THE COMPREHENSIVE PLAN FOR FAIRFAX COUNTY, VIRGINIA

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INTRODUCTION/ COUNTYWIDE

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This document consists of the Countywide Plan, adopted September 8, 1975, and all amendments adopted through October 27, 1986. Any subsequent amendments are available from Maps and Publications Sales, Massey Building, Fairfax, Virginia 246-2974.

The Board of Supervisors has established a regular Annual Plan Review and updating process to insure the continuing relevance of the Plan. For information regarding the Annual Plan Review, please call 246-1200.

This document, which is to be used in conjunction with the Area Plan maps, provides background information and planning policy guidelines for Fairfax County, as required by the Code of Virginia, as amended.

1986 EDITION
(As Amended Through October 27th, 1986)
1989 REPRINT
(Including, bound at the rear of this volume, the complete text and map for each amendment pertaining to this volume adopted through July 24, 1989)

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THE COMPREHENSIVE PLAN
FOR FAIRFAX COUNTY, VIRGINIA

Introduction/Countywide

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STATE OF VIRGINIA ENABLING LEGISLATION

CODE OF VIRGINIA *Title 15.1, Chapter 11 (as amended)*

15.1-446.1. Comprehensive plan to be prepared and adopted; scope and purpose. The local commission shall prepare and recommend a comprehensive plan for the physical development of the territory within its jurisdiction.

Every governing body in this State shall adopt a comprehensive plan for the territory under its jurisdiction by July one, nineteen hundred eighty.

In the preparation of a comprehensive plan the commission shall make careful and comprehensive surveys and studies of the existing conditions and trends of growth, and of the probable future requirements of its territory and inhabitants. The comprehensive plan shall be made with the purpose of guiding and accomplishing a coordinated, adjusted and harmonious development of the territory which will, in accordance with present and probable future needs and resources best promote the health, safety, morals, order, convenience, prosperity and general welfare of the inhabitants.

The comprehensive plan shall be general in nature, in that it shall designate the general or approximate location, character, and extent of each feature shown on the plan and shall indicate where existing lands or facilities are proposed to be extended, widened, removed, relocated, vacated, narrowed, abandoned, or changed in use as the case may be.

Such plan, with the accompanying maps, plats, charts, and descriptive matter, shall show the commission's long-range recommendations for the general development of the territory covered by the plan. It may include, but need not be limited to:

1. The designation of areas for various types of public and private development and use, such as different kinds of residential, business, industrial, agricultural, conservation, recreation, public service, flood plain and drainage, and other areas;

2. The designation of a system of transportation facilities such as streets, roads, highways, parkways, railways, bridges, viaducts, waterways, airports, ports, terminals, and other like facilities;

3. The designation of a system of community service facilities such as parks, forests, schools, playgrounds, public buildings and institutions, hospitals, community centers, waterworks, sewage disposal or waste disposal areas, and the like;

4. The designation of historical areas and areas for urban renewal or other treatment; and

5. An official map, a capital improvements program, a subdivision ordinance, and a zoning ordinance and zoning district maps. (1975, c. 641; 1976, c. 650; 1977, c. 228.)

15.1-427. Declaration of legislative intent. This chapter is intended to encourage local governments to improve public health, safety, convenience and welfare of its citizens and to plan for the future development of communities to the end that transportation systems be carefully planned; that new community centers be developed with adequate highway, utility, health, educational, and recreational facilities; that the needs of agriculture, industry and business be recognized in future growth; that residential areas be provided with healthy surrounding for family life; and that the growth of the community be consonant with the efficient and economical use of public funds. (Code 1950, 15-900, 15-916; Code 1950 (Repl. Vol. 1956), 15-891.1; Code 1950 (Suppl.), 15-961; 1950, pp. 487, 889; 1956, c. 497; 1962, c. 407; 1975, c. 641.)

15.1-427.1. Creation of local planning commissions; participation in planning district commissions or joint local commissions. The governing body of every county and municipality shall by resolution or ordinance create a local planning commission by July one, nineteen hundred seventy-six, in order to promote the orderly development of such political subdivision and its environs. In accomplishing the objectives of 15.1-427 such planning commissions shall serve primarily in an advisory capacity to the governing bodies.

The governing body of any county or municipality may participate in a planning district commission in accordance with Title 15.1, chapter 34 (15.1-1400 et seq.) of the Code or a joint local commission in accordance with 15.1-443. (1975, c. 641.)

15.1-489. Purpose of zoning ordinances. Zoning ordinances shall be for the general purpose of promoting the health, safety or general welfare of the public and of further accomplishing the objectives of 15.1-427. To these ends, such ordinances shall be designed (1) to provide for adequate light, air, convenience of access, and safety from fire, flood and other dangers; (2) to reduce or prevent congestion in the public streets; (3) to facilitate the creation of a convenient, attractive and harmonious community; (4) to facilitate the provision of adequate police and fire protection, disaster evacuation, civil defense, transportation, water, sewerage, flood protection, schools, parks, forests, playgrounds, recreational facilities, airports and other public requirements; (5) to protect against destruction of or encroachment upon historic areas; (6) to protect against one or more of the following: overcrowding of land, undue density of population in relation to the community facilities existing or available, obstruction of light and air, danger and congestion in travel and transportation, or loss of life, health, or property from fire, flood, panic or other dangers; (7) to encourage economic development activities that provide desirable employment and enlarge the tax base; and (8) to provide for the preservation of agricultural and forestal lands. (Code 1950, 15-821; Code 1950 (Suppl.), 15-968.3; 1962, c. 407; 1966, c. 344; 1968, c.407; 1975, c. 641; 1976, c. 642; 1980, c.321.)

15.1-490. Matters to be considered in drawing zoning ordinances and districts. Zoning ordinances and districts shall be drawn with reasonable consideration for the existing use and character of property, the existing land use plan, the comprehensive plan were adopted, the suitability of property for various uses, the trends of growth or change, the current and future requirements of the community as to land for various purposes as determined by population and economic studies and other studies, the transportation requirements of the community, and the requirements for housing, schools, parks, playgrounds, recreation areas, and other public services; for the conservation of natural resources; and preservation of flood plains and for the conservation of properties and their values and the encouragement of the most appropriate use of land throughout the county or municipality. (Code 1950, 15-821; Code 1950 (Suppl.), 15-968.4; 1962, c. 407; 1966, c. 344; 1974, c. 526; 1978, c. 279.)

The Fairfax County Plan has been prepared in accordance with pertinent state and federal legislation, including comprehensive plan enabling articles of the Virginia Code 15.1-431,446,448; and air quality, water quality and flood control provisions of the United States Code, 42 U.S.C. 1857 et.seq. as amended and 33 U.S.C. 1251 et. seq. as amended.

The Comprehensive Plan and How To Use It

The Fairfax County Comprehensive Plan, adopted in 1975 and updated annually through a formalized amendment process, is the first countywide land use plan since 1958. It consolidates into one volume what previously, in the years following 1958, was covered in fourteen separate planning district plans and related special studies. Citizens who are acquainted with the old, superseded plans or are new to Fairfax County may encounter some initial difficulty in locating those portions of the Plan that address a given tract of land. It is hoped that the following will help acquaint readers with the format and contents of the Plan and will assist in finding needed information.

In addition, there is a detailed table of contents beginning on page iii and a complete index at the end of the document.

How the Plan is Organized

The Plan is divided into three sections:

Section I: Background and Analysis provides a base of information on present conditions within Fairfax County in the following functional categories—population, economic development, land use, transportation, public facilities, environment, housing, history, and fiscal and financial.

Section II: Recommendations consists of general as well as specific recommendations which are based upon the information presented in Section I. Projected economic development and employment by location as well as recommendations for the County's four planning areas are contained within this section. Each planning area is divided into planning districts which, in turn, are subdivided into community planning sectors representing the smallest geographical area components of the Plan. The community planning sectors provide detail on existing development and planned land use.

The Comprehensive Plan is depicted also on a series of color maps, consisting of planned land uses, transportation improvements and planned public facilities.

Section III contains the appendices on travel demand forecasting and population forecast methodology, together with a glossary and bibliography.

Finding Your House or Property in the Plan Text

In order to locate that portion of the Comprehensive Plan which pertains to a certain house or property, it is necessary to:

1. Determine the planning area in which the house or property is located.
   a. This may be done by looking at the countywide map on page 3. The four planning areas are cited in Roman numerals, with the heavy dotted line forming the area boundaries and the planning districts indicated by name.
   b. Select the planning area or areas in which the subject property is located. (Note: Due to the nature of the planning area boundaries, it may be necessary to refer to more than one area map to determine in which planning area the subject property is located.)
2. Find the planning district in which the house or property is located on the planning area map at the beginning of each planning area section of the plan. The four planning area sections are tabbed for easy reference.
3. Determine in which community planning sector the house or property in question is located by referring to the planning area map. Once the appropriate sector is known, turn to that sector in the text.
4. If your house or property is located within that portion of the sector map that is shaded, this indicates that it is part of either an option area, complex area, or a special area to which you are referred by the page number adjacent to the map.
5. The information in the community planning sector is organized into:
   a. a description of existing conditions—land use, transportation, public facilities, environment, etc. and
   b. recommendations for the future development of the sector. It is here that specific uses, ranges of residential density and land use intensity, as well as possible alternative or optional uses, are presented for certain tracts of land within the sector.
6. If no recommendation is stated in either the sector or the appropriate option or complex area of the text for the house or property in question, then consult the appropriate land use color map.

Finding Your House or Property on the Plan Map

1. The Comprehensive Plan includes color maps for the four planning areas—one each for Areas I, II, and IV, and three for Area III. (Due to its relatively large size Area III has a separate map for each of its three planning districts—Bull Run, Pohick, and Upper Potomac.)
2. Determine the location of the house or property within the particular grid square (denoted by hyphenated numbers, such as 42-4 or 50-1) on the Plan map.

Plan Map and Text Relationship

The Plan text and map complement one another. Often the Plan text gives detailed recommendations which are illustrated generally on the map. In the event of a discrepancy between the specific recommendations of the text and the map, the text takes precedence.

Information regarding provisions of the Plan is available from the following County agencies:

- Office of Comprehensive Planning 691-2641
- Office of Transportation 691-3311
- Office of Research and Statistics 691-3380

I. INTRODUCTION

INTRODUCTION

OVERVIEW OF FAIRFAX COUNTY

Fairfax County's geographic location, with its relationship to Washington, D.C., has been a significant factor in the County's historic development. Alexandria and Arlington have direct access to the District of Columbia and can be considered as inner ring suburban areas, while most of Fairfax County is a second-level or outer ring suburb with some large areas remaining rural in character. For the past two decades, Fairfax County has been strongly shaped by its predominant function as a bedroom community for government employment centers located in Arlington and Washington.

Within Virginia, Fairfax County's 630,443 residents (1983 estimate) make it the most populous political subdivision of the Commonwealth. Fairfax grew from 18,000 persons at the turn of the century to 22,000 in 1920, and almost 41,000 just before the Second World War. Then came the growth explosion—from less than 100,000 in 1950 to one-quarter million in 1960, to more than 630,000 residents in 1983. Thus, its rapid urbanization has made Fairfax County distinctive within the state.

HISTORY OF PLANNING AND ZONING

The history of planning and zoning in Fairfax County began with the adoption of the first zoning ordinance in March 1941, while in June of that year, the County's first rezoning request was heard. The rezoning caseload from the first case filed in 1941 until 1958-59 totalled over 1,600.

The first attempt at master planning took place in 1954 when a proposal was made by a consultant to the Board of Supervisors. This plan was rejected, and the County staff was directed to prepare a revision. A six-part plan was formulated between 1955 and 1958, and the residential density section was adopted in September 1958. Between 1958 and 1961 all other sections, except the one dealing with transportation, were also adopted. The transportation section was never formally approved. In addition to the plan, a zoning ordinance was adopted in 1959.

Planning and zoning actions taken by the County during this period were significant in several respects. First, comprehensive plans had been completed for the entire County. These plans then served as the basis for a comprehensive zoning ordinance which was adopted countywide. This was the first and only time planning and zoning have been coterminously related to each other on a countywide basis.

Subsequent to the adoption of the plan and ordinance, however, legal action was initiated, challenging the County's action in the so-called Freehill Amendment, which had uniformly zoned the rural area of the County for two-acre development. The immediate result of the decision by the Virginia Supreme Court was the reduction of rural lot sizes to one acre, with certain two-acre areas requested by citizens.

From 1960 to 1970, the Washington metropolitan area was the fastest growing major metropolitan area in the United States. Its population grew more than three percent per year during that decade, adding three-quarters of a million new residents to its 1960 population of 2,076,610. The growth of the region, however, was not spread evenly among the jurisdictions.

Fairfax County grew at a rate nearly twice that of the metropolitan area as a whole; the rate for Fairfax County was slightly higher than the rate for Montgomery County, but lower than the rate for Prince Georges County.

From 1970 to 1975, Fairfax grew at a slightly lower rate than in the previous decade, but absorbed a large share of the region's growth. This reflected moratoria in other jurisdictions and the lack of a moratorium in Fairfax at the beginning of the period and a continuing pressure for new housing. Fairfax absorbed about half the region's growth instead of a fair share of 25 percent. Constraints were imposed two years earlier in the Maryland counties which contributed to the growth in Fairfax.

An economic base study was prepared as a means of developing forecasts which could be used in the development of the plan. A basic assumption of that study was that the County's fair share of regional population growth would continue to be about 25 percent. Based on this assumption, the County would grow to about 857,000 over a ten-year period.

However, monitoring of growth over the 18 months prior to adoption of the countywide plan, indicated that population growth was slowing down and it was estimated that the County population would not reach 857,000 until 1990.

More recent analysis by the County and other agencies revised the 1990 forecast downward to 685,900. This signifies a reduction of 171,100 persons from the original Comprehensive Plan forecast of 857,000, a decline of 20.0 percent. In keeping with County policy, the County staff will continue to monitor growth, and revisions to forecasts will continue to be made on an annual basis.

One set of activities that is of major importance in future growth rates is the Metropolitan Growth Policy Program of the Council of Governments. This program is endorsed and strongly supported by the County. The objectives of the program are to develop growth policies that encourage and promote an equitable distribution of growth within the region. As this program progresses, the forecasts of population growth in the County will change in response to new regional growth forecasts as well as to regional policies and agreements.

From the milestone period of 1958-59 until 1975, more than 2,800 new rezoning cases were filed. In response to these intense development pressures, substantial numbers of plans, plan amendments, and special planning studies of all kinds were prepared by County staff. While the 1959 *Zoning Ordinance* was a great improvement over the 1941 ordinance, it was subsequently amended more than 230 times.

In 1969, the Board of Supervisors felt that the *Zoning Ordinance* required complete revision. The Zoning Ordinance Study Committee (ZOSC) was established in March 1970 and in November 1974 the ordinance which ZOSC proposed was adopted in principle. On June 12, 1978, the Board of Supervisors took final action to adopt the provisions of the *Zoning Ordinance* with an effective date of August 14, 1978. The ordinance was recodified on October 18, 1982 and is a cornerstone of the planning implementation process.

The decade of the seventies was marked by increasing concern among citizens and public officials regarding the problems associated with rapid and generally uncontrolled population growth. Increased understanding of the ways in

Plan Overview

The Comprehensive Plan implements major policy recommendations contained in the *Countywide Alternatives* document produced in 1974 and the four area plans. Key elements of the Plan emerged through the active involvement of County citizens.

Among the fundamental concepts of the Plan are:

- the preservation and protection of existing stable communities;
- encouragement of planned development centers;
- increased reliance on mass transit systems; and
- protection of sensitive environmental areas.

Economic analysis provides recommendations which:

- support major employment centers at Tysons, Dulles, and the I-495 and I-95 corridors;
- identify areas suitable for long term basic employment in order to avoid incompatible land use encroachment; and
- cluster commercial areas in order to avoid strip development.

Public facility investment is recommended which:

- reduces public facility cost by encouraging planned development;
- promotes increased service through public investment in neighborhood parks, schools and other facilities;
- insures adequate capacity to meet both long term and short run needs; and
- implements objectives of the adopted Plan in timing public facilities to meet expected growth.

Countywide housing recommendations include strategies which:

- preserve the integrity and quality of existing neighborhoods;
- provide for the conservation of selected neighborhoods through programs designed to upgrade housing quality;
- provide for the provision of a full range of housing opportunities for persons of all incomes; and
- promote open space and structural quality through the plan implementation process.

Environmental analysis of the County addressed the need to:

- include air quality as an important factor in land use development;
- protect water quality and quantity throughout the County;
- implement environmental quality corridors (EQCs) as an innovative approach to open space preservation and protection of natural resources;
- stem physical environmental hazards, such as steep slopes and slippage-prone soils, which are constraints to future development; and
- encourage plan implementation procedures which incorporate design sensitivity on a site-specific scale.

Transportation strategies embodied in the Comprehensive Plan include:

- encouragement of travel on major facilities and minimization of the use of local residential streets for commuter traffic;
- recognition of the need to improve access in the outer areas of the County where existing facilities are poorest and where an increase in demand will cause the greatest deficiency;
- support for Metro through feeder bus systems with corresponding roadway improvements; and
- introduction of new administrative processes for initiation and implementation of transportation improvements.

which growth affects the cost of public facilities and services, and the negative impacts it may have on ecological systems, challenged the assumption that growth per se is good for the County.

While adoption of the Comprehensive Plan represents a major milestone in the program to give Fairfax County an effective system of growth management, it is recognized that the Plan is merely a milestone. Much remains to be done. Implementation tools must be further developed and improved. The Plan must continue to be updated and maintained on an annual basis.

Major metropolitan development issues remain serious obstacles to improved planning. The strong centralization of federal employment in Washington, D.C., creates a burden on the road network which may be beyond the capacity of present implementation resource allocations to meet. Employment centers must develop in the western sections of the County to diminish the transportation demands on the eastern sections of the County. These types of major development issues must be addressed in the months and years to come. Through the Comprehensive Plan, analytic methods, and programming procedures, the County will be in a strong position to achieve the growth management objectives established by the County's Board of Supervisors, Planning Com mission, and citizens.

The PLUS Program

Fairfax County responded to these urban problems through creation in 1973 of PLUS (Planning Land Use System). PLUS evolved from the commitment by Fairfax County's Board of Supervisors to the concept of managed growth to achieve improved quality in urban development and services.

The Board's initial effort to achieve these objectives, the 1972 pause for planning, was struck down by the Circuit Court soon after its initiation. A second staff effort, the *Five Year Plan* developed in 1972, sought to indicate how and where growth could occur at minimum cost. Because this plan did not address vital environmental and transportation issues, it was not adopted. However, the plan did substantially improve the County's data base and set forth logical standards and criteria to guide capital facilities planning.

The Board of Supervisors initiated PLUS in February of 1973. The Board adopted a resolution which directed the establishment of a task force on comprehensive planning and land use controls which was to develop a program to achieve improved planning and growth management. The preliminary recommendations of the task force were discussed at two public work sessions of the entire Board of Supervisors, staff and citizen representatives. The second meeting was broadcast on educational television. At this meeting, the Board of Supervisors approved in principle the general recommendation to implement a comprehensive planning program, later designated PLUS. The entire proposed program* received public review and comment at a public hearing in June 1973.

PLUS began to implement its objectives in July 1973. The keystone of the program was the updating of the countywide plan and 14 district plans. Included were development of a capital improvement program, a moratorium on rezoning actions and site plan/subdivision plat approvals, adoption of a new zoning ordinance, environmental assessment requirements, and an adequate public facilities ordinance. The final report of the task force outlined the overall objectives of PLUS:

> The basic approach to planning must be changed. In the past, planning has been static—concerned with past trends and proposed ideal land patterns. Today, especially in urban areas, planning must be dynamic, responsive, and systematic. The issue is not whether traditional planning concerns about master plans should be continued; they obviously must. However, recent trends in advanced management systems can provide a direction to improve planning in Fairfax County. A higher level of quantitative analysis, drawing on a computer-based information system and explicit objectives and criteria for measurement, must be introduced as the central element in the planning process. The planning function must be an ongoing responsibility of top management and must integrate all municipal activities affecting development in a single coordinated process.

The PLUS mandate was truly broad, and the program received enormous attention from the County's public officials, citizens, and staff.

PLUS Components and Concepts

In the Fall of 1973, efforts began toward simultaneous preparation of updated countywide and area plans. To provide a logical process, the County grouped the 14 planning district plans into four areas, as follows:

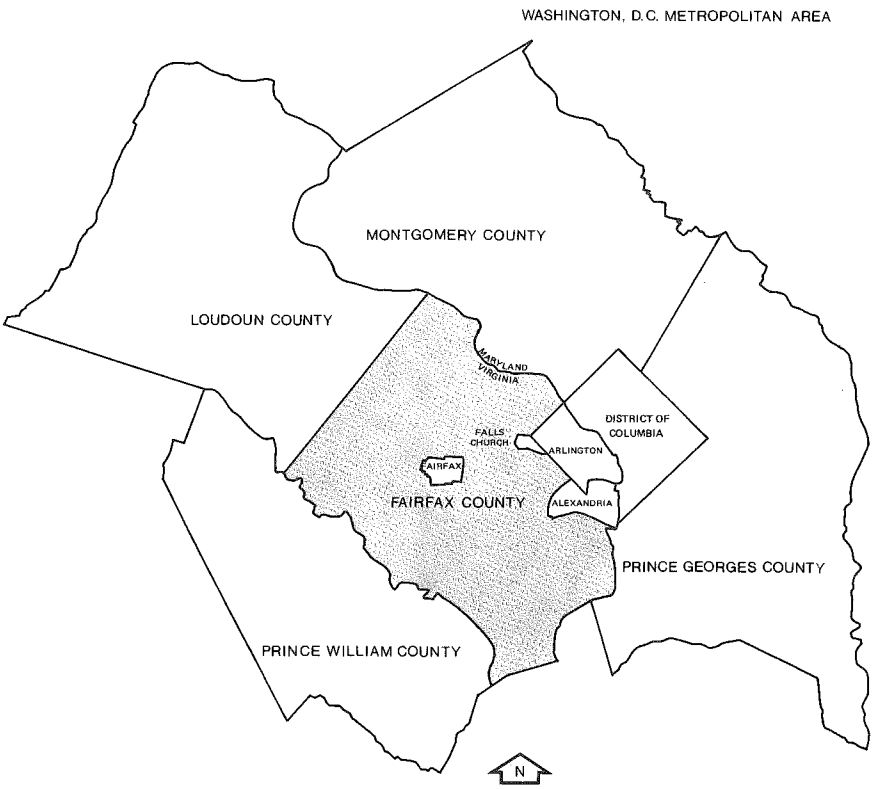
- Area I — Annandale, Baileys, Jefferson and Lincolnia
- Area II — McLean, Vienna and Fairfax
- Area III — Pohick, Bull Run and Upper Potomac
- Area IV — Lower Potomac, Mount Vernon, Rose Hill and Springfield

As the analysis of existing conditions was being completed in these areas, the countywide issues were also being studied. A major step toward defining a specific land use approach was the publication of the *Countywide Plan Alternatives* document in September 1974. This publication reaffirmed the interim development and redevelopment policies adopted earlier by the Board of Supervisors and recommended several development concepts which were to guide the preparation of the area plans. This was a direct result of both the countywide alternatives analysis and the area plans.

The most important growth management concept of the plans was the use of planned development centers as focal points for future growth. As an alternative to sprawl, this development concept was designed to increase local employment, to decrease reliance on the private automobile by reducing the length of work trips and making mass transit facilities more easily accessible, to reduce pressure for development in environmentally sensitive areas and to lower costs by more efficient provision of public services.

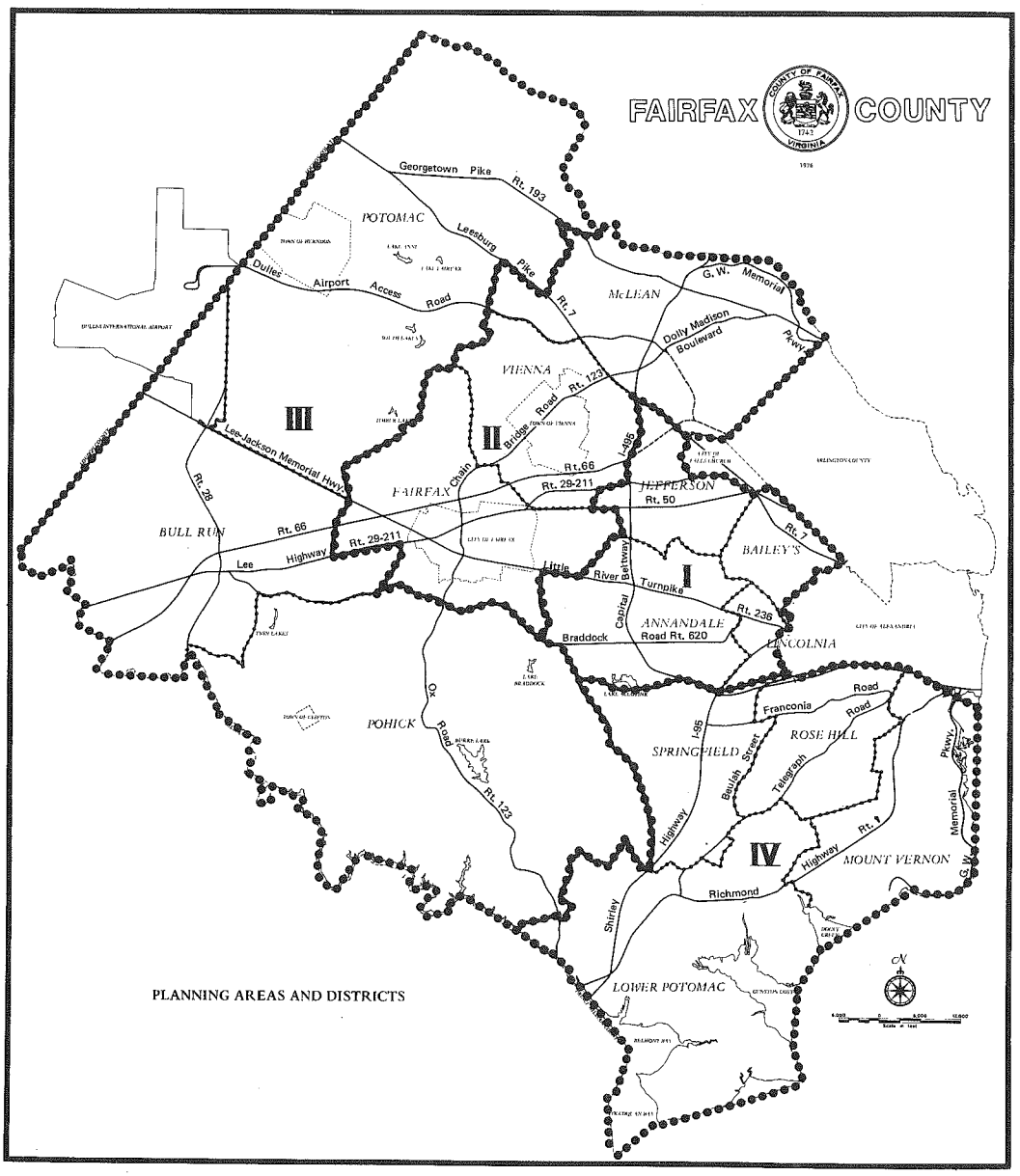
Environmental quality corridors (EQCs) were another major growth management concept of the countywide and area plans. EQCs represent an innovative approach toward integrating open space, recreational areas, historic sites, stream valleys, wetlands, wildlife habitats, and conservation areas into a single network. The EQC concept builds upon environmental needs to protect and properly use the land of Fairfax County. Substantial analysis has been and continues to be conducted on EQCs. The key aspect is that land has many characteristics important to the balanced environment of Fairfax County. Some land is appropriate for public use, while other types of land must be preserved free from human impacts. As the characteristics of EQCs are better defined, appropriate uses and functions can be identified and the needed acquisition and land protection methods can be determined. The Environmental Quality Advisory Council, the Stream Valley Board, County agencies and citizens have devoted substantial attention to these issues.

Another significant conceptual issue is the fair share of regional growth. The population projections which form a basis for land use recommendations and other recommendations in the area and countywide plans and the economic projections in this document represent Fairfax County's



Proposal for Implementing an Improved Planning and Land Use Control System in Fairfax County. (Final report of the Task Force on Comprehensive Planning and Land Use Control, Fairfax County, May 1973.)

PLAN	DATE OF ADOPTION
AREA I	June 16, 1975
AREA II	August 25, 1975
AREA III	June 30, 1975
AREA IV	July 28, 1975
COUNTYWIDE	September 8, 1975



fair share of growth to the year 1990. A regional total was calculated utilizing several urban growth models which take into account the growth patterns of the past 20 years, projecting 15 years into the future. On a preliminary basis, approximately 25 percent of total metropolitan growth has been allocated to the County. This figure was, in turn, allocated to the planning areas, and also used for other countywide projections. It is understood that this figure is subject to the development of an optimum growth policy for the region as a whole in cooperation with other local governments and will be conditioned by the County's ability to provide adequate public facilities for its population.

Only through acceptance of fair share can the County approach the legal problems of growth management. Certainly, the data used in calculating appropriate fair share should receive careful review and evaluation by policy makers and citizens. Further, annual plan reviews must continue to monitor population trends to reflect accurately facts about demographic conditions and metropolitan growth developments.

Citizen Participation

A major distinguishing aspect of the countywide planning effort under the PLUS program was widespread and effective citizen participation. County residents had a major role in the planning process and a significant impact on its output through their interaction with County government.

Sixteen general planning task forces of County citizens were organized along planning district and magisterial district boundary lines. In addition, a low/moderate income task force and a building industry and related professions committee were formed. Staff of the Office of Comprehensive Planning was assigned to work directly with the citizen task forces in a liaison/advocate role to help facilitate communication and interaction with County government.

Citizen participation was obtained in many ways. Regular district and area task force meetings were supplemented by a series of meetings convened by individual supervisors in their districts, and by three citizen forums that drew between 400 and 700 persons. In addition to the meetings, a flow of information was provided to County residents through mailings of tabloids and letters identifying and explaining major policies and significant work elements. To ensure that a total spectrum of citizen attitudes and opinions throughout the County would be heard, a countywide citizen attitude survey was utilized. The survey was conducted by Response Analysis Corporation of Princeton, New Jersey, under contract with the Washington Center for Metropolitan Studies. A total of 846 citizens were contacted and their opinions solicited on 88 general County issues. Questions in the survey attempted to elicit opinions both about specific services which the County government does or might provide, and about the social and economic dimensions of past, present and anticipated development patterns in the County.

The citizen task forces, trade associations, and public interest groups responded constructively to draft materials, interim reports and studies, and to solicitations for their reactions to emerging policies. Even more significant, they initiated recommendations and suggested policies and guidelines. The efforts of the citizens on the task forces and other groups, as well as those interviewed in the survey, had a significant effect on the formulation of the Comprehensive Plan.

Implementation Process

Strategies for implementation were another important component of the PLUS growth management concept. Earlier plan-making efforts have been plagued by the static nature of the plans themselves. As a snapshot of a single idealized future, they have been frequently outdated by changing circumstances. While the Plan provides a current, updated baseline, an implementation process must be used which ensures its ongoing vitality.

Tools to be used in this process include the Zoning Ordinance, comprehensive rezoning and remapping, and an annual plan update cycle supported by the Capital Improvement Program, the project impact evaluation system (PIES), and a parking management plan and program, among others. The timing of growth is also influenced by the judgment of the Planning Commission and the Board of Supervisors regarding the ability of public facilities to service growth adequately. Development of these tools proceeded simultaneously with development of the area plans.

Adequate Public Facilities and Time-Phased Growth

When setting the preliminary groundwork for the PLUS program in 1973, the Board of Supervisors adopted an interim development and redevelopment policy establishing adequate public facilities as a primary County objective and a constraint on new development phasing. The policy states: "Growth in the County should be held to a level consistent with available, accessible and adequate public facilities as well as with rational plans to provide new public facilities." This basic policy remains a valid guide to future development in Fairfax County.

Public facilities compose the basic infrastructure needed to support future development. Thus, the planning and programming of these facilities are critical to the regulation of the timing and location of growth. Transportation and sewer and water facilities, for example, must be present before new development is in place. Thus, public facilities are a major factor in the County's efforts to improve the quality of new growth and to integrate new development logically into the County's land use patterns.

Development of the capability to require adequate public facilities was the most important goal of the PLUS program. By establishing the ability to time- phase growth, the County would move to a position of reducing the undesirable impacts of growth. This is in contrast to regulating development through other means such as zoning, which can only be applied to development requests on a case-by-case basis. Without an adequate means for the County to influence development the cumulative impacts of growth including the general pace and overall pattern of land uses are left to the private market.

The County's adequate public facilities policy is essential to the basic objectives of the PLUS program. This policy can assist the County in:

- preservation of valuable open space and protection of natural resources through implementation of environmental quality corridors;
- encouragement of quality development and avoidance of potential problems in land use incompatibilities;
- establishment of sound capital and operating costs by meeting service demands through ordered development patterns; and
- pursuit of the objective of high transit usage by assuring that land use developments are coordinated with transportation improvements.

These objectives rest at the heart of the County's efforts to improve future development.

Fairfax County, as one of the most rapidly urbanizing counties in the United States, has experienced a vast array of development problems resulting from scattered, uncoordinated development patterns. The symptoms of uncoordinated development are overcrowded roads, drainage problems, air pollution and many other typical aspects of urban living. Citizens have demanded better planning systems to prevent recurrence of the typical suburban problems which continue to plague many residents.

Development of the implementing tools to assure adequate public facilities is most essential and yet the most complex feature of the current planning program in Fairfax County. There has been considerable discussion of an adequate public facilities ordinance. Such an ordinance would be a regulatory device based on standards for public facilities which would control when new development could occur. Fairfax County studied extensively the Ramapo system and considered its possible application in Fairfax County. The adoption of an adequate public facilities ordinance can be considered as an approach to solve many of the urban problems currently being experienced. However, public facilities planning and the provision of an adequate public facilities policy requires the establishment of plans and programming systems in order to provide the basis for regulation under an ordinance once it has been legally sanctioned. Therefore, Fairfax County approached the issue of adequate public facilities in several ways.

The first step in moving toward the adequate public facilities objective was the formulation of updated comprehensive plans. It was essential that reasonable plans be established in order to provide a basis for public facilities programming and evaluation. Fairfax County reached this point with the formulation and presentation of the four area plans and the countywide plan. The annual review process systematizes the maintenance of these land use plans in order to avoid the necessity of massive plan redesign that characterized previous planning efforts.

The second step was the development of the capital improvement programming process. In 1974, the County published its first Capital Improvement Program. This program was substantially limited to current capital improvement commitments since the plans were still being formulated at that time. In 1975, the *FY1975 - FY1979 Capital Improvement Program* was published as the first developed on the basis of the updated plans.

The Capital Improvement Program is the product of an established annual process which implements County standards for public facilities and coordinates these standards with long range fiscal planning. Adoption of the Capital Improvement Program on an annual basis is a major step toward a sound adequate public facilities system in Fairfax County.

The third step was improvement of public facilities evaluation methodologies. The Comprehensive Plan and the Capital Improvement Program are currently based on standards and criteria for public services. However, the County is moving rapidly toward the improvement of public facilities evaluation methodologies. Further refinement of these methodologies will improve the County's ability to deal more effectively with the provision of public facilities to time phase growth. As these methodologies become more precise and the County gains greater experience in the alternative methods of public facilities evaluation, the final basis for adequate public facilities is established. Because of the legal constraints in the field of land use control in Virginia, the comprehensive development of adequate public facilities methodologies is imperative prior to adopting a new ordinance in this area.

The Comprehensive Plan recommends vigorous implementation of the adequate public facilities strategies being followed by Fairfax County. This approach can be fully realized through maintenance of the Comprehensive Plan, effective use of the Capital Improvement Program and reliance upon improving public facilities evaluation methodologies. In addition, the County should refine public facilities standards for application in Comprehensive Plan reviews and development plan evaluations. Currently these standards are being applied in the planning process, and in project impact analysis for rezoning cases. These standards should be finalized as explicit criteria to be followed and as a basis for land use regulation.

Board of Supervisors Policies

On August 6, 1973, the Board of Supervisors approved 16 interim development and redevelopment policies designed to serve as the basic framework for developing the long-range comprehensive plan process. Following an initial series of public forums from November 1973 through January 1974 and after extensive review, the validity of these policies was reaffirmed in October 1974. They have continued to serve as guidance throughout the program. They are listed below:

Policy 1: Quality of Life—Fairfax County is committed to improving the quality of life through local and regional comprehensive planning and development control systems, which facilitate the effective allocation of public resources and shape development patterns.

Policy 2: Regional Growth—Fairfax County should attempt to control and direct its growth in accordance with a regional optimum growth policy, based on quality of life and environmental constraints. Within that framework, and within the County's financial capabilities of providing adequate public facilities, the County should accept its fair share of the region's growth.

Policy 3: Environmental Constraints on Development—The amount and distribution of population density and land uses in Fairfax County should be consistent with the environmental constraints inherent in the need to preserve natural resources and meet federal, state and local water quality standards, ambient air quality standards and other environmental standards.

Policy 4: Growth and Adequate Public Facilities—Growth in the County should be held to a level consistent with available, accessible, and adequate public facilities as well as with rational plans to provide new public facilities. The County's development plans should take into account financial limitations and administrative constraints associated with increased need for public facilities. Growth should take place at a rate the County can afford.

Policy 5: Adequate Public Services—Fairfax County is committed to provide a high level and quality of public services for its citizens. Development plans should take into account financial limitations and administrative constraints associated with expanded demand for public services.

Policy 6: Housing Opportunities—All who live and/or work in Fairfax County should have the opportunity to purchase or rent safe, decent housing within their means. The County's housing policy shall be consistent with the Board's support of the Metropolitan Washington Council of Government's fair share formula.

Policy 7: Employment Opportunities—Fairfax County should encourage employment opportunities with the objective of steadily increasing the proportion of people working and living in the County and of reducing the distance between place of residence and place of employment.

Policy 8: Programs and Facilities for Quality Education—In order to insure quality education, Fairfax County should provide flexible public educational programs and facilities which effectively meet student and community needs.

Policy 9: Culture and Leisure Time Activities—Fairfax County should provide full opportunity for all residents to make constructive use of their leisure time through regional and local systems of safe, accessible and enjoyable parks, recreational and cultural programs, both active and passive, and the preservation of areas of historic significance.

Policy 10: Transportation—Fairfax County should encourage the development of accessible transportation systems designed to move people and goods efficiently through advanced planning and technology with minimal environmental impact and community disruption. Regional and local efforts to achieve a balanced transportation system through the development of rapid rail, commuter rail, expanded bus service and reduction of excessive reliance upon the automobile should be the keystone policy for future planning and facilities.

Policy 11: Private Sector Facilities—Fairfax County should encourage the development of appropriately scaled and clustered commercial and industrial facilities to meet the need for convenient access to good services and employment.

Policy 12: Open Space—Fairfax County should support the conservation of appropriate land areas in a natural state (including small open spaces in already congested and developing areas for passive neighborhood uses, visual relief, scenic value and screening and buffering purposes) to preserve, protect and enhance stream valleys, meadows, woodlands, wetlands and plant and animal life through a combination of an acquisition program, a tax policy, the police power and other appropriate means.

Policy 13: Revitalization—Recognizing its commitment to sustain and improve the quality of life, Fairfax County should encourage the revitalization of older areas of the County where present conditions are inconsistent with these policies, and prevent the encroachment of commercial and industrial development on residential areas.

Policy 14: Property Values—Fairfax County should investigate methods to recapture portions of increased property values created as a result of public actions.

Policy 15: Financial Planning and Management—Fairfax County should support equitable systems of taxation and user charges necessary to implement all its policies, recognizing its obligations to provide services and facilities to both established and new developments, and to attract desirable business and industry.

Policy 16: Preserving Existing Residential and Open Space—Growth should take place in accordance with criteria and standards designed to preserve, enhance and protect existing residential areas and open space, such as farmland, and achieve an orderly and aesthetic mix of residential, commercial/industrial facilities and open space without compromising the existing quality of life of existing residential development. Densities and heights in excess of those compatible with these goals should be discouraged. Nothing in this policy shall be construed to be incompatible with Policy 6: Housing Opportunities.

AREA PLANS

The plan has been developed in response to citizen preferences, public policy guidelines, economic realities, and legitimate private sector concerns and intersects. A broad, generalized, land use pattern does emerge which serves as the context for the more detailed land use and functional recommendations.

New compatible residential infill and the preservation of existing stable neighborhoods are the major planning policies for the eastern part of the County—Planning Areas I, II, and IV. In the less developed Area III, west of Difficult Run in the Upper Potomac Planning District and South Run in the Pohick Planning District, the residential pattern changes dramatically. stable neighborhoods are still preserved, but in the western part of the County, apart from planned development centers, the dense residential and commercial development that characterizes the closer-in areas does not appear. Also, many western County stable areas such as Great Falls include large tracts of undeveloped land and areas of environmental conservation.

Growth centers, generally referred to as planned development centers, are strategically located throughout the County and are designed to house the increased population which is not absorbed by infill of stable areas. In the eastern part of the County, these planned development centers are large undeveloped areas usually enclosed by existing surrounding development, such as the Tysons Corner quadrangle. In the west, the land designated for planned development centers is by and large presently undeveloped with substantial areas nearby which are planned for environmental conservation and very low-density residential Reston is already developing as a planned development center and by 1990 is expected to have a population of 75,000.

By 1990, roughly 100,000 more people will be employed in Fairfax County. Nonetheless, the region's core will continue to be the dominant employment location for Fairfax County residents. Major planned industrial development, especially in the western portions of the county, locates future basic employment activity where it will have less impact on the congested eastern parts of the County. This location will encourage reverse commuting in the opposite direction of existing rush-hour traffic and will tend to intercept and tap the labor force in the Routes 7, 50, I-66, and I-395/I-95 corridors. Major regional commercial centers are located near major transportation resources, planned development centers, and relatively high-density stable areas.

Mass transit improvements and new highway construction are recommended to serve the population increase. Radial roads, which are often planned to be widened and provided with new intersections and service roads, are supplemented by new and improved circumferential and cross-County roads such as Route 28. In the highly developed eastern part of Fairfax County, Areas II and IV, rapid rail stations are located and selectively accompanied by high densities in their immediate vicinities. Throughout the entire County, a heavy reliance has been placed upon the use of bus transit.

Land Use Planning Objectives

The growth and land use pattern planned for Fairfax County to 1990 is guided by six key objectives supplemented by major functional recommendations. The significance of each varies in different parts of the County, but taken together, they produce the broad development pattern described earlier. These concepts are:

- general land use classifications;
- preservation of existing neighborhoods;
- growth of planned development centers;
- implementation of environmental and heritage resource protection and preservation programs;
- development of economic growth areas; and
- creation of a responsive transportation network.

Subsequent amendments to the Comprehensive Plan will further address the achievement of these objectives through the time phasing of development.

General Land Use Classifications

The Comprehensive Plan, by incorporating the four area plans, contains detailed land use evaluations and recommendations. Identification of land areas into stable, complex, and option areas shapes the major policy framework of the plans.

All infill shall be of a type and density which is compatible with the affected area. All buffering measures between different uses and densities shall consist of preserving, maintaining, and utilizing natural vegetation, particularly trees, as buffers to the maximum extent physically possible and whatever other measures are necessary.

Stable Areas

Stable areas cover most of the County where existing residential and commercial development make infill with compatible land uses an appropriate planning solution. The recognition that an area is stable does not mean a policy of inaction. Actions such as infill density control, buffer requirements, and public facility provision must be taken to insure that this stability is maintained.

Complex Areas

Complex areas are those faced with many land use problems at once, where commercial or industrial development pushes against residential sections, or where pressure for high-density development threatens an environmentally sensitive area or would require major new public facilities. The Plan establishes policy guidelines and make significant recommendations. Decisions in most complex areas must be made soon, before it is too late for choosing. Complex area development must provide for effective and suitable traditional uses within the complex area as it relates to surrounding stable communities.

Option Areas

Option areas are those where relatively little development has taken place. A range of choices for future uses of the land is available but decisions are less urgent than in complex areas. Option areas make up the remainder of the developable land after stable and complex areas have been delineated. The Plan examines available alternatives and make specific land use policy recommendations in option areas.

Preservation of Existing Neighborhoods

The eastern part of Fairfax County, roughly the area east of Route 123 and Difficult Run, is largely developed, and a policy of protecting and enhancing existing stable neighborhoods is a prime objective in Area I, II, and IV plans. In these areas, infill development, which is usually residential, is normally of a compatible type and density. In Area III where most of the vacant and undeveloped land is located, stable neighborhoods include areas of much lower density and open space. This conservation land is classified as stable, with areas such as the western Pohick with its five- and ten-acre estates included in this classification. In stable areas, the Plan encourages buffering between potentially conflicting land uses, reduction of through-traffic on neighborhood streets, the containment of commercial expansion, and the protection of environmentally valued resources.

To further ensure compatible infill, special exception/special permit uses should be assessed on a case-by-case basis (except where otherwise noted in specific community sector text), and considered compatible with existing development if there are no adverse impacts on the transportation system, the environment, and the surrounding community.

Planned Development Centers

The planned development center, a concept that was successfully pioneered in Reston, is a means of clustering and concentrating growth in order to achieve a balance between new development and protection of the environment. It offers a mixture of housing types and densities, rather than the usual low-density sprawl, and encourages a coordinated mixture of land uses including open space, public facilities, and commercial development. The concept encourages the expansion of job opportunities and less reliance on the automobile for long-distance commuting, thus reducing noise and air pollution, and contributing to the quality of living.

Large undeveloped areas in the eastern part of the County, such as the Chiles and Lehigh tracts, the Fairfax Center Area and the area near Tysons Corner, are often treated as potential planned development centers with a mixture of land uses at relatively high densities. Development centers in the western part of the County consist of the major ones at Reston/Herndon and Centreville and less extensive developments at Chantilly and Burke. However, it is estimated that the residential stable infill in Area II outside of development centers will absorb much of the projected population growth prior to 1990, since the planned development centers, with the exception of Reston, will be in the early stages of development.

Planned Development Housing

Whereas a planned development center required hundreds and even thousands of acres, planned development housing (PDH) is a county goal that can be accomplished within a comparatively small area. In PDH zoning, just as in the larger planned development centers, construction is clustered so as to leave greater open space than is possible with conventional single-family development. Further, a mix of housing types is possible.

Environmental Preservation

Environmental protection and preservation is important throughout the County. In eastern Fairfax County, much of the significant land has already been developed. Stream valleys such as Cameron Run, Accotink Creek, Mason Neck, and Pimmit Run are to be preserved either through private conservation and/or public actions.

In the western part of Fairfax County, sensitive environmental areas such as the Potomac and Occoquan shorelines, the Difficult Run stream valley, and large parts of the Pohick Planning District are potentially threatened by inappropriate development.

The Plan uses the concept of environmental quality corridors (EQCs) as a way of coordinating some major objectives of environmental planning. The EQCs represent and relate areas which form a significant environmental pattern. Principally, the EQCs are lineal open space areas comprised of a number of natural and cultural resource features. Streams, their floodplains, wetlands, and public parks form the core of the system. Prime wildlife habitats, heritage resources, rights of way, and citizen-identified environmental resources are additional components which may not necessarily

coincide with the lineal, stream-based pattern. The EQCs are designed first and foremost to protect sensitive environmental features from harmful degradation, thus preserving these amenities, but the system of EQCs also functions in the overall land use plan as a network of natural buffer areas of limited development which serve to define and space more developed communities. Where appropriate, they may provide recreational opportunities, though care must be taken not to conflict with the main environmental protection function of the corridor system.

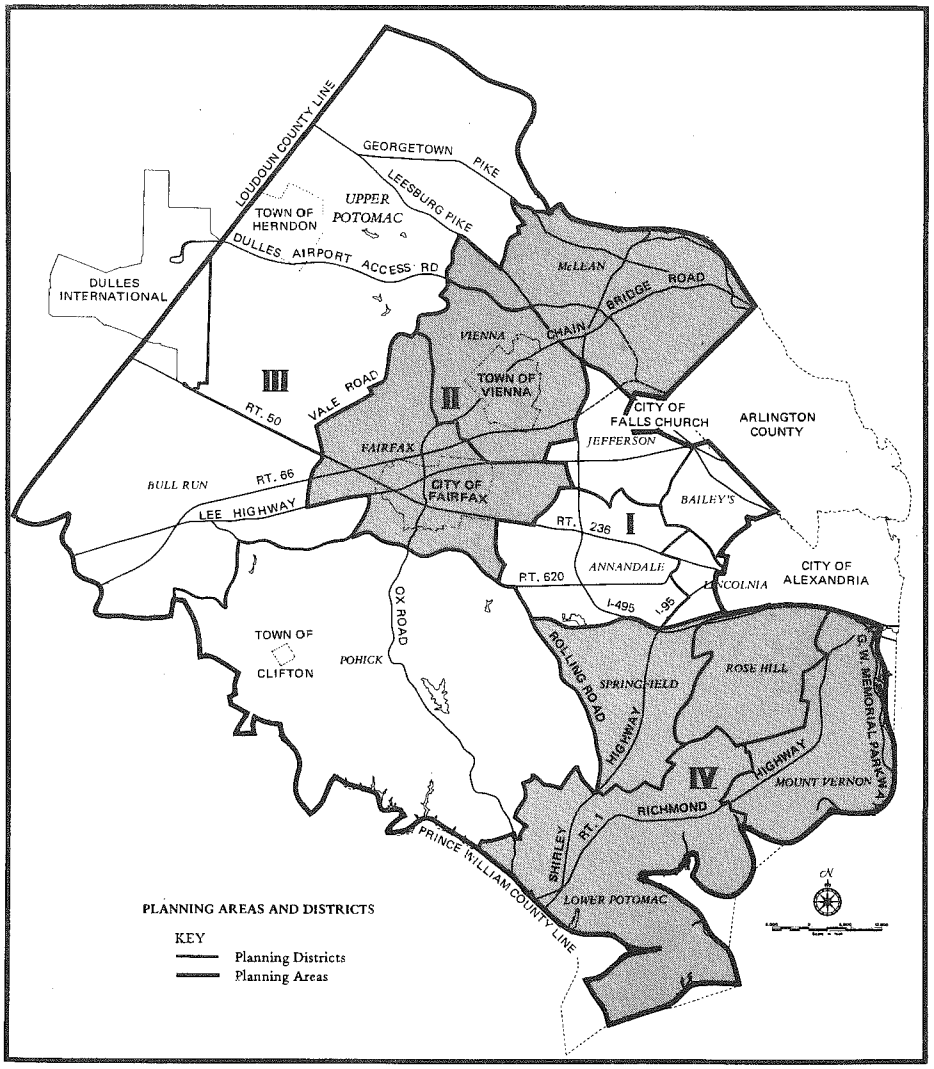
Management of Heritage Resources

The identification, study, and preservation of our heritage resources is one of the goals of the County's planning process. In our rapidly growing county, many important archaeological sites and historic structures are being lost. To create an optimum balance between the conflicting interests of economic growth and the preservation of our heritage resources, the Heritage Resources Management Plan sets forth general policies and guidelines to maximize preservation while simultaneously minimizing its impact on economic growth. The Heritage Resource Management Plan includes management strategies for each Planning Area and District. Summaries of these management strategies and recommendations are included in each Area and District Plan. Consultation with Heritage Resources Branch staff is recommended early in the planning stages of development so that heritage resources can be evaluated and preservation alternatives can be examined.

Economic Growth Centers

Areas of employment growth are located throughout the County in areas with access to available labor and a good existing, or potential, transportation system. They are usually located near population centers like Reston and prime interchanges and transportation nodes as at Tysons Corner and Dulles. Rail and automobile corridors such as Burke and the I-95/I-395 corridor are also key areas for this kind of development. The I-95/I-395 corridor, Dulles Airport, and Reston vicinity will provide the areas of greatest potential economic growth, although to realize this potential, the transportation deficiencies of the Dulles area must be overcome. One of the key concepts in the location of these centers is to encourage work-trip movement away from the congested eastern parts of Fairfax and to reduce travel times and trip lengths for commuter work trips.

To provide for the needs of planned population growth and to complement existing regional commercial development, six new or expanded regional-scale centers are recommended for Fairfax County: Reston, Fairfax Center Area, Centreville, Springfield Mall, Tysons Corner, and possibly Hybla Valley. The last three are expansions of existing centers. The timing of these regional shopping centers will depend on a number of factors such as the location and timing of new housing developments, transportation improvements, and the adequate provision of public facilities. All will have good accessibility to the market areas which they will primarily serve.



Transportation

The proposed transportation network is designed to improve existing roads and mass transit, and to provide acceptable service for stable infill development, planned development centers, and economic growth areas. Potential air pollution problems are a factor in assessing development density proposals, new highway alignments, and consideration of alternative transportation modes; e.g., rapid rail transit. The Plan moves to solve transportation needs generated by the population increase with four major approaches:

- Radial roads to Washington and the highly developed eastern part of the County; (e.g., Routes 7 and 50) are improved or widened for improved transit operations.
- Circumferential roads, in addition to I-495, are proposed to be constructed or improved. Principal primary circumferential routes shown on the Plan are I-495 and Routes 123 and 28. Complementing these are additional circumferential highway improvements, including the Springfield Bypass route.
- Secondary roads are improved to provide safety and a level of convenience to the population they serve, while preserving neighborhood, scenic, and environmental features.
- Mass transit as an alternative to the automobile is given strong emphasis in the plan. New bus, rapid rail, and commuter rail proposals are made with special attention given bus transit in the next 10 years. In the period 1975-1985, the provision of rapid rail transit will be limited to the more developed eastern portions of the County, although allowance has been made for possible extension after 1985 in the western part of Fairfax County to Reston and Centreville.

Population Forecasts

The Plan is based upon a forecasted population of 686,000 in 1990. This forecast will be revised on an annual basis as changing demographic factors affect the County's growth rate. More importantly, as the Metropolitan Growth Policy Program develops annual growth policy statements, the forecasts will be revised to reflect new policies. When the changes affect other aspects of the plan, such changes will be made in the course of the plan update.

Purpose of Area Plans

Area plans have a target year of 1990. The policies which guide them are consistent with the adopted interim development and redevelopment policies and with the policies and objectives developed under other components of the planning process, especially on the countywide level.

The countywide and area plans have been developed in tandem. Planning has proceeded from both the overall countywide and small-area perspectives simultaneously, thus resulting in a healthy tension as the general countywide concepts have pressed against the localized and detailed requirements of the area plans. The area plans were developed within the guidelines set by the *Countywide Alternative* document and were, in turn, used as the foundation for this countywide Plan document.

The area plans, which reflect existing conditions and address specific issues in each area, and which are responsive to the needs and desires articulated by the citizens of each area, generally present detailed recommendations. In some cases, however, the plans highlight alternative choices available to citizens an public officials. In

these situations, the plans generally discuss the alternatives and then point the way toward selection of the most desirable alternative.

The area plans do not fully specify, nor should they, the County's complete program of action for the next 15 years. They do present a 15-year picture of the desirable future, which provides a framework for thinking about the future as the decisions which shape it are made.

The area plans will be reviewed on an annual basis. As this occurs, the revised area plans will reflect the changes in the countywide, and other, plans made in response to changing conditions.

Geographical Organization of Area Plans

Prior to PLUS, the County was organized for planning purposes into fourteen planning districts. Most of these were covered by comprehensive plans. The plans, however, were out of date or were becoming so; and they addressed different issues in a variety of ways over a period of years without ever coming to grips in a coordinated manner with the problems facing the County's local areas.

The planning districts, usually, with only a slight modification to follow subcensus tract boundaries, were combined for the PLUS effort into four planning areas to limit the areas being replanned to a manageable number and to simplify the coordination of local area planning. Portions of the County in each of the planning areas are indicated in the accompanying planning districts and areas map.

II. COUNTYWIDE ELEMENT

POPULATION AND DEMOGRAPHIC PATTERNS

HISTORY OF GROWTH

Between 1960 and 1970, Fairfax County grew at an annual growth rate of 6.2 percent, which was twice the rate of the entire Washington metropolitan area. County population increased by 205,378 persons over the decade, nearly equaling the total 1960 County population. Development occurred unevenly throughout the County in the 1960s. Areas located outside of the Beltway exhibited far more rapid rates of development than those lying within the Beltway. However, the amount of development occurring in some of the eastern, more urbanized areas exceeded that in the western sections of the County.

Fairfax County was characterized by rapid urbanization during the 1970s. The County grew from a population of 454,275 in 1970 to 596,901 persons in 1980, an increase of 142,626 persons or 31.4 percent during the decade. During 1970s, the County had an average annual population increase of 14,263 persons. Yet, the average annual population growth rate of 2.8 percent in the 1970s was a considerably slower rate of growth than had been experienced for the preceding two decades. The average annual growth rate of 2.8 percent in the 1960s was 6.2 percent in the 1950s it was 9.7 percent. The Office of Research and Statistics has projected the average annual rate of growth to be 1.7 percent from 1980 to 1990. Therefore, the County will still be growing, but at a slower rate. Even at a slower rate, the County is expected to be the most populous jurisdiction in the region by the year 2000.

The growth that occurred during the 1970s significantly changed the pattern of development within the County. During the 1970s, the inner-County areas did not grow, whereas, the western portion of the County absorbed the majority of the County's total population increases. When the County is viewed as a whole, changing patterns of development are not always evident. In fact, overviews of Fairfax County's development often lead to sterotyping of the County's population, and usually do not demonstrate adequately the diversity that exists within the County.

An analysis of demographic trends of the 1970s within Fairfax County shows that the County has a diverse population. Furthermore, areas within the County have demographic characteristics that are quite different from one another.

The eastern-most areas, close to or inside the Capital Beltway, have developed to near capacity levels in terms of available land. These areas, which were once the outer suburbs of the metropolitan region, have begun to acquire characteristics associated with an urban orientation. Compared to the western parts of the County, the population in the eastern areas is more racially diverse and lives under substantially higher density levels. The inner areas of the County contain proportionally fewer children, married persons, and homeowner households. These characteristics are more closely associated with the urban core of metropolitan regions than the suburbs surrounding large cities.

The western areas of Fairfax County, including West Springfield, Burke, Kings Park, Centreville, Chantilly, Fox Mill, Reston, and Herndon, absorbed most of the population growth occurring in the County in the 1970s. Not only were these areas the County's growth communities, they were also developing demographic characteristics that were quite different from other areas. The western areas of the County have economic and demographic characteristics that resemble traditional descriptions of newly developing suburbs. those characteristics include a large number and proportion of married couples, children, and homeowners. Also, the median age in the western area tend to be owner than the median age for the County as a whole.

The central portion of the County, including the areas of McLean, Vienna, and Oakton, while experiencing growth in the 1970s, did not grow as much as it did in the 1960s. Between 1960 and 1970, this area of the County grew by more than 50,000 persons. Between 1970 and 1980, this part of the County grew by about 26,000 persons. The central portion of Fairfax County is one of the most affluent areas, with its population having higher education and income levels than the County as a whole. This area also has the County's highest housing values.

The southeastern portion of the County includes some of Fairfax's oldest suburbs. The Route 1 and Franconia Road areas both saw extensive development in the 1950s and 1960s. This portion of the county reflects the characteristics associated with many older metropolitan suburbs. These characteristics include a declining number of school-age children, increasing racial diversity, and relative stability in the percent of households occupied by homeowners.

From the analysis of demographic changes occurring in the Fairfax County's planning districts, the diversity of the County's population becomes apparent. The changing pattern of development that occurred between 1970 and 1980 shifted population growth form the inner areas to the western parts of the County. The older, eastern areas of the County developed an urban orientation in the 1970s, while the southeastern portion of the County acquired the characteristics of a mature suburban community. Consequently, during the 1970s, Fairfax County's population became less homogeneous than it was in the 1960s. As the County continues to develop during the 1980s, the diversity of its population will become more evident.

AREA I

Planning Area I contains Annandale, Lincolnia, Jefferson, and Baileys Planning Districts. All four districts are located within or near Interstate 495, the Capital Beltway. Area I planning districts can be characterized as stable, developed areas with many demographic and economic characteristics more closely associated with urban communities than suburban areas. Area I contains a variety of neighborhoods: those that are stable, those that have been losing population, and those that have experienced a significant level of transience.

In general, Area I neighborhoods can be characterized as residential with a scattering of institutional structures, parks and open spaces, and some commercial and industrial zones. The lack of increase or decrease in Area I population is a major factor indicating stability.

Area I contains the most highly developed and densely populated portions of Fairfax County. In 1970, the population for Area I planning districts was 144,860 persons, or 31.9 percent of the County's total population. By 1980, the population was 144,886 persons, or 24.3 percent of the County's total population. In 1984,the population was 152,406, or 23.5 percent of the County's total population. It is important to note that while the area contains approximately 24 percent of the County's population, it contains only 9.3 percent of the County's total net land area, and that the population increased rapidly during the previous two decades.

In the 1950s and 1960s, Area I was developed initially with a population younger than that of the County as a whole, as is usually the case with immigrants. Reflective of the younger median age during this period, many of the residents were in the prime childbearing years. However, by 1980, the median ages for all Area I planning districts were higher than the County's median age with the result that, generally, there were significant increases in the older age categories. Therefore, in 1980, Area I planning districts typified several characteristics of the older portions of the County. Characteristically, these districts were more racially diverse than the rest of the County; contained a significant number of the County's older residents; had smaller median household sizes; had a decreasing number of school-age children; and had an increasing number of persons who were separated, widowed, or divorced. In 1984, only Jefferson had a median age lower than the County as a whole. Also, planning districts close to the Capital Beltway, such as the ones in Area I, contained the highest density levels for the County. In 1980, the density level in Area I was 7.4 persons per developable area and in 1984 the density level was 7.6. This is more than twice the density of Area II and Area IV and more than quadruple the density of Area III.

AREA II

Planning Area II contains Fairfax, McLean, and Vienna Planning Districts, which are located between the Capital Beltway and western Fairfax County, somewhat in the middle of the County.

The proximity of Area II planning districts to highways I-495,the Capital Beltway, and I-66 is a factor in the transformation of previously rural clusters into a densely populated suburb. Area II has become attractive for non-residential and residential growth. Tysons Corner is included in Area II, and has become the largest office-commercial complex in the County. The Tysons Corner area has been popularly referred to as "Fairfax County's Downtown." The accessibility of two major highway systems near Area II planning districts has not only contributed to the growth of the area, but the highway systems also provide access to downtown Washington, D. C., the Maryland suburbs, and most employment centers in Northern Virginia.

The overview of Area II planning districts indicates the districts are similar to Area III planning districts in some characteristics such as income and educational levels. Yet, the majority of the characteristics for Area III planning districts are of a different magnitude. Generally, the growth in Area III has been substantial while area II has experienced more moderate growth. The population growth of Area II planning districts during the 1970s was closer to the 2.8 percent average annual growth rate experienced by the County as a whole.

Area II can be characterized as the second fastest growing planning area in Fairfax County. The planning districts in Area II increased from a total population of 108,504 persons in 1970 to a population of 135,344 persons in 1980. This was an increase of 26,840 persons or 24.7 percent for the decade. The 24.7 percent increase in population for Area II is small compared to the 240.5 percent increase in the population of Area III, but is substantially more than the 0.02 percent increase experienced in Area I. In 1980, Area II contained 22.7 percent of the County's total population. All planning districts in Area II experienced growth in the 1970s, and Area II included 18 percent of the County's population increase in the 1970s. Yet, the growth that occurred ranged from average annual rates of 3.5 percent in Fairfax to 1.5 percent in McLean. In 1984, Area II contained 21.3 percent of the County's total population. Increases from 1980 to 1984 were minimal in all three planning districts. The density level for Area II was 3.5 persons per developable acre in both 1980 and 1984.

Area II planning districts also share similar income and educational characteristics with Area III planning districts. Area III planning district such as Pohick and Upper Potomac are characterized by high income and educational levels. Area II planning districts had 1979 median household income levels in a range of $32,393 (Fairfax) to $38,079 (McLean). All Area II levels were above the 1979 levels for the County as a whole ($30,078). this continued to be true in 1984, with the Area II range being $44,351 (Vienna) to $54,527 (McLean) and the County median $42,595. The median years of school completed by persons 25 years of age and older for Area II planning districts in 1980 were in a range of 14.8 years (Vienna) to 16.0 years (McLean). The Fairfax Planning District's level was 15.47 years in 1980; the fourth highest level for all planning districts and well above the County's median level of 13.8 years.

In summary, Area II planning districts achieved moderate growth during the 1970s. All three planning districts have the potential for additional growth in the 1980s. Of all planning areas in the County, Area II had the growth rate closest to the rate of growth for the County as a whole during the 1970s. Demographic characteristics for education, housing, and income are among the highest levels for the entire County and further indicate that planning Area II contains some of the County's more affluent residents.

AREA III

Planning Area III contains Bull Run, Pohick, and Upper Potomac Planning Districts. The planning districts in Area III can be characterized as the fastest growing areas in Fairfax County. The three planning districts in Area III had a combined 1970 population of 48,724 persons. In 1970, this was 10.7 percent of the County's total population. By 1980, the population had increased to 165,904 persons for an increase of 117,180 persons during the decade. This was an increase of 240.5 percent from 1970 to 1980. In 1980, the planning districts in Area III represented approximately 27.8 percent of the County's total population. In 1984, Area III had a population of 211, 584, or 32.6 percent of the County's total population. Compared to the 0.02 percent growth experienced during the 1970s by the older planning districts in Area I, the growth in Area III planning districts has been substantial.

The average annual rate of growth for Fairfax County during the 1970s was 2.8 percent. During this period, all planning districts in Area III exceeded the County's growth rate. The average annual rates of growth for Area III planning districts ranged from 5.3 percent for Bull Run to 17 percent for Pohick. Area III accounted for approximately 82 percent of the County's total population increase in the 1970s. By any measurements, Area III planning districts, all located in western Fairfax County, had significant population gains during the 1970s.

Another important characteristic or Area III planning districts is the abundance of land available for development. Approximately 50 percent of the County's developable acreage is located in Area III, resulting in less development per acre. Therefore, Area III has the least density of all planning areas in the County. In 1980, the density level was 1.3 persons per developable acre; in 1984 it had increased to 1.7. Area III has become attractive for a commuter-oriented society not preferring the high density of inner-County areas such as Baileys and Jefferson.

Area III contained the County's youngest residents both in 1980 and 1984 based upon the median age of each planning district in each planning area. The median ages in 1984 for Bull Run, Pohick, and Upper Potomac Planning Districts were 29.0 years, 21.0 years, and 30.0 years, respectively. The median age in 1984 for Fairfax County was 33.4 years, well above the level for each Area III planning district.

The planning districts in Area III contained the largest percentages of persons in the County in 1980. Married persons were 66.3 percent of the 1980 total population in Bull Run, 70.5 percent of the total in Pohick, and 65.7 percent of the total in Upper Potomac. Married persons were 614 percent of the 1980 total population for the County as a whole. Furthermore, married persons increased 29.9 percent in the County during the 1970s.

All Area III planning districts generally reflect the considerable growth that has occurred in western Fairfax County. The planning area generally reflects a younger population that is growing faster than that of the County as a whole. Area III was the growth center for Fairfax County in the 1970s and increases in population, housing units and density from 1980 to 1984 indicate that this growth is continuing.

AREA IV

Planning Area IV contains Lower Potomac, Mount Vernon, Rose Hill, and Springfield Planning Districts which are all located in the southeastern portion of Fairfax County. Area IV can be characterized by a lack of growth during the 1970s. Lower Potomac and Springfield decreased in population while the populations for Mount Vernon and Rose Hill increased slightly. The total population in Area IV decrease from 153,103 persons in 1970 to 150,767 persons in 1980 which was a decrease of 2,336 persons, or 1.5 percent. In 1980, Area IV contained 25.2 percent of the County's population during the preceding ten years. This decrease continued from 1980 to 1984, with the population of Area IV representing 22.7 percent of the County total.

It should be noted that the very large institutional population at the Lorton correctional facilities in the Lower Potomac Planning District and the military population at Fort Belvoir, also in that district, distort the demographics for Area IV. When these two populations are excluded, Area IV becomes more representative of the entire County in demographic characteristics such as age, marital status, and household size.

The planning districts in both Area I and Area IV contain some of Fairfax County's oldest suburban communities. Yet, these planning areas have developed differently during the 1970s. Area I planning districts have been transformed into communities with some urban demographic characteristics such as an older population, a lower percentage of married persons in the population, high population density levels, a more transient population, and a large percentage of households occupied by renters.

The planning districts in Area IV retained many suburban features during the 1970s, particularly lower population density levels, population stability, a higher percentage of married persons in the population, larger household sizes, and more households occupied by owners. The density level for Area IV decreased from 3.0 persons per developable acre in 1980 to 2.8 in 1984.

Residential development in Area IV during the 1950s and 1960s was affected by the growth of communities near the City of Alexandria and the emergence of communities in what is now the western portions of the planning area. Several communities throughout the planning area developed near U.S. Route 1 and the George Washington Parkway during the earliest stages of development. Areas near the Capital Beltway were developed during the later phases. Consequently, the level of development that occurred prior to the early 1970s accounted for much of the growth in Area IV.

In summary, Planning Area IV contains some of the County's oldest developed suburban communities. These communities are relatively stable, but the planning area lost population during the 1970s. The population of Area IV tends to be slightly older than the population for the County as a whole, particularly in the Rose Hill and Springfield planning districts. Because the planning districts are either near the City of Alexandria or the Capital Beltway, these two elements could be factors in the future development of Area IV.

ECONOMIC DEVELOPMENT AND EMPLOYMENT

FAIRFAX COUNTY AND THE REGIONAL ECONOMY

Employment growth in Fairfax County is historically dependent on the Washington metropolitan area economy. Unlike most metropolitan areas, the primary export industry of the Washington economy is services provided by government or by the private sector in conjunction with government programs. The primary function of the goods-producing sectors of the economy is to serve the population and industry within the local market area.

These unique characteristics have resulted in a remarkable economic stability for the Washington area and for Fairfax County. During periods of a strong national economy and during periods of recession, unemployment rates of the region and of the County are consistently below those of the nation. For example, in 1979, while the national unemployment rate was 5.8 percent, the rates for the Washington SMSA and Fairfax County were 4.5 percent and 3.0 percent respectively. In 1982 the County had an unemployment rate of 3.8 percent compared with 5.8 percent for the SMSA and 9.7 percent for the nation.

FEDERAL CIVILIAN EMPLOYMENT SHARE OF TOTAL NON-AGRICULTURAL CIVILIAN EMPLOYMENT IN THE WASHINGTON SMSA—1950—1981[1]

	Non-Agricultural Civilian Employment	Federal Civilian Employment	Federal Civilian Share
	(thousands)	(thousands)	(percent)
1950	592	227	38
1955	652	230	35
1960	746	236	32
1965	935	277	30
1970	1,185	322	27
1975	1,337	347	26
1980	1,593	366	23
1981	1,603	360	22

[1] U.S. Department of Labor, Bureau of Labor Statistics

Despite the continuing importance of federal government activity in the area during the post-World War II period, federal civilian employment has not risen as rapidly as other sectors of the economy.

The federal employment share of civilian employment has declined from 38 percent in 1950 to 22 percent in 1981. The accompanying non-federal employment increased share is due largely to growth in two employment sectors: 1) services; and 2) trade (wholesale and retail). Local government employment has also provided a significant share of total employment growth during the past 30 years.

Expansion of these sectors is largely due to population growth and urbanization which together produce greater demands and a wider selection of trades and services, as well as more state and local government activity. Furthermore, increases in federally-funded research and development have generated more private service activity in the area.

Since 1950, employment in wholesale and retail trade has declined in the District while the suburban share of the regional total has increased rapidly from 22 percent in 1950 (25,000) workers 79 percent in 1981 (245,000 workers). Part of this phenomenon may be traced to the decline in the importance of central business district retail activity and the increase in importance of the suburban regional mall. Employment in state and local governments and in the service industries has been increasing at slower rates in the District than in the suburbs, while at the same time, the suburban share of the SMSA in these sectors has increased rapidly. Other sectors of employment are remaining relatively constant in the District while growing steadily in the suburbs.

In effect, the suburbs are becoming urbanized. The increasing at-place employment (e.g., employment opportunities available within the County) together with multifamily dwellings are creating higher densities, new patterns of land use and greater demands for services. Fairfax County has been playing a major part in these trends.

EMPLOYMENT TRENDS IN FAIRFAX COUNTY

Following the general suburban pattern, Fairfax County has been increasing its share of regional employment. Based on data from the Virginia Employment Commission, Fairfax County had a total at-place employment of some 40,000 in 1960, representing 5.4 percent of the region. By 1970, the County's employment increased to over 97,000 for 8.2 percent of the regional total, and in 1980 its employment of 193,000 represented 11.3 percent of the region.

It is interesting to compare Fairfax County's relationship in this region with that of neighboring Montgomery County, Maryland. There are a great many similarities, particularly regarding the socioeconomic characteristics of their populations, and the topography and quality of their land. Although Montgomery County appears to be at a more advanced stage of development, perhaps its more recent trends can provide an indication of Fairfax County's future. In 1960, Montgomery County had at-place employment of 87,000, a level not approached by Fairfax County until 1968. Montgomery County's 1960 share of regional employment was 10.5 percent or almost double that of Fairfax County. By 1980, Montgomery County employment was 302,000 or 17.6 percent of the region, compared to Fairfax's 11.2 percent, indicating that Fairfax County has been closing the gap.

A major portion of Montgomery County's employment growth since the early 1960's took place in the I-270 corridor. This area was targeted for economic development by county planners, and successfully marketed by the private sector.

Fairfax County is in an excellent position to attract increasing shares of regional growth in the future, perhaps approaching or exceeding those of Montgomery County. The County has a greater variety of potential industrial areas and therefore can offer greater site choices. In addition, Fairfax County's key industrial areas that are still open for development are closer to the regional core than those which are still available in Montgomery County, most of which are along the outermost portions of I-270.

ECONOMIC GROWTH

One of the basic goals stated by the Board of Supervisors is that Fairfax County should be willing and able to accept its fair share of the Washington metropolitan regional growth. In order to accomplish this goal, the County must encourage quality growth that offers financial stability. From a financial viewpoint, the County must balance future land uses through the planning process to create a stable tax revenue flow that can pay for the quality of services desired. Future development of business and industry will be a major determinant of the financial stability of the County.

There are special advantages to encouraging growth in business and industry in Fairfax County:

1. Creation of a larger tax base with generally lower expenditures required by such uses produces surplus revenues which can pay for services required by County residents.
2. Employment opportunities are generated in the County enabling more County residents

EMPLOYMENT TRENDS OF SELECTED ECONOMIC SECTORS IN THE WASHINGTON D.C. SMSA, DISTRICT OF COLUMBIA AND SUBURBS, 1950-1981
(in Thousands of Persons)

	Year	Total Civilian Employment	Construction	Manufacturing	Transp. & Public Utilities	Wholesale and Retail	Finance, Insurance & Real Estate	Services	Federal Civilian Employment
Washington SMSA	1950	592	40	26	40	115	30	82	227
	1960	746	51	36	44	147	40	137	236
	1970	1,185	70	46	61	229	67	255	322
	1975	1,337	73	49	64	254	76	310	347
	1980	1,593	82	58	71	302	90	430	366
	1981	1,603	76	59	72	309	92	447	360
District of Columbia	1950	434	22	19	30	90	24	66	164
	1960	467	21	20	28	84	28	93	168
	1970	560	20	19	31	80	33	136	196
1975	1975	576	20	15	29	65	33	145	224
	1980	616	13	15	26	64	34	182	229
	1981	612	12	15	26	64	34	187	225
Suburbs	1950	158	18	7	10	25	6	16	63
	1960	279	30	16	16	63	12	44	68
	1970	625	50	27	30	149	34	119	126
	1975	761	53	34	35	189	43	165	123
	1980	977	69	43	45	238	56	248	137
	1981	991	64	44	46	245	58	260	135
Suburban Share of SMSA (Percent)	1950	27	45	27	25	22	20	20	28
	1960	37	59	44	36	43	30	32	29
	1970	53	71	59	49	65	51	47	39
	1975	57	73	69	55	74	57	53	35
	1980	61	84	74	63	79	62	58	37
	1981	62	84	75	64	79	63	58	38

SOURCE: Fairfax County Office of Comprehensive Planning, based on data from U.S. Department of Labor, Bureau of Labor Statistics: Employment and Earnings, States and Areas (selected issues).

to work within the County. (New population will move into the County as the regional economy grows, so Fairfax should try to capture as much of the future economic growth as possible.)

3. Properly located business and industrial centers may help produce a more efficient transportation system and less harmful commuting patterns.

4. Less congestion and more energy savings can be encouraged by locating new employment centers in Fairfax County where the labor force resides.

5. Economic development along major corridors leading into the metropolitan core such as the I-95 corridor can provide employment opportunities for County residents and can also intercept the labor force moving into the core from outlying counties.

In the summer of 1983 Fairfax County, in cooperation with other member jurisdictions in the Metropolitan Washington Council of Governments, completed Round III of the COG Cooperative Forecasting Program. The program resulted in new forecasts of population, households and employment for the region and its component counties and cities. The new forecasts for Fairfax County, which were presented to the Board of Supervisors in July of 1983, are as follows:

1. The population in Fairfax County is expected to increase from 596,000 in 1980 to 741,900 in the year 2000, an increase of 24.3 percent. By 2010, the population is forecasted to exceed 765,000.

2. Households are expected to increase more rapidly than population—over 46 percent—from 205,200 in 1980 to 300,800 in the year 2000. Between 2000 and 2010 an additional 31,500 households are expected in Fairfax County, for a total of 332,300 at the end of the forecast period. The forecasts also show that average household size will decline from 2.88 in 1980 to 2.43 in 2000 and 2.27 by 2010. This trend reflects several factors including lower birth rates resulting in smaller families, and a continuing tendency for young adults and the elderly to maintain one person households.

3. As is shown in the accompanying tables, at place employment within Fairfax County could range from a low of 328,000 to a medium of 386,000 and a high of almost 444,000 by the year 2010. These forecasts compare to an estimated 193,000 people working in the County in 1980, and represent compound annual growth rates of 1.8 percent, 2.3 percent, and 2.8 percent respectively.

It is important to emphasize that the employment projections represent the capture of alternative but reasonable shares of regional economic development.

The economic impacts of such development should not go untested. Therefore, the County will conduct an analysis on all major development proposals to assess the impact of such proposals. It should be kept in mind, also, that along with cost/revenue analysis, there should be environmental, transportation, and other forms of impact analysis, and the findings may not always agree.

FAIRFAX COUNTY EMPLOYMENT FORECASTS BY SECTOR LOW
Round III Cooperative Forecasting

	1970	1975	1980	1985	1990	1995	2000	2005	2010
Agriculture	679	621	600	600	600	600	600	600	600
Contract Const.	7,684	9,286	17,268	10,000	10,000	10,000	10,000	10,000	10,000
Transp. & Util.	1,616	4,496	7,734	12,600	15,300	16,000	16,900	17,500	18,100
Manufacturing	3,815	6,096	8,702	10,700	12,700	12,700	12,700	12,600	12,400
Trade	**18,877**	**32,450**	**48,153**	**57,400**	**62,800**	**64,000**	**65,800**	**66,600**	**67,300**
Retail	16,766	27,500	41,110	48,500	53,600	54,500	55,900	50,500	57,000
Wholesale	2,111	4,950	7,043	8,900	9,200	9,500	9,900	10,100	10,300
Finance, Ins. & Real Est.	5,002	6,402	13,097	16,200	20,100	23,800	24,300	24,700	24,900
Services	**15,336**	**28,581**	**52,387**	**70,600**	**91,500**	**112,600**	**124,100**	**131,300**	**142,300**
Personal	1,424	1,912	2,946	3,600	3,700	3,700	3,800	3,900	3,900
Hotel/Motel	389	983	1,354	1,700	2,000	2,300	2,400	2,500	2,700
Auto. & Misc. Repair	704	1,235	1,623	1,800	1,900	1,900	2,000	2,000	2,000
Recreation	600	1,128	1,904	2,300	2,700	2,700	2,000	2,800	2,800
Business & Professional	12,219	23,323	44,560	61,200	81,200	102,000	113,100	120,000	130,900
Government	**29,637**	**37,302**	**43,833**	**45,800**	**45,300**	**45,100**	**43,500**	**43,200**	**42,400**
Federal	12,789	14,034	14,832	14,800	14,800	14,800	14,800	14,800	14,800
State	1,404	2,823	4,383	5,800	6,000	6,100	6,300	6,400	6,400
Local	15,444	20,445	24,618	25,200	24,500	24,200	22,400	22,000	21,200
Other Non.-Manuf.	386	545	1,007	1,100	1,300	1,400	1,500	1,600	1,600
TOTAL	81,425	125,739	192,781	225,000	259,600	286,200	299,400	308,100	319,600

FAIRFAX COUNTY EMPLOYMENT FORECASTS BY SECTOR MEDIUM
Round III Cooperative Forecasting

	1970	1975	1980	1985	1990	1995	2000	2005	2010
Agriculture	679	621	600	600	600	600	600	600	600
Contract Const.	7,684	9,286	17,268	11,500	11,500	11,500	11,500	11,500	11,500
Transp. & Util.	1,616	4,496	7,734	12,900	16,200	17,300	18,400	19,500	20,600
Manufacturing	3,815	6,096	8,702	10,800	13,300	14,800	16,500	16,900	17,400
Trade	**18,777**	**32,450**	**48,153**	**57,700**	**64,300**	**66,900**	**69,800**	**71,400**	**71,200**
Retail	16,766	27,500	41,110	48,700	54,900	56,900	59,400	60,700	61,200
Wholesale	2,111	4,950	7,043	9,000	9,400	10,000	10,400	10,700	11,000
Finance, Ins. & Real Est.	5,002	6,402	13,097	16,200	20,600	24,900	29,700	30,300	30,600
Services	**15,336**	**28,581**	**52,387**	**72,700**	**97,100**	**126,000**	**151,700**	**165,400**	**179,400**
Personal	1,424	1,912	2,946	3,600	3,800	3,900	4,100	4,200	4,200
Hotel/Motel	389	983	1,354	1,700	2,100	2,500	2,900	3,000	3,200
Auto. & Misc. Repair	704	1,235	1,623	1,800	1,900	2,000	2,100	2,100	2,100
Recreation	600	1,128	1,904	2,300	2,700	2,800	3,000	3,000	3,100
Business & Professional	12,219	23,323	44,560	63,300	86,600	114,800	139,600	153,100	166,800
Government	**29,637**	**37,302**	**43,833**	**45,900**	**46,600**	**47,500**	**47,500**	**46,600**	**46,200**
Federal	12,798	14,034	14,832	14,800	14,800	14,800	14,800	15,200	15,400
State	1,404	2,823	4,383	5,800	6,200	6,400	6,700	6,800	6,900
Local	15,444	20,445	24,618	25,300	25,600	26,300	26,000	24,600	23,900
Other Non.-Manuf.	386	545	1,007	1,100	1,400	1,600	1,800	1,800	1,900
TOTAL	81,425	125,739	192,781	229,400	271,600	311,100	347,500	364,000	379,400

Employment Location Criteria

Decisionmakers utilize several criteria when looking for the best location for their particular needs. Those most often considered, are:

1. The use of existing economic development as a catalyst for attracting future economic development; i.e., existing centers of activity can promote both expansion within and new centers nearby.

2. The availability of transportation access and attractiveness; i.e., proximity to the District of Columbia from future Metro sites and major ground transportation corridors, as well as proximity to Dulles and National Airports and the Southern or RF&P Railroads.

3. The location of labor force and product markets; i.e., business and industry require locations which are accessible to their source of labor and to consumers of their products.

4. The locations of local-serving commercial activity (i.e., food and drug stores) are more directly related to the population which they serve. Therefore, distance and travel time to these types of economic activity are of great importance. Fairfax County must consider these criteria when planning locations to accommodate future economic development.

Potential Economic Growth

Fairfax County enjoys several features which enable it to satisfy the locational criteria identified above. (1) Its position in the metropolitan area which contains the seat of the United States Federal Government is a significant feature which sets this region apart from all others. This can be of particular importance to those industries or associations which must maintain contacts with the government. (2) Within the region, Fairfax has Dulles Airport, a major international airport which is being promoted as a catalyst for economic activity in its immediate vicinity as well as along major approaching highways. (3) Major corridors connecting Washington to points south and west go through Fairfax County. Routes 50, 7, 29-211 and more importantly I-95 and I-66 are routes of major ground transportation to which business and industry are attracted. These routes not only enhance the ability to deliver goods and services, but they also enhance the local and regional prox-

FAIRFAX COUNTY EMPLOYMENT FORECASTS BY SECTOR HIGH
Round III Cooperative Forecasting

	1970	1975	1980	1985	1990	1995	2000	2005	2010
Agriculture	679	621	600	600	600	600	600	600	600
Contract Const.	7,684	9,286	17,268	13,000	13,000	13,000	13,000	13,000	13,000
Transp. & Util.	1,616	4,496	7,734	13,200	17,200	18,500	20,000	21,500	23,000
Manufacturing	3,815	6,096	8,702	10,900	13,900	16,100	20,300	21,300	22,500
Trade	**18,877**	**32,450**	**48,153**	**58,400**	**65,900**	**70,200**	**73,600**	**76,500**	**76,800**
Retail	16,766	27,500	41,100	49,400	56,200	59,800	62,600	65,200	65,100
Wholesale	2,111	4,950	7,043	9,000	9,700	10,400	11,000	11,300	11,700
Finance, Ins. & Real Est.	5,002	6,402	13,097	16,400	21,100	26,200	31,300	36,600	36,600
Services	**15,336**	**25,581**	**52,387**	**73,700**	**102,700**	**139,500**	**179,400**	**199,500**	**216,400**
Personal	1,442	1,912	2,946	3,600	3,900	4,100	4,300	4,500	4,500
Hotel/Motel	398	983	1,354	1,700	2,200	2,700	3,200	3,600	3,800
Auto. & Misc. Repair	704	1,235	1,623	1,800	2,000	2,100	2,200	2,300	2,300
Recreation	600	1,128	1,904	2,300	2,800	3,000	3,100	3,300	3,300
Business & Professional	12,219	23,323	44,560	64,300	91,800	127,600	166,600	185,800	202,500
Government	**29,637**	**37,302**	**43,833**	**46,200**	**48,200**	**50,200**	**50,400**	**50,300**	**49,700**
Federal	12,798	14,034	14,832	14,800	14,800	14,800	14,800	15,600	16,000
State	1,404	2,823	4,383	5,900	6,300	6,700	7,000	7,300	7,300
Local	15,444	20,445	24,618	25,500	27,100	28,700	28,600	27,400	26,400
Other Non.-Manuf.	386	545	1,007	1,200	1,400	1,700	2,000	2,100	2,200
TOTAL	81,425	125,739	192,781	233,600	284,000	336,000	390,600	421,400	440,800

imity of employment locations to residences of the labor force. (4) Fairfax will have six stations in the regional rapid rail transit system. These stations offer locational opportunities for those industries to which metro-rail linkages may be an advantage. (5) Fairfax County provides one of the most highly skilled and educated professional labor forces in the U. S. This labor force provides a continuing attraction to the types of High-tech industries which have traditionally located in the Washington Metropolitan area.

