459		16,683	1,176	815		12				58	18	5			35,226	222		35,448
III. Rockville	42	950	7,597	1,206	1,722	16		126		3	18	279	763	17		12,739			12,739
IV. Potomac	7,219		4,098	1,593							23					12,933	701	263	13,897
V. N. Beth.			2,925	3,510	2,846		243		54		40	62	191		35	9,906			9,906
VI. Bethesda			848	2,340	6,122	1	97	9	98	6	40	115	10	74		9,760	580	93	10,433
VII. Kens.-Wheaton			720	2,934	5,290	73	37	50	18	15	40	86	12			9,275			9,275
VIII.* Four Cor.-Colesville	2,238		4,717	3,519	1,854					2	51	17	90	138	90	12,716*			12,716*
IX. Silver Spring				215	3,585	1	45	78	162	12	10	100	68			4,276			4,276
X.* Takoma-Langley				79	1,277	52	76	18	75		13	19				1,609*			1,609*
Barnesville	2,870		20,875								13			360		24,118			24,118
Clarksburg			24,350								7	3		140		24,500			24,500
Damascus	2,718		17,797		1		4				7	31	2			20,560			20,560
Darnestown	17,097	540	14,550								28	1		220		32,436	1,432	666	34,534
Gaiths-Wash. Gr.	1,848		20,517	548				78	33		36	91	296	53	165	23,665			23,665
Laytonsville	6,400		20,526				2				7		137			27,072			27,072
Poolesville	11,500		26,737								10			60		38,307	2,624	1,301	42,232
Mo. Co. Total	77,296	1,490	190,626	17,120	23,512	143	516	359	440	39	413	829	1,574	1,062	290	315,709	5,808	2,323	323,840
% of Total	23.87	.46	58.86	5.29	7.26	.04	.16	.11	.14	.01	.13	.25	.49	.33	.09	97.49	1.79	.72	100.00

*Montgomery County Portion

Prince Georges County	R-R	R-80	R-55	R-35	R-20	R-18	R-10	R-P-C	C-0	C-1	C-2	I-1	I-2	TOTAL LAND ZONED	Outside Mwrd	Water	Island	TOTAL LAND AND WATER
VIII.* Fours Cor.-Colesville	157													157*				157*
X.* Takoma-Langley	1,686		2,270	168		436	6		1	189	15			4,771				4,771*
XI. Beltsville Res. Cen.	11,495		23			91			1	28	68	24	248	11,978				11,978
XII. Lanham-Seabk-Glendale	33,914		107			37				18	102	119	165	34,462				34,462
XIII. Hyattsville-College Park	4,900		3,192	44	5	724	54	2,188	24	183	351	256	269	12,190		97		12,287
XIV. Bladensbg-Def. Hts.	2,407		4,113	128		331	75	54	5	248	156	201	115	7,833		51		7,884
XV. Largo	32,352									6	80			32,438				32,438
XVI. Seat Pleasant	6,803		1,383	295	57	420		64		107	122	665	327	10,243				10,243
XVII. Suitland	7,170		2,041	14		449	56			231	183	13	5	10,162				10,162
XVIII. Oxon Hill	13,064		777	278	12	389	14	91	2	130	212	126		15,095		2,155		17,250
XIX. Andrews AFB			4,306											4,306				4,306
XX. Largo So.			20,092											20,092				20,092
XXI. Laurel	8,984					147				18	30	160		9,339	846	101		10,286
XXII. Fort Wash.	11,808													11,808		1,732		13,540
XXIII. Clinton	11,043								6	32	70	25	114	11,290				11,290
Accokeek	17,116													17,116		1,813		18,929
Aquasco															19,891	1,339		21,230
Brandywine	14,129													14,129	19,801			33,930
Marlboro	16,662													16,662		115		16,777
Naylor															24,728	700		25,428
P. G. Co. Total	193,690		38,304	927	74	3,024	205	2,397	39	1,190	1,389	1,589	1,243	244,071	65,266	8,103		317,440
% of Total	61.02		12.07	.29	.02	.95	.06	.76	.01	.38	.44	.50	.39	76.89	20.56	2.55		100.00

*Prince Georges Co. Portion.

