

RESTON, VIRGINIA

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TABLE OF CONTENTS

- I. RESTON MASTER PLAN: REPORT AND MAPS
- II. ZONING FOR A RESIDENTIAL PLANNED COMMUNITY
- III. THE ECONOMIC BASIS FOR RESTON

PREFACE

The demands of the modern age require new concepts in the development of new communities. One of the principal goals for Reston is to build a balanced community, with facilities and social organization that can help meet the human requirements of our civilization. Reston, comprising 10 square miles in Fairfax County, Virginia is designed to house, and, to the maximum extent possible, provide the means of livelihood for 75,000 people by 1980.

Modern automated technology, with its shorter work day and shorter work week, brings with it a greater emphasis on the use of leisure. Leisure can be barren and frustrating - if unused or misspent. But leisure can be constructive and rewarding - to individuals, to families, and to the community. Decisions as to use of leisure inevitably must be personal and individual - but it is far easier to use leisure well if leadership and facilities are available.

Reston plans to have both physical facilities and social leadership available to help its citizens employ their leisure. In the recreation areas alone, parks, lakes, golf courses and tennis courts, riding stables and bicycle paths, archery fields and countless other outdoor sport grounds are to be provided for every resident. Community centers in each village will contain indoor facilities both for recreation - gymnasiums, concert and exhibition halls, craft and photographic rooms - and for educational and vocational activities. Special attention will be paid to the needs and desires of the very young - the teenagers, the young mothers and the elderly. Careful planning of walkways, as distinct from roads, will make it possible for everyone to have the advantages of urban facilities in rural surroundings.

Spiritual and social leadership - both individual and group - must develop from the natural leaders among the individuals who make up the community. But an environment in which stimulation and guidance are provided can hasten the growth of leadership from the outset and prevent the long and all too frequent gap that comes between the occupation of the first houses, and the establishment of a stable community. Reston planners are working closely with appropriate church and other leaders in the belief that by such efforts this gap can be bridged.

The need for after-school education, vocational guidance, training and re-training for many individuals and groups of individuals is today of equal importance with the need for program. Parallel with the shortening of work hours for the heads of families is the growing desire for part-time work opportunities by women whose children (and house-work) no longer occupy them throughout the day; for older workers

who no longer can find or want full-time employment, and for young people whose schooling does not entirely fill their time. The plans for Reston call for experimental workshops in the community center (and in the research and development plants) as appropriate, greater use of school facilities and a positive approach to vocational guidance for all age groups, as well as part-time and after-school employment opportunities. The goal is a community of socially adjusted citizens which will provide a full life centered around neighborhood living, working, educational and recreational opportunities.

How the planners hope to attain these goals is presented in the following analysis of the Master Plan for Reston, the plan for the First Village, the legal framework which makes it possible for the project to be put into effect, and estimates of the economic potential of the available area.

RESTON MASTER PLAN REPORT

	<u>Page Number</u>
Relationship to Region	1
Planning Principles	1
Site Description	2
Housing	3
Education	5
Open Space and Recreation	6
Employment	6
Community Facility Plans	8
Utilities	9
Roads	9
Staging	10
School and Population Schedule	11
Land Use Statistics	12

Reston is one of
the NCPC new towns

The Year 2000 Plan for the Washington area prepared by the National Capital Planning Commission studies several alternate methods of development for the surrounding regions of Washington, D. C. Recognizing the population growth of three million that can be expected for the region, the study concludes that the development of new satellite towns arrayed in corridors out from Washington, represents the optimal pattern of population distribution. Between these new towns it will then be possible to preserve open country and a very low density of development. By concentrating the development of the population into distinct new towns, better methods of transportation, better planning for utilities and for schools are made possible.

Fairfax County to
have five urban centers

Reston is planned to be one of these new towns. The Fairfax County Master Plan now being completed, proposes that there be five urban centers in the western part of the county, one of these to be Reston-Herndon. These centers would receive new population resulting from growth of the county, and from decentralization of both population and industry from Washington, D. C. This Fairfax County Plan contemplates the development of balanced self-contained communities, and is an appropriate outgrowth from the master plan studies for the county which began in 1953.

75,000 people by
1980 is the projection
for Reston

Fairfax County is expected to increase by 425,000 between 1960 and 1980. The appropriate population for Reston has been considered by county planners within the framework of the total population growth expected for the county, and a figure of approximately 75,000 has been arrived at for the Reston Area. The planning of such a town requires far more responsibility and consideration than has characteristically gone into suburban development. The real purpose of building new towns of population concentration and surrounding open space is to provide a better structure for the life of the whole region. Thus, although the present planning report is concerned only with the planning of the town itself, the implications and benefits accrued will be felt throughout the entire county.