Although these attractive features exist, the County should remain cognizant of the potential impediments to new development. At times, in the past, centers for economic development have lacked major public facilities needed to encourage and facilitate economic growth. The most dominant impediment has been transportation congestion at prime employment locations. Transportation problems could weaken the market and discourage expansion, or even completion of employment centers. Just as the County should remain cognizant of its attractive features, it should also be aware of potential detractions.

In the private sector, business and industry often lack flexibility in their location evaluations. For example, in the past, dry cleaning trucks picked up and delivered to families in the surrounding neighborhood, but today, each family does its own pick-up and delivery; most businesses do not give preference to the four-rider commuter in their employee parking lots, and gas stations normally select intersection locations when shopping centers locations may be preferable to the County. These examples illustrate inflexibilities of business and industry which must be changed in the future. Marketing and commuting patterns of business and industry need to be changed to match changing technologies in land use planning and transportation; i.e., mass transit.

Fairfax County also lacks an adequate cross section of labor force to meet the total requirements of business and industry. Secondary skills and lower income labor are needed to match the highly skilled labor force that already exists in the County. The lack of housing for lower-income labor forces in the County forces them to locate outside the County, which in turn places heavier impacts on ground transportation, increases pollution, etc. In addition, minimum attention to vocational training in manual skills adds to the problem.

Often in considering economic growth, other land uses are given higher priority over business and industry. When such trade-offs are considered, locational requirements for nonresidential development are more severe than for residential development, in the sense that centralized locations are required to conduct business. A dispersed labor force must have adequate access to its place of work; therefore, business and industry require sites with good access to roads and major transportation corridors.

COMMERCIAL ACTIVITY

Commercial activity is generally defined as retail and service industries and office activities which serve a local market. This includes neighborhood, community, and regional shopping centers; free-standing and highway-oriented commercial space; and professional, insurance, bank, and real estate offices.

For concept planning in Fairfax County, commercial space has been divided into two basic categories: (1) that space which is region-serving, and (2) that space which is local-serving. Region-serving commercial space includes the major regional shopping malls such as Springfield, Tysons Corner, and Fair Oaks. Free-standing commercial space includes single-store operations such as lumber yards, auto dealerships and home improvement centers. Local-serving commercial space includes food and drug stores and beauty and barber shops, typically found in neighborhood and community shopping centers.

The data in the following table reveals that there are about 2,200 acres of vacant commercially zoned land in Fairfax County. This land is approximately evenly divided between that which is zoned for office use and that which can accommodate retail facilities. In some instances, retail zoned land may not be suitably located to adequately fulfill future retail service needs of new population growth. Therefore, new sites may have to be zoned in more marketable locations. Future planning efforts must consider alternative uses for existing zoning which may not be viable for retail development.

This may suggest a need for rezoning of nonessential commercial strips to other uses. Revitalization of older existing commercial centers may also free up underutilized commercial land. Alternative uses for excess vacant or underutilized commercial properties might include office infill of retail centers and/or medium-to-high intensity residential. Such uses would tend to maintain property values and improve the viability of the existing retail commercial facilities.

The following table shows the relationship of local-serving commercial retail land use to population.

SUMMARY OF COMMERCIALLY ZONED LAND IN USE AND VACANT IN FAIRFAX COUNTY

	Existing Land Use			Vacant Zoned Commercial		
Planning District	Office	General Commercial	Total	Office	General Commercial	Total
Annandale	111	178	289	26	12	38
Baileys	74	207	281	26	23	49
Jefferson	207	124	331	398	26	424
Lincolnia	14	98	112	14	19	33
Area I TOTAL	406	607	1,013	464	80	544
Fairfax	124	189	313	80	64	144
McLean	1,336	260	1,596	64	156	220
Vienna	221	271	492	129	19	148
Area II TOTAL	1,681	720	2,401	273	239	512
Bull Run	41	155	196	64	192	256
Pohick	44	170	214	12	60	72
Potomac	390	322	712	220	154	374
Area III TOTAL	475	647	1,122	296	406	702
Lower Potomac	4	45	49	26	63	89
Mount Vernon	74	361	435	14	141	155
Rose Hill	28	30	58	52	48	100
Springfield	51	304	355	15	65	80
Area IV TOTAL	157	740	897	107	317	424
TOTAL	2,719	2,714	5,433	1,140	1,042	2,182

SOURCE: Fairfax County Office of Research and Statistics: *Standard Reports* 1983.

LOCAL SERVING RETAIL COMMERCIAL LAND USE AND RELATIONSHIPS TO POPULATION BEING SERVED AS OF JANUARY, 1983

Planning District	Local Serving Retail Commercial Land Use (acres)	Population (thousands)	Acres per (1,000 persons)
Annandale	76	65.5	1.2
Baileys	63	30.6	2.0
Jefferson	65	35.0	1.9
Lincolnia	32	9.4	3.4
Area I Total	235	140.5	1.7
Fairfax	4	32.7	0.1
McLean	53	55.9	0.9
Vienna	100	48.3	2.1
Area II Total	157	136.9	1.1
Bull Run	85	25.4	3.3
Pohick	120	88.2	1.4
Potomac	116	82.3	1.4
Area III Total	321	195.9	1.6
Lower Potomac	3	18.4	0.2
Mount Vernon	177	81.3	2.2
Rose Hill	14	23.0	0.6
Springfield	87	34.5	2.5
Area IV Total	281	157.2	1.8
County Total	994	630.5	1.6

NOTE: The disparity in these figures from those used previously is due to exclusion from this table of data on region-serving, highway-oriented, and office commercial uses. This table represents only local-serving shopping centers and stores.

Demand Projections of Local-serving Commercial Activity

Commercial space required for local-serving needs is expected to increase in Fairfax County in direct proportion to population growth. The demand is generally composed of retail and service facilities in neighborhood and community centers. Space requirements can expect to be in the range of 15 to 20 sq. ft. of gross leasable area per person, developed at floor area ratios in the 0.25 to 0.3 range.

Area I

Area I is located on the borders of Falls Church, Arlington County, and Alexandria. It is reasonable to assume that shopping facilities in Area I also serve nearby residents in those jurisdictions, and that County residents do some of their shopping in adjoining non-County areas. The ratio of local commercial land use of 1.7 acres per thousand population is in line with the Countywide average of 1.6 acres per thousand, indicating self-sufficiency of local commercial services.

In the future, the commercial demand from other jurisdictions is not expected to grow and it can be assumed that it will stabilize at the existing level. Since most of the future growth in Area I is not located in close proximity to the built-up commercial areas near the other jurisdictions, it is recommended that the commercial establishments be drawn into more compact shopping areas, and some vacant commercially zoned land, which is not needed for that use, be considered for other uses.

It may be desirable to instigate revitalization efforts in certain older commercial areas of Area I. This could be undertaken using the mechanism of special improvement districts, or other mechanisms which will be under study by the County. Revitalization programs would encourage improvement of existing public and private properties and facilities and encourage assembly and use of vacant or underutilized sites.

In existing commercial districts of Area I, new business, serving the needs of a changing population, would help revitalization. However, expansion of commercial zoning should be discouraged. It may be desirable to downzone some excess strip commercial areas to medium-density residential uses while allowing variances for current uses. This would not create a taking of vested interests, but would prevent expansion or rebuilding of any commercial structures. Medium-density residential development should be used to provide a transition zone between commercial and single-family residential areas.

Area II

The ratio of commercially utilized land to population in Area II is 1.1 acres per thousand, approximately 30 percent lower than the Countywide ratio of 1.6. The Area II ratio reflects 157 acres of land serving a 1983 population of 136,900.

The individual district ratios are even more disparate. The Vienna Planning District, for example, has a ratio of 2.0 because of the extensive strip commercial on Route 123 which now serves Vienna, Fairfax, and many Upper Potomac Planning District residents. Other districts have substantially lower ratios of commercial acreage to population.

The Fairfax Planning District has a 0.1 ratio, which is far below the County average. However, the present needs of the residents are adequately served by facilities in the City of Fairfax. The McLean Planning District, which has a ratio of 0.9, cannot be explained as easily.

Area III

The existing ratio of commercially utilized land to population in Area III is 1.6 per thousand, the same as the Countywide average. There are 321 acres of local-serving commercial serving a population of 195,900. Area III is where the overwhelming majority of future County population growth will occur. Therefore, it will be necessary to identify the best locations for new commercial development to serve the expanding market. Care should be taken to avoid strip development along the major roads in Area III.

Area IV

The existing ratio in Area IV of commercially utilized land to population is slightly higher than the County as a whole. There are 281 acres of local-serving commercial and a population of 157,200, which yields a ratio of 1.8 acres per thousand persons. Within Area IV, Rose Hill and Lower Potomac Districts have ratios of 0.6 and 0.2 respectively, while Mount Vernon and Springfield have ratios of 2.2 and 2.5 respectively. This disparity may be partially explained by the general character and trend of development in these districts. The Lower Potomac and parts of Rose Hill Planning Districts are less densely developed and more rural in character. The Mount Vernon and Springfield Planning Districts are more densely developed and have a considerable amount of commercial strip development.

As Lower Potomac and Rose Hill Planning Districts develop residentially, there will be greater pressures to develop commercial space because of the smaller amount of commercial space that now exists. Additionally, the increased congestion of roads caused by growth will change market areas and increase demand for commercial space in the growth areas. Perhaps the greatest challenge in commercial planning in Area IV, however, is in revitalizing the commercial strip developments along the Route 1 corridor and in the Springfield areas. County policy should encourage improvement in these areas, including possible rezoning of excess vacant or underutilized land to accommodate other high density office or residential uses. Such development could reinforce existing markets and improve the viability of existing centers.

Concentration, intensification and renewal/refurbishing of existing commercial strips and centers should also free up additional underutilized commercial land. This suggests a need for rezoning of nonessential commercial parcels to other uses. Some zoning to commercial districts may take place because the existing commercially zoned vacant parcels are not adequately located to serve future growth.

GUIDELINES FOR PLANNING AND LOCATING SHOPPING CENTER SITES

The planning and locating of shopping centers and other retail establishments is often a source of great conflict between residents and the business community. The citizens, particularly those who live in the closest proximity to the proposed commercial center, want shopping centers and other facilities to have minimum visual impact on them and their neighborhood. Unfortunately the standards they desire often have an adverse effect on the marketability of commercial activities.

On the other hand, commercial developers have a need for their facilities to have maximum exposure to a larger market than can be provided by immediate adjoining neighbors; and often, the features designed to provide this exposure do have an adverse effect on the adjoining neighborhoods.

A key objective in the planning of commercial development should be to achieve a balance between the exposure needed to enhance economic stability of a shopping center and its individual businesses, and the aesthetic quality and visual (or other environmental) relationships to the adjoining neighborhood that will respond to community concerns.

This objective should be addressed through the planning and zoning process by providing commercial development locations with excellent visibility and accessibility, while at the same time requiring design standards which protect the interests and concerns of the nearby citizens.

Protection of Adjoining Communities

Some things which need to be considered in order to maintain and enhance the stability of communities are:

— Screening and other transitions between the commercial development and its residential neighbors. Particular attention should be given to transition yard depth in cases where service drives and commercial parking or loading is adjacent to incompatible uses. This should be remedied, even if the needed transitions are greater than currently required by the Zoning Ordinance.

— Design emphasis on views of commercial signage and landscape features of the development. The use of landscaped earth berms can be successful so long as the berms don't obstruct signs and the more attractive design features of the commercial facility. Screening from view of trash dumpsters and loading and unloading areas is also important.

— Parking lots should be designed in such a way as to break up what is often a "sea" of parking—with strategically placed landscaping and pedestrian access paths from parking to the commercial activities.

— Provision of adequate land to accommodate other commercial uses which are likely to be attracted to the area. Citizens and planners are often concerned about a shopping center setting a precedent in an area, whereby it will become a catalyst that attracts highway-related uses such as gas stations and fast food restaurants to individual sites. This concern could be avoided if planning and zoning is designed to accommodate these uses by providing enough land. A shopping center site should be large enough so that the center design accommodates development "pads" strategically located as part of the center, or that adjoining parcels can be properly planned in anticipation of these types of uses. In all cases, strict attention should be given to design and landscaping features that enhance rather than detract from the surrounding community, and in the case of on-site pads, do not interfere with the natural pedestrian movement between the parking areas and the shopping facilities.

Locating Retail Commercial Centers for Maximum Accessibility and Marketability

One of the least desirable aspects of past development in Fairfax County and elsewhere, has been the tendency for retail commercial development to occur in strips along extensive sections of highways.

Still, it is necessary to recognize that while these commercial facilities have not always made the best use of land, they serve a need for the community and a place should be found for them. Sometimes commercial strips develop because sufficient land is not available at or near key intersections at the time commercial development becomes marketable. Obviously, this is not an easy problem to overcome. However, one way to attempt to prevent stripping of commercial activities would be to plan for sufficient commercial land at development nodes along major arteries— and at the same time carefully plan for viable noncommercial uses to be located between those nodes. This should be a key objective in the future planning of commercial development in Fairfax County.

Selection of nodes should take into consideration the distances and time people will travel as well as the characteristics (existing or planned) of the community to be served. Selection should take into account the full array of goods and services that people need, and nodes should be spaced in such a way as to distribute the transportation impacts and maximize convenience to the markets being served. It is desirable to locate commercial facilities within areas developed at urban and suburban densities, as opposed to locating them on the outer edges of such densities adjoining low density development.

Some nodes of commercial development should be scaled to accommodate neighborhood needs and should be limited to neighborhood goods and services. Others should be scaled to accommodate the broader needs of larger segments of the community, emphasizing goods and services for which people will travel longer distances such as general merchandise, home furnishings, home improvement supplies and automotive sales and service.

The following factors about commercial market area size and distance should be kept in mind.

— Numerous studies indicate that the average person will travel up to one-and-a-half miles for food; three to five miles for apparel and household items when selection is not important; and eight to ten miles when ranges, selection, and price are important. They will travel even longer distances for major purchases such as automobiles, but relatively short distances to obtain repair and maintenance services.

— The market area served by a shopping center (the area from which customers will drive to shop) is related to ease of access and is shaped by zones of accessibility, population, buying power, and location of competition.

— Neighborhood Centers generally serve an area within three to five minutes' driving time and generally have a supermarket as the anchor store. To support a center with a supermarket anchor, a population of 10,000 or more is desirable. Newer centers in Fairfax County generally range in size between 80,000 and 125,000 square feet. Generally it is assumed that one acre for each 10,000 square feet is reasonable. However, it may be desirable to provide an extra 10% to 20% acreage to accommodate other commercial uses in order to discourage future stripping of other facilities along the highway.

— Community shopping centers carry a greater range of merchandise than do neighborhood centers. Usually, they have a junior department store, a variety store, or a discount store as an anchor. They range from 100,000 to 300,000 square feet in size (10 to 30 acres). They should serve a population of at least 40,000. Planned community center locations should have adequate land for expansion since it is desirable to promote commercial concentration and discourage strip development. Community shopping concentrations can, and sometimes do, comprise two or more neighborhood-sized centers (10-12 acres each) with shopping facilities that are more complementary than they are competitive. Locations for such concentrations should be considered if there is opportunity to promote relatively free movement between the individual centers without greatly impeding traffic on the main highway.

Transportation Considerations

— Shopping Center sites should be easy to enter and safe to leave. It is important to maximize free flow of traffic while driving toward and entering a site. *Therefore, a right turn into a center for the largest probable volume of traffic is very important.*

For neighborhood and convenience centers, a good rule of thumb is that, whenever possible, centers should be right-turn accessible to vehicles on the trip from work to home.

— Site visibility is important, both for marketing the center and for providing a reasonable warning to traffic that the shopping center is ahead.

— It is desirable to have shopping centers located at intersections of roads which provide access both directly and indirectly to a large enough trade area to support the proposed center.

1. The more desirable locations for neighborhood centers are usually those sites where minor arterials intersect with collector streets.

2. The most desirable locations for community centers are at intersections of major arterial highways with other arterial highways.

— Interchange locations should be avoided because they generally concentrate major traffic flows where additional access at-grade would be disruptive. This is especially true for large centers such as those serving community and regional markets.

In addition to the above preliminary considerations a number of transportation issues should be addressed in the course of the planning and zoning process. These include:

- Roadway Capacity—The proposed shopping center's impact upon the traffic conditions of the area road network.
- Access—The location, number and design of access points to the shopping center. In general, direct access should not be provided to arterials since their function is to carry traffic, not provide land access. Any access points which are provided should be located as far as possible from other intersections.
- Neighborhood impacts—The potential effect of shopping center traffic upon nearby residential areas.
- Roadway Improvements—The off-site roadway improvements necessary to mitigate the impacts of additional traffic.
- Pedestrian and Transit Access—The feasibility and desirability of linking the shopping center to pedestrian and transit travel.

Multi-Use Village Centers

In an area where large supplies of land are still available, the opportunity sometimes exists to create a mix of complementary uses that help achieve a variety of planning goals. In this light, it would be desirable to find locations for Village Centers which would have a neighborhood or community commercial center as its core, surrounded by apartments and townhouses which in turn may be adjacent to single-family residential development. The higher density residential units would provide a core market for the shopping center, as well as a transition in land use to adjoining single family detached housing. Planning such concentrations would also help solve the shortage of multi-family housing in the County. A good size for the mixed commercial/higher density residential village center would be in the 50 to 60 acre range.

BASIC EMPLOYMENT

Basic employment is comprised of jobs in industries which serve regional, national and international markets. In the Washington area the growth of basic employment is closely associated with trends in federal government employment, as well as changes and locational shifts of industry in the U.S. as a whole. Virtually all basic employment activities in Fairfax County are accommodated on land zoned for office and industrial uses.

Construction companies and utilities often have main offices and equipment storage sites in industrially zoned areas, although, in these industries, on-site employment is limited. Wholesale and various services generally require storage areas for products, usually in single-story buildings with truck bays. Research and development activities including pure research as well as some limited design and manufacturing of prototype products, also utilize industrial land. To a large extent, these activities locate in industrial areas because of stringent zoning laws which prohibit their operation elsewhere. However, in Fairfax County, experience shows that significant amounts of office development occur on industrially zoned land.

Employment categories which tend to locate in major office building concentrations include finance, insurance, and real estate; federal and state government; professional offices; and nonprofit and trade associations. However, the categories other than government include national and regional offices as well as local-oriented business. Many of the businesses serving the local population will locate in the major office concentrations while others will locate in or near shopping areas closer to the residential areas.

Each of these types of economic activity makes location choices contingent upon being able to serve a geographical area much broader than Fairfax County—mainly locations that have major transportation networks and access to the remainder of the metropolitan area and the Eastern United States. Firms in these categories have tended to cluster in a few major areas because they provide the desired locational factors.

The following table summarizes the status of zoned industrial land in Fairfax County, distributed among the County's four planning areas and their component planning districts. According to the data there are almost 9,800 acres of land zoned for industrial use in the County. Of this total, about 4,800 acres or 49 percent are in use. It should be pointed out, that in some areas of the County, vacant zoned land exists which may not be competitive in the market place due to constraints such as poor accessibility, poor topography, and other reasons.

Importance of Highway Accessibility

The pattern of industrial development in Fairfax County, the Washington area, and elsewhere in the United States demonstrates the importance of highway accessibility to industrial site selection.

Industry in Fairfax County has concentrated along I-495. The developed sites are almost exclusively near interchanges with other major highways. Further development is taking place at Reston, along the Dulles Access Road, because of its proximity to the Dulles Airport. More recently development has begun to occur along the I-66 corridor in the newly planned Fairfax Center area. The early activity at Reston is also partly due to a dynamic promotion effort on the part of the developer, tied with a unique national reputation enjoyed by Reston during its earlier years.

In other parts of the Washington metropolitan area, locations along major highways have been important for industrial development; in Montgomery County, the main catalyst for industrial growth has been I-270 and in Prince Georges County, growth has occurred along I-495 and the John Hanson Highway. The Boston metropolitan area has experienced phenomenal industrial growth, and most of it has been located along the Boston Beltway, I-128.

Excellent highway location is usually greatly enhanced by airport vicinity location. Virtually all industries around major airports in the United States such as Chicago, Detroit and Atlanta have located along interstate or other major highways leading to the airports. However, an airport itself is not as much a catalyst for economic development as it is a catalyst for highway development, which in turn attracts industrial growth. Industries still must be served by truck routes and easy automobile access for their employees.

It is to the County's advantage, from the standpoint of promoting economic development, to have improved access to the Dulles Airport Access Road as well as improvements to that roads' linkages with Routes 7, 50, I-66, and I-95. The jurisdiction which has the advantage of first-rate highway access in the vicinity of Dulles Airport will hold an advantageous position for attracting a large share of the economic growth that will come to the Washington area.

Importance of Highway Frontage and Visibility

Frontage on major highways and visibility from these highways have also proven to be significant factors in attracting industry to Fairfax County. This is particularly true of research and development establishments, many of which put a high value on the prestige and institutional advertising advantages of sites which are visible to passing traffic. It should be emphasized, however, that highway visibility is not synonymous with strip development. The following table presents the availability of frontage along major highway corridors associated with land planned and/or zoned for industrial, office, and basic commercial uses in Fairfax County. The data shows some 142,900 feet, of which 51,700 feet or 36% are in use. Of the remaining 91,200 feet of frontage, it should be emphasized that the most desirable is that which is closest to interchanges where the combination of high visibility and easy accessibility exists. It is not unusual for land with frontage—but away from interchanges—to remain vacant for long periods of time, while interchange sites located elsewhere are being occupied.

HIGHWAY FRONTAGE OF USEABLE LAND PLANNED AND/OR ZONED FOR INDUSTRIAL AND MAJOR COMMERCIAL USE IN FAIRFAX COUNTY

Area	Land in Use	Zoned	Vacant and Useable Planned/ Not Zoned	Total	Total Frontage
Reston Dulles Corridor	7,400	32,000	16,000	48,000	55,400
Tysons					
Dulles Access	4,400	6,000	300	6,300	10,700
Beltway	7,600	3,000	—	3,000	10,600
Merrifield					
I-66	1,100	600	—	600	1,700
Beltway	3,000	4,600	—	4,600	7,600
South Beltway	7,700	2,600	—	2,600	10,300
I-95 South	16,700	10,500	300	10,800	27,500
Fairfax Center	3,800	600	11,500	12,100	15,900
Centreville	—	2,500	700	3,200	3,200
Countywide Total	51,700	62,400	28,800	91,200	142,900

SOURCE: Office of Comprehensive Planning

SUMMARY OF ZONED INDUSTRIAL LAND IN FAIRFAX COUNTY BY PLANNING DISTRICT

Planning District	In Use	Vacant	Total Zoned
Annandale	478	106	584
Baileys	9	3	12
Jefferson	179	24	203
Lincolnia	125	73	198
Area I Total	791	206	997
Fairfax	114	107	221
McLean	297	180	477
Vienna	220	88	308
Area II Total	631	375	1,006
Bull Run	1,109	1,555	2,664
Pohick	51	84	135
Potomac	871	1,318	2,189
Area III Total	2,031	2,957	4,988
Lower Potomac	428	307	735
Mount Vernon	101	—	10
Rose Hill	185	92	277
Springfield	704	1,069	1,773
Area IV Total	1,327	1,468	2,795
Countywide Total	4,780	5,006	9,786

SOURCE: Office of Comprehensive Planning
Office of Research and Statistics

ECONOMIC DEVELOPMENT AND EMPLOYMENT GOALS

The following goals set forth by the Board of Supervisors relate directly to Economic Development and Employment.

Policy 6: Housing Opportunities. All who live and/or work in Fairfax County should have the opportunity to purchase or rent safe, decent housing within their means. The County's housing policy shall be consistent with the Board's support of the Metropolitan Washington Council of Government's "fair share" formula.

Policy 7: Employment Opportunities. Fairfax County should encourage employment opportunities with the objective of steadily increasing the proportion of people working and living in the County and of reducing the distance between place of residence and place of employment.

Policy 10: Transportation. Fairfax should encourage the development of accessible transportation systems designed to move people and goods efficiently through advanced planning and technology with minimal environmental impact and community disruption. Regional and local efforts to achieve a balanced transportation system through the development of rapid rail, commuter rail, expanded bus service and reduction of excessive reliance upon the automobile should be the keystone policy for future planning and facilities.

Policy 11: Private Sector Facilities. Fairfax County should encourage the development of appropriately scaled and clustered commercial and industrial facilities to meet the need for convenient access to good services and employment.

Policy 12: Revitalization. Recognizing its commitment to sustain and improve the quality of life, Fairfax County should encourage the revitalization of older areas of the County where present conditions are inconsistent with these policies, and prevent the encroachment of commercial and industrial development on residential areas.

The following recommendations are based on policies as stated by the Board of Supervisors, analysis of existing conditions, and estimates of future demands for economic development.

A. The County should identify and reserve land in sufficient supply to support the County's long-range needs for basic employment and regional commercial activities.

B. Projections of short-range basic employment needs (five to ten years) as identified in accordance with Recommendation A, should be supported by Fairfax County through provision of all necessary public facilities. Projection of the five to ten year needs should be updated annually.

C. Zoning applications related to the short-range (five to ten year) needs, as defined in Recommendation B, should be supported by the County.

D. The County should discourage existing commercially-zoned land from leading toward commercial sprawl. This land should be considered surplus commercial land and should be rezoned for use as mediumto high-density residential, for needed public facility space, for other activities that support the existing value of the property.

E. Development adjacent to centers of employment and economic activity should be coordinated with surrounding neighborhoods in such a way as to insure the stability and integrity of both. Transitional land use buffering such as mediumto high-density residential should be used to prevent the spread of nonresidential activity while at the same time fortifying the economic viability.

All buffering shall preserve, maintain, and utilize natural vegetation, particularly trees, as buffers to the maximum extent physically possible.

F. The County should use Metro as a catalyst for economic development and employment growth, by capitalizing on Metro station areas as multiuse activity centers.

The County should consider more flexible densities within walking distance of Metro stations to encourage maximum utilization of development potentials, and provision of a wide variety of residential types and employment opportunities.

The County should encourage federal government occupancy of rental office space in Metro station areas to maximize their attractiveness to a large share of the region's labor force, increase ridership on Metro, reduce traffic congestion, and reduce the need for Metro subsidies.

The area plans and the countywide plan recognize the importance of planning for both access to Metro and the development of Metro station areas. The Area II and Area IV plans as adopted make a detailed recommendation addressing these questions. Consultant studies and staff analysis on the Vienna line and Springfield line Metro stations served as input to the Area II and Area IV plans, respectively.

G. Fairfax County should put a high priority on improving and coordinating those transportation networks which are needed to encourage economic development and employment growth.

Fairfax County and major developers should initiate traffic circulation studies at locations with high economic development potential, aimed at maximizing their economic potential while minimizing their adverse impacts.

H. Fairfax should encourage the in-migration of business and industry into the County and work with other jurisdictions to coordinate developments within the region. The County should work with other local governments through COG to express specific County objectives to GSA and Congress, and to encourage and develop federal legislation to provide for inputs of local governments to GSA policies and change in GSA leasing policy to better consolidate it with County land use plans.

The County should monitor GSA policies closely in order to use them to the County's advantage.

The County should be promoted as a business location to those types of industries not currently in the County which could provide needed job opportunities.

In order to attract employment opportunities for Fairfax County residents the County should participate in efforts to promote industrial development in the region as a whole to national and foreign industries while emphasizing the pros and cons of each industrial area within the region for each type of industry.

The County should assess the potential of the Washington area as a regional and national headquarters center for major corporations, as opposed to New York, Pittsburgh, Atlanta, Miami, New Orleans, Dallas, Houston, etc. The County should capitalize on Washington's strengths, try to overcome weaknesses, and enhance Fairfax County's competitive position within the Baltimore-Washington area.

I. The County and local business and industry should coordinate their efforts to improve the quality of the Fairfax labor force and maximize their utilization.

The County should examine existing and potential national manpower needs and existing and potential local labor force resources. It should delineate job skills which may be lacking in the County and increase educational and technical training in those areas.

The County should encourage use of untapped labor resources and coordinate job opportunity information with other public and private employment agencies in the region.

The County should encourage existing industries to provide flexible job opportunities to meet the needs of the resident labor force, especially with respect to women, retirees, students, and the handicapped. Part-time jobs may be especially appropriate.

J. Fairfax County should support the broader requirements of business and industry by providing adequate housing for its labor force. Housing opportunities for lowand moderate-income families should be increased to provide additional unskilled and semiskilled workers for existing and future industries.

Planned Commercial Office Categories

Generally, the Plan recommendations for commercial office use contained within the individual community planning sectors refer to four categories of office use as follows:

- Transitional low-rise office use. A nonretail low-intensity commercial use which provides an effective transition (e.g., townhouse style) between more intense commercial activity and existing stable or planned residential uses. Such use should be of a scale (height and bulk) and style that is compatible with the adjacent stable or planned residential community. In no case should transitional low-rise office uses exceed three stories in height.
- Low-rise office use. A nonretail low-intensity commercial use which provides an effective transition between higher intensity commercial or industrial uses and residential or transitional low-rise office uses. Such use should be of a scale (height and bulk) and situated on a parcel of sufficient size to ensure compatibility with the adjacent existing and planned uses. In general, mid rise office uses should not exceed six stories.
- High-rise office use. A nonretail, high-intensity commercial use which is located either adjacent to mediumand high-intensity commercial and industrial uses or on a site of sufficient sized to ensure its compatibility with the surrounding existing and planned uses.

Commercial office intensity ranges recommended in the plan and shown on the maps are defined in terms of maximum or favorable building height. Only the lower one of the range is planned as the presumptive appropriate intensity. Intensities may be approved only with the usage of necessary and desirable development criteria and

COMMERCIAL AND INDUSTRIAL ZONING CATEGORIES

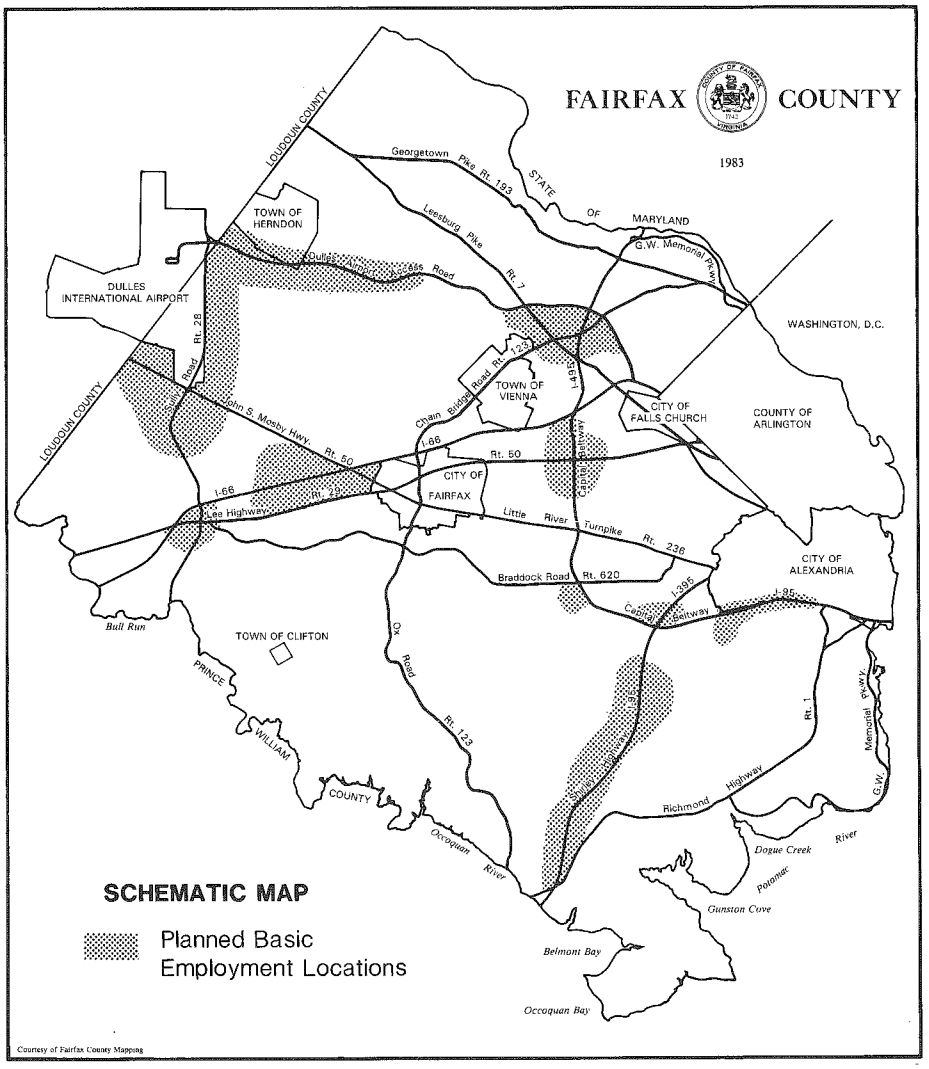
PLANNING DESCRIPTION	1974 ZONING ORDINANCE
Commercial Districts	
Low-Rise Office Transition	C-1
Limited Office	C-2
Office District	C-3
High Intensity Office	C-4
Neighborhood Retail Commercial	C-5
Community Retail Commercial	C-6
Regional Retail Commercial	C-7
Highway Commercial	C-8
Industrial Districts	
Industrial Institutional	I-I
Light Industrial Research	I-1
Industrial Research	I-2
Light Intensity Industrial	I-3
Medium Intensity Industrial	I-4
General Industrial	I-5
Heavy Industrial	I-6

controls as part of the rezoning process. Retail commercial and industrial intensity ranges are defined by specific development criteria and controls as specified in the appropriate zoning ordinance.

Prime locations with potential for basic employment development have been identified and discussed, by the staff, in each of the published area plans. These locations are generally identified in the adjacent map.

It should be recognized that any development proposals for these locations need to undergo analysis of their environmental impact as well as of the public facilities support they will require—particularly transportation, and their potential fiscal impact on the County's budget.

The development of greater employment opportunities is a key to the future of Fairfax County. If the County is to become more self-sufficient in terms of jobs and revenues, the County must take a leadership role in generating employment opportunities through the provision of public facilities necessary for growing business and industry. Without this support many planning objectives of the County cannot be met.



Office Employment Growth in Fairfax County

The nature of the Washington Metropolitan area economy indicates that the major portion of its growth will result from activities which will demand construction of new office space. For analytic purposes, office employment is assumed to comprise the combined totals of Federal civilian employment, Finance, Insurance, Real Estate, and Business and Professional Services, as well as 50 percent of employment in the Transportation and Communications sector of the economy.

Fairfax County's increase in share of the region's office employment is expected to exceed its share of overall employment. For example, the County's share of total regional employment is expected to increase from 13.4 percent in 1980 to a range between a low of 14.1 percent and a high of 15.9 percent by the year 2010. At the same time, however, the County's share of the region's office-type employment can be expected to increase, dramatically, from 8.6 percent in 1980 to a range between a low of 15.4 percent and a high of 19.6 percent by the year 2010. These forecasts are a direct result of the relatively plentiful supply of high quality office sites which Fairfax County enjoys when compared with other regional jurisdictions. For example, while Montgomery County has utilized many of its prime sites along the Beltway and I-270, Fairfax County still has some prime sites on the Beltway (Tysons and U.S. 50/I-495), along the Dulles Access Road and along the I-66 corridor including the sites recently planned in the Fairfax Center Area.

The following table presents the forecasted ranges of incremental growth of office employment as well as estimates of the amount of office space needed to absorb that growth in Fairfax County for the 1980-2010 period. The forecasts assume there will be a need for 275 square feet of space per employee. This is much higher than the 200 square feet per employee usually assumed for urban development. However, it reflects the experience of office development in Fairfax County, based on data provided by the Economic Development Authority.

As the forecasts indicate, new office development in Fairfax County during the 30 year period 1980-2010 can be expected to range from a low of about 27.8 million square feet to a high of some 56.4 million square feet.

Based on the trends of recent years, there is strong reason to believe that the County will achieve the "high" forecasts.

- Fairfax County's employment growth during the late 1970's exceeded the forecasts developed in Round II of the Council of Governments Cooperative Forecasting Program. Total employment, according to the Virginia Employment Commission, exceeded 192,000 in 1980 compared to a forecasted 176,500, a difference of 9 percent. Even more important, however, is the fact that the services sector which largely comprises office activity reached 52,000 in 1980, exceeding the forecasted 42,000 by almost 25 percent.

FORECASTED INCREMENTAL GROWTH OF OFFICE EMPLOYMENT AND RELATED OFFICE SPACE REQUIREMENTS IN FAIRFAX COUNTY FROM 1980 TO THE YEAR 2010

YEAR	Employment (in thousands) LOW	MEDIUM	HIGH
1980-1990	49	56	62
1990-2000	33	59	86
2000-2010	19	30	57
1980-2010	101	145	205
	Space Requirements (in Sq. Ft.)		
1980-1990	13,475,000	15,400,000	17,050,000
1990-2000	9,075,000	16,225,000	23,650,000
2000-2010	5,225,000	8,250,000	15,675,000
1980-2010	27,775,000	39,875,000	56,375,000

SOURCE: Fairfax County Office of Comprehensive Planning, derived from forecasts developed for Round III of the Council of Governments Cooperative Forecasting Program.

Industrial Employment

Forecasts developed for Round III of the Council of Governments Cooperative Forecasting Program indicate that Fairfax County can expect a continuing increase in share of the region's industrial employment. The County's 13.1 percent share in 1980 (up from 5.7 percent in 1970) is projected to increase to a range between 18 percent and 20 percent by the year 2000.

Much of Fairfax County industrial employment growth reflects a probable dramatic shift of such economic activities to the suburbs from central areas of the region. This shift probably represents redevelopment of former industrial areas in the City for other uses and the movement of some city industries to outlying locations.

The following table provides estimates of incremental increases in the County's industrial employment, as well as land absorption which can be expected. The estimates are based on an assumed employee to land density of 15 persons per acre. This is typical of the current average densities for wholesale and warehouse and manufacturing activities in Fairfax County.

Although it is likely that new development around Metro stations will be more intense than is generally true of these industrial uses, there may be some opportunities at selected Metro area sites to accommodate some of this growth. Industrial facilities may be in keeping with the character of some of the metro areas and may provide an attraction to labor force in other jurisdictions who can get to their jobs using Metro-rail.

FORECASTED INCREMENTAL GROWTH OF INDUSTRIAL EMPLOYMENT AND RELATED LAND REQUIREMENTS IN FAIRFAX COUNTY FROM 1980 TO THE YEAR 2010

	Employment (in thousands)		
YEAR	LOW	MEDIUM	HIGH
1980-1990	10.0	11.2	12.6
1990-2000	1.5	5.3	9.1
2000-2010	0.7	2.6	4.4
1980-2010	12.2	19.1	26.1
	Land Requirements		
1980-1990	670.0	750.0	840.0
1990-2000	100.0	350.0	610.0
2000-2010	50.0	170.0	290.0
1980-2010	820.0	1,270.0	1,740.0

SOURCE: Fairfax County Office of Comprehensive Planning. Land requirements based on 15 employees per acre.

LOCATIONS FOR ATTRACTING ECONOMIC DEVELOPMENT IN FAIRFAX COUNTY

There are numerous locations in Fairfax County which are planned to attract economic development. The following table identifies these areas and presents acreage estimates of vacant zoned and/or planned land which is most suitable for development (i.e. unencumbered by development constraints such as poor topography, inaccessability, etc.).

PRIME ECONOMIC DEVELOPMENT LOCATIONS IN FAIRFAX COUNTY WITH ESTIMATES OF DEVELOPABLE ACREAGES

Location	Acreage
1. Tysons Corner	300
2. U.S. 50/I-495/Merrifield	450
3. McGuin Tract	95
4. I-95/Shirley Highway	600
5. Metro Station Areas	375
6. Oakton/Flint Hill	54
7. Fairfax Center[1]	800
8. Reston Dulles Corridor	2,000
9. Dulles Chantilly	3,300
10. Centreville[2]	N/A
11. Potential Revitalization Areas[3]	N/A

SOURCE: Fairfax County Office of Comprehensive Planning

[1] Planned for mixed use on about 1250 acres with residential uses consuming approximately one-third of the land capacity making 800 acres effectively office and/or industrial. The numbers reflect the adopted primary commercial development forecasts for the Fairfax Center area.

[2] New plan proposals are under study for the Centreville area.

[3] Several areas are being considered for revitalization in Fairfax County.

These economic development locations are distributed throughout the County's four planning areas.

AREA I

The dominant economic development location in the Jefferson Planning District is the **Route 50/I-495—Merrifield Area**. Although this area straddles three Planning Districts, Jefferson, Fairfax and Vienna, its greatest development potential is in the Jefferson portion.

This area, strategically located adjacent to the Beltway at the interchanges with I-66 and U.S. Route 50 has long been a center for industrial and office activity. While most past development occurred to the west of I-495 between Route 50 and I-66, some key parcels remain vacant. The Chiles Tracts in the northeast and southeast quadrants of the Route 50/I-95 interchange, comprising some 348 acres, are the largest. They were rezoned in 1981 and development for approximately 3.5 million square feet of office space has been approved. Additional parcels in the area, comprising some 80 acres, could probably absorb another 2.5 million square feet, bringing the total new office development to some 6 million square feet. Other vacant land in this area of the County is likely to be developed as infill of industrial uses or as office and residential development oriented to the Dunn Loring Metro Station.

Major transportation improvements designated to accommodate planned development are either underway or planned for this area.

Economic development opportunities in the Annandale District are somewhat limited, when compared to other areas of the County. Some opportunity exists for infill in the **Shirley Industrial Area** located on I-395 north of the Beltway and at the **Ravensworth Industrial Park** on Braddock Road at the Beltway. Additional opportunities may exist in the Annandale CBD, an area which might, in the future, undergo revitalization.

Economic development opportunity in the Baileys District exists in the Route 7 Corridor, a heavily developed commercial strip anchored by 7-Corners and its regional shopping facilities to the west, and Baileys Crossroads—Skyline Center to the east. Skyline Center is a major mixed use complex of high-density apartments, with adjoining retail and office commercial facilities. The successful marketing of office space at Skyline indicates that a market exists which may continue in the area after Skyline is completed. The commercial areas along the Route 7 Corridor may be ready for revitalization, which could open infill development opportunities.

Development opportunities in the Lincolnia District exist at the **Shell Industrial Park** in the northeast quadrant of I-95 and the Beltway.

AREA II

Some of Fairfax County's prime locations for basic employment activities are located in Area II. Two of these, Tysons Corner and Merrifield, have in the past absorbed significant shares of the County's basic employment development. Another, the newly planned Fairfax Center area holds great potential for the future.

Continued development of basic employment in Area II may provide opportunities to intercept labor force from the western portions of the County which now travels to jobs in Arlington and the District of Columbia, and encourage reverse commuting by attracting labor force from the core areas of the SMSA to work in Fairfax County.

Each of these areas straddle the boundaries between Planning Districts both within Area II and with other Planning areas.

Tysons Corner which straddles the border between the McLean and Vienna Districts is the dominant office development area in Fairfax County, with about 10 million square feet of space developed as of 1984. Although office development has been occurring in this area since the early 1960's, some 4 million square feet of the present total was built during the period 1979 through the early part of 1982. There are now approximately 300 acres of land remaining for development, most of which is destined for office use.

Historically, land planned for office and/or industrial uses in the Tysons area has been developed at a ratio of approximately 3 to 1—75 percent office and 25 percent light industrial. However, in the future it is likely that a higher proportion of remaining land will be developed with office uses. One of the major remaining sites, the 117 acre Tysons II tract, is currently being replanned by its owners in preparation for submitting a mixed use proposal to the County.

The Merrifield Area is part of the Route 50/I-495-Merrifield area which was discussed earlier in the section on Area I (Jefferson District). The portion of this area which is in Area II is in the Fairfax Planning District. It includes the area bounded by I-66 on the north, Lee Highway on the south, Prosperity Avenue on the west, and the Beltway on the east.

In recent years, industrial land in the Merrifield area has been absorbed by wholesale, warehouse, and light manufacturing activities at densities of about 12 to 15 employees per acre. Such activities locate here to take advantage of excellent highway accessibility via Routes 50/29, I-66, and the Beltway. Although much of the available land in the existing Merrifield industrial area has been absorbed, some potentially excellent sites are available with frontage on I-66. However, the greatest development opportunities may exist around the planned Dunn Loring Metro Station which is located on I-66 at Gallows Road. The older development areas around the intersection of Gallows Road with Lee Highway may also be ready for revitalization.

The Fairfax Center Area is located west of Fairfax City. It focusses on the Route 50/I-66 interchange, westward to Stringfellow Road. The eastern portions of this area are in the Fairfax Planning District. Most of the 5,000 acre Fairfax Center is in the Bull Run District of Area III. The catalysts for the replanning of this area are the Fair Oaks Shopping Center, and the proposed Fairfax County Government Center.

The adopted Plan for Fairfax Center allows for three possible levels of development: baseline, intermediate, and overlay. The right to develop at the intermediate or overlay levels can be granted on the basis of developer commitment to certain performance standards and for provision of amenities called for in the Plan.

At the overlay level, approximately 1,250 acres of land in this area are proposed for office/mixed with residential development. Prorating the land to the residential/office mix—it is estimated that about 800 acres will be devoted to nonresidential. Planned development would yield approximately 12,500,000 square feet of office and light industrial space. It is reasonable to expect that actual development would occur at a level slightly less than that which the overlay would allow. An estimate of 90% of overlay would generate some 11,300,000 square feet of floor area. Based on experience in locations such as Tysons Corner, it is estimated that about 80% of the space will be pure office space while the remainder is likely to be R&D type industrial uses such as are found in the office parks at Tysons Corner.

Another location of Area II with development potential is the **Oakton/Flint Hill** office area on Route 123, just north of its interchange with I-66. The area contains some 54 acres for office development. Portions have been developed over the past 2 years. Ultimately, development is expected to contain approximately 900,000 square feet of office space based on an average floor area ratio of 0.4. The focal point of this area is the AT&T Long Lines Division facility, directly across Route 123 from the Oakton/Flint Hill Office Center.

Three of Fairfax County's six rapid rail Metro stations are located in Area II. They are the aforementioned Dunn Loring station in the Merrifield area, the West Falls Church Station located near the convergence of I-66, Route 7, and the Dulles Access Road, and the Vienna Station which will be located at I-66 where it interchanges with Nutley Street. All of these locations hold potential for economic development. However, the Vienna station, because of the existence of relatively large pieces of vacant land, and excellent visibility and access from I-66 probably has the greatest potential. Each of these areas are the subject of special studies to determine their ultimate uses.

AREA III

Area III contains four areas with significant economic development potential. These are the Reston/Dulles Access Corridor located along the Dulles Airport Access Road between Hunter Mill Road on the east, and the Airport on the west; the Dulles/Chantilly area which is located along the eastern boundary of the Airport and extends to and includes a large area to the Airport's south; the Centreville area which is located in the I-66 Corridor at the interchanges of that highway with Routes 28 and U.S. 29; and that portion of the Fairfax Center area which is located to the west of the Fair Oaks shopping center in the Bull Run Planning District.

The **Reston/Dulles Access Corridor** contains some 2,000 vacant acres of developable land already zoned or planned for economic development uses. Since its opening in 1964, Reston has developed some 4.5 million square feet of building area devoted to office and high-tech industrial activities. About half of this development has occurred since 1979. An additional 1.1 million square feet comprising some 700,000 square feet of office and 350,000 square feet of light industrial is under construction in 1984. The recent surge in development reflects the opening of the Dulles Access Route to commuter traffic as well as the proximity of Reston to a broad range of housing for employees in the area. Due to its strategic location and the supply of available land, this area along with the adjoining Dulles/Chantilly area provides the longest range potential in Fairfax County.

The **Dulles/Chantilly Area** contains some 3,300 acres of land which is planned and/or zoned for economic development purposes. Although much of this land has been planned for many years, it was not until 1979 that activity actually occurred here. Since that time, over one-half million square feet of light industrial space has been built with more underway in the area south of the Airport, oriented to the Route 50 Corridor. Furthermore, development is continuing at a rapid pace at the Dulles Aerospace Park (next to Redskin Park) along Route 28. Since 1976, this industrial park has experienced development of 1.1 million square feet and is currently developing at a pace of 183,000 square feet per year consuming an average of 16 acres per year. While most other areas of the County are likely to be predominantly developed for office uses, this area is envisioned as having a greater mix of light industrial activities. Development to date supports this assumption.

The **Centreville Area** is currently under study for update of its Master Plan. Currently the area contains some 249 acres of land planned and/or zoned for commercial and industrial uses. The strategic location of Centreville on I-66 with direct access to Dulles Airport via Route 28 offers great potential for economic development. Planning for such development as part of a coordinated growth center which includes residential and support commercial activities and retail and hotel development, would create an attractive alternative to other economic development locations in the County. This would relieve some of the pressure from them and help maintain a greater choice of locations for a longer period of time.

The **Fairfax Center Area** was discussed in the previous section on Area II. It should be pointed out, however, that a major portion of the economic development potential for this newly planned area is located in the Bull Run Planning District of Area III. The major development in this portion of Fairfax Center, the Fair Lakes complex, was rezoned in early 1984, to accommodate some 5.1 million square feet of office, high-tech industrial, retail and hotel development.

AREA IV

Planning Area IV comprises the southeastern portion of Fairfax County, bounded generally by the Beltway on the north, the Potomac River on the east and south, and the corridor along both sides of I-95 on the west. Development of industrial and office sites in Area IV, particularly in the I-95 corridor is expected to provide jobs for residents of that area of the County, as well as create the opportunity to intercept the labor force from jurisdictions to the south which now travels through Fairfax County to jobs in Arlington and the District of Columbia. The major economic development opportunities in Area IV exist in the I-95 (Shirley Highway) corridor and the McGuin tract in the southwest quadrant of South Van Dorn Street with the Beltway in the Rose Hill District. Additional opportunities exist in the Route 1 Corridor, and in the planned community which is proposed for the Lehigh Tract.

The I-95 (Shirley Highway) Corridor extends from the Beltway to the Prince William County line. It contains some 700 acres of the County's developed industrial and office land with the current split of activity approximately 90 percent for industrial use and 10 percent for offices.

Vacant and underutilized land either zoned or planned for such uses total approximately 1,300 acres. However, much of the land has floodplain, poor topography, or poor soil conditions. Existing development is characterized by major concentrations of distribution or light manufacturing. The area has not, in the past, been attractive to research and development, trade associations, and headquarters facilities which tend to make up most of the County's economic growth potential. It appears unlikely that this pattern of attraction will change significantly in the future.

Some of the land in this corridor, however, is in the area adjacent to Springfield Mall or is oriented to the Franconia/Springfield Metro Station. Development in these areas is likely to be predominantly office in keeping with the pattern of development being set along Loisdale Road on the western edge of the Mall.

The **McGuin Tract** is located in the southwest quadrant of the Beltway and South Van Dorn Street. It, along with the Chiles Tracts at Route 50 and I-495 and some of the acreage in the Tysons Corner area, comprises the last significant Beltway-oriented acreage in Fairfax County and, indeed, is part of a rapidly diminishing supply of such land in the entire Metropolitan Area. This tract was replanned during the 1979 Annual Plan Review for office and light industrial development. Since that time, it has attracted considerable interest.

Although the tract contains some marine clay and slippage soils which will undoubtedly present some development problems, it is estimated that some one million square feet of office and industrial uses could be built here. Ultimate development of the tract would probably comprise a 50/50 mix of office and industrial, with office uses accounting for approximately 500,000 square feet of floor area.

The **Route 1 Corridor** extending southward from the Beltway to Fort Belvoir is the subject of revitalization efforts aimed at improving the viability of existing retail commercial facilities and encouraging infill development of offices and other uses to help reenforce existing markets. The revitalization effort is being guided by the Southeast Fairfax Development Corporation. The northern end of the corridor is anchored by the Huntington Metro Station area. Activities in this area are expected to be a catalyst for improvement of the northern corridor. A planned extension of Lockheed Boulevard to the central portion of the corridor is expected to improve east-west access to Route 1, creating the opportunity to increase market accessibility.

LAND USE

LAND USE PATTERNS

A major element in the formulation of the Comprehensive Plan is an understanding of the possible limits to development in the County and the subsequent distribution of this development to each of the fourteen planning districts. Fairfax County, including the Towns of Clifton, Herndon and Vienna, comprises approximately 262,800 acres of which 233,863 are classified into various zoning and land use categories. The remaining 28,437 acres are in roads, water and small areas of land that cannot be developed.

As of January 1983, 43.8 percent (102,422 acres) of the County's developable land was in actual residential or residential-related use. Approximately 87 percent of this acreage was in use for single-family dwelling units. A total of 5,514 acres, or 2.4 percent, are in commercial/retail-related uses and 8,260 acres, or 3.5 percent, are in industrial use. Park and recreation-related land uses account for 10.0 percent (23,350) of all developable land in the County. The public land use categories, which include post offices, fire stations, police stations, correctional institutions, military installations and cultural/educational activities, require 21,401 or 9.2 percent of the total. Vacant land and other natural uses make up the remaining 72,916 acres, or 26.1 percent, of the County's developable land.

Existing and Developing Land Use Patterns

Fairfax County's land use pattern reflects a land development history similar to that of many metropolitan suburbs. A rural county until after World War II, it became a prime area for low-density residential development due to a backlog of demand for new housing, and FHA mortgage insurance availability for suburban single-family detached units. A few apartments were built, primarily in the Arlington Boulevard and Richmond Highway corridors. As the population grew, commercial and industrial zonings were granted to provide shopping amenities as well as to broaden the county tax base. With continuing growth pressure, residential land prices increased and developers began leapfrogging over small vacant tracts in the eastern portion of the County to build large subdivisions in more remote locations where land costs were less prohibitive.

Townhouses began to appear in the late 1960s as an answer to a demand for less expensive single-family housing and smaller units. Townhouses met the need of many families desiring a suburban location while retaining the income tax advantage of home ownership. Multifamily construction increased by the late 1960's, especially in the Leesburg Pike corridor between Baileys Crossroads and Seven Corners and near several Beltway exits.

This development pattern created a number of problems. Uniform low-density residential development throughout most of the County makes public transportation inaccessible for a large number of citizens. Primary dependence on the automobile, combined with lagging road construction and road improvements, led to traffic congestion along major arterials. Land was absorbed with inadequate provision for needed open space. Leapfrog development necessitated placement of public facilities in remote locations while excess capacity still existed in neighborhoods nearer the metropolitan core, a situation which strained the County's fiscal capacity both in terms of capital investment and levels of service.

However, Fairfax County adopted two progressive zoning mechanisms during the 1960s which improved the quality of its land use pattern. The cluster development concept allowed low-density subdivisions to be built on smaller lots in order to provide sizable local-serving open space. The planned residential community (PRC) zone which permitted Reston to be built proved that large-scale planned development with a mix of housing types combined with employment opportunities was a feasible alternative to conventional suburban development.

Nevertheless, technological advances, economic considerations, environmental awareness, energy scarcities, a new social consciousness and major court decisions require that land use patterns of the past be reconsidered in light of these changes. Of major concern is how new land use patterns can be planned and implemented with minimal adverse impact on existing stable neighborhoods while also preserving environmental and other features of the County which contribute to the quality of life residents presently enjoy.

Growing environmental awareness means not only more rigid development controls in floodplains and stream influence zones, but a whole range of additional factors which must be addressed, including efforts to protect air quality. In Fairfax County, automobile emissions are the major pollutants of air. Continued primary dependence on the automobile because of uniform low-density development requires construction of new roads to accommodate the resultant traffic and results in more photochemical oxidants in the air due to an increase in vehicular usage. Where roadway level of service is reduced through increased traffic congestion, ambient carbon monoxide levels rise. If air quality is to be improved in the County, automobile emissions must be reduced by a combination of actions including technological advancement, increases in mass transit usage and by provision of employment and shopping opportunities in walking or biking proximity to residential land uses.

Energy scarcities discussions often focus on the potential declining availability and increasing cost of gasoline. However, the recent increases in electrical, gas and heating oil bills raise serious questions about the future marketability of large single-family detached homes, which tend to be less efficient in energy usage than smaller multifamily or attached homes.

In earlier days, the suburbs were commonly considered the exclusive preserve of the affluent. Now it is generally recognized that no community can function efficiently or equitably unless it provides a broad range of housing for its teachers, firemen, policemen and others. The County cannot expect to continue to be attractive to office employers and industries which broaden its tax base if nearby housing is not available for middle-income employees as well as for highly paid professionals. Both enlightened self-interest and a growing body of law mandate provisions for a mix of housing prices to serve all levels of household incomes.

For an increasing proportion of households, housing costs in the County are out of reach. In 1983, the median sale price of housing in Fairfax County was $103,600.

All these considerations would indicate that future land use patterns should concentrate more development in higher density nodes where public transportation is a feasible alternative to the automobile, where employment and shopping opportunities are nearby and where a mix of housing types and prices are available.

Comprehensive planning of the land use pattern using a flexible, easily updated approach can direct growth into appropriate arrangements, sensitive to the ever changing conditions of the future.

RECENT HISTORY OF LAND ABSORPTION

In the eight years between the initial adoption of the completely revised Comprehensive Plan in 1975 and 1983, approximately 25,500 acres of vacant land were absorbed by developments and new rights-of-way in Fairfax County. This figure somewhat understates development activity as underutilized land has decreased about 2600 acres during the period. Underutilized land is defined primarily as very large residentially-planned parcels which are listed on the land records as improved because there is a single-family house on the property. Using a computer program, the amount of such acreage subject to additional development within the Plan density/intensity guidelines can be estimated.

Excluding the impact of underutilized land, for which details are not available, the land which was developed from 1975 to 1983 represented 26 percent of the 97,000 acres vacant in 1975.

The existing land use for 1975 and 1983 as shown in Table 1 and the change in the vacant land inventory by planning district as set forth in Table 2 are derived from data published annually since 1975 by the Fairfax County Office of Research and Statistics in a document entitled Standard Reports.

During the 1975-1983 period 31 percent of the vacant land which was absorbed by development went into public or quasi-public use—parks, schools, fire stations, churches and similar uses. Nearly one-third, or 8,236 acres, of vacant land was devoted to single-family detached dwelling unit lots; 6 percent of the land was absorbed by townhouse and apartment developments, and almost 10 percent by commercial and industrial uses. The remaining 5542 acres was used for new or widened rights-of-way.

Pohick Planning District had the largest amount of vacant land absorbed during the period—9968 acres. Upper Potomac Planning District absorbed the second largest amount—6819 acres. These two planning districts combined absorbed 66 percent of the vacant land which was developed in the County in the eight year period. Since these two districts accounted for only 45 percent of the vacant land absorption during the 1964-1974 decade, the current figures show the westward movement of new development.

Annandale Planning District absorbed 51 percent while Bailey's Planning District absorbed 43 percent of its inventoried vacant land. Eight of the fourteen planning districts absorbed over 30 percent of their vacant land. In the Annandale Planning District 43 percent of the vacant land was utilized for public and quasi-public uses, 34 percent for single-family detached housing and 17 percent for townhouse and apartment developments. In the Baileys Planning District 37 percent of the vacant land was utilized for commercial use and 18 percent for single-family detached housing.

Development for which a building permit has been secured has been classified as committed within the Plan context on the presumption that construction is almost certain irrespective of whether building has actually commenced. In cases where the developer has filed a preliminary or final site plan or subdivision plat with the County, development is considered anticipated. County records on committed and anticipated development are maintained on a unit rather than an acreage basis. However, by using average densities by type of residential structure it is possible to estimate the amount of land which would be absorbed if all committed and anticipated development were completed.

Table 1

EXISTING LAND USE, FAIRFAX COUNTY
1975 and 1983

Land Use	1975	1983	Change	% Land Absorption
Residential				
Single-family	88,616	96,852	+ 8,236	32.3
Townhouse	1,188	2,353	+ 1,165	4.6
Apartment	2,976	3,217	+ 241	1.0
Commercial	3,578	5,547	+ 1,969	7.7
Industrial	2,097	2,574	+ 477	1.9
Public and Quasi-Public	43,957	51,816	+ 7,859	30.8
Vacant	96,993	71,504	- 25,489	
Sub-Total	239,405	233,863	- 5,542	
Estimated Right-of-Way	15,955	21,497	+ 5,542	21.7
Estimated Total County	255,360	255,360	0	
Housing Units				
Single-family	105,274	134,025	+ 28,751	
Townhouse	20,008	39,704	+ 19,696	
Apartments	47,687	56,317	+ 8,630	
Total Units	172,969	230,046	+ 57,077	

Developers have indicated through the filing of site plans, subdivision plats and building permit applications, their intent to build 50,919 residential units on an estimated 17,085 acres. Despite commonly accepted national predictions that future construction will involve a smaller percentage of single-family detached housing than in the past, the 1983 committed and anticipated residential development consists of 29,821 such units or 59 percent of all the proposed units. This contrasts with 43 percent in 1974. However, the increase and what it might mean with respect to land absorption should be viewed with caution since it may only reflect a backlog of incompleted subdivisions caused by the 1982-1983 recession.

Approximately two thirds of the presently committed and anticipated residential development (33,800 units) is scheduled for Area III which includes the Bull Run, Pohick and Upper Potomac Planning Districts. The location of these units is almost equally divided among the three planning districts. Sixty-eight percent of the total units proposed for Area III are single-family detached structures.

Nonresidential committed and anticipated development includes all construction except dwelling units—office buildings, fast food establishments, shopping centers, churches, schools and rapid transit stations. Because several buildings with differing land uses may be proposed for a single parcel of land and because nonresidential development may be committed or anticipated for construction on only a portion of the parcel with utilization of the full parcel at some uncertain future date, it has proved difficult to assign a realistic land area to this type of development. Various techniques are being studied but a satisfactory method has not yet been developed.

Table 2

VACANT LAND: FAIRFAX COUNTY 1975 AND 1983
BY PLANNING DISTRICT (IN ACRES)

Area	Vacant Land 1975	Vacant Land 1983	Decrease*	Percent Vacant Land Used 1975-1983	Percent Countywide Land Absorption
Area I					
Annandale	1,449	716	733	50.6	2.9
Baileys	465	265	200	43.0	0.8
Jefferson	1,093	680	413	37.8	1.6
Lincolnia	501	353	148	29.5	0.6
Subtotal	3,508	2,014	1,494	42.6	5.9
Area II					
Fairfax	4,147	2,540	1,607	38.8	6.3
McLean	5,309	3,583	1,726	32.5	6.8
Vienna	2,695	1,719	976	36.2	3.8
Subtotal	12,151	7,842	4,309	35.5	16.9
Area III					
Bull Run	14,587	14,605	+ 18	- 0.1	0.0
Pohick	28,018	18,050	9,968	35.6	39.1
Upper Potomac	23,76	916,950	6,819	28.7	26.7
Subtotal	66,374	49,605	16,769	25.3	65.8
Area IV					
Lower Potomac	5,167	4,800	367	7.1	1.4
Mount Vernon	2,022	1,621	401	19.8	1.6
Rose Hill	4,255	2,766	1,489	35.0	5.8
Springfield	3,516	2,856	660	18.8	2.6
Subtotal	14,960	12,043	2,917	19.5	11.4
TOTAL	96,993	71,504	25,489	26.3	100.0

*Vacant land acreage is the net change betwen 1975 and 1983. Note that there has been relatively little development in Bull Run District; the increase in vacant land probably results from demolitions.

UNDEVELOPED LAND

Most of the development in Fairfax County has occurred in the past 20-30 years. In 1953, 41,000 acres were considered to be developed. By 1964, a land use study of the County revealed 61,000 developed acres, an increase of 61 percent for the eleven year period. Current statistics (1983) indicate 142,000 developed acres (or 120,000 acres if the underutilized land concept is applied). The suburban development which followed World War II was concentrated in areas near the Arlington County and Alexandria City lines, and along major transportation corridors such as Richmond Highway, Columbia Pike, Arlington Boulevard and Leesburg Pike. Lack of sewer availability constrained growth in outlying areas except for low-density single-family housing on land which could support septic systems. As time passed, sewer service areas expanded and a substantial portion of the land east of Route 123, excluding the Pohick watershed, was developed. Substantial development of the Pohick watershed area began with the opening of the Lower Potomac Treatment Plant.

Table 3

COMMITTED AND ANTICIPATED GROWTH
RESIDENTIAL DEVELOPMENT
FAIRFAX COUNTY, JANUARY 1973

Type of Unit	No. of Units	Average Density Per Acre	Estimated Land Absorption
Single-family	29,821	2	14,910
Townhouse	15,841	8	1,980
Apartment	5,257	27	195
Total	50,919		17,085

Outer County

In 1983 nearly 70 percent of the remaining vacant land, or 50,000 acres, and 71 percent of the land classified as underutilized was located in Area III which, with the exception of the Pohick watershed, lies entirely west of Route 123.

The Upper Potomac Planning District has grown substantially over the past twenty years despite the fact that its major corridors of access to employment centers in the eastern County, Arlington and downtown Washington have been along congested Routes 7 and 50. Growth has been stimulated by the development of the urban clusters of Reston and Herndon which has included employment opportunities in industrial and commercial firms which have located in these clusters. The imminent opening of the Dulles parallel lanes, the completion of the I-66 from the Beltway to the Potomac River and the Dulles Airport Access Road extension from Route 123 to I-66 will combine to improve immeasurably the access from the Upper Potomac Planning District to all parts of the metropolitan area. This same improved road network is serving as a catalyst for substantial development on industrially-planned land in the vicinity of Dulles Airport.

The northern portion of the Pohick and eastern portions of the Bull Run Planning Districts both have access to employment opportunities in Fairfax City and will further benefit from those jobs created as development progresses in the vicinity of the Fair Oaks shopping center at the junction of I-66 and Route 50. Bull Run Planning District residents who live in the Centreville core and near access points to I-66 have already benefitted by the extension of I-66 from the Beltway to the Potomac River. They are able to easily reach employment centers in Manassas and will be only a few minutes drive from the terminal Orange Line Metro station at Nutley Street

when it opens in 1986. The southeastern portion of the Pohick Planning District is close to Fort Belvoir which provides a substantial amount of civilian employment.

A substantial amount of vacant land in Area III is located in areas which are neither served by public water nor public sewer and for which no sewer treatment facilities are programmed or planned. Development of much of this land is further constrained because it is located in watersheds which flow into the Occoquan Reservoir where water quality standards must be maintained and some soils are unsuitable for septic field siting. For these reasons and the general environmental sensitivity of much of the Occoquan basin area, a large segment was comprehensively rezoned to five acre lot development—in 1982.

The amount of vacant acreage in Area III overstates its development potential since approximately 6000 acres are in floodplain and substantially more land adjacent to Difficult Run, Bull Run, Popes Head Creek and Pohick Creek as well as the Occoquan River has slopes in excess of 15 percent. The potential adverse environmental impacts from building activity in such areas offer significant constraints to any intensive development.

Inner County

The remaining 22,000 acres of vacant land are located in Areas I, II and IV which until recently have offered better access to the employment concentrations in downtown Washington and substantial suburban employment opportunities as well as better access to public transportation. However, at least half of this undeveloped land area is along the Difficult Run and its tributaries or in the Lower Potomac Planning District where the constraints to intensive development are similar to those in Area III mentioned above. The vacant land in the urbanized portions of these planning areas is typically found in relatively small parcels which might be suitable for medium- or high-density construction or custom-built single-family detached housing. Multifamily development, however, is frequently incompatible with the neighborhoods within which the vacant land lies. On the other hand, custom-built homes exceed the cost of tract homes of the single-family detached type. Persons contracting for such construction are frequently not attracted to neighborhoods of older housing.

With some minor exceptions, most of the large masses of remaining undeveloped land in the inner part of the County is land which has been passed over because of development problems. Nevertheless, two of the more notable holdings, the 600 acre Chiles tract at the intersection of Route 50 and the Capital Beltway, and the 1300 acre Lehigh tract south of Franconia and Rose Hill have both recently entered the development pipeline.

With the exception of the land along Difficult Run and in the Lower Potomac Planning District, the vacant land inventory in the inner portion of the County probably understates development potential. The growth of the metropolitan area has pushed up land prices to the extent that land values along the eastern perimeter of the County are frequently out of line with the types and intensity of uses on the land. The economics of this situation plus the facts that some of the buildings are becoming deteriorated and the area has the potential for good public transportation service may foreshadow redevelopment at higher densities and intensities.

Table 4

COMMITTED AND ANTICIPATED NONRESIDENTIAL DEVELOPMENT FAIRFAX COUNTY, JANUARY 1983

Planning Districts	Structures Committed	Structures Anticipated
Area I		
Annandale	6	18
Baileys	4	6
Jefferson	8	11
Lincolnia	5	6
Area II		
Fairfax	7	8
McLean	16	19
Vienna	23	35
Area III		
Bull Run	8	5
Pohick	11	14
Upper Potomac	26	35
Area IV		
Lower Potomac	4	5
Mount Vernon	6	14
Rose Hill	3	5
Springfield	33	36
Total	160	217

TRANSPORTATION

Introduction and Organization

The transportation elements of the Comprehensive Plan are organized into two sections. Section I (Background and Analysis) describes the purpose of the transportation plan, the process employed to develop future travel forecasts, and the conclusions reached by analyzing these traffic projections. Of particular interest in Section I are a description of the underlying concepts embodied in the transportation plan and an overall summary of the major issues associated with the plan.

Section II (Recommendations) contains the specific countywide area, and sector recommendations as well as information on the implementation of these plans. The purpose of this section is to present a detailed summary of all the planned transportation recommendations and a description of the programming procedures that will serve to implement them.

The Technical Appendix includes background information of a more technical nature than that found in Section I. The primary topic of the section is travel demand and how it is related to the land use elements of the Comprehensive Plan, as well as how recent growth in the County has affected travel demand forecasts over the past few years.

The following paragraphs provide a summary of the major issues associated with the Fairfax County transportation plan. These issues relate to the purpose of the plan, the major concepts embodied in the plan, and the technical foundation of the plan. The major findings resulting from the technical evaluation of travel demand are summarized. Finally, the process by which the plan is implemented is discussed. *It is highly recommended that users of this plan consider this information in interpreting the recommendations.*

SECTION I

Purpose

The Fairfax County transportation plan is a guide to the development of a transportation system to meet the long-range needs of Fairfax County. This guide is intended to serve many functions. It forms the basis for the development of programs for the allocation of funds by regional and state agencies which have the statutory authority to build and operate the transportation system. It assists the County in making land use decisions and in obtaining important right-of-way and other contributions toward the provision of these facilities. Finally, it provides a vehicle for informing the general public of the long-range transportation needs of the County.

Further information regarding the administration of the transportation system in Fairfax County and the provision of improvements to that system is contained in Section II of the Comprehensive Plan in the discussion of the implementation process.

Concepts Embodied in the Plan

In recognition of projected travel needs, community concerns, and the policies of the Board of Supervisors, the transportation plan incorporates a number of significant features. It reflects a higher level of transit service than currently envisioned by WMATA toward reducing potential highway needs. It does not attempt to fully accommodate projected travel to and from Washington, D.C. and the regional core. It encourages the creation of high-capacity radial corridors using existing facilities. It emphasizes the improvement of roadways in the western and southern areas of the County where most new development is planned. It also emphasizes the improvement of roads in the circumferential direction in these areas. Finally, it encourages the creation of an arterial roadway network intended to provide for major traffic movements. A more extensive discussion of functional classification, including the adopted functional classification for roads in Fairfax County, is found in Section II (Recommendations).

Technical Foundation

The transporation plan has been developed through the use of computer models to forecast future travel in the Washington, D.C., metropolitan region. Satisfactory technical analysis is an important element of the plan since federal and state acceptance is contingent on the consideration of future regional travel needs through an accepted forecasting process. The transporation plan has been approved by the regional Council of Governments (COG) and has been incorporated where appropriate into the long-range regional transportation plan. Further information regarding the traffic forecasting process is included in Section III (Appendix).

Underlying Assumptions

Projected levels of future development for all of the jurisdictions in the region formed the basis for the development of future travel forecasts. Various analyses have been made both in the preparation of this plan and in subsequent regional activities for 1990 and 1995. *It is extremely important to emphasize that these development projections are not for the ultimate build-out, or full development of Fairfax County. Development of such magnitude will most probably create even greater travel needs than those reported herein.* Because these conditions will not occur within the next 20 years, however, it is extremely speculative to attempt to assess their impacts.

It has also been assumed that the full 101-mile Metro-rail system will be complete and operational. This system includes routes to Vienna, Franconia/Springfield, and Huntington in Fairfax County. A very extensive feeder bus network, with appropriate facility improvements, was also assumed in the preparation of this plan. This assumed level of transit service far exceeds the magnitude of feeder bus service contemplated by WMATA upon completion of the Metro-rail system. Continued increases in transit operating deficits, and the associated subsidy paid by the County may reduce the likelihood of such service improvements. Of course, continued increases in gasoline costs and potential future shortages could have the opposite effect.

Major Findings of the Travel Demand Forecasts

The paragraphs which follow provide a summary of the major findings resulting from the forecasting of future travel. Major characteristics of this travel, as well as the impacts on the transportation system, are presented.

Future Travel Characteristics. The analysis conducted in the preparation of this plan indicated that general travel patterns were most affected by the distribution of development throughout the region. In contrast, variations in the transportation system appeared to make very little difference in these overall travel needs. This finding has been subsequently corroborated in work by COG at the regional level.

This finding has important implications for future transportation planning. A general review of the committed and planned growth patterns of Fairfax County provides a very useful basis for the evaluation of future travel needs. Most of the County's growth will occur in the western and southern areas where the existing transportation facilities are poorest. Although substantial increases in employment in the County are forecast, the regional core (Washington, D.C., and parts of Arlington and Alexandria) will remain as the single greatest concentration of jobs in the region.

These two trends will reinforce existing travel patterns to a very large degree. Thus, it does not appear that drastic changes in commuting patterns will occur in the foreseeable future, although travel entirely within the County will increase significantly. Moreover, the total magnitude of travel will increase as the number of households in the County increases. This growth is planned to be substantial. Vehicle miles of travel is also likely to increase as low-density residential development continues in the outer fringes of Fairfax County, and in Loudoun County and Prince William County. This continuation of residential development will also create significant and noticeable increases in the need for circumferential travel. These needs will be generated by additional business, commercial, and other activity centers in the developing areas.

Impacts of Future Travel Needs on the Transportation System

The projected future travel demand will have major impacts on the transportation system. These impacts will be manifested in several ways.

Transit. The transit system will carry much of the increase in travel for work which is oriented to the regional core. Metro-rail will be heavily used; if the optimistic assumptions made in this plan are realized, most seats will be occupied by the time the trains cross the Beltway. Even under more realistic assumptions regarding feeder service, trains approaching Rosslyn and the Pentagon will have many standees. Transit will not, however, play a major role in the accommodation of work trips in the circumferential direction, trips for non-work purposes, or trips in outlying areas.

Highways. Even accounting for transit, auto travel will increase substantially and place additional burdens on the highway system. Automobile usage will progressively increase as the distance from the core increases. These increases will be most dramatic in the outer and central areas of the County where transit is poorest, but they will also exist at the Beltway and inner areas. With the existing highway system already operating at capacity at the Beltway, these increases will result in a further deterioration of the level of service provided by the highway network.

In assessing the plan, it was originally estimated that only 75 percent of the travel demands crossing the Beltway was met. With the subsequent approval of the extension of I-66 as a restricted carpool/high occupancy vehicle facility during peak hours, this inadequacy will be somewhat reduced. However, the *magnitude of travel demand is so great that meeting it in its entirety does not appear to be economically feasible under present funding sources or environmentally sound.* Faced with these issues, the reconsideration of alternative land use patterns at the regional and local level would appear to be warranted.

Section III (Appendix) provides additional information with respect to the travel demand forecasts.

Implementation of the Transportation Plan

The provision of transportation facilities has generally followed their need. Much of this lag results from the scarcity of funds for necessary improvements. In addition, the lengthy time period required to complete the planning, design, and approval process associated with major public

capital investments also contributes to this delay. Thus, the appearance of a recommendation on the adopted transportation plan does not assure its implementation in a timely fashion. Short-range road improvement programs covering a six- and ten-year period are developed jointly with the Virginia Department of Highways and Transportation (VDH&T) to guide the actual scheduling and funding of priority projects. Because of these lengthy lead time requirements it is essential for these programs to maintain a high degree of stability from year to year. The ambitious transit capital improvements included in the plan are also subject to severe funding constraints. In order to implement the facilities recommended, a continuing commitment of resources on the federal, state and local levels will be necessary. A further more detailed discussion of the transportation implementation process is presented in Section II (Recommendations).

SECTION II

This section presents the transportation recommendations of the adopted Fairfax County Plan. These recommendations are best interpreted in the context of the analysis and underlying concepts summarized in Section I. The distinction between Plan recommendations and the process by which these recommendations are implemented should be emphasized. This implementation process is also described in this section, which is organized under four separate headings.

The first, Functional Classification, contains an explanation of the functional classification concept and the adopted functional classification for roads in Fairfax County.

The second, Countywide Recommendations, contains a narrative description of the major transit and roadway improvements.

The third, Actions Necessary After Plan Adoption, presents the programming procedures and processes that are used to implement the Plan recommendations, as well as other subsequent activities.

The fourth, the Area Plan Recommendations, includes community planning sector recommendations which were adopted for the four planning areas. This section includes recommendations of a more local nature than those under Countywide Recommendations.

A map showing the adopted countywide transportation plan is also included in this section.

FUNCTIONAL CLASSIFICATION

A fundamental concept addressed in the transportation plan is the development of a functional classification system. This concept specifies the type of service which any given facility provides. Functional classification is very useful in considering the dual role of the transportation network in providing both travel mobility and access to property. Although access is a fixed requirement which is necessary at both ends of a trip, mobility can be provided at varying levels incorporating a wide range of elements.

Although the utilization of the various functional classes is seldom discrete or absolute (e.g. most local streets carry some nonlocal traffic), a substantial amount of the transportation problems in the County arises directly from the excessive mixing of functions on a particular facility. For example, one of the most frequently raised transportation issues in the County is the excessive use of local and/or collector streets by through traffic. Since these streets are not ordinarily designed for such usage, which usually occurs at peak hours, it is evident that a major cause is congestion and delay on the arterials. Further, this arterial congestion is itself often caused by traffic using the arterials for local access. Another similar problem involving a mixing of function is the excessive use of the Beltway, which was originally designed for interstate and regional travel, by short-distance trips covering only a few rterials. Further, this arterial congestion is itself often caused by traffic using the arterials for local access.

Another similar problem involving a mixing of function is the excessive use of the Beltway, which was originally designed for interstate and regional travel, by short-distance trips covering only a few interchanges. Obviously, a principal reason for this attractiveness of the Beltway is the congested and slow operation of most arterial highways in the circumferential direction. Travel on any high-speed, limited access highway become correspondingly reduced, by the presence of large volumes of entering and exiting traffic at frequent interchanges. Therefore, the additional traffic attracted to the Beltway because of these inadequate arterials serves only to diminish its effectiveness in carrying the through-traffic it was originally designed to serve.

Clearly, then, the development of an effective circulation plan for any area should rely on the delineation of a basic functional classification system for that area. The extent to which this system is violated or compromised may determine the adequacy of circulation in the area.

Toward developing such a system, consideration was given to the magnitude and distribution of projected travel demand, and the types and spatial distribution of activities within the County. Because the effectiveness of any one type of transportation facility is dependent upon the adequacy of other types, it is necessary to determine the purpose and function of facilities and services prior to making recommendations.

For this document, the facilities and services of the total transportation system were classified according to their primary function. Transit service is classified according to primary function. Transit service is classified by line-haul service, and collection and distribution service. Highway facilities are classified by freeways and expressways, other principal arterials, minor arterials, collectors and local streets.

Transit System Functional Classification

Line-haul transit service provides express or limited-stop high-speed travel over relatively long distances or between points which are relatively far apart. The guideway required for this service can be reserved exclusively for transit vehicles, or be shared with all traffic. The line-haul function can be fulfilled by either bus or rail vehicles. The critical elements determining the efficiency of the service are a concentration of travel demand between activity centers, sufficient access to the service through provision of parking facilities and integration with collection and distribution transit services, and adequate guideway capacity to ensure high speeds.

Collection and distribution transit service offers local travel between two activities or between an activity and a mode for line-haul transit service. Unlike line-haul service, most users walk to and from stops. Transit vehicles almost always share the guideway with other traffic unless the concentration of transit vehicles is quite high and their performance would be extremely adversely affected by shared use, as is the case in the downtown area of Washington, D.C.

Line-haul transit service is currently offered on the following roadways in Fairfax County: Shirley Highway, Arlington Boulevard, the George Washington Parkway, the Dulles Airport Access Road, the Capital Beltway, and I-66. For Shirley Highway, a small portion of Arlington Boulevard, and I-66 inside the Beltway, the guideway is reserved for high-occupancy vehicles. Most of these same buses perform collection/distribution functions at the outer terminus of their line-haul mode. For most bus routes the inner terminus is a Metro-rail station where the rail system is used for the completion of the line-haul transit trip. As the Metro-rail system expands, the role of buses will be increasingly oriented to feeding the rail stations and providing cross-County transit access. At the same time, the line-haul transit function will be substantially assumed by the rail system.

In addition to these transit services, specialized community-oriented transit services may be advantageous. Such systems are usually characterized by more personalized service with deeper neighborhood penetration and a much greater emphasis on local rather than regional trips. To determine the applicability and structure of such systems requires careful analysis on a case by case basis to assure the most effective use of County resources.

Recommendations for improvement and services, including fringe parking lots, bus priority lanes and express bus thoroughfares, commuter rail service and rapid transit service are included in Section II. Due to the dynamic nature of bus transit service, recommendations for specific bus routes are not included in the Comprehensive Plan. However, the process for developing the route structure is included in the Programming and Priorities section.

Roadway System Functional Classification

Freeways and expressways are controlled access facilities providing for high-volume travel. The concept of service to abutting land is subordinate to accommodating the through movement of vehicles. It is desirable that medians, shoulders, acceleration and deceleration lanes, and grade separated interchanges be included in the design. Parking and pedestrian travel along or very near the traveled portion of the roadway should not be allowed. A parkway is a special type of this facility classification which does not allow trucks.

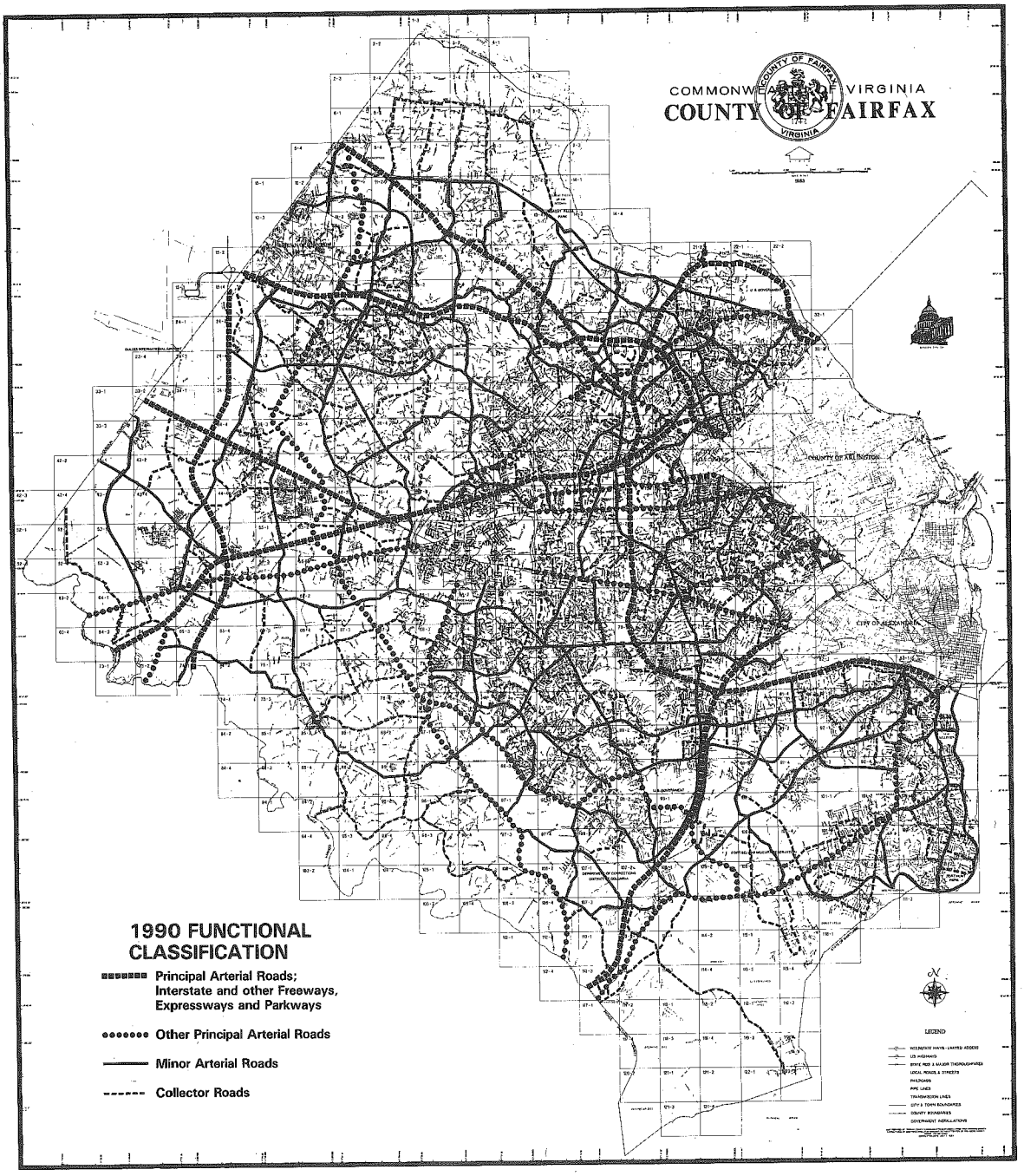
These facilities should provide a minimum of two travel lanes in each direction within a minimum right-of-way of 120 feet. Additional right-of-way is necessary for more than four lanes and for interchanges which provide all access to and from a freeway, and most access to and from an expressway.