1960

INVENTORY OF LAND USE IN ACRES BY PLANNING AREA
MONTGOMERY AND PRINCE GEORGES COUNTIES

	Residential			Commercial		Industrial			Local Government	Park and Recreation	Institutions Federal Installations Other Open Areas	Vacant Forests Agriculture	Rights-of-way	TOTAL LAND AREA
	Single family	Two-family	Multi-family	Structural	Non-structural	Structural	Non-structural	Sand, Gravel Quarries						
Montgomery County														
I. Burtonsville	945	5		18	12	12	1	57	14	6	49	15,241	251	16,611
II. Olney	1,699	1		27	23	5	7		203	1,544	1,043	29,885	789	35,226
III. Rockville	1,505		33	54	73	40	197		155	166	832	9,103	581	12,739
IV. Potomac	856			9		3			20	1,016	586	10,537	169	13,196
V. N. Bethesda	2,136		24	13	39	6	9		216	441	767	5,267	988	9,906
VI. Bethesda	3,465	4	103	96	75	39	5		175	402	1,108	3,006	1,375	9,853
VII. Kens.-Wheaton	3,363	80	41	119	63	21			313	870	397	2,162	1,846	9,275
VIII.* Four Cor.-Colesville	2,175	1	2	26	28	18	7	178	140	785	1,312*	7,207	837	12,716*
IX. Silver Spring	1,360	2	283	83	55	29	14		138	424	228	838	822	4,276
X.* Takoma-Langley	468*	63*	186*	19*	2*	2*			41*	171*	60*	279*	318*	1,609*
Barnesville	556	1		5		1			120	78	11	23,039	307	24,118
Clarksburg	808	1		11					13		4	23,343	319	24,500
Damascus	1,248		4	18	5				50	72	20	18,876	267	20,560
Darnestown	1,318		1	5				295	70	180	59	30,746	428	33,102
Gaithers.-Wash. Gr.	571	2	14	78	3	17	18	7	149	442	874	20,805	685	23,665
Laytonsville	560		1	8	4				67	158	396	25,526	352	27,072
Poolesville	536		1	8		6			956	31	2	37,570	498	39,608
Mont. Co. Total	23,569	160	694	597	382	199	258	537	2,840	6,786	7,748	263,430	10,832	318,032
% of Total	7.28	.05	.21	.18	.12	.06	.08	.17	.88	2.09	2.39	81.35	3.35	98.21
*Montgomery County Portion														
Prince Georges County														
VIII.* Four Cor.-Colesville											157*			157*
X.* Takoma-Langley	1,070*	81*	254*	45*	62*	2*			182*	473*	127*	1,870*	605*	4,771*
XI. Beltsv. Res. Cen.	586	11	7	50	20	58	39	180	47	44	5,573	5,053	310	11,978
XII. Lanham-Sea.-Br.-Glendale	1,781			59	153	10		67	8	16	8,416	23,294	658	34,462
XIII. Hyatts.-Coll. Pk.	2,059	78	425	275	105	132	30	6	179	1,650	1,827	4,384	1,040	12,190
XIV. Bldnsbg-Def. Hts.	1,800	60	68	77	21	134			100	605	109	3,623	1,236	7,833
XV. Largo	525		1	19	5	8	29	39	1	8	23	31,326	454	32,438
XVI. Seat Pleasant	1,207	148	120	76	32	131	90	73	121	30	203	7,417	595	10,243
XVII. Suitland	1,522	31	155	105	83	20	19	339	138	178	821	6,196	555	10,162
XVIII. Oxon Hill	2,159	191	162	93	278	7	6	136	215	303	336	10,434	775	15,095
XIX. Andrews AFB	3										4,258	10	35	4,306
XX. Largo (So.)	694	4	2	22	17		49	215	6		8	18,800	275	20,092
XXI. Laurel	554	19	58	32	33	19	62	211	90	4	332	8,552	219	10,185
XXII. Fort Wash.	815			24	52	8	106		16	11	531	10,040	205	11,808
XXIII. Clinton	698	1	1	20	41	9	12	135	41	2	109	10,074	147	11,290
Accokeek	787	2		16			50		5	11	29	15,987	229	17,116
Aquasco	422			10		4		3	11	542	318	18,323	258	19,891
Brandywine	1,617	3	5	36	2	1	16	251	1,134	546	2,500	27,434	385	33,930
Marlboro	479	2	6	18	6	39	12		30	13	26	15,808	223	16,662
Naylor	55	1		9		2	14		7		31	24,288	321	24,728
P. G. Co. Total	18,833	632	1,264	986	910	584	534	1,655	2,331	4,436	25,734	242,913	8,525	309,337
% of Total	5.93	.20	.40	.31	.29	.18	.17	.52	.73	1.40	8.11	76.52	2.69	97.45
M. C. & P. G. Total	42,402	792	1,958	1,583	1,292	783	792	2,192	5,171	11,222	33,482	506,343	19,357	627,369
% of Total	6.61	.12	.31	.25	.20	.12	.12	.34	.81	1.75	5.22	78.96	3.02	97.83
*Prince Georges County Portion														