New towns permit
sensible regional
planning

Provision of a framework for population growth will assist in the planning of the whole region. The development of regional park systems will be facilitated. Their location and the timing of their development can be planned. The planning of the highways can be developed with greater assurance of their appropriateness for the future. School planning can be greatly facilitated by working within a known density framework. Regional utility plans can be developed with calculable future loads.

A new town can be
a better town

These largely quantitative considerations weigh heavily in the considerations of population distribution. But perhaps even more important are the qualitative factors. The plans

for Reston put greater emphasis upon the kind of life to be lived and upon the visual character of the community. Suburban sprawl with its characteristic problems is commonly criticized as much for its looks and life as it is for its traffic and school problems.

The Reston site
has 6,750 acres

The site for the new town of Reston lies to the east of Herndon, and consists of about 10 square miles of land in single ownership. The property is partially bordered by Route 7, the Leesburg Pike on the north, and is crossed by state Routes 602 and 606. The Washington International Airport Access Highway bisects the property, with the Airport 3 miles to the west. Fairfax is 5 miles south, and Washington, D. C. is 18 miles to the east.

Gentle slopes
characterize
the property

The site for Reston is pleasantly rolling land rising from an elevation of 250 feet in the east to about 460 feet in the western part of the property. Most of the land has gentle slopes, with about 28% having a slope of 10% or more. The property is dry and well-drained, partly because it is at the top of the watershed and partly because of the nature of the soil and underlying strata. The principal water courses are Snakeden Branch, The Glade and Colvin Run which drain the property toward the east into Difficult Run.

Oak stands and
lakes add to the
great natural beauty

Most of the property is now covered with existing stands of trees, with the dominant variety oak. Even the areas of the property which have been cleared usually contain occasional free-standing trees. Virtually no construction now exists on the site. The small cluster of buildings at Sunset Hills is the only exception.

In the southern portion of the property a lake exists at the juncture of the Glade and Snakeden Valleys. Numerous small hills and valleys and special stands of trees give variety and character to the land, and will become important and valuable features in the development of the town of Reston.

Access to Reston

The main approach to the community is from Routes 606 and 602 connecting to Route 7. Additional entrance points are provided from Route 674 and Route 665 to the south. If connections to the Airport Access Highway are completed, high speed vehicular travel will be possible directly to downtown Washington from the town. During the period of the development of the town, the outer circumferential may be constructed. Thus as the population of the town grows, vehicular access will be continually improved. Both the immediate means of access and the ultimate completed approaches lead to a focal point near Route 602 between Route 606 and the Airport Highway. This is the location indicated in the Master Plan for the major town center.

The Reston Master Plan

The Master Plan as described in this report and illustrated by the accompanying maps is for the development of a complete and balanced town which is planned to reach its population of about 75,000 by 1980. The plans and charts illustrate the land use patterns, the roads and utilities, and the school plans appropriate for this ultimate population. The overall population density of Reston will be 11 persons per acre. A total of 914 acres of land is reserved for employment areas.

A special plan for the structure of the town

The pattern of development of the residential portion of the town places great emphasis upon the visual and social form of the community. The ranges of recreational facilities will be very great, and these will be interwoven with residential areas. Housing facilities will include, in addition to single detached houses, many new types of grouped houses -- town houses, lake houses and hilltop houses. These housing types will be arranged in the plan in a new pattern. In order to avoid the vast and often monotonous areas characteristic of the low density edges of old towns and of suburbia, the Reston plan calls for the town to be structured with sinews of higher density housing types.

Sinews of form and activity

These sinews of higher density development will form the activity spines of the residential areas. In addition to the town houses located along their central walkways, all the village centers of activity will also be located along their route. These busy ways will lead to the local shopping center and to the schools. Along these walkways the pedestrian will have uninterrupted access to the full range of neighborhood facilities. These walks will have something of the busy life and character of a fine city street, with all of its visual and social interest, without its problems of automobile traffic.

The pedestrian gets his way

These sinews of life and activity will be within walking distance of almost every house in Reston. These walkways will, of course, be used by children and teenagers in their daily trips to school, by bicycle or walking.

Consideration has been given to the possibility of utilizing along these neighborhood ways new small forms of transportation vehicles compatible with pedestrians. If small individual transportation vehicles like the present golf buggies come into use, as has been predicted for the future, then these walkways would be ideally planned for their use. If small scale, slow-moving trainlike vehicles are developed, then they, too, could use these neighborhood walkways.