Other principal arterials also serve main travel corridors. Some access is provided to abutting land, but the primary function of the roadway, particularly during peak periods, is to carry through traffic. Intersections with expressways and minor arterials should not be at grade. Where many turning movements could occur over a relatively short roadway section, service drives are desirable. Medians, shoulders, and acceleration and deceleration lanes are also desirable. Where shoulders cannot be provided, bus storage bays are desirable. Adequate and safe pedestrian and bicycle travel along and across these facilities should be included in the design. Parking should not be allowed.

These facilities should include four to six travel lanes with a minimum right-of-way of 90 feet and maximum of 160 feet.

Minor arterials usually carry an even mix of local and through traffic. They link collectors, and sometimes local streets, with principal (major) arterials. Minor arterials are lower service level roadways with partial control of access. Medians, shoulders, and turning lanes are desirable. Parking is optional. Sidewalks and/or bicycle trails should be provided on both sides of the road.

It is generally desirable for these facilities to consist of four travel lanes within a right-of-way of 90 to 110 feet. However, due to the diversity of development patterns and roadway conditions throughout the County, it is not recommended that all existing minor arterials be widened to four lanes. It should be emphasized that these facilities are an important element of the transportation network. In many cases, their present function has evolved very naturally over a period of years as development progressed along previously rural roads, which then became the principal (and often only) means of access to these developments. In general, these roadways have always served relatively longer distance travel. Their frequent characterization as local-serving or collec-



tor roads has meaning only when they are considered as serving an entirely rural area. For this reason, a realistic assessment of these facilities should consider their improvement at some future date.

Collector streets provide direct service to and from local areas, routing traffic to the arterial street system. Generally, these roadways are not used for through trips. Collector streets are very important for the collection and distribution functions of transit service. As such, they should be designed in conjunction with the arterial system to permit safe boarding and alighting, and allow buses to safely enter, exit, and turn around if necessary. Medians, access control, and turning lanes are desirable only where traffic volume is expected to exceed about 5,500 vehicles per day. Parking is optional, and can generally be safely accommodated in most sections. Sidewalks and/or trails should be provided on both sides of the road.

These facilities should generally allow for two travel lanes with sufficient pavement width to permit safe bus operations. Where traffic volumes are anticipated to be high due to relatively intense use of the area served, four travel lanes should be provided within 90 feet of right-of-way.

Local streets provide access to properties abutting the roadway and within the immediate vicinity. Traffic speed and volume should be low. Bus routes along local streets should be discouraged. Sidewalks and parking are desirable. Right-of-way widths should provide conformance with standards for safe operation and proper maintenance.

The above functional classification system for transit and highways has been kept in context in the development of recommendations for serving the trips generated in or traveling through the County. At this stage, it is essential to clearly understand that facilities intended to serve a certain type and magnitude of travel will require improvements consistent with such a function. The plan has been developed with heavy emphasis on separating local and nonlocal facilities by functional classification and maintaining the integrity of local streets by recommending improvements on higher type facilities.

The functional classification of roadways in Fairfax County is shown on the map and alphabetical listing which accompanies this discussion.

Table 1

TABLE OF ARTERIAL ROADS IN FAIRFAX COUNTY
(1990)

	From	To	Magisterial[1] District
A. Principal Arterials—Interstate and Other Freeways and Parkways			
1. Capital Beltway (I-495 & I-95)	Cabin John Bridge	Alexandria City Line	A D L M MV P
2. Dulles Airport Access Road (DAAR)	Loudoun County	I-66	C D P
3. George Washington Memorial Parkway	I-495	Arlington Co. Line	D
4. I-66	Prince William Co. Line	Arlington Co. Line	C D P S
5. Lee-Jackson Memorial Hwy. (Rt. 50)	Loudoun County Line	I-66	C S
6. Leesburg Pike (Route 7)	Loudoun County Line	I-495	C D P
7. Shirley Highway (Rts. I-95 & I-395)	Prince William Co. Line	Arlington Co. Line	L M MV S
8. Sully Road (Route 28)	Prince William Co. Line	Loudoun Co. Line	C S
B. Other Principal Arterial Roads			
1. Arlington Boulevard (Route 50)	Fairfax City Limits	Arlington Co. Line	M P
2. Chain Bridge Road (Route 123)	Fairfax City	Arlington Co. Line	C D P
3. Columbia Pike (Route 244)	Little River Turnpike	Arlington Co. Line	M
4. Lee Highway (Route 29)	Fairfax City Limits	Falls Church City Line	P
5. Lee Highway (Route 29)	Prince William Co. Line	Fairfax City Limits	S
6. Lee-Jackson Memorial Hwy. (Rt. 50)	I-66	Fairfax City Limits	C S P
7. Leesburg Pike (Route 7)	Falls Church City Line	Alexandria City Line	M
8. Leesburg Pike (Route 7)	I-495	Falls Church City Limit	D P
9. Little River Turnpike (Route 236)	Fairfax City Limits	Alexandria City Line	A M P
10. Ox Road (Route 123)	Fairfax City	Prince William Co. Line	A MV S
11. Richmond Highway (Route 1)	Prince William Co. Line	Alexandria City Line	L MV
12. Route 28 Bypass	Prince William Co. Line	Sully Road	S
13. Springfield Bypass	Route 1	Route 7	C D L S P
C. Minor Arterial Roads			
1. Alban Road	Rolling Road	Backlick Road	L
2. Anderson Road	Route 123	Magarity Road	P
3. Annandale Road	Route 236	Falls Church City Limit	M P
4. Backlick Road	Route 236	Route 1	A L M MV
5. Baron Cameron Avenue	Herndon Town Limits	Route 7	C D
6. Beacon Hill Road	Route 1	George Washington Pkwy.	MV
7. Beauregard Street	Route 236	Alexandria City Line	M
8. Beulah Road	Route 7	Vienna Town Limits	C D
9. Beulah Street	Franconia Road	Telegraph Road	L
10. Blake Lane	Jermantown Road	Fairfax City Limits	P
11. Braddock Road	Columbia Pike	Stone Road	A M S L
12. Braddock Road	Loudoun County Line	Route 28	S
13. Burke Center Parkway	Burke Lake Road	Route 123	S
14. Burke Lake Road	Route 123	Braddock Road	A S
15. Carlyn Springs Road	Seminary Road	Arlington Co. Line	M
16. Cedar Lane	Gallows Road	Route 50	P C
17. Centreville Road/Walney Road	Herndon Town Limits	Poplar Tree Road	C S D
18. Chain Bridge Road	Anderson Road	Route 123	D P
19. Clifton Road	Route 29	Route 123	S
20. Commerce Street	Old Keene Mill Road	Franconia Road	L
21. Compton Road	Route 28	Clifton Road	S
22. Crowell Road/Browns Mill Road	Hunter Mill Road	Beulah Road	D C
23. Dranesville Road	Route 7	Herndon Town Limits	D
24. Edsal Road	Backlick Road	Alexandria City Limits	L
25. Fort Hunt Road	Route 1	George Washington Pkwy.	MV
26. Fox Mill Road	Lawyers Road	Waples Mill Road	C
27. Franconia Road	I-95	Telegraph Road	L
28. Frying Pan Road	Centreville Road	Sully Road	C
29. Furnace Road/Lorton Road	Route 123	Route 1	MV
30. Gallows Road	Annandale Road	Columbia Pike	M
31. Gallows Road	Route 7	Annandale Road	M P
32. George Washington Memorial Parkway	Mt. Vernon	Alexandria City Line	MV
33. Georgetown Pike (Route 193)	Route 7	Route 123	D
34. Glen Carlyn Road	Route 7	Arlington Co. Line	M
35. Gosnell Road	Route 7	Old Courthouse Road	C
36. Graham Road	Annandale Road	Route 29	P M
37. Great Falls Street	Route 123	Falls Church City Line	D
38. Guinea Road	Route 236	Route 123	A S
39. Haycock Road	Route 7	Westmoreland Street	D
40. Hooes Road	Route 123	Pohick Road	S MV
41. Hummer Road	Route 236	Annandale Road	M
42. Hunter Mill Road	Baron Cameron Avenue	Blake Lane	C D P
43. Idylwood Road	Cedar Lane	Great Falls Street	D P
44. International Drive	Route 7	Spring Hill Road	D P
45. Jermantown Road	Fairfax City Line	Blake Lane	P
46. John Marr Drive	Ravensworth Road	Columbia Pike	A M
47. Kirby Road	Great Falls Street	Route 123	D
48. Lawyers Road	Fox Mill Road	West Ox Road	C
49. Lee Chapel Road	Burke Lake Road	Route 123	S
50. Lewinsville Road	Route 7	Route 123	D
51. Lincolnia Road	Columbia Pike	Beauregard Street	M
52. Loisdale Road	Franconia Road	Backlick Road	L
53. Magarity Road	Route 7	Great Falls Street	D P
54. McLearen Road/Lawyers Road	Sully Road	Vienna Town Limits	C
55. Mount Vernon Highway	Route 1	Mount Vernon	MV
56. Mount Vernon Memorial Highway	Route 1	Mount Vernon	MV

Chart continued on next page

COUNTYWIDE RECOMMENDATIONS

Recommendations for improvements having countywide implications are presented in this section under separate headings for Countywide Transit Recommendations and Countywide Roadway Recommendations. Countywide Trails Recomendations are also noted.

Countywide Transit Recommendations

The countywide analysis indicated that the future provision of a high level of transit service could achieve significant increases in mode splits, although these increases would be most pronounced at the inner portion of the region and would progressively decrease away from the core area. The recommendations below are essential for the provision of the assumed level of transit service, which is significantly higher than that currently projected by COG or WMATA. Failure to implement these recommendations can only result in decreasing the transit ridership estimates obtained in the countywide analysis.

A. Rapid rail transit (Metro-rail). It is recommended that the Metro-rail adopted regional system (ARS), including the relocated Franconia/Springfield Station, be constructed in Fairfax County. In addition, a transit line should be extended in the median of the Dulles Airport Access Road between West Falls Church and Dulles Airport. In the vicinity of the Tysons quadrangle, the line could potentially deviate from the median in order to provide a station in the interior of the quadrangle. Other station locations that should be considered are Wolf Trap Farm Park (for performances only) and Reston.

B. Commuter rail. Efforts to establish commuter rail service on the Southern and RF&P Railroads should be pursued in light of the potential demand such service could accommodate. It should be noted that, as a portion of the transit zone established by the WMATA Compact, all requests for the provision of public transportation in Fairfax County must be coordinated through WMATA.

C. Major line-haul bus. For corridors which are not directly served by Metro-rail, a high level of express and feeder bus service to Metro stations must be provided to achieve the County's high modal split goals. The County should encourage the provision of such service under appropriate administration arrangements including community-managed commuter bus operations where the necessary community support and interest are present. This type of operation is intended to supplement and complement other transit service offered in the region. One of the major elements in securing success for any transit operation rests in making the service an attractive alternative to the automobile in terms of travel time. Accordingly, great attention should be focused on the facilities recommended for exclusive or express bus operations. These facilities can reduce bus travel times significantly, thereby offering two distinct benefits to Fairfax County:

1. attraction of additional transit ridership by reducing the transit travel times in relation to auto travel times, and
2. lowering transit operating costs by reducing the amount of equipment needed to operate a given level of service.

D. Preferential bus/carpool lanes. Additional lanes reserved for buses and carpools are recommended on a number of radial facilities to offer a high level of transit service both to Metro stations and to the central areas of the region. This recommendation is supported by the operational difficulties associated with the use of reverse or contra-flow bus lanes, coupled with the expected high level of automobile demand which will occur even with increased transit availability. More detailed studies of operating characteristics and transit operation plans should be made on a case-by-case basis prior to the implementation of such recommendations.

Table 1 (Continued)
TABLE OF ARTERIAL ROADS IN FAIRFAX COUNTY
(1990)

	From	To	Magisterial[1] District
57. North Kings Highway	Telegraph Road	Route 1	L MV
58. Nutley Street	Vienna Town Limits	Route 50	P
59. Old Courthouse Road	Beulah Road	Gallows Road	C P
60. Old Dominion Drive	Georgetown Pike	Arlington Co. Line	D
61. Old Keene Mill Road	Lee Chapel Road	I-95	S L
62. Ordway Road	Prince William Co. Line	Compton Road	S
63. Park Street	Vienna Town Limits	Cedar Lane	P
64. Patrick Henry Drive	Route 7	Route 50	M
65. Pleasant Valley Road	Loudoun Co. Line	Route 29	S
66. Pohick Road	Hooes Road	Route 1	S MV
67. Poplar Tree Road	Braddock Road	Route 28	S
68. Prosperity Avenue	Route 236	Dunn Loring Metro Sta.	P M
69. Ravensworth Road	Route 236	Braddock Road	A M
70. Reston Avenue	Route 7	Fox Mill Road	C
71. Roberts Road/Roberts Parkway	Pohick Road	Fairfax City Line	A S
72. Rolling Road	Braddock Road	Hooes Road	A S L
73. Rolling Road	Springfield Bypass	Pohick Road	L S
74. Seminary Road	Carlyn Springs Road	Alexandria City Limits	M
75. Sherwood Hall Lane	Route 1	Fort Hunt Road	MV
76. Shirley Gate Road	Route 50	Braddock Road	A S
77. Shreve Road	Route 29	Route 7	P
78. Silverbrook Road	Route 123	Lorton Road	S MV
79. Sleepy Hollow Road	Columbia Pike	Route 7	M
80. South George Mason Drive	Seminary Road	Arlington County Line	M
81. South Kings Highway	Telegraph Road	Route 1	
82. South Van Dorn St./Lockheed Blvd.	Alexandria City Limits	Route 1	L
83. Springfield Bypass Spur	Rolling Road	So. Van Dorn Street	LS
84. Spring Hill Road	Georgetown Pike	Route 7	D
85. Springvale Road	Georgetown Pike	Route 7	D
86. Stone Road	Route 29	Braddock Road	S
87. Stringfellow Road	Springfield Bypass	Route 29	S P
88. Sunrise Valley Drive	Centreville Road	Hunter Mill Road	C D
89. Sunset Hills Road	Herndon Town Limits	Hunter Mill Road	C
90. Swinks Mill Road	Georgetown Pike	Lewinsville Road	D
91. Sydenstricker Road	Old Keene Mill Road	Hooes Road	S
92. Telegraph Road	Alexandria City Limits	Route 1	L MV
93. Towlston Road	Old Dominion Drive	Trap Road	D
94. Trap Road	Towlston Road	Beulah Road	C D
95. Vale Road	West Ox Road	Vienna Town Line	C P
96. Wakefield Chapel Road	Route 236	Braddock Road	A
97. Walker Road	Georgetown Pike	Route 7	D
98. Waples Mill Road	Fox Mill Road	Route 29	P S
99. West Street	Route 29	Falls Church City Limit	P
100. West Ox Road	Lawyers Road	Route 29	C P S
101. Westmoreland Street	Chain Bridge Road	Arlington Co. Line	D
102. Westpark Drive Route 7	International Drive	D	
103. Wiehle Avenue	Loudoun County Line	Sunrise Valley Drive	C D
104. Wilson Boulevard	Route 7	Arlington Co. Line	M
105. Woodlawn Road	Telegraph Road	Route 1	L MV

NOTE: Collector Roads are not included in this listing

A = Annandale
C = Centreville
D = Dranesville
L = Lee
M = Mason
MV = Mount Vernon
P = Providence
S = Springfield

With the exception of the Dulles Airport Access Road and Shirley Highway, these facilities should provide additional lanes reserved for the exclusive use of buses and carpools at least during the peak periods. Their operation would be similar to the bus/carpool lanes on Route 50 through Arlington County.

1. Richmond Highway (Route 1) from Sherwood Hall Lane to North Kings Highway. North Kings Highway from Route 1 to the Huntington Metro Station.

2. Springfield Bypass from Burke Lake Road to the Franconia/Springfield Metro Station. Please also refer to description of the Springfield Bypass (Hooes Road-Pohick Road) in the section under Countywide Roadway Recommendations.

3. Braddock Road (Route 620) and Guinea Road (Route 651) from Zion Drive to I-495. Construction of the additional pavement required for bus lanes along Braddock Road is to occur within the defined median of the present roadway.

4. Little River Turnpike (Route 236) from Columbia Pike to I-495. Construction of the additional pavement required for bus lanes is to occur within the median of the present roadway.

5. Arlington Boulevard (Route 50) from Fairfax Circle to Arlington County.

6. Dolley Madison Boulevard (Route 123) from Georgetown Pike to the George Washington Memorial Parkway to continue on the George Washington Parkway to Rosslyn as bus-on-freeway (see below).

7. Dulles Airport Access Road (DAAR) from Route 28 to the West Falls Church Metro Station. It is recommended that buses be allowed to use those lanes of the DAAR normally reserved for airport traffic only, even after the construction of parallel lanes for unrestricted use, recommended elsewhere in this Plan. Access to and from this facility for buses should be provided at Route 28, Centreville Road, relocated Dranesville Road, Reston Avenue, Hunter Mill Road, Trap Road, Route 7, Route 123, and Magarity Road.

8. Shirley Highway (I-95) from the present terminus of the bus and carpool lanes to the Prince William County line. Additional development in both Prince William County and Fairfax County, coupled with increased in travel along I-95 as a major north-south road in the eastern United States, will place increased demands upon I-95. Some of the increase in travel in the corridor could be handled by commuter rail service. However, express buses remain the most flexible mode of travel, capable of circulating through many neighborhoods and carrying relatively high volumes on expressways. Commuter rail offers less flexibility and may not be able to handle the passenger volume without interfering substantially with freight movement. An express lane could carry high occupancy vehicles from southern Fairfax County and Prince William County around the anticipated congestion along I-95 and increase the capability of the highway to meet the forecasted travel demand.

9. Shenandoah Freeway (I-66) from Lee Highway (Route 29) in Centreville to the Vienna Metro Station. These bus lanes are to be constructed in the I-66 median.

10. I-66 from I-495 to the Theodore Roosevelt Bridge. This four-lane limited-access facility is to be limited to carpools and buses in the peak direction during peak periods. Please also refer to the description of I-66 under Countywide Roadway Recommendations.

E. Bus-on-freeway. These recommendations apply to the use of limited access roadways by express buses. Some of the roadways included in this section are not currently limited access in the future. In these cases, additional exclusive bus lanes should be constructed prior to the limitation of access and operated in the interim similarly to the exclusive bus lanes recommended above. At

such time as access limitation is achieved, the facility may operate as an ordinary bus-on-freeway, without the reservation of exclusive lanes for buses.

1. I-495 from Route 236 to Shirley Highway;
2. Route 50 from Stringfellow Road to I-66;
3. Route 7 from Reston Avenue to the Dulles Airport Access Road; and
4. George Washington Memorial Parkway from Dolley Madison Boulevard to Rosslyn.

F. Fringe parking. In a suburban area with dispersed development patterns such as those found in Fairfax County, it is impossible to place bus service within walking distance of all residents due to excessive cost and operational problems. The establishment of fringe parking lots can provide access to transit for those who do not reside within walking distance of transit service. By providing a convenient place to meet, the existence of fringe parking can also encourage commuters to form carpools. By intercepting auto trips from outlying areas, fringe parking lots can help reduce congestion, increase transit ridership, and decrease bus operating cost by lessening the need for buses to provide the collection and distribution portion of the total trip.

G. Joint-use fringe parking. Fringe parking may be provided in several ways. The lowest cost alternative is the joint use of parking facilities where excess space exists during the hours when commuters would utilize them. This alternative may not provide as attractive an orientation to the demand as exclusive-use facilities and may not offer a long term solution to the problem since no assurance can be made of the continuing availability of parking facilities where excess space exists during the hours when commuters would utilize them. This alternative may not provide as attractive an orientation to the demand as exclusive-use facilities and may not offer a long term solution to the problem since no assurance can be made of the continuing availability of joint-use parking. This can be an especially serious problem when the location becomes popular with commuters and their presence begins to interfere with the primary use of the parking area. Because of the dynamic nature of this type of parking lot, the Plan does not include specific locations for joint-use parking; instead they must be evaluated on a case-by-case basis. The following policies shall be used to guide implementation of joint-use fringe parking.

1. Existing parking lots at County-owned facilities shall be made available to commuters to the extent that such use does not interfere with the primary purpose for these parking lots.
2. The County shall work with owners of private parking lots (shopping centers, churches, etc.) to establish cooperative arrangements for fringe parking for commuters.

H. Exclusive-use fringe parking. Exclusive-use fringe parking lots are the means by which the County can realize the most significant benefits of fringe parking facilities. These benefits can only be realized through careful planning of these facilities. These facilities should be fairly large (over 250 spaces) where transit service access is their main function; only by concentrating demand so that bus operating costs are reduced can the capital cost of such parking areas be justified. Smaller facilities can be used for carpool lots or as supplemental facilities along regular bus routes where land can be obtained for little or no cost. However, since small fringe parking lots do not offer the County the opportunity to reduce bus operating costs through more efficient routing, the high cost of acquiring land usually cannot be justified for small fringe lots.

In choosing the exact sites for fringe parking lots, many factors must be considered—access via arterial roads rather than residential streets, impact on surrounding neighborhoods, relationship to and size of the potential service area, relationship to existing bus service, location beyond congested areas and absence of local congestion, distance to bus priority or limited access facility, visibility to commuters, and cost of real estate. Except for those sites which already exist or are committed, this plan does not attempt to specify the exact parcels on which fringe lots should be located. Instead, the locations recommended should be considered general areas which deserve further study for the precise location of fringe parking lots. Such study should include a detailed analysis of the factors mentioned above. Based on these factors, the following sites are recommended for construction of fringe parking lots:

1. Industrial Road, east of Backlick Road;
2. Route 50 at I-66 (joint-use parking should initially be pursued here);
3. Reston, adjacent to the DAAR at a point convenient for bus access to this facility;
4. Centreville, at the intersection of I-66 and Lee Highway;
5. Vienna, at the site of the Vienna Metro Station in advance of rail construction;
6. Braddock Road, between its intersections with Burke Lake Road and Twinbrook Road;
7. Tysons Corner (joint-use parking should initially be pursued here);
8. Newington, at the intersection of I-95 and Backlick Road (carpool-oriented parking);
9. Lorton, at the intersection of I-95 and Lorton Road (carpool-oriented parking);
10. Herndon, at the intersection of the DAAR and Centreville Road (access to the DAAR will need to be provided); and
11. Wolf Trap Farm Park (access to DAAR needs to be available—joint-use parking should initially be pursued here).

Countywide Trails Recommendations

It is recommended that commuter hiking/biking trails be provided along major and minor arterial roadways. Since these roads presently accommodate substantial commuter travel, the provision of hiking/biking trails adjacent to them would offer a natural alternative to the automobile. The most appropriate locations for such facilities are those leading to Metro stations, fringe parking lots, commercial areas and other major trip generators. The countywide trails plan includes both commuter and recreational trails. These recommendations are included under the section entitled Adequate Public Facilities.

Countywide Roadway Recommendations

As discussed in Sections I and III of this Plan, the travel analysis conducted at the countywide level indicated that automobile usage will increase in Fairfax County despite the provision of a high level of transit service. From these findings, together with the analysis of existing conditions, a recommended countywide roadway network has been developed. This network includes both radial and circumferential improvements, most of which lie in presently undeveloped areas. The radial network is expected by 1990 to operate at capacity at the outer screen line, and above capacity at the Beltway.

The major recommended improvements to the roadway system in Fairfax County are listed in this section. Features like turning lanes and median cuts are not discussed here. They are design considerations rather than planning ones, and as such are most appropriately addressed at the preliminary engineering stage of project development. Additional information concerning the preparation of plans for specific projects is included later in this section under the heading Actions Necessary After Plan Adoption.

General

Insofar as possible, the County should discourage development wherein residences front on arterial or collector streets and, in commercial/industrial areas, should encourage development whereby each curb cut on such streets could serve several establishments.

Arterial streets should be designed so as to minimize the impact on adjacent, residential property to include buffering where possible. The design and type of buffering should be considered at the time of the development of the adjacent property and/or the construction of the roadway.

It is recommended that traffic signals in the County be synchronized or coordinated to the extent possible as a means of promoting smoother traffic flow. Such a system is most important along the major radial highways which are likely to receive increasing traffic volumes as the land uses recommended in the Plan materialize.

Buffering Roads and Highways

The present minimum standards for screening (e.g., 12 foot-wide planting strips with evergreen trees 12 feet on center) leave much to be desired. Construction of a fence, the provision of planting, and the establishment of transitional setbacks as prescribed in various ordinances are all minimum legal standards designed in advance to deal with the typical problems of incompatible and adjacent land uses and are called into plan during the development approval process. But when one knows the specifics of the situation, it is possible and desirable to apply more than the minimum solution. Who and what interferes with what and whom, to what extent, when and how, are significant questions. The key to buffering between incompatible activities is to consider each as a unique domain and to preserve the integrity of each at all times. To do this requires an emphasis on the acoustical privacy of each.

For the past 20 years, the average community noise level has risen one decibel annually. And for each 10-decibel increase in sound level, the apparent loudness approximately doubles. The following are typical noise levels:

- inside an average residence 45 decibels
- residential traffic 63 decibels
- nonlocal auto traffic 88 decibels

Although mounds of earth, walls, fences, plants, and distance can serve individually or in combination to buffer sound, dense barriers formed by planting several rows of trees closely together are probably most realizable and most effective. The following suggestions are to act as rule-of-thumb guides for particular situations:

- Plantings up to 50 feet wide are recommended for effective screening of noise along high-speed highways.
- Green belts 20 or more feet wide, placed 20 to 50 feet from the center of the nearest traffic lane, are effective in suburban settings.
- A 5-decibel to 10-decibel reduction, quite attainable with belts of trees and shrubs, will bring a 70-75 decibel level (generally satisfactory for daytime outdoor environments).
- In one study, a dense 20-foot-wide, 18-foot-high screen of cotoneaster shrubs and Austrian pine surrounding a residence, 80 feet behind the screen, reduced noise 15 decibels (a third as loud).
- In relatively quiet residential areas, even narrower screens can improve conditions. A cypress hedge only two feet thick reportedly reduced sound by 4 decibels.

It should be recognized, however, that:

- Barriers of vegetation will not completely eliminate sound, no matter how tall, dense, or wide.
- Deciduous trees lose their effectiveness when leaves fall.
- When small plants are used as buffer plantings, several years of growth are required to effectively control noise. Immediate results cannot be expected.

Appropriately scaled plant buffers can significantly reduce noise and visual pollution and preserve the integrity of the domain on each side of the buffer. Such buffers should first be negotiated

at the time of rezoning and later during subdivision and site plan review to augment the minimal buffer requirements of the existing ordinances. Site plan identified buffering, to be effectively enforced, must be in place prior to occupancy.

It should be emphasized that the projects described in the following paragraphs represent only a selection of those major improvements having countywide or significant importance, where additional descriptive material may be beneficial. Many other transportation improvements are shown on the adopted Plan map, and the absence of text regarding such improvements does not suggest that these improvements are excluded from the Plan.

- **Leesburg Pike (Route 7).** The interchange at Baron Cameron Avenue should be designed as a partial grade separation providing for the westbound Route 7 to southbound Baron Cameron Avenue maneuvers.

- **West Falls Church Metro Station Area.** Road improvements within the Study Area have been planned and programmed to relieve current levels of traffic congestion. These projects are designed to accommodate Metro-related and through traffic, and the additional traffic related to new development. Although road improvements are planned, the design and construction of these projects cannot take place until funding is made available.

  Since it is a primary objective to preserve commuter access to the Metro Station, road improvements within the West Falls Church Metro Station Area must be prioritized above other improvements outside of this transit area. In addition, new funding mechanisms should be explored in order to expedite the construction of these crucial improvements. Two actions have already been undertaken by the Virginia legislature which should improve funding. They are:
  -Revision of the state funding system.
  -Lifting of the cap on the County bond program.

  The potential of the following funding methods should also be researched:
  -Tax increment financing.
  -Benefit assessments.
  -Transit impact fees.

  The County should also consider developing a parking policy for the Metro Station areas to include such items as parking maximums. The Office of Transportation is conducting a parking study expected to be completed in 1986 which may lead to recommendations for changes in parking requirements.

- **Dulles Airport Access Road (DAAR).** Construct two parallel lanes in each direction for use of general traffic from Route 28 to I-495. Use lanes otherwise restricted to airport traffic for an exclusive bus facility, as noted above. In the short term, open the existing DAAR to traffic between Route 7 and I-495 to provide a bypass of Tysons Corner or construct this section of the parallel lanes as a first stage.

  This recommendation is essential if the development planned for the Reston-Herndon area is to be provided adequate access. Since the DAAR bisects Reston, this facility would provide the most logical means of serving the area. In addition, it will further retard development of the Dulles and Reston-Herndon areas as employment centers because of continued poor access to the center and other parts of the region. (Area II, III)

  In regard to a possible interchange at Spring Hill Road:
  -It is a goal of the Comprehensive Plan to provide for the preservation of the Odricks Corner community to the north of the DAAR right-of-way.

  The partial interchange planned for Spring Hill Road at the DAAR should be limited to ramps on the south side of the DAAR connecting to Spring Hill Road providing for southbound only ingress and egress to and from Spring Hill Road. Traffic movement to the north from these ramps would be precluded.
  -Any future plans or further construction of access at Spring Hill Road and DAAR shall provide for access to and from the south and shall specifically preclude access to and from the north. Any and all further plans or construction of highways in this area shall be contained entirely within the existing DAAR right-of-way or shall be constructed on the south side of the DAAR. Under no circumstances shall additional land from the current boundaries of the Odricks Corner area be taken north of the existing DAAR right-of-way.
  -Spring Hill Road shall continue as a state maintained north-south road under the DAAR and shall remain only two lanes essentially in its existing roadbed between the DAAR and Lewinsville Road.
  -The clearly stated goal of this portion of the Plan shall be to provide an efficient transportation access south of the DAAR right-of-way while preserving the historic and residential areas to the north of the DAAR.
  -Nothing in the language above shall be construed to preclude an urgent effort to find a more satisfactory solution to this transportation problem. This solution is only to be considered the best offered to date, but all interested parties and agencies of federal, state and County governments are urged to energetically continue study toward a better solution to this transportation problem.
  -While the interchange of the Dulles Airport Access Road and Route 28 is physically located in Loudoun County adjacent to the Fairfax County/Loudoun Line, Loudoun County should continue to emphasize the completion of the interchange ramps as a high priority since this interchange is a strategic link in the transportation network of both counties.

- **Sully Road (Route 28).** Widen to six lanes and limit access from Prince William County to Poplar Tree Road. Widen to six lanes and limit access from Poplar Tree Road to Loudoun County. The dependence of economic development in the Dulles area on regional accessibility has been repeatedly emphasized throughout the development of the Plan. If industrial and employment centers are to be attracted to this area, its access to regional markets must be improved. In particular, cross-County access to major shipping routes in the I-95 corridor to the south, and improved access to similar routes to the north, must be provided. The improvement of Route 28 will serve this purpose, as well as provide a north-south facility connecting likely development in Prince William, western Fairfax, and Loudoun Counties. (Area III)

  While the interchange of the Dulles Airport Access Road and Route 28 is physically located in Loudoun County adjacent to the Fairfax County/Loudoun Line, Loudoun County should continue to emphasize the completion of the interchange ramps as a high priority since this interchange is a strategic link in the transportation network of both counties.

  Construct an interchange at Route 28 and Frying Pan Road. Actual staging of intersection/interchange construction is to be determined based on traffic volumes and the extent to which commitments to complete the interchange exist. A possibility however, for the staging of this interchange construction from an at-grade intersection to a full grade separated interchange could be as follows:

  1. Construct an at-grade intersection at Frying Pan Road and Route 28. This intersection should be as close to 90 degrees as possible and channelized as traffic movements dictate.

  2. Provide a six lane section of Route 28 in the vicinity of the Route 28/Frying Pan road intersection. Ideally this six lanes section would extend from south of McLearen Road to the Loudoun County Line.

  3. Provide partial and/or full grade separated movements at the Route 28/Frying Pan Road intersection.

  Access to properties in the vicinity of the Route 28/Poplar Tree Road Area should be consolidated and located on collector roadways to the maximum extent possible. Access points should be minimized along the arterial roadways which are proposed for this area.

  Construct roadways and interchanges for Route 28 in the vicinity of Poplar Tree Road as shown on the Area III Plan Map. The phasing of interchange construction should ensure the following:

  1. It is important to keep the limited access features of Route 28 to the greatest extent possible in order that it may be retained as a high capacity principal arterial roadway. In this regard, two at-grade intersections should *not* be constructed simultaneously in this vicinity. It is recommended, instead, that interim at-grade access be permitted only at the Centreville Road/Walney Road/Stone Road Extended/Route 28 intersection.

  2. The interim roadway network should be designed in such a way as to provide access to properties which previously would have had access to Route 28 at Poplar Tree Road. This will ensure that the at-grade intersection of Centreville Road/Walney Road/Stone Road Extended/Route 28 at-grade intersection is closed.

  3. Interim at-grade access to Route 28 at Centreville Road/Walney Road/Stone Road Extended/Route 28 should take place insuch a way that phased construction of the interchange can take place with no disruption to at-grade traffic flows.

- **Relocated Dranesville Road (Springfield Bypass and extension in the vicinity of the Dranesville and Centreville Districts).** Construct a new four-lane facility between Route 7 and Route 50. The alignment intersects Route 7 at a point west of the Dranesville Tavern Historic District and proceeds south basically along the western edge of the Upper Potomac Water Treatment facility. South of Rosier's Branch, it is located east of and parallel to Stuart Road in the vicinity of the Stuart Ridge Subdivision. To the south of Stuart Ridge, the alignment rejoins Stuart Road and proceeds to Baron Cameron Avenue. The alignment then south along the Colonial Pipeline easement to a point in the vicinity of Thompson Road, where it curves to the east to intersect Route 50 at approximately Acorn Ridge Road.

- **Reston Avenue.** Widen to four lanes between the DAAR and Fox Mill Road. Extend south to West Ox Road as a four-lane facility on the Lawyers Road alignment, realigning the Fox Mill Road/Lawyers Road intersection. Extend south to West Ox Road as a four-lane facility along the present Lawyers Road. Extend Reston Avenue north of the DAAR as a four-lane facility on new location to Baron Cameron Avenue, thence to Route 7 as a four-lane roadway on existing alignment. (Area II, III)

- **West Ox Road.** Improve horizontal and vertical alignment and typical section, between Route 50 and Lawyers Road.

  Construction of improvements to West Ox Road between Ox Hill Road and Franklin Farm Road should be based on the following guidelines:

  1. No large scale improvements over the length of this segment should be undertaken

prior to the completion of the segment of the Springfield Bypass between Route 50 and the Dulles Toll Road.

2. Prior to any large scale improvements, safety improvements over the length of this segment can be undertaken, including spot safety and/or intersection improvements.

3. The *design* of improvements to West Ox Road should minimize impacts on adjacent properties to the maximum extent possible. Special concern should be placed on minimizing impacts on the Navy School. An initial step in design should be the determination of the typical section, which should be determined by traffic volumes and projections, sound traffic engineering principles, and local impacts. With a number of driveways entering directly into West Ox Road, it is uncertain whether an improved two-lane section will offer significant traffic flow benefits over the existing configuration. However, until an examination of alternative roadway designs is conducted and a final design is selected, this segment of West Ox Road should be planned as a four lane facility, requiring right-of-way accordingly, but consideration should be given to construction as a two-lane facility with additional turning/stroage lanes at intersections in the interim. Alternatives to be considered in developing final design plans for the west Ox Road improvement should include:

- two lanes with improved horizontal and vertical alignment, improved shoulders, and additional turning/storage lanes at intersections;
- four lanes undivided, or four lanes with either a raised or flush median as necessary to provide access to adjacent properties;
- the design of West Ox Road shall be coordinated with the residents of West Ox Road and other affected communities. Buffering and other means of minimizing impact shall be provided to the maximum extent possible.

- **Lawyers Road (east of Reston).** Reconstruct to an improved two-lane roadway between Twin Branches Road and the Town of Vienna. With the planned growth of Reston exceeding 75,000 people by 1985, it is inconceivable that its only direct access to the east aside from the DAAR could continue to be a two-lane unpaved road. Improvement of Lawyers Road is strongly recommended to accommodate trips between Reston and Vienna. Failure to provide this connection will result in increases in average trip lengths (and corresponding increases in gasoline consumption and air pollution) for travel between these two centers. In addition, trips of such relatively short distance should be discouraged from using freeways such as the DAAR, since these are designed to accommodate longer subregional travel, and become progressively congested by the imposition of additional entering and exiting traffic volumes. (Area II, III)

- **Lawyers Boulevard (west of Reston).** Extend on new location as a four-lane facility between the Springfield Bypass and Route 28. Construct between Reston Avenue and the Springfield Bypass as described below. The purpose of this recommendation is to provide an east-west arterial in the south Reston area, linking it with major circumferential routes and particularly the industrial development near Dulles Airport. Without this facility, these trips will be forced on to Fox Mill, West Ox, and Centreville Roads (Area III).

The timing of construction and design of Lawyers Boulevard between Reston Avenue and the Springfield Bypass shall be as follows:

Timing of Construction

Lawyers Boulevard shall not be constructed between Reston Avenue and the Springfield Bypass until travel patterns have stabilized for at least one year after the Bypass construction between Route 50 and the Dulles Toll Road and a study verifies that one of the following conditions has occured:

- traffic west of Reston Avenue/Lawyers Road on either West Ox Road or Fox Mill Road exceeds 10,000 vpd (vehicles per day), or
- traffic on Franklin Farm Road between the Bypass and West Ox Road exceeds two and a half times the 1985 24-hour traffic as reported by The Virginia Department of Highways and Transportation,
- the combined traffic on any two of the following streets exceeds 16,000 vpd:
  -Fox Mill Road west of Reston Avenue
  -West Ox Road west of Lawyers Road
  -Franklin Farm Road

Design Concepts

The following design features shall be specifically evaluated upon commencement of the design of Lawyers Boulevard between Reston Avenue and the Springfield Bypass:

- the provision of an at-grade intersection of Viking Drive and Lawyers Boulevard and cul-de-sacs on the other subdivision streets within Fox Mill Estates at locations where such streets are crossed by Lawyers Boulevard;
- the design of Lawyers Boulevard as a basic two-lane section, with additional turning and storage lanes at intersections to provide capacity, and enhanced buffering provided along such two-lane segments, and as a four-lane divided section;
- the provision of a treed median for a two or four lane section;
- for purposes of safety, the provision of appropriate fencing and evergreen and other planting;
- the location of the roadbed on an alignment as far as possible from existing dwelling units;
- the provision of pedestrian crossings such as overpasses to provide pedestrian access to both sides of Fox Mill Estates.

The design of Lawyers Boulevard between Reston Avenue and the Springfield Bypass shall be coordinated with residents of Fox Mill Estates and other affected communities. Buffering and other means of minimizing the impact of this road section on Fox Mill Estates shall be provided to the maximum extent possible.

- **Hunter Mill Road.** Reconstructed to an improved two lane roadway between Baron Cameron Avenue and the Dulles Toll Road, a three lane roadway between the Dulles Toll Road and Sunrise Valley Drive. This widening does not provide significant additional capacity to the roadway and does not imply that this improved roadway can accommodate significant land use changes or density increases of adjacent parcels. This widening also does not imply that Hunter Mill Road should be two lanes between Sunrise Valley Drive and Chain Bridge Road, realigning that segment between Sunrise Valley Drive and Tamarack Drive. The design of the realignment should consider the preservation of existing trees. Extend south of Chain Bridge Road to Blake Lane. Hunter Mill Road currently provides the only continuous north-south facility in the northern part of Fairfax County west of the Beltway. Even with a future extension of Reston Avenue to connections with Route 7 and Route 50 further west, the location of Hunter Mill Road between Reston (1985 population over 75,000) and Vienna (1985 population 19,000) will naturally lead to increases in traffic originating at the edge of both areas. This will be particularly acute if an interchange is provided with the proposed DAAR parallel lanes, as additional traffic will be attracted to the roadway. Provision of this interchange is essential to allow traffic to bypass Vienna and would reduce the burden otherwise placed upon Lawyers Road (Area II, III).

- **Route 50.** Widen to six lanes between Loudoun County and the City of Fairfax, limiting access on the entire section. Implement exclusive bus lane between Stringfellow Road and I-66, as noted above. (Area II, III)
- **I-66 (west of Route 50).** Widen to six lanes between Prince William County and Route 50. Construct bus lanes in the median between Route 29 and the Vienna Metro Station, as noted above. This facility is needed to serve both Prince William County growth and large-scale development planned in the Centreville and Fairfax Center areas. (Area II and III)
- **Braddock Road.** Widen to four lanes between Ravensworth Road and Backlick Road. Implementation of this project, long programmed by VDH&T, will connect two existing four-lane sections of Braddock Road and remove two bottlenecks which currently exist at each end. The necessary right-of-way for this project is currently owned by VDH&T. This is one of the few roadway improvements being recommended inside the Beltway. (Area I)

- **Braddock Road.** Widen to four lanes between Guinea Road and Union Mill Road. Extend as a four-lane facility to the west across I-66 and connecting with Lee Highway at Stone Road. The present two-lane section of Braddock Road is inadequate to accommodate projected development south and west of the City of Fairfax. Failure to implement this recommendation will reduce the circulation needed at Centreville to serve that development center, overload the existing two-lane facility, and induce additional traffic volumes on Lee Highway. (Area III)

- **Braddock Road.** Widen to six lanes between Burke Lake Road and I-495 (Capital Beltway). This section of Braddock Road is extremely congested during week day peak periods and provision of additional lanes will greatly improve traffic flow on this location.

- **Stone Road/Poplar Tree Road.** Widen to four lanes divided from Lee Highway to Stringfellow Road, realigning Poplar Tree Road only to connect with Stone Road at Braddock Road, with all other improvements to these facilities to be along their existing alignment. This recommendation is designed to improve access to the development center at Centreville by relieving the major facilities (I-66 and Route 28) of local travel, which they are not intended to carry. (Area III)

- **Stringfellow Road.** Widen to four lanes from Route 50 to Lee Highway, realigning the intersection with Lee Highway to connect with Clifton Road. This recommendation is designed to provide a north-south connection in this corridor which bypasses the development center at Centreville. (Area III)

- **Shirley Gate Road.** Widen to four lanes from Route 50 to Braddock Road, realigning the southern portion to the east. With a development center planned for the area west of the City of Fairfax, improved access to and from the south should be provided. Failure to construct this project will result in the overloading of existing Shirley Gate Road, and force other trips to be made through the City of Fairfax. (Area II, III)

- **Jermantown Road.** Widen to four lanes between Blake Lane and Lee Highway. This improvement is designed both to provide a northern bypass of the City of Fairfax City and improve access to the development center west of the city. (Area II)

- **Blake Lane.** Widen to four lanes between Jermantown Road and Lee Highway. Extend on new location south of Lee Highway as a four-lane facility to connect with Pickett Road east of Fairfax Circle. Pending completion of a study addressing all pertinent impacts, pro and con, envisioned from extension of Pickett Road across Routes 50 and 29 to connect with Blake Lane, to include analysis of the impact of added traffic on Blake Lane, the Pickett Road extension should not be completed. The Blake/Pickett connection should not be completed and Fairfax County should oppose the widening of Blake Lane unless the four-lane Pickett Road within the City of Fairfax is moved westward or noise attenuation devices are installed in order to reduce the impact on adjoining subdivisions and through trucks are prohibited along the Blake Lane/Jermantown Road corridor from Lee Highway to Chain Bridge Road and along the Pickett Road connection from Route 50 to Route 29. (Area II)

- **Nutley Street (Route 243).** Widen to six lanes between the Vienna town line and Route 29, and realign to intersect Route 29 directly opposite the section of Nutley Street south of Route 29. Complete necessary ramps to provide for all movements of the interchange with I-66.

  The advent of Metro and a development center in the area west of Nutley Street will attract a substantial amount of traffic. Access to this area from I-66 to the west is needed in order to avoid further loading of Route 123, which provides the only access in this direction at present. To minimize congestion in this area, Nutley Street should be widened to accommodate traffic oriented to Metro and to the development center, as well as through the area. The extension of Nutley Street to Route 50 will provide more direct access to the area from the south, as well as access to development between Lee Highway and Route 50. It would also reduce the impact on Fairfax Circle, which even under existing peak-hour loads operates inefficiently. (Area II)

- **Lee Highway (Route 29).** Widen to four lanes between the City of Fairfax and the City of Falls Church. This project will increase the capacity and improve safety on this section of Lee Highway and provide a continuous section throughout the length of the road from Fairfax Circle to Rosslyn. Widen Lee Highway to six lanes between I-66 and the City of Fairfax.

- **Lewinsville Road.** Improve westbound alignment of Lewinsville Road between Balls Hill Road and Windy Hill Road (Area III).

- **Georgetown Pike (Route 193).** Provide safety-related improvements without changing the basic two-lane section of this roadway. Examples of such improvements include vertical and horizontal realignment to increase sight distance, additional turning lanes near Langley High School, improved signing and shoulders, and installation of guard rails at appropriate locations. (Area II)

- **McLean Circulation Plan.** The following actions are recommended as means of improving both the flow of through-traffic and internal circulation within the McLean CBD:
  -Chain Bridge Road. Widen to five lanes between Westmoreland Street and Route 123 with the center lane to be used as turning lanes. Realign to intersect with Dolley Madison Boulevard opposite Churchill Road on the alignment of present Old Chain Bridge Road.
  -Old Dominion Drive. Widen to five lanes between Holmes Place and Route 123 with the center lane used as turning lanes.
  -Ingleside Avenue. Improve to a 44 foot road section between Chain Bridge Road and Beverly Road. Realign at Chain Bridge Road to a point directly across from Tennyson Drive.
  -Beverly Road. Improve to a 44 foot road section between Ingleside Avenue and Elm Street.
  -Maintain access between Beverly Road and Chain Bridge Road in the area between Langley Shopping Center and Curran Street.
  -Elm Street should remain one-way westbound between Chain Bridge Road and Poplar Place.
  -Access should continue to the McLean Square Shopping Center directly from Whittier Avenue.

  The recommendations for improvements in the McLean CBD represent the findings of extensive citizen study with staff support and are the best evaluation of the CBD at this time (Area II).
  - Dolley Madison Boulevard. Limit future improvements to four lanes between Lewinsville Road and the George Washington Memorial Parkway, except for those intersection improvements in the vicinity of major traffic generators which may be necessary to accommodate traffic concentrations in such areas.

- **Springfield CBD Circulation Plan.** Extend Amherst Avenue as a four-lane roadway from Cumberland Avenue to just north of Calamo Street, realigning Backlick Road near Calamo Street into Amherst Avenue as a through facility. Construct a bridge to carry Amherst Avenue across Old Keene Mill Road. Extend Bland Street and Springfield Boulevard across Backlick Road and Amherst Avenue as two-lane roadways with a turning lane. Continue to extend Bland Street from Backlick Road to Old Keene Mill Road. Once Amherst Avenue, Springfield Boulevard and Bland Street are extended, extend the median on Old Keene Mill Road from I-95 across Backlick Road. Improve Commerce Street to four lanes, and extend as a four-lane collector into and along Cumberland Avenue between Franconia Road and Old Keene Mill Road. Construct a two-lane roadway between Augusta Drive and Brandon Avenue. (Area IV)

- **Gallows Road.** Widen to four lanes between Route 7 and Idylwood Road, with a realignment at Route 7 to connect with International Drive, as adopted in the Tysons Corner circulation plan. This recommendation is designed to improve the capacity of the currently heavily traveled road which links the intensive development at Tysons Corner with the planned Metro station at Dunn Loring, and continues through other industrial and commercial areas. Failure to implement this recommendation will impede circulation at Tysons Corner and access to the Metro station. (Area II)

- **Route 50/I-495 Area.** The following recommendations are incorporated in the Route 50/I-495 Area recommendations.
  -Route 50. Widen to six lanes divided between Prosperity Avenue and Jaguar Trail. Provide additional lanes for buses (study required).
  -Lee Highway (Route 29). Widen to four lanes divided.
  -Gallows Road. Widen to six lanes divided from Route 50 to I-495, and to four lanes north of Lee Highway. The Gallows Road bridge over I-495 should be widened to four lanes.
  -Prosperity Avenue. Widen to four lanes divided between Route 50 and Hilltop Road, and extend as four lanes divided on new location north of Hilltop Road into the Dunn Loring Metro Station.
  -The Route 50/Gallows Road intersection should be reconstructed as a grade-separated interchange.
  -The Lee Highway/Gallows Road intersection should be reconstructed as a grade-separated interchange.

  Other recommendations for providing access to individual tracts in the Route 50/I-495 Study Area are shown on the countywide transportation plan map and discussed in the appropriate planning area of the Plan. (Area I, II)

- **Little River Turnpike (Route 236).** Widen to six lanes between I-495 and Shirley Highway (I-395). This recommendation will increase capacity and help improve circulation in the Annandale area. In the absence of adequate funds to complete this entire recommendation, all new development should be coordinated to provide for both the widening and the required service drives. Priorities should be given in the near future to measures which are suitable or feasible for implementation and provide immediate and measurable improvements to Route 236 operations.
  -Provide computerized traffic signals geared to the changes in traffic loads and flow rates.
  -Improve design construction of the problem intersections along Route 236, namely Hummer Road, the Annandale CBD, Braddock Road and Beauregard Street. These improvements should be designed to provide additional right turn triangles with yield signs, additional left turn stacking lanes, and service roads for new developments as they occur. (Area I)

- **Guinea Road.** Widen to four lanes from Braddock Road to Zion Drive, and extend as a four lane facility on new location to Ox Road (Route 123) north of Southern Railroad. Locate the pavement within the southern 60 feet of the 90 foot right-of-way to the extent possible except at the intersection of realigned Guinea Road and Route 123 where the intersection may mandate the use of all of the 90 foot right-of-way.

  Bypasses and cut-through traffic through Fairfax Club Estates should be precluded by allowing no access to this community.

  This improvement will provide needed arterial access to the east and west for the area between Burke and the City of Fairfax. Failure to implement this project will lead to increased traffic volumes on existing Guinea Road and Zion Drive. Construct bus lanes between Zion Drive and Braddock Road (Area III).

- **Burke Lake Road.** Widen to four lanes between Braddock Road and the Springfield Bypass, realigning that section between the Lake Braddock Secondary School, just north of Lake Braddock Drive, and Burke Village Drive. This realignment would facilitate the proposed bridge crossing of the Southern Railroad, and together with the relocation of Burke Road to intersect Burke Lake Road north of the Southern Railroad, the two existing at-grade crossings could be combined so that only one bridge crossing would be necessary in this area. Development in the Burke area will create the need to improve many two-lane rural roads. Burke Lake Road will provide needed access to this area from the east in combination with the Springfield bypass. Failure to construct this project will result in the overloading of the existing facility, with corresponding reductions in its operating efficiency and safety. (Area III)

- **Springfield Bypass (Hooes Road/Pohick Road).** Construct a four-lane east-west facility on the general alignment of Hooes Road and Pohick Road with certain realignment between Ox Road and Backlick Road. The realignment between Gambrill Road and Huntsman Boulevard should allow a buffer of at least 100 feet between the property line of parcel 89-3 ((1)) 59 and the road. Realign the section between Backlick Road and Ben Franklin Road to minimize the distance and skew of the I-95 crossing to the extent possible. Extend to the east, crossing I-95 south of Frontier Drive past the relocated Franconia Metro station to a connection with Beulah Street. The priorities for construction of the route should be as follows:
  - -Rolling Road to Backlick Road;
  - -Spur to I-95;
  - -Backlick Road to Beulah Street.

  This facility is needed to provide access to the rapidly developing Pohick area, to relieve Keene Mill Road and central Springfield of through-traffic destined to the Pohick, and to provide access to the Franconia/Springfield Metro Station. It is widely acknowledged that roads in this general area of the County are inadequate to accommodate the burdens recent development has placed on them. This facility is one of several which will be needed to adequately serve the area. Failure to implement it will result in increased congestion on Old Keene Mill Road and in central Springfield. In addition, this will greatly diminish the service area of the Franconia/Springfield Metro Station, thereby reducing transit ridership below anticipated amounts. (Area III, IV)

- **Springfield Bypass.** In the areas between Route 50 and Route 123, and Rolling Road and Route 1, the Springfield Bypass should be designed so as to accomplish the following objectives to the maximum extent possible:
  - -grade-separated interchanges should be provided only at those locations where detailed traffic analyses indicate that at-grade intersections will not adequately provide traffic service;
  - -a parkway-type facility should be designed;
  - -the roadway should be designed so as to minimize potential impacts on the Occoquan watershed, specifically including measures to minimize potential land use changes resulting from construction of the road;
  - -access should be provided from the Bypass to the proposed I-95 HOV lanes; and
  - -potential adverse impacts on the Cannon Ridge/Buckner Forest/Brentwood Farms/Brentwood communities should be minimized. Several of these communities have been built since the environmental impact statement (EIS) was begun and therefore were not considered therein.
  - - In addition to the route which has been studied by TAMS, every effort should be made to consider an alignment to the east of the Buckner Forest/Brentwood Farms subdivisions, which is within the same corridor. This effort, as an initial step in final design, should include at a minimum a study to determine more exactly the engineering and administrative feasibility of an eastern alignment such as one utilizing Piney Branch Stream Valley Park as well as restudying the alignment previously considered by TAMS.

    Nothing herein shall preclude consideration of other alignments, including one in the vicinity of the AT&T easement.
  - -The alignment selected by the Virginia Highway and Transportation Commission follows Rolling Road for a short distance south of Hooes Road; as such, it lies adjacent to several new housing developments. Every effort should be made to minimize impacts in this area, including the possibility of shifting the alignment as far to the east as possible onto Fort Belvoir property.

    An initial step in final design should include at a minimum a study to determine more exactly the engineering and administrative feasibility of an alignment east of Rolling Road on Fort Belvoir property.
  - -The alignments evaluated in the draft EIS result in little or no impact on parkland. This is a desirable objective which the County supports; however, several instances exist wherein extreme measures were taken to avoid parkland and these measures result in disproportionate impacts on other adjacent properties. In many of these instances, the roadway is shown on the Plan and the parkland was obtained and/or designated in full recognition of this Plan. In such cases, modest road realignments, which reduce the impacts on the adjacent properties by making modest use of parkland, should be considered. Examples of such instances include Popes Head Park, South Run Park, and Hooes Road Park.
  - -Potential adverse impact on the Greenbriar community should be minimized and every effort should be made to align the road as far to the east of the Greenbriar community as possible (preferably as much as 500 feet if possible), taking into consideration the impact such a change would have on the communities to the east.
  - -Potential adverse impacts on the Springfield Forest community should be minimized in the final design process. Measures such as the elimination of access between the community and the bypass and the provision of visual and noise buffers should be considered when more detailed engineering studies are initiated.

- **Old Keene Mill Road.** Widen to four lanes between Lee Chapel Road and Pohick Road. This improvement is needed to provide adequate capacity to this arterial which serves a number of subdivisions in the area. (Area III)

- **Rolling Road and Pohick Road.** Widen to four lanes from Old Keene Mill Road to Richmond Highway, with realignment near Springfield Village Drive, and minor realignments to Pohick Road between I-95 and Route 1. This facility is needed to provide north-south access through this rapidly developing area. (Area II)

- **Ox Road (Route 123).** Widen to four lanes from Marlborough Road to Prince William County. This road is the principal means of providing access between eastern Prince William County, the Pohick area, and central Fairfax. The existing two-lane facility will be inadequate to accommodate growth in these areas. (Area II, III)

- **Relocated West Ox Road**—Springfield Bypass. Construct a four-lane roadway on new location from the Route 50/relocated West Ox Road intersection to the Route 123/Springfield Bypass intersection. This connection will provide a needed link for circumferential travel in this corridor. Without it, movement between the western development areas at Centreville, Chantilly and Reston, and those in the south in the Pohick and at Springfield must pass through the City of Fairfax or the Braddock Road/Route 123 intersection. This connection will also improve the regional accessibility of the Reston, Herndon, and Fairfax Center areas, thereby improving their competitive ability to attract employment. (Area III)

- **Lee Chapel Road.** Widen to four lanes between Burke Lake Road and Ox Road. (Area III)

- **Shirley Highway (I-95).** Extension of the preferential bus/carpool lanes (HOV or high occupancy vehicle lanes) from the present terminus, Route 644-Springfield, to the Prince William County line.

  Additional development in both Prince William County and Fairfax County, coupled with increases in travel along I-95 as a major north-south road in the eastern United States, will place increased demands upon I-95. Some of the increase in travel in the corridor could be handled by commuter rail service. However, express buses remain the most flexible mode of travel, capable of circulating through many neighborhoods and carrying relatively high volumes on expressways. Commuter rail offers less flexibility and may not be able to handle the passenger volume without interfering substantially with freight movement. An express lane could carry high occupancy vehicles from southern Fairfax County and Prince William County around the anticipated congestion along I-95 and increase the capability of the highway to meet the forecasted travel demand. (Area IV)

- **South Van Dorn Street.** Widen to six lanes north of Franconia Road. Extend South Van Dorn Street as a four-lane roadway south to provide a direct connection into Lockheed Boulevard extended. Construct partial interchange at Franconia Road, and improve interchange with I-95. At the present time, the large area encircled by Beulah Street, Franconia Road, and Telegraph Road can be crossed using Hayfield Road and Rose Hill Drive, neither of which is capable of handling much traffic. The improvement and extension of South Van Dorn Street is intended to serve the following functions:
  - -Provide access to the Van Dorn Street Metro Station.
  - -Create a major north-south artery to handle traffic originating from the Lehigh tract destined for I-95, western Alexandria, and the core, reducing demand placed upon Telegraph Road, Beulah Street, and Franconia Road. None of these roads can be easily widened to allow sufficient capacity if this facility is not provided.
  - -Together with Lockheed Boulevard extended and the Springfield Bypass, create a nearly direct east-west route from the central part of Mount Vernon to the Lehigh tract and to Springfield without using Franconia Road, North Kings Highway, Rose Hill Drive, and Richmond Highway, thereby allowing these facilities to provide a better level of service than otherwise. To accomplish this function, the alignment of Lockheed Boulevard should be as direct as possible to South Van Dorn Street extended. (Area IV)

- **Lockheed Boulevard Extended.** Extend Lockheed Boulevard to the west and curve to the north to connect directly to South Van Dorn Street at Franconia Road. This facility is proposed to provide needed east-west access from the Mount Vernon and eastern Rose Hill Planning Districts, thereby reducing demand on such facilities as Franconia Road, Rose Hill Drive, and portions of Telegraph Road, South Kings Highway, the Parkway, Harrison Lane, North Kings Highway, and Richmond Highway. It would also provide better access from Rose Hill to Hybla Valley and the Mount Vernon Hospital. A direct alignment would be most desirable for the road to function properly. Failure to construct this roadway will result in increased traffic volumes on the above streets, and failure to provide a continuous facility will limit the

capability of the roadway to divert traffic from other arterials and collector roadways. (Area IV)

- **Woodlawn Road.** Widen to four lanes. Realign near Richmond Highway to intersect at Belvoir Road. Extend Woodlawn Road from Beulah Street to Shirley Highway at the interchange with the Springfield Bypass, subject to engineering and environmental studies that assure there shall not be any dislocation or adverse impact on existing communities.

  The extension of Woodlawn Road is proposed to provide direct access from I-95 to Fort Belvoir, the large area planned for office development west of Beulah Street, and the industrial area on Cinder Bed Road. Not providing this facility would result in heavy traffic on Beulah Street, Newington Road, the Springfield Bypass, and Franconia Road at Springfield Mall. Unless this access to and from I-95 is provided, the Springfield Bypass will be used instead. This will saturate the Springfield Mall area with traffic at all hours of the day, making access to the Mall and to the relocated Franconia Station most difficult. If no connection were made to Loisdale Road, the roadway should not seriously impact residential areas. (Area IV)

- **Richmond Highway (Route 1).** Widen to six lanes between Belvoir Road and the Prince William County line. Implement exclusive bus lanes between Sherwood Hall Lane and North Kings Highway. Construct partial interchanges at its intersections with arterial roads between Fort Belvoir and I-495. Complete service drives. Implement progressive signal system to improve north-south flow.

  The following intersections with Richmond Highway should be realigned to provide four-way intersections: Old Mill Road and Mount Vernon Memorial Highway; Reddick Avenue and Russell Road; and Highland Lane and the access road to the Terrace Townhouses of Woodlawn. Elimination of these offset intersections should improve traffic flow both along and across Route 1.

  Several other facilities such as Old Mill Road extended, Lockheed Boulevard extended, and a collector street consisting of Pole Road, Buckman Road and Janna Lee Avenue extended should help to divert shorter trips from portions of Richmond Highway. Failure to provide improvements to Richmond Highway (and facilities to divert traffic from it) will result in increased congestion, and diversion of traffic to such roads as Mount Vernon Memorial Highway, Sherwood Hall Lane, and Fort Hunt Road. (Area IV)

- **North Kings Highway (Route 241).** Widen to four lanes. Implement exclusive bus lanes between Route 1 and the Huntington Metro Station. Existing traffic and expected additional traffic to the Huntington Metro Station will make this improvement imperative. (Area IV)

- **Backlick Road.** Widen to four lanes between Old Keene Mill Road and Richmond Highway. Realign near the Accotink area to coincide with the realignment of Pohick Road in the master plan for Fort Belvoir. Improvement to this roadway is necessary to handle existing traffic and additional traffic expected near Telegraph Road. Not providing this improvement would lead to increased congestion along the roadway, and the possible use of Newington Road as access between I-95 and Richmond Highway. (Area IV)

- **Lorton Road and Furnace Road.** Widen four lanes between Richmond Highway and Ox Road. This roadway provides a short but vital link between three arterials (Richmond Highway, Shirley Highway, and Ox Road) and provides access to Shirley Highway for a large, but mostly undeveloped area in the southern part of the County. Improvement is necessary to provide an uncongested link between the three arterials and to provide access to the I-95 and RF&P transit corridors. (Area IV)

- **Telegraph Road.** Widen to six lanes from Franconia Road to the City of Alexandria. Construct partial interchanges at the intersections with North Kings Highway and Franconia Road. Widen to four lanes from Franconia Road to Richmond Highway.

  Existing traffic and traffic from presently undeveloped areas immediately adjacent to the roadway will place a great burden upon Telegraph Road. The recommended improvements are proposed to accommodate present traffic and to meet some of the additional traffic expected by 1990. Other facilities such as Lockheed Boulevard extended and South Van Dorn Street extended are proposed to reduce the amount of traffic which would otherwise use Telegarph Road. (Area IV)

- **Franconia Road.** Widen to six lanes between Grovedale Drive and South Van Dorn Street. Widen to four lanes between South Van Dorn Street and Telegraph Road.

  These improvements are proposed to handle existing traffic and additional traffic expected from 1990 development adjacent to the roadway. To reduce the burden which would otherwise be placed upon Franconia Road, an additional east-west roadway consisting of Lockheed Boulevard extended, a portion of South Van Dorn Street extended, and the Springfield Bypass is proposed. (Area IV)

- **Fort Hunt Road and Collingwood Road.** Widen Fort Hunt Road to four lanes north of Belle View Boulevard, realigning to intersect Route 1 opposite Huntington Avenue. Improve Fort Hunt Road (between Belle View Boulevard and Vernon View Drive), and Collingwood Road and Parkers Lane (between Sherwood Hall Lane and Fort Hunt Road) to modified collector streets. The modified collector streets should consist of two 12-foot travel lanes, two eight-foot paved shoulders, and provisions, where appropriate, for turning movements, bus stop facilities, and off-street parking. The priorities for transportation improvement within the Mount Vernon Magisterial District, in descending order, should be access to the Huntington Metro Station, improvements to Collingwood Road/Parkers Lane from Sherwood Hall Lane to Fort Hunt Road, and improvements to Fort Hunt Road. (Area IV)

- **Sydenstricker Road.** Widen to four lanes between Old Keene Mill Road and the proposed Springfield Bypass (Hooes Road). (Area III)

Actions Necessary After Plan Adoption: Programming. Fiscal Considerations, and Project Development

The transportation plan attempts to:

- respond to land use plans and community objectives in Fairfax County; and
- provide for existing and anticipated demand, consistent with preservation of community values.

The specific recommendations and proposals in the plan need to be adopted for purposes of serving existing, committed, and anticipated demand, as well as to ensure that maximum flexibility is retained for long-range (post 1990) requirements. This is especially necessary in congested locations in order that grade separations, bus lanes, etc., can be implemented without incurring excessive right-of-way acquisition costs. There are several important steps that need to be followed subsequent to plan adoption. Several of these are as important as the adoption of the plan itself. They must be given careful attention as they all relate to critical aspects of the implementation process. These steps, and issues which affect them, are discussed in this section. In addition, the implementation chapters of this Section also provide insight into the necessary process for constructing the proposed improvements.

Programming and Priorities

A major element and output of the transportation planning process is the separation of long-range issues from current and short-range issues. While the long-range policies and plans serve as a guide in day-to-day decision making, the reality of transportation facility improvements lagging far behind existing demand requires that a short-range plan guide project implementation. This plan or, more appropriately, program, should not undergo major changes each time a new long-range planning effort is initiated or major updates are conducted on existing plans. The very process of programming requires a certain stability over the short-range so that projects, priorities, and resulting fiscal requirements can be viewed with a fair degree of certainty and related to operating and capital budgets.

Thus, short-range program should not be held up because of longer run considerations such as the re-evaluation of long-range plans or questionable availability of funds to implement a total transportation effort. The following sections describe the roadway and transit programming procedures currently in use.

Programming of Roadway Improvements. The Virginia Department of Highways and Transportation (VDH&T) is responsible for the planning, construction and maintenance of roads in the system of interstate, primary and secondary highways. Funds are allocated for these purposes through acts of congress and state laws, and various combinations of federal-state fund matching are utilized for construction and maintenance on the various systems. The programming of highway construction and improvements is derived from the priorities for completing the interstate system, the state's arterial highway system and upgrading the secondary road system such that it can handle the traffic in accordance with state standards. In addition, the completion of a countywide transportation plan as part of the Comprehensive Plan has enabled the County to provide guidance to VDH&T in the allocation of highway funds.

Programming of highway funds to specific projects occurs in two basic categories. The first category includes interstate and primary highways while the second category relates to the secondary road system in the County. Different programming mechanisms are used for each of these two categories. These are briefly described as follows:

- The 10-year program prepared by VDH&T for the period 1972-82 formed the basis for proposed improvements to the interstate and primary highways during that period. This program has subsequently been amended to reflect a more current critical improvement program. Although the future and validity of the total scope of this program is most uncertain due to the current financial situation, priorities within the program are determined and projects are constructed in accordance with the yearly budget. Allocations to the interstate and primary system are made to the Culpeper construction district. Projects in Fairfax County compete with those in many other counties in the general Northern Virginia area for these allocations. In the spring of each year, VDH&T holds a preallocation public hearing at which time the Board of Supervisors endorses a priority list of interstate and primary project improvements for which the Board desires programming of funds. Based on the testimony received at this public hearing, VDH&T prepares a tentative allocation of funds to specific interstate and primary projects. Once this tentative allocation has been prepared, another final allocation public hearing is held and subsequent to this public hearing the allocations to these projects are finalized for the coming year.
- The programming of secondary funds for specific projects is done in a different manner. As opposed to interstate and primary funds which are allocated to the Culpeper construction district, the secondary road funds are allocated to the County and these funds must be spent within the County. Recently, the General Assembly amended and created Section 33.1-70.01 in the *Code of Virginia,* pursuant to which the Board of Supervisors can participate with VDH&T in the preparation of a six-year secondary road improvement program as well a hold joint public hearings on the program. The Board has elected to participate in the preparation of this program. In 1978, following a public hearing, the first six-year program prepared jointly by the County and VDH&T was adopted by the Board of Supervisors and approved by the Virginia Highway and Transportation Commission. The final program, as approved by the Commission, automatically becomes the guide for the annual construction budgets. The six-year improvement rogram is scheduled to be updated and revised through the same procedure as it was first prepared. This enables the program to remain current and reflective of updated priorities.

Due to the significant number of projects involving construction of new roadways as well as improvements to existing secondary roads, the programming process must recognize the need to program funds in both these areas. However, due to the inadequacy of funds compared to the needs in the County, major attention, by necessity, is focused on improvements to existing roadways. Nonetheless, the programming process utilized by the County is essential in order to set implementation priorities even within the constrained funding. The major reason for maintaining a program for improvements, in addition to an adopted transportation plan for the County, is to provide the implementation agencies with a comprehensive document stating short-range transportation needs. While these needs are far greater than the funds currently available, the continued emphasis upon the need may provide the impetus for securing additional funds in the future.

Secondary Road Bond Program Funded by Fairfax County. In 1981, the Virginia General Assembly passed legislation which permits Fairfax and certain other urban counties to spend a maximum of $10 million a year for the purpose of constructing or improving roads which either have been or may be taken into the secondary system of State highways. All or a portion of this funding may come from the sale of general obligation bonds.

On November 3, 1981 a referendum was approved to issue $30 million in general obligation bonds to supplement state funding of secondary road construction in Fairfax County. This approval initiated Fairfax County's participation in the funding of secondary road construction. Although Fairfax County is not obligated to continue such a program indefinitely, the County has indicated its intent to seek an additional bond referendum approval in 1984 which will incrementally extend what was initially begun as a three-year program.

The specific yearly program elements of these programs can be found in the annual update of the Capital Improvements Program (CIP) and in the annual "Listing of Projects in Priority Order for Interstate and Primary Projects".

Transit Programming. The planning and programming of transit improvements in Fairfax County is a function of those capital improvements included in the long-range plans of the Washington Metropolitan Area Transit Authority (WMATA) and the County. The major mandate of the WMATA plan is to complete the Metro-rail adopted regional system (ARS). The actual dates of implementation of this system are dependent upon the receipt of federal, state and local funds for its financing. Any additions to the rail system beyond the adopted system such as those recommended in the countywide Plan may be programmed after the completion of the ARS and will be subject to the same constraints of funding availability. In addition to construction of the rail system, WMATA's capital programs provide for such items as construction of bus garages, acquisition of new buses and other capital needs.

Several elements of the County's transit program are implemented through the Virginia Department of Highways and Transportation (VDH&T) six-year and ten-year programs. Projects such as commuter fringe parking lots and bus lanes are funded and constructed essentially as highway projects and compete for funds with other primary and secondary road improvements. Transit facilities constructed in this manner include the Shirley Highway express lanes and the West Springfield fringe parking lot.

Although the Comprehensive Plan emphasizes the need for improved bus service throughout the County, long-range plans for individual bus routes are not included in either the Plan or any Washington Metropolitan Area Transit Authority (WMATA) program. Due to the inherent flexibility of bus service and the changing nature of demand for such service, it is impossible to prepare a long-range bus route network with any precision other than to outline the major corridors along which buses will travel. Since the opening of the initial Metro-rail segment in Virginia, buses have been utilized primarily as a feeder service to Metro-rail stations. This type of operation is expected to continue and expand as additional Metro-rail lines are opened. In addition to the feeder routes, buses are also used to provide cross-County circumferential connections between important activity centers. This type of service is expected to be expanded as fewer buses are needed to provide radial service.

Changes in individual bus routes are made through the WMATA public hearing process. For a major change in the system such as the opening of a new Metro-rail segment, WMATA staff normally prepares a comprehensive bus routing plan well in advance of the change. This plan then goes through extensive coordination with local jurisdictional staff before being presented to the public at a formal public hearing. Requests for hearings on more minor route changes may be initiated by WMATA or local staff or from the citizens themselves. Normally these requests are evaluated by staff and a decision is made as to whether a public hearing is held. In addition, a public hearing is

held on any change formally requested by the Board of Supervisors. After public hearings, the proposals are reviewed in light of the testimony presented. The service changes are implemented only after the endorsement of the Board of Supervisors and the WMATA Board of Directors.

Fiscal Considerations. Because of severe financial constraints, agencies such as WMATA and the Virginia Department of Highways and Transportation (VDH&T) may be able to implement only a small percentage of the recommendations included in the transportation plan by 1990. The speed with which development has occurred and is expected to continue in the County will place a demand on the transportation system which the existing levels of funding cannot match.

The monies which are available for highway construction are negligible when compared with the funds needed to implement the highway improvements proposed in the transportation recommendations. The rapidly escalating cost of highway maintenance caused not only by inflation but also by the increased miles of roadway in the system, is resulting in a direct reduction of funds available each year for capital construction and roadway improvements.

Similar funding problems also exist for the implementation of transit projects. The provision of the transit facilities and services recommended in this plan will require substantial investment beyond that which has previously been made by Fairfax County. In 1979 the Metro-rail system construction was funded as far as the Ballston Station in Arlington County and the Huntington Station in Fairfax County. The completion of the remainder of the Vienna route and the Franconia/Springfield route will require substantial additional capital contributions from both the federal government and local jurisdictions.

Other transit facilities such as bus lanes and fringe parking have been funded primarily with highway funds. As such, these facilities will have to compete for this very limited funding with much needed roadway improvement projects.

The operation of both bus and rail transit facilities costs substantially more than the amount of revenue generated at the farebox. The difference between costs and revenues must be made up from general County revenue since no dedicated source of revenue to finance transit operating deficits exists at present. The preceding discussion clearly implies that the presently anticipated funding sources and levels will not enable the Plan recommendations to be implemented by the time the demand occurs. Land use commitments, however, have already been made that require several transportation projects to be implemented. It is obvious that the County by itself or in conjunction with the state or the federal government will have to expand existing sources of revenues or identify new ones. The presently inadequate funding levels canot be accepted as a maximum while development continues to occur and overload the transportation system to an extent where severe environmental and other adverse impacts result.

It is, therefore, recommended that expanded emphasis be placed on the analysis of existing and potential future funding sources that would at least permit the implementation of projects needed to serve existing and committed growth. This would require a review of existing legislation and possible new legislation, both for purposes of generating new revenues and for an overall fiscal analysis of the net impacts of the growth proposed in the Plan.

Project Development

A number of major activities are required in order to translate any of the facility recommendations shown on the Plan to actual improvements. These activities vary somewhat with the nature and scope of the project. However, it is useful to recognize that such activities are necessary prior to actual construction. It may be noted that completion of these activities normally requires about five to seven years.

Funding. Obviously, funds must be available in order to begin an improvement. The program established to identify priorities and guide project development has been described previously. Normally, funds are allocated to a given project over a period of years. These allocations also serve to fund the preliminary engineering and design activities described below.

Functional Drawings and Alignment Studies. These preliminary schematic drawings are essential in providing guidance for reserving right-of-way and discussing fundamental concepts of the project. These drawings should be developed early in the planning process for maximum utility; however, it is recognized that substantial modifications may be made as a result of more detailed study. Public hearings are often held on these preliminary plans.

Environmental Impact Statements or Assessments. Depending on the nature of the project, environmental impact statements or assessments may be required. If the improvement is a major one and federal funds are involved, a full environmental impact statement will probably be necessary. On relatively smaller projects, or where no federal funds are involved, more modest environmental assessments may be prepared. Both of these studies address environmental impacts associated with a particular project in more detail than is possible in the context of the Comprehensive Plan. They address such impacts as air and water pollution, noise, community disruption, and other impacts on other local facilities or unique areas such as schools, parks, historical sites, and the like. They are generally prepared in conjunction with the functional drawings or preliminary plans. Separate public hearings are also held on environmental impact statements.

Design. Once agreement is reached on the general nature of the project, more detailed design may begin. This activity involves the completion of the necessary engineering, including actual field surveys, required to estimate construction costs and to develop plans. It is only at this stage that specific issues such as turning lanes, median cuts, noise walls or berms, or other detailed design elements can be addressed. While the time necessary to complete this phase varies, it normally requires between one and two years. Public hearings are usually held during the design of the project.

Project Approval and Right-Of-Way Acquisition. After the necessary public hearings are held, the testimony is reviewed, and the design is finalized, the project is submitted to the Virginia Highway and Transportation Commission for approval. Once approved by the Commission, right-of-way may be acquired assuming funds are available, and the project may be advertised for construction.

External Agency Acceptance

Since the County presently has no responsibility regarding the implementation of transportation recommendations, it is essential that the plan be accepted or be modified to the point at which mutual agreement exists between the County and coordinating agencies such as WMATA, VDH&T, and the Washington Council of Governments (COG). Unless agency acceptance can be obtained, the implementation of many elements of this ambitious 1990 transportation plan is doubtful.

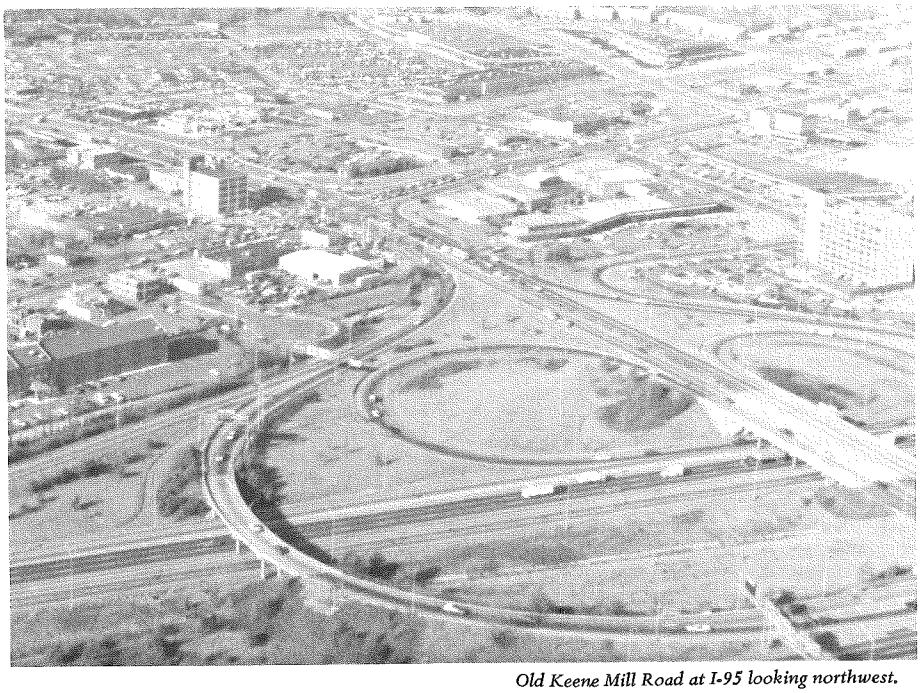
Staggered Work Hours, Four-Day Week

At least in the peak periods, there are a number of noncapital intensive ways of "reducing" transportation demand and the concomitant need for facilities and services. Two of the most widely discussed are staggering of work hours and the four-day work week.

The staggering of work hours would involve either the adoption of flexible hours or a shifting of work starting and stopping times over a three-hour or longer period in the morning and evening. Currently, it is assumed that 60 percent of the peak-period travel occurs during the peak hours. The staggering of work hours might reduce the peak hour to 40 percent or less of the peak period.

The four-day work week could similarly reduce the demand for peak-hour transportation services. One could expect a 20 percent decrease in peak-hour travel if the total number of commuters was reduced by that amount.

It is recommended that Fairfax County take a leadership role in introducing and aggressively promoting a positive prototype program of both staggered work hours and the four-day work week. The County should urge this for all of its major employment centers, including its own County government operations. Aggressively supported impleentation of these programs provides the opportunity to substantially reduce traffic congestion and obviate the need for additional costly highway improvements. It is strongly recommended that these programs be given the highest priority by Fairfax County.



Old Keene Mill Road at I-95 looking northwest.

AREA AND SECTOR RECOMMENDATIONS

AREA I RECOMMENDATIONS

Any sector or area-specific transportation recommendations for Area I are contained in the appropriate Area I section of the Plan.

AREA II RECOMMENDATIONS

(These recommendations were adopted for the individual community planning sectors in Area II.)

McLean Planning District

Sector M1

A. Public bus transportation should serve the area directly, and service should be expanded as required to serve continued development.

B. If a shuttle bus service is introduced into the Tysons Corner Area, the service should be extended to the apartment developments along Magarity Road.

C. Magarity Road should be widened to four lanes along its entire length.

D. A public road link between Old Meadow and Magarity Roads should be provided.

E. Consideration should be given to an eastbound access ramp to and a westbound exit ramp from Magarity Road to the DAAR Extension for buses only.

F. The intersection of Magarity Road and Great Falls Street should be reconstructed to improve the alignment with Davis Court.

G. The proposed pedestrian overpass across I-495 should be built to aid and encourage local residents to walk to the regional shopping center and thereby reduce vehicular traffic along Routes 7 and 123 between the area and the center.

Sector M2

A. Widen Haycock Road to a four-lane roadway, with turning lanes, between Leesburg Pike (Route 7) and Great Falls Street (Route 694). Any construction of Haycock Road should be held in abeyance prior to the opening of the West Falls Church Metro Station and the improvement of the Route 7/Haycock Road intersection.

B. To reduce local traffic requirements on the already congested Route 7 commuter radial:

1. Service roads should be completed along Route 7 as part of a program to construct service roads from the Dulles Airport Access Road to Falls Church.
2. Construct a bridge across Pimmit Run at Redd Road or Hillside Drive to serve community needs, particularly those of school buses.
3. When the parcels between St. Luke's Church and the Peachtree apartments are developed, traffic access should be provided by connecting Kilgore Road to Route 7.
4. When the Pimmit Hills Shopping Center is redeveloped, a dedicated public right-of-way should be provided connecting Paxton Road with Route 7. The right-of-way should be incorporated into the VDH&T road system for responsibility and maintenance.

C. Widen Route 7 to six lanes, with turning lanes, from I-495 to Idylwood Road. Add turn lanes at Route 7 and Haycock Road.

Sector M3

A. County transportation priorities in this sector should stress greatly improved public transportation service and increased capacity for principal arterials.

B. Widen Old Dominion Drive (Route 309) to four lanes, with turning lanes, between Mayflower Drive (Route 1550) and Holmes Place (Route 1809).

C. Widen Ingleside Avenue to a 44-foot section between Chain Bridge Road (Route 3547) and Beverly Road (Route 1898). Realign to intersect with Chain Bridge Road directly across from Tennyson Drive (Route 1808).

D. Widen Beverly Road to a 44 foot section between Old Dominion Drive (Route 309) and Ingleside Avenue (Route 1813). Realign to provide smooth transition to Ingleside Avenue south of the intersection. Adding turning lanes at Old Dominion Drive.

E. Chain Bridge Road between Westmoreland and Great Falls Streets should be improved at its present two-lane width; the intersections of Chain Bridge Road with Davidson Road and Great Falls Street should be improved. Widen to four lanes, with turning lanes, or a fifth continuous turning lane, between Dolley Madison Boulevard (Route 123) and Westmoreland Street.

F. Improve traffic movement from George Washington Memorial Parkway to Kirby Road by appropriate traffic engineering improvements. Consideration should be given to realigning an off-ramp of the George Washington Memorial Parkway to intersect Route 123 opposite Kirby Road.

Sector M4

A. Express bus lanes should be provided along Route 123 from its intersection with Route 193 to the George Washington Memorial Parkway and along the Parkway to the Arlington County line if this action can be coordinated with similar actions in jurisdictions closer to the metropolitan center. Route 123 should not be widened east of Old Dominion Drive except for turning lanes.

B. To reduce traffic volume within the CBD, construct a pedestrian overpass across Dolley Madison Boulevard to connect the CBD with the McLean Central Park, library, community center and adjacent residential areas.

C. Balls Hill Road (Route 686) from Lewinsville Road (Route 694) to Georgetown Pike (Route 193) should be improved to two 12-foot lanes with minor realignments for safety purposes.

D. Lewinsville Road (Route 694) from Leesburg Pike (Route 7) to Balls Hill Road (Route 686) should be improved to two 12-foot lanes with minor realignments for safety purposes.

Sector M5

A. To aid local and commuter traffic, Georgetown Pike should be improved at two-lane width without significant realignment except turning lanes. Transportation planning must seek other means of satisfying demand in this area to preclude the necessity for further widening of this scenic byway at some future date.

Sector M6

To facilitate both commuter and local traffic:

A. Assign priority to improving principal arterials for traffic to the metropolitan center. See discussion in Tysons Corner Area.

B. Act immediately to prevent the loss of effectiveness of Route 7 as an arterial by limiting direct access from new developments along the corridor. As new development occurs, construction of a service road to limit access should proceed for reasons of both safety and efficiency. Reverse frontage for residential developments will also help.

C. Lewinsville Road (Route 694) from Leesburg Pike (Route 7) to Balls Hill Road (Route 686) should be improved to two 12-foot lanes with minor realignments for safety purposes.