SUMMARY TABLE
POPULATION, HOUSING UNIT DATA

Prince George's County

	1935	1940	1945	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000
1 Total Population	72,665	89,490	121,600	194,182	277,848	357,395	501,337	623,700	722,000	792,900	893,700	1,007,500	1,102,600	1,192,000
2 Household Population	70,000	85,653	116,000	185,066	267,500	346,921	486,685	605,400	700,800	769,700	867,500	978,000	1,070,300	1,157,100
3 Total Housing Units	17,676	22,348	32,126	54,394	77,654	99,617	146,600	186,400	219,500	244,500	277,350	314,200	345,100	373,000
4 1 & 2 Family Units	16,946	21,090	28,754	39,188	59,214	75,219	96,600	117,400	135,500	150,500	167,500	187,500	204,500	219,500
5 Apartments	730	1,258	3,372	15,206	18,440	24,398	50,000	69,000	84,000	94,000	109,850	126,700	140,600	153,500
6 Percent Apts.	4	6	10	28	24	25	34	37	38	39	40	40	41	41
7 Persons per H U $\left(\frac{\text{Item 2}}{\text{Item 3}}\right)$	3.96	3.83	3.61	3.40	3.44	3.48	3.32	3.25	3.19	3.15	3.13	3.11	3.10	3.10

Montgomery County

1 Total Population	61,055	83,912	110,945	164,401	257,633	340,928	425,066	508,100	581,200	643,300	730,500	832,000	916,800	995,000
2 Household Population	59,945	82,317	107,559	160,271	253,681	337,151	420,357	502,500	574,800	636,200	722,400	822,900	906,600	984,000
3 Total Housing Units	16,043	23,255	31,078	47,199	73,474	97,141	123,600	149,900	173,000	192,600	220,600	253,000	280,200	304,200
4 1 & 2 Family Units	15,149	21,198	27,281	39,752	62,531	80,665	96,000	111,900	126,000	138,600	155,600	176,000	193,200	208,200
5 Apartments	894	2,057	3,797	7,447	10,943	16,476	27,600	38,000	47,000	54,000	65,000	77,000	87,000	96,000
6 Percent Apts.	6	9	12	16	15	17	22	25	27	28	29	30	31	32
7 Persons per H U $\left(\frac{\text{Item 2}}{\text{Item 3}}\right)$	3.74	3.54	3.46	3.40	3.45	3.47	3.40	3.35	3.32	3.30	3.27	3.25	3.24	3.23

Population
Maryland Bi-County Growth as a Percent of Washington Regional & Metropolitan Growth

	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000
National Capital Region	429,327	494,980	623,824	722,167	1,023,626	1,531,263	2,096,662	2,944,800	3,638,400	4,376,000	5,000,000
Washington Metro Area	378,605	445,401	571,882	672,198	967,985	1,464,089	1,989,377	2,713,800	3,251,400	3,876,000	4,430,000
Bi County Area	60,349	68,236	78,268	109,301	173,402	358,583	698,323	1,131,800	1,436,300	1,839,500	2,187,000
% of Region	14	14	13	15	17	23	33	38	39	42	44
% of Metro	16	15	14	16	18	24	35	42	44	47	49

Note: The Metro Area (Standard Metropolitan Statistical Area as defined by the U. S. Bureau of the Census) consists of the District of Columbia; Montgomery, Prince George's, Arlington & Fairfax Counties; and the independent cities of Alexandria, Falls Church and Fairfax. The Nat. Cap. Region (as defined by the U. S. Congress in the National Capital Planning Act of 1952) includes in addition, Loudoun and Prince William Counties. Though not officially within the Region at this time, Charles County was added for the purposes of this study since it is contemplated that it will be included by the year 2000.