The residential areas of Reston will be developed at the following densities: low density areas at 3.8 persons per acre of gross residential area; medium density areas at 14 persons per acre per gross residential acre; and high density

sinews at 60 persons per gross residential acre.

Clustering gives form to medium density areas

The medium density areas are planned to make the maximum use of the available land and to minimize outdoor maintenance problems -- the bane of the suburbanite. Hence the houses, whether single-detached, or village houses (which are attached houses each having private front and rear gardens) will be grouped in compact clusters with maximum land areas on the private rear portions of the houses. By this means it will be possible to have wooded recreational space adjacent to the house, of far greater value to children and adults alike than useless front lawns. Some housing clusters will have parking facilities for adjacent houses grouped together, and some of the housing clusters will have common play space for younger children. Sizes and types of individual houses will be developed according to the projections of the market reports, and with the developing market. The clusters of houses will each have architectural coherence and group character.

Woods rather than lawns

Individually designed houses

In addition to the cluster housing, ample space will be available for individually designed houses. Many areas of special terrain, along lake fronts and elsewhere, are ideally suited to this kind of development.

The Reston plan calls for a higher proportion of town houses, attached houses, and other multiple housing facilities than now characteristically occurs in Fairfax County. A portion of these multiple housing facilities may in the future be in high-rise buildings. These higher density areas will have housing for a wide range of income groups and age groups. Special housing for the elderly will occur in these areas. All of these higher density areas will have superb access to schools and recreation.

Seven villages of 10,000 persons

The residential area of Reston is not strongly characterized by separate self-contained neighborhoods, but rather by the continuous interweaving of lakes and wooded areas, medium and low density housing areas into a complex fabric. But, on an approximate basis, Reston is served by 7 community shopping and social centers, and hence is divided roughly into 7 villages of 10,000 persons each.

Each has an individual form

These seven centers will each have a strongly individual character determined by their topography. Each is located on special ground and its architectural form is derived from this topography and natural features of the site. As numbered on the plan, First Village is located at the head of the new lake created by the dam in Colvin Run. It will have at its heart an exclusively pedestrian area, located at the water's edge, with shopping, churches and housing overlooking the lake and hills beyond.

Fifth Village is located on a high hill at the intersection of the Glade and Snakeden and has heavily wooded cliffs at its edges. The Sixth Village is planned around a natural valley which looks across from South Reston to North Reston and into the old Sunset Hills area.

The village centers will be lively

Each of the seven villages will have a center for convenience shopping, but this center is planned to be much more than the usual strip of stores. The area for these village centers will include about 15 acres for the population of 10,000, but within this area will also be uses other than the stores themselves. Housing will be built in the village centers, as well as churches and community buildings. These village centers will have direct pedestrian access to much of the village, as well as generous parking areas for automobiles. By building housing into the village centers, as well as other uses, the pedestrian walks and civic spaces will be kept lively and busy social foci of the whole village area.

15 elementary schools

The population of Reston will require, according to the best present projections, 15 elementary schools, each serving a population of about 5,000 people, and these schools will be placed near the center of their population group. Included in this number will be at least two parochial schools. Elementary schools are relatively more important in new communities than they are in old ones. This is due to the high number of children to be expected in any new town. The plan for Reston will provide for easy access for the children to their elementary school, and will place the school in locations which can be of broad service to the community. Particularly during the early stages of town development, these schools should be planned for maximum use of grounds and buildings by the community after school.

The Reston plan assumes an average of 10 acres for each elementary school, and of this, about 8 acres will be playgrounds and open space. Each elementary school site will be supplemented by an adjoining public park of at least five acres. It would be highly desirable for the elementary schools also to have kindergartens. At the present time, no public kindergartens exist in Fairfax County.

High schools and intermediate schools

Ultimately at least 8 secondary schools (intermediate and high) will be needed in Reston -- one of which should be a specialized technical high school, providing 13th and 14th years. In view of the new high school in Herndon and the additional schools planned for 1963, it will probably not be necessary to provide for a full Reston High School before 1964 or later. However, in order not to overcrowd the present intermediate school, there should probably be an intermediate school built by the time the first full village

is completed. The first elementary school should be ready almost as soon as the first families move in. The accompanying chart gives the distribution of population for the 15 planned elementary schools. Included is also the approximate population for each elementary school district.