D. Swinks Mill Road (Route 685) from Lewinsville Road (Route 694) to Old Dominion Drive (Route 738) should be improved to two 12-foot lanes with minor realignments for safety purposes.

E. Old Dominion Drive from Mayflower Drive to Georgetown Pike should be improved to two 12-foot lanes, with turning lanes as required.

Sector M7

To facilitate both commuter and local traffic:

A. Assign priority to improving arterials for traffic to the metropolitan center.

B. Act immediately to prevent the loss of effectiveness of Route 7 as an arterial by limiting access from new developments along the corridor.

C. Establish a fringe parking lot at Wolf Trap Park and provide express bus service. (See Area II, Tysons Corner Area.)

D. Engineering safety provisions should be made in order to correct the problem of access along Trap Road between Towlston Road and Route 7.

Vienna Planning District

Sector V1

A. To provide for increased traffic from stable area infill, Cedar Lane (Route 698) from Gallows Road (Route 650) to Arlington Boulevard (Route 50) should be improved to two 12-foot lanes, with minor realignments for safety purposes.

B. Improving access to Metro stations should have top priority for any funds allocated to Vienna Planning District for transportation improvements. To this end, it is recommended that the following improvements be effected:

1. Widen Blake Lane (Route 655) to four lanes, with turning lanes, between Jermantown Road and Lee Highway. Construct a new four-lane roadway extension of Blake Lane, with turning lanes, from Lee Highway south to Arlington Boulevard east of Fairfax Circle to connect with an extension of Pickett Road currently planned by the City of Fairfax.

   Pending completion of a study addressing all pertinent impacts, pro and con, envisioned from extension of Pickett Road across Routes 50 and 29 to connect with Blake Lane, to include analysis of the impact of added traffic on Blake Lane, the Pickett Road extension should not be completed. The Blake-Pickett connection should not be completed and Fairfax County should oppose the widening of Blake Lane unless the four-lane Pickett Road within the City of Fairfax is moved westward or noise attenuation devices are installed in order to reduce the impact on adjoining subdivisions and through trucks are prohibited along the Blake Lane—Jermantown Road Corridor, from Lee Highway to Chain Bridge Road and along the Pickett Road connection from Route 50 to Route 29.
2. Widen Prosperity Avenue (Route 699) to a four-lane roadway, with turning lanes, between Arlington Boulevard (Route 50) and Lee Highway. Construct a new four-lane roadway extension of Prosperity Avenue northerly from Lee Highway behind the Lee-Hi Industrial Park and easterly into the western side of the Dunn Loring Metro site.
3. Widen Lee Highway (Route 29) to a four-lane divided roadway, with turning lanes, between Fairfax Circle and the Falls Church city line and complete the service drive system.
4. Improve Five Oaks Road (Route 4949) to two 12-foot lanes between Blake Lane and the WMATA access road into the Vienna Metro Station.

C. With the intent of improving Metro express bus service, establish fringe parking lots at the planned Dunn Loring and Vienna Metro rapid transit stations. Provide express feeder bus service from these locations to central employment areas.

D. With the intent of encouraging pedestrian and bicycle movement within the sector, a citizen-proposed trails/bikeway system should include the use of the stream valley environmental quality corridors and consideration of pedestrian/bicycle access to shopping facilities from high- and medium-density residential areas. Consideration should be given to pedestrian/bicycle access to Metro stations from surrounding residential areas.

Sector V2

A. To improve access to the Dunn Loring Metro Station, widen Gallows Road (Route 650) to a four-lane divided roadway, with turning lanes, between Idylwood Road and Leesburg Pike (Route 7). Realign the Route 7 intersection of Gallows Road to a location in the vicinity of existing International Drive so as to provide a direct connection to this road. Citizens consider these improvements and the Old Court House Road widening to be the top priority projects in the planning district.

B. To improve access to the Vienna Industrial Park, improve Electric Avenue to two 12-foot lanes between Cedar Lane (Route 698) and Vienna corporate limits.

C. To provide for increased traffic from stable area infill, the following roads should be improved to two 12-foot lanes with minor realignments for safety purposes:

1. Idylwood Road (Route 625) from Leesburg Pike (Route 7) to Cedar Lane (Route 698).
2. Cedar Lane (Route 698) from Gallows Road (Route 650) to Arlington Boulevard (Route 50).
3. Park Street (Route 675) between Cedar Lane (Route 698) and the Vienna town line.

D. To encourage pedestrian and bicycle movement within the sector, a citizen-proposed trails/bikeway system should include the use of the W&OD environmental quality corridor and provide for pedestrian/bicycle access to shopping facilities from surrounding residential development, particularly from low- and moderate-income communities.

E. To meet the local circulation needs of the Town of Vienna, support the Town of Vienna's proposals for improving Park Street from Maple Avenue to Cedar Lane to preserve local beauty and to meet southeastern Vienna transportation needs.

Sector V3

A. To relieve congestion in the Tysons Corner Area:

1. Complete the service drive system along Leesburg Pike (Route 7) between the Dulles Airport Access Road and Falls Church except where interchanges exist.
2. Access to the Dulles Airport Access Road right-of-way should be sought for commuter travel between the western boundary of Area II and Route 123. If this alternative is not approved, then new parallel lanes should be built between the western boundary of Area II and I-495.
3. Construct a new four-lane divided Gosnell Drive, with turning lanes, from Leesburg Pike at existing Gosnell Drive to Chain Bridge Road in the vicinity of the existing Old Court House Road intersection. This should provide a link between Vienna and Route 7 north.
4. Widen Old Court House Road to a four-lane divided roadway with turning lanes, from Chain Bridge Road (Route 123) to relocated Gallows Road in the vicinity of Aline Avenue (Route 3452).

B. To improve Metro express bus service:

1. Establish a fringe parking lot in the vicinity of Wolftrap Farm Park. Provide express feeder bus service from this location to central employment areas via the Dulles Airport Access Road and other facilities.
2. Provide an exclusive bus lane on Leesburg Pike (Route 7) between the Dulles Airport Access Road (DAAR) and the West Falls Church Metro Station. This lane should be used by buses from the Wolftrap fringe lot, by Reston buses coming off the DAAR, and by other local buses.

C. Provide moderate safety-related improvements to Trap Road (Route 676) between Old Court House Road (Route 677) and the DAAR near Wolftrap Farm Park. This will improve access to Wolftrap Park and the proposed fringe parking lot.

D. To encourage pedestrian and bicycle movement within the sector:

1. Any trail/bikeway system would utilize EQCs such as Piney Branch, Wolf Trap, and W&OD abandoned right-of-way where utilization is not consistent with the purposes of EQCs, thereby connecting and providing nonvehicular access to various points within and without the EQCs such as Freedom Hill Fort Park and Westbriar Elementary School.
2. In any trail/bikeway system, consideration should be given to providing pedestrian/bicycle access to the shopping facilities and employment centers of the Tysons Corner Area.

Sector V4

A. To improve access to Metro stations:

1. Improve Hunter Mill Road (Route 675) to two 12-foot lanes between Lawyers Road (Route 673) and Tamarack Drive (Route 3966). Hunter Mill Road should be extended to Blake Lane. This could be accomplished by realigning the Chain Bridge Road intersection to the east and using the Palmer Street right-of-way; or by moving the intersection to the west using the present Miller Road right-of-way and building the extension to Blake Lane on a new location. The exact location of any intersection realignment would be dependent on the completion of engineering studies, none of which has been initiated. Bicycle, walking, and horse paths should be included in the design at the time of improvement construction of Hunter Mill Road.
2. Access to the Dulles Airport Access Road right-of-way should be sought for commuter travel between the western boundary of Area II and Route 123. If this alternative is not approved, then new parallel lanes should be built between the western boundary of Area II and I-495.

B. To improve Metro express bus service:

1. Establish a fringe parking lot in the vicinity of Wolftrap Farm Park and provide express feeder bus service from this location to central employment areas via the Dulles Airport Access Road and other facilities.
2. Provide moderate safety-related improvements to Trap Road (Route 676) between Old Court House Road (Route 677) and the DAAR near Wolftrap Farm Park.

C. To provide for increased traffic from stable area infill, the following roads should be improved to two 12-foot lanes with minor realignments for safety purposes:

1. Lawyers Road (Route 673) from Twin Branches Road (Route 5301) to the Vienna town line.
2. Vale Road (Route 672) from Hunter Mill Road (Route 674) to Vienna town line.
3. Beulah Road (Route 675) from Meadowlark Road (Route 677) to Clarks Crossing Road (Route 676).

D. Bicycle, walking and horse paths should be considered in the design of Beulah Road and Lawyers Road at the time of improvement.

E. To encourage pedestrian and bicycle movement within the sector, a citizen proposed trails-bikeways system should include the use of the W&OD abandoned right-of-way.

Sector V5

A. Improve Sutton Road (Route 701) to two 12-foot lanes between Chain Bridge Road and Blake Lane. This will expedite movement into and out of the Vienna Metro Station from the Oakton area. Improvements are needed at the intersection of Sutton and Courthouse Roads to remove the hazardous school bus turning problem.

B. See Sector V1 transportation recommendations concerning Blake Lane and Five Oaks Road improvements.

C. A citizen-proposed trails-bikeway system should consider pedestrian and bicycle access to the Metro station from surrounding areas. Additional consideration should be given also to providing pedestrian access along Route 123 and Courthouse Road to Oakton shopping facilities in a trails-bikeway plan.

Sector V6

A. See transportation recommendations in adjacent community planning sectors that may affect the Town of Vienna.

Fairfax Planning District

Sector F1

To improve transportation capacity for both commuter and local traffic:

A. Improve public bus service by providing general cross-County bus service along Route 123 and specifically between the City of Fairfax and Fort Belvoir.

B. Widen Braddock Road (Route 620) to a four-lane divided roadway with turning lanes between Guinea Road and Ox Road. Plan extension westward to link with easterly realignment of southern portion of Shirley Gate Road. Improvements along Braddock Road should also include (1) service roads between Olley Lane and Pickett Road, (2) center island landscaping, (3) extension of bus service between Pickett Road and George Mason University and (4) fringe parking in the vicinity of Guinea Road/Braddock Road and Route 123/Braddock Road.

C. Widen Shirley Gate Road (Route 655) to a four-lane divided roadway with turning lanes to create a necessary western bypass of the City of Fairfax.

D. Continue coordinated planning with the City of Fairfax and VDH&T for improved traffic flow in and around the city.

E. Develop a trails plan within the sector with emphasis on linking new residential areas adjacent to George Mason University to the campus and connecting with the City of Fairfax trail system. To encourage pedestrian and bicycle movement and thereby reduce dependence on automobiles, construct 10-foot combination bicycle and walking paths in this sector to parallel primary arterial and collector roads such as Braddock Road, Olley Lane, Roberts Road and Route 123. This will provide access to George Mason University, shopping centers, fringe parking and ballfields.

Sector F2

To improve commuter and local traffic capacity:

A. Assign priority to improved public transit service along commuter arterials and to the Metro stations.

B. Widen Prosperity Avenue (Route 699) to two 12-foot lanes between Little River Turnpike and Arlington Boulevard and provide an adjacent path for pedestrians and bicyclists.

C. To avoid through-traffic of neighborhood streets, streets in the Mantua area (between Routes 50 and 236) will not be connected to Pickett Road. All development plans will be submitted in accordance with this dictate.

D. Establish a trail system to enhance public access to Accotink Stream Valley Park and to connect to the City of Fairfax trail system.

E. If the Comprehensive Plan for the area south of O'Connell Drive, north of the Pine Ridge Subdivision, east of the Elks Lodge is approved for higher density residential or commercial uses, or increased traffic from currently approved commercial buildings along Williams Drive negatively affects the communities of Pine Ridge and Williamstown, the closing of Williams Drive at its junction with Highland Lane will be desirable.

An internal circulation plan desired to provide direct access to Prosperity Avenue and Gallows Road for this area as follows is hereby approved.

The internal circulation system would connect Prosperity Avenue and Gallows Road, south of Route 50, by a service drive from Prosperity Avenue to Williams Drive and via the realignment of O'Connell Drive and subsequent development of access roads between Williams Drive and Gallows Road. This internal circulation system should allow the intersection of Williams Drive and Route 50 to operate at an acceptable level of service after redevelopment of the area and to provide acceptable access to Route 50, via Williams Drive, of the large, potentially developable parcels lying west of Gallows Road and south of Route 50 adjacent to the Seth Williams subdivision. The exact location of the realignment of O'Connell Drive should be determined at the time of rezoning and subsequent redevelopment of the subject area.

Sector F3

To provide effective transportation service:

A. Establish feeder bus service to complement and supplement the Metro rail system. If Metrorail does not reach the Vienna Metro Station as programmed, substitute express commuter bus transportation.

B. Widen Blake lane (Route 655) to four lanes with turning lanes, between Jermantown Road and Lee Highway; build on new location as a four-lane roadway with turning lanes, from Lee Highway southerly across Arlington Boulevard east of Fairfax Circle to an extension of Pickett Road being planned by the City of Fairfax. Pending completion of a study addressing all pertinent impacts, pro and con, envisioned from extension of Pickett Road across Routes 50 and 29 to connect with Blake Lane, to include analysis of the impact of added traffic on Blake Lane, the Pickett Road extension should not be completed. The Blake-Pickett connection should not be completed and Fairfax County should oppose the widening of Blake Lane unless the four-lane Pickett Road within the City of Fairfax is moved westward or noise attenuation devices are installed in order to reduce the impact on adjoining subdivisions and through trucks are prohibited along the Blake Lane-Jermantown Road corridor, from Lee Highway to Chain Bridge Road and along the Pickett Road connection from Route 50 to Route 29.

C. Improve Five Oaks Road (Route 4949) between Blake Lane and the WMATA access road into the Vienna Metro Station.

D. Improve Hunter Mill Road (Route 675) to two 12-foot lanes between Lawyers Road (Route 673) and Tamarack Drive (Route 3966). Extend to Blake Lane either on new location or by realigning the Chain Bridge Road intersection and using Palmer Street right-of-way. This improvement should facilitate traffic movements between Reston and Fairfax, and enhance the accessibility of the Vienna Metro Station from the north.

E. Include provision for a trails system to connect new residential developments with nearby commercial and recreational facilities, and to connect with the City of Fairfax trail system.

Sector F4

To facilitate local traffic:

A. Improve Hunter Mill Road (Route 675) to two 12-foot lanes between Lawyers Road (Route 673) and Tamarack Drive (Route 3966). It is recommended that Hunter Mill Road be extended to Blake Lane. This could be accomplished by realigning the Chain Bridge Road intersection to the east and using the Palmer Street right-of-way, or by moving the intersection to the west using the present Miller Road right-of-way and building the extension to Blake Lane on a new location. The exact location of any intersection realignment would be dependent on the completion of engineering studies, none of which has been initiated. This improvement should facilitate traffic movements between Reston and Fairfax, and enhance the accessibility of the Vienna Metro Station from the north.

B. Widen Jermantown Road (Route 655) to four lanes, with turning lanes, between Chain Bridge Road and the Fairfax City line at Route I-66.

C. Establish a trails plan in the sector to connect residential areas to adjacent parks and shopping centers and for residential purposes along Difficult Run and its principal tributaries.

Sector F5

A. Widen Shirley Gate Road to four lanes with turning lanes.

B. To serve and yet preserve stable area developments, transportation facilities constructed within complex areas should be planned to serve residents in existing residential areas and to reduce adverse impacts of traffic from higher density communities. This should apply especially to provisions for improved public transportation services.

C. The present Legato Road south of I-66 should be terminated in a cul-de-sac south of the new realigned Legato Road so as to avoid through-traffic on this quiet collector street.

D. A trails system to serve the entire sector should be incorporated in major development plans within the sector.

E. An industrial access road, requiring 60-feet of right-of-way, traversing parcels 56-2 ((1)) 15, 18 and 22, providing two points of access to Waples Mill Road should be provided to serve this industrial area.

AREA III RECOMMENDATIONS

(These recommendations were adopted for the individual community planning sectors in Area III.)

Upper Potomac Planning District

Sector UP1

A. Prohibit an alignment of a regional circumferential through the area because of the severe impact on the Potomac River Environmental Quality Corridor and Wildlife Preserve and the existing community.

B. Provide sufficient access to public parkland in Sector UP1.

Sector UP2

A. Maintain Route 193 in its current condition. The present overload is partly caused by the inadequacy of Route 7. Improvements should be made to Route 7 (see Sector UP3). Retaining a deficiency on Route 193 yields the advantages of preserving a history-related road and preserving the semirural character of the area.

B. Generally, the other roads should be maintained as they exist in the sector with the exception of safety improvements.

C. Road improvements should include a six-foot right-of-way for trails where possible.

Sector UP3

A. Improve Route 7 to full freeway with limited access and grade separations. Access points in Sector UP3 should be limited to provide the minimum access necessary. A detailed study of intersections and grade separations should be undertaken. This will facilitate regional through movement and help preserve existing and future residential communities along Route 7. It will help prevent commercial stripping.

B. Except for the three laning of the segment between the Dulles Toll Road and Sunrise Valley Drive, Hunter Mill Road should be limited to two lanes with trail and should have necessary safety improvements such as alignment and straightening of sharp corners but should not be widened to encourage its use as a north-south artery.

C. Undertake planning measures to determine improvements needed for the Route 7/Colvin Run Road intersection.

Sector UP4

A. Improve Route 7 to a full freeway with limited access and grade separations. Route 228 (Dranesville Road) should upgraded to serve future development.

Extend Wiehle Avenue from Baron Cameron Avenue through Reston to the Loudoun County line. Between Dranesville Road and the Loudoun County line, Wiehle Avenue should be constructed as a two-lane road and between Baron Cameron Avenue and Dranesville Road should be a four-lane facility. Substantial buffering is to be provided throughout the length of Wiehle Avenue. Where right-of-way has not already been provided, sufficient right-of-way should be dedicated to allow for both the road and substantial buffering as a condition of any development intensity above the low end of the permitted density range. Where other undeveloped properties exist adjacent to this right-of-way, additional right-of-way should be provided to insure that substantial buffering is possible.

C. Relocated Dranesville Road (Springfield Bypass and Extension in the vicinity of the Dranesville and Centreville Districts). Construct a new four-lane facility between Route 7 and Route 50. The alignment intersects Route 7 at a point west of the Dranesville Tavern Historic District and proceeds south basically along the western edge of the Potomac water treatment facility. South of Rosier's Branch, it is located east of and parallel to Stuart Road in the vicinity of the Stuart Ridge subdivision. To the south of Stuart Ridge, the alignment rejoins Stuart Road and proceeds to Baron Cameron Avenue. The alignment then proceeds south along the Colonial pipeline easement to a point in the vicinity of Thompson Road, where it curves to the east to intersect Route 50 at approximately Acorn Ridge Road.

D. Additional bus and mass transit use is recommended for the Route 7 corridor. Grade-separated access points should be located at Dranesville Road and Reston Avenue. Substantial new development will require new internal roads to supplement Dranesville Road and the new subdivision road.

Sector UP5

A. Widen Reston Avenue to a four-lane facility between the Dulles Access Road and Fox Mill Road. Extend south along existing Lawyers Road to West Ox Road. Realign the Fox Mill Road—Lawyers Road intersection. Extend Reston Avenue north of the DAAR as a four-lane facility on a new alignment to Baron Cameron Avenue and to Route 7 as a four-lane facility on the existing alignment. Improve the bridge over the DAAR.

B. Build parallel lanes, or the equivalent, along the Dulles Airport Access Road to provide access to Washington, D.C., from the Reston-Herndon area. This proposal should be linked with potential bus and Metro rail movement on the I-66 right-of-way to meet travel demand.

C. A Metro transit line shall be located in the median of the Dulles Access Road, and should include stations at Reston and Dulles Airport.

D. Reserve land for a future fringe parking lot at the intersection of DAAR and Reston Avenue.

E. Exclusive bus lanes should be included in the median of Route 7. Commuter bus service should be expanded to serve this area.
and proceeds south basically along the western edge of the Potomac water treatment facility. South of Rosier's Branch, it is located east of and parallel to Stuart Road in the vicinity of the Stuart Ridge subdivision. To the south of Stuart Ridge, the alignment rejoins Stuart Road and proceeds to Baron Cameron Avenue. The alignment then proceeds south along the Colonial pipeline easement to a point in the vicinity of Thompson Road, where it curves to the east to intersect Route 50 at approximately Acorn Ridge Road.

F. Relocated Dranesville Road (Springfield Bypass and Extension in the vicinity of the Dranesville and Centreville Districts). Construct a new four-lane facility between Route 7 and Route 50. The alignment intersects Route 7 at a point west of the Dranesville Tavern Historic District and proceeds south basically along the western edge of the Potomac water treatment facility. South of Rosier's Branch, it is located east of and parallel to Stuart Road in the vicinity of the Stuart Ridge subdivision. To the south of Stuart Ridge, the alignment rejoins Stuart Road and proceeds to Baron Cameron Avenue. The alignment then proceeds south along the Colonial pipeline easement to a point in the vicinity of Thompson Road, where it curves to the east to intersect Route 50 at approximately Acorn Ridge Road.

G. Additional bus and mass transit use is recommended for the Route 7 corridor. Grade-separated access points should be located at Dranesville Road and Reston Avenue. Substantial new development will require new internal roads to supplement Dranesville Road and the new subdivision road.

H. Although traffic demand analysis indicates a need for a north-south arterial or major collector between Reston and Fairfax, there is a need to protect existing communities along Hunter Mill Road from increased traffic. Hunter Mill Road should be constructed to an improved two-lane facility between Baron Cameron Avenue and Lawyers Road except for a three lane segment between the Dulles Toll Road and Sunrise Valley Drive.

I. Extend Wiehle Avenue from Baron Cameron Avenue north and west, crossing Reston Avenue and Dranesville Road and extending into Loudoun County.

J. Reconstruct Lawyers Road as an improved two-lane facility between Twin Branches Road and the Vienna town line.

K. When Route 7 is improved to a six-lane, limited access facility, grade-separated interchanges should be planned at Baron Cameron Avenue and Reston Avenue.

L. Extend Lawyers Road west of Reston as a four-lane facility between Fox Mill Road and Route 28. The purpose of this facility is to provide an east-west arterial in the south Reston area, linking it with major circumferential routes and the industrial development near Dulles Airport. Without this facility, traffic will be forced onto Fox Mill Road, West Ox Road and Centreville Road.

M. In the vicinity of the Reston Town Center Area, two collector roads are proposed; one to run north-south and the other east-west through the Town Center site. It is anticipated that some through traffic may use the east-west collector road as a short-cut from the Reston Area to the Springfield Bypass. While this traffic may not cause a significant functional misuse of this east-west road as a collector road, this road should be constructed with four travel lanes at a minimum.

Sector UP6

Fairfax County should support transportation improvements in the Herndon area which will help implement Herndon's land use and density plans. Specific transportation improvement recommendations are:

A. Relocated Dranesville Road (Springfield Bypass and Extension in the vicinity of the Dranesville and Centreville Districts). Construct a new four-lane facility between Route 7 and Route 50. The alignment intersects Route 7 at a point west of the Dranesville Tavern Historic District and proceeds south basically along the western edge of the Potomac water treatment facility. South of Rosier's Branch, it is located east of and parallel to Stuart Road in the vicinity of the Stuart Ridge subdivision. To the south of Stuart Ridge, the alignment rejoins Stuart Road and proceeds to Baron Cameron Avenue. The alignment then proceeds south along the Colonial pipeline easement to a point in the vicinity of Thompson Road, where it curves to the east to intersect Route 50 at approximately Acorn Ridge Road.

B. Complete dedication of right-of-way on Wiehle Avenue between Baron Cameron Avenue and the Loudoun County boundary to help provide a loop around Herndon.

C. Complete the Herndon Parkway (Spring Street and Sunset Hills Road) between Herndon and Reston.

D. Land should be reserved for a future fringe parking lot at the intersection of Dulles Airport Access Road and Centreville Road.

Sector UP7

A. Widen Centreville Road/Walney Road to a four lane facility between Poplar Tree Road and the Town of Herndon. This will provide improved north-south access to and from the planned industrial areas along both this corridor and the limited access Route 28 (Sully Road) corridor.

B. Lawyers Boulevard (west of Reston). Extend on new location as a four-lane facility between the Springfield Bypass and Route 28. Construct between Reston Avenue and the Springfield Bypass as described below. The purpose of this recommendation is to provide an east-west arterial in the south Reston area, linking it with major circumferential routes and particularly the industrial development near Dulles Airport. Without this facility, these trips will be forced on to Fox Mill, West Ox, and Centreville Roads (Area III).

The timing of construction and design of Lawyers Boulevard between Reston Avenue and the Springfield Bypass shall be as follows:

C. Parallel lanes to Dulles Access Road need to be construction (total eight-lane facility) and grade separated access points built at Route 28 and Centreville Road. Fringe parking should be provided in the vicinity of the Route 28 interchange. Route 28 is to be a four-lane limited-access road, with service roads and limited access, to serve regional traffic demand.

D. Extend Lawyers Road west of Reston as a four-lane facility between Fox Mill Road and Route 28. The purpose of this facility is to provide an east-west arterial in the south Reston area, linking it with major circumferential routes and the industrial development near Dulles Airport. Without this facility, traffic will be forced onto Fox Mill Road, West Ox Road and Centreville Road.

Timing of Construction

Lawyers Boulevard shall not be constructed between Reston Avenue and the Springfield Bypass until travel patterns have stabilized for at least one year after the Bypass construction between Route 50 and the Dulles Toll Road and a study verifies that one of the following conditions has occured:

- traffic west of Reston Avenue/Lawyers Road on either West Ox Road or Fox Mill Road exceeds 10,000 vpd (vehicles per day), or
- traffic on Franklin Farm Road between the Bypass and West Ox Road exceeds two and a half times the 1985 24-hour traffic as reported by The Virginia Department of Highways and Transportation,

the combined traffic on any two of the following streets exceeds 16,000 vpd:

-Fox Mill Road west of Reston Avenue
-West Ox Road west of Lawyers Road
-Franklin Farm Road

Design Concepts

The following design features shall be specifically evaluated upon commencement of the design of Lawyers Boulevard between Reston Avenue and the Springfield Bypass:

- the provision of an at-grade intersection of Viking Drive and Lawyers Boulevard and cul-de-sacs on the other subdivision streets within Fox Mill Estates at locations where such streets are crossed by Lawyers Boulevard;
- the design of Lawyers Boulevard as a basic two-lane section, with additional turning and storage lanes at intersections to provide capacity, and enhanced buffering provided along such two-lane segments, and as a four-lane divided section;
- the provision of a treed median for a two or four lane section;
- for purposes of safety, the provision of appropriate fencing and evergreen and other planting;
- the location of the roadbed on an alignment as far as possible from existing dwelling units;
- the provision of pedestrian crossings such as overpasses to provide pedestrian access to both sides of Fox Mill Estates.

The design of Lawyers Boulevard between Reston Avenue and the Springfield Bypass shall be coordinated with residents of Fox Mill Estates and other affected communities. Buffering and other means of minimizing the impact of this road section on Fox Mill Estates shall be provided to the maximum extent possible.

C. Construct an interchange at Route 28 and Frying Pan Road. Actual staging of intersection/interchange construction is to be determined based on traffic volumes and the extent to which commitements to complete the interchange exist. A possibility however, for the staging of this interchange construcionfrom an at-grade intersection to a full grade separated interchange could be as follows:

1. Construct an at-grade intersection at Frying Pan Road and Route 28. This intersection should be as close to 90 degrees as possible and channelized as traffic movements dictate.
2. Provide a four lane section of Route 28 in the vicinity of the Route 28/Frying Plan Road intersection. Ideally this four lane section would extend from south of McLearen Road to the Loudoun County Line.
3. Provide partial and/or full grade separated movements at the Route 28/Frying Pan Road intersection.

Sector UP8

A. Relocated Dranesville Road (Springfield Bypass and Extension in the vicinity of the Dranesville and Centreville Districts). Construct a new four-lane facility between Route 7 and Route 50. The alignment intersects Route 7 at a point west of the Dranesville Tavern Historic District and proceeds south basically along the western edge of the Potomac water treatment facility.

South of Rosier's Branch, it is located east of and parallel to Stuart Road in the vicinity of the Stuart Ridge subdivision. To the south of Stuart Ridge, the alignment rejoins Stuart Road and proceeds to Baron Cameron Avenue. The alignment then proceeds south along the Colonial pipeline easement to a point in the vicinity of Thompson Road, where it curves to the east to intersect Route 50 at approximately Acorn Ridge Road.

B. West Ox Road should be improved between Route 50 and Lawyers Road as more specifically described under Countywide Transportation Recommendation.

C. Widen Reston Avenue to a four-lane facility between the Dulles Access Road and Fox Mill Road. Extend south along existing Lawyers Road to West Ox Road. Realign the Fox Mill Road-Lawyers Road intersection.

D. Lawyers Boulevard (west of Reston). Extend on new location as a four-lane facility between the Springfield Bypass and Route 28. Construct between Reston Avenue and the Springfield Bypass as described below. The purpose of this recommendation is to provide an east-west arterial in the south Reston area, linking it with major circumferential routes and particularly the industrial development near Dulles Airport. Without this facility, these trips will be forced on to Fox Mill, West Ox, and Centreville Roads (Area III).

E. Parallel lanes to Dulles Access Road need to be construction (total eight-lane facility) and grade separated access points built at Route 28 and Centreville Road. Fringe parking should be provided in the vicinity of the Route 28 interchange. Route 28 is to be a four-lane limited-access road, with service roads and limited access, to serve regional traffic demand.

F. Extend Lawyers Road west of Reston as a four-lane facility between Fox Mill Road and Route 28. The purpose of this facility is to provide an east-west arterial in the south Reston area, linking it with major circumferential routes and the industrial development near Dulles Airport. Without this facility, traffic will be forced onto Fox Mill Road, West Ox Road and Centreville Road.

The timing of construction and design of Lawyers Boulevard between Reston Avenue and the Springfield Bypass shall be as follows:

Timing of Construction

Lawyers Boulevard shall not be constructed between Reston Avenue and the Springfield Bypass until travel patterns have stabilized for at least one year after the Bypass construction between Route 50 and the Dulles Toll Road and a study verifies that one of the following conditions has occured:

- traffic west of Reston Avenue/Lawyers Road on either West Ox Road or Fox Mill Road exceeds 10,000 vpd (vehicles per day), or
- traffic on Franklin Farm Road between the Bypass and West Ox Road exceeds two and a half times the 1985 24-hour traffic as reported by The Virginia Department of Highways and Transportation,
- the combined traffic on any two of the following streets exceeds 16,000 vpd:
  -Fox Mill Road west of Reston Avenue
  -West Ox Road west of Lawyers Road
  -Franklin Farm Road

Design Concepts

The following design features shall be specifically evaluated upon commencement of the design of Lawyers Boulevard between Reston Avenue and the Springfield Bypass:

- the provision of an at-grade intersection of Viking Drive and Lawyers Boulevard and cul-de-sacs on the other subdivision streets within Fox Mill Estates at locations where such streets are crossed by Lawyers Boulevard;
- the design of Lawyers Boulevard as a basic two-lane section, with additional turning and storage lanes at intersections to provide capacity, and enhanced buffering provided along such two-lane segments, and as a four-lane divided section;
- the provision of a treed median for a two or four lane section;
- for purposes of safety, the provision of appropriate fencing and evergreen and other planting;
- the location of the roadbed on an alignment as far as possible from existing dwelling units;
- the provision of pedestrian crossings such as overpasses to provide pedestrian access to both sides of Fox Mill Estates.

The design of Lawyers Boulevard between Reston Avenue and the Springfield Bypass shall be coordinated with residents of Fox Mill Estates and other affected communities. Buffering and other means of minimizing the impact of this road section on Fox Mill Estates shall be provided to the maximum extent possible.

E. West Ox Road should be improved between Route 50 and Franklin Farms Road as more specifically described under Countywide Transportation Recommendation.

Sector UP9

A. Route 50 should be improved to a limited-access facility with six lanes between the Loudoun County line and the City of Fairfax.

B. Provide adequate access to Route 50 from existing residential areas.

C. Relocated Dranesville Road (Springfield Bypass and Extension in the vicinity of the Dranesville and Centreville Districts). Construct a new four-lane facility between Route 7 and Route 50. The alignment intersects Route 7 at a point west of the Dranesville Tavern Historic District and proceeds south basically along the western edge of the Potomac water treatment facility. South of Rosier's Branch, it is located east of and parallel to Stuart Road in the vicinity of the Stuart Ridge subdivision. To the south of Stuart Ridge, the alignment rejoins Stuart Road and proceeds to Baron Cameron Avenue. The alignment then proceeds south along the Colonial pipeline easement to a point in the vicinity of Thompson Road, where it curves to the east to intersect Route 50 at approximately Acorn Ridge Road.

D. Extend Lawyers Road west of Reston as a four-lane facility between Fox Mill Road and Route 28. The purpose of this facility is to provide an east-west arterial in the south Reston area, linking it with major circumferential routes and the industrial development near Dulles Airport. Without this facility, traffic will be forced onto Fox Mill Road, West Ox Road and Centreville Road.

E. West Ox Road should be improved between Route 50 and Lawyers Road as more specifically described under Countywide Transportation Recommendation.

Bull Run Planning District

Sector BR2

A. Route 50 should be improved to a limited-access facility with six lanes between the Loudoun County line and the City of Fairfax.

Sector BR3

A. Integrate the improvement of Braddock Road with a circulation plan of Centreville. Improved access to I-66 will have to be provided for the stable and option areas, especially when new development occurs on Braddock Road. Specific recommendations for a Centreville circulation plan should be developed in the context of the Centreville complex area issues.

B. Route 50 should be improved to a limited-access facility with six lanes between the Loudoun County line and the City of Fairfax.

C. I-66 should be widened from the Prince William County line to Route 50 to serve planned growth in Prince William County and portions of Bull Run. Median bus lanes should be constructed on I-66 between the Vienna Metro Station and Lee Highway (Route 29) in Centreville.

D. Construct roadways and interchanges for Route 28 in the vicinity of Poplar Tree Road as shown on the Area III Plan Map. The phasing of interchange construction should ensure the following:

1. It is important to keep the limited access features of Route 28 to the greatest extent possible in order that it may be retained as a high capacity principal arterial roadway. In this regard, two at-grade intersections should not be constructed simultaneously in this vicinity. It is recommended, instead, that interim at-grade access be permitted only at the Centreville Road/Walney Road/Stone Road Extended/Route 28 intersection.
2. The interim roadway network should be designed in such a way as to provide access to properties which previously would have had access to Route 28 at Poplar Tree Road. This will ensure that the at-grade intersection of Centreville Road/Walney Road/Stone Road Extended/Route 28 at-grade intersection is closed.
3. Interim at-grade access to Route 28 at Centreville Road/Walney Road/Stone Road Extended/Route 28 should take place insuch a way that phased construction of the interchange can take place with no disruption to at-grade traffic flows.

E. Access to properties in the vicinity of the Route 28/Poplar Tree Road Area should be consolidated and located on collector roadways to the maximum extent possible. Access points should be minimized along the arterial roadways which are proposed for this area.

Sector BR4

A. Route 50 should be improved to a limited-access facility with six lanes between the Loudoun County line and the City of Fairfax.

B. I-66 should be widened from the Prince William County line to Route 50 to serve planned growth in Prince William County and portions of Bull Run. Median bus lanes should be constructed on I-66 between the Vienna Metro Station and Lee Highway (Route 29) in Centreville.

Sector BR7

A. I-66 should be widened from the Prince William County line to Route 50 to serve planned growth in Prince William County and portions of Bull Run. Median bus lanes should be constructed on I-66 between the Vienna Metro Station and Lee Highway (Route 29) in Centreville.

B. Improve Braddock Road to a four-lane facility between Route 123 and Centreville.

Pohick Planning District

Sector P1

A. Improve Route 123 to a four-lane facility.

B. Commuter rail service to serve the Clifton-Fairfax Station Area should be served by a station located in the general vicinity of the proposed intersection of the proposed Springfield Bypass and the railroad.

Sector P2

A. Provide bus lanes on Guinea Road and Braddock Road between Zion Drive and I-495 (Area

I), with access to the Franconia/Springfield Metro Station. Construction of the additional pavement for bus lanes along Braddock Road is to occur within the defined median of the present roadway.

B. Provision for fringe parking for use of public transit.

C. Wherever possible this fringe parking should be provided as a multiple use of parking for other purposes, such as commercial and recreational facilities (e.g., as part of PDH or commercial development).

D. Improve Braddock Road to four lanes from Guinea Road to Route 123. Widening in the vicinity of Sideburn Road should be primarily north of the present roadway to minimize impact on existing residential development in the southwest quadrant of the intersection.

E. Improve Hooes Road and Pohick Road to a continuous four-lane facility from Backlick Road (Area IV) to Route 123. The alignment will be determined in the countywide Plan transportation analysis but will follow the existing alignment of Hooes Road and Pohick Road. Improved interchanges will be necessary along the alignment.

F. Realign and upgrade Rolling Road as a four-lane facility between Old Keene Mill Road and Hooes Road. Improve the section of Rolling Road south of Springfield Village Drive at the earliest possible date to eliminate the existing hazardous curve. VDH&T is urged to use dedicated right-of-way to make this improvement.

G. Consider a commuter rail station in the Burke area.

H. Improve Rolling Road to four lanes with a service road between Braddock Road and the Southern Railroad tracks.

I. Construct the Roberts Road extension as a collector rather than as a principal arterial.

J. Widen Rolling Road to a four-lane facility between Old Keene Mill Road and Route 1, with realignment near "deadman's curve" and minor realignments to Pohick Road between I-95 and Route 1. This facility will be needed as development occurs in the area.

K. Improve Burke Lake Road to a four-lane facility between Pohick Road and Rolling Road near Braddock Road to provide access from the developing portions of the Pohick to I-495.

L. Commuter rail service to serve the Clifton-Fairfax Station Area should be served by a station located in the general vicinity of the proposed intersection of the proposed Springfield Bypass and the railroad.

M. Guinea Road. Widen to four lanes from Braddock Road to Zion Drive, and extend as a four lane facility on a new location to Ox Road (Route 123) north of Southern Railroad. Locate the pavement within the southern 60 feet of the 90 foot right-of-way to the extent possible except at the intersection of realigned Guinea Road and Route 123 where the intersection may mandate the use of all of the 90 foot right-of-way.

Sector P3

A. Commuter rail service to serve the Clifton-Fairfax Station Area should be served by a station located in the general vicinity of the proposed intersection of the proposed Springfield Bypass and the railroad.

Sector P4

A. Only improvements for safety are appropriate.

B. Commuter rail service to serve the Clifton-Fairfax Station Area should be served by a station located in the general vicinity of the proposed intersection of the proposed Springfield Bypass and the railroad.

Sector P5

A. Improvements of Route 123 to a four-lane facility from Fairfax to Occoquan to provide access through the southeast region of the County.

B. Prohibit other major transportation facilities and improvements in the area because of the impact on the environment and existing communities.

C. Maintain secondary roads as two-lane facilities to preserve the semirural character of the sector. Safety and alignment improvements are appropriate.

D. Widen Lee Chapel Road to a four-lane facility.

Sector P6

A. Construct a four-lane, east-west facility on the general alignment of Hooes Road and Pohick Road, with certain realignments between Ox Road (Route 123) and Backlick Road (Area IV). The facility will connect with the Franconia/Springfield Metro Station. This facility is needed to provide access to the rapidly developing Pohick area.

B. Two additional lanes for buses should be provided between Burke Lake Road and the Metro station. The construction of these additional lanes should occur after the initial four-lane roadway is constructed and the widening necessary for the bus lanes should occur entirely within the median of the four-lane facility, which is recommended for construction at the earliest date.

C. Fringe parking lots should be located at both Sydenstricker Road where it connects with Hooes Road, and Burke Lake Road where it connects with Pohick Road.

D. Widen Lee Chapel Road to a four-lane facility between Burke Lake Road and Route 123.

Sector P7

A. Improve Pohick Road and Hooes Road to a four-lane facility from Springfield to Route 123 for increased access to adjacent sectors.

(Portions of Sectors UP4 and UP5.)

A. Relocated Dranesville Road (Springfield Bypass and Extension in the vicinity of the Dranesville and Centreville Districts). Construct a new four-lane facility between Route 7 and Route 50. The alignment intersects Route 7 at a point west of the Dranesville Tavern Historic District and proceeds south basically along the western edge of the Potomac water treatment facility. South of Rosier's Branch, it is located east of and parallel to Stuart Road in the vicinity of the Stuart Ridge subdivision. To the south of Stuart Ridge, the alignment rejoins Stuart Road and proceeds to Baron Cameron Avenue. The alignment then proceeds south along the Colonial pipeline easement to a point in the vicinity of Thompson Road, where it curves to the east to intersect Route 50 at approximately Acorn Ridge Road.

B. Additional bus and mass transit use is recommended for the Route 7 corridor. Grade-separated access points should be located at Dranesville Road and Reston Avenue. Substantial new development will require new internal roads to supplement Dranesville Road and the new subdivision road.

(Portions of Sectors UP7, UP8 and UP9.)

A. Parallel lanes to Dulles Access Road need to be construction (total eight-lane facility) and grade separated access points built at Route 28 and Centreville Road. Fringe parking should be provided in the vicinity of the Route 28 interchange. Route 28 is to be a four-lane limited-access road, with service roads and limited access, to serve regional traffic demand.

B. Extend Lawyers Road west of Reston as a four-lane facility between Fox Mill Road and Route 28. The purpose of this facility is to provide an east-west arterial in the south Reston area, linking it with major circumferential routes and the industrial development near Dulles Airport. Without this facility, traffic will be forced onto Fox Mill Road, West Ox Road and Centreville Road.

(Portions of Sectors BR2, BR3 and BR4.)

A. This area is in close proximity to Route 50 which is planned to be improved to a six-lane transportation facility. There will be access points with grade separation at Route 28 and Centreville Road. Consideration must be also given to an access point with grade separation at Route 28 and Popular Tree Road. The former is planned for four-lane improvement by 1985. New development will necessitate the improvement and construction of new internal roads.

AREA IV RECOMMENDATIONS

(These recommendations were adopted in individual community planning sectors in Area IV.)

Lower Potomac Planning District

Sector LP2

A. Silverbrook Road should be realigned so that it intersects Lorton Road at a common intersection with Sanger Street or further west. At that time the present entrance from Silverbrook onto Lorton Road should be closed.

Sector LP3

A. A left-turn lane should be provided on Gunston Road southbound, to facilitate entrance into the Pohick Bay Regional Park.

Sector LP4

A. Transportation improvements in the area should facilitate full realization of the area's industrial potential while also serving the nonindustrial recommended uses in greater safety and efficiency. For example, redesign and reconstruction of the Lorton Road/I-95 interchange should permit access to the industrial area by large vehicles. Improvement of Lorton Road near I-95 should serve not only that industrial traffic but also residential and school traffic in the area.

B. The bridge on Pohick Road which passes over the RF&P Railroad should be improved by VDH&T. Improvement of Pohick Road and its bridge should provide better service to Pohick Estates and other residential areas west of I-95.

C. There should be no industrial access from Pohick Road.

D. VDH&T should improve the horizontal and vertical alignment of Gunston Cove Road to provide two good travel lanes.

Sector LP5

A. Road improvements to serve the planned on-post housing are needed by Fort Belvoir. The County also has an interest in such improvements because of their connection with off-post traffic networks and because of the County's own regional transportation needs.

Mount Vernon Planning District

Sector MV1

A. Metro access through the Jefferson Manor subdivision by nonresidents of Jefferson Manor should be discouraged. However, this movement will be more effectively eliminated by provision of the recommended Metro access improvements to Telegraph Road, Huntington Road, North Kings Highway, and their intersections than by enacted restrictions on alternative access routes.

B. The intersections of North Kings Highway and Huntington Avenue with Telegraph Road should be improved to provide a single intersection with the latter. Such a connection would facilitate transit traffic through the area and minimize its disruption of local activities.

Sector MV2

A. The horizontal and vertical alignment of Harrison Lane should be improved to provide two safe travel lanes.

Sector MV3

A. VDH&T should improve the horizontal and vertical alignment of Quander Road to provide two safe travel lanes.

B. Fort Hunt Road should be realigned or linked to intersect with Route 1 directly opposite the west Huntington Avenue/Route 1 intersection and the already scheduled Huntington Avenue improvement. This will result in a greatly improved access to the lower entrance to Huntington Metro Station.

Sector MV4

A. Intersections along the George Washington Memorial Parkway should be improved to permit safer access to and from the parkway.

Sector MV5

A. Fort Hunt Road improvement is already programmed.

B. Existing major street corridors in the Gum Springs community are endorsed. The series of cul-de-sac streets recommended to serve the community, rather than completion of a grid pattern, is endorsed by this plan as the best means of community preservation.

C. The feasibility of barring through truck traffic on Sherwood Hall Lane and other Gum Springs corridors should be explored.

D. A need exists to conduct a traffic analysis and traffic pattern study to determine alternatives available to minimize a difficult traffic condition, to discuss the relative advantages/disadvantages of each alternative and to bring forth recommendations advancing attending fiscal, political, environmental and related aspects of each. Such a study should be undertaken and completed in 1977 and brought to the Planning Commission in 1977 for its deliberations and recommendations to the Board of Supervisors.

E. Pending completion of a thorough traffic study of the western Sherwood Hall Lane area, an intersection improvement at Sherwood Hall Lane and Richmond Highway, an improved two-lane cross-section for Collingwood Road, and a proposed new facility linking the Harrelson tract to Route 1, are improvements of sufficient importance in the area to be tentatively placed on the transportation plan. It should be recognized that those improvements will not necessarily eliminate traffic congestion in the area.

Sector MV6

A. The improvement of Collingwood Road and Parkers Lane as currently programmed should be done, with initial priority given to elimination of vertical curves in the segment between the Harrelson tract and Fort Hunt Road.

B. All intersections or collector roads with the George Washington Memorial Parkway should be improved to provide safer access to and from the Parkway.

C. Bus service should e extended to the area west of Fort Hunt Road and south of Sherwood Hall Lane. Minor improvements to inadequate roadways in the area may be necessary to permit safe bus transit operation.

D. Riverside Road and Elkin Street should have improved shouldering, curbs, gutters, and sidewalks to provide safe corridors for elementary school children walking to and from school.

Sector MV7

A. Richmond Avenue should be widened and improved to assure safe school bus operation and to insure the safety of students walking along the avenue to Walt Whitman Intermediate School.

B. A pedestrian overpass should be constructed across Route 1 in the vicinity of Reddick Avenue and Russel Road (in Sector MV8) to provide for safe walking access to Walt Whitman School by Lee District students (from west of Route 1) assigned to that school.

C. The intersection of Ferry Landing Road and Mount Vernon Memorial Parkway should be improved at the time of adjacent development, to eliminate the present acute angle intersections and shared roadway at that point.

D. Lukens Lane, Old Mill Road, and Old Mount Vernon Road should be improved to two twelve-foot lanes.

E. The intersection of Mount Zephyr Street and Woodley Drive should be improved to provide safe school bus operations.

F. The Old Mill Road/Mount Vernon Memorial Highway/Richmond Highway intersection should be realigned to allow more safe and efficient turning movements, and to provide a straight through crossing from Mount Vernon Memorial Highway to Old Mill Road.

Sector MV8

A. The Old Mill Road/Mount Vernon Memorial Highway/Richmond Highway intersection should be improved to provide more efficient and safe flow of traffic.

Route 1 Corridor Area

A. Transportation recommendations for the Route 1 Corridor Area are included in that section of Area IV.

Rose Hill Planning District

Sector RH1

A. The Capital Beltway/South Van Dorn Street interchange should be improved to provide better sight distance and turning movements.

B. Franconia Road from Grovedale Drive to South Van Dorn Street should be improved to a divided six-lane facility. Consideration should be given to limiting curb cuts along the improved roadway, for this corridor is proposed by residents as a major element of a commuter bike trail system. Where they can be safely provided along Franconia Road, sidewalk curb cuts to facilitate such bike trail access at intersections are recommended.

C. Circulation for the Franconia area should be designed to limit impact on surrounding areas and access should be provided to Franconia Road via a single curb cut. This access should be located so that no additional traffic lights are required on Franconia Road.

Sector RH2

A. Clermont Drive underpass should be closed to vehicular traffic following the completion of four-lane improvements to Franconia Road eastward to Telegraph Road, and in conjunction with Cameron Run development in Alexandria. Bike and pedestrian access through the underpass will continue to link the community with nearby commercial areas as well as Metro.

B. The feasibility of extending appropriate bus service to the interior of residential neighborhoods between Franconia Road and I-95 should be examined. Roadways in this area may require major improvement to permit safe and efficient bus operation.

C. The respective development patterns of the park and surrounding residential areas should provide for trails connection to Brookland-Bush Hill Park and neighborhood schools.

D. The present Bush Hill Drive Bridge across the Capital Beltway is not met at either end by an adequate roadway. Bush Hill Drive, over its southern portion, is a subdivision collector street in the Franconia area, but for approximately half its length between Franconia Road and the Beltway it is nothing more than a path across undeveloped land.

The bridge presents a potential traffic impact to the stable neighborhood and should be restricted to pedestrian and bicyclist use only with improvements to provide safe, attractive nonauto access to the Metro station from all uses in the area south of the Beltway. Development in the area should provide pedestrian and bike paths to link with the bridge.

E. Provision should be made for a "no parking" ordinance to discourage misuse of neighborhood streets near Metro by commuters and other motorists.

Sector RH3

A. Burgundy Road should be improved to provide two good travel lanes.

B. Provision should be made for the improvement of the East Drive/Burgundy Road/Telegraph Road intersection in conjunction with improvements in the North Kings Highway/Telegraph Road and Huntington Avenue/Telegraph Road intersections (Huntington Metro Station Area).

Sector RH4

A. Van Dorn Street should be extended southward from Franconia Road, directly aligned with its northward segment, extending past Edison High School into the Lehigh tract. (The westward extension of Lockheed Boulevard, recommended in the Mount Vernon and Rose Hill community planning sector specific transportation recommendations would intersect the recommended South Van Dorn Street extension.)

B. The Springfield Bypass, proposed earlier in this Plan, should be extended eastward across Beulah Street, south of the present Beulah Street/Hayfield Road intersection, to link with an improved Hayfield Road southeast of the commercial uses now found on that road near the Beulah Street intersection. No eastward extension of Hayfield Road is recommended beyond its present terminus in the subdivision, so through-traffic is not introduced into Hayfield.

C. Bus service should be extended to an improved Beulah Street to provide better service to residents along this roadway.

D. Pedestrian access across Telegraph Road should be improved at the Hayfield School area.

E. Edgewood Drive should be extended westward to Gum Street.

F. Edgewood Drive east of Guilford Drive should be reconstructed as a closed loop rather than as a stub street awaiting extension.

Sector RH5

A. Good access to Lee District Park should be a concern of all land use and transportation decisions taken in the sector.

Sector RH7

A. Lockheed Boulevard should be extended westward from its present terminus at Harrison Lane, to intersect Telegraph Road.

B. Harrison Lane should be improved between Lockheed Boulevard and South Kings Highway. The improvement is necessitated by the need for safe access for buses to and from Groveton Elementary School and for residential traffic. At the same time, the character of improvement should be designed to both enhance and provide improved access to the Huntley Historic District, south of the school.

Springfield Planning District

Sector S1

A. Bus service should be extended to Saturdays and evenings.

Sector S3

A. The realignment of Rolling Road through the Larwin property, to eliminate the "deadman's curve," is endorsed.

Sector S4

A. The planned southeast spur between the Springfield Bypass (Hooes Road) and I-95 should not be located opposite Ridgeway Drive or any other street entrance which would tend to direct through-traffic into the interior of Springvale.

B. Bus service should be extended to serve Backlick Road.

C. The number of curb cuts along Backlick Road south of Old Keene Mill Road should be greatly reduced in order to improved the safety characteristics of this stretch of roadway.

D. The closure of Ridgeway Drive and Ben Franklin Road at the Springfield Bypass is strongly encouraged as a means of reducing through traffic in this residential area. This closure would have the added benefit of reducing access points to the Bypass. Provisions for emergency access to Ridgeway Drive and Ben Franklin Road should be made in conjunction with any such closing.

Sector S6

A. Beulah Street should be widened to a four-lane facility from Franconia Road to Telegraph Road, since Beulah Street will serve as the eastern terminus of the Bypass spur in the vicinity of the proposed Franconia/Springfield Metro Station. Also, the vertical and horizontal alignment of Beulah Street should be improved here.

B. The following roads should be improved two-lane facilities: Cinder Bed Road, Newington Road from Backlick Road to Telegraph Road, and Accotink Road from Newington Road to Telegraph Road. The intersections of these roads, and substandard bridges and underpasses traversing these roads should also be improved.

C. Through truck traffic should be prohibited on local and collector streets in the Lorton/Newington area to the maximum extent possible.

Sector S7

A. Provision should be made for safe, improved pedestrian access across Franconia Road.

B. Congestion within Springfield and around Springfield Mall requires a circulation plan for the entire area. The analysis of present and future traffic has not yet been performed in sufficient detail to lead to a circulation plan for greater Springfield.

C. The location of entrances to the Springfield Mall from Loisdale Road should be reevaluated to assure that traffic waiting to enter the Mall is not backed up onto Franconia Road. This reevaluation should be in the context of circulation plans for the area, property staged to accommodate existing and future development.

D. The recommended spur between Hooes Road and Shirley Highway, with an interchange at the latter, should be designed and located to avoid adverse impact on Loisdale Estates.

Sector S8

A. Obtain right of way along Commerce Street in order to permit widening of the street and to provide a pedestrian/bikeway along the street and across the Commerce Street bridge.

B. Provide pedestrian crosswalks and light controls at the Loisdale/Franconia Road/Commerce Street intersection and the Frontier Drive/Franconia Road intersection.

C. Designate the sidewalks along Franconia Road as bikeways and place appropriate signs along the sidewalks.

D. Install a crosswalk and traffic light with pedestrian control at the Thomas Inwood Drive/-Franconia Road intersection, and designate as a bikeway.

E. No direct vehicular access to the Beltway Metro Station should be provided from Franconia Road or any adjacent development area.

F. Walkways and bikeways to the Metro station from surrounding areas should be provided to promote nonvehicular use of Metro by residents of Sector S8.

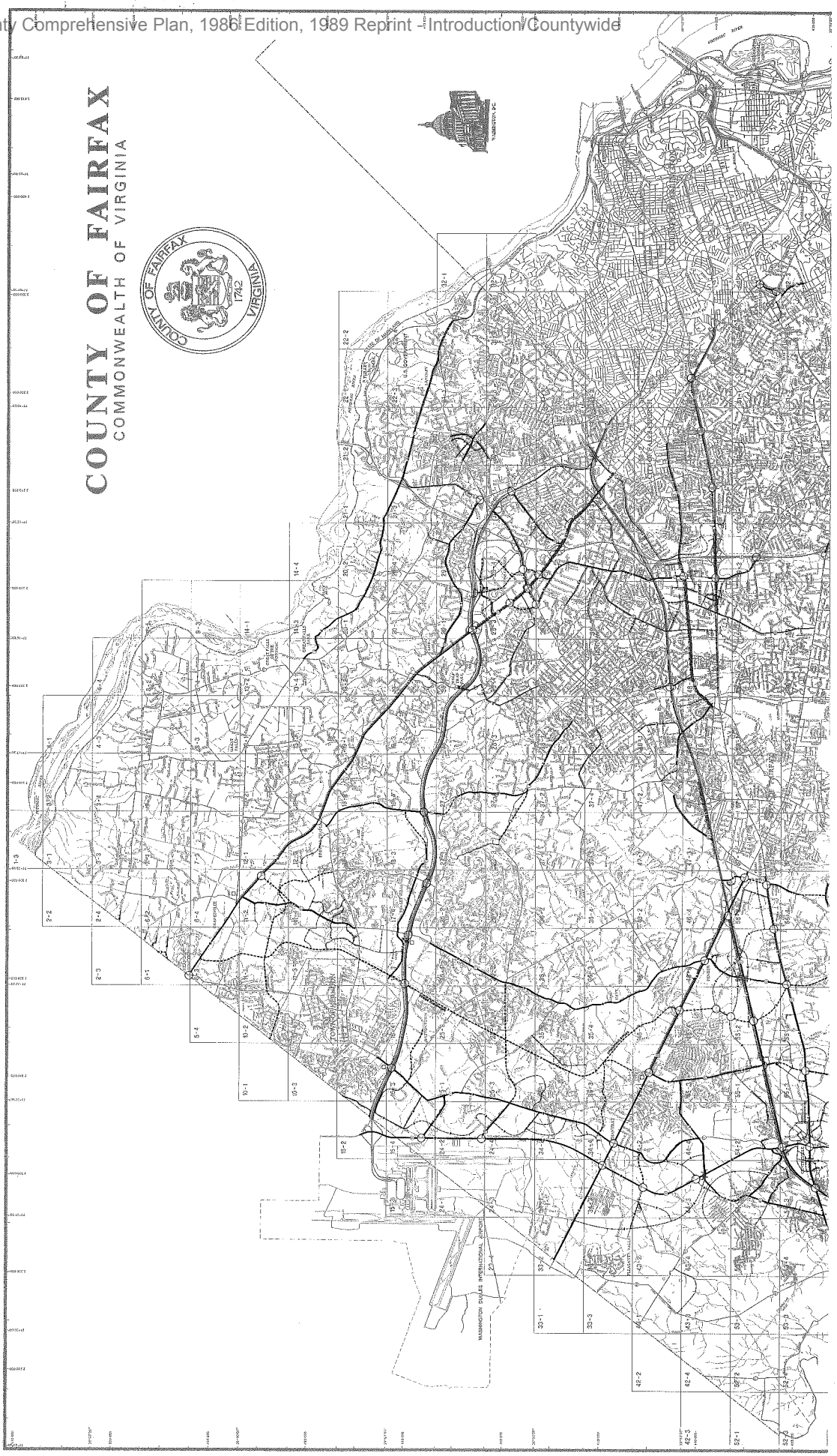
G. A single entrance from Franconia Road should serve the vacant land to the south of the proposed Metro station. Kitson Lane should not be the access street as its use would create double-frontage lots on the west side. A new roadway to the east should be selected, with Kitson Lane being vacated as a roadway. Roso Street extended would appear to be the logical location for such an entrance.

Sector S9

A. The proposed Springfield Bypass should be constructed across the southern portion of the area, in the vicinity of Alforth Avenue.

Springfield CBD Area

A. Transportation recommendations for the Springfield CBD are included in that section.


COUNTY OF FAIRFAX
COMMONWEALTH OF VIRGINIA
COUNTY OF FAIRFAX
1742
VIRGINIA
WASHINGTON DULLES INTERNATIONAL AIRPORT

ADOPTED COUNTYWIDE TRANSPORTATION PLAN
BASED ON LAND USES PROPOSED FOR 1990 IN THE PRELIMINARY AREA PLAN ADOPTED SEPTEMBER 9, 1975.
REVISED TO REFLECT AMENDMENTS ADOPTED THROUGH OCTOBER 27, 1986.
Rapid Rail Transit Line
Metro Stations
Bus on Freeway
Commuter Rail Line
Additional Lanes for Buses (Study required)
Widen or Improve Arterial Roadway
Construct Arterial on New Location
Widen or Improve Collector
Service Drives
Construct Collector on New Location as Development occurs. Connections to be finalized during process of reviewing plans for proposed development
Fringe Parking Lots
Full or Partial Interchange or Interchange Improvement (study required)
Total Number of Lanes (Excluding bus lanes)
Proposed Cul-de-sac
Pedestrian Overpass
Proposed Overpass
Final alignment subject to completion of appropriate engineering studies
LEGEND
INTERSTATE HIGHWAYS - LIMITED ACCESS
U.S. HIGHWAYS
STATE ROADS & MAJOR THOROUGHFARES
LOCAL ROADS & STREETS
PROPOSED OR UNIMPROVED ROADS
RAILROADS
METRO LINES & STATIONS
WATER LINES
TRANSMISSION LINES
BOUNDARIES
CITY & TOWN BOUNDARIES
COUNTY & STATE BOUNDARIES
FEDERAL & STATE PROPERTIES

PUBLIC FACILITIES AND SERVICES

Fiscal as well as physical planning is needed to ensure that public facilities are properly matched with identified needs and available resources. County policies, goals, and objectives address the issue of attaining and maintaining adequacy of public facilities.

An effective mechanism for guiding the provision of public facilities is capital improvement programming.

Capital improvement programming is a continuous process that selects and sequences public capital projects over a period of years to facilitate efficient use of the County's financial resources and coordinate County development with development by others. Capital Improvement Program (CIP) activities include specification of capital projects the County plans to undertake during the 5-year planning period, estimation of project costs, and determination of appropriate methods of financing. The first year of the CIP generally serves as the fiscal year's capital budget. Recommended capital improvements are being reviewed and evaluated for inclusion in the 5-year Capital Improvement Program. Most recommended projects will ultimately become part of the County's Capital Improvement Program.

The following discussion examines the current status of various County public facilities compared with present and projected demands described in each area. A detailed project-by-project evaluation with accompanying breakdowns of capital facility expenditures is contained in the CIP.

WATER SUPPLY

Residents of Fairfax County receive public water service from one of three water agencies: Fairfax County Water Authority, City of Fairfax Department of Water and Sewer Services, and the Falls Church Department of Public Utilities. The Towns of Vienna and Herndon, while operating their own water distribution systems, purchase water from the Cities of Falls Church and Fairfax, respectively. In terms of building major capital facilities to meet water supply needs, the towns are dependent on these two water agencies. Using recent estimated averages, the Fairfax County Water Authority serves 66 percent of Fairfax County residents on public water, Falls Church serves 26 percent, the City of Fairfax four percent, and the remaining four percent of the residents receive water from their own individual wells.

Water Sources and Facilities

Fairfax County Water Authority

Sources of Water. Principal sources of water are the Occoquan River and the Potomac River. The Occoquan River is impounded by two dams located near Occoquan, Virginia. The lower dam impounds a relatively small reservoir containing approximately 55 million gallons (MG). The upper dam impounds the primary water supply reservoir containing about 11 billion gallons.

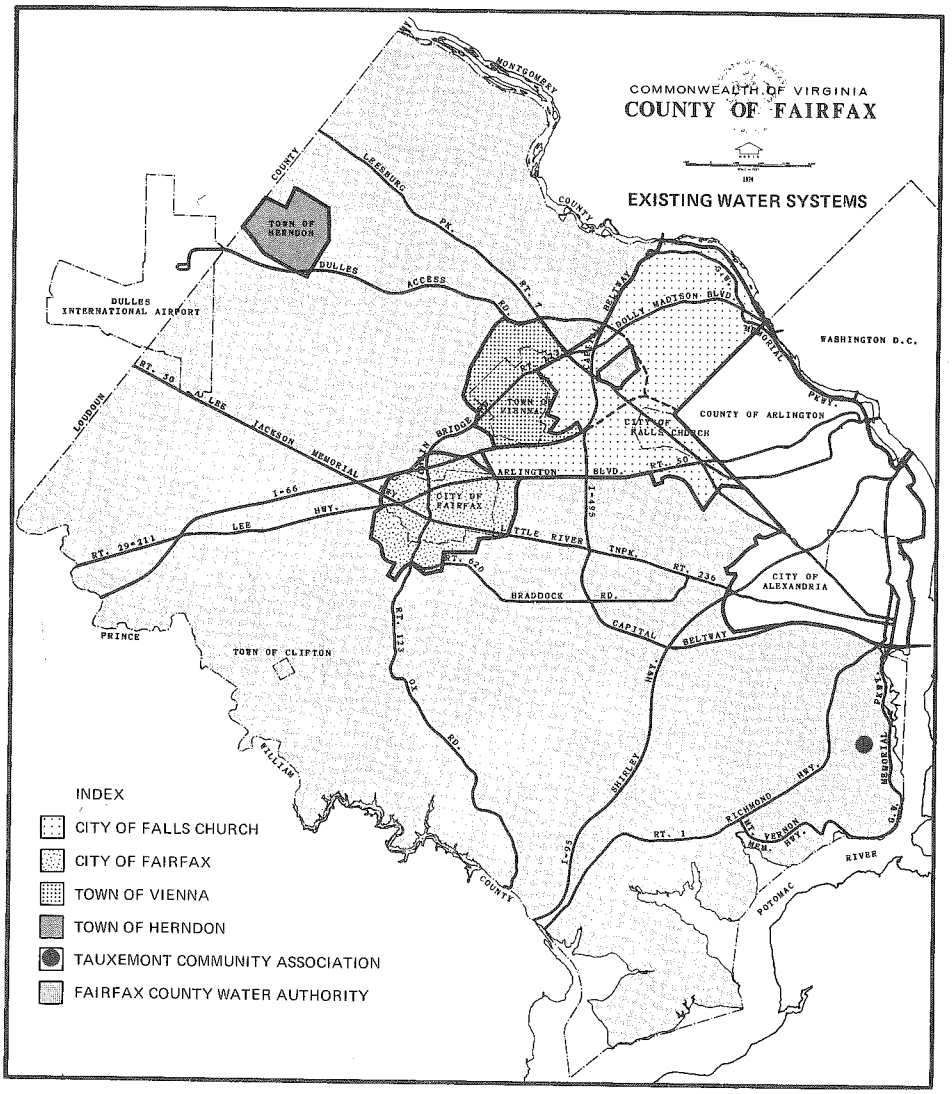
As presently developed, the impounded supply has a dependable yield of approximately 67.5 million gallons per day (MGD). The Potomac River at the Authority intake is not impounded. Supplementary sources of water include 22 wells and the purchase of water from the Cities of Fairfax and Falls Church, Town of Vienna, Loudoun County and Arlington County.

Treatment Facilities. Occoquan: Treatment of raw water is provided in three interconnected plants at the Occoquan Reservoir with a combined maximum capacity under permit of 111.6 MGD. Six treated water reservoirs, containing 6.4 MG, are located at the treatment plants. Twenty pumping units providing a maximum installed capacity of 122 MGD deliver water to the transmission and distribution system. Potomac: the initial phase of construction of the Potomac River water supply facilities resulted in an increase of 50 MGD in maximum daily capacity. The Potomac plant has a treated water reservoir with a capacity of 5.5 million gallons. Five pumping units providing a maximum firm installed capacity of 52 MGD deliver treated water to the transmission and distribution system. Initial operation of these facilities commenced in 1982. These facilities will allow the Authority to meet the maximum daily needs of its service area until about 1995.

Pumping Stations: Twenty-six booster pumping stations, with installed capacities ranging from 0.12 to 42.0 MGD, maintain operating pressures throughout the service area.

System Storage: A total of 21 MG are stored in 41 distribution system reservoirs at various locations in the service areas. Principal facilities include 9 MG in three standpipes near Annandale, 5 MG in two standpipes at Gum Springs, 4.4 MG in three standpipes at Penderwood, and 1 MG in an elevated tank at the Fairfax County hospital.

Transmission and Distribution Facilities: There are approximately 1,793 miles of 2-inch to 48-inch diameter water mains in the system. The distribution system is interconnected at 69 locations with 12 other water systems in Northern Virginia.



City of Fairfax Department of Water and Sewer Services

Sources of Water. Fairfax City owns and maintains two water reservoirs in Loudoun County. They are two miles apart and are located about seven miles northwest of Sterling Park. Goose Creek Reservoir holds about 200 million gallons (MG). Beaverdam Creek Reservoir impounds about 1.3 billion gallons. Beaverdam Creek Reservoir ensures the city a four-month supply against drought and low flow in Goose Creek.

Treatment Facilities. The city's treatment plant with a capacity of 12 MGD is located at Goose Creek.

Pumping Stations. The city has a pumping station located at Goose Creek which delivers water to the transmission and distribution system.

System Storage. Three storage tanks (9 MG total) are maintained in the city to equalize water pressure.

Transmission Facilities. The city's water transmission line runs 22 miles from Goose Creek to the City of Fairfax along the abandoned W&OD railroad right-of-way and parallels Hunter Mill Road.

Falls Church Department of Public Utilities

Sources of Water. Falls Church buys treated water from the U.S. Corps of Engineers via a

36-inch connection to the Dalecarlia filter plant located on MacArthur Boulevard in the District of Columbia. The Corps obtains its raw water from the Potomac River at Great Falls.

Treatment Facilities. None.

Pumping Stations. Five pumping stations with total capacity of approximately 27 MGD.

System Storage. Ten storage facilities with a total capacity of approximately 11 MG.

Transmission and Distribution Facilities. Approximately 330 miles of pipe ranging from two inches to 42 inches.

Existing and Projected Service Levels

Fairfax County Water Authority

The present and projected near-future populations served and to be served by FCWA are:

	1983	1988
Fairfax County	452,600	504,700
Alexandria	107,000	116,000
Prince William County	97,800	115,100
Total	657,400	735,800

In order to meet projected future demands, the Authority evaluated a number of alternatives for providing additional water supply capacity. Based on these evaluations, the Authority concluded that the most reliable and cost-effective alternative, in terms of capital and operating costs was the construction of an independent supply from the Potomac River. All construction related to this additional supply has either been completed or is nearly completed.

The initial phase of construction of the Potomac River water supply facilities resulted in an increase of 32 MGD in average daily capacity and 50 MGD in maximum daily capacity. Initial operation of these facilities began during the summer of 1982. These facilities will allow the Authority to meet the maximum daily needs of its service area until 1995.

City of Fairfax

The Goose Creek water system of the City of Fairfax serves a population of approximately 80,000—53 percent in the City of Fairfax and Fairfax County with the remainder divided between Loudoun County and the Town of Herndon.

In order to accommodate the projected demands on the water system, the City of Fairfax enlarged their existing treatment facility at Goose Creek from 6 MGD to 12 MGD. The recently completed Beaverdam Creek Reservoir, in conjunction with Goose Creek Reservoir, is presently capable of providing a safe yield of 12 MGD.

Falls Church

The Falls Church water system serves a population of about 114,000 with 11,000 in the City of Falls Church and 103,000 in Fairfax County excluding the Town of Vienna. By 2000, the system will serve a projected population of over 200,000.

In order to accommodate this projected increase in service population, Falls Church installed a new 30 MGD pump station near Chain Bridge Road on the existing 36-inch supply main from Dalecarlia. This pump station installed in 1977 will provide increased system demands until approximately 1985.

WATERSHEDS AND DRAINAGE

Rapidly urbanizing watersheds present a myriad of potential problems. Construction activity can generate sediment at hundreds of times the normal rate. Impervious pavements increase both the volume of stormwater runoff and the magnitude of peak flood flows. Runoff from urban areas is often highly polluted with pesticide and nutrients as well as oils and toxic metals. The net result of these problems is that water quality is seriously degraded, property damage is excessive and in many instances the aesthetic quality of natural areas is destroyed.

Existing Conditions

For planning purposes, Fairfax County can be broken into 31 separate watersheds. These are of two types—those that are highly developed at the present time and those that are expected to undergo considerable development during the next 10 years. The first category includes Dead, Pimmit, Four Mile, and Cameron Runs, and Belle Haven, Little Hunting, Dogue, and Accotink Creeks, and comprises about 36 percent of the County. Included in the second group are Horsepen, Sugarland, Nichols, Difficult, Scotts, Bull, and Cub Runs; Pohick, Kane, High Point, and Mill Branch; and the eight small sheds draining directly into the Occoquan Reservoir. This represents about 64 percent of County land area. The two watershed types have distinctive characteristics and will be discussed separately.

Developed areas are often subject to periodic flooding and erosion damage from high stream velocities. Those areas near the mouths of streams particularly suffer from the effects of rapid upstream runoff and high flood peaks. Without some form of remedial measures, this undesirable situation will continue.

Land Treatment and Control

The planning objectives are to be met in part by construction of land treatment measures and enforcement of the County's ordinance for erosion and siltation control. Attention must also be paid to the polluting characteristics of urban and agricultural runoff such as heavy metal, oils, nutrients and pesticides. The County will participate through the Water Resources Planning Board of COG in a study of such effects on the quality of the receiving stream.

Land treatment measures include, among other things, reduction of erosion on remaining agricultural land through selective planting and cultivation; on nonagricultural land, through control measures such as grasses and legume rotation, grassed waterways, pasture and hayland renovation planting and management; and on miscellaneous lands, including developed and underdeveloped lands, through plantings on critical areas, debris basins, ditch and bank seeding, diversions, reforestation and rapid acceleration of old field succession and other mechanical and vegetative measures developed by Fairfax County in concert with the Soil Conservation Service.

In the development of the Comprehensive Plan, a regional watershed planning approach was suggested. The most pertinent issue which this regional approach suggests is that present zoning classifications do not adequately address the goals of watershed planning. For example, even excluding highly constrained areas like floodplains, stream valleys, and steep slopes, rural large-lot zoning (e.g., five-acre lots) may not be possible or desirable in certain segments of a watershed. The extent and character of headwater regions, septic tank limitations, soil erodibility, and aquifer recharge areas might all suggest .2 dwelling unit per acre in one segment of the watershed (i.e., in a higher density, cluster-type development), while the remainder would be preserved as open space.

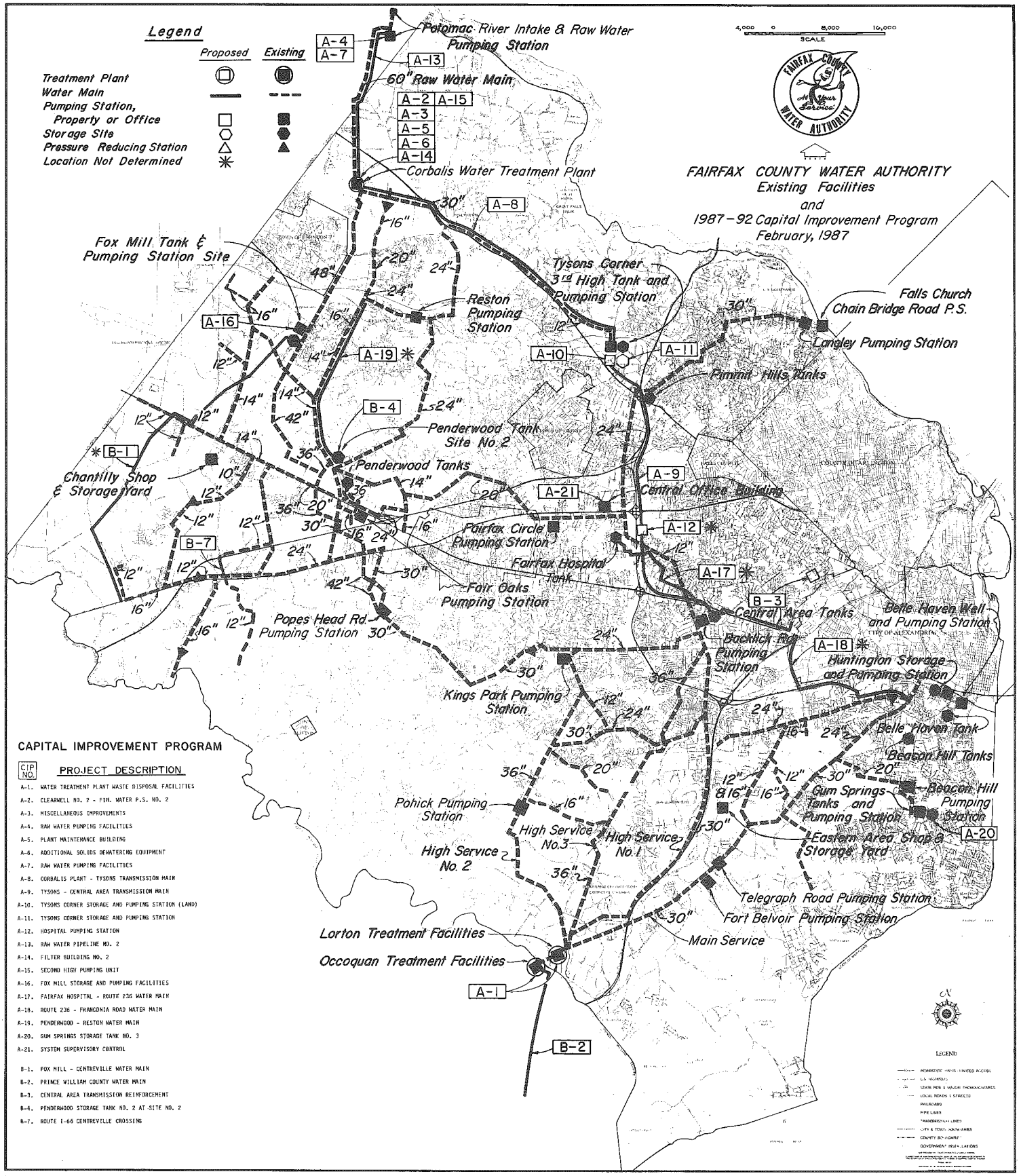
The effective relationship of land use to water quality planning requires areawide quantitative analyses (i.e., development runoff ratios, development stream enlargement ratios, allowable load limits for point and nonpoint discharges, etc.). Such an approach will focus on the carrying capacity of water resources as a major constraint on intensity of land development. Next steps include establishment of criteria such as acceptable threshold water quality and quantity impact levels. Desired discharge locations and volumes can then be determined on the basis of water quality standards and acceptable wasteload allocations for receiving waters. Once the discharge limitations are known, it will be possible to adjust to the population growth and land development that can be accommodated within each planning district. Water resource carrying capacity will be considered, along with other criteria (i.e., public services, transportation accessibility, and other environmental constraints), to keep the plans and controls up to date.

Recent Studies and Programs

Due to the enactment of progressive development controls, recent development has had less of an impact on the natural drainage system. A sediment control ordinance has been adopted as well as requirements for drainage improvements in new developments. This effort recognizes the responsibility of upstream development to the downstream inhabitants of a watershed.

As a result of a study undertaken in 1971, the County has developed a comprehensive master plan for storm drainage. This master plan consists of two primary elements: an immediate action plan and a future basin plan. The immediate action plan identified and proposed solutions for existing drainage problems, while the future basin plan developed proposals for the drainage system that will be required as the County continues to develop. As a means of implementing these plans, storm drainage bond referenda were approved in 1971 and 1980.

In addition to the development of an overall drainage management plan and work program, several other actions should be noted. The Pohick Creek watershed plan was developed and implemented in cooperation with the Soil Conservation Service and the Northern Virginia Soil and Water Conservation District. The plan is unique in that it was not proposed to deal with existing flooding problems nor to enhance and restore lands to permit future development. Instead, it is a supplement to the overall development plan for the area to be converted rapidly from a nearly natural rural condition to an area of comparatively intensive urbanization. The plan was developed to permit full advantage to be taken of the flood control structures in planning recreational facilities. It does not propose to alter the 100-year floodplain delineation. Application of this process to other watersheds in developing areas is under study.


Legend
Proposed
Existing
Treatment Plant
Water Main
Pumping Station, Property or Office
Storage Site
Pressure Reducing Station
Location Not Determined
4,000 0 8,000 16,000
SCALE
FAIRFAX COUNTY WATER AUTHORITY
At Your Service
FAIRFAX COUNTY WATER AUTHORITY
Existing Facilities
and
1987-92 Capital Improvement Program
February, 1987
Potomac River Intake & Raw Water Pumping Station
60" Raw Water Main
Corbalis Water Treatment Plant
Fox Mill Tank & Pumping Station Site
Reston Pumping Station
Tysons Corner 3rd High Tank and Pumping Station
Falls Church Chain Bridge Road P.S.
Langley Pumping Station
Pimmit Hills Tanks
Penderwood Tank Site No. 2
Penderwood Tanks
Chantilly Shop & Storage Yard
Central Office Building
Fairfax Circle Pumping Station
Fairfax Hospital Tank
Fair Oaks Pumping Station
Popes Head Rd Pumping Station
Central Area Tanks
Belle Haven Well and Pumping Station
Backlick Rd Pumping Station
Huntington Storage and Pumping Station
Kings Park Pumping Station
Belle Haven Tank
Beacon Hill Tanks
Beacon Hill Pumping Station
Gum Springs Tanks and Pumping Station
Eastern Area Shop & Storage Yard
Pohick Pumping Station
High Service No. 2
High Service No. 3
High Service No. 1
Telegraph Road Pumping Station
Fort Belvoir Pumping Station
Main Service
Lorton Treatment Facilities
Occoquan Treatment Facilities
CAPITAL IMPROVEMENT PROGRAM
CIP NO. PROJECT DESCRIPTION
A-1. WATER TREATMENT PLANT WASTE DISPOSAL FACILITIES
A-2. CLEARWELL NO. 2 - FIN. WATER P.S. NO. 2
A-3. MISCELLANEOUS IMPROVEMENTS
A-4. RAW WATER PUMPING FACILITIES
A-5. PLANT MAINTENANCE BUILDING
A-6. ADDITIONAL SOLIDS DEWATERING EQUIPMENT
A-7. RAW WATER PUMPING FACILITIES
A-8. CORBALIS PLANT - TYSONS TRANSMISSION MAIN
A-9. TYSONS - CENTRAL AREA TRANSMISSION MAIN
A-10. TYSONS CORNER STORAGE AND PUMPING STATION (LAND)
A-11. TYSONS CORNER STORAGE AND PUMPING STATION
A-12. HOSPITAL PUMPING STATION
A-13. RAW WATER PIPELINE NO. 2
A-14. FILTER BUILDING NO. 2
A-15. SECOND HIGH PUMPING UNIT
A-16. FOX MILL STORAGE AND PUMPING FACILITIES
A-17. FAIRFAX HOSPITAL - ROUTE 236 WATER MAIN
A-18. ROUTE 236 - FRANCONIA ROAD WATER MAIN
A-19. PENDERWOOD - RESTON WATER MAIN
A-20. GUM SPRINGS STORAGE TANK NO. 3
A-21. SYSTEM SUPERVISORY CONTROL
B-1. FOX MILL - CENTREVILLE WATER MAIN
B-2. PRINCE WILLIAM COUNTY WATER MAIN
B-3. CENTRAL AREA TRANSMISSION REINFORCEMENT
B-4. PENDERWOOD STORAGE TANK NO. 2 AT SITE NO. 2
B-7. ROUTE I-66 CENTREVILLE CROSSING
LEGEND

SANITARY SEWERAGE SYSTEMS

Provision of adequate sewerage capacity at a rate consistent with the County's development objectives is essential to Comprehensive Plan implementation. In an environment of strong overall growth, such as has been experienced by Fairfax County, inadequate treatment capacity in one location will inevitably divert growth to other parts of the County where capacity is available. Achievement of the growth targets put forward in the Comprehensive Plan, therefore, involves a careful balancing of demand and facility availability for the various sewer service areas.

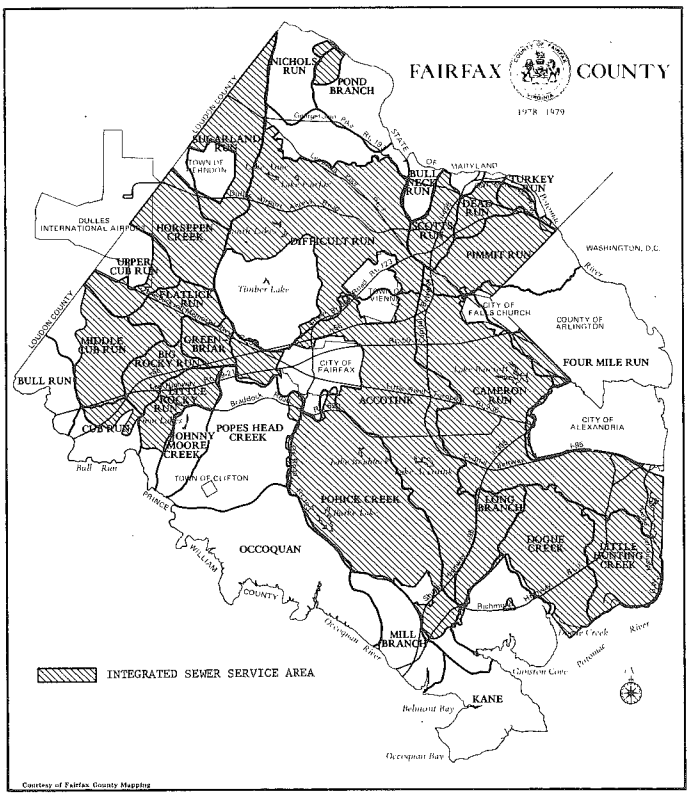
The map of approved sewer service areas provides basic guidance for the location of future development. Within these areas, facilities either have been installed or are anticipated that will serve development requiring public sewer. Establishment of new service areas requires affirmative action by the Board of Supervisors. Proposed expansions of the approved sewer service area will be in accord with planned land uses as shown on the Comprehensive Plan map and the existing and planned extent of the sanitary sewerage system.

The delineation of the sewer service area boundary is determined to include the immediately adjacent area which can be served by the smallest allowable gravity lines installed in accord with the normal engineering practices which will result in the safest and most cost-effective operation and, further, any extension of a sewer line across the surface drainage divide of an approved sewer service area shall not exceed a distance of 400 feet nor a manhole depth of 12 feet without approval by the Board of Supervisors.

Fairfax County provides sewer service to its citizens through a system of over 2,000 miles of sewer lines, numerous pumping stations and two treatment plants owned and operated by the County. Additional treatment capacity is provided by contractual agreements with the District of Columbia, Alexandria, Arlington County and the Upper Occoquan Sewage Authority (UOSA). During the 1980's, the County will continue to provide both increased treatment capacity and improved effluent quality. Additional plant capacity will be required to serve projected residential and nonresidential growth. Stringent water quality standards require the greater treatment efficiency provided by advanced secondary treatment.

Fairfax County has all but completed the program of plant expansion and upgrading that was begun in the early 1970's. This program was directed at pollution problems in the Potomac River and was comprised of three major elements: (1) creation of a single treatment complex at the Lower Potomac plant to treat flows from the Accotink, Pohick, Dogue and Little Hunting Creek watersheds and Fort Belvoir; (2) installation of pumping facilities at the Westgate treatment plant to divert flows from the Cameron Run and Belle Haven watersheds to the Alexandria treatment plant; and (3) expansion and upgrading of the District of Columbia treatment plant at Blue Plains. With the exception of the Little Hunting Creek pumpover which was deferred by the State Water Control Board in 1978, this program has been completed.