BI-COUNTRY ZONING SUMMARY—1960

M. C. Zone	M. C. Total	P. G. Zone	P. G. Total	M. C. & P. G. Total**	% of Total	Type of Zone	M. C. & P. G. Total	% of Total
R-A	77,296			77,296	12.05			
R-E	1,490			1,490	.23			
R-R	190,626	R-R	193,690	384,316	59.93	Residential Single Family	542,038	84.52
R-90	17,120	R-80		17,120	2.67			
R-60	23,512	R-55	38,304	61,816	9.64			
R-40	143	R-35	927	1,070	.17			
		R-20	74	74	.01	Res. Semi-Det. & Triple Attached	1,144	.18
R-30	516			516	.08			
R-20	359	R-18	3,024	3,383	.53	Res. Multi-Family	4,544	.71
R-10	440	R-10	205	645	.10			
		R-P-C	2,397	2,397	.37	Res. Pln. Comm.	2,397	.37
C-0	39	C-0	39	78	.01			
C-1	413	C-1	1,190	1,603	.25	Commercial	3,899	.61
C-2	829	C-2	1,389	2,218	.35			
I-1	1,574	I-1	1,589	3,163	.49			
I-2	1,062	I-2	1,243	2,305	.36	Industrial	5,758	.90
I-3	290			290	.05			
TOTAL ZONED LAND (excluding Water & Islands)				559,780	87.29		559,780	87.29
Land Area outside MWRD (not zoned)				65,266	10.18		65,266	10.18
Water				13,911	2.17		13,911	2.17
Islands				2,323	.36		2,323	.36
TOTAL LAND & WATER				641,280	100.00		641,280	100.00

**To obtain this total the following comparable zones were combined: Montg. R-R & P. G. R-R; Montg. R-90 & P. G. R-80; Montg. R-60 & P. G. R-55; Montg. R-40 & P. G. R-35; Montg. R-20 & P. G. R-18; Montg. R-10 & P. G. R-10; Montg. C-0 & P. G. C-0; Montg. C-1 & P. G. C-1; Montg. C-2 & P. G. C-2; Montg. I-1 & P. G. I-1; Montg. I-2 & P. G. I-2.

POPULATION TRENDS AND PROJECTIONS—U. S., NATIONAL CAPITAL REGION, AND ITS JURISDICTIONS

	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000
UNITED STATES	76,212,168	92,228,496	106,021,537	123,202,624	132,164,569	151,325,798	179,323,175	208,996,000•	245,313,000•	286,000,000†	329,000,000†
N. C. R.	429,327	494,980	623,824	722,167	1,023,626	1,531,263	2,096,662	2,944,800	3,638,400	4,376,000	5,000,000
D. C.	278,718	331,069	437,571	486,869	663,091	802,178	763,956	817,000	810,000	815,500	820,000
MONTGOMERY COUNTY	30,451	32,089	34,921	49,206	83,912	164,401	340,928	508,100	643,400	832,000	995,000
PRINCE GEORGES' CO.	29,898	36,147	43,347	60,095	89.490	194,182	357,395	623,700	792,900	1,007,500	1,192,000
FAIRFAX CO.*	33,108	35,865	40,003	49,413	74,452	167,879	363,697	575,000	780,100	961,000	1,135,000
ARLINGTON CO.	6,430	10,231	16,040	26,615	57,040	135,449	163,401	190,000	225,000	260,000	288,000
CHARLES CO.	17,662	16,386	17,705	16,166	17,612	23,415	32,572	63,000	107,000	144,000	174,000
LOUDOUN CO.	21,948	21,167	20,577	19,852	20,291	21,147	24,549	48,000	85,000	114,000	136,000
PRINCE WILLIAM CO.	11,112	12,026	13,660	13,951	17,738	22,612	50,164	120,000	195,000	242,000	260,000