Recreation, open
space and commons

With constantly increasing hours of leisure time in the future for the American people, provision of recreation space is of critical importance. Open space is only a part of recreation planning, but the site of Reston offers unique opportunities to build into the plan of a town, parks and wilderness areas as well as active recreation areas.

Both sports facilities and natural wooded areas

In the first area to be developed, a lake will be created which will become the heart of the village, and nearby will be an 18-hole golf course. A large sports park on ground that is already cleared will be built in the Third Village. In the southern portion of Reston the great natural valleys of the Glade and the Snakeden will be preserved as a natural park for hiking and horseback riding and other woodland activities. The National Recreation Association standard of 9.7 acres per 1,000 persons for public recreation areas will be exceeded in major open spaces alone.

Active recreation will be developed for each local area, as well as the sizable parks for the community as a whole. These neighborhood facilities will include playgrounds which may be adjacent to, or part of, the school playgrounds. They will include tennis courts and swimming pools, as appropriate. Horseback riding will be planned for throughout the park areas, with space provided for stables in several of the villages.

The cluster housing technique will make possible additional open space and access to park or "commons" as an integral part of the neighborhood life.

NRA standards
exceeded

The total land area devoted to recreation and open space, by all the elements of the community, thus will probably be about 20 acres per 1,000 persons within the area of Reston itself. The parks of Reston are planned to join and extend the regional park areas planned to be adjacent to portions of the town.

Plans for the
employment area

About 14% of the acreage of Reston will be reserved for the establishment of employment centers, which will include both industry and government. The required areas have been derived from the accompanying economic report, and are planned to provide employment opportunities for a large

Employment opportunities in both government and industry

portion of Reston residents. The areas chosen to be reserved for this purpose are generally in the western portion of the site, where the soils are less suitable for residential development and the ground is flatter, thus making it more appropriate to employment facilities than to housing. In addition to these areas, those portions of the property adjacent to the Washington and Old Dominion Railroad and the existing distillery are also reserved.

Town Center on Route 602

Industries of the type currently expanding in the Washington Metropolitan Area (research and development, printing and publishing) and light manufacturing (machine parts and electric components) are planned for. Industrial enterprises will be grouped into industrial parks.

Business and shopping areas will serve not only Reston but also nearby areas in the county. The most important shopping area, situated on a hill on the north section, will constitute the town center itself. One hundred acres are reserved for this purpose. In addition to this commercial area, many non-commercial uses will occur near this central shopping area, and an additional 50 acres is reserved for these. Besides the principal shopping facilities and office buildings, this central core area will contain an auditorium, a regional library, a museum, and many diverse forms of community space. Meeting rooms will be provided for both young and adult groups, for political conferences, professional committees and other social gatherings that will give vitality and strength to the new community.

The regional library

Plans for a regional library in the Reston Town Center coincide with the existing proposal of the Fairfax County Public Library Board of Trustees to establish a branch to serve the northern reaches of the county. The space sought (up to 30,000 square feet) will be reserved in the Town Center and detailed plans worked on as appropriate. In addition, rental space can be made available as desired by the Library officials in the first neighborhood, so that library facilities can be easily reached by early occupants of Reston.

Medical facilities to be established

Adjacent to the Reston Town Center is space for an inclusive Medical Center. Initial suggestions for medical facilities have been discussed with the Hospital and Health Center Commission of Fairfax County. Detailed plans not only for a voluntary hospital, but also for a medical and professional building, as well as nursing and related home care, and facilities for nurses' training will be developed as Reston and the surrounding communities grow in population. Appropriate land is also being reserved for a branch Public Health Center, to be established at such time as the State

public Health Director deems desirable. Space for health facilities and doctors' consulting rooms will also be available in neighborhood centers.

Leadership as well as buildings will be required

Social organizations and cultural and educational programs, so frequently lacking in "new communities", necessarily will depend upon the desires and leadership of the residents, but every effort is being made by the developers, in cooperation with the Welfare and Health Council of Fairfax County, to see that advance planning of physical facilities will further the best and earliest possible evolution of such programs.

In addition to the community space in the Town Center, community facilities are planned for each neighborhood. In the first instance, the Developer plans to provide a community center and have its facilities available as soon as the first houses are occupied. The experience gained from the first center will guide the design of future centers. In some cases the community centers can be sponsored by a church or individual group; varied organizations will undertake programs in the centers. Similarly, day-care centers for small children, as well as well baby clinics, may be included in such planning. At the other end of the spectrum, special housing for the elderly and day centers for senior citizens are included in the residential and community center planning. The best possible social guidance will be obtained in the development both of facilities and programs.