The current status of the County's wastewater treatment system, both County-owned and treatment by contract, is described in the following paragraphs.



SUMMARY OF EXISTING AND PROGRAMMED WASTEWATER TREATMENT CAPACITY

		Existing Conditions		Additions Programmed FY1985-1989		
Treatment Plants	Service Areas (Shed(s))	Treatment Level	Fairfax Capacity (MGD)	Treatment Level	Fairfax Capacity (MGD)	Online
D.C. Blue Plains	Pimmit, Dead, Scott & Turkey Runs Difficult Run[1], Sugarland Run, and Horsepen Run	Advanced Secondary	16.026	Advanced Secondary	13.974	1987
Arlington County	Four Mile Run	Advanced Secondary	3.90	—	—	—
Alexandria Authority	Cameron Run Belle Haven	Advanced Secondary	32.40	—	—	—
Lower Potomac (County)	Accotink[2], Pohick Creeks & Long Branch	Advanced Secondary	36.00	Advanced Secondary	18.0	1988
Little Hunting Creek (County)	Little Hunting Creek	Advanced Secondary	6.60	Abandoned 1988 by Pumping to Lower Potomac		
UOSA	Upper Occoquan	AWT	5.45	AWT	2.72	1986

[1] Capability ultimately exists to direct 10MGB to the Accotink Shed.
[2] Capability exists to divert 4.4MGD to the Cameron Run Shed.

Lower Potomac Treatment Area. The Lower Potomac treatment plant serves the Accotink, Pohick, and Long Branch drainage basins. In addition to flows originating within the County, the plant also treats sewage from the City of Fairfax and part of the Town of Vienna. Lower Potomac was put on line in 1970 and had an initial design capacity of 18 million gallons per day (MGD) which was subsequently increased to its present rating of 36 MGD of advanced secondary treatment.

Projected usage of the Lower Potomac plant by 1990 will exceed the available 36 MGD capacity. Expected growth within the natural drainage area plus planned pumpovers exclusive of the Difficult Run pumpover will account for all programmed capacity. Pumping from Difficult Run has begun and by 1990 could generate between nine and ten MGD. Thus, total 1990 flows could approach 46 MGD. The delay in completing the Little Hunting Creek pumpover provides the County with some short-term flexibility in meeting the treatment needs in the Lower Potomac service area. However, regardless of a final solution for the Little Hunting Creek plant, additional capacity in the post-1990 time frame will be required at the Lower Potomac plant.

Alexandria Treatment Area. The Cameron Run and Belle Haven watersheds and the City of Falls Church are served by the Alexandria treatment plant. The Alexandria plant is owned and operated by the Alexandria Sanitation Authority and a portion of its capacity is contractually allocated to

Fairfax County. The Alexandria treatment plant has been expanded and upgraded to provide 54 MGD of advanced secondary treatment capacity. Fairfax County is allotted 32.4 MGD of capacity at Alexandria. By 1990, flows from Cameron Run, Belle Haven, and Falls Church should approach 24 MGD which will leave Fairfax County with unused capacity for several years beyond that time. By reactivating the Braddock Road and Keene Mill Road pumping stations, the County has the capability to divert some flows from the Accotink sewershed to Alexandria. These diversions will increase the County's wastewater management alternatives in the entire eastern portion of the County.

Blue Plains Treatment Area. With a capacity of 309 MGD, the District of Columbia treatment plant at Blue Plains is the largest plant in the area. In addition to the District of Columbia, it treats flows from Maryland, Virginia, and several federal installations. Wastewater originating in the Sugarland Run, Horsepen Creek, Difficult Run, Scotts Run, Dead Run, Turkey Run, and Pimmit Run watersheds are treated at Blue Plains. Fairfax County is presently allocated 16.026 MGD at the plant but by 1990 flows of about 23 MGD are projected. In order to meet this projected shortfall, a pumpdown from Difficult Run was constructed. This project will allow the County to honor its projected commitments through 1990. As discussed in the Lower Potomac section, the diversion of flows from the Difficult Run watershed will require capacity beyond 36 MGD at the Lower Potomac plant. Expansion of the Lower Potomac plant to 54 MGD is programmed in the CIP.

Arlington County Treatment Area. The Arlington County treatment plant serves that portion of Fairfax County within the Four Mile Run watershed. The plant has recently been expanded and upgraded to 30 MGD of advanced secondary capacity. Fairfax County now handles 3.9 MGD at the Arlington plant and the projections for 1990 indicate that this is sufficient.

Upper Occoquan Treatment Area. The southwestern part of Fairfax County is served by a regional plant owned and operated by the Upper Occoquan Sewage Authority. This plant became operational in 1978 and replaced five small treatment plants in Fairfax County (Greenbriar, Big Rocky Run, Flatlick Run, Upper Cub Run, and Middle Cub Run) and six in Prince William County. It has a design capacity of 22.5 MGD but due to reliability requirements is certified to operate at 15.0 MGD. Fairfax County's initial share of plant capacity was 30.83 percent but during 1978 the County purchased additional capacity from Manassas Park which brought the County's share of plant capacity up to 36.33 percent. The County's current capacity in the plant is 5.5 MGD.

Looking to the future, there are two major issues facing the sanitary sewerage system. A balance must be struck between the necessity of maintaining high levels of water quality and the cost, in terms of both money and other resources, of achieving these goals. To a similar end, consideration will be given to inspecting, repairing and maintaining the system at acceptable service levels. In many instances, modest annual expenditures for system upkeep will enable the County to avoid costly, major rehabilitation in the future.

SCHOOLS

After a period of extensive and dynamic growth in student membership during the 1950's and 1960's, Fairfax County student membership experienced more modest growth in the early 1970's reaching a peak membership during the 1975-76 school year. Fairfax County student membership decreased by 2,281 students from 1975-76 to 1976-77, by another 2,524 students from 1976-77 to 1977-78, and by an additional 2,715 students from 1977-78 to 1978-79. In contrast to the growing levels of decline in student membership experienced from 1975-76 to 1978-79, student membership decreased by only 1,489 students from 1978-79 to 1979-80, and by only 1,229 students from 1979-80 to 1980-81. From 1980-81 to 1981-82, membership decreased by 2,468 students; and from 1981-82 to 1982-83, membership decreased by 1,677 students.

The decline in student membership is attributed to the graduation of more students in one year than are received the next year. For example, the 1982 graduating 12th grade class of 10,566 students was replaced in the membership pipeline by only 6,916 new kindergarten students in the fall of 1982, resulting in a decline in replacement of 3,650 students. Offsetting the decline in replacement is the net in-migration of students to the Fairfax County public schools. The marked changes in the decline of student membership are the result of at least two factors: (1) changes in kindergarten membership and (2) changes in net in-migration of students to the Fairfax County public schools.

The elementary, intermediate, and high school projections are a summation of school-by-school projections which are based on a review of membership trends and take into consideration current and projected residential development within current school attendance areas.

The decrease in student membership has not been evenly distributed across the school division. Schools in the more developed and stable areas of the County have experienced a decline in membership which has not been offset by the net in-migration experienced in the growing and developing areas.

A summary of 1987-88 school-by-school projections by school administrative area and for the County show that administrative areas I and II serve sections of the County that are predominantly developed and stable, while administrative areas III and IV serve sections of the County that are experiencing the majority of residential development.

The need for new schools and additions to existing schools is determined by available capacity. Capacity is an estimate of the number of student spaces available within an educational facility and takes into account (1) educational specifications for elementary, intermediate, and high schools; (2) program requirements; and (3) appropriate pupil-teacher ratios. Kindergarten instructional areas are assigned a capacity of 50 spaces to reflect the two half-day sessions with a pupil-teacher ratio of 25:1 for each session. Variations in the age and design of school facilities, and the use of available space for purposes other than those provided for in the derivation of capacity estimates, may increase or decrease actual capacity. In addition, changes in the allocation of space for educational programs within a school may cause the capacity to vary from year to year.

The same capacity considerations that determine the need for new facilities also generate recommendations for which schools are surplus to the education facility needs of the school system. The beneficial use of these surplus schools and properties, either from the standpoint of adaptive reuse, leasing, or disposal as a marketable asset, has become increasingly important with the closing of schools in areas of the County which have experienced a sharp decline in student membership.

Fairfax County public school sites that have been declared either temporarily or permanently surplus are appropriate for activities allowed by right, special exception or special permit under the underlying zoning categories (or a category allowing the same density) of the school sites when they are compatible with all nearby residential areas. Specifically, activity related to such uses shall not adversely impact the adjoining

Table 1

ACTUAL AND PROJECTED STUDENT MEMBERSHIP[1]
FAIRFAX COUNTY PUBLIC SCHOOLS

Year (9/30)	Head Start	Elementary (K-6)	Intermediate (7-8)	High (9-12)	Special Education[2]	Total
1982	222	55,976	21,345	40,755	4,213	122,511
1983	303	54,194	20,845	40,593	4,627	120,562
1984	307	54,480	19,381	41,058	4,627	119,853
1985	307	56,403	18,053	41,390	4,627	120,780
1986	308	59,147	17,640	40,452	4,627	122,174
1987	308	62,129	17,605	38,812	4,627	123,481

[1] Five-year school-by-school projection
[2] Includes preschool special education

Table 2

SUMMARY OF 1988-89 SCHOOL-BY-SCHOOL PROJECTIONS
BY SCHOOL ADMINISTRATIVE AREA[1] AND COUNTY
FAIRFAX COUNTY PUBLIC SCHOOLS

	School Administrative Area[1]				
	Area I	Area II	Area III	Area IV	Total
Head Start	60	90	103	50	308
Elementary (K-6)	13,054	12,537	18,895	17,643	62,129
Intermediate (7-8)	3,716	3,510	4,599	5,780	17,605
High School (9-12)	8,278	9,078	10,126	11,330	38,812
Special Education[2]	1,382	1,124	1,162	959	4,627
Total	26,495	26,339	34,885	35,762	123,481

[1] School administrative areas differ in geographical boundaries from planning areas for the Comprehensive Plan.
[2] Includes preschool special education.

residential community in terms of: traffic, vehicular access, parking requirements, lighting, signing, outside storage, length and intensity of outside activity, or general visual impact.

A major thrust in school planning is the continued reduction of inequities between the County's newer and older schools. The major objectives of the renewal program are:

- to make the older school buildings operationally functional and in compliance with current safety and other standards; and
- to improve the ability of the school physical plant to support the educational program.

It is not an objective of the renewal program to make older physical plants look like newer schools. Rather, the thrust of the recommended renewal program is to make maximum utilization of existing facilities, and to provide operationally sound buildings which are functional and attractive, and which can support the educational program. Renewal of older schools includes upgrading of the physical plant and provision of facilities required by the instructional program of Fairfax County public schools. The same educational specifications used as a guide in the construction of new schools are used in planning renewals, although a school's original building design will be preserved to minimize cost. Renewals extend the useful life of the building for 20 or more years.

The work to be done varies according to the needs of the building. Typically, the elementary school renewal will include construction of a small (3,500 square foot) gymnasium; remodeling of space for media centers, music programs, and resource teachers; and other building improvements and site work as necessary.

The intermediate and high school renewals will include new ceilings and lighting, upgrading of electrical service, and completion of code requirements. Additional work, in accordance with the educational specifications for intermediate and high schools, will depend on the needs of the building. Typically, it will include improvement of auditoriums, media centers, science labs, and vocational facilities.

Eighty elementary schools, thirteen intermediate schools and nine high schools have been surveyed to evaluate and rate the physical condition of the facilities in accordance with predetermined criteria. These criteria included interior and exterior condition; adequacy of mechanical and electrical systems; adherence to handicapped requirements; OSHA, NFPA, and BOCA code requirements; and security. The same elementary schools were reviewed by the school division's Department of Instructional Services to determine facilities required to support the instructional program in accordance with the School Board's approved educational specifications for Fairfax County schools.

Renewal of seven elementary schools (Beech Tree, Braddock, Clermont, Graham Road, Hollin Meadows, Mount Eagle, and Westlawn) and two high schools (Marshall and Woodson) was funded in the 1981 bond referendum. Additional individual renewal projects will be identified prior to a request for funding. Identification of projects will depend upon building and instructional program evaluation, and School Board policy and assessment of need at the time of the funding request. Funds have been included in the CIP to support the renewal of an additional eighteen elementary, four intermediate, and four high schools.

The Fairfax County public schools system currently has 159 public schools consisting of 116 elementary schools (kindergarten through sixth grade), 20 intermediate schools (seventh through eighth grade), 20 high schools (ninth through 12th grade) and 3 secondary schools (seventh through 12th grade). An additional three facilities are used as special education centers.

Recent activity has included construction of the Forestville, White Oaks, and Terra-Centre Elementary Schools, and the Rocky Run and Langston Hughes Intermediate Schools; renewals at Centreville, Churchill Road, Kent Gardens and Woodley Hills Elementary Schools, Glasgow and Longfellow Intermediate Schools and Fort Hunt and McLean High Schools. Additions have been constructed at Sunrise Valley, White Oaks, Fox Mill, and Clearview Elementary Schools.

HUMAN SERVICES

The human services program addresses needs in three primary categories: health facilities, mental health and retardation, and social services.

In the health facilities category, the Fairfax County Health Department operates six public health offices located at Baileys Crossroads, Mount Vernon, Falls Church, Fairfax, Springfield and Herndon. Hospital facilities in the County include DeWitt Army Hospital at Fort Belvoir, Commonwealth Doctors Hospital, Fairfax Hospital and Mount Vernon Hospital and ACCESS, an ambulatory care and emergency service facility in Reston. The nonmilitary hospitals and ACCESS are owned by the County and operated by Fairfax Hospital Association, a nonprofit corporation, under leases with the County.

In the mental health and retardation category, the Fairfax-Falls Church Services Board operates three mental health centers; a residential treatment center for disturbed adolescent boys (Fairfax House); Oakton Arbor group home for girls; a residential drug treatment facility for adolescents (Crossroads); an alcoholism outpatient clinic; an alcoholic halfway house in Chantilly (New Beginnings); five group homes and seven group apartments for the mentally retarded; three group homes and 11 satellite apartments for recovering mental patients; a group education treatment home for children; and a shelter for battered women. Two other major facilities located within the County are the Northern Virginia Training Center for the Mentally Retarded and the Northern Virginia Mental Health Institute. Both are operated by the Virginia State Department of Mental Health and Retardation.

In the social services category, the Department of Social Services provides public assistance and social services to children and adults in Fairfax County and the Cities of Fairfax and Falls Church. The department operates from three offices—the main office on University Drive, a branch office on Leesburg Pike at Baileys Crossroads, and a branch office on Route 1 in Mount Vernon.

The possibility of using excess school space to meet human service needs is an aspect of human services planning that deserves continued investigation. A day care center has been established in the surplus Annandale Elementary School and additional space within the school is currently being used for a senior citizens center. A senior citizen nutrition program, an afterschool day care program, and evening and weekend recreation programs have also been extending the use of existing operating schools.

Based on declining enrollment trends, it is expected that excess space in operating schools or total buildings will continue to become available for uses other than educational ones. This is especially true of facilities located in the older, more developed sections of the County. Every effort should be made to evaluate excess space in operating schools or surplus space in entirely empty buildings for its potential use in satisfying human services needs.

No capital projects in the human services area have been programmed in recent years. This has occurred primarily because the County has continued to rely on the localized neighborhood provision of needed services through leased facilities.

The proposed capital program for human services for Fairfax County includes the relocation of the Crossroads residential facility. Crossroads currently operates a 40-bed residential drug treatment program at 5801 N. Kings Highway. The facility and property is leased from the Washington Metropolitan Area Transit Authority (WMATA). The lease is on a month-to-month basis pending completion of the Huntington Metro Station and subsequent need for the property. Site location in the southern part of the County for a new, relocated facility is suggested because of available and suitable County-owned land. In October of 1982, a trailer housing ten additional beds, was added to the program. Although this addition has accommodated a portion of the waiting list, at least fifty percent of the waiting list will not be served. Statistical projections based upon past admissions demonstrate a continued and increased demand for residential services. The size of the proposed facility is approximately 8,800 square feet and is estimated to be completed in 1986.

CRIMINAL JUSTICE

Prior to the late 1970's, the Fairfax County Courthouse and jail were the major criminal justice facilities in the County. Housed within the courthouse were the Circuit Court, General District Court, Juvenile and Domestic Relations District Court, and related administrative functions. However, due to rapidly increasing judicial and correctional demands, the County has constructed several other facilities. The first of these was the Adult Detention Center (ADC) on the central County complex in Fairfax in 1978. The County has also completed renovation of a portion of the old jail to serve as a pre-release center.

In April of 1982 the County completed construction of the Judicial Center adjacent to the ADC. The Judicial Center houses both the Circuit and General District Courts. In addition, seven violations bureaus associated with the General District Court are decentralized throughout the county in police district substations and governmental centers.

The County has a wide range of juvenile justice facilities associated with the Juvenile and Domestic Relations District Court. There are two regional offices, one in McLean and one in Mount Vernon; and there is a girls' probation home located on Lee Highway in Fairfax. Alternative House, which houses runaways, three group homes, and the Northern Virginia Regional Detention Home are other facilities associated with the juvenile justice system. In 1982 two additional facilities opened: a juvenile detention center on the central County complex and a boys' probation home on Shirley Gate Road.

The primary issue facing the County's criminal justice system during the 1980's is the provision of adequate inmate capacity at all levels of detention. Even though completed in 1978, the Adult Detention Center (ADC) has proved to be inadequate to meet current demands. There are two reasons for this inadequate capacity. First, the number of sentenced offenders requiring maximum security detention has continued to grow. In addition, nonviolent offenders must also be housed in the ADC due to the lack of detention alternatives. The Board of Supervisors responded to this situation in 1981 by establishing a task force to study various alternatives to incarceration. The task force recommended a three-phase approach to existing and projected requirements for correctional facilities. For sentenced offenders requiring maximum security detention and persons awaiting trial, expansion of the ADC was proposed. For nonviolent sentenced offenders, it was determined that the maximum security environment of the ADC was a costly detention alternative. To meet this need, a medium security correctional camp was found to be more desirable from both a cost and rehabilitation standpoint. A minimum security pre-release

center was also recommended as a transitional step to integrating sentenced offenders back into the community.

New or expanded facilities will also be required by the Juvenile and Domestic Relations District Court for both judicial and detention needs. The Juvenile and Domestic Relations District Court are housed in the original Fairfax County Courthouse. The building is in need of considerable renovation to bring it up to modern standards for environmental control and space utilization. However, the building structure is sound and it is a valuable resource for administrative and judicial space.

As in the case of adult offenders, the need for juvenile detention space continues to grow. By the end of the decade, there will be a need for approximately 22 additional secure detention spaces for juveniles. There will also be a future need for a nonsecure facility to shelter both children in need of services (CHINS) and less serious delinquent offenders who do not require secure detention.

The future space needs of the Juvenile and Domestic Relations Court will be met by use of the old County courthouse. However, in order to effectively utilize this space, considerable renovation work will be required. This work will include a new heating, ventilation, and air conditioning (HVAC) system, barrier-free accessibility and facilities, fire detection and suppression equipment and repartitioning of space. This project was the subject of a $5.12 million bond referendum that was approved by the voters in November, 1980.

COMMUNITY CENTERS

A variety of centers and programs exist in the County, offering leisure time activities and services for Fairfax County residents. Assistance is also offered in organizing youth (teen) clubs, aiding community groups in leisure time planning and development, and providing speaker and/or slide presentations on departmental programs to interested citizen groups.

Various programs are offered at the community centers during the entire year for Fairfax County residents of all ages. These programs include playgrounds, teen activities, senior adult clubs, athletic teams, hobby and adult education classes, and adult and family nights. The community centers are located in the Baileys, Lincoln-Lewis-Vannoy (Braddock), Gum Springs, Huntington, James Lee, Zion Drive (David R. Pinn), Herndon, Reston and McLean areas of the County.

PUBLIC SAFETY

During the 1980's, Fairfax County will continue to demand the timely delivery of modern efficient public safety services. Maintenance of an adequate level of service will require facility improvements of three general types: construction of a new facility to provide improved service levels; construction of a new facility to replace temporary rented or substandard quarters; and renovation and/or expansion of existing facilities.

The present system of fire and rescue services in the County consists of 29 fire stations, a training center, and a communications center. Existing stations have been located based on response time and distance criteria promulgated by the National Board of Fire Underwriters and the Insurance Services Office. County fire stations are also augmented by two cooperative agreements for emergency response. On November 20, 1978, Fairfax County and the City of Fairfax approved a general services agreement which included a new contract for the provision of fire and rescue services. Under the terms of the new agreement, the City of Fairfax will continue to serve those portions of the County which are adjacent to the city on its northern, western, and southern borders and had been served in the past by Company #3 before it was acquired and operated by the City of Fairfax. The Northern Virginia Regional Response Agreement provides for fire and rescue response on the basis of the closest station, regardless of jurisdictional boundaries. In both the Lincolnia and Franconia-Telegraph areas, this agreement ensures an adequate level of coverage by either the City of Alexandria or existing County stations.

Fairfax County police administration is decentralized into seven district police stations at Chantilly, Franconia, Groveton, Mason, McLean, Reston and West Springfield. Central administration offices are housed in the police administration building at the central governmental complex in Fairfax, while training activities take place at the Northern Virginia Criminal Justice Academy in the former Fairfax elementary school in the City of Fairfax. With the exception of the Chantilly and Reston facilities, police activities are combined with other services in new governmental centers constructed in recent years. Recommendations for construction of the new governmental centers were based on the County's policy of extending government services to County residents through decentralization, replacing inadequate police facilities and the experience gained over the past eight years with the four existing governmental centers. Sufficient space for police will include areas for administrative offices, detention facilities, roll call and report writing rooms, locker and washroom facilities, office and interview rooms, offices for special justices and storage space. Additional space for other governmental services is proposed for juvenile and domestic relations court, assessments and voter registrar, inspection services and district supervisor. Each of the facilities was evaluated on the basis of accessibility to the public, the effect of extension of services on agency production, and the interrelationships between agencies and access needed to central working files.

The County constructed an animal shelter in 1975 to provide holding and processing areas for unwanted and stray dogs and cats. The shelter also provides administrative space and a classroom for humane education. The increasing number of stray animals which must be handled at the shelter will necessitate additional space for this facility.

Three vehicle maintenance facilities provide service to the County's public safety fleet. The West Ox facility was constructed in the early 1970's and is structurally and functionally adequate. The Jermantown Road garage requires some renovation work to meet all code requirements but should not receive extensive funding prior to a possible decision to relocate the facility. The Newington garage requires extensive renovation to meet building code requirements and expansion of the physical plant to meet increased service demands.

Five facilities are proposed during FY 1984-FY 1988 for the upgrading of fire and rescue services in the County. A station in Oakton will provide improved response to the developing commercial areas in the vicinity of I-66 and Route 123. The Pohick fire station will serve the developing residential areas in the vicinity of Pohick and Hooes Road. A station is also planned near Dulles Airport which will be located so as to be responsive to the industrial development around the airport as well as residential development in the area. The Navy-Vale fire station will be relocated to Route 50 near West Ox Road and will jointly occupy a site with the police department. Expansion and improvement at the County's fire training center off West Ox Road is also scheduled during this time. With the exception of the Pender station, all fire and rescue projects will be funded from the proceeds of the 1980 public safety bond referendum which was approved in November 1980.

New police substations will be constructed at Pender and in Reston to replace existing leased facilities at Chantilly and Isaac Newton Square. The McLean Governmental Center will be expanded and extensively remodeled to provide improved police functions and additional space for the district supervisor. A new firearms training facility at the Popes Head Road training site will be constructed.

LIBRARIES

Since 1962 the Fairfax County public library system has grown from two permanent regional libraries to four regional libraries, ten community libraries, five neighborhood libraries, one bookmobile, one outreach van equipped for the handicapped and elderly, three portable mini-libraries, and talking book service. In addition, the library system provides its users reciprocal borrowing privileges with libraries in Montgomery and Prince Georges Counties in Maryland; Virginia libraries in Arlington, Loudoun, and Prince William Counties, Alexandria and Falls Church Cities; and the District of Columbia Public Library. The expansion of the library system was financed through a $5,160,000 bond issue approved by voters in 1966. All of the bonds from this referendum had been sold by the spring of 1980.

In the fall of 1979 the Fairfax County Library Board of Trustees authorized a long-range space needs study. The study entitled *Public Library Space, Fairfax County, Virginia: A Study, with Recommendations, of the Physical Facilities/ Space Needs of the Fairfax County Public Library to the Year 2000* was undertaken by HBW Associates. As a final recommendation, HBW Associates recommended that the County eliminate the large central library component of the regional library service concept. The rationale for the recommendation was threefold:

- Fairfax County's pattern of cluster development provides no central area or "downtown" in which a central library might be logically located;
- it would be very expensive to construct and operate a new central library in the future, and;
- there is an absence of public transportation to any central location in the County.

Therefore, HBW Associates proposed the allocation of most of the special collections to the regional libraries and the construction of an administrative/support services center would house library administration, technical support services, limited special collections and county-related and public services and would be centrally located.

In January of 1980, the library Board of Trustees accepted the study as a planning tool and approved a two-part capital construction program which reflects an increased emphasis on regional libraries. Part I of the program consists of eight projects that were initially approved for funding in FY1981 with revenues from bonds sold in 1980 and the balance of the library construction fund. The projects included in Part I are:

Library	Description
Central Regional	Remodel Design
Centreville Regional	Site Acquisition
Dolley Madison	Renovation
Lorton Community	Site Acquisition
Pohick Regional	Site Acquisition
Two Porto-Structures	Acquisition
Reston Regional	Design
Tysons Pimmit Regional	Design

Site acquisition for the Centreville regional and Lorton community libraries has been completed and the two porto-structures have been constructed.

Part II of the capital program provides for the completion of the five ongoing projects from Part I:

Library	Description
Central Regional	Renovation
Dolley Madison	Renovation
Pohick Regional	Design and Construction
Reston Regional	Construction
Tysons Pimmit Regional	Construction

On August 4, 1980, the Board of Supervisors authorized funds for the purchase of three prefabricated portable library structures which have been erected at three different sites in the County. One structure was erected in the Fair Oaks mall shopping center and opened on November 22, 1980. A second structure was erected in the Burke Centre area, and opened in January, 1982. The third structure is located in the Great Falls Grange Park and opened in July, 1982. The source of funds for this project was bonds authorized by the 1966 library bond referendum, in the amount of $562,000.

Land acquisition for the Centreville regional library was completed in 1982. This project provided only for land acquisition for a facility to be designed and built in the future. The site selected is located at the intersection of Lee Highway (Route 29) and Machen Road in Centreville.

A joint Lorton library, Community Action Center and public park project, provided for the land acquisition of an 8.5 acre tract in 1981. The actual facilities will be designed and constructed in the future.

PARKS AND RECREATION

Since their establishment in 1950, the Fairfax County Park Authority has acquired over 14,000 acres of parkland including 290 individual parks. Funds to carry out these capital improvement programs were provided through bond referenda approved by the voters in 1959, 1966, 1971, 1977, and 1982. Currently, almost one-half of operating funds are raised by revenue-producing facilities in the system; additional funding for the operation and maintenance of parks are appropriated annually by the Board of Supervisors. Grants from state and federal governments supplement funds on a limited basis; however, gifts/donations from individuals, community organizations, corporations, and foundations are an increasingly important source of funding for community improvements.

The existing and proposed system of Fairfax County parks attempts to establish full opportunity for all residents and visitors to make constructive use of their leisure time through the provision of recreational and cultural programs within safe, accessible and enjoyable parks. Additionally, the park system serves as the primary public mechanism for the preservation of environmentally sensitive land and water resources and areas of historic significance. Parklands to be acquired shall usually be classified in one of the categories listed below. However, the list is not restrictive since citizen needs, both present and future, may require acquisition of combination park types or ones that differ from all the categories listed below.

- Regional and County parks are normally 200 acres or greater in size. Both provide countywide service, while regional parks are designed to serve the Northern Virginia region. Service is defined by conservation objectives, by the range of experience potentially offered by this large size such as golfing, camping, boating and nature education and by the length of stay by the user which may be a full day or longer.
- District parks are about 100 acres in size and are designed to provide areawide service to several sections of the County and to support an extended days visit such as an afternoon. District parks consist of both natural resource areas and user areas similar to their larger counterparts. However, they are primarily developed for active recreation, having facilities such as ballfields and tennis courts and/or a special facility such as a recreational center.
- Community parks, the most common park category, are designed to serve people living in their immediate vicinity for short term visits such as after school or after work. Community parks generally range in size from five to 25 acres. Facilities provided on a fully developed community park may include ballfield, multiuse court, tennis court, and picnic area.
- Stream valley parks include land lying in the floodplain and associated slopes exceeding 15 percent. Development is limited mainly to trails with emphasis on conservation.
- Historic parks contain buildings, resources or areas of historic/prehistoric interest that should be preserved for public use and education.

Determination of the need for community-serving parks is partly based on an adopted standard of 8.5 acres of community-serving parkland for every 1,000 persons within the service area of a park. Service areas of community parks are considered to be the area within a ¾ of a mile radius in more rural sections of the County.

Development projects, on the other hand, have been emphasized to better balance the proportion of developed and undeveloped parks, particularly in the urbanized areas of the County. Standards recommended by the National Recreation and Parks Association guide the planning of recreation improvements. With past emphasis on acquisition, the great bulk of land owned by the FCPA is unimproved.

Conservation proposals are designed to further the protection and preservation goals of the FCPA. The conservation aspect of the program is balanced with certain facility development proposals for specific activities such as interpretation of our natural environment.

County park projects reflect a continued interest in larger serving, multiuse park areas strategically located throughout the county for easy access. These parks also reflect the revenue potential of the park system, which assists in defraying general fund operating budgets while at the same time offering services such as golf, boating, camping, swimming, rides, and food services.

Stream valley acquisition and trail development for hiking, biking, and equestrian purposes follow the stream valley policy adopted by the Park Authority, the countywide trails plan, and the concept of environmental quality corridors.

1982-83 marks the completion of a 5-year program begun in the summer of 1977. This program has provided for the development of over 600 new facilities and the addition of 3,150 acres of parklands through purchase, dedication and donation. Accomplishments of the last 5 years include:

- a 70 percent increase in community park acquisitions and improved facilities;
- new recreation center/pool complexes at Lee, Mount Vernon and Providence District Parks which provide year-round recreational opportunities;
- two new nature centers, one at Hidden Pond, one at Huntley Meadows;
- an auditorium at Hidden Oaks;
- many interpretive trails and exhibits to expand our natural horizons;
- the opening of Frying Pan Farm Park activities center for equestrian and other multi-purpose programs;
- the opening of Green Spring Farm Park horticulture center;
- new athletic field complexes in community, district and County parks;
- stream valley sites acquired in environmentally sensitive areas which have significantly expanded the County's environmental quality corridor system; many stream valley trail connections in the valleys are completed or underway; and
- completion of historic restoration projects at the Wakefield Chapel, Dranesville Tavern and Cabell's Mill/Walney Visitors Center in Ellanor C. Lawrence Park which will preserve key elements of our cultural heritage. Frying Pan Farm Park school house is now being rehabilitated.

Northern Virginia Regional Park Authority

Fairfax County was one of three local governments which helped to found the Northern Virginia Regional Park Authority (NVRPA) in 1959 under the Virginia Park Authorities Act. Now six jurisdictions are members: the counties of Arlington, Fairfax and Loudoun and the cities of Alexandria, Fairfax and Falls Church. The NVRPA exists to plan, acquire and develop and operate a system of regional parks for Northern Virginia's citizens to supplement and augment their own facilities. Regional parks are distinguished from county and local parks in two ways:

- they are designed to appeal to and serve the board-based population of the entire Northern Virginia region; or
- the Regional Authority may assume projects which a single jurisdiction could not undertake alone. The Washington and Old Dominion Railroad Regional Park which extends through Alexandria, Arlington, Falls Church, Fairfax and Loudoun Counties is an example of a project which has region-wide characteristics.

The NVRPA now owns 8,400 acres, approximately 7,000 acres of it in Fairfax County. It serves a population of almost one million people.

NVRPA now operates 11 parks in Northern Virginia: Bull Run, Bull Run Marina, Fountainhead, Sandy Run, Pohick Bay, Carlyle House Historic Park, Potomac Overlook, Upton Hill, Algonkian, Red Rock, and the W&OD Railroad Regional Park, the Occoquan Regional Park, and the Hemlock Overlook environmental studies center.

In its conservation role, NVRPA is involved in implementing portions of the environmental quality corridors concept (see Table 14) which defines an open space land system in the County designated for long-term protection. In this role, NVRPA is charged with acquisition of the shoreline properties along the Potomac, Bull Run, and Occoquan Rivers, while the Fairfax County Park Authority is charged with acquiring land along the county's interior stream valleys.

Due to financial, political, logistical and other constraints, NVRPA has found it necessary to develop a phased, prioritized project implementation program based upon the following criteria: environmental and ecological qualities, recreation user potential, accessibility, public demand, historical demand, scenic or other aesthetic or intangible qualities, urgency (imminence of loss), cost, inflation patterns, potential for outside funding assistance, revenue-producing potential, operational costs, and readiness-to-go status.

In view of the current economic climate, the Regional Park Authority will improve and upgrade existing regional parks instead of undertaking major new regional park projects. The $8 million bond referendum share from Fairfax County, when

matched by funds from the other five jurisdictions, will enable the Regional Park Authority to carry out a $14 million program over a five year period.

The Regional Park Authority proposes to acquire approximately 200 additional acres of land, most of them small in-holdings or parcels adjacent to existing parks, at a cost of $1.2 million. Land acquisition accounts for about 9 percent of the capital improvement program for NVRPA.

Seventy-five percent of the regional park bond funds will be used to develop facilities within existing parks. The new facilities will be revenue procedures that will pay their own operating costs and not pose an additional financial burden on taxpayers.

The Regional Park Authority is now completing a 5-year capital program begun in 1977. Most of the projects identified in that program have already been accomplished, with others in various stages of implementation.

Of that amount, approximately $1.3 million has been paid to retire land acquisition bonds issued in prior years. NVRPA is now debt-free. $11.1 million has been invested in the acquisition of approximately 1,400 acres of parkland. During the 5-year period, the Authority will have accomplished various development projects valued at approximately $16.5 million.

Perhaps the most notable project accomplished during the past 5 years has been the acquisition and development of the former Washington and Old Dominion Railroad (W&OD) right-of-way for conversion into a linear park. It is already one of the more prominently used parks in Northern Virginia.

ADEQUATE PUBLIC FACILITIES AND SERVICES

Requirements for adequate public facilities are essential for the orderly development of the County. The scheduling and placement of public facilities can guide the character, direction and timing of future development. More specifically, demand and supply must be carefully balanced to minimize the potential negative impacts of future growth. In addition, adequate public facility requirements are crucial to the success of the County in achieving basic land use goals and objectives. Without requirements for adequate public facilities, the County is left in the position of reacting to development pressures, with the future level and future patterns of development being determined primarily by the private market.

Several factors are essential to the County's ability to provide adequate public facilities:

1. The Area Plans set forth desired land uses based on economic development objectives, and public facilities to support the proposed uses. While these plans indicate the location of growth in the County, they also generally address the timing of development. This provides for both a long range projection of facility needs and an estimation of the facilities required to serve the short term growth which is committed and anticipated.

2. A series of community facility standards has been prepared to measure adequacy and capacity of existing facilities and the appropriate scheduling of new ones. These standards also assist in assessing the impact of growth on future facility and service needs. This gives direction to coordinating the timing of development with the provision of planned public facilities.

3. The County's Capital Improvement Program establishes a guide for the development of public facilities over a five year period. It shows the arrangement of projects in a sequential order based on a schedule of priorities and assigns an estimated cost and anticipated method of financing for each project. The Capital Improvement Program forms the crucial foundation necessary to implement plans through adequate public facility requirements.

4. The County's 456 Review process is a mechanism for reviewing the compatability of proposed public facilities with the Comprehensive Plan. Specifically, this process is used to determine if the general or approximate location, character, and extent of a proposed facility are in substantial accord with the Plan. By using this process the County can ensure that facility decisions are in agreement with the Plan's basic policies and objectives.

To establish the adequacy of public facilities as a requirement for development, Fairfax County should pursue the following:

1. The County must apply its resources to upgrade areas of current facility deficiencies as well as to ensure that the supply of facilities and services are closely matched to the new demands generated by growth. To do this the County must apply the full potential of its financial resources without damaging its fiscal position. This requires that the Capital Improvement Program be viewed primarily as both an implementation tool of the Plan and as a fiscal document.

2. The County must be in a position to control the provision of public facilities required for development. Currently the County does not control transportation, especially highway improvements which are financed and implemented by the Virginia Department of Highways and Transportation. Even if the County had full control in coordinating improvements with the County's land use plans and policies, the State's funding capabilities are not great enough to approach the task of providing facilities at a level consistent with reasonable minimum standards. For this reason, the County has begun to supplement the level of State funding for highway facilities by the sale of general obligation bonds and the use of general revenue funds. If the County's highway conditions are to be steadily improved, a greater commitment from the County for improvements possibly will be required.

In addition to these requirements the County's community facilities program should include the following:

1. The Plan update process must emphasize the ability of the County to provide facilities in growth designated areas. The result is the identification of areas for planned and orderly development which is related to the objectives of reducing unnecessary costs for facilities and services and protecting environmental amenities.

2. The Capital Improvement Program must continue to match facilities (according to facility standards) to the development areas established in the Plan.

3. Updates of the Plan and the Capital Improvement Program must recognize growth estimates and trends to ensure a balance between development and the provision of facilities.

The County has numerous facility providers or categories including wastewater treatment, water supply, drainage, schools, human services, public safety, libraries, and parks. Each provider has underlying goals and standards which defines the direction and level of services to be provided throughout the County. These are described in the following.

WASTEWATER TREATMENT AND COLLECTION

Goals

The major goals of the County's wastewater treatment program are:

- to provide a system of conveyance and treatment facilities that is responsive to and compatible with the development goals of the County;
- to carry out the necessary renovations and improvements that will permit the entire system to function at a high level of efficiency;
- to extend sewer service to those areas of the County where failed or failing septic systems pose a potential threat to the health of County citizens.

Standards

Sanitary sewer facilities are usually provided where soil conditions or development densities prohibit the use of individual drainfield systems. Percolation rates greater than 60 minutes per inch require sewer facilities regardless of lot size and lots less than 20,000 square feet must be served by public sewers.

The expected sewage flow over the life of the system is of primary importance to the planning of sewer facilities. This flow is based on a combination of population and land uses and is determined by the following factors:

Type of Development	Design Flow (Gallons Per Day)
Residential	
General	100 gallons per person
Single-Family	370 gallons per residence
Townhouse Unit	300 gallons per unit
Apartment Unit	300 gallons per unit
Commercial	
General	2,000 gallons per acre
Motel	130 gallons per unit
Office	30 gallons per employee or .20 gallons per square foot
Industrial	
General	10,000 gallons per acre
Warehouse	600 gallons per acre
School Site	
General	16 gallons per student

WATER SUPPLY AND DISTRIBUTION

Goals

The primary goals of the County's water supply and distribution program are:

- to provide the facilities to treat, transmit, and distribute a safe and adequate potable water supply;
- to schedule and provide water facilities in relation to development goals and projected need.

Standards

The general guideline for the provision of water is 110 gallons per person per day. A peak factor of 1.6 times the estimated average day demand is used to determine maximum daily demand.

Water supply facilities are provided when development and/or the non-availability of ground water indicate the need for a public water supply. Specifically, water supply facilities should be provided as follows:

- to subdivision lots less than 20,000 square feet when the supply is approved by the appropriate County agencies;
- to subdivisions containing three or more lots which are not less than 20,000 square feet or greater than 79,999 square feet;
- in residential developments which contain fewer than 20 lots of 20,000 square feet or greater or the nearest boundary is located more than 125 feet per lot from the nearest water main, the water supply requirements may be waived by the County Executive.

Water supply should be provided to meet the basic requirements for the fire protection flows described below:

one and two family dwellings	1,000 - 2,000 gallons per minute depending on separation
townhouses and multiplex units	2,500 gallons per minute
commercial, office, industrial	2,500 gallons per minute

DRAINAGE

Goals

The major drainage goal of the County is:

- to provide a system of drainage facilities that prevents or minimizes property damage, traffic disruption and stream degradation in an efficient, cost-effective and environmentally sound manner.

Standards

Storm drainage facilities are designed and provided based upon a number of policies and engineering criteria. Adequate drainage is determined to be the maximum expected flow of stormwater for a given watershed, or portion thereof, for a specific duration and intensity of development.

Minor drainage systems are to be designed to accommodate the ten year frequency storm of two hours duration. In addition, new building construction must be situated so as to be unaffected by the storm of 100-year frequency. Drainage improvements in major waterways are planned on the basis of the 100-year frequency storm.

SCHOOLS

Goals

The primary goals of the County's school program are:

- to provide adequate and appropriate educational facilities that will accommodate the instructional program for all Fairfax County students;
- to provide appropriate support facilities that will permit the school system to operate in an efficient and cost-effective manner;
- to meet student demands in newly developed areas while defining and pursuing alternative uses of surplus classrooms and recreational use of vacant school sites not needed for school construction in the older, more stable areas of the County.

Standards

Elementary schools should serve kindergarten through grade six, have a capacity of no more than 660-990 students depending on land use densities, and have a basic site of 4 acres with an additional acre for each 100 pupils of ultimate enrollment.

Intermediate schools should serve grades 7 and 8, have a maximum capacity of 1,200 students, and have a basic site of 10 acres with one additional acre for each 100 pupils of ultimate enrollment.

High schools should serve grades 9 through 12, have a maximum capacity of 2,400 students, and have a basic site of 10 acres with one additional acre for each 100 pupils of ultimate enrollment.

School boundaries are reviewed annually to make the maximum use of capacity consistent with institutional objectives as well as existing and planned facilities. In establishing school boundaries, desirable walking distances are strongly considered as well as the maintenance of high school attendance areas. Walking distances should be a maximum of one mile for elementary schools, and 1.5 miles for intermediate and high schools.

HUMAN SERVICES FACILITIES

Goals

The major goals of the Human Services Facilities program in the County are:

- to provide facilities that will enhance the general physical and mental health and social well-being of County citizens;
- to provide facilities that will assist in the rehabilitation of individuals suffering from substance abuse;
- to focus attention on outpatient care and attendant facilities rather than on patient hospitalization;
- to establish additional group home facilities which promote integration within the community for recovering mental patients and mentally retarded persons.

Standards

The basic guidelines for the provision of human resource facilities largely are determined by the regional and state agencies charged with the administration and enforcement of relevant regulations and procedures. The County Zoning Ordinance provides the criteria for the location and relationship of proposed facilities.

PUBLIC SAFETY

Goals

The primary goals of the Public Safety program are:

- to protect persons and property by providing facilities that will aid in the enforcement of the laws of the Commonwealth of Virginia and Fairfax County;
- to provide facilities that will aid in the prevention of fires, control and extinguishment of fire incidents and the provision of emergency rescue service;
- to provide facilities that will aid in the development of effective training programs for public safety personnel.

Standards

The location of fire and rescue stations is determined primarily by the maximum distance the first due company must travel in order to suppress a fire. The service area standards established by the Insurance Services Office (ISO) are based on varying land use characteristics as follows:

- high value districts with heavy industrial and manufacturing uses and requiring a fire flow between 4,500 and 9,000 gallons per minute should be within one mile of a station;
- high value districts with office buildings, singular commercial uses, warehouses and shopping centers and requiring a fire flow less than 4,500 gallons per minute should be within two miles of a station;
- residential areas of high-and low-rise apartments, garden apartments and townhouses should be within two miles of a station;
- residential areas of single-family detached dwellings should be within three miles of a station. When the distance between homes is more than 100 feet, this mileage requirement can be increased to four miles.
- a five minute response time is the guideline used throughout Fairfax County by the Department of Fire and Rescue Services to define the maximum distance within which adequate rescue service protection can be provided to an area.

LIBRARIES

Goals

The primary goals of the County's Library Program are:

- to provide modern library resources and services necessary to meet the evolving educational, recreational, and informational needs of the public, thus enhancing individual and community life;
- to plan and provide free public library service to all Fairfax County and City citizens.

Standards

Regional libraries should serve a population of approximately 100,000 and have a variable service area depending on satellite libraries included in the region. Community libraries should serve a minimum population of between 25,000 and 50,000 and have a two-mile service area. Mini-libraries including neighborhoods and portables should serve a population of 15,000. The nature of the service area should determine the level of library service.

Library sites should be adjacent to or within high traffic commercial development, be centrally located in terms of service area, population and distance, and have direct access to an existing or planned arterial highway. The facility size should provide at least .3 square feet of space per person within the service area.

PARKS

Goals

The primary goals related to the provision of parkland are:

- to provide the residents of Fairfax County with a park system that will meet their recreational needs with a variety of activities;
- to establish full opportunity for all residents and visitors to make constructive use of their leisure time through the provision of recreational and cultural programs within safe, accessible, and enjoyable parks;
- to systematically provide for the long-range planning, acquisition and orderly development of a quality park system which keeps pace with the needs of an expanding population;
- to acquire parkland in locations which will relieve the facility and locational deficiencies in local-serving parks among the older parts of the County and provide an adequate level of service in the newer, developing areas;
- to urge the preservation of major stream valleys which provide natural drainage, wildlife habitat, parkland linkages, and supplemental recreation areas, contribute towards flood control, and afford other environmental benefits;
- to emphasize the dedication of land for parks and recreational facilities associated with new development, recognizing that purchase will be necessary, especially in the older, more densely populated areas.

Standards

In new residential developments, community-serving parkland and improvements for recreation and open space purposes should be provided by the developer through dedication either to the homeowners association or the County Park Authority. Community park requirements will be determined in the development review process according to the adopted standards and criteria of the Fairfax County Park Authority and the particular needs of the development taking place.

The Fairfax County Park Authority uses the following classification system: County Parks, District Parks, Community Parks, Stream Valley Parks, Historical Parks, and Conservation Parks. County parks are normally 200 acres or greater and provide countywide service. District parks are about 100 acres in size and are designed to provide areawide service to several sections of the County and to support an extended visit such as an afternoon. Community parks are between 5 and 25 acres and designed to serve people living in their immediate vicinity for short-term visits. Stream valley parks include land lying in the floodplain and associated areas. The acquisition and development of stream valleys for hiking, biking, and equestrian purposes follows the stream valley policy adopted by the Park Authority, the Countywide Trails Plan, and the concept of Environmental Quality Corridors. Historical parks contain buildings or areas of historic interest that should be preserved for public use and education. Conservation parks are designed to further the protection and preservation goals of the Authority.

The planning guideline for community-serving parkland is 8.5 acres per 1,000 people. This acreage consists of all types of land which meets the needs of each community for conveniently located recreation and open space including one-half the acreage at school sites and developed private recreation land.

In identifying needs in new development, consideration will be given to such factors as: existing nearby park and school open space and facilities, environmental features and constraints, and the needs of existing residential neighborhoods and other anticipated development within three-quarter or one and one-half mile service areas.

Applicable recreational facility standards are those of the National Recreation and Parks Association as adopted by the Fairfax County Park Authority. These are described below:

ADOPTED RECREATION FACILITY STANDARDS

Facility (outdoor)	Standard/ Facilities per Person	Comment
Baseball Diamonds	1 per 6,000	Regulation 90′
Softball Diamonds (and/or youth diamonds)	1 per 3,000	
Tennis Courts	1 per 2,000	(Best in battery of 4)
Basketball Courts	1 per 500	
Swimming Pools—25 meter	1 per 10,000	Based on 15 sq. ft. of water
Swimming Pools—50 meter	1 per 20,000	for ea. 3% of pop.
Skating Rinks (artificial)	1 per 30,000	
Neighborhood Centers	1 per 10,000	
Community Centers	1 per 25,000	
Outdoor Theaters (non-commercial)	1 per 20,000	
Shooting Ranges	1 per 50,000	Complete complex incl. high power, small bore, trap and skeet, field archery, etc.
Golf Courses (18 Hole)	1 per 25,000	

NOTE: All of the above-mentioned facilities are desirable in small communities, even though their population may actually be less than the standard. Every effort should be made to light, as appropriate, many of the facilities for night use, thus extending their utility.

All major stream valleys are to be preserved, with dedication being the primary mechanism for acquisition. Purchase of stream valley acreage or easements should be authorized where acquisition through purchase as well as dedication is not possible, for example, in the case of noncluster development with densities of .5 du/acre or more. This would help preserve the stream valleys and ensure public access to them.

In the case of surplus land, consideration should be given for park usage, or if park acquisition is not feasible, for a compatible use which advances park objectives for open space and environmental preservation. Any idle land in the ownership of the Fairfax County Board of Supervisors or the Fairfax County School Board may be subject to interim or long-term use as parkland as deemed necessary to the provision of adequate park and recreation services in an area, provided that this use does not interfere with a higher use such as education.

COMMUNICATION TOWERS

Recent advances in telecommunications and electromagnetic transmissions, and the entry by the County into County-wide cable television, have necessitated the development of communication towers of various types throughout the County. Current technology generally requires the high elevation on towers of antennas and microwave dishes for effective operation, though it is recognized that this technology may change in the future and that towers may not always be needed. The County, however, acknowledges that there may continue to be a demand for communication towers, at least in the near future; therefore, future applications for towers will be considered with approval to be granted only when they are to be sited in appropriate locations and when they are deemed to adequately reflect Comprehensive Plan guidelines. These guidelines are intended to minimize the adverse effects of towers on the visual environment, on local reception, and on the public health (radiation) and safety (tower fall or failure).

1. **Use of Existing Towers.** Maximum utilization of existing communication towers for additional communication equipment is favored over the development of new towers. The roofs of tall buildings should also be considered as alternatives to erecting new towers. New facilities are appropriate when the applicant has demonstrated that alternative sites or existing facilities have been explored but that existing facilities cannot accommodate the proposed new equipment, or are unavailable to the applicant.

2. **Location.** In general, industrial and commercial land uses are more compatible with the siting of towers than residential uses, since the aesthetics of, and business related activity within the former areas are generally more in line with the public perception of such towers. Nevertheless, there may be instances, given the distinctive nature of, for example, a new or redeveloping commercial/industrial area, or of some notable or sensitive adjacent site or area, where such a tower is inappropriate. An example of the latter might be adjacency to a County, State, or nationally designated historic site, or direct adjacency to a relatively unshielded residential neighborhood. In the case where a tower providing a vital public service is needed, but industrial and commercial sites are unavailable or inappropriate, the tower may be sited on residentially zoned land. In such an instance, existing public utility rights of way may yield possible locations. When these are unavailable, an applicant proposing to provide or improve a vital public service and seeking to locate a tower within a residential area should seek to utilize natural topographic, vegetative, or man-made screening to the maximum extent feasible. The key idea is to reduce visual impacts either by placing towers where they are generally perceived as more compatible and less intrusive, or where they impact upon as few people as possible.

Grouping of towers may be appropriate in instances where few people would feel impacted because of: a) the towers' location in a highly industrialized area, or b) the towers' location in a remote area. Finally, towers should generally not be located in especially sensitive natural areas or in areas where their presence would jeopardize achievement of Comprehensive Plan objectives.

The new concept of "teleports"—special office parks that offer tenants wide access to telecommunications resources—may well be appropriate for high technology office park developments in Fairfax County. Antenna facilities may be integral to such developments, and would be appropriate if sited with attention to these guidelines.

3. **Aesthetics.** Communication towers and equipment arrays should be designed to be as visually nonintrusive as possible. They should only be as high as technically required to achieve their broadcast/receiving purposes, and tower developers should seek to minimize height by all practicable means. Candlelabra-type towers and other towers having horizontal members or cross bars near the top should be discouraged; a straight tower design is preferred. While applicants are encouraged to fully utilize existing structures rather than build new ones, attention should be paid to avoiding making existing towers inordinately bulky by loading them with so many dishes, "horns" and antennas of such size (e.g., wider than tower face) and number as to create a serious adverse visual impact upon the skyline. (For example, the number of dish and horn-type antennas might be balanced with much less obtrusive whip antennas). Lighting should, if possible, be directed upward. Among siting criteria used by applicants, maximum screening of surrounding communities and road travellers by vegetation or topography should be sought. Vegetation should be used extensively at ground level of the tower to help screen the base of the tower from view. Tall deciduous and evergreen trees can to some extent help screen the view of the tower from immediately adjacent uses.

Dishes and horns, whether on roof-tops or on the ground, should be hidden from view by an architectural screen which does not prevent transmission or receipt of the signal. Antennas on roof-tops should be placed so that they are in the least visible location. Screening of shorter antennas on roof-tops may also be advisable to assure that they are as visually nonintrusive as possible.

It should be noted that to varying degrees, both the Federal Communications Commission (FCC) and the Federal Aviation Administration (FAA) may have the ultimate authority over some of these matters—e.g., coloration and lighting. These guidelines are thus applicable except as otherwise preempted by Federal law or regulation.

4. **Safety.** County structural standards and exacting construction review procedures should, as is currently the case, be strictly followed. As an additional measure of safety, guyed towers should be provided with a fall radius of at least one third (1/3) their height. (Self-supporting towers do not require any further measures.)

5. **Interference.** Blanketing-type interference caused by the tower and its equipment, with the radio, television, and telecommunications receivers of the public, should be avoided. Toward that end, the equipment on a communication tower should not exceed the maximum signal strength level determined by the Federal Communications Commission (or, if no final determination has been made, that level under consideration) to be the threshold for this type of interference to receiving equipment of reasonable quality. If this level is to be exceeded, or the potential for a significant blanketing problem is present, the matter should be referred to the FCC for public hearing and/or rectification.

6. **Radiation.** While the best available evidence indicates that excessive or health-threatening electromagnetic radiation is not generally a problem with regard to communication towers, all applications for towers should

continue to be reviewed to assure that their equipment at least meets all applicable Federal and state standards with regard to microwave and nonionizing electromagnetic radiation (NEMR). Until or unless a more stringent U.S. Environmental Protection Agency NEMR standard is issued, the ultimate load of tower equipment should meet the currently recognized American National Standards Institute (ANSI) standard for NEMR, "#C95-1-1982, Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kH_Z to 100 GH_Z."

PRIORITIES FOR FACILITIES

Priorities for the acquisition and development of facilities will be expressed in the short term in the Capital Improvements Program. Generally, improvements in developed areas and areas of the highest measurable need as determined by applicable standards and policies, should receive the greatest emphasis.

AREA I RECOMMENDATIONS

Parks, Recreation and Open Space

The accompanying table summarizes the Area I Plan recommendations pertaining to parks, recreation and open space where public action through acquisition and/or development is needed.

AREA I
PARKS AND RECREATION REQUIREMENTS AND RECOMMENDED ACTIONS

Areas Affected	Project Description	Recommended Action
A1	Community Park—East of Gallows Road	Acquisition, Development
A1	Community Park—Broyhill Crest	Development
A1	Community Park—Manassas Gap	Development
A2	District Park—Mason	Development
A3	Community Park—Between George Mason Library and Terrace Townhouses	Development
A3	Community Park—Poe Terrace	Development
A4	Community Park—Deerlick	Development
A4	Community Park—Indian Springs Area	Acquisition, Development
A5	Community Park—Flag Run	Development
A5	Community Park—Leewood Park	Development
A6	Community Park—Kings Park	Complete Development
A6	County Park—Lake Accotink	Complete Development
A7	Community Park—Fairfax Hill	Development
A7	Community Park—Adjacent to Wakefield Forest Elementary	Acquisition
A7	Community Park—Oak Hill	Development
A7	Community Park—Rutherford	Complete Development
A7	Community Park—Willow Woods	Development
A7	County Park—Wakefield	Development
A8	Community Park—Pine Ridge School Site	Development
A9	Community Park—Within Sector	Acquisition
A9	Community Park—Annandale	Development
A10	Community Park—Backlick	Development
A10	Community Park—Ossian Hall	Complete Development
A10	Community Park—Fitzhugh	Development
B2	Community Park—Munson Hill	Acquisition, Development
B2	Community Park—Spring Lane	Development
B3	Community Park—Within Sector	Acquisition, Development
B4	Community Park—Clark Mansion	Acquisition
B4	Community Park—Lillian Carey	Development
B4	Community Park—Glasgow	Development
B4	Community Park—Dowden Terrace and Parklawn	Complete Development
B5	Community Park—Jeb Stuart	Complete Development
J1	Community Park—James Lee Center	Development
J2	Community Park—Sleepy Hollow	Development
J2	Community Park—Roundtree	Development
J3	Community Park—Westlawn	Development
J3	Community Park—Within Sector	Acquisition, Development
J7	Community Park—Pine Springs	Complete Development
J7	Community Park—Available Site	Acquisition
J7	Community Park—Tyler	Development
J8	Community Park—Hollywood Road	Acquisition, Development
J8	Community Park—East of Shrevewood Elementary	Acquisition
J8	Community Park—Lee Landing	Development
J8	District Park—Jefferson	Development
J9	Community Parks—Devonshire and Greenway Downs	Development
J9	Community Park—Jefferson Village	Development
J10	Community Park—Idylwood	Development
J10	Community Park—Near Marshall High School	Acquisition, Development
L1	Community Park—Central Portion of Sector	Acquisition, Development
L1	Historic Park—Green Spring Farm	Development
L1	Community Park—Pinecrest Gold Course	Development
L2	Community Park—Within Sector	Acquisition, Development
L3	Community Park—Bren Mar	Development
L3	Community Park—Monticello Mews	Development
Rt. 50/I-495 Special Study Area	Public right-of-way through open space from Camp Alger Avenue to Holmes Run	Acquisition
Special Study Area	Public right-of-way through open space from Pine Springs Elementary School	Acquisition

AREA I (Cont'd)
PARKS AND RECREATION REQUIREMENTS AND RECOMMENDED ACTIONS

Areas Affected	Project Description	Recommended Action
A1,B4,J2 and the Rt. 50/I-495 Special Study Area	Stream Valley—Holmes Run	Acquisition
A3,A4,L3	Stream Valley—Indian Run	Acquisition
A4,A5,A10	Stream Valley—Backlick Run	Acquisition
A6,A7	Stream Valley—Long Branch	Acquisition
A7,A8	Stream Valley—Accotink Creek	Acquisition
A7	Stream Valley—Turkey Run	Acquisition
J1,J2	Stream Valley—Tripps Run	Acquisition
L1,L2,L3,A2	Stream Valley—Turkeycock Run	Acquisition

OTHER PUBLIC FACILITIES

The accompanying table summarizes the implementation of Plan recommendations as contained in the Capital Improvement Program

AREA I
OTHER PUBLIC FACILITY RECOMMENDATIONS

Facility Type	Sector	Facility	Recommended Action
Schools	J2	Beech Tree Elementary	Renewal
	J10	Marshall High School	Renewal
Public Safety	A8	Police Administration Offices	Renovation Pine Ridge Elem.

AREA II RECOMMENDATIONS

Parks, Recreation and Open Space

The accompanying table summarizes the Area II Plan recommendations pertaining to parks, recreation and open space where public action through acquisition and/or development is needed.

AREA II
PARKS AND RECREATION REQUIREMENTS AND RECOMMENDED ACTIONS

Areas Affected	Project Description	Recommended Action
M1 Tysons Complex Area	Community Park—Within Complex Area	Acquisition
M1	Community Park—Scott Run Community	Development
M1	Community Park—Tysons/Spring Hill Road Area	Acquisition, Development
M2	Community Park—Lisle and Fisher	Development
M2	Community Park—Tysons-Pimmit	Development
M2	Community Park—Lemon Road	Complete Development
M2	Community Park—Olney	Complete Development
M3	Community Park—Bryn Mawr	Development
M3	Community Park—Lewinsville for at least partial development	Development
M3	Community Park—Haycock Longfellow Park	Development
M3	Community Park—Kent Gardens Park	Development
M3	Community Park—Consider Franklin Sherman Elementary for a tot lot	Development
M3	Community Park—Leven Preserve: provide a parking lot adjacent to the park	Development
M3	Community Park—Chesterbrook Woods Park	Development
M3	Community Park—Franklin Park area off Kirby Road	Acquisition, Development
M2,West Falls Church METRO Complex Area	Community Park—Mount Royal	Development
M4	Community Park—McLean Central	Complete Development
M4	Community Park—Churchill Road	Complete Development
M4	Community Park—Hallcrest Heights (McLean Knolls)	Development
M4	Community Park—Potential surplus school site: consider theprovision of recreation facilities on Dead Run Elementary	Development
M5	Community Park—Langley Secondary School area	Acquisition
M5	District Park—Dranesville	Development
M5	Community Park—Langley Fork	Development
M6	Community Park—Potential surplus school site: OldDominion Elementary	Acquisition
M6	Community Park—Potential surplus school site: Providerecreation facilities on Springhill Secondary	Development
M6	Community Park—Consider development of Greenway Heightsand McLean Hamlet Parks	Development
M7	Community Park—Potential surplus school site: AndrewChapel Elementary or in area of new development	Acquisition
V1,Vienna METRO Complex Area	Community Parks—Circle Towers and Blake Lane	Development
V1,Dunn Loring	Community Park—Belle Forest Area	Acquisition
V1	Community Park—Between Routes 50 and 29/211	Acquisition

AREA II (Cont'd)
PARKS AND RECREATION REQUIREMENTS AND RECOMMENDED ACTIONS

Areas Affected	Project Description	Recommended Action
V2	Community Park—Dunn Loring	Complete Development
V2	Community Park—Cedar Planning Sector	Acquisition
V2	Community Park—Tysons Woods	Development
V3	Community Park—Wolf Trap area through HUD grant	Acquisition, Development
V3	Community Park—Eudora Park	Development
V3	Historic Park—Freedom Hill Fort	Development
V3	Community Park—Tysons-Spring Branch	Development
V3	Community Park—Wolf Trails	Development
V3	Community Park—Raglan Road	Development
V4	Community Parks—In areas of new development	Acquisition
V4	Community Park—West Vienna area	Acquisition, Development
V4	District Park—Clarks Crossing	Development
V4	Community Park—Ashlawn	Development
V5	District Park—Nottoway Park	Acquisition, Development
V6	Community Park—Peterson Lane	Development
F1	Historic Park—Aspen Grove	Acquisition
F1	Community Park—Fairfax Villa Park	Development
F1	Community Park—Old Forge Park	Development
F1	Community Park—University Park and George Mason Park	Development
F1	Community park—Area of major residential development	Acquisition
F2	Community Park—Bedford Village area	Acquisition, Development
F2	Community Park—Eakin	Complete Development
F2	Community Park—Mantua Area	Acquisition, Development
F3	Community Park—Villa D'Este	Development
F3	Community Park—Mosby Woods	Development
F3	Community Parks—North and South Blake Lane areas	Acquisition, Development
F3	Community Park—Borge Street	Development
F4	Community Parks—Foxvale Community	Development
F4	Community Parks—Oak Marr	Development
F4	Community Park—East Blake Lane	Development
5,Fairfax West Complex Area	Community Parks—In areas of new development	Acquisition
J10,V2,V3,V1,V6	Regional Park—Washington and Old Dominion Right-of-way (NVRPA)	Acquisition, Development
M1,M4,M5,M6	Stream Valley—Scott Run	Acquisition
M2,M3,M5	Stream Valley—Pimmit Run	Acquisition
M5,M6	Stream Valley—Bull Neck Run	Acquisition
M5	Stream Valley—Turkey Run	Acquisition
V3	Stream Valley—Old Courthouse Spring Branch from Tysons Corner to the Dulles Access Road	Acquisition
V-1,V5	Stream Valley—Hunters Branch	Acquisition
V3,M7	Stream Valley—Wolf Trap Creek and Old Court House Spring Branch	Acquisition
V4	Stream Valley—Piney Branch	Acquisition
F1	Stream Valley—Long Branch	Acquisition
F2	Stream Valley—Accotink Creek	Acquisition
F4,F5,Fairfax Center Area	Stream Valley—Difficult Run	Acquisition
M3	Community Park—Chesterbrook	Development

Other Public Facilities

The accompanying table summarizes the implementation of plan recommendations as contained in the Capital Improvement Program.

AREA II
OTHER PUBLIC FACILITY RECOMMENDATIONS

Facility Type	Sector	Facility	Recommended Action
Schools	F1	Woodson High School	Renewal
Libraries	M2	Tysons-Pimmit Regional	Construction
	M4	Dolley Madison	Renovation
Community Development	M3	Lewinsville Elderly Day Care Center	Renovation
	M4	McLean Community Center	Lewinsville Elem. School Expansion
County Admin.	F5	County Center	Construction
Public Safety	M3	McLean Fire Station	Reconstruction
	M4	McLean Gov't Center	Renovation/Addition

AREA III RECOMMENDATIONS

Parks, Recreation and Open Space

The accompanying table summarizes the Area III Plan recommendations pertaining to parks, recreation and open space where public action through acquisition and/or development is needed.

AREA III
PARKS AND RECREATION REQUIREMENTS AND RECOMMENDED ACTIONS

Areas Affected	Project Description	Recommended Action
UP1	County Park—Riverbend	Complete Development
UP2	Community Park—North of Dranesville Tavern	Acquisition, Development
UP2	Community Park—Great Falls Grange	Development
UP2	Community Park—Windermere	Development
UP3	Community Park—Great Falls Nike	Development, Expansion
UP3	Community Park—Lexington Estates	Development
UP3	Historic Park—Colvin Run Mill	Development
UP4	Community Park—Stuart Road	Acquisition, Development
P4 (2,3,5,6) and Option Area 1	District Park—Along Sugarland Run east Dranesville Road	Acquisition, Development
UP5 (and 8)	District Park—Fox Mill Park	Development
UP5	County Park—Lake Fairfax Park	Development
UP5	Community Park—Baron Cameron Park (vacant Reston Secondary School Site)	Development
UP5	Community Park—South Lakes Drive	Development
UP5	Community Park—Tamarack	Development
UP5	Community Park—North County Government Center	Development
UP6	Community Park—Stanton	Development
UP6	Community Park—Chandon	Development
UP6	Community Park—Community center	Development, Expansion
UP6	Community Park—Alabama Drive	Development
UP7	Historic Park— Sully Plantation	Complete Development
UP7,8 and Option Area 2	Community Park—Floris	Development
Option Area 2 and UP8	County Park—Develop Frying Pan Park as a model farm	Development
UP8	Community Parks—Bennett Road and Greg Roy areas	Acquisition, Development
UP8	Community Park—Navy-Vale Community area	Acquisition, Development
UP8	Community Park—Clarke's Landing	Development
UP9	Community Park—Area of new development	Acquisition
BR2	Community Park—Friendly Village	Development
BR3	Community Park—Develop active recreation facilities at Chalet Woods or Country Club Elementary school site	Development
BR3	County Park—E. C. Lawrence: Provide active recreation facilities	Development
BR4	Community Park—Greenbriar	Complete Development
BR5, P5	Regional Park—Expansion of the Bull Run Regional Park to completely link all segments (NVRPA)	Acquisition
BR5	Regional Park—Bull Run Floodplain Between I-66 and the Loudoun County line	Acquisition
BR6 and the Centreville Complex Area	Community Park—Arrowhead	Development
BR6	Community Parks—In areas of new development	Acquisition
BR7	Community Park—Continue development of County landfill site	Complete Development
BR7	Community Park—Brentwood	Development
P1	County Park—Twin Lakes	Complete Development
P1	Community Park—Popes Head	Development
P1	Community Park—Braddock	Complete Development
P2	Community Park—County land at Burke Station Square (Section 4)	Development
P2	Community Park—Country Club View	Development
P2	Community Parks—In areas of new development	Acquisition, Development
P2	Community Parks—Royal Lake and Lakeside	Development
P2	Community Park—Saratoga	Development
2,P6 and Option Area 6	Community Park—Rolling Valley West	Development
P2	Community Park—County land formerly for Montecello Freeway	Acquisition, Development
P2	Community Park—Pohick Creek and Old Keene Mill Road	Acquisition
P2	Community Park—Middleridge	Development
P2	Community Park—Bonnie Brea School Site	Development
P2	Community Park—Lake Braddock School Site	Development
P2	Community Park—Silas Burke	Development
3,P5	Community Park—Chapel Road	Development
P4	Community Park—Clifton area	Development
5 and Lower Pohick Complex Area	Community Park—Southeastern portion of the sector east of Route 123	Acquisition, Development
P6 and Option Area 6	Community Parks—In areas of new development	Acquisition, Development
P6	Community Park—Burke Ridge	Development
P7	County Park—Land surrounding Dam 1 on South Run for water-oriented active recreation	Development
P7	County Park—Burke Lake	Complete Development
P7	Community Parks—Newington Forest and Chapel Acres areas	Acquisition, Development
Lower Pohick and P7 Burke Complex Areas	District Park—South Run	Development
Burke Complex Area	Community Park—Burke Centre	Acquisition, Development
Lincoln-Lewis-Vannoy Complex Area	Community Park—In the complex area with HUD community block grant funds	Acquisition Development Acquisition, Development

AREA III (Cont'd)
PARKS AND RECREATION REQUIREMENTS AND RECOMMENDED ACTIONS

Areas Affected	Project Description	Recommended Action
UP1, UP3	Stream Valley—Nichols Run, Jefferson Branch Stream Valley—Portion of valley south of Colvin Run Mill	Acquisition Acquisition
UP3	Stream Valley—Two parcel segments of Difficult Run Stream valley between Lei Mill Road and Old Dominion Drive	Acquisition
UP3,UP5	Stream Valley—Colvin Run	Acquisition
UP3,UP5,UP8	Stream Valley—Difficult Run	Acquisition
UP5	Stream Valley—Difficult Run from Route 7 to Fox Mill Woods District Park for a trail	Acquisition
UP3	Stream Valley—Captain Hickory	Acquisition
UP4,UP6 and Option Area 1	Stream Valley—Sugarland Run, Follylick Branch, Offut's Branch, Roseries Branch	Acquisition
UP5	Stream Valley—Three-acre portion of Little Difficult Run north Stuart Mill Road	Acquisition
UP7,UP8 and Option Area 2	Stream Valley—Horsepen and Frying Pan	Acquisition
UP9,BR2,BR3	Stream Valley—Cub Run, Flatlick Branch, Cain Branch	Acquisition
BR4,BR5 and Option Area 3	Elklick, Big Rocky Run, Frog Branch, Horsepen Run	
BR4	Stream Valley—Provide passive recreation facilities in Frog Branch stream valley	Development
BR6,P3	Stream Valley—Little Rocky Run, Big Rocky Run	Acquisition
P1,P3,P5	Stream Valley—Popes Head Creek, Castle Creek	Acquisition
P2,P6	Stream VAlley—Pohick Creek, Sideburn Branch, Rabbit Branch, Peyton Run, Middle Run	Acquisition
P3	Stream Valley—Johnny Moore Creek	Acquisition
P6,P7	Stream Valley—Acquire all of South Run and Opposum Branch Wildlife Preservation and Critical Environmental Area—North	Acquisition
UP1	Potomac Shoreline (acquisition by NVRPA)	Acquisition, Development Complete Development

Other Public Facilities

The accompanying table summarizes the implementation of Plan recommendations as contained in the Capital Improvement Program.

AREA III
OTHER PUBLIC FACILITY RECOMMENDATIONS

Facility Type	Sector	Facility	Recommended Action
Schools	UP4,UP5	North Reston/Herndon Elementary School	Construction
	UP9	Navy Elementary School	Addition
	UP9	Floris/Oak Hill Elementary School	Construction
	BR3	Country Club Manor Elementary School	Construction
	BR6	Union Mill Elementary School	Construction
	P6	Sangster Branch Elementary School	Construction
	P7	Silver Brook Elementary School	Construction
	P1	Braddock Park Intermediate School	Construction
	P6	Fairview Elementary School	Addition
Libraries	UP5	Reston Regional	Construction
	P6	Pohick Regional	Construction
	BR6	Centreville Regional	Construction
Human Services	UP5	North County Community Services Center	Construction
	BR4	Fairfax-Falls Church Alcohol Counseling & Treatment Services	Renovation
Public Safety	UP5	North County Gov't Center	Construction
	UP7	Frying Pan Fire Station	Construction
	UP9	Navy/Vale Complex	Construction
	BR7	Fire Training Academy	Construction
	BR7	Animal Shelter	Expansion
	P1	Firearms Training Facility	Construction
	P6	Pohick Fire Station	Acquisition/Construction

AREA IV RECOMMENDATIONS

Parks, Recreation and Open Space

The accompanying table summarizes the Area IV Plan recommendations pertaining to parks, recreation and open space where public action through acquisition and/or development is needed.

AREA IV
PARKS AND RECREATION REQUIREMENTS AND RECOMMENDED ACTIONS

Areas Affected	Project Description	Recommended Action
LP1	Community park—potential surplus land: northern Lorton boundary	Acquisition
LP1	Regional park—acquisition of 398 acres from Lorton reformatory by NVRPA	Acquisition
LP1	Regional park—potential surplus land: consider acquisitionof remaining portions of Lorton reformatory land (possibly by the State)	Acquisition
LP1	Stream valley—South Run	Acquisition
LP3	Community park—Harbor View	Acquisition
LP3	Community park—Gunston Manor	Acquisition
LP3	Community Park—Mason Neck Area	Acquisition, development
LP3	Stream valley—Kane Creek, Thompson Creek, and Potomac shoreline	Acquisition
LP3,LP4	Stream valley—Pohick Creek	Acquisition
LP4	Community park—Pohick Estates	Complete development
LP4	Community park—Southgate	Complete development
LP4	Community park—where new residential development takes place	Acquisition
LP4	Community Park—Southgate	Development
LP4	Community Park—Lorton	Development
LP4,S5	Stream valley—Accotink Creek	Acquisition
LP4,LP5	Historic park—surplus land on Belvoir partly for protection of Pohick Church	Acquisition
LP5	Regional park—potential surplus land: consider acquisition of Fort Belvoir land (NVRPA and FCPA)	Acquisition
LP5	Stream valley—Accotink Creek, Dogue Creek, Pohick Creek,and Potomac shoreline	Acquisition
MV1	Community park—Jefferson Manor	Complete development
MV1	Community park—Mount Eagle	Acquisition
MV1	Stream valley—Cameron Run	Acquisition
MV1	Community Park—Huntington	Development
MV2	Community park—Lenclair	Development
MV2	Community park—expansion and development of Groveton Heights	Acquisition, development
MV2	Community park—Hybla Valley subdivision	Development
MV2	Community park—in southern portion of sector	Acquisition
MV3	Community park—adjacent to Route 1, consider acquisition	Acquisition
MV3	Community Park—Belle Haven area	Acquisition, Development
MV4	Community park—18 acres north of Morningside Lane of Fort Hunt Road	Acquisition
MV4	Community park—Collingwood Park	Complete development
MV4	Historic site—Wellington	Preservation
MV4	Stream valley—Potomac shoreline	Acquisition
MV5	Community park—Bucknell Manor	Development
MV5	District park—Mount Vernon	Development
MV5	Community park—Groveton area	Acquisition, development
MV5	Community Park—In western portion of Sector	Acquisition, development
MV5	Historic site—Popkins Farm	Acquisition
MV5,MV6	Stream valley—Paul Springs	Acquisition
MV6	Stream valley—Dogue Creek and Little Hunting Creek (include the Coast Guard Station property, if declared surplus)	Acquisition
MV6	Stream valley—Potomac shoreline	Acquisition
MV6	Community park—Martin Luther King, Jr.	Complete development
MV6	Community Park—Fort Hunt	Development
MV6	Community Park—Hollin Hall School Site	Development
MV7	Community park—Grist Mill	Development
MV7	Community park—Mount Vernon	Complete development
MV7	Community park—Mount Zephyr	Development
MV7	Community park—Vernon Heights	Development
MV8	Community park—Muddy Hole Farm	Development
MV8	Community park—in areas of new development	Acquisition
MV8	Community park—Mount Vernon Woods	Complete development
MV8	Community park—Woodlawn	Complete development
MV8	Community park—northeast of Old Mill Road and west of Route 1	Acquisition, development
MV8	Community Park—Fairfield School Site	Development
MV8	Stream valley—Dogue Creek	Acquisition
RH1,Franconia	Community park	Acquisition
RH1,McGuin tract	Community park	Acquisition
RH2	Community park—east side of S. Van Dorn Street	Acquisition, development
RH2	Community park—Mark Twain	Complete development
RH2,Van Dorn	Community park—Bush Hill Street Metro area	Development
RH3	Community park—potential site: vacant Clermont high school site	Acquisition
RH3	Community park—Hill property between Pike Branch and Sommerville Hill	Development
RH3	Community park—Burgundy	Complete development
RH3	Stream valley—Cameron Run	Acquisition
RH4	Community park—Beulah	Complete development
RH4	Community park—northern portion	Acquisition, development

AREA IV (Cont'd)
PARKS AND RECREATION REQUIREMENTS AND RECOMMENDED ACTIONS

Areas Affected	Project Description	Recommended Action
RH4,Lehigh tract	Community parks—within the Lehigh tract as needed	Acquisition, development
RH4	County park—Greendale	Acquisition, development
RH4	Community Park—Tara Village	Development
RH4	Stream valley—Dogue Creek	Acquisition
RH6	District park—Lee	Complete development
RH6	Community park—Northeastern portion	Acquisition
RH7	Community park—potential surplus land: consider acquisition of Army Reserve Center and U. S. Coast Guard property	Acquisition
RH7	Community park—Hayfield	Development
RH7	Regional park—Huntley Meadows: partial development	Development
RH7	Historic site—Huntley	Protection
RH7	Stream valley—Dogue Creek	Acquisition
RH7	Community Park—Stoney Brooke	Development
RH7	Community Park—Wickford	Development
S1	Community park—Carrleigh Parkway	Development
S2,3,4,5,6,7	Stream valley—Accotink Creek	Acquisition
S2	Community park—Brookfield	Complete development
S2	Community park—Lynbrook	Expansion, development
S3	Community park—West Springfield	Complete development
S4	Community park—Springvale	Development
S4	Community park—Hunter tract Area	Acquisition
S4	Community park—expanded Hooes Road Park	Development
S5	Community park—potential surplus land: consider acquisition of Federal land	Acquisition
S6	Community park—Newington Park,Amerleigh	Development
S6	Historic site—Mount Air	Protect
S7	Community park—Loisdale	Acquisition, development
S7,Springfield	Community park—within the complex area regional center/CBD/Metro station area	Acquisition
S7	Community park—Springfield Forest	Acquisition, development
S8	Community park—Franconia	Development
S8	Community park—Lee High	Complete development
S9	Community park—Franconia triangle area	Acquisition

Other Public Facilities

The accompanying table summarizes the implementation of Plan recommendations as contained in the Capital Improvement Program.

AREA IV
OTHER PUBLIC FACILITY RECOMMENDATIONS

Facility Type	Sector	Facility	Recommended Action
Schools	MV1	Mount Eagle Elementary	Renewal
Libraries	LP4	Lorton Community	Construction
Public Safety	S6	Newington Garage	Expansion
Solid Waste Management	LP1	I-95 Energy/Resource Recovery Facility	Construction
Sanitary Sewage System	LP4	Lower Potomac Treatment Plant	Expansion
	LP4	Lower Potomac Treatment Plant Railroad Spur	Construction
	MV6,MV7	Little Hunting Creek Pumpover	Construction

CAPITAL FACILITIES PROGRAMMING

Capital improvement programming is a guide toward the efficient and effective provision of public facilities. The result of this continuing programming process is the Capital Improvement Program (CIP), a document published annually that proposes the development, modernization or replacement of physical public projects over a multiyear period. The CIP shows the arrangement of projects in a sequential order based on a schedule of priorities and assigns an estimated cost and anticipated method of financing for each project.

Programming capital facilities over time can promote better use of the County's limited financial resources and assist in the coordination of public and private development. In addition, the programming process is valuable as a means of coordinating among County agencies to avoid duplication of efforts and to take advantage of joint planning and development of facilities where possible. By looking beyond year to year budgeting and projecting what, where, when and how capital investments should be made, capital programming enables public bodies to maintain an effective level of service to the present and future population.

COUNTYWIDE TRAILS SYSTEM

The countywide trails system is designed to provide trails for nonmotorized use throughout Fairfax County. Trails are generally located along stream valleys and road rights-of-way. They can be used for recreation, or as an alternative mode of transportation, or both. Trails are available for any type of nonmotorized use, including but not limited to bicycling, hiking, horseback riding and jogging. A map outlining trail locations was originally adopted in 1976 and has been refined each year. The map serves as a schematic representation of the proposed County trails system. Several magisterial district trails committees have worked with County staff to identify the sides of roads and stream valleys preferred for trails. Where the more specific magisterial district trails maps have been adopted by the Board of Supervisors, they will take precedence over the adopted Countywide trails map.

Trails are constructed by the following groups:

- County. Funds are allocated from the County's general fund for trail acquisition, design and construction. Magisterial district trails committees and staff select construction priorities within each district, and recommend them for funding as part of the budgetary cycle.
- Fairfax County Park Authority. The FCPA builds and maintains trails within public parks and stream valleys in accordance with park master plans. Priorities are established through the trails plan, consultation with district trails committees and public hearings.
- Northern Virginia Regional Park Authority. The NVRPA acquires and operates a variety of sizeable parks in Fairfax County. Major trail construction is often included in park development. Among the most notable and extensive trails in the County are the trails within the W&OD Railroad Regional Park and the Bull Run Regional Park.
- Developers. Developers are required to provide trails through the subdivision and zoning ordinances. When a trail is designated on the adopted trails plan, developers build trails and dedicate them to the County.
- Virginia Department of Highways and Transportation. Trails are constructed in conjunction with a highway improvement project by VDH&T. In the primary road system, a trail will be built at no cost to the County if it is identified on the trails plan and requested by the Board of Supervisors. If the improvement is part of the secondary road system, the County pays the acquisition costs of the additional right-of-way and one-half of the construction costs.
- Volunteer Groups. Although volunteer groups have not built public trails under County auspices, it is anticipated that this will occur in the future. Important liability issues regarding volunteers have been resolved during the 1979 Virginia legislative session.

Existing Facilities

Trails may be located along low-volume roads, service drives and sidewalks. However, these facilities will be used only when safe and when separate trail facilities are not feasible.

Trail Locations

Trail locations have been suggested by the magisterial district trails committees in consultation with County staff. Trail locations are selected according to the following criteria:

- to provide links to existing trails;
- to link trip origins (i.e., subdivisions) and trip destinations (i.e., schools, parks, commercial districts, transportation center);
- to serve the greatest numbers of users; and
- to link parks.

Generally, trails are located within road rights-of-way and along stream valleys. Bicycle routes may be located within the roadway when reasonably safe travel can be expected. When bicycle lanes are established within the roadway, the curb lane should be widened and/or striping for a bike lane should be provided.

Construction Standards

Construction standards for trails are included in the *Public Facilities Manual*. They range from a simple cleared path to a graded asphalt bikeway. The trail surface is chosen according to the following criteria:

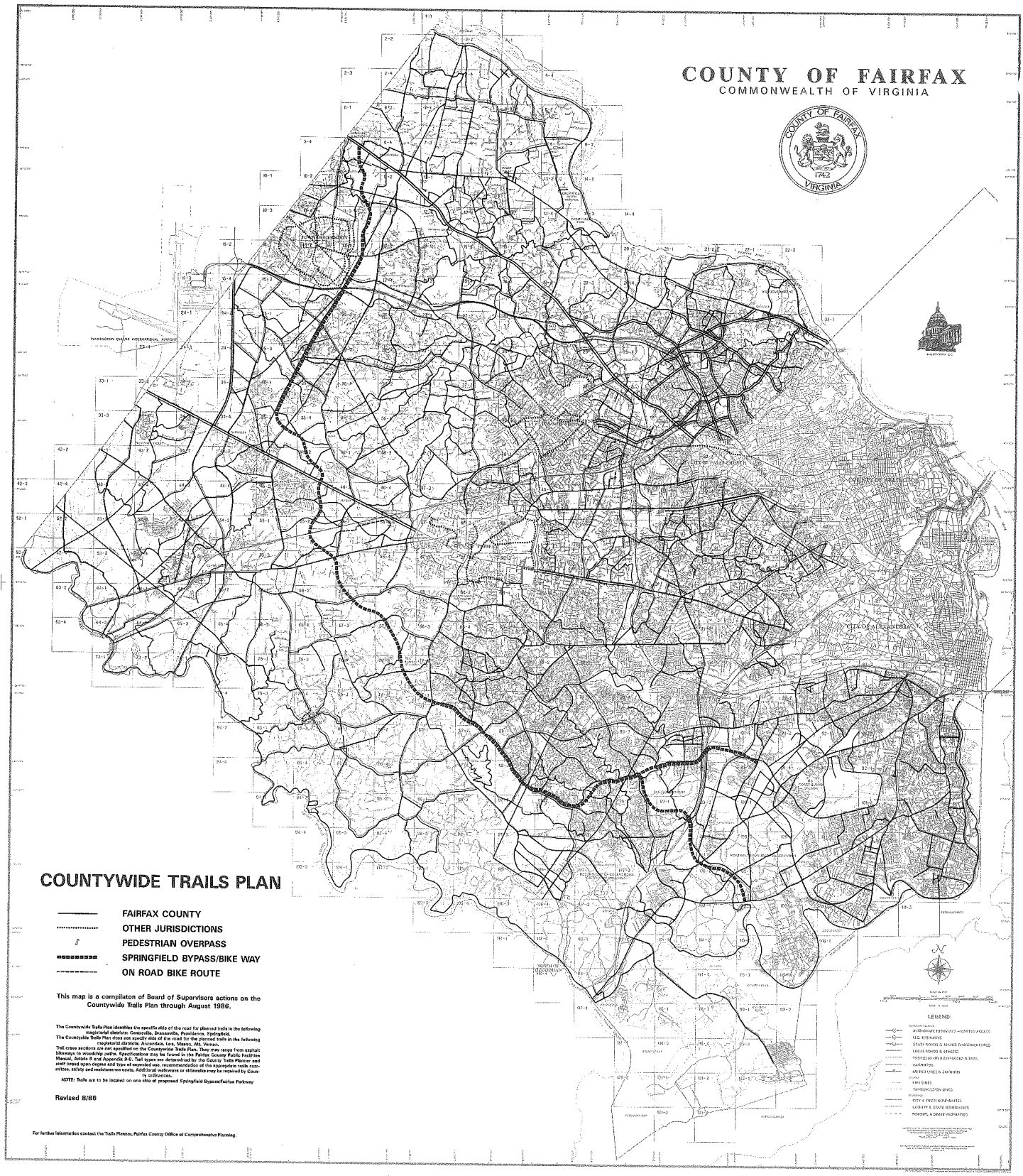
- Amount of use. Hardened surfaces will be used in areas of anticipated heavy use. The following areas have been identified as generators of heavy trail use: Baileys Crossroads, Tysons Corner, McLean CBD, Annandale CBD, Springfield Mall and Seven Corners. Within a one-mile radius of these centers, trails should be asphalt and at least six feet in width.
- Expected user groups. When possible, standards will be used which accommodate the expected type of trail use.
- Advice of the local trails committees.
- Maintenance costs and responsibilities.
- Soil type and slope.