• U. S. Census Projection Series B, Current Population Reports Series P-25, No. 279, Feb. 4, 1964.
† Middle Projections, Water Resources Activities in the U. S., Select Committee on National Water Resources (S. Res. 48) U. S. Senate, 86th Cong., 2nd Sess., Mar. 1960.
* Includes Alexandria, Falls Church and Fairfax Cities.
Other Sources, Yr. 1900–1960, U. S. Census; Yr. 1970–2000 projections, N.C.R.P.C., Md.N.C.P.P.C., and other official planning agencies of the National Capital Region.

notes

. . . . and finally our appreciation to:

These are organizations with which we had meetings during the preparation of this plan. We gratefully acknowledge their helpful comments and suggestions.

- Agriculture, U.S. Department of
  - Office of the Secretary
  - Agricultural Extension Service
  - Economic Research Service
  - Soil Conservation Service
- Allied Civic Group
- Bureau of the Budget
- Bureau of the Census
- Bureau of Public Roads
- D.C. Department of Highways & Traffic
- Federal Aviation Agency
- Federal Housing Administration
- General Services Administration
- Home Builders of Metropolitan Washington
- Housing & Home Finance Agency
- Interstate Commission on Potomac River Basin
- Maryland State
  - Board of Agriculture
  - Department of Assessment & Taxation
  - Department of Economic Development
  - Department of Game & Inland Fish
  - Department of Geology, Mines & Water Resources
  - Department of Forests & Parks
  - Department of Research & Education
  - Fire Underwriter's Rating Bureau
  - Natural Resources Institute
  - Planning Department
  - State Health Department
  - State Roads Commission
  - University of Maryland
  - Water Pollution Control Commission
- Maryland-Virginia Milk Producers Association
- Military Air Transport Service
- Montgomery County
  - County Council
  - Agricultural Stabilization Committee
  - Assessor
  - Civil Defense
  - County Architect
  - County Farm Agent
  - County Health Officer
  - County Librarian
  - County Manager
  - County Welfare Board
  - Department of Finance
  - Department of Public Works
  - School Board
  - Soil Conservation District
- Montgomery County Citizens Planning Association
- Montgomery County Civic Federation
- Montgomery County League of Women Voters
- Mortgage Bankers Association of Metropolitan Washington
- Municipalities
  - Mayor and Council of all incorporated areas and special districts in Montgomery and Prince George's Counties
- National Aircraft Noise Abatement Council
- National Capital Parks
- National Capital Transportation Agency
- National Sand & Gravel Association
- Planning Commissions
  - Alexandria City Planning Commission
  - Arlington County Planning Commission
  - Fairfax County Planning Commission
  - Howard County Planning Commission
  - Laurel Planning Commission
  - National Capital Planning Commission
  - National Capital Regional Planning Council
  - Northern Virginia Regional Planning & Economic Development Commission
  - Rockville Planning Commission
- Prince George's County
  - County Commissioners
  - County Librarian
  - Agricultural Stabilization Committee
  - Civil Defense
  - County Farm Agent
  - County Health Officer
  - Department of Public Works
  - Office of the Assessor
  - School Board
  - Soil Conservation District
- Prince George's County Civic Federation
- Prince George's County League of Women Voters
- Resources for the Future, Inc.
- Seneca Watershed Association
- Suburban Maryland Home Builders Association
- U.S. AF, Headquarters Command, Bolling Air Force Base
- U.S. Corps of Engineers
- U.S. Department of Defense (Army, Navy, Air Force)
- U.S. Department of Health, Education, Welfare
- U.S. Department of Mines
- U.S. Geological Survey
- U.S. Office of Emergency Planning
- U.S. Post Office Department
- U.S. Public Health Service
- Upper Rock Creek Watershed Association
- Washington Center for Metropolitan Studies
- Washington Suburban Sanitary Commission

POCKET MAPS

existing land use

existing zoning

the PLAN

M
NC
PPC