There is a need in the Washington Metropolitan Area for "conference" facilities, which would include housing and restaurant arrangements as well as conference rooms and organizational staff, and could be available for government meetings, executive training, university or international organizational sessions. Space for such a conference building and hotel is being reserved in Reston, close to the golf course.

30 or more churches will be required

The planning for places of worship in Reston is being worked out with representatives of the National Capital Area Council of Churches, with the Diocese of Richmond of Roman Catholic Church and other appropriate officials. Generally, the churches will be located along the busy walkways of the community and in the village centers. The size of individual church sites varies according to availability of parking areas, and amount of multi-purpose recreation, education and community activities included in their program. The value of church sponsorship of community activity programs is fully recognized and every effort will be made to assist in the design both of buildings and of program facilities.

Utilities

The development of Reston is integrally tied to the development of its utilities, and preliminary plans for water supply, sanitary sewers and storm drainage are included as part of the Master Plan.

Planning for water supply

There are two major sources of water available to Reston -- an existing 24" transmission line, the property of the City of Fairfax, paralleling the W. & O.D. Railroad, and a 14" main approximately one mile south of the Reston property at Floris Road. The water supply for Reston may be from either or a combination of these sources. A preliminary study of the Reston area, taking into consideration land use densities, indicates that major lines ranging in size from 8" to 18" will be required to guarantee this area an adequate, properly designed water supply system.

Sanitary sewers

The interceptor sanitary sewer line now being constructed from the District of Columbia to the Washington International Airport has been designed with capacity adequate to serve the drainage area through which it passes. It is planned that spur lines up Difficult Run and Sugarland Run as far as Route 7 will be constructed and completed at approximately the same time that the interceptor line itself is completed, the fall of 1963. All of the Reston property lies within the Difficult Run and Sugarland Run watersheds.

The Reston property in the Difficult Run watershed is divided into three smaller watersheds -- Colvin Run in the northern half and Snakeden Branch and the Glade in the southern half. The sanitary sewer line from Route 7 up to Colvin Run will be the first to be constructed and will serve the First Village.

Plans for storm drainage

In the development of Reston, the natural forest and ground cover will be preserved as much as possible throughout the project. Many of the streams and stream valleys will be left in their natural condition and runoff will be controlled by the use of lakes, retention basins and temporary siltation basins.

Plan for soil conservation

In many instances, much more than the flood plain itself will be preserved in order to retain the natural conditions. Reston has entered into an agreement with the Soil Conservation Service pledging cooperation in the control of erosion and runoff during and after the development of the town.

Road planning in Reston

The two major state highways within the Reston property, Route 602 and Route 606, are both planned to become major arterial roads. Route 606 connects to Route 7 and

to the airport. Route 602 joins Route 7 at the northern boundary of the property and goes south toward Fairfax. Route 606 is planned to have a r.o.w. of 160 feet and Route 602 will have a 110-foot r.o.w. Both will be four-lane divided highways.

A loop road is used as a major distributor for the town, connecting with 606 in the northern part of Reston and with 602 in the southern part. This distributor road will have a r.o.w. of 80 feet. Neighborhood collector roads will connect into this major loop and into the existing highways, and these will generally have 60-foot r.o.w.'s. In the southern portion of Reston an additional distributor road, roughly parallel to the Airport Access Highway, runs from Route 602 to Hunter Mill Road on the east.

Two crossings of the Airport Access Road will be required for the final development, and both of these must be four lanes. The estimate for the traffic volume across these two bridges is about 40,000 crossings per day when the population of Reston is 75,000.

Reston will grow as
the region grows

The rate of growth of Reston is dependent upon the growth rate of Fairfax County and of the Washington Metropolitan Area, as well as upon the marketing policies of the developer. Changes in transportation systems will also have marked effects upon the growth rate. Present projections indicate the population of 75,000 by 1980, with a figure of 30,000 to be reached by 1970.

The stages of
development

Construction is planned to begin in the area marked on the plan for the First Village. Several factors determine this location. The existing highway network provides good access to this portion of the property. The Colvin Run Valley makes possible the establishment of a sewer connection to the Difficult Run spur. The land in Colvin Run Valley is rich in topographic interest.

The first elements to be constructed will be recreational facilities -- the golf course and a new lake. The lake serves the additional purpose of assisting in the control of storm water. A variety of housing types, including town houses as well as single detached houses, together with elements of the village center will comprise the first building program.