A Trail Utilizing a Little Used Street

When any street so designated is rezoned for denser development, the County trails planner shall designate on which side or sides of the street a regular sidewalk or trail shall be required. The following are included in this definition—Whann Avenue; Sorrel Street; Mackall Avenue; Benjamin Street; Douglas Drive west of Georgetown Pike; McLean Drive; Brawner Street; Calder Road; Kurtz Road; Brockhaven Drive; Lowell Avenue; Lynnwood Street; Laughlin Avenue except for the 'Not Thru' section where it shall be a regular trail down the center of the right-of-way; Weaver Avenue; Hutchison Street; Reynolds Street; Romney Street; Grayson Place; Turner Avenue; Greenwich Street from its northern terminus to Romney Street, and also an asphalt trail connecting the realigned Idylwood Road and Greenwich Street; Chain Bridge Road from Waverly Way to Georgetown Pike; and Live Oak Drive with a regular trail continuing to Cabin John Bridge.

Braddock Road-Kings Park Area (Annandale Planning District)

After the widening of Braddock Road, conditions should be evaluated and provisions made for the safe crossing of pedestrians—such systems to consist of pedestrian walks, lights, and/or overpasses where the community is in agreement on location and design; safe and convenient access to old and young alike can be provided; problems of proper placement of ramp-and-stair structures can be solved; and funding can be found.


COUNTY OF FAIRFAX
COMMONWEALTH OF VIRGINIA
COUNTYWIDE TRAILS PLAN
FAIRFAX COUNTY
OTHER JURISDICTIONS
PEDESTRIAN OVERPASS
SPRINGFIELD BYPASS/BIKE WAY
ON ROAD BIKE ROUTE
This map is a compilaton of Board of Supervisors actions on the Countywide Trails Plan through August 1986.
The Countywide Trails Plan identifies the specific side of the road for planned trails in the following magisterial districts: Centreville, Dranesville, Providence, Springfield.
The Countywide Trails Plan does not specify side of the road for the planned trails in the following magisterial districts: Annandale, Lee, Mason, Mt. Vernon.
Trail cross sections are not specified on the Countywide Trails Plan. They may range from asphalt bikeways to woodchip paths. Specifications may be found in the Fairfax County Public Facilities Manual, Article 9 and Appendix B-6. Trail types are determined by the County Trails Planner and staff based upon degree and type of expected use, recommendation of the appropriate trails committee, safety and maintenance costs. Additional walkways or sidewalks may be required by County ordinances.
NOTE: Trails are to be located on one side of proposed Springfield Bypass/Fairfax Parkway
Revised 8/86
For further information contact the Trails Planner, Fairfax County Office of Comprehensive Planning.
LEGEND

ENVIRONMENT

ENVIRONMENT

Introduction

Protection of the natural environment is a goal of land use planning in Fairfax County. County residents and officials have come to recognize that the environment will suffer as a consequence of urbanization unless the potential impacts of growth are predicted and the location and character of new development are carefully regulated. Our perception of the need to protect the environment has grown in recent decades at the same time that Fairfax County has changed from a rural, agricultural county of forest and pasture to a suburban community of subdivisions, industrial parks, and shopping centers.

Tens of thousands of acres of agricultural and forestal lands have been lost to urbanization in the period of rapid growth that has followed the Second World War. This change has been necessary to house and employ a growing population, but has resulted in a loss of wildlife habitat and a deterioration of air and water quality. It is not well understood that some of the environmental impacts of urbanization can be minimized or avoided.

During and after the PLUS program, the County adopted several policies and ordinances to protect the environment. In addition, state and federal regulations to control air and water quality and hazardous wastes have had a large impact. Unfortunately, some unnecessary damage to wildlife habitat and water quality has occurred. For example, some structures have been built too close to streams. At times, the rate of growth has outpaced the construction of public facilities resulting in such things as air quality "hot spots" at inadequate highway intersections, or the discharge of untreated sewage effluent when stormwater inflow overwhelms the capacity of a sewage treatment plant. Some structures have been built on slippage-prone clay terraces subjecting them to the danger of structural failure. Other examples of unncessary environmental damage could be listed.

Most environmental hazards can be avoided through appropriate land use planning. Likewise, many environmental resources and sensitive environmental lands can be identified and set aside permanently for the enjoyment of all. The conversion of forest and field to urban uses will always result in some environmental degradation. However, the most vital elements of the natural environment, stream valleys, the floodplains, wetlands and shoreline, can be identified and preserved. In addition, proper planning, the development of adequate public facilities, and the provision of mitigation measures can restrict air pollutants and water pollutants to acceptable limits.

The following section describes the keystone of the County's environmental planning program, the environmental quality corridor system. This section is followed with a series of short discussions on the role that air quality, water quality, noise pollution and geologic hazards should have in land use planning.

OPEN SPACE AND ENVIRONMENTAL QUALITY CORRIDORS

Suburbanization in Fairfax County has inadequately reflected the social and economic costs associated with the degradation and loss of the amenities of open land. Forests and other natural vegetation, songbirds and other wildlife, open fields and pastures, and historic homes and scenic roads are of increasing social, economic, and psychological value to increasing numbers of Fairfax County residents, especially as they observe the growing scarcity of these resources.

Undeveloped land provides visual relief from the concentration of urban development and creates opportunities for outdoor recreation and education, while at the same time serving many ecological functions. Natural features of the landscape such as flat open fields, wooded slopes, and rolling hills are important to the interrelationships between water quality and quantity, vegetative resources and wildlife habitats. Wooded slopes, for example, while providing cover for animals, also slow the rate of runoff into streams thereby making the stream, a more suitable habitat for aquatic species, and decreasing damage from floods. The problems associated with developing open space, especially those that are environmentally sensitive, are complex.

Definition and Preservation of Environmental Quality Corridors

In order to preserve open space in the County in the form, location, and extent necessary to provide protection for ecologically sensitive areas, valuable resource preservation, and visual amenities that are important to County citizens, the environmental quality corridor (EQC) system is recommended as the open space system for the County. Adapted from a concept advanced by the noted landscape architect, Professor Philip Lewis of the University of Wisconsin, the EQCs are based on stream valleys—streams, their floodplains, wetlands, shoreline areas, and steep valley slopes. These form a continuous linear network of open space within each watershed of the County and include most of the ecologically sensitive areas of the County as well as valued natural and visual resources. They also serve to link other important open space resources such as prime wildlife habitats, citizen-identified environmental resources, historic features, public and private parks, agricultural and forest lands, and other natural and cultural resources.

The EQC system has two major components—sensitive lands EQCs and resource protection EQCs. The definitions and preservation benefits of these EQC components differ and are outlined below.

Sensitive Lands EQCs

This component of the EQC system is comprised of the lands which are most sensitive to development and which, at the same time, present the greatest environmental hazards to development. In Fairfax County these lands are found mostly along streams and rivers. Here, in these ecologically sensitive stream valleys, erosion and sedimentation can most directly affect stream water quality. These stream valleys provide some of the County's richest and rarest vegetation and wildlife. Prime wildlife habitat is provided here, too, and erosion from cleared steep valley slopes can be severe. Here, too, are found a great many development hazards, such as flooding, poor soil bearing strength for building support, wetness that can cause wet basements and soggy lawns, and high erosion and landslide potential on steep slopes. These stream valleys are also visual amenities which can provide buffers between conflicting land uses and opportunities for nature-oriented recreational activities such as hiking and bird watching. Clearly these sensitive lands are appropriate for preservation in open space.

Lands along streams included in sensitive lands EQCs are as follows—all 100-year floodplains, all floodplain soils and soils adjacent to streams which exhibit a high water table and poor bearing strength or some other severe development constraints, wetlands, steep slopes greater than 15 percent adjacent to the above floodplains, soils, steep slopes, and wetlands and, at a minimum, where the above floodplains, soils, steep slopes and wetlands cover only a narrow area, a buffer on each side of the stream or water body designed to prevent sedimentation of the stream or water body.

The 100-year floodplains are chosen as a basic component of the sensitive lands EQC since these areas are recognized by County ordinance and by federal regulation as the areas where flooding is a significant hazard and where development, which could be damaged by flooding, should not occur. While some development, such as parking lots, may not be damaged by shallow flooding, such development can still have adverse impacts on streams since eroded soil during clearing and construction and surface pollutants after construction, which are washed off during rain storms and floods, can directly impact stream water quality. In addition, the 100-year floodplain is often where the rich wet soils are found which promote heavy plant growth and provide excellent wildlife habitat. The 100-year floodplains are often acquired by the Fairfax County Park Authority for stream valley parks.

Floodplain soils, high water table and poor bearing strength soils and soils with severe development constraints (marine clays) adjacent to streams are also included in sensitive lands EQCs. These soils are poorly suited to development and include Fairfax County soils numbered 1, 2, 3, 5, 11, 12, 13, 30, 31, 33, 89, 92, 117, and 118, as well as soils numbered 39, 68, 84, 85, 90, 110, and 112 when these soils are found within the 100-year floodplain or are found to be extremely wet. While other soils in the County have high water table and moderate bearing strength problems, these other soils can be developed and problems avoided with relatively inexpensive engineering solutions. The soils included in sensitive lands EQCs, on the other hand, impose severe problems on development, and there is a likelihood that even extensive engineering measures will not adequately solve the wetness and bearing strength problems they present. As discussed for the 100-year floodplain, these soils provide a good medium for rich plant growth and excellent wildlife habitat.

As part of the implementation of the Fairfax County Wetlands Zoning Ordinance, tidal wetlands, both vegetated and nonvegetated have been mapped on the Official Zoning Map. These wetlands are recognized by the County as "an irreplaceable natural resource which, in its natural state, is essential to the ecological system of the tidal rivers, bays, and estuaries of the Commonwealth. This resource is essential for the production of marine and inland wildlife, waterfowl, finfish, shellfish and flora; is valuable as a protective barrier against floods, tidal storms and erosion of the shores and soil within the Commonwealth; is important for the absorption of silt and of pollutants; and is important for recreational and aesthetic enjoyment of the people for the promotion of tourism, navigation and commerce." For these reasons, tidal wetlands delineated by the Wetlands Overlay District area included in sensitive lands EQCs.

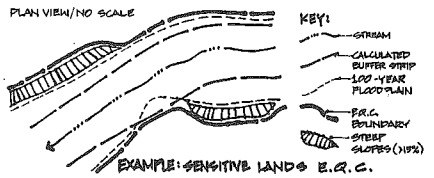
Fresh water marshes in the County are mapped on County topographic and soils maps. These wetlands provide the same kinds of environmental benefits as tidal wetlands. They are especially important where they occur next to streams since it is here that they are likely to have the most beneficial impacts in absorbing flood waters and where development is most likely to have an adverse impact on stream water quality. Fresh water wetlands are included in sensitive lands EQCs where they are found adjacent to streams.

Areas with steep slopes, defined as those greater than 15 percent, are added to the system whenever they occur along streams. Construction on these slopes often involves extensive clearing

and grading resulting in soil erosion and the introduction of sedimentation pollution into the adjacent stream. Steep slopes are also prone to land slides. Their preservation in natural vegetation is necessary to protect the aesthetic quality of the stream valley. And for this reason, they are often included in the Park Authority's stream valley parks. In order to protect stream water quality, prevent erosion and land slide problems during and after construction, and provide visual amenities, steep slopes are included in the sensitive lands EQCs.

An EQC system including the above mentioned lands is likely to contribute greatly to the protection of the stream water quality, streamside vegetation, and good habitat for both aquatic and terrestrial wildlife. However, in some areas the 100-year floodplain, poor soils, and steep slopes together provide only a very narrow open space buffer along the stream. This buffer may not always be wide enough to protect the stream from sedimentation and extreme temperature changes as well as provide a corridor wide enough for effective wildlife habitat. In these areas it is recommended that some additional land outside the floodplain, poor soil and steep slope area be included in the EQC. The U.S. Forest Service[1] has developed an empirical formula for computing the naturally vegetated buffer strip width needed to trap all eroded material before it can reach the stream in areas such as Fairfax County receiving an average rainfall of twenty inches or more:

Buffer width = 50 + (4 x percent slope) in feet



The Forest Service uses this as a guide to determine appropriate steam buffer widths to be maintained during logging. The U.S. Department of Transportation uses this as well as a guide in the environmental impact analysis of construction projects. If such a buffer strip is provided on either side of Fairfax County's streams, it is likely that the streams would be provided a great deal of protection from sedimentation caused by erosion from nearby clearing and construction. A buffer strip according to this formula should always be provided at a minimum in all sensitive lands EQCs. The sensitive lands EQC boundary is thus determined by this formula when the land encompassing the floodplain, floodplain and poor soils, wetlands and steep slopes forms an open space strip narrower than the minimum buffer strip calculated by the formula. Where the floodplain, floodplain and poor soils, wetlands and steep slopes extend beyond this minimum buffer strip, they should be used to determine the boundary of the sensitive lands EQCs.

[1]U.S. Forest Service, *Forest Land Erosion and Sediment Evaluation,* Forest Service Handbook, NA, FSA 3509. Upper Darby, PA.: U.S. Forest Service 1972. Also, Hartung, Robert E. and Kress, James M., *Woodlands of the Northeast Erosion and Sediment Control Guides.* Broomall, PA,: U.S. Department of Agriculture, Soil Conservation Service, Northeast Technical Service Center, 1977. Also, U.S. Department of Transportation, *Environmental Assessment Notebook Series: Highways, Notebook 4, Physical Impacts.* Washington, D.C.: U.S. Government Printing Office, 1975.

This minimum buffer provides not only protection from sedimentation of streams, it may also preserve enough streamside vegetation to provide the shading needed to prevent wide fluctuations in water temperature and thereby provide a more healthy environment for aquatic wildlife. A California study[2] of streams in moderately steep sloped areas found that a buffer width of approximately 90 feet is necessary to protect stream aquatic organisms from the adverse effects of sedimentation and temperature changes. An EQC as defined herein including floodplains, poor soils, steep slopes and the calculated buffer widths in most cases would provide at least this wide a buffer for perennial streams. Such a buffer would also provide habitat for many species of terrestrial wildlife, although large species, such as deer may need wider buffers.

The sensitive lands EQCs as defined above form the basic framework for the environmental quality corridor system upon which the resource protection EQCs may be added.

Resource Protection EQCs

The resource protection EQCs includes those valuable open space resources in the County which are important for protection in their existing states but which, unlike most sensitive lands EQCs, can support some appropriate use. These include public parks, private recreation and conservation areas, heritage resources, utility rights-of-way and abandoned railroad beds, citizen identified environmental resources, wildlife habitats, agricultural and forest lands, abandoned cemeteries and other open space lands.

Public parks in upland areas where they are not a part of the sensitive lands EQCs, are an important component of the resource protection EQCs since they provide recreational opportunities; nodes of more intense recreational activity connected by the trails in the sensitive lands EQC corridor. Many of the large parks also provide excellent wildlife habitat and can serve as refuges for some of the complement the public park system.

Heritage resources are also included in the EQC system since they will enhance the cultural and aesthetic value of the recreation system within the EQCs.

Utility rights-of-way and abandoned railroad beds (such as the Washington and Old Dominion) can be used for hiking, biking and riding trails, and, if managed correctly, can provide useful wildlife habitat and wildlife travel corridors.

A study of citizen identified environmental resources, conducted during the summer of 1974, was helpful in locating specific resources that are available to the community. Approximately 75 percent of these resources fall within or are adjacent to the sensitive lands EQCs. Surveys of citizen-valued environmental resources should be updated periodically.

Wildlife is abundant in Fairfax County since there is still a great deal of vacant land. Identification of the prime wildlife habitat remaining is necessary for the planning of an open space system which serves to provide a healthful environment for wildlife in the County. The sensitive lands EQCs provide a great deal of wildlife habitat, though they are too narrow in some areas to provide good habitat or even travel routes for the larger species such as deer. Wildlife specialists suggest that corridors 600 feet wide (300 feet on either side of the stream) may provide adequate travel routes for some of the large species. Such wide corridors should be provided between large parks and identified prime wildlife habitats.

Agricultural and forest lands may also be included in the resource protection EQCs. Lands desirable for preservation should be identified. These lands provide many benefits to the County in their existing state—benefits such as pleasant visual open space, the provision of useful products, habitats for wildlife, moderation of flooding and stream bank erosion, beneficial impacts on air quality, and quiet.

[2]Erman, Don C.; Newsold, J. Davis; and Roby, Kenneth B., *Evaluation of Streamside Bufferstrips for Protecting Aquatic Organisms.* Davis, California: California Water Resources Center, 1977.

Levels of Protection

The two components of the environmental quality corridor system merit different levels of protection from development and use because of their differing natures and purposes for preservation.

Sensitive Lands EQCs

These lands are sensitive to development and with few exceptions are to be preserved in undisturbed natural open space containing only recreational trails designed to have a minimal environmental impact on the land and water. It is recognized, however, that some intrusions, such as road and utility crossings and stormwater management structures, will have to be allowed periodically in these EQCs. These intrusions should be minimized. Of particular importance is the avoidance of siting roads and utility rights-of-way parallel to streams since this can have extremely adverse physical and visual impacts. There is also room for some compromise in the development of steep slopes and marine clays.

Where steep slopes cover extensive areas and are relatively unlikely to slide, some buildings could be allowed on those steep slopes farthest from the stream if adequate measures are taken to minimize grading, clearance of vegetation, and erosion, and if the floodplain, floodplain soils, and minimum buffer width calculated from the U.S. Forest Service formula are preserved in undisturbed open space. Marine clays may also be built upon in special cases where the design of the development has been approved by the County Geotechnical Review Board. It should be noted that protection for tidal wetlands are presently set forth in Part 9 of Article 7 (Wetlands Overlay District) of the Fairfax County Zoning Ordinance. Tidal wetlands are protected from most development by this district. Activities proposed in tidal wetlands must be reviewed by the Fairfax County Wetlands Board.

Resource Protection EQCs

These EQCs may be more intensely used than the sensitive lands EQCs as long as they remain in relatively low-intensity open space use which serves the purpose for which the land is being preserved. Those lands in public ownership or under public regulation, such as public parks and designated historic sites and districts, are protected by government management programs and regulations. For example, lands and buildings within historic districts are protected from development or redevelopment which would adversely affect their historic value through enforcement of the provisions of the historic overlay districts regulations within the Zoning Ordinance.

The level of protection for some of the resource protection EQCs will be determined in more detail as programs for their protection are developed. For example, the wide wildlife corridors (600 feet recommended) would be best protected in undisturbed open space, though low-density residential development at .2 unit per acre or lower would provide fairly good protection of these lands as wildlife habitat. Agricultural and forest lands would

be best protected in agricultural and forest use with no non-farm related residential, commercial, or industrial development allowed. Such a level of protection may be difficult to achieve for all agricultural and forest lands remaining in the County.

Implementation Techniques

The identification of open space lands which are desirable to preserve is only one step in the process. Implementation of the program is the crucial step. Some implementation techniques are being used successfully by the County. Others require further study. Some of the tools presently used are:

1. Purchase in fee simple of sensitive lands EQCs and parklands by the Fairfax County Park Authority. (The Northern Virginia Regional Park Authority has also purchased a great deal of parkland in the County. State and federal parks add to the public park system as well.)
2. Acceptance by the Fairfax County Park Authority of the dedication of open space land within clustered subdivisions and other development projects.
3. Dedication to homeowners' associations by developers of permanent open space land within cluster subdivision as a result of the development process.
4. Enforcement of the County floodplain ordinance. Under this ordinance some development meeting certain engineering and floodproofing standards can occur in the floodplains if the base flood elevation is not raised. However, most or all of the floodplain is usually retained in undisturbed open space as a result of the enforcement of this ordinance.
5. Enforcement of County zoning regulations within historic districts. These are further described in the history section of the Plan.
6. Acceptance by the County of open space easements (scenic and conservation) from private homeowners. The County holds several easements for scenic lands, especially along the Potomac River.
7. Establishment by the County of agricultural and forestal districts pursuant to the Agricultural and Forestal Districts Act, as amended, Chapter 36 of Title 15.1 of the Code of Virginia. Lands included in these districts:
   - are eligible for a deferral of local real estate taxes, pursuant to Chapter 15 of Title 58, Article 1.1 of the Code of Virginia;
   - are protected from local ordinances, such as odor and noise ordinances that, may restrict farm practices; and,
   - may not be developed to a more intense use than the existing use while the lands remain in the district without prior approval of the Board.
8. Protection of abandoned cemeteries should be achieved through the development process by using the following techniques: 1) On residential property, when the cemetery does not have to be moved to accomplish the proposed project, the cemetery should either be conveyed to a homeowner's association, which shall be responsible for its maintenance and upkeep, or it should be included within a lot to be conveyed to an individual property owner, and 2) on nonresidential property, the owner should be encouraged to preserve and provide routine maintenance for abandoned cemeteries located on their property. In either case, the developer should be encouraged to establish a contingency fund for any future reconstruction or restoration efforts needed to maintain the cemetery in a proper condition. It is recommended that anyone preparing to undertake such a restoration should consult with the Fairfax County Park Authority Division of Historic Preservation or the Heritage Resources Branch of the Office of Comprehensive Planning prior to the commencement of any restoration activity.

The law also requires that land use decisions regarding lands surrounding the district take into account the existence of the district and its purposes and restricts the acquisition of land by governments or public service corporations for public facilities; the extension of loans, grants, or other funds by such governments and corporations for nonfarmer development; and the creation of special taxing districts for nonfarmer purposes. The effects of the establishment of a district are specified in Sections 15.1-1511 and 15.1-1512 of the Code of Virginia. The establishment of agricultural and forestal districts represents one method for preserving these resource protection EQCs.

Other implementation tools which have received little use or merit further study include:

1. Expansion of an existing County agency's role or the creation of a new County agency to provide comprehensive protection and management for open space lands. This agency could become more highly involved in the acquisition of open space easements, purchase and lease back of agricultural lands, purchase of critical natural areas and wildlife habitats, acceptance of dedication of gifts, and management of the County open space holdings as a multi-purpose open space system which provides recreation opportunities, scenic amenities, water quality protection, vegetation and wildlife habitat preservation and enhancement, as well as other benefits.
2. Establishment of environmental quality corridor overlay districts to regulate development and encourage good management practices within various portions of the EQCs. The regulations in these districts might, for example, provide standards and criteria for the management of homeowners' association open space or for the clearing of vegetation and construction of buildings, roads, and parking lots within wildlife corridors. Enabling legislation may be needed.
3. Utilization of available federal and state funds for open space acquisition, trail construction, and wildlife habitat restoration, etc.
4. Coordination with private conservation organizations, such as the Nature Conservancy and the American Farmland Trust, to acquire selected parcels of critical natural areas, wildlife habitats, and prime farmland.
5. Development of new funding sources for open space fee simple and easement acquisition through such methods as a real estate transfer tax, capital gains tax, etc. Enabling legislation in many cases will be needed.
6. Strengthening of existing County ordinances, such as the floodplain ordinance.
7. Consideration during the land use planning process of land use and development intensity issues on a watershed basis in order to provide protection of the environmental quality of streams and EQCs. Land uses and use intensities outside the EQCs can affect the environmental quality within EQCs adversely. Avoidance or mitigation of these adverse impacts is needed to provide the most beneficial EQC system possible.

AIR QUALITY

Air quality for Fairfax County and the rest of the Washington Metropolitan Area is primarily the result of land use patterns and the resultant transportation system. As the dominant land use pattern evolved from rural to suburban, leap-frog residential developments promoted heavy dependence on the automobile as the principal form of mobility. Because of the extensive use of the auto, emissions of air pollutants have resulted in recurrent air pollution episodes during which health-related air quality standards have been exceeded. Other pollutant sources, such as industry, have had a minimal effect on County air quality due to relatively light industrial development and emission control programs which strictly regulate the amount of pollution which may be emitted.

Air quality standards currently being enforced have been set and published by the Environmental Protection Agency (EPA). The national standards have been adopted by the Virginia State Air Pollution Board as state standards and by the Fairfax County Board of Supervisors as County standards.

Basically, two air quality problems have been identified. One problem, photochemical oxidant formation, is a major regional air quality concern and is related to the emissions associated with automobile use. Monitored data from the air quality sampling stations confirm the existence of photochemical oxidant concentrations in violation of air quality standards. The relationship of land use to oxidant levels has been considered through the planned development centers which will be serviced by mass transit and which will promote employment and commercial service opportunities near residences. Lower density land uses are planned in areas between development centers.

The second air quality problem is carbon monoxide (CO) buildup caused by congestion on key roadways operating at or above capacities. Queuing, or stop and go traffic operation, generally results in increased carbon monoxide concentrations within the immediate vicinity of the roadway or intersection. Analysis of this potential problem will be incorporated into the review of major projects. Possible mitigation actions include modification of proposed land uses, and traffic flow improvements via a number of highway design alterations. However, if the improvement of highways and intersections results indirectly in promoting the use of the private automobile, the primary regional pollution problem, photochemical oxidants, could become more serious.

Land Use Planning and Air Quality

It has been axiomatic in the field of air quality control that dispersing sources of pollutants through land use planning will result in lower concentrations of pollutants and generally acceptable air quality conditions. While this approach has merit under some circumstances, it is not applicable to the Washington Metropolitan Area in general or to Fairfax County in particular. The result of dispersing residential and commercial development increases the distance traveled for work trips to the employment centers in the District and its immediate environs. In addition, there is a limited number of feasible through-access routes to the urban center, causing high levels of peak hour directional flows of traffic. These flows result in unacceptable photochemical oxidant levels in the eastern portion of the County. Also, dispersed residential development is more difficult to serve by mass transit, resulting in greater reliance on the private auto than in more concentrated developments.

Therefore, while dispersed development may be a land use planning technique appropriate to some areas, the design and control of land use in Fairfax County must take other forms which demonstrate a greater sensitivity to air quality issues.

WATER QUALITY

Fairfax County's water resources are vitally important to the residents of Fairfax County and the Washington Metropolitan Area. Most County residents rely upon domestic water supplies that

originate in part from rain that falls on the County. The Fairfax County Water Authority draws water from the Potomac River above Great Falls and from the Occoquan Reservoir. The Potomac River, the Occoquan Reservoir, and several small impoundments like Burke Lake, Lake Fairfax, Lake Barcroft, and the free-flowing streams in Fairfax County, are important for passive and active recreation. The County's surface water resources are also important for their beauty and as the core of the Environmental Quality Corridor (EQC) system.

Although there are many sources of pollution that can affect water quality, all sources can be grouped into two general categories; point sources and nonpoint sources. Point sources include discharges of industrial effluent, sewage treatment plant effluent or any source of water pollution that is discharged from a discrete number of outfalls such as pipes or ditches. Nonpoint sources include all the other sources, such as pollutants and soil particles carried off the land surfaces in stormwater runoff. Small particles, including many pollutants, can also fall out of the air directly onto the land surface or are washed out of the atmosphere with rain and snow.

Of the two kinds of sources of water pollution, nonpoint pollution has a greater impact on Fairfax County. This is true because of a lack of point source dischargers in the County. There is little heavy industry. Most potentially polluting businesses discharge into the sanitary sewer system. These dischargers are required to pretreat their waste water to remove or neutralize potentially harmful substances in order to protect the sewage treatment plants. In addition, the sewage treatment plants themselves cannot be considered major pollution sources. These plants have been upgraded to meet state and federal water pollution control requirements. The effluent discharged from these plants now contribute an insignificant amount of water pollution compared to nonpoint sources.

Land Use Planning and Water Pollution

Water quality has been perhaps the most important environmental concern shaping the land use plan for the County. Planned land use categories for the upper reaches of the Difficult Run watershed and much of the Occoquan watershed area were heavily influenced by the desire to protect these water resources.

Nonpoint pollution can be reduced by requiring new development to construct stormwater management Best Management Practices (BMPs). These processes are required in the Occoquan watershed. They should also be applied above all of the County's impoundments and both fresh and tidal wetlands.

The construction of cost effective BMPs in conjunction with a thorough implementation of the EQC system is the most appropriate way to protect the County's water resources.

THE OCCOQUAN RESERVOIR

Recent studies have demonstrated that nonpoint sources of pollution contribute to deteriorating water quality in the Occoquan Reservoir. This diffuse source of land-use-related pollution has taken new significance with the completion of the Upper Occoquan Sewage Authority (UOSA) advanced waste water treatment plant. The 1978 opening of the UOSA plant mitigates a major point source of pollution in the Occoquan. Therefore, water quality problems in the future will be influenced substantially by pollutant loads associated with stormwater runoff. The Occoquan Basin Study, completed in March, 1982, addresses this stormwater related water pollution problem and makes related recommendations. A synopsis of the study which served as a basis for many recommendations of the Plan for land uses and policies affecting the Occoquan Reservoir watershed in Fairfax County is located at the beginning of the Area III section of the Plan.

Wetlands Protection

The County of Fairfax recognizes the unique character of the wetlands, an irreplaceable natural resource which, in its natural state, is essential to the ecological systems of the tidal rivers, bays and estuaries of the Commonwealth. This resource is essential for the production of marine and inland wildlife, waterfowl, finfish, shellfish and flora; is valuable as a protective barrier against floods, tidal storms and erosion of the shores and soil within the Commonwealth; is important for the absorption of silt and of pollutants; and is important for recreational and aesthetic enjoyment of the people for the promotion of tourism, navigation and commerce.

In order to protect the public interest, promote the public health, safety and the economic and general welfare of Fairfax County, and to protect public and private property, wildlife, marine fisheries and the natural environment, it is the policy of Fairfax County to preserve the wetlands and to prevent their despoliation and destruction and to accommodate necessary economic development in a manner consistent with wetlands preservation.

This policy is embodied in the requirements of the County's Wetlands Zoning Ordinance which was adopted pursuant to Virginia's Wetlands Act. All development proposals which may have an impact on the County's tidal wetlands must be reviewed for environmental impact. If impacts are anticipated, the County can require a wetlands permit application which shall be conditioned by action of the Wetlands Board.

Potential Dam Failure Impact Areas

The issue of dam safety in the United States has recently been highlighted by several dam failures in which extensive property damage and loss of life have occurred. These factors prompted the United States Government to enact the National Dam Safety Program during the 1970s. Under this program, all major dams in the United States were inspected by the Corps of Engineers and the findings of any deficiencies brought to the attention of the individual state governments.

In Virginia, the program was coordinated through the State Water Control Board (SWCB) and resulted in the inventory of 27 existing dams in Fairfax County meeting the minimum size requirements for this program. It also led the State of Virginia to establish its own Dam Safety legislation with corresponding State Water Control Board Regulation –9, "Impounding Structure Regulations." Under these regulations, the SWCB has jurisdiction over all the major dams in Fairfax County. Two requirements of the Virginia Dam Safety Program affect land use planning in Fairfax County.

The first item concerns the extent of development downstream from a dam that would be inundated during a dam failure situation. The SWCB regulations require that a large dam with substantial development downstream have a spillway capacity adequate to pass the Probable Maximum Flood (PMF) without overtopping the dam. The PMF is defined as the maximum flood resulting from the most severe combination of meteorological and hydrological conditions that can reasonably be expected in a given area.

The land use involvement with this criteria is that if extensive development occurs downstream from an existing dam, then the size of the dam's spillway may require enlargement if it cannot pass the PMF without overtopping. If development occurs, then the dam owner is responsible for either addressing a solution to upgrade the dam and spillway, or, possible consideration for removal of the dam from the watercourse to eliminate its hazard potential. The possibility for downstream loss of life and property damage will increase if the dam owner fails to rectify the situation. In addition, earthen dams have the potential for failure from internal erosion which can occur any time and is not necessarily related to a storm event. Therefore, development downstream from any existing dam has an increased potential for flood damage.

The second item concerns the SWCB requirement that dam owners prepare an Emergency Action Plan to protect people in the downstream dam failure areas in the event of a failure caused by either water overtopping the dam or internal erosion. The County is required to implement the Emergency Action Plans after they are developed by the dam owners. In time of an emergency, significant public resources are required to carry out the notification and possible evacuation. Less development in the dam failure areas will reduce the extent of an evacuation that would need to be carried out by the public agencies involved and thereby reduce the amount of required public resources needed during these emergency situations.

More detailed information is available from the Department of Environmental Management (DEM), Design Review Division and the Department of Public Works, Utilities Planning and Design Division.

GEOLOGIC AND SOIL HAZARDS

Earthquakes, sink holes and landslides, the kinds of geological catastrophies that make headlines, are not likely events in Fairfax County. Nevertheless, there are geologic hazards to development in some areas of the County. The most significant problems are associated with Potomac Group sediments in the coastal plain geologic province. This is generally that part of the County east of I-95.

Slope Instability

Most of the upland area within the coastal plain province consists of a gravel cap which is relatively flat and up to 30 feet thick. This cap is underlain by Potomac Group sediments of great thickness. The clay, clayey silt and clayey sand strata forming these sediments are usually stronger than the capping material, but within twenty feet of the surface they have been mechanically and chemically weathered in locations than occasionally lead to slope failure. This is most likely to occur in the steepest upland areas at the contact point between the gravel cap and the Potomac Group sediments. On slopes exceeding 30%, slope failure is common. On lesser slopes, slope failure occasionally occurs. Construction activity is often a sufficient catalyst to initiate planar glide blocks or rotational slumps, the two common models of slope failure. Such significant soil movement can cause the destruction of homes and other structures.

Soil Instability

Portions of both the eastern and western sections of Fairfax County have deposits of soils with an expansive clay layer. In the coastal plain areas of the County, these soils are known as marine clays and can be very thick. Once moistened, they lose most of their bearing strength. Alternating wet and dry cycles can cause cracked foundations and, if uncorrected, could lead to serious structural damage.

In the western portion of the County, orange group and Iredell group soils also have shrink-swell characteristics, but these soils usually occur on nearly level land forms. Foundation failure can occur, but lateral movement is unlikely.

Land Use Planning and Geologic and Soils Hazards

Most of the slope failure prone areas are by definition within Environmental Quality Corridors (EQCs). Development should not occur in such areas. On sites where slope failure is possible, at the contact point of the gravel cap and Potomac Group sediments, building may be appropriate if the site is not within an EQC and if all the requirements of the Geotechnical Review Board are met. Likewise, construction projects located on shrink-swell clays should be examined by the Geotechnical Review Board and meet any conditions set in this process.

MINERAL RESOURCES

The Fairfax County Zoning Ordinance was amended by the Board of Supervisors in 1961 to establish a natural resource overlay district which recognized, protected and authorized the extraction of sand and gravel resources. The major emphasis of the natural resource overlay district was to allow for the extraction of major sand and gravel resources in the Franconia/Lehigh area. An additional purpose was to reduce the negative impact of truck traffic, noise, visual and air pollution on neighboring subdivisions and secondary roads.

In 1971, the natural resource overlay district was amended to include crushed stone resources as well as sand and gravel. Additional changes included a five year extension of the Franconia/Lehigh natural resource overlay zone. During 1976, all existing and future sand and gravel extraction permits were terminated. Crushed stone extraction is still permitted pending the rezoning of land to a natural resource overlay district and the approval of a Group I special use permit.

The need for construction materials in Fairfax County is increasingly apparent from sharply rising construction costs, despite the fact that many of the needed rock and mineral resources are available within the County. If these resources are to be developed with an attendant savings in construction costs, there must be both an awareness of the extent of environmental disruption accompanying their development, and a balancing of that disruption against the higher costs of imports. A decision to use or not use an available resource depends on many factors, including the possible environmental disruption to air, water, the landscape and local communities. However, wise planning and regulation in advance of extraction can reduce or avoid anticipated damages. As urbanization expands into rural or undeveloped areas, potential mineral deposits may be preempted, unless such deposits are recognized and preserved in the land use planning process. Extraction of rock or sand and gravel may be only a temporary stage in efficient land use planning. After extraction, the land can be restored to agriculture, used for recreational areas, building sites, or possibly solid waste disposal.

NOISE POLLUTION

Along with air and water pollution, noise pollution has been recognized as a serious problem in urbanizing areas. In the Noise Control Act of 1982, as amended, the federal government recognized excessive noise as detrimental to the public health and welfare. Some of the adverse impacts associated with excessive levels of noise include both temporary and permanent damage to the inner ear and thus to hearing, high blood pressure, stress to the human body and aggravation of existing disease, possible threats to human fetal development, impairment of skill learning in children and task performance in adults, aggravation of adverse mental health symptoms, and affects on both quantity and quality of sleep.[1]

In addition to these adverse impacts, a recent poll conducted by the U. S. Bureau of the Census revealed that noise is considered to be the most undesirable neighborhood condition—more irritating than crime or deteriorating housing.[2] A recent survey of Fairfax County residents determined that noise is viewed on par with water pollution and second only to air pollution as a major concern.

Federal Support to State and Local Activities

In the same legislative action that recognized noise as a hazard to health, the Environmental Protection Agency (EPA) was directed to "publish information about the levels of noise requisite to protect the public health and welfare with an adequate margin of safety." This directive resulted in EPA's production of a report entitled Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare (1974). Based upon this report and other research, EPA has proposed ambient community noise-level goals which consider protection of the public health and welfare as well as the cost and technical feasibility of achieving reductions of noise levels in the community. These goals have been used directly or modified slightly by other federal agencies, such as the Department of Housing and Urban Development and the Federal Highway Administration, in their implementation of agency regulations regarding the provision of healthful housing and the prevention of adverse transportation impacts.

In June 1980, the Federal Interagency Committee on Urban Noise, representing five federal agencies (Environmental Protection Agency, Department of Housing and Urban Development, Veterans Administration, Department of Defense, Department of Transportation) developed planning guidelines on the compatibility of land uses with environmental noise levels for use by state and local governments. These guidelines, incorporated into a publication entitled Guidelines for Considering Noise in Land Use Planning and Control, represent the most current, best available information for noise-compatible land use planning. These guidelines can be appropriately applied to all noise sources, especially transportation sources, a major contributor to ambient noise levels in the community.

Fairfax County Efforts.

Fairfax County has a history of demonstrated concern about excessive noise and its impacts on the community. For several years, the County has had in effect an ordinance concerned with controlling both nuisance and stationary source noise impacts on adjoining properties.

In more recent years and in response to trends of increasing noise levels due to urbanization, Fairfax County has been involved in planning for noise-compatible land use in relationship to transportation noise sources. Recognizing that the adverse impacts of transportation noise can be mitigated, the County's Plan sets forth policies which speak to planning for noise-compatible land use in the vicinity of highways, railroads, and Dulles Airport and the need to provide mitigation measures (i.e., acoustical treatment to structures, site layout, noise attenuation barriers/berms, etc.) so that the use can be made compatible with ambient noise from transportation sources.

In addition to general Plan policies, the County has adopted Plan and zoning amendments to implement an airport noise compatibility program as part of the Occoquan Basin Study implementation package. The plan policies and ordinance amendments are based upon the federal noise compatibility guidelines noted above. Since these guidelines can be appropriately applied to all noise sources, these guidelines have been used and will continue to be used to guide decisions about noise compatibility and mitigation measures for excessive noise levels from all noise sources. For details about aircraft noise and for further guidance on noise compatibility, see Land Use Planning Within the Dulles Airport Noise Impact Area in the Area III section of the Plan.

[1] "Noise: A Health Problem," Environmental Protection Agency, Washington, D. C., March 1984.

[2] "A Balanced Approach to Noise Control," by Douglas Costle, EPA Journal, Washington, D. C., October 1979.

ENERGY CONSERVATION

In recent years, our nation has experienced significant adverse economic and environmental impacts resulting from dependence on foreign and domestic nonrenewable energy resources. These experiences have served to establish energy conservation as a well-accepted public goal. Energy conservation has popularly come to mean the reduction of total energy demand resulting from increased efficiency and greater use of renewable energy sources.

Energy conservation is an important community concern in Fairfax County. County efforts in energy conservation are evidenced in the work of the 1977 Energy Conservation Task Force, the Citizen's Advisory Committee for Energy, appointed in 1978, and the continuing efforts of the Offices of Energy and Emergency Services, Comprehensive Planning, and Transportation. Even with these efforts, comprehensive energy conserving goals are yet to be fully incorporated into the planning and development review processes.

On October 20, 1981, *Energy Conscious Development, Options for Land Use and Site Planning Regulations*, a report prepared for the County under a U. S. Department of Energy contract, was accepted by the Board of Supervisors. This study examines the energy impacts of County land use and development policies. In addition, it describes a program consisting of 15 basic options to promote greater energy conservation through changes in County land use and transportation planning and development regulations. An energy use profile was developed which describes total energy consumption by the use and by the type of energy consumed. This profile confirms the findings of an earlier Burke Centre study which found that over two-thirds of total energy consumption in the County is for residential and transportation uses. These findings emphasize the need to direct County efforts toward energy conservation in land use, transportation and site planning, and in building design and materials.

It is clear that if the County wishes to set energy conservation as a high priority, consideration should be given to the development of more detailed evaluation criteria and a strong incentive system.

Transmission Pipelines

The transportation of natural and other gas and petroleum products and other hazardous liquids through the County in high pressure pipelines presents a potential danger to human life and to the natural environment despite rigid federal safety regulations. The County is concerned for the safety of its residents, labor force and visitors, and protection of the environment as may be endangered by the presence of these pipelines and has adopted guidelines for the location of new pipelines and the separation of new development from existing pipelines.

ENVIRONMENTAL RECOMMENDATIONS

AIR QUALITY

1. Develop a comprehensive air quality maintenance plan which addresses the air quality considerations of timed development, spatial distribution, land use relationships, and mass transit service needs.

2. Evaluate land use and transportation plans within the context of the limiting factor of air quality.

3. Expand rapid transit as an alternative to the use of the automobile. Residential development should be patterned so that it can be served by rapid transit.

4. Encourage community-based work opportunities to reduce automobile commuting into Washington.

5. Reduce reliance on the automobile for work, shopping, and social trips by creating development centers or similar land use patterns for future growth. Land use patterns for undeveloped portions of the County should presume high utilization of mass transit in such high density areas.

6. Discourage development which generates excessive corridor automobile travel through developed areas of the County already experiencing air pollution and traffic congestion.

7. Encourage major new developments to facilitate the provision of competitive, viable public transit systems designed to address intra-community mobility needs.

8. Improve traffic flow by engineering timed-traffic signals and eliminating other factors contributing to excessive congestion and air pollution.

9. Control any new sources of industrial pollutants, especially in the eastern portion of the County.

10. Invoke stringent dust control practices to prevent violations of the ambient air quality standards.

NOISE

1. Pursue a comprehensive highway, railroad and airport noise control effort. Noise attenuation should be an integral and required part of future transportation system planning, design, and development for both surface and air modes.

2. Use the best available and most appropriate noise impact assessment methods, policies and guidelines and mitigation measures for planning noise compatible land use and to promote the public health, safety and welfare.

3. Encourage the incorporation of noise mitigation measures in development plans, which include site layout, acoustical treatment to structures and berms or barriers to provide for noise compatible land uses.

4. Where attenuation through design measures is not possible, areas of high noise impact can be considered for a use more compatible with ambient noise levels.

WATER QUALITY AND QUANTITY

1. Place a high priority on protecting the Occoquan and upper Potomac watersheds from development which causes sedimentation or chemical contamination of drinking water sources. Planning for future land use patterns and locations must be sensitive to the impacts on these two watersheds.

2. Continue the comprehensive water quality monitoring program, making modifications when new data requirements warrant them.

3. Preserve or enhance surface water quality throughout the County through the application of stormwater management best management practices (BMPs), point source pollution controls, and water quality sensitive land use planning.

4. Recognize the sensitivity and need to protect the integrity of stream valleys by discouraging any development within 100-year floodplains and adjacent steep slopes.

OPEN SPACE

1. The Environmental Quality Corridor (EQC) System is the centerpiece of the County's open space program. The two components of the EQC system are described briefly below. A generalized map of the EQC's and a detailed discussion of the policy is located in Section 1: Background and Analysis of this text. The EQC's have been mapped in limited areas and may be shown on the Comprehensive Plan Map under the appropriate open space land use category. In large sections of the County, the entire EQC has not been mapped. When determining the open space areas to be preserved in the development process the Plan map should not be used in lieu of a site specific delineation of the EQC area based on the criteria listed below.

- Sensitive Lands EQCs. These basic EQCs are designed to protect the County's streams and adjacent lands which adversely affect and at the same time are most adversely affected by development. They are defined to include: all presently mapped 100-year floodplains and all 100-year floodplains subsequently mapped during the development process; all floodplain soils and soils adjacent to streams which exhibit a high water table and poor bearing strength, or other severe development constraint (these include Fairfax soils numbered 1, 2, 3, 5, 11, 12, 13, 30, 31, 33, 89, 92, 117, 118, and also soils numbered 39, 68, 84, 85, 90, 110, and 112 when these latter soils are found within the 100-year floodplain or are found to be extremely wet); tidal wetlands as delineated by the Wetlands Overlay District on the Official Zoning Map; fresh water wetlands adjacent to streams; steep slopes (greater than 15 percent) adjacent to the above floodplains, soils, and wetlands; and at a minimum, where the above floodplains, soils, and wetlands cover only a narrow area, a buffer on each side of the stream or water body calculated from the following formula:

  Buffer width = 50 + (4 x percent slope) in feet.

  This EQC definition has been used in several watershed studies and should be used in the review of all proposed developments on a case-by-case basis to delineate the exact extent of the sensitive lands EQCs.

- Resource Protection EQCs. These are lands located outside of the sensitive lands EQCs and include important environmental resources which would be desirable to protect but which can support some use. These include public parks, private recreation and conservation areas, historic sites, citizen identified environmental resources, stream influence zones, wildlife habitats, agricultural and forest lands. These lands are to be further defined in watershed and other open space preservation studies.

2. Protect the environmental quality corridor (EQC) open space system as described below:

- Sensitive Lands EQCs. These lands are to be protected in undisturbed open space, except provisions may be made for the installation of recreational trails, necessary road and utility crossings, and stormwater management structures, and for some development on steep slopes and marine clay (soil number 118) soils, subject to the following conditions. The number of road and utility crossings should be minimized. Alternatives to the installation of utilities parallel to streams should be actively pursued. When trails, road and utility crossings, and stormwater management structures are placed in EQCs, efforts should be made to mitigate adverse impacts on streams, wetlands, vegetation, and slopes, impacts such as sedimentation, excessive clearing of vegetation, and erosion. Generally sensitive lands EQCs should not be developed with buildings or parking lots. However, in cases where steep slopes cover an extensive area, some buildings may be allowed on the steep slopes furthest away from the stream if grading is minimized, care is taken to remove as little vegetation as possible, and if the floodplain, floodplain soils, wetlands, and minimum buffer width remain undisturbed. Marine clays soils may be built upon, subject to design and construction standards set by the County Geotechnical Review Board. Otherwise, the sensitive lands EQCs as defined in recommendation 1 represent the limit of clearing of natural vegetation along the County streams.

- Resource Protection EQCs. These lands are to remain in low-intensity open space use through some development may occur to serve the purpose for which the resource is being preserved from residential, commercial, or industrial development.

3. Pursue a variety of implementation tools for the preservation of open space land including, for example, new zoning categories, additional performance standards, open space dedication at rezoning and site plan review, fee simple and easement acquisition, tax incentives, and agricultural and forestal districts. To the extent possible, sensitive lands EQCs should be protected through implementation methods which provide public ownership or control so that adverse impacts on these ecologically sensitive areas can be minimized.

4. Encourage public access and compatible forms of recreation within sensitive lands EQCs. Where appropriate, relate public facility improvements such as parks, camp areas, libraries, schools and nature centers to the EQC system. However, active recreation must be coordinated with and not compete against the conservation goals of the EQC system.

5. Develop a land use planning process that is sensitive to the natural environmental units such as watersheds and geologic provinces. Unless environmental resources are considered as an interdependent system, and EQCs will not be adequately protected.

6. Pursue the preservation of resource protection EQCs and other important open space land outside the EQC system through a comprehensive program to identify and propose protection measures for agricultural land, horticultural land, forest land, important wildlife habitats, and natural areas harboring unique species.

7. Protect and enhance the features identified in the citizen inventory of environmental resources. Those resources that are located within or adjacent to sensitive lands EQCs should

receive protection through regulation or acquisition (either fee simple, easement, or dedication). Those resources which are noncontiguous with the sensitive lands EQCs should also be considered highly desirable natural and cultural resources that merit preservation through the site plan review process.

PHYSICAL HAZARDS

1. Ensure that land use planning is responsive to the constraints imposed by such factors as floodplains, wetlands, slippage soils, steep slopes, erodible soils, septic limitation areas, and aquifer recharge zones.
2. Prohibit the filling, draining, or altering of floodplains and wetlands.
3. Require a detailed geologic evaluation of areas with slippage and shrink-swell soils prior to development to safeguard against damage to newly installed structures and adjacent existing structures.
4. Protect steep slopes during the construction phase of development, especially where they occur in conjunction with erodible soils.
5. Strengthen sediment control practices where erodible soils would adversely affect wetlands or streams.
6. Prohibit construction on the floodplain soils such as mixed alluvial, Congaree, Wehadkee, Bermedian, Rowland and Bowmanville soils which have high water table, poor bearing capacity and flooding hazard.
7. Require a detailed drainage study of areas with natural drainage swales and high water table soils prior to development to safeguard against wet basement problems.
8. Avoid building houses with basements on high water table soils which may cause wet basement problems. Houses on slabs are more suitable on these soils.

ENERGY CONSERVATION

The Plan contains several major recommendations which promote County energy conservation goals. In addition to these general recommendations, more specific recommendations related to land use, transportation and site planning and building design are to varying extents within the realm of the existing County planning and development review processes. Details about these recommendations can be found in the recently Board-accepted report, *Energy Conscious Development, Options for Land Use and Site Planning Regulations*. These recommendations include:

1. Concurrent with, but not extending the time for other reviews, all projects proposed for development in Fairfax County should go through the environmental impact assessment process. If impact assessments are significant, appropriate remedial measures such as:
2. Provide incentives for attached housing where attached housing is in conformance with County plans.
3. Encourage new business and light industrial development, which locates in compact centers, to use shared cogeneration or alternative energy systems where they are technically and economically feasible.
4. Incorporate, where appropriate, forms of on-site generation in County buildings and public facilities.
5. Promote use of mass transportation by providing efficient and convenient access.
6. Promote convenient and efficient mass transportation service.
7. Promote nonmotorized transportation as a fuel-efficient short distance alternative to the private automobile by providing adequate and safe facilities.
8. Promote guaranteed solar access.

While some of the above recommendations can be implemented in part through development plans, and can be contributory toward satisfying residential density criterion 8, the recommendations below are site planning and building construction and design features which should be provided in some combination in order to satisfy residential density criterion 8.

1. Maximize the number of units with optimal solar access and orientation. Optimal orientation occurs when the main interior rooms or special features are perpendicular to a line running no more than 22-30' from due south, provided site specific topography, structures and vegetation do not obstruct access.
2. For sites with south facing slopes, maximize energy efficiency by utilizing this topographic advantage to provide optimal solar access and orientation for a maximum number of units.
3. Maximize the use of streets which are aligned within 25 of a true east west direction as a means to provide optimal solar orientation and access.
4. Maximize the use of active and passive solar energy systems in combination with optimal solar orientation and access.
5. Maximize the use of energy-conscious natural and man-made landscaping and topographic features. Proper design can be used to provide winter wind breaks and summer westward shade.
6. Provide greater shading of parking lots and large paved areas. See 5. above.
7. Provide guaranteed solar access through private party easements, covenants and other means.
8. Utilize energy conserving building materials which are superior to those required by the *Virginia Uniform Statewide Building Code*.
9. Utilize, where appropriate, construction practices which incorporate earth sheltering and berming.
10. Utilize awnings, roof overhangs and other shading devices, particularly for east, west and south exposures with glazing.

PIPELINE SAFETY

1. Ensure maximum human safety and environmental protection by excluding insofar as is feasible, new natural and other gas, petroleum product and other hazardous liquid transmission pipelines from developed areas, including places of public assembly, heavy employment concentrations and high-density residential development, and from areas of environmental sensitivity.
2. Minimize disturbance of environmental quality corridors (EQCs) by, for example:
   - avoiding the siting of transmission pipelines parallel to streams;
   - attempting to cross EQCs at a 90 degree angle or as close as possible to such an angle;
   - siting the line to avoid the disturbance of steep slopes next to streams;
   - implementing sedimentation and erosion controls during construction;
   - limiting off-road vehicle use of the right-of-way by anyone other than maintenance personnel; and
   - limiting tree clearing on the right-of-way to only that necessary for safety and proper maintenance of the line.
3. Encourage the siting or clustering of all new structures on any property, any portion of which is within 220 yards of a transmission pipeline, at the maximum feasible distance from the pipeline consistent with natural constraints, parcel size, property holding and other man-made constraints.

A natural and other gas transmission pipeline means a pipeline other than a gathering line that (a) transports gas from a gathering line as storage facility to a distribution line or storage facility; (b) operates at a hoop stress of 20 percent or more of specified minimum yield strength; or (c) transports gas within a storage field. A petroleum or other hazardous liquid transmission pipeline means all parts of a carrier's physical facilities through which commodities move in transportation including, but not limited to, line pipe, valves, and other appurtenances connected to line pipe, pumping units, fabricated assemblies associated with pumping units, metering and delivery stations, and fabricated assemblies therein and carrier-controlled breakout tankage.

GENERAL

1. Concurrent with, but not extending the time for other reviews, all projects proposed for development in Fairfax County should go through the environmental impact assessment (EIA) process. If impact assessments are significant, appropriate remedial measures such as:
   - cluster development;
   - lot redesign;
   - structural best management practices;
   - restrictions regarding construction periods and/or land disturbance;
   - noise attenuation measures;
   - restoration of natural habitat;
   - preservation of free natural drainage; and
   - maintaining extensive vegetative/open space buffers

should be initiated either individually and/or collectively to insure that the proposed development maintains an ecological balance with the ambient environment.

2. Natural vegetation, particularly trees shall be preserved, maintained, and utilized as air, noise and water quality and quantity control devices to the maximum extent possible.

HOUSING

GENERAL

In July 1973, Fairfax County had almost 160,000 dwelling units. This represented a 600 percent growth of housing during the past 20-25 years. The 1950-60 growth rate exceeded 150 percent, while in 1960-70, this decreased to slightly below 100 percent. Housing in Fairfax County has grown at a faster rate than that of the SMSA (Standard Metropolitan Statistical Area—see glossary for definition). Fairfax grew at approximately three times the rate of the region in the 1950-60 decade, while in the 1960-70 decade, the County's housing units grew at twice the rate of growth of that for the total SMSA housing supply.

In terms of housing units added, Fairfax County's share of total SMSA units was fairly constant during the 1950-60 and 1960-70 decades, which was slightly over 20 percent of the total. Since 1970, however, Fairfax County's share of SMSA housing additions has risen to more than 33 percent through 1975. (The next highest contender, Montgomery County, claimed only 23 percent of the SMSA share in the same period.)

The housing mix in Fairfax County in 1970 compared to that for the SMSA showed that the County predominated in single-family units—73 percent compared to 54 percent for the SMSA, and lagged behind in multifamily units relative to the SMSA (26 percent for the County, compared to 45 percent for the region). The percentage of units in mobile homes or trailers was negligible in both cases.

In 1970, almost 65 percent of Fairfax County's housing units were owner-occupied, compared to about 45 percent of the SMSA units. For the 1950-60 decade, both Fairfax County and the region showed a similar rise in the percentage of owner-occupied units. During the 1960-70 decade, the trend was reversed with a more noticeable drop for Fairfax County than was the case for the SMSA as a whole. Rental units in Fairfax County had risen from about 24 percent in 1960 to almost 36 percent by 1970. Comparable figures for the SMSA were about 50 percent in 1960 and 54 percent in 1970.

The median value of owner-occupied units in Fairfax County in 1970 was about 125 percent of that for the SMSA as a whole ($35,400 compared to $28,200); the median rent in Fairfax County in that year was almost 115 percent of that for SMSA ($164 versus $135).

In 1970, approximately 35 percent of Fairfax County's households were paying over 25 percent of their income for gross rent. This is almost the identical percentage as that for the SMSA's renter households.

The percentage of overcrowded units (more than 1.01 persons/room) in Fairfax County, dropped from 9 percent to 4 percent between 1960 and 1970; the comparable rates for the SMSA as a whole were 10 percent and 7 percent for 1960 and 1970.

In terms of work/residence relationship, only 35 percent of the Fairfax County residents were working in their own County in 1970. This was among the lowest percentages for all jurisdictions in the region. On the other hand, approximately 65 percent of all jobs located in Fairfax County in 1970 were held by Fairfax County residents. This was about midway in the spread of SMSA jurisdictions (with a high of about 90 percent of Prince William County and a low of about 10 percent for Falls Church).

Housing Inventory

The following text and tables illustrate the various components of the housing inventory in Fairfax County.

The Housing Units by Tenure table shows the tenure for 1950, 1960, 1970 and 1976. The tenure table shows a 216 percent increase in owner-occupied units in Fairfax County during the 1950's, only a 62 percent increase during the 1960's and a 36 percent increase during the 1970-76 period. Renter occupied units increased 80 percent in the 1950's, 197 percent in the 1960's, and 36 percent from 1970 through 1976.

A comparison of the tenure distribution of the SMSA and Fairfax County shows that Fairfax County's housing stock has been increasing at a much faster rate than the SMSA's. During the 1960's, the region's owner-occupied units increased 38 percent while Fairfax County's increased 62 percent, a considerably lower rate for both than in the preceding decade. The renter-occupied units for the same period increased 57 percent in the region and 197 percent in Fairfax County, both more rapidly than in the preceding decade.

Fairfax County's actual percentage share of the region's housing stock by tenure was:

	1950	1960	1970
Owner-Occupied	9	17	20
Renter-Occupied	4	5	9

Thus, while Fairfax experienced a large increase in renter-occupied units during the 1960's, its share of the region increased only four percentage points, still comprising less than 10 percent of the total regional stock.

HOUSING UNITS BY TENURE, FAIRFAX COUNTY, 1950-1976

	1950 [1]		1960			1970			1976 [2]		
	No.	%	No.	%	% Change 1950-60	No.	%	% Change 1960-70	No.	%	% Change 1970-76
All Dwelling Units	26,558		69,184		161	130,793		89	177,200		35
All Occupied Units	24,317	100.0	65,245	100.0	168	126,516	100.0	94	172,200	100.0	36
Owner-Occupied	15,791	64.9	49,933	76.5	216	81,061	64.1	62	110,200	64.0	36
Renter-Occupied	8,526	35.1	15,312	23.5	80	45,455	35.9	197	62,000	36.0	36
Vacant	1,283	5.0	2,325	3.4	81	4,277	3.3	84	5,000		17

Source: Table 24, The Fairfax County Profile

[1] 1950 County housing includes Fairfax City.
[2] Estimates prepared by ORS and OCP staff.

HOUSING UNITS BY TYPE OF STRUCTURE, FAIRFAX COUNTY, 1950-1976

	1950		1960			1970			1976		
Type of Structure	No.	%	No.	%	% Change 1950-60	No.	%	% Change 1960-70	No.	%	% Change 1970-76
Single-Family											
Detached	19,011	71.6	57,823	83.6	204	89,439	68.4	55	105,700	59.7	18
Attached	1,185	4.5	2,972	4.3	151	6,427	4.9	116	19,400	10.9	202
Multi-family	5,394	20.3	6,948	10.0	29	33,207	25.4	378	49,700	28.0	50
Mobile Homes	968	3.6	1,438	2.1	49	1,695	1.3	18	2,400	1.4	42
TOTAL	26,558	100.0	69,181	100.0	160	130,768	100.0	89	177,200	100.0	35

Source: Office of Research and Statistics, The Fairfax County Profile

The Housing Units by Type of Structure table shows unit type for the period from 1950 to 1976. A significant change in the predominance of single-family units has occurred since 1950, as shown in the housing units. In the 1960-70 decade, the single-family percentage share of the total stock dropped 15.2 percentage points from 83.6 percent to 68.4 percent. In the six-year period of 1970-1976, a decline of 8.7 percentage points caused the portion to drop to 60 percent.

Single-family attached units showed an increase from 4.3 percent of the stock in 1960 to 4.9 percent in 1970, and further very substantial increase to 10.9 percent in 1976. The single-family attached classification includes townhouses, duplexes, and multiplexes.

Multifamily units include all apartments. Such units formed 10 percent of the total supply in 1960; the share then increased to 25.4 percent in 1970 and 28 percent in 1976.

The largest changes in the various types of structures occurred during the decade of the 1960's; the increases were largest among multifamily units. Since 1970, there has been only a 35 percent increase among all units.

During the 1960's, apartments were the major unit type built, while in the first half of the 1970's, the townhouse type of structure has shown the greatest percentage increase.

HOUSING COST TREND, 1950 - 1974

Value	1950	%	1960	%	1970	%	1974	%
Total Owner-Occupied	12,900	100.0	46,861	100.0	77,643	100.0	119,000	100.0
Less Than $5,000	701	6.0	538	1.1	130	0.2	—	—
$5,000-9,999	1,875	16.0	1,590	3.4	389	0.5	—	—
$10,000-14,999	3,767	32.1	7,228	15.4	988	1.3	10,000[1]	8.3
$15,000-19,999	3,014	25.7	12,972	27.7	4,352	5.6	—	—
$20,000-24,999	2,376	20.2	11,376	24.3	7,969	10.3	—	—
$25,000-34,999	—	—	8,023	17.1	21,329	27.5	4,000[2]	4.2
$35,000 or More	—	—	5,134	11.0	42,486	54.6	105,000[3]	87.5
Not Reported	1,167	—	—	—	—	—	—	—
Median	$22,309		$27,208		$40,524		$ 49,594	

Sources: 1950-1970: Based on Table 33, The Fairfax County Profile
1974: Fairfax County, Office of Research and Statistics, **Standard Reports**, January 1974, adjusted to constant 1973 dollars.

Notes: [1] Less than $30,000.
[2] $30,000 to $35,000.
[3] $35,000 or More.

Data shown in constant 1973 dollars.
Percentages for 1950 based on total of reported houses.

DISTRIBUTION OF RENTAL UNITS

Contract Rent	1960 No.	1960 %	1970 No.	1970 %	Change No.	Change %
$0-39	400	2.6	200	0.4	−200	−52
$40-59	900	5.9	200	0.5	−700	−74
$60-79	1,500	9.7	500	1.2	−1,000	−65
$80-99	3,500	23.0	1,200	2.7	−2,300	−66
$100-119			12,300	27.6		
$120-149	4,800	31.5	17,000	38.1	24,500	510
$150 or More	3,300	21.5	11,300	25.4	8,000	244
No Cash	900	5.8	1,800	4.1	900	108
TOTAL:	15,200	100.0	44,500	100.0	29,300	192
Median:	$142		$192			

Source: Based on data from **U.S. Census of Housing, 1960,** HC(1), No. 48 Va., and COG Fourth County Tape, Table 122.

Note: Data shown in constant 1973 dollars.

Sales Housing

Fairfax County also has had a drastic increase in the cost of home ownership during the past decade. The Housing Cost Trend table shows the distribution of owner-occupied units within Fairfax County since 1950.

It is apparent from the large increases in the number of units valued above $25,000 that Fairfax contributed a large amount of the higher cost housing to the region between 1960 and 1970.

While there have been significant shifts towards the higher housing value categories over the two decades, the most drastic increases have occurred since 1970. In 1970, about 55 percent of the housing stock was above $35,000 in value and just four years later, almost 88 percent of the stock is valued above $35,000.

Cooperative and Condominium Housing

In a cooperative, each household buys a share or stock in the development, sharing the responsibilities for ownership and operation of the development. In a condominium, each household purchases a housing unit, but jointly owns the common facilities through a condominium association which owns the common land, buildings, and other facilities. Both forms of ownership can be utilized with any type of structure; however, they are most commonly used in apartments, occasionally in townhouses, and rarely in single-family developments.

In Fairfax County, there are 406 cooperative units: 33 percent are townhouses, 6 percent are garden apartments, and 61 percent are high-rise.

Condominiums are a relatively new phenomenon to the Washington SMSA. There are no condominiums shown in the 1970 Census, but in 1975, in Fairfax County, there are 11,600 such units. Eighty-five percent of the condominiums were newly constructed while 15 percent were converted from previous rental complexes. Of the total condominiums in the County in 1975, 32 percent are townhouses, 43 percent are garden apartments, and 25 percent are high-rise apartments.

Rental Housing

The following table shows the distribution of renter-occupied units by contract rent for 1960 and 1970. The units rented below $100 per month are decreasing in number while those above $100 per month are increasing. A significant comparison is appropriate between these data and regional rental data. The regional rental units show a 23 percent increase in the under $40 rent range, while Fairfax County shows a 52 percent decrease in that same range. While the largest increase at the regional level is 212 percent at the $120-$150 rent range, Fairfax County had a 510 percent increase at the $100-$150 range.

The Rent Range Distribution table shows the percentage distribution for the major rental complexes in Fairfax County. It compares rent to bedroom size for 1975. (This, however, cannot be compared to the rental tables for 1970, because the 1975 data do not include renter-occupied units in ownership projects as do the 1970 figures.) The highest percentage of the units (26.1 percent) is in the $225-250 rent range, and 64.3 percent of those units have two bedrooms. (The median rent for efficiencies is $189, for one bedroom units is $213, for two-bedroom units is $243, three-bedroom units have a median rent of $300, and four-bedroom units are above $350.) Almost half (49 percent) of the rental units are two-bedroom units.

Housing Condition

Fairfax County's housing deficiencies are shown in the following table. The County had 4,006 overcrowded housing units or 6 percent of the region's overcrowded units, compared to 14 percent of the region's total housing stock. Over half of such units in the County are renter-occupied.

Fairfax County has 2,075 units lacking adequate plumbing-12 percent of the total region's units lacking adequate plumbing. Fifty-five percent of these units are owner-occupied.

Of the dilapidated units, 41 percent are renter-occupied; at least one quarter are vacant. Fifty-one percent of the total deficient units are owner-occupied, 46 percent are renter-occupied, and 3 percent are vacant. The total 6,400 deficient units constituted less than 5 percent of the 1970 total housing stock.

Subsidized Housing

In 1975, the County Redevelopment and Housing Authority owns or leases 320 units in eight locations for low-income families. About two-thirds of these units contained 2 or 3 bedrooms-27 percent were efficiency or 1-bedroom units, and only 7 percent contained either 4 or 5 bedrooms. The grouping ranged between 10 (leased) units to 97 RHA-owned units.

Moderate-income housing units constructed either under federal 221(d)3 or 236 programs numbered 2152 units-in thirteen locations. (The range of groupings was from 74 units, as the smallest concentration, to a high of 300 units.) Two- and three-bedroom units accounted for 71 percent of all moderate-income units; 20 percent were of efficiency or 1-bedroom size; and only 9 percent contained 4 bedrooms. There were no larger units than the 4-bedroom units.

The Existing Subsidized Housing Units table shows the number of subsidized units, the percentage distribution, and the relationship between the subsidized units and the housing stock in each planning district.

As of November 1976 public housing units in Fairfax County totaled 442 units, of which 294 are owned by the Authority and 148 are leased. Fifty-one percent of these units are occupied by families; 39 percent by large families; and 10 percent by elderly and/or handicapped households.

Pending public housing resources include 110 new construction units, all of which will be Authority owned. Of these units, 89 percent will be for large families and the remaining 11 percent for smaller families.

Under various federal programs such as sections 202, 221-d-4 and 236, over 2,000 units have been constructed in Fairfax County for moderate-income families. Fifty-four percent of these are occupied by small families; 39 percent are occupied by large families; .07 percent by elderly persons. An additional 901 units have been proposed for elderly households. And, a total of eight units have been built under section 235 in the Gum Springs community for small and large families.

A total of 998 units are under construction. In addition, there are 737 additional units with a federal and/or state mortgage commitment. Once contructed, 70 percent of these units will be for elderly households; 13 percent for families; and 16 percent for large families.

Estimated Current Housing Need

The major components utilized to articulate housing needs are units lacking adequate plumbing, overcrowded units, units needed to house commuters, and over-burdened renters. Some of the figures are taken directly from the 1970 Census while others are estimated by staff. This estimation is generally very conservative, and although the housing need may be substantially greater than articulated here, it is felt that it would take considerable effort to meet just these conservative estimates.

Units Lacking Adequate Plumbing

Because of the relative newness of the housing stock in Fairfax County, substandard housing is not as major a need as in other jurisdictions. However, there are pockets of substandard housing, as well as scattered deteriorated housing, along some of the County backroads.

Although the 1970 Census did not evaluate substandardness of housing, it did enumerate the number of units that lacked adequate plumbing. Even though there have been estimates of substandard units for this determination of need, the number of units lacking plumbing will be suffi-

Rent Range Distribution by Unit Size, January 1975

Rent Range	Efficiency	1-Bedroom	2-Bedroom	3-Bedroom	4-Bedroom	Total %
<150	18.3	11.7	6.3	0.5	—	8.4
$150-175	48.2	25.9	9.7	0.4	—	16.0
$175-200	28.8	37.1	22.1	2.9	—	26.3
$200-225	4.7	19.0	33.7	6.9	—	24.7
$225-250	—	5.3	17.4	29.2	—	13.1
$250-275	—	0.7	6.6	34.7	2.3	6.6
$275-300	—	0.2	3.2	17.9	0.4	4.9
$300+	—	0.1	0.1	7.5	97.3	—
TOTAL %:	100.0	100.0	100.0	100.0	100.0	100.0

OCP calculated median = $233

Source: Fairfax County, Office of Research and Statistics.

Note: Data shown in constant 1973 dollars.

Inventory of Housing Deficiencies in Fairfax County, 1970

	All Units	Owner-Occupied Units	Renter-Occupied Units	Vacant
Median Year Structure Built	1961	1960	1963	—
No. Dilapidated Units with Plumbing	353	121	145	87
No. Units without Plumbing	2,075	1,151	783	141
No. Overcrowded Units with Plumbing	4,006	1,979	2,027	—
Total Deficient Units	6,434	3,251	2,955	228
Total Number of Units	130,793	81,061	45,455	4,277
% of Units Deficient	4.9	4.0	6.5	5.3

Sources: 1. U.S. Department of Commerce, **Census Tracts, 1970** PHC(1)-226.
2. **Metropolitan Washington Council of Governments, Fourth Count Housing Summary Tape,** Table 60.
3. U.S. Department of Commerce, **Plumbing Facilities and Estimates of Dilapidated Housing, 1970** HC(6).

EXISTING BELOW MARKET HOUSING
(Existing or Under Construction as of December 31, 1985)

Location	Tax Map Reference	Magisterial District	Planning District	Planning Sector	Number of Below Market Units	Type of Program
AREA I						
Evergreen House 6925 Columbia Pike	60-4((1))21	Mason	Annandale	A2	246	VHDA/Section 8 (elderly)
Heritage Woods 4200 Americana Drive	70-2((14))&((17))	Annandale	Annandale	A10	34	32 Public Housing 2 MIDS
Little River Square 7455 Little River Turnpike	71-1((33))	Annandale	Annandale	A10	45	Fairfax County Rental
Seven Corners Apartments 2965 Patrick Henry Drive	51-3((18))D	Mason	Baileys	B1	61	Section 8 Moderate Rehab.
Villages at Falls Church 6231 Wilson Blvd.	51-3((18))A	Mason	Baileys	B1	36	Public Housing
Greenwood Apartments 2939 Patrick Henry Drive	51-3((18))J	Mason	Baileys	B2	138	Public Housing
Rosedale Manor 3417-B Spring Lane	61-2((1))85	Mason	Baileys	B2	97	Public Housing
Grandview Apts. Carlin Springs Rd. & Columbia Pike	62-1((1))9, 9A, 9B	Mason	Bailey's	B3	53	IDB Financing-Rehab.
Oakview Gardens 5836 Oakview	61-4((1))91, 91A, 92	Mason	Baileys	B4	323	Sec. 8 Sub. Rehab.
Kingsley Commons 7334 Arlington Blvd.	50-3((12))1, 3, 4, 5, 6, 8, 9, 10	Providence	Jefferson	J7	81	IDB Financing
Kingsley Park 7409 Linda Lane	50-3((12))2, 7A, 7B	Providence	Jefferson	J7	108	Public Housing
Hopkins Glen 7602 Broadway Drive	50-1((1))17, 18 18A, 19	Providence	Jefferson	J8	91	FCRP 221-d-3 BMIR
Wexford Manor 2802-A Hollywood Rd.	50-1((1))23	Providence	Jefferson	J8	74	Section 236
Arrowhead Apts. 2148 Iroquois Lane	39-4((1))184	Providence	Jefferson	J10	69	IDB Financing-Rehab.
Mt. Pleasant Circle 6400 Blk. Holyoke Dr.	72-1((22))1-12 72-1((3))20	Mason	Lincolnia	L1	13	MIDS
Strawbridge Square 5128 Lincoln Avenue	72-3((1))40	Mason	Lincolnia	L2	128	Section 8
Edsall Station 6270 Edsall Road	72-4((1))28A	Lee	Lincolnia	L3	135	Section 8
AREA II:						
Robinson Square 4500 Blk. University Dr.	57-3((1))11A	Annandale	Fairfax	F1	46	Public Hearing
Woodburn Village Woodburn Road	59-1((29))	Providence	Fairfax	F2	3 MIDS	
Oak Creek 9923 Oak Creek Place	48-1((22))11	Providence	Fairfax	F3	46	Section 8
Yorkville Cooperative 3146 Draper Drive	48-3((1))9A	Providence	Fairfax	F3	237	Section 8
McLean Hills 7800 Blk. Enola	39-2((1))61	Dranesville	McLean	M1	35	25 Fairfax Co. Rental 10 MIDS
Tysons Landing 1840-A Tysons Landing Ct.	39-2((1))71	Providence	McLean	M1	40	Section 8
The Lewinsville 1515 Great Falls Street	30-3((1))62	Dranesville	McLean	M3	144	Section 202/8 (elderly)
Lewinsville Center 1609 Great Falls Street	30-3((2))42	Dranesville	McLean	M3	22	Local (elderly)
The Ashby 1350 Beverly Rd.	30-2((1))30B	Dranesville	McLean	M4	51	Section 8
Circle Woods 9400 Lee Highway	48-3((26))11	Providence	Vienna	V1	17	MIDS
Covington Mead 8600 Blk. Hilltop Road	49-1((18))	Providence	Vienna	V1	12	MIDS
Briarcliff I 2100 Blk. Briarcliff Ct.	39-2((1))30E	Providence	Vienna	V3	30	Section 8
Briarcliff II 8700 Blk. Wolftrap Rd.	39-3((1))89	Providence	Vienna	V3	20	Section 8

Location	Tax Map Reference	Magisterial District	Planning District	Planning Sector	Number of Below Market Units	Type of Program
Minerva Fisher Hall 8207 Wolftrap Rd.	39-2((1))30A	Providence	Vienna	V3	12	Section 8 (handicapped)
Tysons Tower 8500 Tyspring Ct.	29-3((1))16	Centreville	Vienna	V3	274	Sectoin 236 (elderly)
AREA III:						
Barros Circle Barros Drive	54-3((12))N, S	Springfield	Bull Run	BR3	44	Public Housing
Chantilly Mews 4100 Blk. Meadowland Ct.	34-4((7))2A	Providence	Bull Run	BR4	50	Section 8
Shennandoah Crossing Rt. 50 & Stringfellow Rd.	45-1((1))14	Springfield	Bull Run	BR4	128	IDB Financing
Little Rocky Run 13700 Blk Braddock Rd.	54-4((1))96, 97	Springfield	Bull Run	BR6	109	Private Sales
Newington Station Matisse Way	98-4((6))	Springfield	Pohick	P2	36	Public Housing
Chase Commons Burke Commons Rd.	77-2((1))60	Springfield	Pohick	P6	72	IDB Financing—New
Burke Manor Burke Manor Court	78-2((13))	Springfield	Pohick	P2	10	MIDS
Chatham Towne 5500 Blk. LaCrosse Ct.	77-2((6))	Annandale	Pohick	P2	30	20 Proffered/Owner 10 Fairfax Cty Rental
Goins Manor 10300 Blk. Zion Drive	68-4((13))1-28	Annandale	Pohick	P2	27	MIDS
Burke Centre Station Burke Commons Road	77-2((1))56B	Springfield	Pohick	P6	22	Section 8
Burke Lake Gardens 9608 Old Keene Mill Road	88-1((1))11	Springfield	Pohick	P6	99	Sec 202/8 (elderly)
Crevenna Oak Cluster Crevenna Oak Drive	77-1((1))5C	Springfield	Pohick	P6	50	Section 8
Summit Oaks Summit Oak Way	77-2((1))44A	Springfield	Pohick	P6	50	Section 8
Newington Forest Newington Forest Ave.	97-2((4)), 98-1((4)), 98-3((2))	Mt. Vernon	Pohick	P7	92	MIDS
Westminster Oaks Maple Leaf Court	98-4((1))1A	Mt. Vernon	Pohick	P7	50	Section 8
Waterside Bennington Woods Rd.	11-3((1))8	Centreville	Upper Potomac	UP5	55	IDB Financing
Cedar Ridge Apts. 1601 Becontree Lane	18-1((4))13, 14	Centreville	Upper Potomac	UP5	198	221-d-3 UMIR
Fellowship House (Lake Anne) 11450 North Shore Drive	17-2((1))3	Centreville	Upper Potomac	UP5	240	Section 202/VDHA/Section 236 (elderly)
Fellowship House (Hunters Wood) 2231 Colts Neck Rd.	26-1((7))3B	Centreville	Upper Potomac	UP5	224	Section 202/8 (elderly)
The Green 12465 Glade Drive	16-4((5))4	Centreville	Upper Potomac	UP5	50	Public Housing
Island Walk Cooperative 1701 Torrey Pines	17-2((15))41	Centreville	Upper Potomac	UP5	102	Section 8
Laurel Glade Apts. 12265 Laurel Glade Ct.	26-1((10))10	Centreville	Upper Potomac	UP5	200	Section 236
Shadowood 2200 Blk. Castlerock Square	26-2((7))	Centreville	Upper Potomac	UP5	16	Public Housing
Stonegate Village 2225 Stonewheel Drive	26-1((8))2	Centreville	Upper Potomac	UP5	240	Section 236
Chantilly Pines 1241 Elden Street	16-1((2))16B	Dranesville	Upper Potomac	UP6	180	Section 236
Elden Terrace Dulles Park Court	16-1((2))11B	Dranesville	Upper Potomac	UP6	184	Section 236
Lakeview Townhouses 13241 Keach Place	16-1((8))D1	Dranesville	Upper Potomac	UP7	147	Section 236
Reflection Lake Co-op. 13200 Springer Drive	16-1((8))A, B	Dranesville	Upper Potomac	UP7	84	Section 236

Location	Tax Map Reference	Magisterial District	Planning District	Planning Sector	Number of Below Market Units	Type of Program
AREA IV:						
Sheffield Square Sheffield Village Lane	107-2((2)) & 108-1((6))	Mt. Vernon	Lower Potomac	LP4	11	8 Public Housing 3 MIDS
Woods of Fairfax, Sec. 2 Lorton Road & Rt. 1	108-3((1))A	Mt. Vernon	Lower Potomac	LP4	60	Section 8
The Atrium 3429 Holly Hill Rd.	92-4((1))26, 27	Lee	Mt. Vernon	MV2	37	Public Housing
Audubon Apts. 7957 Audubon Ave.	101-2((1))4A	Lee	Mt. Vernon	MV2	46	Public Housing (elderly)
Belle View Apts. Belle View Blvd.	93-2((9)), ((11)), ((12)), ((13))	Mt. Vernon	Mt. Vernon	MV4	56	40 Public Housing 16 Section 202/8
Bryant Towne Court Bryant Towne Court	93-1((37))	Mt. Vernon	Mt. Vernon	MV5	2	MIDS
Gabriel Plaza Joseph Mackell Ct.	102-1((34))	Mt. Vernon	Mt. Vernon	MV5	28	Section 235
Brosar Park Napper Road	101-2((13))	Mt. Vernon	Mt. Vernon	MV6	37	MIDS
Hunting Creek Jackies Lane	101-2((12))	Mt. Vernon	Mt. Vernon	MV6	35	Section 8
Mt. Vernon House 8199 Tiswell Drive	102-3((1))46C	Mt. Vernon	Mt. Vernon	MV6	130	Section 8 (elderly)
Spring Gardens 7959 Richmond Hwy.	101-2((1))45	Mt. Vernon	Mt. Vernon	MV6	209	Section 221-d-3 BMIR
West Ford, Sec. 1 Fordson/Andrus Roads	102-1((1))1B, 45, 46	Mt. Vernon	Mt. Vernon	MV6	24	Public Housing
West Ford, Sec. 2 Fordson/Andrus Roads	102-1((1))52, 53, 54, 55	Mt. Vernon	Mt. Vernon	MV6	22	Public Housing
West Ford, Sec. 3 Fordson/Andrus Roads	101-2((1))57, 58 101-1((1))59, 62	Mt. Vernon	Mt. Vernon	MV6	59	Public Housing
Mt. Vernon Apts 8263 Russel Rd.	101-4((1))9	Lee	Mt. Vernon	MV8	37	IDB Financing-Rehab.
Belford Manor 7811 Belford Drive	101-2((6))507A	Lee	Mt. Vernon	MV8	204	Section 236
Buckman Rd. Apartments 3426 Buckman Rd.	101-2((1))19	Lee	Mt. Vernon	MV8	204	Section 236
Janna Lee Apartments 7986 Janna Lee Avenue	101-2((1))17	Lee	Mt. Vernon	MV8	100	Section 236
Mount Vernon Lakes Buckman Rd. & Aspen	101-3((27))	Lee	Mt. Vernon	MV8	13	MIDS
Springvale Gardens 7092 Spring Garden Dr.	90-1((1))54A	Lee	Springfield	S4	19	FCRP
Greene Hills Estates 7600 Blk. Creedmoor Dr.	99-1((1))2B, 2C	Lee	Springfield	S5	100	Section 8
The Park 6440-6477 Burwell Street	80-4((1))30	Lee	Springfield	S8	24	Public Hearing

cient. The 1970 Census indicated that 2.075 housing units in Fairfax County lacked adequate plumbing. That constituted only 1.6 percent of the total housing stock in 1970. Of the 2,075 housing units, 1,681 are occupied by households with incomes below $15,000 a year.

Overcrowding

Approximately 4,592 overcrowded households were listed in the 1970 Census as containing more than 1.01 persons per room. Of this number, 330 units also lacked adequate plumbing. This leaves a net need of 4,262 units to alleviate overcrowding. That constituted only 3.3 percent of the housing stock in 1970.

Commuters

A large sector of the housing need is required by commuters; i.e., persons who live in other jurisdictions but work in Fairfax County. Many of these workers provide much needed services for the residents of the county. The greatest percentage of incoming commuters are from Prince William County (21 percent), Alexandria City (18 percent), and Arlington County (16 percent), for a total of 55 percent of the commuters.

The two largest employment jurisdictions for Fairfax County residents are the District of Columbia (40 percent) and Arlington County (26 percent), for a total of 66 percent of the out commuters. Sixty-eight percent of the persons commuting into the County earn under $10,000 annually, and another 20 percent earn between $10-$15,000 annually. A total of 88 percent of the incoming commuters earn under the 1970 median income level for Fairfax County. Sixty-eight percent of the commuters are males as opposed to 31 percent female. Fifty-five percent of the commuters are either male or female heads of households. It would be a conservative estimate to state that approximately fifty percent of the 33,293 commuters (16,647) would have a family income below the Fairfax County median.

Since there are no surveys available to indicate location preference of potential County residents, certain assumptions have been made. It is felt that due to the oil embargo of a year ago, and rising gasoline prices, locating close to one's place of employment will become a more viable consideration than has been the case in the past. For the sake of this discussion, it is assumed that one-third of the commuters would remain outside of the County. 50 percent of the 33,293 commuters (16,647) would housing in Fairfax County near their place of employment. This figure equates to 7,399 households, using an average of 1.5 workers per household.

Past Production

From 1960 to 1970, 61,603 housing units were added to the total stock while 572 of those units or 0.9 percent were subsidized for lower income citizens. From 1970 to 1975, subsidized housing increased to almost 5 percent of the housing produced.

The Alternative Production Schedule illustrates the relationship between production and the housing needs that have been identified. If the County were to continue to produce subsidized housing units at its past rate of approximately 300 units per year, it would take 45.7 years to produce the 13,736 units identified as needed in 1970. On the other hand, the County would have to produce 1,374 units per year to fulfill the identified needs by the 1990 target date of the Area Plans.

Major Housing Issues

Despite substantial growth, evidence shows that a number of issues in the housing system remain. The major ones are identified as follows:

- exclusion of below-market income households;
- distribution of low- and moderate-income households;
- use of manufactured housing;
- neighborhood conservation; and
- new growth areas.

Existing conditions and trends are generally identified from studies completed by PLUS staff and hearings held with citizens in regard to the PLUS program.