ELEMENTARY SCHOOL DISTRICT PLAN

<u>School District</u>	<u>Population</u>	<u>Estimated Maximum Number of K-6 Pupils</u>
1	6,033	892
2	6,165	912
3	5,154	763
4	3,630	536
5	5,325	787
6	5,279	780
7	4,667	690
8	5,725	852
9	3,959	585
10	4,209	623
11	4,619	693
12	5,995	880
13	5,254	776
14	4,573	676
15	3,583	530
Totals	<u>74,170</u>	<u>10,975</u>

Note: Some school districts to include two elementary schools.

RESTON LAND USE AND POPULATION

	<u>Area</u>	<u>D.U./ Net Res. A.</u>	<u>No./ D.U.</u>	<u>Population per D.U.</u>	<u>Population</u>
Residential Sector (Net residential areas include minor roads and minor recreation)					
Low Density	2,003	1.16	2,320	3.7	8,574
Medium Density	1,613	5.0	8,065	3.7	29,840
High Density	455	28.5	13,000	2.5	32,846
Village Centers	110		1,100	2.5	2,750
Churches	105				
Golf Courses	253				
Elem. Schools	150				
Inter. & High Schools	150				
Post Grad. H.S.	42				
Lakes	83				
Parks	504				
Major Roads	186				
Cemetery	32				
Town Center	100		400	1.5	600
Hospital Complex	30				
Comm. Fac. at T.C.	20				
Employment Sector					
Industry	584				
Govt. Reserve	330				
Total Land Area	6,750				
Total No. of D.U.	24,885				
Total Population	74,250				

II.

ZONING FOR A RESIDENTIAL PLANNED COMMUNITY

(See accompanying text of Proposed Amendment to Fairfax County Zoning Ordinance to permit Residential Planned Community Districts).

ZONING FOR A RESIDENTIAL PLANNED COMMUNITY

The proposed RPC Zoning Amendment permits both greater flexibility for the planners of large-scale community developments and greater control by the Planning Commission and other delegated authorities. Its fundamental purpose is to make possible a better community plan with more useable open space, with greater variety of housing facilities and a greatly improved visual appearance for the community as a whole.

It is most important to note that RPC does not in any way increase the number of dwelling units or the population density of the development, but only permits a redistribution of the same facilities. Some of the specific advantages which this type of density zoning would permit in the development of Reston are as follows:

(1) RPC Zoning makes possible the separation of vehicular and pedestrian circulation, by providing walkways in areas which often will be separated from vehicular routes; safer travel is provided for children to and from school. The walkways of Reston, in addition, will be interesting and varied for adults as well.

(2) The Village Center: The Village Centers of Reston are intended to be real social centers for the various communities, and hence we plan to have housing in the Village Centers as well as the shops for convenient use. By introducing housing into the Village Centers, not only do we achieve a more significant visual form for the center, but we will also then be able to keep the Village Center a lively, active and vital center for the community. The RPC Zoning specifically permits the introduction of housing into the Village Center, with the shops generally on the ground floor and housing above.

The RPC Zoning also permits in the Village Center the placement of high-rise buildings on the lakes. These spots for high-rise buildings are very desirable, since they have a maximum of convenience and dramatic views. If the high-rise buildings were considered separately in the zone of their own, they would require large open spaces surrounding them, and hence both the convenience and drama of being close to the Village Center would be lost.

(3) Medium and High Density Residential Development: The Reston public factor is 42 per cent in comparison to previous Fairfax County standards of 20 per cent for past developments, and the present goal of 30 per cent for current developments. This high public factor means that an unusual portion of the total land area in Reston would be devoted to open space and a great variety of community

facilities. This high public factor is possible only within the context of density zoning. It is the proposal of the planners and developers of Reston that a far better community plan can be developed if the net lot area assigned to each individual housing facility is kept to a practical minimum with a higher proportion of the available land being put into public facilities. Traditional zoning, that is, zoning by lots inhibits the developer in the provision of public facilities. Density zoning encourages a high public factor. Density Zoning permits the combining of portions of open space normally associated with each building type into common space more usable and more attractive for the community as a whole.

The RPC Zoning also will make feasible a closer association of different building types than is possible under traditional zoning. Within a single cluster of family housing facilities, it is possible to combine individual houses, courtyard houses, town houses and other types in an intimate and varied combination. Regular zoning tends to group like housing facilities together, and hence produce monotony rather than variety.

The RPC Zoning will also permit a greater variety of building types, will permit the construction of new and better forms of attached family housing types.

(4) Low Density, Residential Development: The advantages of RPC Zoning are also significant in low density development. By clustering dwelling units and by combining open space, a far more open appearance can be created in the low density areas and far more trees and vegetation can be preserved.

III.

ECONOMIC BASIS FOR RESTON

SUMMARY OF ARTHUR D. LITTLE, INC.

PLANNING MEMORANDA

Assignment: At the request of Simon Enterprises, Arthur D. Little, Inc. analyzed the economic potential of Reston, Virginia, a 6750-acre tract in Fairfax County, 18 miles west of Washington, D. C., which Simon Enterprises proposes to develop as a balanced community.

Findings: The location of the site, the topography of the land, the likely increase in population, the prospective economic growth of the region, and the potential advantages of a carefully planned community combine to suggest that by 1980 Reston can be developed to house, educate, and employ a population of 75,000.

In cooperation with the project planners, it was determined that such a community should comprise residential neighborhoods, a business "core" offering facilities usually associated with regional shopping centers, and approximately 1000 acres devoted to light industry weighted toward research and development, in addition to at least one government installation. A community of 75,000 persons would be large enough to support, in addition to the appropriate primary and secondary schools and junior college, a regional hospital and neighborhood health centers, churches and other community facilities, such as a museum, library, auditorium and indoor recreational rooms, many of which would also serve the fast-developing surrounding region.

Basis for Findings:

1. Locational Considerations

The property lies approximately 18 miles west of downtown Washington, and 3 miles east of the new Dulles airport. A high-speed, limited-access highway linking Washington and the airport passes through the center of the site. The inner circumferential highway, now nearing completion, is close by. Leesburg Pike (Route 7) runs along the northern end of the site and leads directly to the inner circumferential as well as to downtown Washington.

The property occupies an area of pleasantly undulating land which has been described in detail in the report of the physical planners. One of its greatest assets is the fact that it consists of so large a bloc of undeveloped land in a strategic location within the metropolitan area's next growth belt. This factor, in addition to topographical advantages and the airport's proximity, has been responsible for the inclusion of Reston's site in a sector designated for high-density land use in the "Year 2000 Plan for the Nation's Capital" -- a report of the National Capital Planning Commission.

The Commission, supported by such authorities in urban design as Lewis Mumford, advocates that metropolitan growth should take place within major radial corridors that would discourage future urban sprawl and reduce the financial burden of expanding urban services on the suburban areas affected by the wave of growth. Reston lies astride one of the projected corridors. Rapid transit to serve industrial and residential clusters along this corridor is a serious possibility now under study by the National Capital Transit Agency.

2. Population Growth

Reston is located in one of the country's fastest growing counties. Population projections for Fairfax County point to an increase of 425,000 people between 1960 and 1980, thus bringing the County's total to over 700,000 or to almost one-quarter of the Washington Metropolitan Area's anticipated 1980 total population.

It has been estimated that over the next two decades about 20% of the Fairfax population increase could be accommodated at Reston, since:

- (a) It lies in one of the major expansion corridors of the metropolitan area;
- (b) Future residential growth will occur in the less developed, outlying parts of the County, and
- (c) The property should attract major industrial and institutional centers of employment.

3. Employment Opportunities

As a result of its locational advantages, Reston will offer its residents a diversity of employment opportunities. By 1970, Dulles Airport will have become a major employment center, rivaling Washington National Airport in activity. Federal establishments in many parts of the metropolitan area will be easily accessible from Reston by means of either circumferential or radial arterial highways. Reston proper will provide jobs for its residents in the plants, laboratories and offices to be built on the land set aside for "light industry," as well as in the commercial and service establishments that will cluster in the business "core" and in the neighborhood centers. Finally, there will be opportunities for employment in government agencies, both local and federal, for which space is being provided in the development plan.

Thus Reston will meet the need for what Mr. Mumford calls "sub-cities of 50,000 to 100,000 population where people could live close to their work."

Employment projections, summarized in the table on the next page, point to a substantially faster rate of growth in Fairfax County than in the metropolitan area as a whole. Whereas in 1960 only 5-1/2% of the metropolitan area's jobs were located in Fairfax County, that ratio will rise to 15% in 1980, when light manufacturing (research-oriented industries in particular), airport operations, and commercial activities will have expanded their labor force severalfold. The table also indicates that Fairfax County employment is slated to rise twice as fast as its population during the 1960-1980 period, while in the metropolitan area population and employment are likely to grow at roughly the same rate. Thus, by 1980, Fairfax County will have shed some of its "bedroom area" characteristics by offering residents the opportunity for local employment.