Exclusion of Below-Market Income Households

The most noted characteristic in housing today is cost. The cost of all housing units has increased sharply in recent years. The cost of purchasing or renting a housing unit in Fairfax County has become a major concern to many citizens, not just low- and moderate-income persons. The median house value in 1970 was approximately $35,000; in 1975 the median sales price was $59,000, 68.6 percent increase.

An accepted rule of thumb is that in Fairfax County, a housing unit can be afforded whose sales price is two and one-half times the annual income of the purchaser. In 1969, the median annual income for family residents of Fairfax County was $15,707.

While the median has undoubtedly increased since then, it would require a 65 percent increase in constant dollars over the four years to match the increase in housing costs. Median family income increased by 44 percent from 1959 to 1969, a 10-year period.

As a further indication of housing cost difficulties, preliminary staff studies project that the median cost of sales housing in 1990 will be $106,000 (in 1973 dollars), assuming current trends. The result is a continuing and ever-increasing barrier for all households below the median income level.

While turnover is different from mobility and data are difficult to find, it is apparent that this factor (comprising speculation, upward mobility, changes in family composition, etc.) is contributing to the further shrinking of housing economic mix in the County. Every time a unit is sold, the costs of the transfer as a minimum must be added to the normal market price. Capital appreciation is generally present. Too, few people will want to take less than the cost of replacement housing. Thus units originally selling for $25-$30,000 in a new development aimed at County employees were resold within 18 months in the $40,000 range.

In summary, the rapid rise of housing costs, regardless of cause, in the County has contributed to pricing out of the market, large sections of the potential middle and moderate-income households. If recent trends continue, the County would become disproportionately upper-income with consequent social and economic impacts on the County. From another perspective, it also appears that regardless of slow growth or fast growth, the necessary supply of low/moderate and even median income housing does not happen under market conditions. The County must take affirmative steps to ensure that such housing exists. How has this growth affected the supply of low- and moderate-income type housing? The facts are that such units were a small share of that growth. From 1967 to 1974, 2310 units of subsidized low- and moderate-income units were built in Fairfax County. That is less than 5 percent of the total housing units built during that same period.

Distribution of Low- and Moderate-Income Households

The current need for low- and moderate-income housing has been estimated at 13,342 units-to alleviate 4,262 overcrowded units, 1,681 units lacking plumbing, and 7,399 commuters working in Fairfax County and desiring, but unable, to live in the County. If Fairfax County is to meet this need, policies and standards must be established for locating these housing units. Equitable distribution of low- and moderate-income housing units throughout the County contains two major aspects:

- improving the location of low- and moderate-income housing units as they are constructed and
- linking the development of low and moderate income housing with land development policies, plans, and programs within the County.

The need for the first of these two aspects explains the importance of the second. If an equitable distribution of low- and moderate-income housing resulted from the land development plans and programs in the County, low- and moderate-income housing construction would be raised from its secondary position in the development process and would no longer need be regarded as a burden to attach to the community development process. It is toward this end-an integrated community development process-that the County should direct its housing strategies for improving the distribution of low- and moderate-income housing opportunities.

Housing Need by Area and Planning Districts

	Lacking Adequate Plum'g.	Over-crowded Units	Commuters	Sub-total	%
AREA I					
Annandale	152	326	888	1366	10
Baileys	56	406	518	980	7
Jefferson	82	566	592	1240	9
Lincolnia	10	100	148	258	2
	300	1398	2146	3844	28
AREA II					
McLean	115	343	1553	2011	15
Vienna	135	270	888	1293	9
Fairfax	80	145	296	521	4
	330	758	2737	3825	28
AREA III					
Upper Potomac	183	143	444	770	6
Bull Run	225	94	74	393	3
Pohick	416	102	74	592	4
	824	339	592	1755	13
AREA IV					
Mt. Vernon	294	979	666	1939	14
Lower Potomac	130	338	148	616	4
Springfield	100	208	1036	1344	10
Rosehill	97	242	74	413	3
	621	1767	1924	4312	31
County Total	2075	4262	7399	13736	100%

County residents, apprehensive about the implications of continued growth and increasing demands on the services and facilities within the County, are doubly so in their response to locating low- and moderate-income housing within the County. While most residents acknowledge concern over increasing costs of housing and expect the County to undertake efforts to reduce the continued rapid rise in housing costs, efforts directed to the distribution of governmentally assisted housing are received with continued opposition throughout the County.

Such opposition heightens the County's difficulties in identifying suitable sites for low- and moderate-income housing and makes more difficult the promotion of such housing altogether. Moreover, well-known opposition in areas throughout the County discourages developers and others from pursuing housing development there.

The relationship between place of residence and place of employment has been a long-standing issue in development and planning. From early company towns to current regulations regrading the location of and relocation of federal installations, efforts have been made to match housing and job location.

Disparity between place of residence and place of employment has detrimental effects on the population forced to undertake long commutes, on environmental quality within the County, and on energy conservation programs.

The development of low- and moderate-income housing has been an isolated aspect of community development. Such construction consistently either comes after substantial development has already taken place, as a reaction to overwhelming need, or it is ignored altogether. To achieve the goal of a truly balanced housing supply, Fairfax County must promote the development of low- and moderate-income housing supply through its planning and implementation policies.

The segmentation of such development concerns further reduces the ability of the County to provide housing opportunities throughout the County to low- and moderate-income households because prime opportunities for such development have been lost. This only serves to increase the difficulties of providing equitable housing opportunities.

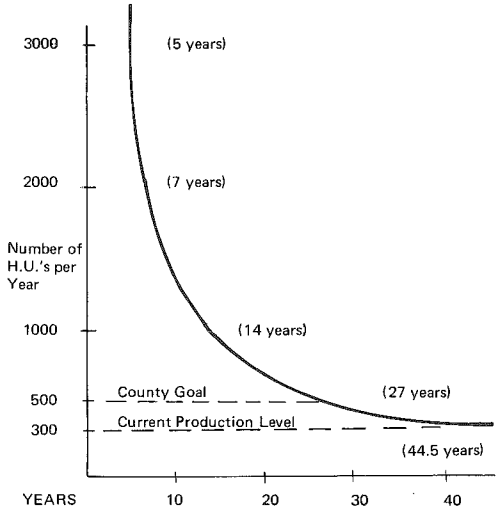
Use of Manufactured Housing

During 1976 the staff of the Office of Comprehensive Planning and the Office of Research and Statistics and a Countywide Citizens Task Force undertook a study, *Countywide Modular and Mobile Home Study and Development Program* at the request of the Fairfax County Planning Commission. This study is still in process and the results will be published during 1977. The study addresses the financing and economics of development, location criteria, County policies, ordinance and code requirements and alternative forms of manufactured housing.

HOUSING PRODUCTION TREND
1960, 1970, 1975

	1960	1970	1975
Total HU's	69,184	130,787	170,526
Increase in Total HU's	(+61,603)	(39,739)	
Subsidized Units	0	572	2,412
Increase in Subsidized HU's	(572)	(1,840)	
Subsidized as % of Total HU's Produced	0.9%	4.6%	

ALTERNATIVE PRODUCTION SCHEDULE TO MEET CURRENT HOUSING NEED



Current Need Target: 13,342 H.U.'s

Neighborhood Conservation

The housing stock in Fairfax County is relatively new. However, some of the older neighborhoods that were generally built before or during the 1950's are beginning to show deterioration. The most critical housing conditions tend to be scattered individual units or pockets of previously rural, low- and moderate-income communities. The previously rural communities are often in poor condition, inadequately served by public facilities, and are in the path of suburbanization.

These communities are often housing residents who have lived in the County longer than their suburban neighbors, but they will be forced to move out of the County because they cannot afford to repair their homes and/or they cannot afford the taxes resulting from increasing property values. This results in a decrease in home ownership for the low/moderate population of the County.

Several neighborhoods in various parts of the County were developed in the post-war boom and served as starter homes for many new residents after World War II. Over the years, as affluence increased, lower income households found these areas a sufficient resource. But during more recent years, these previously moderate-priced units are inflating completely out of reach of low/moderate income families. In some cases, the housing units have undergone substantial rehabilitation, but other units need some remodeling and repair. In either case, these starter home neighborhoods no longer sell at moderate prices, thus they are not a low/moderate cost housing resource. Also, families of moderate- to middle-income who were hoping to buy up to a newer and perhaps larger house are presently finding themselves trapped by accelerated prices and interest rates.

These neighborhoods are appreciating in value, as opposed to depreciating. The problem of an appreciating housing market has to be discussed in two aspects. The first aspect is the control of the escalation of rents. The former situation is the most complex in terms of a solution. Ownership housing prices cannot be controlled after the first resale without major changes in our philosophical and legal basis of private ownership. Controlling rental escalations is feasible by use of subsidy programs.

Commercial development in the County seems to begin with a shopping center at the crossroads of two or more major roads. Residential subdivisions occurred nearby, and as the years pass, commercial uses often expand into the residential areas. There have apparently been no incentives for commercial and business development to expand vertically; therefore, it sprawls into the neighborhoods. There are several major community business areas which include previous residential structures that have been converted or strip commercial developments beginning to move along the major roads from the core of the district.

With the expansion of nonresidential activities into residential areas, neighborhood decline results. Residential units that are not properly buffered from nonresidential uses tend to physically decline. The one major exception is when the residential uses are integrated into the overall development; but in Fairfax, the major confrontation is between single-family units and nonresidential uses.

Some of the older neighborhoods are beginning to show the first signs of deterioration. These areas were developed during the post-war housing boom and have problems partially due to the development practices of that period. The physical problems need corrective or preventive maintenance, in addition to a need for coordination of public services.

The County should begin to place emphasis on development of neighborhood conservation programs.

To combat the deterioration and inadequate public facilities found both in the post-war subdivisions and in the previously rural low- and moderate-income housing areas mentioned earlier, the County is participating in the federal community development block grant program. Neighborhood improvement programs, designed to preserve and upgrade these communities, have been adopted for the Huntington, Baileys and Lincoln-Lewis-Vannoy neighborhoods. Other neighborhoods are under study for inclusion in the block grant program, including Fairhaven, Woodley Hills/Nightingale, and Chapel Acres. The County should continue to support programs and policies that protect and enhance the existing supply of low and moderate cost housing.

New Growth Areas

Fairfax County is a predominantly single-family community; 85 percent of the existing housing is single-family. It is a bedroom community with the major employment being in the District of Columbia.

Past development patterns and unit mix have resulted in the classic urban problems of the 1970's. County residents tend to commute long distances to work. Reliance on the private automobile generates traffic congestion, air pollution, and huge expenses of pavement for parking lots, destroying many natural features and environmental resources.

The development pattern in Fairfax County, not unlike other local jurisdictions, has been small subdivisions developed in a piecemeal fashion, and bypassing large areas, creating leapfrog development which tends to be expensive for the local government. In the past few years, there has been some effort to use planned unit development techniques, but a comprehensive plan for the total development of the County has been lacking.

The most apparent defect of this trend of development is the inability of the County to provide facilities and services in an economic manner within a reasonable time frame.

The lack of mixed housing types limits the consumer selection, thus the low/moderate income family is not able to partake of the American dream in suburbia.

Low densities and relatively little variation in land use limits urban design flexibility. Mass transportation systems also do not function well at low densities and the pedestrian is ignored when development patterns are small and fragmented.

Analysis of Change of Housing Needs

It is a well-known fact that housing problems in Fairfax County are not improving. Both housing suppliers and housing consumers are frustrated not only by increasing demands and needs for housing and by such inconveniences as the growing separation between place of work and place of residence, but also by the exorbitant cost of housing. Injustices for lower income and minority households, as well as increasing hardships for moderate- and even middle-income households are the result.

In a recent housing market analysis, entitled Housing for People, the County Office of Research and Statistics reaches several significant conclusions:

1. Fairfax County's expanding economy carries with it an increase in the diversity of its population. In the past, the County has drawn on the labor force resident outside the County to supply over one-third of its workers. These workers earn lower incomes, and are disproportionately black or female. If the County is going to supply and provide for its own labor force, it will have to provide housing for a more heterogeneous population.

2. Employment in Fairfax County can be expected to continue to grow more rapidly than the population because of a continued decline in household size and an increased labor force participation rate among women.

3. Declining household size is the single most important trend which will have an impact on the housing market. Other important and related trends are increasing income levels, declining fertility, rapidly increasing numbers of elderly, and increasing numbers of elderly, and increasing numbers of young heads of household.

4. Households will continue to grow more rapidly than the population in Fairfax County. The population is projected to increase 44 percent over the next decade at an average annual rate of 3.6 percent. The number of households, however, will increase by 55 percent, or at an average annual rate of 4.4 percent. The difference in the rates of growth of the two will be twice as great as it was during the decade of the 1960's.

5. The demand for housing will not be of the same nature as it has in the past:

- The demand for multifamily structures for smaller households will increase by 95 percent-calling for 5,000 such units per year. The need for townhouse units will also increase rapidly, by 54 percent over the next decade. the need for single-family detached units will be far less, increasing by only 34 percent over the current inventory.
- Also as a result of smaller households, smaller units will be in much greater demand.
- Not only will people be unable to continue to pay for high-priced housing, but changing lifestyles will greatly reduce the need for oversized, energy-consuming housing.
- The need for housing for the elderly will double, while the need for all other housing will only increase by 50 percent.

6. In the future, the tenure of households can be expected to shift greatly toward an ownership market.

7. Because of rapidly increasing housing costs, it is estimated that by 1985, 41,000 households will need some form of public assistance.

To deal with the issues presented in the housing market analysis, two major points need to be stressed.

The first is that the County has not taken an effective coordinative approach to housing, although its efforts to develop a broader role began as early as 1962, when the Board of Supervisors appointed a housing committee. The County's housing problem is far more than a production problem; the housing delivery system has become a complex set of processes, trends, regulations, and actions that no single program could possible alter. It must maximize utilization of every program available to it and form a coordinated program to impact those processes.

The second is that regardless of the growth alternatives—fast or slow—a balanced result cannot occur unless the County provides a full and substantial commitment that is explicit and continuing. Both points are highly interrelated, and their implications are explored more fully in the succeeding discussion of foreseeable trends.

AREA I

Existing Conditions

A countywide survey of housing conditions indicated generally satisfactory housing stock in Area I, with the only exception existing in the Baileys neighborhood analysis area (Sector B4). Some deterioration does exist throughout the area, but it is generally scattered individual units showing signs of decay rather than concentrated neighborhood deterioration. This is particularly true of some of the housing in the subdivisions dating back to the 1940's and 1950's. In some areas under redevelopment pressures, deterioration is a result of absentee ownership.

A neighborhood improvement program and conservation plan has been adopted by the Board of Supervisors for the Baileys area. This document will protect the residential character of the neighborhood and guide any future development. Community development block grant funds are being spent to upgrade public facilities and to provide loans for individual home improvements.

An Office of Comprehensive Planning study on low-income communities indicates that there are two such areas in Area I—the Baileys neighborhood analysis area and the Rosedale Manor garden apartment complex. Wexford Manor and Hollywood Manor are moderate income, federally subsidized projects. They are located in Sector J8 of the Jefferson area. The James Lee apartment complex in Jefferson District was a low- to moderate-income area, but that complex has been converted to a condominium. The current status of that complex is unknown at this point.

The following table indicates the present distribution of low- and moderate-income housing in Area I.

AREA I	Low	Moderate	Total	Total Homeowners	Subsidized as % of Total Homeowners in District
Bailey's	128 (44%)	0	128 (5%)	12,749	1%
Jefferson	0	167 (7%)	167 (7%)	13,280	1.2%
Annandale	0	0	0	20,340	–
Lincolnia	0	0	0	3,916	–
County Total	292 (100%)	2420 (100%)	2712 (100%)	167,541	1.6%

As indicated in the above table, Annandale and Lincolnia have no federally subsidized low/moderate income housing units. Jefferson has no low-income units. Baileys has 128 low, but no moderate-income units. The actual percentage of low/moderate units in Area I is below the countywide percentage.

Under current criteria, all four planning areas generally meet the requirements for the location of low/moderate income housing that was developed in the *Five Year Plan Vol. III, Standards and Criteria.* All four areas are also primarily developed and most of the existing vacant land is relatively expensive.

AREA II

Existing Conditions

A countywide survey of housing conditions indicated generally satisfactory housing conditions in Area II, particularly in the new subdivisions. There are exceptions such as in the Wolf Trap (Dunn Loring), Amanda Place and Seth Williams communities. Scattered deteriorating housing also exists along some of the major routes and back roads in Area II.

Gross current housing needs include units lacking adequate plumbing facilities, overcrowded units, and estimates of units needed by below-median-income commuters. The following table indicates these needs.

AREA II	Units Lack'g. Adequate Plumbing	Overcrowded Units	United Needed By Commuters	Total	%
McLean	115	350	1953	2418	15%
Vienna	135	291	1116	1542	10%
Fairfax*	80	155	372	607	4%
Jefferson North	16	26	+	42	NA
Total	346	822	3441	4609	29%
County Total	2075	4592	9300	15966	100%

*Excludes the City of Fairfax
+Cannot be separated from rest of Jefferson Planning District

Another area of housing need is the over-burdened renter households. These are the households who are paying more than 25 percent of the family income toward rent. The following table indicates the extent of the burden on Area II families.

AREA II	$5,000 families Over-Paying On Rent	$5-10,000 Families Over-Paying On Rent	$10-15,000 Families Over-Paying On Rent
McLean	256	481	203
Vienna	250	347	118
Fairfax*	278	339	68
Jefferson North	39	172	12
Total	823	1339	401 (2563)
County Total	5653	6803	1703 (14159)

*Excludes Fairfax City.

Area II has 16.5 percent of the over-burdened renters in the County.

Existing Housing Costs

The following tables show the distribution of sales units within the three planning districts of Area II. The median values are shown in the following table.

Median values were calculated by OCP staff from January 1974 data in *Standard Reports.*

McLean has the highest median for all housing units in the County.

AREA II	SF	TH	ALL UNITS
McLean	$65,900	$64,500	$65,800
Vienna	57,300	53,800	56,600
Fairfax	64,900	49,400	61,500
Jefferson North	63,000	57,400	62,500
County Median	$57,000	$47,700	$55,100

Existing Rent Ranges

The rental-sales relationship in each of the planning districts is shown in the following table.

AREA II	Rental Units	%	Sales Units	%
McLean	1,856	(12%)	13,724	(88%)
Vienna	1,551	(13%)	10,827	(87%)
Fairfax	2,056	(25%)	6,122	(75%)
Jefferson North	1,311	(63%)	774	(37%)
Total	6,774	(18%)	31,447	(82%)
County Totals	46,277	(28%)	121,264	(72%)

Existing Subsidized Housing

The existing subsidized housing in Area II is shown in the following table.

The Fairfax Planning District is the only district that has subsidized housing; however, the moderate-income project there is in default and has never been occupied.

AREA II	Low Income	Moderate Income	Total	Total Households	Subsidized as % of Total Household in District
McLean	0	0	0	15,938	0
Vienna	0	0	0	13,633	0
Fairfax	0	300(12%)	300(11%)	9,431	3 %
Jefferson N.	0	0	0	2,328	0
Total	0	300	300	41,230	0.7%
County Totals	310(100%)	2402(100%)	2712(100%)	167,541	1.6%

AREA III

Existing Conditions

A countywide survey of housing conditions indicated generally satisfactory housing conditions in Area III, particularly in the newer subdivisions. There are exceptions such as in the Lincoln-Lewis-Vannoy, Zion Drive, Community Lane, Chapel Acres, and Lorfax Heights communities. Scattered deteriorating housing also exists along some of the major routes and backroads in Area III.

A neighborhood improvement program and conservation plan has been adopted by the Board of Supervisors for the Lincoln-Lewis-Vannoy area. This document will protect the rural-residential character of the neighborhood and guide any future developent. Community development block grant funds are being spent to upgrade public facilities and to provide loans for individual home improvements. Other neighborhoods in Area III are under study for more extensive participation in the block grant program, including the Zion Drive and Chapel Acres communities.

If the existing residents in these areas want such an improvement program, adequate density should be allowed so that the potential development would provide a mixed income community and sufficient units to allow all existing residents of the areas to continue to reside there.

Gross current housing needs include units lacking adequate plumbing facilities, overcrowded units, and estimates of units needed by below-median income commuters. The following table indiates these gross needs. (These figures are taken from the 1970 Census.)

AREA III	Units Lack'g, Adequate Plumbing	Over-Crowded Units	Units Needed By Commuters	Totals	%
Upper Potomac	183	177	558	918	6%
Bull Run	225	146	93	464	3%
Pohick	416	193	93	702	4%
Total	824	516	744	2,084	13%
County Total	2,075	4,592	9,300	15,966	10%

Another area of housing need is the over-burdened renter households. These are the households who are paying more than 25 percent of the family income toward rent. The following table indicates the extent of the burden on Area III families.

AREA III	$5000 Families Overpaying on Rent	$5-10,000 Families Overpaying on Rent	$10-15,000 Families Overpaying on Rent
Upper Potomac	287	294	90
Bull Run	45	50	27
Pohick	83	36	65
Total	415	380	182 (977)
County Total	5653	6803	1703(14,159)

Area III has 69 percent of the over-burdened renters in the County.

Existing Housing Costs

The following table shows the median sales prices for units within the three planning districts within Area III.

AREA III	SF	TH	ALL UNITS
Upper Potomac	$68,300	$48,000	$56,400
Bull Run	$51,900	$39,800	$49,200
Pohick	$60,300	$41,600	$56,800
County Medians	$57,000	$47,700	$55,100

Medians were calculated by OCP staff from January 1974 Data from standard reports.

Approximately 8 percent of Bull Run, 13 percent of Pohick, and 13 percent of Upper Potomac housing stocks are below $30,000, a total of 2979 units. The greatest percentage of these units are in the high $20,000's. These lower valued units tend to be the units that are inadequate.

Most new market housing tends to be expensive, especially the single-family units that are above the county median value.

Existing Rent Ranges

The rental-sales relationship in each of the planning districts is shown in the following table.

AREA III	Rental Units %	Sales Units %	
Upper Potomac	4054 (29%)	9782 (71%)	
Bull Run	296 (5%)	5656 (95%)	
Pohick	0 (0%)	10,536 (100%)	
TOTAL =	4350 (14%)	25,974 (86%)	30,324
COUNTY TOTALS =	46,277 (28%)	121,264 (72%)	167,541

Source: U.D.I.S. Standard Reports

Existing Subsidized Housing

The existing subsidized housing in Area III is distributed in the following way: Upper Potomac has the greatest amount of subsidized units (52 percent) in the County, while Bull Run has no subsidized units and Pohick has less than one percent. The Upper Potomac figures are high because of the inclusion of the Town of Herndon.

AREA III	Low Income	Moderate Income	Total	Total House-holds	Subsidized as % of Tot. Homeowners in District
Upper Potomac	78 (25%)	1343 (56%)	1421 (52%)	13,836	10.3%
Bull Run	0	0	0	6,462	0.0%
Pohick	36 (12%)	0	36 (1%)	10,537	0.3%
Total	114	1343	1457	30,835	4.7%
County Total	310 (100%)	2402 (100%)	2712 (100%)	167,541	1.6%

AREA IV

Existing Conditions

A countywide windshield survey of housing conditions was conducted by the OCP staff in November and December 1973. This survey indicated the degree of deterioration in the total housing stock. The newer subdivisions were in excellent condition, but some of the older residential areas are showing early signs of deterioration. The most critical areas identified from this survey were: Huntington Road, Fairhaven, Jefferson Manor, Trailer Courts, Gum Springs, and Gunston Manor. Scattered housing deterioration also exists on back roads in Area IV.

The Route 1 corridor has been identified by the Redevelopment and Housing Authority as a target area where efforts to improve housing conditions should be concentrated. Toward this end, several communities in the corridor are taking part in the community development block grant program. A neighborhood improvement program and conservaion plan has been adopted by the Board of Supervisors for the Huntington area to preserve the residential character of the neighborhood. Block grant funds will be used to upgrade public facilities and to provide individual loans for home improvements. Woodley Hills/Nightingale Mobile Home Park, Gum Springs, and Fairhaven are also participating in different stages of the community development block grant program. Another need in the Route 1 Corridor is for emergency housing. The County, in conjunction with private social service agencies, should pursue means to house those who are temporarily without a place to live until a more permanent solution can be found for them.

In such an improvement program, adequate density must be allowed so that the potential development would provide a mixed income community and sufficient units to allow all existing residents of the areas to continue to reside there.

Gross current housing needs include units lacking adequate plumbing facilities, overcrowded units, and estimates of units needed by below-median income commuters. The accompanying table indicates these gross needs:

AREA IV	Units Lacking Adequate Plumbing	Overcrowded Units	Units Needed By Commuters	Total	%
Lower Potomac	130	367	186	683	(4%)
Mt. Vernon	294	1,007	837	2,138	(13%)
Rose Hill	97	255	93	445	(3%)
Springfield	100	224	1,302	1,626	(10%)
TOTALS	621	1,853	2,418	4,892	(30.6%)
COUNTY TOTALS	2,075	4,592	9,300	15,966	(100%)

Source: U. S. Census, 1970.

Another area of housing need concerns the plight of the over-burdened renter householder. This is the group whose members must pay more than 25 percent of the family income toward rent. An accompanying table indicates the extent of the burden on Area IV families.

Area IV has 34.1 percent of the over-burdened renters in the County.

AREA IV	$5,000 Families Overpaying On Rent	$5-10,000 Families Overpaying On Rent	$10-15,000 Families Overpaying On Rent	
Lower Potomac	239	87	3	
Mt. Vernon	1,412	1,619	243	
Rose Hill	173	246	30	
Springfield	208	316	259	
TOTALS	2,032	2,268	535	
COUNTY TOTALS	5,653	6,803	1,703	14,159 (100%)

Existing Housing Costs

The following tables show the distribution of sales units within the four planning districts of Area IV. The median values are shown in the following table.

AREA IV	SF	TH	ALL UNITS
Lower Potomac	$41,900	$33,900	$41,300
Mt. Vernon	57,500	41,700	54,600
Rose Hill	49,700	52,500	49,700
Springfield	53,900	52,000	52,800
COUNTY MEDIANS	$57,000	$47,700	$55,100

Note: Medians were calculated by OCP staff from January 1974 data from Standard Reports

Approximately 7 percent or 2,400 of the sales units available in Area IV are below $30,000 in cost.

Existing Rent Ranges

The rental-to-sales relationship in each of the planning districts is shown in the following table.

The rental-to-sales relationship in each of the planning districts is:

AREA IV	Rental Units	(%)	Sales Units	(%)	Total Units	(% of Area IV)
Lower Potomac	114	(7)	1,440	(93)	1,554	(4%)
Mt. Vernon	8,711	(36)	15,598	(64)	24,309	(57%)
Rose Hill	557	(8)	6,177	(92)	6,734	(16%)
Springfield	1,687	(17)	8,255	(83)	9,942	(23%)
TOTALS	11,069		31,470		42,539	
AVERAGES		(26)		(74)		(100%)
COUNTY TOTALS						

The rent ranges for the planning districts in Area IV which contain rental units are shown in the following table.

Area IV Rent Ranges	Bedroom Sizes E	1	1 & D	2	2 & D	3	3 & D	4	Total	(%)
$100	0	0	0	0	0	0	0	0	0	(-)
$100-150	22	177	0	2	0	0	0	0	201	(2)
$150-200	240	1,025	65	526	0	0	0	0	1,856	(17)
$200-250	248	2,660	301	2,936	170	134	0	0	6,449	(58)
$250-300	0	118	0	1,035	261	436	8	0	1,858	(17)
$300-400	0	0	0	329	4	341	31	0	705	(6)
$400+	0	0	0	0	0	0	0	0	0	(-)
TOTALS	510	3,980	366	4,828	435	911	39		11,069	(100)

Existing Subsidized Housing

The supply of existing subsidized housing in Area IV is shown in the following table.

AREA IV	HOUSING UNITS Low Income	%	Mod. Income	%	Total Low & Mod.Units	%	Total Units
Lower Potomac	0	(-)	0	(-)	0	(-)	1,669
Mount Vernon	68	(.2of 1%)	595	(2)	663	(2)	28,779
Rose Hill	0	(-)	0	(-)	0	(-)	6,740
Springfield	0	(-)	0	(-)	0	(-)	10,331
AREA TOTALS	68	(.1of 1%)	595	(1)	663	(1)	47,539
COUNTY TOTALS	310	(.2of 1%)	2,402	(1)	2,712	(2)	167,541
% of COUNTY TOTALS		(22%)		(25%)		(24%)	(28%)

The Mount Vernon Planning District has the second greatest number of subsidized units in the County (24 percent) while the other three planning districts in the area have none.

HOUSING RECOMMENDATIONS

The housing recommendations are organized into summary, policy, program, and implementation recommendations. The policy recommendations are organized by the four major issue areas as identified in previous staff reports and papers, but in a more comprehensive and detailed form. The housing goal and policy objectives are presented with the idea of providing flexibility. As future housing issues arise, policy additions and modifications should occur to the structure presented in the Plan.

SUMMARY OF RECOMMENDATIONS

A. The County should continue to uphold the existing Board of Supervisors' policy for 15 percent low- to moderate-income housing in areas of townhouse densities or greater and in developments of 50 units or greater.

B. The County should maximize utilization of federal and state housing finance programs for low- and moderate-income families through support of COG's fair share formula as it applies to federal funds, and optional use of state housing development authority financial capabilities.

C. The County should maximize coordination of all federal, state and local housing and housing assistance programs as they apply to Fairfax County.

D. The County should increase utilization of rehabilitation as a tool to revitalize older neighborhoods.

E. The County should reaffirm and strengthen the housing assistance plan on an annual basis.

F. The County should finance the housing support fund program on an annual basis to reduce housing costs, continue site acquisition at minimum cost and preserve and stabilize existing communities.

HOUSING GOAL AND OBJECTIVE

In order that all who live or work in Fairfax County can have the opportunity to purchase or rent safe, decent housing within their means, a broad range of housing types and an adequate supply of housing should be provided within each planning area to meet the needs of all ages, family sizes, and income levels.

As an initial objective toward this goal, the construction, purchase, renting, or rehabilitation of low- and moderate-income housing in each planning area should be correlated with the present number of low- and moderate-income families living in substandard or overcrowded housing in the area and the number of low- and moderate-income jobs that will be generated as a result of commercial and industrial plans for the area. Consideration should also be given to meeting the needs of those presently working in the area who cannot afford to live in Fairfax County. To accomplish this objective for each planning area, the specific countywide objective each year should be to produce a reasonable cumulative increase in low- and moderate-income housing as a proportion of total housing available in the County. The County should develop methods and programs for assuring that low- and moderate-income housing is available throughout the County. Emphasis should be placed on the scattering of housing units available to low- and moderate-income families in numerous locations through the area, thereby creating economically mixed communities.

POLICY RECOMMENDATIONS

In carrying out the above policies, the County should aggressively pursue a program for each planning area that includes all available approaches and funding sources to achieve an adequate level of public and private resources essential to meeting low- and moderate-income housing needs. County, state, and federal funding commitments administered by the County are the basis on which a comprehensive housing program must be built, as follows:

- Development of numerous small scattered infill sites within established communities through the construction of low- and moderate-income housing units at similar densities which are harmonious and compatible with the residential densities as indicated on the plan.
- Encouragement of developers to take advantage of zoning housing incentive provisions to include a minimum of 15 percent moderately priced housing units of varying sizes with regard to family needs, compatibility of design, and types of units in new developments.
- Programs for development of sites with a full range of low- and moderate-income housing choices should be continued. Such sites should be conveniently located in suitable living environments composed of all income levels, ages, and family sizes with the housing units for low-income families scattered through the total development.

The following discussion places existing County housing policies into a comprehensive structure.

A. The County should provide an adequate supply of housing to meet current and future needs of persons not able to pay market prices for housing by:

1. providing housing for occupants of substandard and overcrowded units, young families, elderly residents, and persons employed in the County whose incomes do not permit paying market prices for housing;
2. ensuring that no family or individual pays an inordinate proportion of its total income for shelter;
3. increasing opportunities for home ownership for those who desire the option;
4. increasing opportunities for low/moderate cost rental housing for those who desire the option;
5. providing housing consistent with the Board's support of the Metropolitan Washington Council of Government's fair share formula; and
6. maximize utilization of federal housing programs and state housing financing programs.

B. The County should provide equitable housing distribution by:

1. providing a diversity of housing types, sizes, densities, and prices throughout the County in areas suitable for residential uses;
2. ensuring that all persons employed in Fairfax County can live in the County;
3. encouraging housing opportunities to allow persons employed in the County to live near their jobs;
4. eliminating discrimination in housing by assuring enforcement of open housing laws and fair housing affirmative action plan in sale/rental of all housing; and
5. dispersing lower cost housing units into all areas in accordance with their ability to absorb housing.

C. The County should improve and/or maintain housing and neighborhood quality by:

1. upgrading substandard housing;
4. improving physical community services (e.g., streets, sidewalks, lighting) in existing neighborhoods;
5. initiating community development programs in communities that indicate the need with as little displacement as possible;
6. providing temporary sewage treatment systems where feasible to existing rural communities that require them;
7. conserving and assure maintenance of existing low/moderate income neighborhoods;
8. preventing excessive concentrations of low-income families in individual neighborhoods;

D. The County should create balanced new residential areas in coordination with the Plan by:

1. coordinating housing development with the provision of adequate public facilities;
2. creating high quality housing and neighborhoods; and
3. developing guidelines and criteria for new communities based on environmental constraints and energy conservation.

STRATEGY RECOMMENDATIONS

Fairfax County has made extensive incremental housing efforts in the past, as outlined in the *Countywide Alternatives* document. Experience from past efforts suggests that a comprehensive approach which obtains an incremental cost-saving is necessary. Although no panacea exists, the following discussion outlines some viable approaches.

Improved Planning Coordination

Improved County coordinating mechanisms are necessary for a comprehensive housing program. Too frequently program objectives have been frustrated by fragmented planning and implementation processes. As state and federal fundings become available, developments should be packaged by County staff and County funds. The County has taken the first step toward this end by adopting its first housing assistance plan, as outlined in the Better Communities Act of 1974. The plan should be improved, strengthened, and readopted on an annual basis.

The County should support comprehensive planning initiatives to study and make recommendations assessing a variety of housing alternatives.

Increasing Funding Strategies

The County should sustain its maintenance-of-effort for low- and moderate-income housing and community development activities through annual funding of the Department of Housing and Community Development and continued funding of County housing assistance programs, such as the revolving development, infrastructure, moderate income direct sales (MIDS) and rehabilitation loan programs. These funds should also be coordinated with federal community development block grant and state (VHDA) programs. Tax relief is another means of decreasing the cost burden. The County has tax relief legislation for the elderly and handicapped and a housing expense relief fund for other low-income homeowners.

Indirect funding strategies are also recommended. Encouraging better planned development can contribute to a decrease in cost. One study concluded that a planned community development of 10,000 units would save 4 percent of total capital costs, or $15.3 million over an alternative sprawl development pattern. These

2. eliminating overcrowded conditions in housing units;
3. preventing older declining structures and neighborhood from becoming substandard;

economies result from land cost savings with contiguous, compact development, and road and utility cost savings due to elimination of leapfrogging. A decrease in capital cost burden for infrastructure will result in a savings for the County. These savings may be passed on to the consumer in the form of lower taxes.

Improved housing management systems would help ensure continuing maintenance of the County's still relatively new housing stock. Attention to the stock can reduce long term maintenance costs and keep quality high. Compared with other areas where the housing stock is older and badly deteriorated, County encouragement for greater professionalization of both public and private housing management can yield excellent results.

Obtaining changes in the state enabling legislation will permit greater flexibility in housing development, particularly low/moderate-income housing. For example, current Virginia laws make it extremely difficult to lease public land for private use or to make funds available under the same circumstance.

Below-Market Housing

The following locations have been proffered or proposed by the Department of Housing and Community Development for below-market housing. Further approvals for some of the sites may be required by the Redevelopment and Housing Authority, the Planning Commission and/or the Board of Supervisors.

PROPOSED BELOW MARKET HOUSING SITES, AS OF DECEMBER 31, 1985

Location	Tax Map Reference	Magisterial District	Planning District	Planning Sector	Total Units	Number of Below Market Units	Type of Program
Area I							
Knights of Columbus 6729 Little River Tpke	71-2((1))27	Mason	Annandale	A3	45	45	40 Local Elderly 5 Public Housing
Long Elderly Little River Tpk. & Olley Lane	58-4((1))39-45	Annandale	Annandale	A7	120	120	Local Elderly
Heritage Woods 4200 Americana Dr.	70-2((14))&((17))	Annandale	Annandale	A10	1,129	70 Authorized 34 Occupied 12 Proposed	32 Public Housing—Occupied 12 Public Housing—Proposed 2 MIDS
Misty Woods (Murray-Gaskins) 2830 & 2834 Hollywood Rd.	50-1((1))14,15	Providence	Jefferson	J8	50	10	MIDS
Lincolnia Elderly 4710 N. Chambliss St.	72-2((1))43	Mason	Lincolnia	L1	84 beds	84 beds	Local Elderly
Area II							
Flint Hill 3200 Blk Jermantown Rd.	47-3((1))29	Providence	Fairfax	F4	168	34	Unknown
Penderbrook W. Ox Rd. & Rte. 50	46-3((1))35 46-3((3))1, 1A 2, 3, 4, 5, 6, 7, 8, 9, 10, 10B, 10C, 13, 14, 4B, 4C, 9A, 11C	Providence	Fairfax	F4	1,800	92	Unknown
Marriott-Hooper Lee Hwy. & Nutley St.	48-4((1))1	Providence	Vienna	V1	Unknown	35	Unknown
Country Creek 2900 Blk. Sutton Rd.	48-1((1)) Part of 88 or 89	Providence	Vienna	V5	Unknown	33	Unknown
DeLuca Between Sutton Rd. Nutley & 66	48-1,48-2((1))1A	Providence	Vienna	V5	Unknown	150	Unknown
Area III							
Fair Ridge 12300 Blk. Lee-Jackson Hwy.	46-3((1))17 19, 21, 22	Providence	Bull Run	BR4	571	16	Unknown
Fair Lakes West Ox Rd. bet. Rt. 50 & 66	45-4((1))24, pt. 25, 30; 45-5((2))15; 55-1((7)) 20, 21; 55-2((2)) pt.17,18; 56-1((17))1A, pt. 2A 56-1((8))2, 3	Providence	Bull Run	BR4	1,321	50-250	Unknown
Bacas 14700 Blk Lee Hwy	54-3((3))1	Springfield	Bull Run	BR5	40	6	Unknown

Chart continued on next page.

Location	Tax Map Reference	Magisterial District	Planning District	Planning Sector	Total Units	Number of Below Market Units	Type of Program
Little Rocky Run 13700 Blk Braddock Rd	54-4((1))96, 97	Springfield	Bull Run	BR6	681	136 109 Occupied	Private Sales
Newgate Braddock Rd. & Aubrey Patent Dr.	54-3((1))4,5,8 54-1((1))17, 19	Springfield	Bull Run	Centre-ville Complex Area	Unknown	27	Unknown
Virginia Suburban Braddock & Union Mill Rds.	66-1((1))4, 15	Springfield	Bull Run	BR6	442	25	Unknown
Chase Commons Burke Commons Rd.	77-2((1))60	Springfield	Pohick	P6	260	72	IDB Financing
Reston Interfaith North Reston	Unknown	Centreville	Upper Potomac	UP5	108	22	Unknown
Area IV							
Washington Square 7600 Blk. Pohick Rd.	108-1((8))	Mt. Vernon	Lower Potomac	LP4	Unknown	10	Unknown
Huntington Gateway Huntington Ave. & Rte. 1	83-3((1))72, 73, 74, 75, 76, 77, 78	Mt. Vernon	Mt. Vernon	MV1	445	89	108 Financing-New
Colchester Towne 7995 Audubon Ave.	101-2((11))	Lee	Mt. Vernon	MV2	200	24	FCRP
Belle View Belle View Blvd.	93-2((7))	Mt. Vernon	Mt. Vernon	MV4	979	50 Authorized 40 Occupied	Public Housing
Woodley Hills Estates 7301 Richmond Highway	92-4((1))82A, 84 93-3((1))34A,35A	Mt. Vernon	Mt. Vernon	MV5	328 Mobile Home Pads (Current)	218 Mobile Home Pads	Redevelopment Local Funding CDBG
Paul Spring Retire-ment Center 7116 Ft. Hunt Rd.	93-4((1))1	Mt. Vernon	Mt. Vernon	MV5	144	29	IDB Financing-Rehab.
Katzen Franconia Rd. & St. John Drive	81-4((1))15C&24	Lee	Rose Hill	RH1	Unknown	44	Unknown
Kingstowne/Landsdowne Telegraph Road	Pt. of 91-1, 91-2, 91-3, 91-4, 99-2 & 100-1	Lee	Rose Hill	RH4	Unknown	425	Unknown
Manchester Lakes Beulah Street & Hayfield Road	91-1((1))74, 74A	Lee	Rose Hill	RH4	Unknown	100 (elderly)	Unknown
Daventry Rolling Rd. & Hooes Rd.	89-4((1))22	Springfield	Springfield	S3	Unknown	160	Unknown

IMPLEMENTATION RECOMMENDATIONS

The methods of implementing the housing components are discussed in terms of the general governmental level of funding; the County must coordinate the state, federal, and local programs, to maximize effectiveness.

Federal Programs

The County should do everything possible to implement the following federal programs that provide housing and housing-related resources: community development block grant program, housing assistance program, section 8—leasing housing, section 202—elderly housing, section 8—new construction and substantial rehabilitation, section 203(b)/235—single-family housing, and public housing.

The County has authorized its Department of Housing and Community Development to file a community development block grant application with the federal government. This program will fund the provision of community improvements in several designated lower income neighborhoods in the County. The improvements could eventually include parks and recreation facilities, sewer and water service, road improvements, and housing rehabilitation. The section 8 housing program will provide housing units for lower income families throughout the County, in accordance with the County's adopted housing assistance plan.

The objective of providing decent housing for all people and adequate sites for an increased amount of low- and moderate-income housing is strongly endorsed. To accomplish this, provide housing for low- and moderate-income families by an aggressive program to increase the supply of such housing. Consideration should be given to the character of such housing in relation to surrounding uses and the need for housing for low- and moderate-income families in the County as set forth in the County adopted housing assistance plan.

State Programs

The County should maximize the utilization of housing funds from the Virginia Housing Development Authority. This state-enabled agency can provide low interest loans to the County, private developers, or nonprofit agencies, for use in constructing housing for lower income families. The state monies can be combined with the section 8 program to provide a wide range of housing opportunities.

Local Programs

The County should increase locally funded programs and coordinate them with federal and state programs and funds.

The rehabilitation loan program could be expanded and coordinated with an expanded infrastructure fund to do rehabilitation on a neighborhood scale as opposed to just single-structure rehabilitation. The rehab-loan program could provide the repair loans and the infrastructure would provide the public facilities improvements such as streets, utilities, parks and recreation. At the present time, these funds are not sufficient to carry on such a scale of activity.

The County's tax relief program has recently been expanded and is another means of assistance for homeowners. This program could be more broadly publicized so that citizens are aware of its availability.

The County also provides funds for housing development programs through its revolving development and infrastructure programs. These funds are utilized to provide preliminary development expense, such as site control planning, etc., and to defray sewer and water tap fees and related development costs. These programs should continue to be coordinated with state (VHDA) funding mechanisms and federal housing programs.

The County *Zoning Ordinance* has been approved with a significant section on moderate priced housing units. This ordinance provides for an optional density bonus of 25 percent for developments which provide a percentage of moderately-priced units. The County's moderate income direct sales (MIDS) second trust program is a means of assuring the financing of these moderately priced units by reducing or deferring mortgagable costs.

Where existing housing for persons of low- to moderate-incomes is removed from a residential parcel because of a change in zoning which permits higher density development of that parcel, the number of units removed must be replaced by a similar number of units of the same economic level, as part of the redevelopment.

The Community Improvement Program

The Fairfax County Board of Supervisors adopted the community improvement program in April 1978, to eliminate the causes of urban decay at the neighborhood level. The purpose of the program is to revitalize older neighborhoods threatened by deterioration by providing public improvements such as sidewalk, curb and gutter. Financing of the necessary improvements will be shared by homeowners in participating neighborhoods, the County and the state.

Any individual or neighborhood may apply for the benefits of the program, but priority will be given to those neighborhoods that meet the criteria listed below. Neighborhoods within the three towns of the County are eligible to apply for participation in the program. Besides a sincere willingness to take part in the program, a neighborhood must have the following features:

- The neighborhood must be residential in character, and the citizens must be willing to retain this character.
- Although basically stable, the neighborhood must have certain public facility deficiencies which contribute to its deterioration.
- Residents must be willing to prepare a community plan for approval by the Board of Supervisors.
- Residents must be willing to share the costs of improvements, and to dedicate the necessary rights-of-way or easements for the improvements.
- The neighborhood must be represented by an existing civic organization, or a new one which can be formed for this purpose.
- The neighborhood must contain one or more contiguous areas of at least 20 homes.

Community improvement efforts must be initiated by citizens in participating neighborhoods. Citizens must draw up a community plan specifying the type and location of needed improvements. The Board of Supervisors will hold a public hearing on the community plan and then consider adoption of the plan. If funds are available, design and construction can begin.

Certain local improvements will be made in neighborhoods that participate in the program. The eligible improvements include sidewalks and trails, curbs and gutters, driveway entrances, storm drainage systems, roads (paving and widening, street lights, and streetscape improvements (landscaping, street tree planting, street furniture).

The cost of sidewalks, curbs and gutters, and driveway entrances will be shared by the County and the homeowners in participating neighborhoods. The portion of these costs to be borne by the homeowners will vary, depending upon the average assessed value of homes in the neighborhood. Areas with a lower average assessed value will pay a lower portion of the costs. The cost of all other improvements, such as streets and storm sewers, will be financed totally with public funds.

Housing Programs

Some of the housing programs which have applicability to the issues of production and housing cost include the proposed housing and environmental development corporation (PLUS Working Paper 4), the housing assistance plan, and community development revenue sharing. Other existing County programs that are applicable for housing development and improvement include the revolving development infrastructure and rehabilitation loan funds.

There are a number of housing actions that can be taken:

- neighborhood conservation and stabilization;
- neighborhood improvement programs;
- planned development centers;
- project impact evaluation system (PIES); and
- maximizing use of federal/state housing programs

An important housing objective is the conservation of the existing moderate-income housing stock. This conservation policy can take the form of preventing commercial encroachment into existing stable residential areas. A clear County policy aimed at conserving existing low-moderate income communities and discouraging development that threatens the existence of the present residents must be included in the plan. A cooperative land swap arrangement might have some applicability in some of the more delapidated existing low- and moderate-income communities.

Priority should be extended to moderate cost rental complexes which may be candidates for condominium conversion. The County should make every effort to preserve and maintain as many of these units as possible through the use of federal, state and local programs.

Another possibility for increasing the low- and moderate-income housing stock would be the provision of such housing the planned development centers. These units could be scattered throughout the developments rather than identified at the low/moderate-income housing portion of the planned development center. The middle income family should also be included in these centers, by providing for the development of moderate-priced units throughout the area. The ultimate result would be planned development centers with housing for all income levels, both market housing and below-market housing.

Another tool for increasing the supply of low- and moderate-income housing is the project impact evaluation system. Under this system, both state and federally-subsidized programs for housing construction and private sector proposals would be evaluated for their impact on housing needs. This evaluation would consider adequacy of public transportation, proximity to public services, access to private services and shopping, impact on existing developments and neighborhood patterns, and the home-ownership patterns in nearby communities.

HISTORY AND ARCHAEOLOGY

In 1742, the County of Fairfax was created by the colonial legislature from the northern portion of Prince William County. At the time of its formation, Fairfax included all of what is now Fairfax, Loudoun, and Arlington counties, and the cities of Alexandria, Falls Church, and Fairfax. In 1791, the Virginia General Assembly ceded what is now Arlington County and Alexandria City to the Federal Government as part of the District of Columbia. This was returned to Virginia, although not to Fairfax County, in 1846.

The earliest known residents came to what was later to become Fairfax County at the end of the last Ice Age when the area looked much different than it does today. These people, whom we call Indians, brought with them a hunting and gathering way of life based on the use of stone tools. From that time until Captain John Smith explored the Potomac River in 1608, these people grew in numbers and prospered. They eventually reached a stage of development characterized by sizeable, agriculturally based villages and hamlets. Captain Smith's 1608 map records the Powhatan subchief village of *Tauxenent* located in the vicinity of what we now know as Colchester. This village, which probably controlled hamlets and farmsteads along the Fairfax County shore of the Potomac and Occoquan Rivers, is the first recorded political center in the County. The village remained until approximately 1660, when its occupants moved away, never to return.

During the colonial period, the county was primarily agricultural. Its landowners raised tobacco on large plantations with slave labor. The city of Alexandria, the county seat between 1752 and 1800, served as an important colonial port.

Subsequent to 1800, the commercial importance of Alexandria declined, as business shifted to Baltimore and other ports. In addition, an economic and population decline began in Fairfax due to soil exhaustion and westward expansion. This trend began to reverse itself about 1840, when Northern farmers began to move to Fairfax with improved agricultural methods, including the use of animal fertilizer. During the Civil War much military activity occurred in Fairfax County, with Union and Confederate soldiers occupying various parts of the County.

After 1865, agriculture continued to diversity, as Fairfax became a supplier of grain, fruits, vegetables, and dairy products for the nation's capital.

In 1925, Fairfax had the highest standing of all 100 Virginia counties in value of dairy products. Suburban development began to be important, as the roads and railroads which had provided the means for reaching the Washington markets began to be used by Fairfax County residents to commute to jobs in Washington, D. C. A great impetus to this development was provided by the rapid growth of the federal government during and after World War II. Fairfax County is now the most populous political subdivision in the Commonwealth of Virginia, although two-thirds of its land area is still undeveloped.

Numerous archaeological sites and historic structures remain as evidence of the County's rich and varied past. Through their study and preservation, these heritage resources can help us understand and enjoy that past. Historic structures serve as visual reminders of earlier built environments as well as representing certain historic events and individuals. Archaeological resources represent the entire 11,000 years of cultural heritage in the County. Since the Indians were not literate, insight into their culture history can only be acquired through archaeological investigation. Archaeological investigation also provides the means to examine historical phenomena which were not recorded or for which records no longer exist.

RESOURCE MANAGEMENT AND PRESERVATION

The quantity and quality of our heritage resources are increasingly being reduced as a result of the tremendous rate of development in the county. In recognition of the importance of preserving these resources, the Board of Supervisors in 1967 passed a zoning amendment designed to protect and enhance the County's historic structures through the creation of historic districts. The Board also established an Architectural Review Board which, in consultation with the Board of Supervisors, has control over construction of and improvement to all buildings, the external appearance of individual properties, and demolition of historic buildings within a historic district.

The Fairfax County History Commission has established an official Fairfax County Inventory of Historic Sites. It is an open-ended list and contains over 200 sites and structures. A short research report has been complied on each of the sites. The Plan contains a map indicating these sites, and several are discussed in the following pages.

Many monographs have been prepared and published on various aspects of the history of Fairfax County. The earliest were studies of historic structures, commissioned as part of an effort to determine whether a certain historic district should be created. The emphasis is now more topical and focuses on the study of various topics and communities within Fairfax County in an effort to assist in long-range planning.

Recognizing the value of archaeological resources in obtaining a full understanding of the County's heritage, the Board of Supervisors (at the request of the Fairfax County History Commission) established the Fairfax County Archaeological Survey in 1978. The major responsibility of the County archaeologists is to manage the archaeological resources of the County. Through preservation and study, the goal is to ensure that these buried manifestations of human culture can be considered in planning and development and interpreted to provide insight into the County's cultural heritage.

Heritage Resource Management Plan

The ultimate aim of heritage resource management is to preserve our heritage resources for the study and enjoyment of county citizens. Since increasing development in the County is putting pressure on these resources, the Fairfax County Heritage Resource Management Plan was developed to create an optimum balance between the often conflicting interests of economic growth and the preservation of the County's heritage resources. The Heritage Resource Management Plan sets forth general policies and guidelines for identifying, evaluating, and making decisions on the preservation of our heritage resources.

Since it is not practical or even desirable to preserve every historic structure or archaeological site, decisions must be made on which resources are worthy of study and preservation. These decisions are made on the basis of whether or not the resources meet certain criteria, as outlined in the Heritage Resource Management Plan. Since the National Register of Historic Places serves as the legal basis for the majority of preservation activities on national, state, and local levels, its criteria are used in evaluating county resources:

"The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design setting, materials, workmanship, feeling, and association, and:

- that are associated with events that have made a significant contribution to the broad patterns of our history; or
- that are associated with the lives of persons significant in our past; or
- that embody the distinctive characteristics of a type, period, or method of construction, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- that have yielded, or may be likely to yield, information important in prehistory or history."

There are, however, historic structures and archaeological sites which may not meet these criteria, but which are still worthy of study and preservation because of their value to county citizens. If a heritage resource meets the following criteria, it is considered publicly significant:

- The resource possesses characteristics that are potentially useful in educating the public about our past and how it is studied; or
- The resource possess characteristics suitable for the exhibit and display of objects, ruins, or stabilized or restored structures for public enjoyment; or
- The resource possesses the potential to serve or already serves) as a focus of community identity and pride.

Preservation Alternatives

Those heritage resources that have been evaluated as significant are eligible for preservation by the application of a number of tools. Implementation of any preservation tool will be undertaken only in consultation with all parties concerned.

National Register of Historic Places. The National Register of Historic Places is the official list of the national cultural resources worthy of preservation.

There are several advantages to having a property listed on the National Register:

- The property owner is eligible to be considered for federal historic preservation grants, when such funds are available;
- The property owners who follow specific rehabilitation guidelines can be eligible for federal tax benefits;
- The property is protected by requiring that the effects of federally assisted projects on the property be fully evaluated.

There are over twenty Fairfax County sites listed on the National Register, including the Belvoir Ruins, Colvin Run Mill, Cornwell Farm, Dranesville Tavern, Fairfax Arms, Fairfax County Courthouse and Jail, Gunston Hall, Herndon Railroad Station, Hope Park Mill Complex, Huntley, Langley Fork, Moorefield, Mount Vernon, Mount Vernon Memorial Parkway, Pohick Church, Pope-Leighey House, St. Mary's Church, Salona, Sully, Wolf Trap Farm Park for the Performing Arts, and Woodlawn Plantation. An up-to-date listing of County National Register properties is maintained on file in the Heritage Resources Branch offices.

Historic District. Creation of an historic district is a tool which may be utilized when a structure or site is threatened by developmental pressure. This can include development which could have an adverse visual impact on the property. In an historic district, all alterations to the exterior of a building or proposed demolition of a historic building are under the control of the Architectural Review Board.

Easements. Negotiated historic easements are legal agreements whereby the owner of a historic property agrees to such terms as not tearing down the structure, maintaining its exterior, refraining

from dividing and selling the property for development, or similar provisions. In return, the owner is paid a fixed sum of money or is taxed at the rate that would apply if his land were not otherwise developable. An example of the negotiated easement in Fairfax County is the one with the owner of Salona, an early nineteenth-century structure near Dolley Madision Boulevard in McLean. The house, outbuildings, and some surrounding acreage were included in a permanent easement, and a large parcel fronting directly on Dolley Madison Boulevard is included in a 10-year easement, guaranteeing that the property will remain undeveloped for that period of time. This devaluation of development potential is reflected in the owner's property taxes.

This technique ensures the protection of the property and is much less expensive than acquisition. It does not, however, ensure that a historic structure will be restored.

Acquisition, Restoration, and Operation of Historic Properties. The Fairfax County Park Authority has acquired such properties as Dranesville Tavern, Colvin Run Mill, and has a 99-year lease on Sully Plantation. It has restored or plans to restore these properties and open them to the public. This is the most expensive means of preservation since the County pays the cost of purchase and restoration as well as the loss from having the property removed from the tax rolls. A portion of the operational cost is offset by entrance fees. This technique, however, is the only one that will assure that the historic site will be restored and well maintained. In allowing public access to and special events on the property, it also serves as a valuable educational tool for all those who visit, as well as a pleasant recreational experience for the citizens.

Fairfax County is fortunate in having several structures of national importance which have been saved and maintained by private organizations. Woodlawn Plantation, owned by the National Trust for Historic Preservation, is protected by inclusion in a historic district, as is the Pohick Church. Mount Vernon and Gunston Hall have long since been restored by private societies and certainly merit historic district protection.

Purchase and Lease-Back. This preservation tool can be used by government to ensure that a historic property is protected by certain legal covenants. The County could purchase such a property, and then lease it for a sum to a citizen, company, or organization which would agree to include in the lease restriction on the possible uses of the property and/or regulations concerning the appearance of the exterior of the building. A variation on the technique is the revolving fund. Under this system, a building is acquired, restored, put under restrictive covenant and resold, with the sale money serving as capital for further investment.

The first technique assures preservation but not restoration. Also, much time must elapse for an initial investment to be repaid. The latter technique assures both preservation and restoration but requires a large initial capital investment. It does, however, return the property to the tax rolls.

Historic Roads Protection. The Commonwealth of Virginia has established a category of roads of special historic or scenic interest called "Scenic Highways and Virginia Byways". Old Georgetown Pike, Route 193, was named a historic byway and was the first road in the state to qualify under this program. The designation means that special care will be taken to conserve the unique resources of the road and act as a deterrent to major road reconstruction.

Environmental Quality Corridors (EQCs). The Environmental Quality Corridor is a tool used to preserve open space in the county. EQCs provide protection for ecologically sensitive areas, for valuable environmental resources, and for natural landscapes that are visually important for county citizens. Heritage resources are included in the EQCs because they enhance the cultural and aesthetic value of the recreation system within the EQCs. The inclusion of heritage resources within the EQCs also serves to protect these resources by maintaining the EQC in a relatively undeveloped state.

Agricultural and Forestal District. The establishment of Agricultural and Forestal Districts helps preserve agricultural, horticultural, forested, and open space lands in the County. In doing so, the county retains some of its historic rural character, as well as providing tax benefits to owners of property within the districts. Heritage resources located within such a district are protected form developmental pressures.

Data Recovery. In situations where the application of any of these preservation tools is not practical or achievable, the information possessed by the heritage resource can be recovered so that it is not lost entirely. This data recovery can take the form of photographing and documenting the physical appearance of a standing historic structure, retrieving architectural elements and details for possible study and display, and archaeological testing and excavation.

Ongoing Preservation Goals

- Heritage resources will be taken into consideration at the earliest planning stages of development, and as appropriate thereafter.
- Eligible sites, properties, and districts will be nominated for inclusion in the county Inventory of Historic Sites, and the State and National Registers.
- Significant sites, properties, and districts will be preserved through the application of appropriate preservation tools.
- Architectural and archaeological field surveys will be conducted in those areas and for those resources about which little is known, and in areas where development may have an adverse impact.
- The Heritage Resource Management Plan will be reviewed annually to assess the need for revisions in preservation goals and priorities.
- Dialogue will continue with interested and concerned county citizens, and public participation in heritage resource preservation programs will be encouraged.

Historic District

Creation of a historic district is a tool which may be utilized when a structure or site is of major architectural and/or historic significance and is threatened by pressures of development. This can include the threat of adverse visual impact from proposed development within the quarter mile radius of the boundaries of the property. In a historic district, all alterations to the exterior of a building or proposed demolition of a historic building are under the control of the Board of Supervisors with the advice of the Architectural Review Board.

Historic Roads Protection

The Commonwealth of Virginia has established a category of roads of special historic or scenic interest called scenic highways and historic byways. Old Georgetown Pike, Route 193, was recently named a historic byway and is the first road in the state to qualify under this new program. The designation means that special care will be taken to conserve the unique resources of the road and acts as a deterrent to major widening or improvement.

ARCHAEOLOGICAL SURVEY

The archaeological resources of Fairfax County represent more than 10,000 years of cultural heritage, the entire span of human occupation of eastern North America. Since the Indians of the United States were not literate, insight into their culture history can only be acquired through the archaeological record. Archaeology also provides the means to examine historical phenomena which were not recorded or for which the records have been lost or destroyed.

North American archaeology is currently divided into two categories, prehistoric and historic, both of which are presented on the Fairfax County archaeological survey. Prehistoric archaeologists are primarily concerned with extinct Indian civilizations. They attempt to trace the development and changes in these cultures from the earliest inhabitants of the continent of roughly 10,000 years ago, to the tribes that resided in the area when the first Europeans arrived. The purpose is to study the development of human civilization in its more primitive forms.

Historic archaeologists begin their study with the arrival of the first Europeans. Usually, problems are addressed which have been traditionally ignored by historians or for which there is no historical record. Through the cooperation of a variety of disciplines a valid analysis of the lifestyles of our ancestors can be accomplished.

The drastic changes from an aboriginal, stone age culture, to a broadly scattered plantation-based culture with worldwide trade ties, to a diversified agricultural community, and finally to the dense urban and suburban culture of today have produced a tremendous wealth of archaeological information. This information is important to the full understanding of the County's heritage and the sociological and cultural factors that have gone into creating our modern society.

This resource and information base is increasingly being reduced as a result of the tremendous rate of development in the County. In recognition of the importance of the preservation of these resources, the Board of Supervisors (at the request of the Fairfax County History Commission) established the Fairfax County Archaeological Survey in July 1978.

Archaeological Resources Management

The major responsibility of the Survey is to manage the historic and prehistoric resources of the County. The Survey has adopted a program of preservation and study which is intended to ensure that these buried manifestations of human culture can be considered in planning and develpment, and interpreted to provide as much insight into the local and American cultural heritage as possible.

A major goal of the Survey is to create an optimum balance between the conflicting interests of economic growth and the preservation of the County's archaeological resources. Recognizing the legitimacy of both of these interests, the Survey is attempting to maximize preservation while simultaneously minimizing its impact on economic growth. To do this it is important for the Survey to identify and evaluate the archaeological resources of Fairfax County; to establish a system for early reconciliation of potential conflicts between economic and preservation interests, and to raise the level of public awareness of the value of archaeological resources.

The Survey has implemented a series of projects, foremost among which is the compilation of an inventory of archaeological sites in the County. The significance of these sites is being assessed so that decisions regarding preservation actions can be made. In conjunction with this project, the Survey is constantly reviewing zoning change requests, preliminary development plan submissions, and conducting field survey and literature

reviews of Fairfax County parks. All surveys and reviews involve the examination of historic maps and literature, and comparison of plat maps with a theoretical model of potential prehistoric Indian settlements. Surveys include the on-site examination of project areas by staff archaeologists.

SELECTED HERITAGE RESOURCES

Area I

The heritage resources described below are some of the more notable ones in Area I.

The District of Columbia Boundary Stones
These are sandstone markers erected in 1791 when the site of Washington was first determined. The original area of the District of Columbia was ten miles square and the forty stones were placed at one-mile intervals along the boundary lines. The remains of the stones have all been recovered and are under the protection of the Daughters of the American Revolution. There are three boundary stones in Area I.

Fountain of Faith
On the grounds of the National Memorial Park cemetery is the Fountain of Faith designed by the Swedish sculptor, Carl Milles. A juxtaposition of 38 bronze figures and flowing water, the fountain has as its theme, the joy of reunion after death.

Green Spring Farm
A Fairfax County park, Green Spring Farm's grounds are open to the public. The brick house, dating from the mid-eighteenth century, is the headquarters for the Fairfax County Council of the Arts.

The Mount
This house was built in 1745 by Colonel Robert Lindsay, whose family had emigrated from Scotland in the 1600s. It was originally constructed of log and stone and has been covered with stucco.

Oak Hill
This historic landmark was built about 1780. Located off Wakefield Chapel Road it is one of the few remaining eighteenth-century structures in this heavily developed section of the county.

Area II

One historic district is located within Area II.

Langley Fork Historic District
The Langley Fork Historic District was adopted by the Board of Supervisors in 1980 to protect seven historic sites clustered around the intersection of Old Chain Bridge Road and the Georgetown Pike. They include the Langley Ordinary, Langley Toll House, Gunnell's Chapel, the Langley Friends Meeting House, the Mackall House and Hickory Hill. The cluster is listed on both the Virginia and National Register of Historic Places. Recommendations for development are listed in Sectors M3 and M4 of the Area II Plan.

Other important sites in Area II are described below.

Ash Grove
Was built about 1790 on what until 1850 was Fairfax family land. It is one of only two Fairfax family houses still standing in Fairfax County. (The other, Towlston Grange, is also in Area II.) The house is T shaped and covered with white clapboard. The outbuildings include an exterior brick kitchen and a clapboard smokehouse.

The District of Columbia Boundary Stones
There are four District of Columbia boundary stones in Area II. (See description under the listing for historic sites in Area I.)

The Fairfax County Courthouse
Completed in 1800 according to plans by James Wren. This is the third courthouse built since the organization of Fairfax County in 1742. It is a two-story brick building topped by an octagonal cupola. As the county has grown, several additions have been made to the original structure which was restored during the 1960's. The courthouse is on the Virginia Landmarks Register and the National Register of Historic Places.

Langley Ordinary
The Langley name in this area dates from its eighteenth century ownership by Thomas Lee who named it for an ancestral estate in England. The Langley hamlet at the intersection of Georgetown Pike and the Old Chain Bridge Road contained a drover's rest, a toll house, a blacksmith shop, a store, and this mid-19th century building, once used as a tavern, and during the Civil War, as a hospital and headquarters for Union General McCall.

Moorefield
Was the house of Jeremiah Moore, an influential early Baptist leader in Fairfax County. Built about 1790, the frame and clapboard structure is now covered with brick. The structure is adjacent to land programmed for a Metro Station. Efforts are being made to keep the house in its current location and make a suitable use for it.

Salona
Built about 1805, Salona was named for an Italian castle. The name means a place of great hospitality. Salona is the house in which President James Madison took shelter the night in 1814 when the British burned the Capitol and the White House. The house is a two-story brick structure and originally had two wings. Both were destroyed during the Civil War; only one has been rebuilt. The owners of Salona have given the county an easement on the house, the outbuildings, and part of the grounds.

A lengthy research monograph which will provide the information needed to consider the creation of an historic district encompassing Salona is in preparation.

Windover Heights
Built in 1869, is Fairfax County's best example of the Italian Villa style of building, very popular in this country after the Civil War. The asymmetrical character of the design has allowed for harmonious additions in many directions. The house is topped by a square glazed cupola or belvedere.

Wolf Trap Farm
A log, clapboard and stone structure of one and a half stories, was purchased as a country retreat in 1930 by Jouett Shouse. A meeting at Wolf Trap precipitated the initial discussion which led to the creation of the United Nations. In 1966, Mrs. Shouse gave 95 acres of Wolf Trap Farm land and funds for design and construction of an amphitheater to the Department of the Interior which designated the land America's "first national park for the performing arts." An outdoor pavilion and stage designed by John Mac Fayden with a caacity of 3,500 persons was completed in 1971. It is called the Filene Center for the Performing Arts.

Old Georgetown Pike
Route 193, between Route 123 in Langley and Route 7 in Dranesville, was designated by the Virginia Department of Highways as the state's first Virginia Byway. It originated as a buffalo trail, was later a familiar trail for the Susquehannahs and Iroquois, served as a road for the transport of agricultural produce toward Georgetown and Alexandria, and from the early 1800's to 1932, it was a toll road. It is one of the few roads in this area which retains its beauty, character, and historic flavor. The extraordinarily rugged topography of this northern edge of Fairfax County bordering the Potomac River gives this road an unusual scenic quality.

Area III

Area III contains seven historic districts.

Saint Mary's Church Historic District
Saint Mary's Church Historic District was created in November, 1972. Its purpose is to protect the environs of this church, the oldest Catholic Church within the present boundaries of Fairfax County. Saint Mary's Church was constructed in 1858 to serve the needs of the Irish immigrants who came to Fairfax County to work on construction of the Orange and Alexandria Railroad. The church is a rectangular white frame structure, topped by a spire with eleven Gothic arched windows, one on each side being filled with stained glass. During the Civil War Second Battle of Bull Run, Clara Barton nursed wounded soldiers in the area around the church and the nearby railroad station, and the American Red Cross has erected a marker in the area. The church is listed on both the Virginia Landmarks Register and the National Register of Historic Places.

Recommendations for development within the historic district can be found in Sectors P1 and P2 of the Area III Plan.

Colvin Run Mill Historic District
Created in March of 1973, this district is located around the intersection of Colvin Run Road and Route 7. The Colvin Run Mill was a custom or merchant mill which ground grain commercially and stored both grain and flour. It was built some time between 1811 and 1830. Part of the west wall is stone and could be a remnant of an earlier mill. The miller's house, built about 1815, can be placed in the transitional period between Federal and Greek Revival styles. The mill and miller's house have been reconstructed by the Fairfax County Park Authority and a small general store has been moved to the property. Colvin Run Mill is listed on both the Virginia Landmarks Register and the National Register of Historic Places. Recommendations for development within the historic district can be found in Sector UP3 of the Area III Plan.

Dranesville Tavern Historic District
Created in March of 1973, this district is located around five acres of land owned by the Park Authority along the south side of Route 7, one mile east of the Loudoun-Fairfax County line. The tavern was built about 1830. It consists of two two-story log cabins which were connected and had a chimney on each end, as well as a connected one-story log kitchen with a chimney. Clapboarding, a new window sash, and plastering were added about 1850, when several other improvements were made. Dranesville Tavern served as a drovers' rest for the busy thoroughfare of Leesburg Pike. It is one of a few remaining examples of the rural Virginia inn or ordinary which served the traveling public of the eighteenth and nineeenth centuries. The tavern was purchased by the Fairfax County Park Authority in 1968 and has recently been restored. The Park Authority hopes to lease the building as a working tavern. The Dranesville Tavern is listed on both the Virginia Landmarks Register and the National Register of Historic Places.

Recommendations for development within the historic district can be found in Sector UP4 and Option 1 of the Area III Plan.

Bull Run Stone Bridge Historic District

Adopted in November of 1972, this district is located along Route 29 near the Prince William County line. The stone bridge over Bull Run was built in the 1820's. Following the Civil War Second Battle of Bull Run in August of 1862, General John Pope's federal troops retreated to Centreville over the bridge and then destroyed it. After the Civil War the bridge was rebuilt and was in use until 1926, at which time Lee Highway was realigned and a wider bridge was constructed. In 1960 a local stone mason restored the bridge to its appearance as photographed early in the Civil War.

Recommendations for development within the Bull Run Stone Bridge Historic District can be found in Sector BR5 of the Area III Plan.

Sully Historic District

Adopted in November of 1972, this district is located along Route 28 near Dulles International Airport. Sully was built in 1794 as a home for Richard Bland Lee, the younger brother of General "Light Horse Harry" Lee, and the uncle of Robert E. Lee. He is credited with a major influence in the establishment of the nation's capital in the Georgetown-Alexandria section of the Potomac River. Sully is a 2½ story house with beaded siding over brick nogging, gable roof without dormers, and exterior brick chimneys. The east wing was added about 1800. The house was recently restored by the Park Authority to its pre-1859 appearance. Sully's outbuildings include a hewn log yard kitchen built before 1794 and now covered with clapboard, a stone house built around 1803, and a smokehouse and office dating from 1794. There is a log schoolhouse on the property which was moved to this site from a farm in Prince William County. Sully is listed on both the Virginia Landmarks Register and the National Register of Historic Places.

Recommendations for development within the historic district can be found in Sector UP7 of the Area III Plan.

Robey's Mill Historic District

Adopted in 1981, this district is located along Pope's Head Road at Piney Branch. The complex consists of a mill, miller's house, tenant house, dairy and smokehouse. It is a rare example of the survival of so many buildings associated with a rural mill site. The buildings date from the early 1800's when they were built as part of the large Hope Park plantation of Dr. David Stuart. Following the Civil War ownership of Hope Park and the mill complex was divided. The mill's greatest period of prosperity was under the early-twentieth century ownership of Frank Robey, whose name is still associated with the property. Robey's Mill is listed on both the Virginia Landmarks Register and the National Register of Historic Places.

Lake Anne Village Center

The Lake Anne Village Center was made a historic district in 1983, in recognition of its significance as an outstanding national and international example of the planned town movement of the 1960s. Recommendation for development within the historic district can be found in the UP5 Sector of the Area III Plan.

Other Heritage Resources

There are numerous other heritage resources in Area III:

- A. Smith Bowman Bourbon Distillery survives from the days of the town of Wiehle, planned in 1890. The first distillery was located in an old soapstone mill. This is the only licensed bourbon distillery in Virginia.
- Cabell's Mill was built around 1800, was donated to the Park Authority in 1969. The mill and miller's house are set aside for the lifetime use of the occupants. A fine pair of buhr stones is set on end at the rear steps of the mill and a coarse pair is set at the front.
- Dr. Alfred Leigh House was built around 1890 and included two rooms for the doctor's office. The house has dormers, gables with cut-work barge boards and fish-scale shingles, diamond-shape windows and two bay windows, turned posts with brackets on the porches, and unique wooden trim on the major corners in imitation of quoins usually found in older brick and stone buildings.
- Mount Gilead built before 1750, is an excellent example of Potomac River Valley architecture. It has porches along both the back and the front of the house, a sloping roof line with dormers, and chimneys at both ends.
- The Frying Pan Farm Park is a 1920s farm typical of the small dairy farms that once characterized much of Fairfax County. Within a very small area are the farm, a large eighteenth-century Methodist Church, and a 1791 Baptist Church, now under the protection of the Fairfax County Park Authority. This area is an important resource and should be considered for inclusion in a historic district.
- Brimstone Hill built in the early 1800's, was known as Arundel's Farm during the Civil War and may have been used as a tavern. The Arundel family were Union sympathizers who were instrumental in enabling Union forces to launch a surprise attack on a squadron on Mosby's Rangers.

Area IV

Area IV contains four historic districts.

Woodlawn Historic District

Adopted in May 1971 and readopted in September, 1972, this district is located in the area of the intersection of Route 619 and U.S. 1. The historic district is based on two landmarks: Woodlawn Plantation, owned by the National Trust for Historic Preservation, and George Washington's Grist Mill, owned by the Virginia State Division of Parks. Although they are protected from alteration or demolition by virtue of their ownership, historic districting was necessary to protect them from possible adverse visual impact from commercial development along the Route 1 corridor.

Woodlawn was built between 1800 and 1805 on land willed by George Washington to his favorite nephew, Lawrence Lewis and his wife, Nelly Custis Lewis. The architect was Dr. William Thornton, first architect of the U.S. Capitol. Woodlawn is a brick structure of Georgian style with five-part construction-a central portion with flanking wings and connecting hyphens. Beyond them are a smokehouse and a dairy, linked to the wings with brick walls penetrated by solid doors. Woodlawn is on both the Virginia Landmarks Register and the National Register of Historic Places.

Several other noteworthy structures are in the Woodlawn District. These include Grand View, a simple clapboard structure dating from the mid-nineteenth century when a Quaker company owned Woodlawn, the Woodlawn Baptist Church, completed in 1872 after the land was sold to John Mason, and the Mason house itself. Of special interest is the Pope-Leighey house, a Frank Lloyd Wright structure which was moved to the Woodlawn property in 1964.

Recommendations for development within the historic district can be found in Sectors MV7 and MV8 of the Area IV Plan.

Pohick Church Historic District

Adopted in September, 1969, readopted in 1972 and revised in 1977, this district is located at the intersection of Route 1 and Pohick Road, adjacent to Fort Belvoir.

Pohick Church, a small brick edifice of the Georgian style, was designed by James Wren and constructed between 1769 and 1774 under the direction of Daniel French and George Mason. It was the second church by the name of Pohick built for Truro Parish. The building has an orderly, symmetrical appearance, being built on a rectangular plan with a hipped roof. During the Civil War, both Confederate and Union troops used the church intermittently as a picket post or an outpost. In the 1870's the interior was restored in the Victorian Gothic style. In the 1890's the superintendent of nearby Mount Vernon began directing restoration work which was completed in 1924. A vestry and parish house were added more recently.

Pohick Church is listed on both the Virginia Historic Landmarks Register and the National Register of Historic Places.

Recommendations for development within the Pohick Church Historic District can be found in Sector LP4 of the Area IV Plan.

Huntley Historic District

Adopted in May, 1976, this district is located north of Lockheed Boulevard, south of South Kings Highway and partially east and west of Harrison Lane.

Huntley was constructed about 1820 for Thomson F. Mason, a grandson of George Mason of Gunston Hall. The main house was probably used as a secondary country dwelling for the family. Its architecture contains elements of the Roman Revival style, a popular style during the Federal era. The Huntley property contains a remarkable collection of outbuildings which are valuable architecturally and give a good picture of plantation life in this area during the nineteenth century. The complex also has great potential for archeological investigation. Huntley is on both the Virginia Historic Landmarks Register and the National Register of Historic Places.

Recommendations for development within the Huntley Historic District can be found in Sectors RH7 and MV2 of the Area IV Plan.

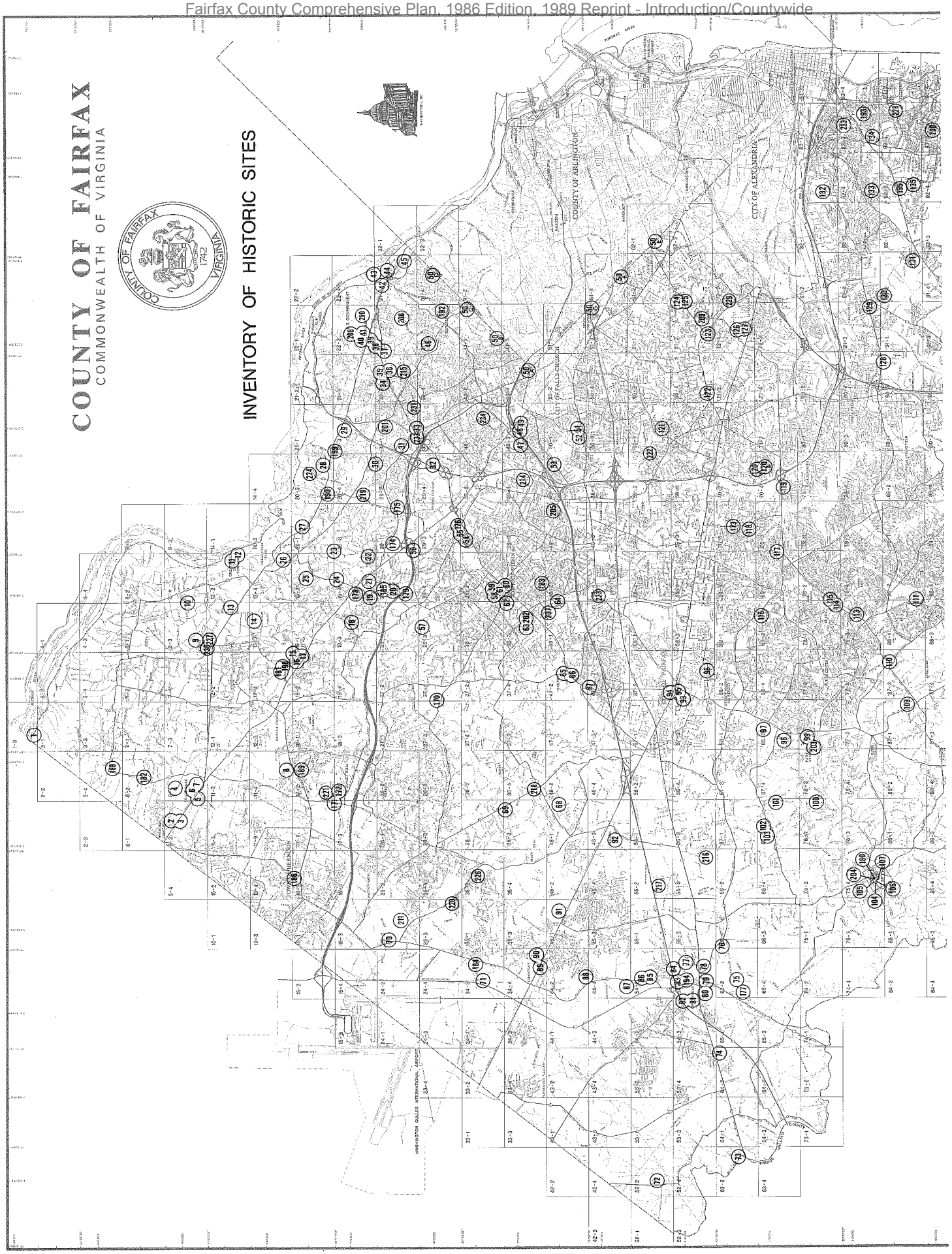
Mount Air Historic District

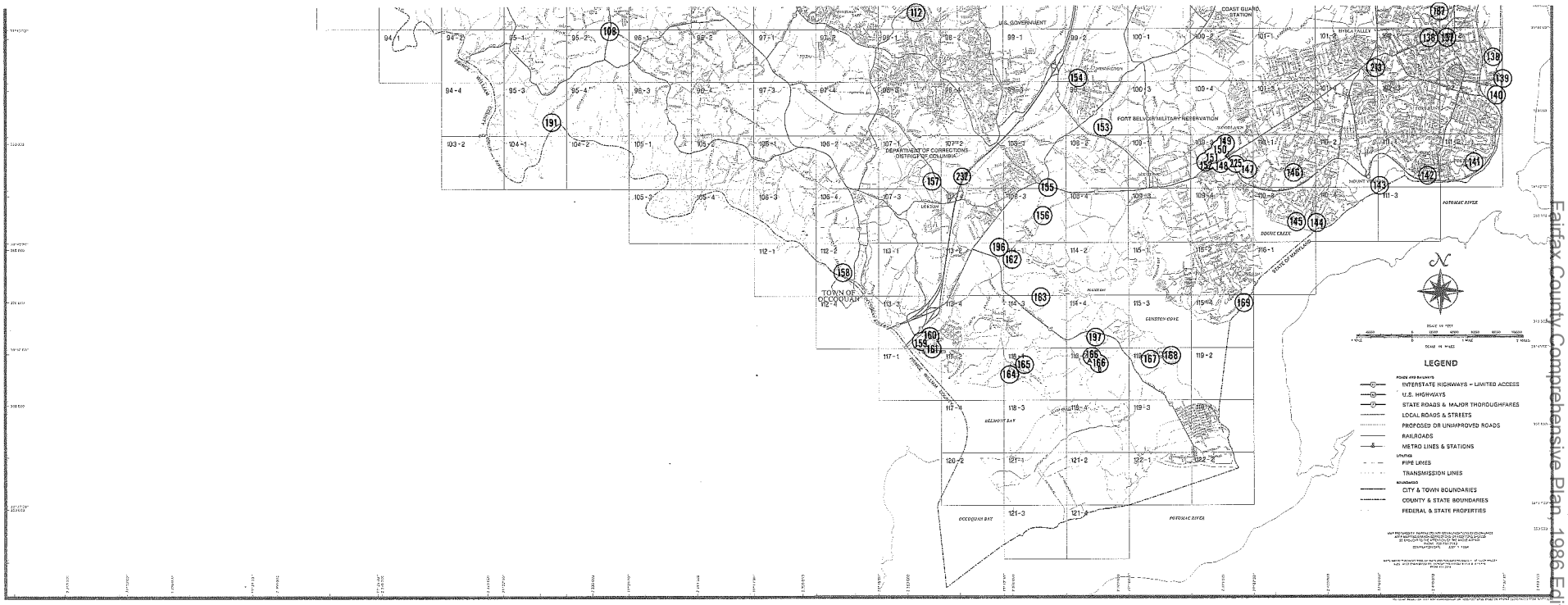
The Mount Air Historic District was created by the Board of Supervisors in 1984 in recognition of both the architectural significance of the structure, its long history, and the role of its inhabitants. Recommendations for development within the historic district can be found in the S6 Section of the Area IV Plan.

Other Heritage Resources

The Fairfax County History Commission maintains an inventory of County sites and structures of historic and architectural significance. The list now contains over two hundred entries. Some of the most representative sites in Area IV are listed below.