4. Income Characteristics

The median U. S. family income for 1959 was \$5417; the estimated 1960 figure for Fairfax County is \$8000. The table below shows the difference by income groups:

	<u>U. S.</u> <u>1959 Family Income</u>	<u>Fairfax County</u> <u>1960 Est.</u> <u>Family Income</u>
	<u>Percentage of Families</u>	
Under \$2000	13.4	5.6
\$2000 - \$2999	9.3	4.2
\$3000 - \$3999	10.1	4.8
\$4000 - \$4999	11.7	6.1
\$5000 - \$5999	13.2	7.5
\$6000 - \$9999	30.1	38.8
\$10,000 and Over	12.2	33.0

Although the spread between national and County family incomes will be somewhat reduced in the years ahead as a wider cross section of the metropolitan area's population moves into Fairfax County, the Arthur D. Little, Inc. projections show a 37-1/2% rise in the County's median family income between 1960 and 1980, given a constant 1960 dollar. Thus, while at the present time approximately 56% of all Fairfax families have incomes in excess of \$7500 per annum, the 1980 projection suggests that three out of four families will have incomes above that figure.

These trends have important implications for the future housing market and the residents' spending power for consumer goods and services.

EXPECTED CHANGE IN MAJOR EMPLOYMENT GROUPS
WASHINGTON STANDARD METROPOLITAN STATISTICAL AREA (SMSA)

AND FAIRFAX COUNTY

1960 - 1980

(in thousands)

<u>Category</u>	<u>1960</u>		<u>1980</u>		<u>Increase (rounded)</u>	
	<u>SMSA</u>	<u>Fairfax</u>	<u>SMSA</u>	<u>Fairfax</u>	<u>SMSA</u>	<u>Fairfax</u>
Scientific research and related manufacturing	20	5	40	14	20	9
Food and kindred products manufacturing	10	*	20	4	10	4
Printing and publishing	15	*	25	2	10	2
Other manufacturing	15	2	20	5	5	3
Wholesaling	<u>24</u>	<u>*</u>	<u>40</u>	<u>2.5</u>	<u>16</u>	<u>2</u>
Total industry and wholesaling	84	7+	145	27.5	61	20
Retailing	115	6	185	30	70	24
Service	110	6	220	25	110	19
Airport operations and maintenance	13	0	33	20	20	20
Government (all levels) and military	354	27	489	55	135	28
<u>Total Employment</u>	<u>900</u>	<u>50</u>	<u>1400</u>	<u>210</u>	<u>500</u>	<u>160</u>
<u>Total Population</u>	<u>2002</u>	<u>275</u>	<u>3185</u>	<u>700+</u>	<u>1200+</u>	<u>425+</u>

* Less than 1000

Source: Washington Board of Trade and Arthur D. Little, Inc. estimates.

Note: Individual columns do not add up to total employment figure because minor employment groups have been omitted from tabulation.

Residential Prospects: On the basis of extensive interviews in the Washington area and the analysis of real-estate advertisements in the metropolitan press, Arthur D. Little, Inc. has concluded that the residential market for single-family homes lies predominantly in the \$20,000-\$25,000 range.

It would seem advisable to plan for a gradual development of Reston to meet, first, the almost immediate needs of the higher-income employees of Dulles Airport, and then the housing requirements of Reston industries, of commuters to Washington, D.C., and of employees of decentralized federal agencies.

Industrial Potential: Arthur D. Little, Inc. interviews with industrial firms in the Washington area have led to the following conclusions about Reston's potential for industrial development:

1. Many Washington firms are either interested in or considering relocation or expansion in less crowded suburban areas. In making such a choice, they are primarily concerned with avoiding the environmental disadvantages which have plagued them in the city and in other inlying locations.
2. Many industries are increasingly aware of the advantages to them offered by a planned community in which their employees at all levels can find satisfactory living conditions--including schools and recreational facilities.
3. Many firms believe that Reston would suit their requirements as highway access from the center of the metropolitan area is improved.
4. As Dulles Airport approaches its operating capacity, and as the arterial highway system develops, Reston will offer increased attraction not only for prestige-type white-collar industries but also for the manufacture of food and kindred products, wholesaling activities, printing and publishing, and the manufacture of building and paving materials.

Retail Potential: Studies of retail potential for Reston indicate that each of the seven village centers can be developed as convenience shopping areas consisting of food and service shops. Studies further indicate that Reston and the nearby environs will provide an adequate retail market for a "community" type shopping center. Such a center is one having approximately 300,000 square feet of gross leasable area allotted for general merchandise and retail store and, in addition, would provide for regional office space.