- Belvoir (Ruins). It was built about 1741 and destroyed by fire in 1783. It served at one time as the residence of Thomas, Sixth Lord Fairfax, Proprietor of the Northern Neck of Virginia. Belvoir was a spacious mansion built of brick. The grounds had many outbuildings, a large garden, an orchard, and fisheries. Belvoir is on the Virginia Landmarks Register and National Register of Historic Places.
- Colchester Town Archeological Site. Creation of the Town of Colchester was authorized by an act of the Virginia Assembly in 1753. On the Occoquan Creek, Colchester enjoyed a brief period of prosperity as a port


COUNTY OF FAIRFAX
COMMONWEALTH OF VIRGINIA
INVENTORY OF HISTORIC SITES
COUNTY OF FAIRFAX VIRGINIA 1742
COUNTY OF ARLINGTON
CITY OF ALEXANDRIA
CITY OF FALLS CHURCH
TOWN OF HERNDON
WASHINGTON DULLES INTERNATIONAL AIRPORT



Property Number		Section Sheet
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2	Holly Knoll	6-3
3	Dranesville Tavern	6-3
4	Dunbarton	6-4
5	Dranesville Methodist Church	6-4
6	Ivy Chimney	6-4
7	Mayfield	6-4
8	Brown's Chapel	11-2
9	Gunnell's Run	8-3
10	Hidden Springs Farm	8-4
11	Matildaville Ruins	13-2
12	Patowmack Canal Lock Ruins	13-2
13	Cornwell Farm	13-1
14	Four Stairs	13-3
15	Kalorama Springs	18-2
16	Colvin Run Miller's House	18-2
17	Colvin Run Mill	18-2
18	Kenmore	19-3
19	Spring Glade	19-4
20	Wolf Trap Farm	28-2
21	Bethel Primitive Church	19-4
22	Hitchcock Toll House	19-4
23	Hitaffer Road	19-4
24	Towlson Grange	19-4
25	Temple Smith House	19-2
26	Peacock Station	13-4
27	Drover's Rest	20-1
28	Dower House	20-2
29	Beaufort Park	21-3
30	Jackson House	20-4
31	Windy Hill Farm	30-1
32	Maplewood	29-4
33	Elgin House	30-3
34	Bienvenue	30-2
35	Merryhill	30-2
36	Salona	30-2
37	Ballantrae	31-1
38	Hickory Hill	31-1
39	Langley Ordinary	22-3
40	Langley Friends Meeting House	22-3
41	Langley Toll House	22-3
42	Rokeby	31-2
43	Little Falls	31-2
44	Merrywood	31-2
45	Fort Marcy	31-2
46	William Watters' Grave	31-3
47	The Mount	40-3
48	Highland View	40-3
49	Hollywood Farm	40-3
50	District of Columbia Boundary Stones	
51	Limewood	50-1
52	Fountain of Faith	50-1
53	Long View	49-2
54	Head's Hill Farm	39-1
55	Freedom Hill Fort	39-1
56	Ash Grove	29-1
57	Lahey House	28-3
58	Vienna Railroad Station	28-3
59	Vienna Presbyterian Church	38-2
60	Vienna Library	38-2
61	Freeman House	38-2
62	Windover Heights	38-4
63	Contemplation	38-3
64	Moorefield	48-2
65	Oakton School	47-2
66	Oakton Methodist Church	47-2
67	Flint Hill School	47-4
68	Squirrel Hill	46-1
69	Appledore	36-3
70	Frying Pan Church	25-1
71	Sully	34-2
72	Mountain View Ruins	52-2
73	Bull Run Bridge	63-2
74	Newton's Mill Ruins	64-2
75	Level Green	65-2
76	Orchard Hill	66-1
77	Saint John's Church	54-4
78	Harrison House	54-4
79	Chambliss Law Office	54-4
80	Mohler House	54-4
81	Centreville Methodist Church	54-4
82	Carter House	54-4
83	Havener House	54-4
84	Mount Gilead	54-4
85	Cabell's Miller's House	54-2
86	Cabell's Mill	54-2
87	Walney	44-4
88	Leeton	44-4
89	Mitchell-Weeks House	34-4
90	Wrenn House	34-4
91	Ayre House	45-1
92	Ox Hill Memorial Markers	46-3
93	Legato School	57-4
94	Fairfax County Jail	57-4
95	Fairfax County Courthouse	57-4
96	Aspen Grove	57-4
97	Stafford Landing	68-3
98	Jerusalem Baptist Church	68-3
99	Saint Mary's Church	77-1
100	Innisfail	76-2
101	Hope Park	67-3
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107	Clifton Baptist Church	75-4
108	Quailwood	95-2
109	Brimstone Hill	87-1
110	Belle Aire Schoolhouse	87-2
111	Mulberry Hill	88-2
112	Upper Pohick Community Hall	89-3
113	Silas Burke House	78-3
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116	Calvary Christian Church	69-3
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120a	Ossian Hall	70-4
120b	Ossian Hall Cemetery	70-4
121	Holly Hill	60-1
122	Annandale Methodist Church	60-4
123	Mount Pleasant Baptist Church Cemetery	61-3
124	Lake Barcroft Dam	61-4
125	Bardroft Mill Ruins	61-4
126	Green Spring Farm	72-1
127	Tobey House	72-1
128	Oak Grove	90-2
129	Olivet Episcopal Church	81-3
130	Ashland	91-2
131	Belvale	91-2
132	Evergreen	82-2
133	Mount Erin	82-4
134	Spring Bank	83-3
135	Huntley	92-2
136	Sherwood Farm	102-1
137	Little Hollin Hall	102-1
138	Wellington	102-2
139	Andalusia	102-2
140	Collingwood	102-4
141	Fort Hunt	111-2
142	Tower House	111-1
143	Mount Vernon	110-2
144	Ferry Landing	110-3
145	Cariby	110-3
146	Union Farm	110-1
147	Washington's Grist Mill	109-2
148	Woodlawn Baptist Church	109-2
149	Pope-Leighey House	109-2
150	Woodlawn	109-2
151	Grandview	109-2
152	Woodlawn Friends Meeting House	109-2
153	Mount Air	99-4
154	Newington Railroad Station	99-2
155	Pohick Church	108-1
156	LaGrange	108-3
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158	Occoquan Iron Bridge	112
159	Metzger House	113-3
160	Fairfax Arms	113-3
161	Colchester Archaeological Site	113-3
162	Cranford Memorial Methodist Church	114-1
163	Lebanon	114-1
164	Arch Hall	117-2
165	Belmont	118-1
166	Mason Property Boundary Stones	118-2
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169	Belvoir Ruins	115-2
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171	Sunset Hills	17-4
172	Bowman Distillery	17-4
173	Wakefield Chapel	70-1
174	Pleasant Grove Church	29-1
175	Shiloh Baptist Church	29-1
176	Fairfax County Courthouse Site	29-3
177	Willoughby Newton Boundary Stones	65-1
178	Andrew Chapel Methodist Church	19-4
179	Plantation	28-2
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181	Dr. Alfred Heigh House	12-4
182	Piscataway Farm	6-2
183	Springfield	38-4
184	Turley Hall	34-2
185	Filene Center	28-2
186	Herndon Railroad Station	16-2
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195	Stoneybrooke	92-2
196	Indian Spring Farm	113-2
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198	Colvin Run Community House	12-4
199	Swinks Miller's House	21-3
200	Popkins Farm	93-3
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204	Buckley Brothers Store	75-4
205	Camp Alger Headquarters	49-1
206	Mackall House	22-3
207	Nottoway House	48-1
208	Adams-Nelson-Sewell-Hirst Cemetery	31-1
209	Clark House	61-3
210	Turkey Run Farm	22-3
211	Frying Pan Park	25-1
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213	Peake Family Cemetery	101-2
214	Tudor Hall	39-4
215	Othman House	30-2
216	Winfield Farm	55-4
217	Woodarnan House	55-2
218	Vale Community Center	36-4
219	Spring Hill Farm	20-4
220	Elijah White House	25-3
221	Wiehle House	17-4
222	Holmes Run Acres	59-2
223	Hatmark School	48-4
224	Bull Neck Gold Mine	20-2
225	Otis T. Mason House	109-2
226	Franklin Farm	35-2
227	The Great Falls Grange	13-1
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229	Summers Grave Site	72-2
230	Great Falls Post Office	12-1
231	Sears House, McLean	30-2
232	Occoquan Workhouse Site	107-2
233	Lewinsville Post Office	30-3
234	Victorian Farmhouse	40-3

town, but was eclipsed by Alexandria and never recovered from a devastating fire. By 1820, the town was almost gone.

- Fairfax Arms (Colchester Inn). Built about 1760, this is one of two early structures still standing on the site of the old port town of Colchester. The one and a half story frame and clapboard structure may have been the Colchester Inn, a popular ordinary where the Truro Parish Vestry is thought to have met on occasion.
- Gunston Hall. A brick house of the Georgian style, was built between 1755 and 1758 as the home of George Mason. It is a simple one and a half story structure, rectangular in shape with massive chimneys at each end. Gunston Hall is owned by the Commonwealth of Virginia and is on the Virginia Landmarks Register and the National Register of Historic Places.
- Mount Air. A two-story frame unit, was built about 1830. The main portion of the house dated from 1859. Many additions and alterations were made in the late 19th and 20th centuries, thus showing the evolution of a house tailored to meet the needs of its occupants over a hundred years.
- Collingwood. Formerly a restaurant, it stands on land which was once part of George Washington's River Farm, one of the five farms which made up the Mount Vernon complex. Washington purchased the land about 1760 from a William Clifton, and a 1937 Work Projects Administration report on the structure states that property was first called Clifton's Terrace. The name Collingwood was not connected with the property until sometime during the nineteenth century. One theory is that the place was named in honor of Admiral Collingwood of the British Navy; the other is that it was named in honor of the Quaker meeting in Collingwood, New Jersey.
- Sherwood Hall. The house on Sherwood Farm was built in 1859 on Mason family land purchased from the owner of Hollin Hall. The structure has some elements of the Italian Villa style. The present owner stated that very little alteration has taken place since the house was built. Work has been limited mainly to the installation of modern plumbing and heating facilities and to shoring up the structure by replacing the original handhewn beams in the basement with steel beams.
- Little Hollin Hall. The name Hollin Hall was first applied to a Thomson family estate in Yorkshire, England. George Mason, III, married Ann Thomson, and this house was named for her family home, though it is not certain when this happened. George Mason, V, who built Gunston Hall, by 1779 had given Landmarks Register and the National Register of Historic Places.
the Hollin Hall property to his son Thomas Mason, although he was also building a large house for him very close to this site. Thomson Mason and his wife moved to the new house, but it was destroyed by fire about 1812, and they returned to the original house. It was then known as the spinning house because of the Scottish and Irish spinners who had worked in it.
- Mount Vernon. Originally a small cottage built in 1742 for Lawrence Washington, it was enlarged by George Washington between 1757 and 1787 to its present size of two and a half stories with nine bays on the front. It is a frame structure with rusticated sheathing and is of Georgian style. Since 1858, under the ownership of the Mount Vernon Ladies Association, the house has been restored and, wherever possible, furnished to conform to its appearance as Washington knew it. Mount Vernon is on the Virginia
- Pope-Leighey House. Designed in the 1940's by Frank Lloyd Wright, has numerous features that have been influential in contemporary architecture. Among these are the carport, cantilevered flat roof, radiant heating, and spatial and light concepts. In 1964, the house was donated to the National Trust for Historic Preservation and moved from Falls Church to Woodlawn Plantation. It is on the Virginia Landmarks Register and the National Register of Historic Places.
- Walnut Tree Farm. Also called Wellington, is a two and a half story frame, stucco, and brick house, built before 1760. In 1760, it was sold to George Washington and became part of River Farm, one of the five farms which comprised the Mount Vernon Estate. In 1971, the property gained national attention when the United States State Department refused to allow its sale to the Soviet Union. It is now the headquarters of the American Horticultural Society.
- Union Farm. The Union Farm property was so named by George Washington, who in 1769 joined several pieces of property and created the Union Farm of his Mount Vernon Estate. The property on which the house stands was part of Washington's family inheritance and has been traced back to Charles II's grant to Thomas Lord Culpeper. Washington's 1798 map of his lands indicates a smaller house on the site of the present one. The current owner believes that the present house, built in 1857, incorporated the foundations of this old 16 x 18-foot house. The original owner of the house was John Ballinger, one of the group of Quakers who settled in the Woodlawn-Mount Vernon area between 1846 and 1856.

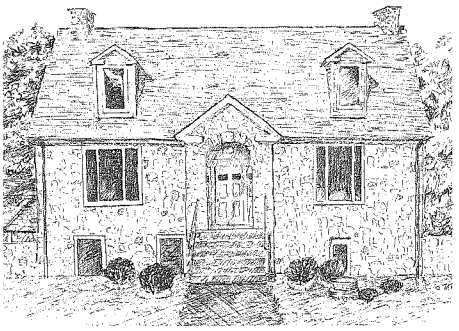
RECOMMENDATIONS FOR HISTORY AND ARCHAEOLOGY

Fairfax County is blessed with a rich and varied past, which is reflected in our archaeological sites and historic structures. The Fairfax County Heritage Resource Management Plan sets forth general policies and guidelines for the identification, study, and preservation of these heritage resources. These policies and guidelines are discussed in Section I: Background and Analysis, under the heading of History and Archaeology. Effective management of our heritage resources for the education and enjoyment of the public depends upon several factors:

- an ongoing program of field survey to identify archaeological sites and historic structures for the purpose of planning and study;
- consideration of known and potential heritage resources in the earliest planning stages of development, and as appropriate thereafter;
- evaluation of resource significance based on explicit criteria;
- preservation of significant resources, when appropriate and feasible, using any of a variety of tools, and in consultation with all parties concerned;
- continued dialogue with citizens, government agencies, and other groups that have expressed interest in our heritage resources.

Recommendations based on these factors are identified in the Area and District Plans. Those who are planning construction projects, large or small, should consult with Heritage Resources Branch staff, who will provide assessments of heritage resources and examine preservation alternatives when appropriate.

So that the Heritage Resource Management Plan can continue to serve the preservation and planning needs of the public, the developer community, and county agencies, the Heritage Resource Management Plan will be reviewed annually to assess the need for revisions in preservation goals and priorities.



Walney, an 18th Century farmhouse situated in the Ellanor C. Lawrence Park is owned by the Fairfax County Park Authority.

FISCAL AND FINANCIAL

GENERAL

As development alternatives are evaluated and decisions made regarding future growth in Fairfax County, special attention must be given to the fiscal impact of these decisions. The purpose of this section is to examine the fiscal implications of the Plan, considering recent fiscal trends in Fairfax and other local jurisdictions which are experiencing growth similar to that of Fairfax. This information will form a basis for ongoing research into the effects of various growth strategies on the pattern of County revenues and expenditures. The fiscal analysis of alternatives must be considered in light of population pressures, employment opportunities and environmental and public facilities constraints.

Fairfax County has grown from a rural community in the early 1950's to a highly urbanized County of today. During this period, the County has maintained fiscal stability while expanding rapidly to meet the ever increasing needs of a more sophisticated citizenry and a more complex, urbanized environment. At the same time property assessments have gone up with inflation of property values, as required by law. However, the real property tax rate in this County has gone down to make it one of the lowest effective rates of major jurisdictions in the Washington metropolitan area. In addition, restrained fiscal management has improved the County's bond rating from "baa" to "AA," thus saving current and future taxpayers substantial interest costs on sales over what would have been paid at the old "Baa" rating.

Fairfax County has experienced tremendous population growth during the past two decades. Primarily due to rapid growth of the regional economy, Fairfax County's population was 4.5 times greater in 1970 than in 1950. About 26.5 percent of the Washington metropolitan growth during the past decades has occurred in Fairfax County. The recent growth experience of Fairfax County and the Washington Standard Metropolitan Statistical Area (excluding the recent addition of Charles County, Maryland) are shown in the following table.

In addition to the residential construction which has taken place to house this population, the County has also experienced significant commercial and industrial development to provide services and jobs for its citizens. This has brought about significant growth in the County's assessable tax base.

With the tremendous growth in population and assessable tax base, the County has been able to maintain a very stable real estate tax. In fact, during the last two years the County has been able to reduce its real estate tax rate by 55¢ by $100 of assessed value. The current tax rate of $3.85/$100 is only 10¢ greater than the tax rate for 1960, and reflects a decrease in the property tax rate that no other jurisdiction in the Washington area was able to accomplish this year.

As can be seen from the data in the following table, the total assessed value of taxable property in Fairfax County has grown from $709 million in 1962 to more than $3.5 billion in FY 1975.

Total Assessed Value, 1962-1975

Fiscal Period	Total Assessed Valuation
1962	709,789,496
1963	725,761,562
1964	809,713,034
1965	932,197,088
1966	1,071,084,022
1967	1,153,857,711
1968	1,302,165,492
1969	1,543,724,600
1970	1,713,296,109
1971	1,973,746,124
1972	2,219,787,119
1973	2,604,063,572
1974	3,027,647,058
1975	3,452,709,910

Source: Office of Comprehensive Planning, and Office of Research & Statistics, Fairfax County.

In the table below, a comparison of effective property tax rates (actual rate times assessment ratio) is shown for Fairfax County and several neighboring jurisdictions for FY 1974. It is notable that five of the nine jurisdictions shown had effective rates higher than Fairfax County. For the fiscal years 1975 and 1976, Fairfax County's effective tax rates have been reduced to $1.64 and $1.54, respectively.

Real Property Tax Rate
Fairfax County
1960-1976

Fiscal Year	Real Property Tax Rate*
1960	3.75
1961	3.75
1962	3.00
1963	3.35
1964	3.75
1965	3.75
1966	4.05
1967	4.05
1968	4.05
1969	4.30
1970	4.30
1971	4.30
1972	4.30
1973	4.30
1974	4.30
1975	4.10
1976	3.85

Source: Accountants' Report, County of Fairfax, Virginia (1960-1972), Approved Fiscal Plans, Fairfax County, Virginia (1962-1975), Office of Management and Budget, Fairfax County.

*States in dollars per $100 of assessed value.

Since 1972 the County has been able to reduce its net debt to assessed value ratio from 11.26 percent to 9.10 percent while still providing a relatively high level of service. One effect of such debt ratio reduction has been, as mentioned above, a substantial improvement in the County's bond market position. This is particularly remarkable considering the general economic condition of the country and large cities like New York which is on the brink of financial disaster. As in the above table, the County's current ratio of net debt to assessed value is the lowest it's been since 1965 when it was 8.65 percent. The County can maintain this low ratio if it continues to follow its fiscal policies of maximizing pay-as-you-go capital construction and utilizing revenue sharing funds for capital construction as much as possible.

Comparison of Assessed Valuation
With Net Debt, 1962-1975

Fiscal Period	Total Assessed Valuation	Net Debt	Ratio of Assessed Valuation to Net Debt
1962	709,789,496	64,948,050	9.15%
1963	725,761,562	68,023,920	9.37
1964	809,713,034	73,764,790	9.10
1965	932,197,088	80,680,460	8.65
1966	1,071,084,022	99,133,580	9.25
1967	1,153,857,711	118,256,850	10.24
1968	1,302,165,492	140,927,620	10.82
1969	1,543,724,600	163,015,140	10.55
1970	1,713,296,109	170,626,485	9.95
1971	1,973,746,124	215,561,680	10.91
1972	2,219,787,119	250,072,650	11.26
1973	2,604,063,572	264,908,455	10.17
1974	3,027,647,058	303,225,435	10.01
1975	3,452,709,910	314,225,415	9.10

Source: Office of Comprehensive Planning and Office of Research and Statistics, Fairfax County.

SOUND FISCAL GROWTH AND THE PRELIMINARY PLANS

In preparing the preliminary area plans for Fairfax County, a key objective was to show types of development that would maximize financial and fiscal stability and minimize harmful environmental and transportation impacts. In this respect, several assumptions were made:

- The types of housing needed will be dictated basically by the market according to future population characteristics.
- Costs of services will increase, while land values and income of the County will grow and most likely offset service costs.
- Changing service levels within individual functional areas will undoubtedly change the pattern of expenditures.

Several recent studies have examined the impacts of various growth patterns. Perhaps the most notable is The Costs of Sprawl prepared by the Real Estate Research Corporation for HUD.* It is a study of prototype development patterns, analyzing the costs (advantages and disadvantages) of a variety of mixes ranging from total single-family sprawl up to predominantly high density (high-rise apartments). In virtually every analytical test, clustered development and higher density

*Prepared by Real Estate Research Corp. for the Council on Environmental Quality: Office of Policy Development and Research, Department of Housing and Urban Development; and the Office of Planning and Management, Environmental Protection Agency (April 1974). Emphasis from original report.

Washington and Fairfax County Population Trends

Year	Population WSMSA	Population Fairfax County	Growth of WSMSA	%	Growth of Fairfax County	%	Fairfax Share of WSMSA Growth
1940	1,006,014	40,929[1]					
1950	1,507,848	96,611	501,834	50%	55,682	136%	11.1%
1960	2,076,848	248,897	568,762	38%	152,286	157%	26.3%
1970	2,861,123	455,021	784,513	38%	206,124	83%	26.3%
1975	--	538,000[2]	--	--	--	--	--

Note: 1. Contains Fairfax City, now independent
2. Estimate from Fairfax County Office of Research and Statistics

Source: U.S. Census of Population, 1940, 1950, 1960, 1970.

Comparison of Real Estate Taxes in Metropolitan Area, 1973-1974

Jurisdiction	Tax Rate	Assessment Ratio	Effective Rate
Fairfax County	$4.30 per $100	40% of market	1.72%
City of Alexandria	$4.00 per $100	50% of market	2.00
Arlington County	$3.83 per $100	40% of market	1.53
Fairfax City	$3.98 per $100	50% of market	1.99
Prince William County	$4.70 per $100	33% of market	1.55
City of Falls Church	$3.00 per $100	50% of market	1.50
District of Columbia	$3.32 per $100	55% of market	1.83
Montgomery County, Md.	$3.52 per $100	60% of market	2.11
Prince Georges County, Md.	$4.05 per $100	60% of market	2.43

Source: Office of Management and Budget, Fairfax County.

developments appear to offer advantages over low-density detached housing patterns.

The major conclusion of this study is that "for a fixed number of households," low-density detached housing patterns are "the most expensive form of residential development in terms of economic costs, environmental costs, natural resource consumption and many types of personal costs. . . . These cost differences are particularly significant in terms of those costs borne by local governments." The study further states:

- Economic and environmental costs (as well as resource consumption) are likely to be significantly less at higher densities to house and service a given population. Some personal costs, however, may increase with increasing density.
- While planning results in cost savings, density is a much more influential cost determinant. Clearly, the greatest cost advantages occur when higher density planned developments are contrasted with low-density sprawl.
- Planned development is likely to decrease the total capital cost burden to local government by as much as one-third because a larger proportion of land and facilities for open space, roads, and utilities is likely to be provided by the developers.

Regarding commercial development, the study states:

- Given a constant amount of floor space, shopping center commercial areas will be 20 percent less costly to build and service with roads and utilities than a strip commercial area. Savings are largely due to lower land prices per acre in shopping centers than are found for commercial strips. Smaller savings are found for off-site utility and road costs. Environmentally, the strip compares poorly with the shopping center.

Studies prepared by the Urban Institute and others tend to support these findings. A study recently completed for Arlington County indicates that growth alternatives which encourage higher densities appear to be more fiscally sound than other alternatives which were considered.**

Based on the foregoing studies, the planning staff has recommended in the area plans a pattern of residential development that will achieve a basic fiscal objective of reducing costs. The preliminary plans show a higher proportion of townhouse and multifamily dwellings than presently exist, and make recommendations that encourage clustering.

The preliminary plans for Fairfax County, in recognition of the findings of these studies, have been designed to encourage:

- growth centers with a variety of housing types;
- concentration of commercial growth in centers rather than in strip-commercial development;
- development of urban densities in areas closet to centers of commercial and employment activity and rapid transit stations; and
- the provision of public facilities at appropriate locations to meet the needs of growth.

These recommendations are expected to produce the following beneficial effects:

- reduction of transportation needs relative to those required by continued low-density detached housing patterns;
- reduction of environmental pollution costs; and
- reduction of future school needs, relative to those which would be required by continuing predominance of single-family development.

**Transit Station Impact Analysis, Arlington County Growth Patterns,* December. 1974. Prepared for Arlington County by Peat, Marwick and Mitchell.

Housing Unit Distribution by Type

	1990 Projections					
	Existing Mix		Added		1990 Mix	
	Units	%	Units	%	Units	%
Single-family	101,733	62%	30,534	27%	132,267	48%
Townhouses	17,936	11%	35,114	31%	53,050	19%
Multi-family (Apartments)	43,563	27%	46,842	42%	90,305	38%
TOTAL	163,232	100%	112,490	100%	275,622	100%

Source: OCP, taken from the four Preliminary Area Plans.

Fiscal Implications of the Countywide Plan

Fiscal assessment of the countywide plan was made based on the range of planned development proposals envisioned in the preliminary area plans. These plans presented projected growth in population, land use and economic activity, and the related growth in pubic facilities and other services required to serve County residents adequately now and during the next 15 years. From these projections, estimates were made of expected revenues generated by such growth and the expenditures required for County governmental services. By examining these revenues and expenditures over time, the fiscal implications of land use proposals made in the area plans can be assessed.

The following table outlines the preliminary estimates of anticipated revenues and expenditures for fiscal years 1975, 1980, and 1990 based on the growth presented in the preliminary plans. The following assumptions were used to make the projections shown.

Education. Overhead and administrative costs for education were apportioned among grade levels. A constant per-pupil cost was used for the period of ensure consistency and comparability. The constant per-pupil cost encompasses the assumption of a constant level of educational services.

School enrollments were based on projected school requirements for each planning area in 1990 outlined in each of the area plans, and age distribution estimates of population projections for 1980 and 1990 outlined in the economic base study. Average per-pupil operating costs are average countywide school costs for each grade level and include administrative, overhead, transportation, and special education costs. School debt was calculated from the debt service schedule for existing school debt, utilizing a ten percent capital recovery factor based on a 20-year amortization period.

Parks. Total park and recreation costs are a combination of the operating costs of the Fairfax County Park Authority and the County's share of the costs of the Northern Virginia Regional Park Authority. Operating costs were assumed to be a function of the different types of parkland the population they serve. Where specific recommendations for acquisition were combination of the operating costs of the Fairfax County Park Authority and the County's share of the costs of the Northern Virginia Regional Park Authority. Operating costs were assumed to be a function of the different types of parkland the population they serve. Where specific recommendations for acquisition were identified in the preliminary area plans, per unit cost for each type of parkland was used. The bond cost for acquiring the parkland is included in the countywide debt service cost.

Police. Due to the stabilizing growth in the County's population and income forecasted for 1985, the recent trend of rapidly rising per capita expenditures for police protection were not pro-

Expenditures and Revenue Forecasts for FY 1975, 1980, and 1990
(In Millions of 1975 Dollars)

Expenditures	FY 1975	FY 1980	FY 1990
Education (1)	$ 95.3	$ 110.5	$ 128.1
Library	4.3	5.7	6.7
Parks & Recreation	4.6	6.4	7.5
Administration of Justice	18.9	28.2	49.1
Fire	9.6	14.7	17.6
Health & Social Service (1)	11.5	16.6	20.8
Public Works	5.5	8.1	9.9
Subtotal	149.7	190.2	239.7
General Administrative	32.0	42.6	48.6
Total Operating (2)	181.7	232.8	288.3
Debt Service	24.9	36.8	54.4
Total Expenditures	206.6	269.6	342.7
Revenues			
Real Property Tax	$ 119.8	$ 165.7	$ 229.2
Personal Property	21.3	32.0	41.7
Sales Tax	12.7	14.5	18.1
Utility Tax	17.6	22.0	27.5
BPOL	5.5	7.3	9.0
Land Use	2.4	4.8	7.2
Auto License	4.3	7.5	9.6
Misc. (Exclusive of carryover)	16.7	17.5	17.5
Total Revenues	200.3	271.3	359.8
Total Expenditures	206.6	269.6	342.7

(1) Estimates of FY 75 and projections of FY 80 and FY 85 are net Fairfax County expenditures for Education and Health and Social Services.
(2) Turnover and retirement are assumed to offset merit increments.

Notes: The estimates are made for individual fiscal years.

Growth for the period 76-80 and 81 through 90 is assumed to occur in 1980 and 1990 respectively, and therefore expenditures for debt service are over-estimates.

Debt Service estimates are based on the repayment of principal and interest estimated capital facility expenditures (including Metro expenditures) as of March 1975.

Revenue estimates are based on recent trends in the individual revenue accounts.

Refinement of these projections will be made later this year in the Capital Improvements Program and in an update of this table, following publication of the CIP.

Source - Office of Comprehensive Planning

jected to continue. Through 1980, the average annual increase was estimated to be equal to the increase in per capita expenditures since 1965, ten percent per annum. Thereafter, the growth was estimated at about one-half the increase in the previous five-year period, five percent annually.

Health and Social Services. Expenditure levels have been estimated to be equal to the rate at which the elderly population, people aged 55 and over, is expected to grow, since, usually, it is the elderly who are the major recipients of County social welfare services.

Fire. Fire protection costs per dwelling unit are assumed to remain constant and therefore the growth in expenditures for this category was assumed to be equal to the growth in the number of households.

Public Works. The growth and expansion of these activities are related to the development of land. Expenditures are projected to rise at the rate at which undeveloped acreage is committed or anticipated to develop.

General Administration. The rise in the cost of general administrative work for County government in the preceding decade was between two and four times as high as the real growth in total County expenditures. Real increases in County expenditures tied to specific functions was somewhat less than four percent per year. Based on these two factors, the growth rate in the costs of general County administrative and operating expenditures was estimated to be seven to eight percent.

Based on the projections shown in the adjacent table, facilities required to support the preliminary area plans can be provided while still maintaining a fiscal balance in the County budget. For 1980 and 1985, total revenues of $271.3 and $359.8 million exceed total expenditures of $269.6 and $342.7 million, respectively. The above estimates come from projected residential growth that will require less per capita County expenditures than growth in the past. For example, education expenditures for new growth are expected to increase more slowly as family size and the percent of school-age children to total population decline. However, the statement of fiscal balance requires the following caveats:

- The revenue estimates were based on the existing tax rates (i.e., $3.85/$100 for real property). If the tax rates are changed, the results could change drastically, and it may be assumed that there always will be pressure to reduce tax rates rather than build surpluses.
- It is implicit in the assumptions that inflated costs of government services approximate inflation in revenue producing tax bases. In the short run, temporary inflation in service costs may force tax rates to rise (or service levels to drop) if corresponding inflation in the tax bases which provide revenues does not occur.
- Estimates of costs were based on the existing level of services and programs. If County residents demand new or expanded levels of services, which is typical of growing communities, increased revenues will be required.
- Changes in the preliminary area plans as presented by the staff may affect the fiscal balance of the plan. The fiscal component of the plan must be reconsidered as the area plans are finalized by the Planning Commission and Board of Supervisors.
- The complex issue of operating costs of the County must receive intensive ongoing analysis. The fiscal estimates of the recommended plans must be further evaluated in light of the impacts that changing national economic conditions have on the local economy.
- The County's CIP (Capital Improvement Program) is critical to the long-range fiscal planning of the County and must receive continuing analysis in conjunction with the overall objectives of the countywide plan.

Budget balances are not shown in these figures. Deficits and surpluses and their carryovers in intervening years have not been projected. The importance of this table is to show that cash revenues are projected to come in line with projected expenditures in FY 1980 and FY 1985.

CAPITAL PROGRAMMING

In order to achieve the fiscal balance discussed in the previous section, the County must utilize not only the short-term budget review process but also the Capital Improvement Program process. The process involves the identification of necessary capital projects and identifies their associated costs.

The CIP process was created on July 23, 1973, when the Fairfax County Board of Supervisors adopted a *Proposal for Implementing An Improved Planning and Land Use Control System in Fairfax County.* The Planning and Land Use System (PLUS), which evolved from the Board-adopted framework, directs that a CIP be prepared to guide County growth by staging public facilities over a 5-year period.

The stated objective of the CIP was:

> . . .to plan for an adequate level of public utilities and facilities in accordance with adopted land use plans specifying time and distribution of growth. The Capital Improvement Program will be the primary implementation tool of the adopted County plans. . .(and) the adopted land use plans play a key role in the development of the Capital Improvement Program. The Plans identify for each planning district those areas suitable for residential and commercial development and the Capital Improvement Program translates these goals into public facilities.

Fairfax County can derive considerable benefits from a systematic approach to planning and financing capital projects. These benefits, of course, are not an automatic result of instituting a capital programming process. They depend upon legislative commitment to the program and executive leadership in the formulation and implementation of the program. Some of the more imortant benefits to be derived from a capital programming process include the following:

1. It will assist in the implementation of the Comprehensive Plan. The primary function of the CIP is to serve as a mechanism for implementation of the comprehensive plan. By outlining the facilities needed to serve the population and land uses called for in the plan and by scheduling them over time, it thus guides the public construction program for the future. The investment of funds in public facilities clearly has an impact on the pattern of community development. This can be most clearly seen in the extension of water and sewer lines and transportation networks, but also carries over in terms of schools, parks, fire and police facilities, and the like. Planning for such public facilities and the public announcement of intentions to acquire property or schedule construction of new facilities can do much to influence private development decisions. The CIP is a means of implementing certain aspects of the comprehensive plan, as are zoning and subdivision controls.

2. It will focus attention on community goals, needs, and capabilities. Capital projects can be brought into line with community objectives, anticipated growth, and financial capabilities. By planning ahead for projects, those that are needed or desired can be constructed or acquired. The CIP, once adopted, keeps the public informed about future capital investment plans of the County, and public involvement in the CIP process can provide a mechanism through which previously unidentified needs can be addressed. In addition, knowledge of future capital projects and the financial ability of the County to fund these projects can be a valuable indicator to the private deelopment sector.

3. It will encourage more efficient government administration. Coordination of capital improvements programming by County agencies can reduce scheduling problems, conflicting and overlapping goals, and over-emphasis of any governmental function. Work can be more effectively scheduled and available personnel and equipment better utilized when it is known in advance what, where, and when projects are to be undertaken. Furthermore, advance programming can assist in avoiding the possibility of costly mistakes due to improper project scheduling.

4. It will foster a sound and stable financial program. Sharp changes in the tax structure and bonded indebtedness may be avoided when projects to be constructed are staged over a number of years. Where there is sufficient time for planning, the most economical means for financing each project can be selected in advance. The CIP can facilitate reliable capital expenditure and revenue estimates and reasonable bond programs by looking ahead to minimize the impact of capital improvement projects. The CIP becomes an integral element of the County's budgetary process. When a CIP is adopted, the first year of the program becomes the capital budget which, along with the operating budget, will constitute the County's financial program for the current fiscal year.

BOARD OF SUPERVISORS POLICIES

On October 22, 1975, the Board of Supervisors endorsed a set of policies designed to maintain the "AAA" bond rating awarded to the County on that date by Moody's Investor Service, Inc. The policies were reinforced in October of 1978 when the County was awarded an "AAA" bond rating by Standard and Poor, Inc. The policies stress the close relationship between the planning and budgetary process. Based on a commitment to reexamine the policies every five years in light of changing financial conditions, the Board, on May 5, 1980, revised certain portions of the policies. As such, these policies are used as a framework in formulating the Capital Improvement Program (CIP). Key among the current policies applicable to Fiscal planning are the following:

1. The comprehensive land use planning system must continue as a dynamic annual process which is synchronized with the capital improvement program, capital budget, and operating budget.
2. The County's ratio of net debt as a percentage of estimated market value of taxable property must remain less than three percent.
3. The ratio of debt service expenditures (payments of both principal and interest) as a percentage of General Fund expenditures must be reduced to ten percent as soon as possible, with a long-range goal of remaining under a ten percent ceiling.
4. Bond sales must be limited to an average of $60 million a year or $300 million for the next five years to meet policies #2 and #3 above.
5. The County should continue the emphasis on pay-as-you-go financing of capital facilities. Maintaining a high level of General Fund support of capital expenditures will reduce debt service obligations.
6. Efforts must continue to eliminate duplication of functions within the County government and the autonomous and semiautonomous agencies.
7. "Underlying" debt (contracted by towns within the County and by sanitary districts) must not expand beyond what is now contemplated, and new sanitary districts for the purpose of incurring bonded indebtedness should not be created. Any new bonds carrying the name of the County must be secured by extremely tight covenants.
8. The County must continue to diversify its economic base so as to increase employment in the private sector, particularly industrial employment.

III. IMPLEMENTATION

IMPLEMENTATION

Implementation of the Comprehensive Plan is achieved through a variety of methods, the major ones being the Zoning and Subdivision Ordinances and the Capital Improvement Program. These basic methods are supplemented by numerous other elements that address critical areas such as fiscal policy, encouragement of economic development and the preservation of agricultural, historic and environmental assets.

SUBDIVISION ORDINANCE

The Subdivision Ordinance is the basic means for controlling the subdivision of land. It contains the regulations for dividing parcels of land into lots of any size less than five acres and for the provision of public facilities, if required, to serve the lots so formed. While this ordinance provides the means to subdivide land, the resulting lots and uses thereon must also conform to the zoning on the property.

ZONING ORDINANCE

The Zoning Ordinance prescribes both the size of lots into which land may be subdivided and the uses which may be pursued on the property. If an owner wishes to change either the lot size or uses permitted on his property, he must apply for rezoning to a district in which the desired lot size or uses are permitted. The Zoning Ordinance, therefore, is a primary means by which the land use recommendations of the Comprehensive Plan are implemented.

All property in Fairfax County falls into one or more of five general zoning district categories: residential, commercial, industrial, planned development, and overlay. Each category is broken down into a number of specific districts which are detailed in the County's Zoning Ordinance.

Residential zoning districts refer to land which may be developed with some type of housing. They are indicated by the code letter "R" followed by a number or letter which further describes density of residential use permitted, for example, the R-P (Residential Preservation) district designates that one dwelling unit is allowed on ten acres, the R-3 district allows three dwelling units per acre, and the R-30 district allows multiple family units such as apartment buildings, with 30 dwelling units per acre. There are 15 different residential districts.

Commercial zoning districts permit land uses such as offices, banks, stores, and shopping malls. There are eight commercial district designations. The C-1 through C-4 districts are primarily for offices, with the largest concentration of floor space allowed in a C-4 district. Retail uses, in addition to offices, are allowed in the C-5 through C-8 districts. For example, the C-7 district (Regional Retail) permits large shopping malls and offices.

Industrial zoning districts permit research and development establishments, offices and, in some cases, storage and manufacturing uses. The seven industrial districts range from I-I (Industrial Institutional) to I-6 (Heavy Industrial).

Planned development zoning districts may be PDH (Planned Development Housing) for residential subdivision with secondary commercial uses such as neighborhood retail stores, PDC (Planned Development Commercial) for commercial centers, such as Skyline at Baileys Crossroads, which also may include housing as a secondary use; or PRC (Planned Residential Community) for complete communities, such as Reston and Burke Centre covering at least 750 acres and allowing all types of residential and commercial use.

Overlay zoning districts impose regulations for specific purposes in addition to those of underlying zoning districts. These overlay districts include:

- HD (Historic)—to protect certain areas through use and architectural controls within the district;
- AN (Airport Noise Impact)—to designate areas in which soundproofing of residential, commercial, and industrial structures may be required in order to minimize the impact of aircraft noise;
- SC (Sign Control)—to impose special controls on freestanding signs within intensely developed commercial and industrial areas;
- HC (Highway Corridor)—to control certain highway oriented uses along certain segments of major highways; and
- WL (Wetlands)—to place strict limitations on all uses within shoreline and marsh areas.

Another feature of the Zoning Ordinance which contributes toward implementation of the Comprehensive Plan is the regulation of land uses by special permit and special exception. The purpose of special permits and special exceptions is to control uses such as service stations, private schools, churches and public utility uses which have an impact upon or are incompatible with other uses of land. In addition, special exceptions provide for modifications of standards and regulations specified for certain uses within a given district; i.e., allowing greater height for structures than provided for by right within a district.

DEVELOPMENT CRITERIA FOR RESIDENTIAL DENSITY RANGES

Residential density ranges recommended in the plan and shown on the planning area maps are defined in terms of units per acre. Where the plan map and text differ, the text governs.

Only the lower end of the density range is planned as a presumptive appropriate density contingent upon satisfactory conformance with applicable ordinances, policies, regulations and standards and assurance of the protection of the health, safety, and general welfare of the public. Except where review of the development proposal and the comprehensive plan with regard to the preceding land use determinants clearly justifies approval above the low end of the planned density range, approval of such densities shall be based on the satisfactory resolution of development issues identified through analysis of the development proposal.

The responsibility for demonstrating that a proposed development merits approval at a density above the low end of the comprehensive plan density range rests with the applicant. Justification can be demonstrated by proffer of: (1) a development plan which graphically portrays in sufficient detail a quality of development which exceeds minimum development standards through fulfillment of the development criteria below, of (2) finite development conditions which fulfill those criteria, or (3) a combination of (1) and (2).

In all cases, evaluation of the fulfillment of development criteria will weigh the number of criteria credited through proffered conditions against the number of criteria which are feasible for the specific rezoning application being considered. As a general guide, at least two-thirds of applicable criteria should be satisfied for approval of density at the high end of a one-unit density range. As a general guide for multi-unit density ranges, approximately one-half of the criteria should be satisfied for approval of mid-range densities and three-fourths satisfied for approval of high end of the density range.

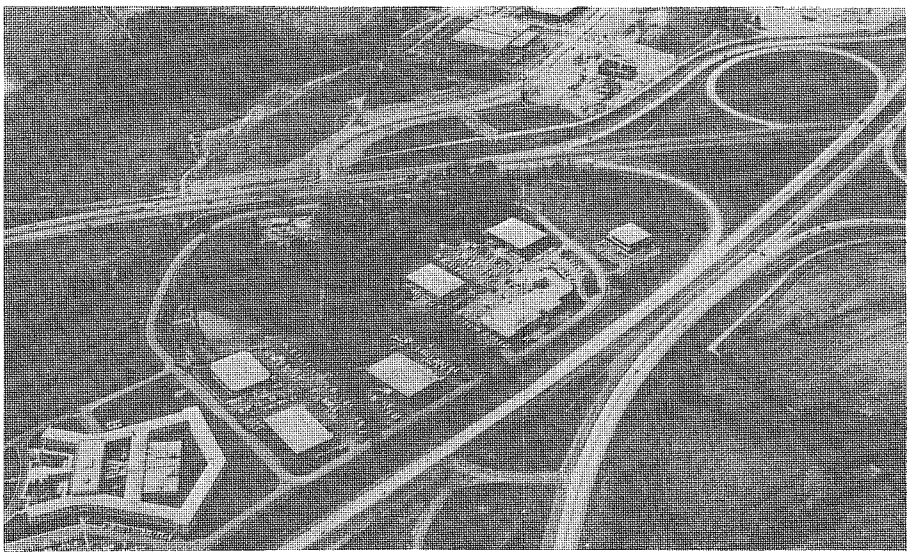
Criteria need not be equally weighted. In exceptional instances, a single criterion may be overriding in evaluating the merits of a development proposal.

Use of Development Criteria

Evaluation of development proposals shall include a comparison of the proposed land use with the land use(s) recommended in the comprehensive plan. The comprehensive plan considered the following land use determinants when it was prepared.

1. Existing zoning patterns
2. Existing and planned land use
3. Trends of growth or change
4. Density/intensity of development in the immediate vicinity
5. Existing and proposed transportation facilities
6. Encouragement of economic development activities
7. Need to provide a variety of housing opportunities
8. Impact on existing environmental features.

When staff review and analysis confirm that the



Westgate Research Park at Tysons Corner

proposal is in accordance with the comprehensive plan and reveals no unfavorable development issues affecting the proposed development of adjacent properties, the above factors may serve as a basis for decision on the development proposal. When review confirms that the proposal is in accord with comprehensive plan, but staff analysis reveals development issues affecting the proposed development or adjacent properties, a more detailed evaluation using the development criteria described below should be used to determine an appropriate intensity of development.

Development Criteria for Residential Evaluation

Development criteria include, but need not be limited to the following:

1. Proffer of a development plan incorporating design layout and features determined through staff analysis to merit recognition for good design and amenities for the property in the application.
2. Provision of supporting public facilities beyond minimal ordinance, regulations and standards to alleviate the impact of the proposed development on the community.
3. Accessibility to existing public facilities, and/or phasing of development completion to coincide with the programmed provision of public facilities shown in the current Capital Improvement Program (CIP) to reduce interim adverse impacts of the proposed development on the community.
4. Provision of public road improvements and/or commitment to a reduction in traffic volume in order to reduce development traffic impact.
5. Provision of developed recreational areas which meet adopted standards, other amenities, or common or publicly owned open space for passive recreation create a more attractive environment within the new residential area. At least ten percent of such recreation and/or open space area should be provided outside of any floodplain area as defined in the Zoning Ordinance.
6. Compatibility in architecture and site design with existing and other planned development within the community to reduce the impact of new development.
7. Design sensitivity and exceptional conservation measures to preserve and/or protect environmental resources associated with the application site.
8. Innovative design to incorporate energy-conserving features or design features of particular value to future residents of the development.
9. Incorporation of noise attenuation measures which will significantly reduce aircraft, railroad, or highway noise impact that otherwise would be determined an obtrusive nuisance to persons living or working on the application property.
10. Provision of moderately-priced housing to make housing available over a broad cost range in order to serve better the needs of the entire population. Guideline: all housing developments, except single-family detached, in excess of 150 units should be approved for the upper end of the density range only if a proportion of the units, usually 15 percent, is provided for low- and moderate-income families or the applicant proves to the satisfaction of the Board that provision of low- and moderate-income housing is technically or economically infeasible.
11. On tracts containing soils locally described as marine clay, approval above the low end of the density range should be considered only when: (1) proposed construction avoids the marine clay; (2) the development proposal requests apartment development on the marine clay and the Comprehensive Plan permits such development either explicitly or by recommending a density of at least 8-12 dwelling units per acre; or (3) a planned development district application, which is compatible with the comprehensive plan, proposes apartment development on marine clay portions of the site.
12. Where appropriate, land assembly and/or development plan integration which facilitates achievement of plan objectives.
13. Where appropriate, preservation and/or restoration of buildings, structures or other features of architectural, historic or environmental significance to preserve our heritage.

ZONING DISTRICTS GENERALLY ASSOCIATED WITH COMPREHENSIVE PLAN RESIDENTIAL DENSITIES

.1-.2	R-P	R-A or R-C
.2-.5	R-A or R-C	R-E
.5-1	R-E	R-1
1-2	R-1	R-2
2-3	R-2	R-3
3-4	R-3	R-4
4-5	R-4	R-5
5-8	R-5	R-8
8-12	R-8	R-12
12-16	R-12	R-16
16-20	R-16	R-20

Development Criteria for Commercial and Industrial Evaluation

While the comprehensive plan has no equivalent to the residential density range in areas planned for commercial and industrial uses, each such rezoning application will be evaluated using pertinent development criteria as a basis for such evaluation. The pertinent development criteria will be those set forth in the list of residential development criteria numbered as 1, 2, 3, 4, 6, 7, 8, 9, 11, 12, and 13.

CLUSTERING OF AUTOMOBILE-ORIENTED COMMERCIAL USES

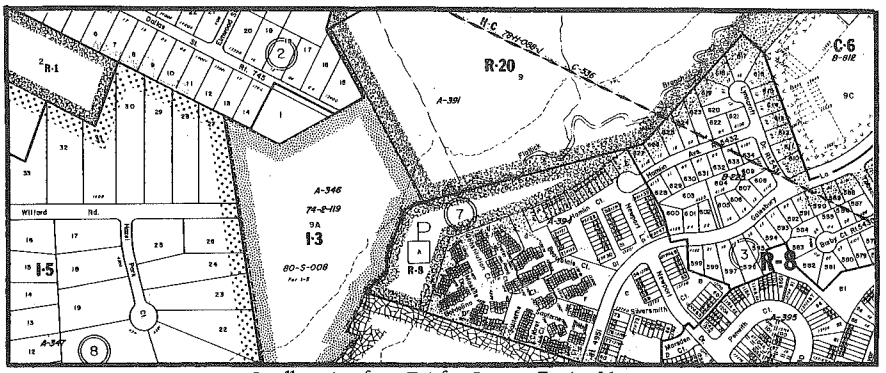
Consideration should be given during the development review process to encourage the clustering of automobile-oriented commercial uses. By allowing such clusters the following goals can be achieved: higher quality design; increased landscaping and buffering; increased vehicular safety; and increased energy efficiency.

Uses that should be considered for this type of development include, but should not be limited to, automobile sales and service, banks, convenience stores, fast food restaurants, and other auto-oriented eating establishments. The following design guidelines should be considered in review of commercial clusters:

1. Clustered commercial uses should be developed as an integrated complex of buildings and supporting structures. There should be overall compatibility and similarity in architectural character, design detail, materials, and color within a cluster.
2. Vehicular access should be consolidated in order to improve vehicular safety and traffic flow. A maximum of two ingress/egress points should be allowed where there is only one street frontage. Where more than one street frontage occurs a maximum of three access points may be considered. Vehicular access to physically separate structures within the complex shall be by means of interior driveways or common service roads.
3. To allow for a more efficient clustering of uses, shared buildings or structures should be encouraged.
4. To encourage the use of this type of development technique, a reduction in minimum lot size should be considered.
5. To provide adequate yet efficient space for parking, sharing of parking between uses should be encouraged. Reduction of the required number of spaces per use, should be allowed to achieve this goal.
6. To eliminate visual clutter along street frontages, all street-oriented pole signs should be consolidated onto one pole sign per street frontage. This sign can identify all uses within the cluster.
7. The identification of uses within each structure shall be limited to one sign per use on the exterior of the structure.
8. On-site service signs indicating entrances, deliveries, parking, etc. should be alike in size, material, color, and finish.
9. To reduce the visual impact of service and trash collection areas, they should be consolidated where possible. These areas should be located in a way that they can be screened visually from public roads, shared access drives, parking, and adjacent parcels. Such screening can be achieved using plant materials, walls or fencing which is compatible with the architectural style and materials used in the cluster, and by the use of berms.
10. Drive-through windows should be discouraged in these clusters, unless the windows can be consolidated.

"LOCATIONAL GUIDELINES FOR MULTIFAMILY RESIDENTIAL DEVELOPMENT

All multifamily residential development should meet the following guidelines. Application of these guidelines can assist in planning acreage for multifamily use that is compatible with existing uses and located in accordance with sound land use principles.



Small section from Fairfax County Zoning Map

These guidelines should be used in the initial screening of sites proposed for multifamily development. They can also be used by the development community when considering sites for such uses. Although all prospective multifamily sites should be screened on the basis of these guidelines, it is not intended that sites identified as meeting these guidelines are appropriate for multifamily use. Following the initial screening process, additional site-specific impact analysis should be applied to determine the suitability of the site for multifamily residential development.

The lack of homogeneity in a county the size of Fairfax prohibits the application of a single set of locational criteria for multifamily residential development. For example, the mature, developed areas of the County, predominantly inside or in close proximity to the Beltway, generally have less land available and land values that are higher than those in the western portions of the County. Also, the economics associated with the redevelopment of existing obsolete uses, which may represent some of the best opportunities for new multifamily development, are entirely different from the economics associated with developing raw land. Therefore, locational guidelines should recognize the disparity between different areas of the County.

These guidelines are organized in a way that addresses the economics, evolution of development, site size and probable densities for different parts of the County. The guidelines are organized into three groupings: Group A: Mature, Developed Areas*; Group B: Developing Areas, and; Group C: Housing for Elderly.

A logical and comprehensive approach to selecting appropriate sites for multifamily residential development involves not only specific site concerns, but also neighborhood and community characteristics. Therefore, the guidelines described below, for each of the above mentioned groups, includes both site specific and neighborhood/community considerations. These guidelines support the County's policy of encouraging multifamily development near Metro stations, along employment corridors, and in development centers and revitalization areas.

GROUP A: MATURE, DEVELOPED AREAS

Locational Guidelines

1. Most community services (e.g. medical facilities, grocery stores/other retail, libraries, houses of worship, park/recreational facilities, public transportation, and schools) should generally be available within walking distance (approximately one-half mile), or via public transportation.

2. The fact that community services are nearby is not sufficient to ensure accessibility for residents. The area should have in place, or have the potential for, a safe and convenient system of sidewalks and designated crosswalks to permit safe movement of pedestrians to and from these services.

3. Multifamily land use should be compatible with surrounding and/or adjacent residential communities.

4. Multifamily residential development should be located within walking distance of public transportation, available either at the time of development, or in the foreseeable future. Multifamily residential development should also be located within a reasonable distance (one and one-half miles) of regional serving transportation facilities, i.e., Metrorail, frequent Metrobus service, or interstate roadways. To ensure that the transportation system is capable of accommodating increased traffic flow that might result from new multifamily development, the site should have adequate access to an arterial or a collector street. A detailed transportation analysis should be performed in conjunction with any significant development proposal, and the development made contingent on the satisfactory resolution of transportation issues thus identified.

5. The configuration of the site should allow for imaginative design techniques and layouts, and efficient and safe internal circulation. Frontage along roadways should be sufficient to allow for adequate ingress/egress and site visibility (usually 500 feet).

6. High-density multifamily residential development may be more appropriate on smaller parcels of land in the County's mature, developed areas than in other areas where there is a reasonable supply of land.

7. Multifamily residential development should be encouraged in particular areas of the County that provide unique opportunities for new residential construction. Those areas which should be considered include, but should not be limited to:

- re-emerging areas in which certain commercial uses may no longer be viable (e.g., revitalization areas);
- sites where multifamily residential development may serve to stabilize or stop neighborhood deterioration (e.g., adjacent to commercial areas), and;
- sites that provide the opportunity for adaptive reuse of existing structures (e.g., surplus schools).

GROUP B: DEVELOPING AREAS

Locational Guidelines

1. Community services should be currently available, or planned for development in the near future, within approximately a one and one-half mile radius. Good multifamily sites should have adequate access to medical facilities, public transportation, and grocery stores/other retail. Other desired, but not critical, services include libraries, houses of worship, park/recreational facilities, and schools.

2. Sites for multifamily residential development should be located where it is County policy to provide public water and sewer service.

3. Multifamily land use should be compatible with surrounding/adjacent residential communities.

4. Multifamily residential development should be located within a reasonable distance (one and one-half miles) of regional serving transportation facilities, i.e., Metrorail, frequent Metrobus service or interstate roadways. To ensure that the transportation system is capable of accommodating the increased traffic flow, the site should have adequate access to an arterial or a collector street. A detailed transportation analysis should be performed in conjunction with any significant development proposal, and the development made contingent on the satisfactory resolution of transportation issues thus identified

5. The required site size is dependent upon density, setback requirements, open space, parking, social and recreational amenities to be provided, and building height. These factors will tend to determine minimum site size. Generally, in areas of the County which have a reasonable supply of vacant land, project size should be kept above that necessary to meet Zoning Ordinance requirements and allow a development that could economically support a private amenity package, e.g. swimming pool, tennis courts, clubhouse, etc. (a minimum of 200 units). If projects contain more than 600 units, diversity in architectural style, layout and transition should be encouraged.

6. Environmental concerns should be considered in site selection. Stream valley floodplains and steep slopes, marine clays and other slide-prone areas, and areas subject to noise greater than 70dBA Ldn should generally be avoided, if possible.

GROUP C: THE ELDERLY

Locational guidelines for housing for the elderly must recognize both the needs of the elderly and site characteristics. This combination should consider the needs of the specific elderly market the development is intended to serve. For example, a multifamily residential development designed for residents who are very active and mobile, and in good health, should be located according to those guidelines applied to multifamily residential development in general.

For those residents in the age group for whom health and mobility have become a concern, the guidelines listed for both Groups A and B are applicable with certain additions:

1. It is desirable to have the elderly be part of the community. Therefore, multifamily residential development intended for the elderly should be located on land convenient to public transportation and/or community services, especially full service shopping, health care facilities, social services, activity/recreation centers, and parks.

2. Public transportation and/or community services should be located within a reasonable walking distance, and should be accessible via paved walkways that are lighted, secure, and well maintained. Crosswalks should be delineated, and adequate provisions (i.e., walk signals) made for crossing heavy traffic.

3. If neither public transportation nor community services are located within a short walking distance of a site, the elderly housing development will need to provide shuttle bus service which will offer residents comparable access to community services.

4. The topography not only of the site itself, but also between the site and nearby destinations, should be taken into consideration when siting residential development for the elderly. Pedestrian facilities should not be located on slopes greater than 5-8%; such maximum slopes should not run farther than 75 feet.

5. Safety and security are of particular concern to the elderly. The vicinity of the site should be a safe area where elderly pedestrians would be reasonably free from potential harm.

Residential facilities, such as congregate housing and nursing homes, designed to serve that portion of the elderly population in need of medical/nursing care and a heavy service package, are less location sensitive than other elderly residential developments. Typically, meals and housekeeping services are provided. Therefore, proximity to services is no longer a concern. The impact of such a development on the transportation system would be nominal. In reviewing such developments, neighborhood suitability and compatibility would be the major concerns. Only site location guidelines 3, 5, 6 and 7 for Group A, and criteria 2, 3 and 5 for Group B would be applicable for these types of developments.

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* Those areas of the County which are considered as mature and developed generally have several or all of the following characteristics:

a. The area is fully served by retail shopping;

b. Major residential construction has generally not occurred in the past 3-5 years;

c. An area which has been losing population in the last decade and may have begun to gain population and generally exhibit the following characteristics: (1) increases in older population groups, (2) decline in school age children;

d. The area has, for the most part, a fully developed road network.

CAPITAL FACILITIES PROGRAMMING

Capital improvement programming is a guide toward the efficient and effective provision of public facilities. The result of this continuing programming process is the Capital Improvement Program (CIP), a document published annually that proposes the development, modernization or replacement of physical public projects over a multiyear period. The CIP shows the arrangement of projects in a sequential order based on a schedule of priorities and assigns an estimated cost and anticipated method of financing for each project.

Programming capital facilities over time can promote better use of the County's limited financial resources and assist in the coordination of public and private development. In addition, the programming process is valuable as a means of coordinating among County agencies to avoid duplication of efforts and to take advantage of joint planning and development of facilities where possible. By looking beyond year to year budgeting and projecting what, where, when and how capital investments should be made, capital programming enables public bodies to maintain an effective level of service to the present and future population.

Benefits of Capital Programming

A long term capital improvement program has many obvious benefits that derive from its systematic approach to planning and financing public agency projects. These benefits will not occur, however, simply with the annual production of the document and its subsequent adoption by the local government. Its usefulness will depend on continuing legislative support of the program and firm executive commitment in carrying out program recommendations on a daily basis. Some of the more important benefits to be derived from a viable capital programming process include the following:

- **Assists in the implementation of the Comprehensive Plan.** The primary function of the CIP is to serve as a mechanism for implementation of the comprehensive plan. By outlining the facilities needed to serve the population and land uses called for in the plan and by scheduling them over time, the CIP guides the public construction program for the future.

  The investment of funds in public facilities clearly has an impact on the pattern of community development. This can be most clearly seen in the extension ofwater and sewer lines and transportation networks, but carries over in terms of schools, parks, fire and police facilities and the like. Planning for such public facilities and the public announcement of intentions to acquire property or schedule construction of new facilities can do much to influence private development decisions. Likewise private development plans can have an effect in the formulation and priority ranking of projects proposed in the CIP. Thus, the CIP is intended to provide an important element in the strategy to achieve the goals and policies established in the comprehensive plan. However, the CIP cannot function alone. Working in concert with the zoning ordinance, subdivision regulations and other regulating legislation as well as being cognizant of current economic conditions and private market decisions the CIP is one means of implementing certain aspects of the comprehensive plan.
- **Focuses attention on community goals and needs.** Capital projects can be brought into line with community objectives, anticipated growth and the government's ability to pay. By planning ahead for projects, those that are needed or desired the most can be constructed or acquired first. Maximum satisfaction can thereby be gained from the public money invested. The CIP, once adopted, keeps the public informed about future capital investment plans of the County, and public involvement in the CIP process can provide a mechanism through which a previously unidentified need can be surfaced and addressed, placing its priority within a framework of identified Countywide needs. In addition, knowledge of future capital projects and the financial ability of the County to fund these projects can be a valuable indicator to the private development sector.
- **Encourages more efficient government administration.** The CIP promotes coordination among government agencies and provides a check on potential overlapping or conflicting programs. Coordination of capital improvement programming by County agencies can reduce scheduling problems and overemphasis of any governmental function. Work can be more effectively scheduled and available personnel and equipment better utilized when it is known in advance what, where and when projects are to be undertaken. Furthermore, advance programming can assist in avoiding the possibility of costly mistakes due to improper project scheduling.

  The program can guide local officials in making sound annual budget decisions. In addition, the CIP will indicate where sites for projects are needed and advance acquisition may be necessary to insure the availability of land in the areas of anticipated development.
- **Fosters a sound and stable financial program.** Through capital facilities planning, required bond issues or the need for other revenue production measures can be foreseen and action taken before the need becomes so critical as to require emergency financing measures. In addition, sharp changes in the tax structure and bonded indebtedness may be avoided when the projects to be constructed are staged over a number of years. Where there is sufficient time for planning, the most economical means for financing each project can be selected in advance. The CIP can facilitate reliable capital expenditure and revenue estimates and reasonable bond programs by looking ahead to minimize the impact of capital improvement projects. Keeping planned projects within the financial capacity of the County helps to preserve its credit rating and makes it more attractive to business and industry. Thus, the CIP becomes an integral element of the County's budgetary process.

Legal Basis for Capital Programming

The Fairfax County Capital Improvement Program (CIP) is prepared pursuant to Section 15.1-464 of the *Code of Virginia*, as amended, which states that:

Local commissions to prepare and submit annually capital improvement programs to governing body or official charged with preparation of budget.—A local commission may, and at the direction of the governing body shall, prepare and revise annually a capital improvement program based on the comprehensive plan of the county or municipality for a period not to exceed the ensuing five years. The commission shall submit the same annually to the governing body, or to the chief administrative officer or other official charged with preparation of the budget for the municipality or county, at such time as it or he shall direct. Such capital improvement program shall include the commission's recommendations and estimates of cost of such facilities and the means of financing them, to be undertaken in the ensuing fiscal year and in a period not to exceed the next four years, as the basis of the capital budget for the county or municipality. In the preparation of its capital budget recommendations, the commission shall consult with the chief administrative officer or other executive head of the government of the county or municipality, the heads of departments, and interested citizens and organizations, and shall hold such public hearings as it deems necessary unless otherwise required.

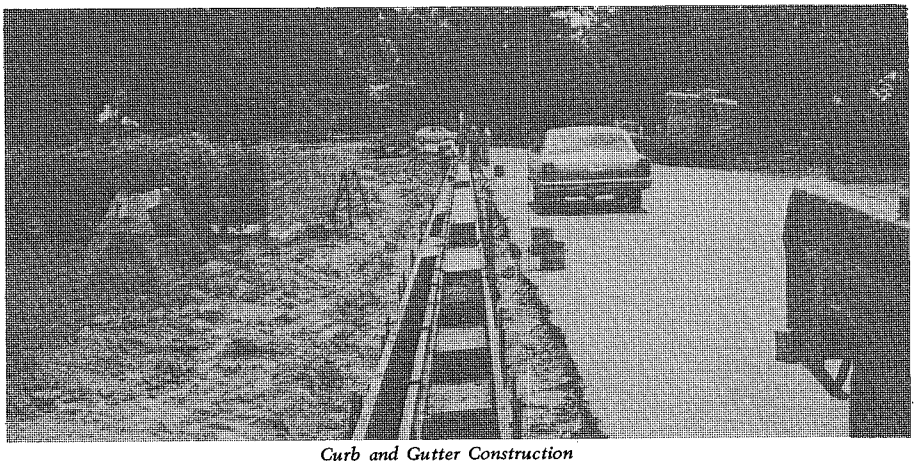
Basis for Planning

The CIP and the Comprehensive Plan are mutually supportive; the Plan identifies those areas suitable for development and the public investment they will require. The CIP translates these requirements into capital projects designed to support the goals and policies of the Comprehensive Plan. In this way, necessary public facilities are available, or at least planned, in a concurrent time frame with private development. By providing a realistic timetable for the provision of facilities, orderly development, in the best interest of the citizens of Fairfax County, can be achieved.

Recommendations for public improvements made in the Comprehensive Plan have been reviewed for inclusion in the CIP. Since the Plan deals with a longer time frame than the CIP, many projects recommended for implementation in the Plan are not included in this five-year program. Many projects not included at this time will be incorporated into the CIP as existing needs are met and additional growth occurs. To the extent that growth does or does not occur in a given area will influence both the timing and scope of capital projects. While it is a desired goal to minimize public facility deficiencies, it is equally desired that only those projects with an identified need will be constructed.

Basis for Budgeting

The CIP and the Capital Budget are linked in two areas. The first year of the Advertised CIP is the Advertised Capital Budget. Action by the



Curb and Gutter Construction

Board of Supervisors to adopt the Capital Budget alters the CIP as well. Additionally, the adopted CIP provides guidance for development of the Capital Budget for the following year.

Thus, an orderly cycle of project identification, evaluation, financing and construction is achieved. The Capital Budget, however, is not merely the first year of the multi-year capital program. While the CIP is a proposed expenditure plan, the budget process, through the approval of fiscal resolutions by the Board of Supervisors, provides the mechanism for the legal authorization to appropriate and spend County funds.

ADEQUATE PUBLIC FACILITIES ORDINANCE

An implementation concept of great interest to many jurisdictions throughout the United States is a system of relating the adequacy of public facilities to new development. As an implementation concept, an adequate public facilities ordinance, in any form, would of necessity be tied to capital improvement programming and to criteria for adequacy of public facilities.

Capital improvement programming is the scheduling of public facility improvements over time, with consideration given to the priority of improvements and financial capability of the jurisdiction to provide those facilities. Such a system would tie new development to public facilities in a manner commensurate with sound fiscal and growth policies. An ordinance of this type would deny new development in those areas in which public facilities were lacking and not programmed.

Fairfax County is actively engaged in an investigation of this concept. The investigation thus far has turned up legal complexities which restrict implementation of such an ordinance in Virginia. In addition, it is logical that the first steps toward establishing an adequate public facilities ordinance are formulation of the Comprehensive Plan and development of the CIP. Once these are in place and part of an established planning process, implementation of an adequate public facilities process becomes a logical extension of the Plan. Therefore, the goal of an adequate public facilities ordinance can best be reached through systematic planning which establishes clear development objectives, capital improvements programs and evaluation methodologies.

AIR QUALITY LAND USE REVIEW

The federal Environmental Protection Agency (EPA) has promulgated regulations which will be significant for future nationwide implementation of land use plans. The two sets of regulations which result from the 1970 Clean Air Act are indirect source and parking management regulations. These regulations specify review powers of the EPA and can be delegated to state and local jurisdictions. Parking management regulations are significant for Fairfax County in that the implementation of the County's Comprehensive Plan for multifamily, commercial, and industrial land uses which generate 250 or more parking spaces will require EPA review and certification before construction can commence. The same is true under indirect source where the cutoff is 1,000 parking spaces. However, the scope of indirect source includes additional land uses such as highways and airports.

The state of Virginia has a set of regulations which are in the EPA approval stage. Fairfax County may eventually act as the review body for the EPA and state regulations. Pursuant to both the federal and state programs to review land uses which contribute significantly to air pollution, the staff is undertaking a study of the feasibility of doing a parking management plan for the County.

Federal Parking Management Program

The parking management program is defined as a part of the transportation control plans designed to provide the necessary control of photochemical oxidants (smog) and carbon monoxide as required under the Clean Air Act for attainment of national air quality standards. The management of parking supply regulation requires explicit consideration of air quality impact before construction of certain specified new parking facilities can proceed.

The specific purpose of parking management regulations is to reduce the area-wide growth in vehicle miles traveled (VMT) to achieve photochemical oxidant and carbon monoxide standards; and to assure that congestion associated with operation of a new parking facility does not cause or exacerbate a violation of carbon monoxide standards.

Federal Parking Management Plan

The parking management plan is a device whereby local jurisdictions can get away from the facility-by-facility review of projects which fall within the scope of regulations covered by parking management regulations. The August 22, 1974, issue of the *Federal Register* speaks to the question of parking management plan versus facility source review on an individual basis. The EPA Administrator discusses the issue of Parking Management Plans as follows:

> The Federal Government can directly implement facility-by-facility review of applicable parking structures. Due to the nature of the planning process, however, only the State or local area can adequately develop a comprehensive parking management plan. Such a plan can interrelate future parking growth with the transit and land use plans and other unique needs of the community.
>
> The Administrator believes that the ultimate result of these regulations should be the development by local areas of parking management plans to replace the Federal Regulations. It is, therefore, this Agency's policy that Federal Regulations on new parking facilities shall be applicable only until such time as approvable local parking management plans are developed and implemented. Accordingly, Appendix B sets forth a clear explanation of current requirements and alternative approaches for facility-by-facility review which can be used until such plans are developed as well as guidelines for formulation of these local Parking Management Plans. EPA Regional Offices will encourage and assist local area governments in development of these plans.

Perhaps the most valuable land use tool which the federal government can give to local jurisdictions is the ability to develop a parking management plan. This plan and process can give needed federal support to local jurisdictions in their comprehensive planning process. The parking management plan, by determining allocations of parking spaces by land use and by plan area through an allowable annual increase in vehicle miles traveled (VMT) can also add important federal legal support to the Comprehensive Plan. This plan, with the subsequent control of building permits through a certification process for all future development, could change the entire scope of planning and land use controls.

State Parking Management Program

The state of Virginia, pursuant to the federal effort, has promulgated legal requirements for air quality planning and control. These requirements are embodied in the air quality maintenance planning effort, a parking management planning program and an indirect source permit permit program.

The state indirect source program, effective January 1, 1975, follows the federal guidelines. The state's parking management planning program is distinct from the federal program in that the state program would be used where a major development management of parking supply. The federal program is directed toward much larger scale geographic areas such as metropolitan areas. However, the state plan, like the federal plan, may establish limits to development based on air quality criteria. This state planning program would be used where a major development center is proposed requiring a number of indirect source permits.

The air quality maintenance plan, presently under development by the state, is the format within which overall growth management parameters are set. Slated for completion in 1977, the maintenance plan will specify the permissable increase in pollutant emissions (a surrogate for growth and development), emission control programs, and land use planning and control strategies which are required for the maintenance of air quality through 1990.

In the aggregate, these regulations will be instrumental in enabling a community to plan its land use and direct growth and development pressures while assuring the maintenance of clean air. The air quality maintenance planning process with parking management and indirect source regulations will provide communities with area-wide growth controlling strategies and small-area and site-specific air quality management capability.

In summary, air quality standards and planning systems will probably become one of the essential land use planning tools of the coming decade. Fairfax County, through significant investments in monitoring equipment, air quality modeling, and technical staff, is establishing the basis for air quality planning procedures which may have significant land use implications in the coming months.

LAND BANKING

A land banking program could achieve a number of objectives such as current acquisition of land at current market rates before zoning. The program can be used to acquire land for such future uses as housing sites, parks and open space land, and sites for schools, police and fire stations. Such acquisition would avoid additional expenditures in the future from inflated property values and would also insure land uses compatible with the plan.

In an expanded form, a program such as this could also help direct future growth patterns by using programmed capital facility sites acquired through a land banking system as an element in an adequate public facilities ordinance. Benefits would be maximized if such an ordinance could preclude development in areas where existing public facilities were not adequate or programmed or where advance acquisition of sites for public facilities had not taken place. Fairfax County has formulated and implemented a land banking program which should be expanded to achieve the full objectives outlined for this tool.

TAXES AS A DEVELOPMENT GUIDE

Land use value assessment is a useful public policy implementation tool which the state of Virginia has recently written into law. The law allows local jurisdictions which adopt it as part of their code to provide tax incentives for real estate devoted to agricultural, horticultural, forest and open space uses. The declaration of policy for Special Assessments for Agricultural, Horticultural Forest, or Open Space Real Estate is as follows:

58-769.4. Declaration of Policy.—An expanding population and reduction in the quantity and quality of real estate devoted to agricultural, horticultural, forest and open space uses made the preservation of such real estate a matter vital to the public interest. It is, therefore, in the public interest (a) to encourage the preservation and proper use of such real estate in order to assure a readily available source of agricultural, horticultural and forest products and of open spaces within reach of concentrations of population, to conserve natural resources in forms which will prevent erosion, to protect adequate and safe water supplies, to preserve scenic natural beauty and open spaces and to promote proper land use planning and the orderly development of real estate for the accommodation of an expanding population, and (b) to promote a balanced economy and ameliorate pressures which force the conversion of such real estate to more intensive uses and which are attributable in part to the assessment of such real estate at values incompatible with its use and preservation for agricultural, horticultural, forest or open space purposes.It is the intent of this article to provide for the classification, and permit the assessment and taxation, of such real estate in a manner that will promote the preservation of it ultimately for the public benefit.

Before any such special real estate tax assessment may be given to a landowner, the state law establishes criteria which must be met by the landowners. The law states that local officials must determine, among other things, that real estate devoted to (1) agricultural or horticultural uses consists of a minimum of five acres and has produced gross sales of agricultural or horticultural products thereon together with any payments received under a soil conservation program averaging at least five hundred dollars per year for each of three years in a five-year period immediately preceding the tax year in issue, (2) forest use consists of a minimum of twenty acres and, (3) open space use consists of a minimum of five acres (1971, Ex. Sess., c. 172).

A system which would permit the special real estate tax assessment needs much further study as it has important implications. These include revenue loss and a necessary, proper and complete staff and structure to administer such a program.

CONCLUSION

Implementation issues are critical today if the Plan is to be successfully implemented. Fairfax County has a broad-scale effort to strengthen traditional implementation tools and is actively seeking to establish new devices to ensure the goals set forth in the Plan are fully realized.

AREA PLAN IMPLEMENTATION MECHANISMS

Special Improvements Districts

Public investments mainly provide the basic facilities or intrastructure for development. Where development of land or buildings is desired for particular uses or the provision of certain services not clearly in the public domain, quasipublic or private-public mechanisms must be used.

These mechanisms have only modest precedents for use in Fairfax County. They have been called upon for very limited purposes, chiefly for projects unrelated to planning goals.

One problem that is common to many older urban areas is that it is not profitable for one owner to renovate and improve his own property unless neighboring owners also are willing to improve their properties, thereby upgrading the entire neighborhood. This seems to be true particularly for commercial properties or for property in changing neighborhoods. In newer and partially developed areas, or areas in which a convenient range of services is not available in a community, a similar problem arises. No one property owner can sustain the investment requirements for new service or facilities such as completion of service roads, addition of parking spaces, reorientation of existing buildings and the like.

In many circumstances, the possibility is suggested of establishing improvement associations or districts to provide for the improvements. These would design and accomplish redevelopment or substantial renovations. The result would be to make such areas more attractive and functional, and accordingly, more profitable. An entity is needed which can effectively assign costs to beneficiaries and exercise sufficient authority to require that all the beneficiaries participate in such projects.

Special districts or other entities such as special corporations are authorized in Virginia for a number of purposes. Most are financially and legally responsible for their own actions. Charges and taxes levied by some special districts are distinct from those of cities and counties. They are particularly attractive for some purposes in that they enable a community to assess the beneficiaries of a new public improvement for its cost. Included among the powers of a special district may be the bonding capacity. The interest on such bonds is tax free, but they are not necessarily guaranteed by the Commonwealth or the local government. They could not be expected to sell as cheaply as County bonds.

A variety of special districts and corporate entities have been established in Virginia, including the following: airport authorities, bridge and beach authorities, education assistance authorities, industrial development authorities, industrial development corporations, hospital and health center commissions, mosquito control districts, park authorities, parking authorities, port authorities, public service corporations (utilities), redevelopment and housing authorities, sanitary districts, sanitation districts, soil conservation districts, transportation authorities, and turnpike authorities.

Industrial Development Authority

Industrial development authorities (IDA) may be created by local governments. They have powers to own land and buildings and provide landscaping, utilities, roadways and other facilities necessary or desirable in connection with development by the authority.

An authority is authorized to encourage industry and develop trade by inducing manufacturing, industrial, governmental and commercial enterprises to locate in the state. It may also exercise its powers with respect to pollution control facilities.

It is not intended that any such authority shall itself be authorized to operate any manufacturing, industrial, or commercial enterprise. However, this would seem to establish further that industrial development authorities may become involved with commercial activities. In addition, if declining business areas can be determined to be detrimental to citizens, it also seems that the involvement of the authority is justified.

An authority does not have the power to operate any facility except as lessor. All bonds issued by an authority must be payable solely from the revenues and receipts derived from the leasing or sale of facilities by the authority. Bonds are not deemed to constitute a debt or pledge of faith and credit of the Commonwealth or any political subdivision thereof, including the municipality which created the authority issuing such bonds.

Economic Development Authority

Special legislation in 1964 enabled a Fairfax County Industrial Development Authority. Subsequent legislation has provided for all local governments in Virginia to establish industrial development authorities. Fairfax County retained its industrial authority as enabled under the earlier legislation but the name was changed and the entity is now known as the Fairfax County Economic Development Authority (EDA). It operates under essentially the same powers provided in the original legislation and is somewhat more responsive to control by the local government than would be an industrial development authority. The EDA may stimulate the development of industry in the County; it may receive, operate and maintain County facilities and receive funds from the County for operation; and it may issue bonds which may be secured by pledge of any political subdivision.

It appears that the EDA may be more adaptable to accomplishing the general purposes of fostering and developing industry than an IDA. The industrial development authority is more specifically authorized to promote industry and foster commerce as well as operate pollution control facilities. Therefore, the economic development authority may be more beneficially used to provide the basic studies, researches, and planning prior to spin-off of projects to specific industrial development authorities, industrial development corporations, or other entities such as sanitary districts.

Industrial Development Corporation

The purpose of such a corporation is to stimulate and promote business prosperity and economic welfare. It is provided with special powers and limitations by law to allow it to act as a promoter to provide loans to businesses which are unable to obtain private financing.

The corporation is composed of members, which must be financial institution, who are willing to lend funds to develop new businesses or improve or expand existing ones. It provides for pooling of investments by financial institutions in order that risks may be spread proportionately among them. In addition, stock may be issued. Stockholders elect one-third of the directors and members elect the remainder.

Loans may be obtained from any other financial agencies, persons, or agencies of the state or federal government. It appears such a corporation is particularly useful for private investors to participate with local governments and entities associated with them such as industrial development authorities and economic development authorities in packaging both sites and facilities for both new and existing industries and commercial businesses.

Thus, it would appear that there is legal justification for the involvement of an industrial development authority in the renewal of commercial areas.

Sanitation Districts

Subject to referendum approval, local governments may establish sanitation districts for the purpose of abating pollution. This authorization is used primarily to provide an agency for operation of a sewerage system.

Such a district, however, can be used to provide systems for disposal of all wastes. It is particularly useful for a combination of local governments to solve their disposal problems, especially when competition for sites as well as water has become uneconomical, inefficient and subverted by dominating parochial interests. When regional planning is required by the State Water Control Board as well as federal agencies with legal authority, the sanitation district can be extremely useful not only for planning but also for implemen-

tation of the plan and operation of the system after it is built.

Small Sanitary Districts

The problems found in the use of small sanitary districts are indicated by some of the conditions imposed for their use. The Board of Supervisors may issue bonds for a sanitary district in an amount not to exceed 18 percent of the assessed value of all real estate therein which is subject to taxation, in order to carry out the purposes of the district. This percentage ceiling may be increased in some instances, but it would be necessary to determine the effects on the bond rating and other constraints of the County, an revenues of any overlapping districts. Sanitary districts may be initiated by petition of 50 qualified voters, or 50 percent of the voters in a district of fewer than 100 persons. If a majority of the voters in a district favor the issuance of bonds, then it may be done. It will be necessary to research the legal implications for (1) business districts which have no resident voters (assumedly, property owners are equivalent) and (2) the legal basis for including in a district property belonging to persons who do not wish to participate in its establishment. As part of the requirements for establishing a district, it is necessary to prove that all property owners will benefit either directly or indirectly.

Many of the special districts, such as sanitary districts, are used to provide a specific service to an area, such as sanitation control, fire protection or leaf and refuse collection. Under such districts a specific service is provided to specific and identifiable users and can be supported by user charges.

In other types of districts, particularly those involving establishment of public authorities such as industrial and housing, it is much more difficult to assign costs to exclusive users. The benefits spill over large areas. For the redevelopment of a commercial area, it would be necessary to determine who actually benefits and to what extent. Before supporting the renewal, owners would need to be convinced that the benefits to them would exceed the costs to them.

Another problem is coordination. It is necessary to have effective cooperation among the County government, property owners in the planning district, businessmen who lease the space, and residents who live nearby. Absentee landlords may be less interested in local problems than others, and may prefer a posture of minimum financial exposure.

Although the activities of special districts are normally financed by a property surtax, other states allow alternative financing. In California, special improvements areas in business districts may place a tax on retail sales. Also, in cases where a pedestrian mall is constructed, businesses are charged by the front foot. In Kentucky, the occupational license fees derived from business in a renewal area may be applied directly to the project. It would be necessary to research the possibility of doing this for Fairfax.

It is feasible for the County to attack many problems by using existing mechanisms and authorities. For instance, the Economic Development Authority and the Housing and Redevelopment Authority are provided with broad powers which could be applied to problems of blight and declining businesses. It may be possible to undertake joint-venture projects between one or both authorities and private businessmen. A number of entities authorized by state law may be used. Some of them are discussed here.

Transferable Development Rights

The concept of transferable development rights (TDR) is currently under study in various areas of the United States. A development rights system is a possible long-term future option in land use control. Fairfax County is investigating the possibilities of this concept, but much further investigation and monitoring is needed.

Briefly, the use of development rights requires that a jurisdiction assign to an area of land a new set of property interests called development rights. The rights would be marketable and would be assigned pursuant to a master plan which would designate the percentage of developable land in each district. The assigned development rights would be severable from the land but could be used only within the boundaries of the TDR district. A developer who desires to develop a site at higher than basic planned intensity or density would be required to buy the development rights attached to land in the district which was physically or economically unsuitable for development. When the development rights are sold, the original land, to which they were assigned, loses the rights and becomes permanent open space. (Such land may still be in private ownership, however.)

Mandatory Dedication

Mandatory dedication is an implementation tool not widely used in the past. However, it is one of the elements in the County's *Zoning Ordinance*.

There are two bases for requiring dedication. The first basis is the requirement for assignment of land for public services which must be supported by the development, such as internal roads and easements. The second basis for dedication is the need for large land areas for other uses such as public open space, major rights of way for expressway or transit lanes, future public school sites, police stations, and fire stations.

The *Zoning Ordinance* provides for mandatory dedication in two areas. The first is within the area of condominium development. The ordinance states in Paragraph 5 of Sect. 2-409 that, in condominium developments, the reservation and/or dedication of land for schools, parks and streets in accordance with adopted comprehensive plans shall be made.

The second area is in the site plan section which is Article 17, Part 2, Required Improvements. The site plan section of the ordinance requires a construction of pedestrial walkways—both within a project and as connectors to adjacent areas—and construction of trails or walkways in accordance with the general location shown on adopted Comprehensive Plan. The land upon which the walkways or trails are constructed is required to be dedicated to either the County, an appropriate homeowners association, or the Northern Virginia Regional Park Authority. Service drives are required where appropriate, and they are to be dedicated to the Virginia Department of Highways and Transportation. The dedication and construction of proposed new roads and the widening or other improvement of existing roads on existing alignments, as indicated on an adopted comprehensive plan, shall be done by the developer. Expressways and freeways need not be constructed by the developer.

Buffering

Buffering between incompatible activities such as transportation/residential and commercial/residential is another means of influencing land use. It is used to increase stability and to mitigate negative effects of new development on an established neighborhood.

As an example, garden apartments and/or townhouses have historically served as transition use in separating commercial activities from single-family residential dwelling units in Fairfax County. This is a satisfactory procedure because it is accepted by people who choose to live around an established core or center of commercial activity (regional center, community shopping center, employment center or major business district).

Another example of buffering is the provision of open space, in most instances occupied by trees or other elements of the landscape. The width of such a transition or buffer zone, based on the intensity of use being screening, could vary from 20 to several hundred feet. This type of transition might be used around neighborhood shopping and convenience centers, community centers, employment centers and industrial activity of all types.

The present minimum standards for screening under the County's regulations leave much to be desired. It appears that greater emphasis should be placed on specific detailed transitional treatment, where appropriate, in the submission of project plans. As an example, a neighborhood commercial center is proposed. It is determined that a spatial transition is the desired approach to buffering the commercial center from surrounding noncommercial uses. The applicant would then be requested to show within the development plan a specific spatial treatment between the structures, parking areas and adjacent residential areas. The nature and type of land use transition results from a process of negotiation if a tract of land is zoned for planned unit development. In such cases each project submitted to the County is treated uniquely, as contrasted to the typical situation in which there is a single standard applied, regardless of the nature of the project.

Signs

The *Zoning Ordinance*, Chapter 30 of the County *Code*, provides regulations for the display of signs. The regulations control all signs which are installed after adoption of the *Code* provisions. Special permits, special exceptions, and the basic use limitations are tailored to the zoning districts. Sign control overlay districts are helpful in establishing uniformity and reducing visual competition.

Signs which were erected in accordance with previous regulations may continue in use so long as the existing use which they advertise or identify remains. Such signs can neither be altered nor moved. If a nonconforming use is discontinued for more than two years or if use of a sign becomes an unlawful nonconforming use, then the sign itself becomes unlawful and may be removed.

Problems concerned with signs are usually those which develop from lawful nonconforming uses. There is no easy solution. Change of use, or change of zoning which authorizes a change of use, is normally the only way to obtain relief from unsightly, ineffective, and distracting displays of signs.

There would appear to be two suitable ways to provide for change or removal of existing but lawfully nonconforming signs. One is unacceptable currently because it requires state legislation to authorize it. This would establish reasonable periods for sign owners to recoup their capital investment by establishing an amortization period for the life of the sign. Another is infeasible because it depends entirely on voluntary participation by sign or property owners and the local government in a program which would provide for the removal of nonconforming signs, with expenses and benefits balanced between public and private interests.

It may be feasible for land owners and businessmen to use a special entity for the removal and replacement of signs. The entity could be a nonprofit corporation or, conceivably, a small sanitary district. It would require participation by all the sign user/owners in a particular area. A commercial strip is a most likely candidate for the use of such a mechanism.

Tidal Wetlands

Fairfax County is designated by law as part of Tidewater Virginia. Wetlands are a portion of the

Tidewater area. By definition, wetlands are defined as both vegetated and nonvegetated. Vegetated wetlands means all that land lying between and contiguous to mean low water and an elevation above mean low water equal to the factor 1.5 times the mean tide range and upon which is growing certain types of marsh vegetation. Nonvegetated wetlands means all that land lying contiguous to mean low water and which land is between mean low water and mean high water, not otherwise included as vegetated wetlands.

Tidal wetlands have long been recognized as highly productive ecosystems. The export of the products of primary production (detritus) from a wetland to the adjacent aquatic system is a function of ecological importance. This conveyance of nutrients is the critical link between wetlands and the commercial fish and shellfish industry.

Scientific research has examined the contributions of tidal wetlands to estuarine food chains in the Chesapeake Bay. This analysis has determined that where tidal exchange is high, marshes export important amounts of dissolved nitrogen and significant amounts of carbon in particulate and dissolved forms (the necessary building-blocks for a viable aquatic environment) to the estuary.

Through the Virginia Institute of Marine Sciences' research, wetlands in the Commonwealth have been quantitatively evaluated and ranked according to their total ecological importance. The criteria utilized for this evaluation were the wetlands detritus production, waterfowl and wildlife utilization, erosion and flood buffers, and water quality control.

Based on total environmental value, two of the four types of wetlands contiguous to the County's coastal shoreline, arrow arum-pickerel weed and freshwater mixed, have the highest ecological ranking in the Chesapeake Bay region. These two ecosystems encompass approximately 75 percent of the County's 920 total vegetated wetland acres. The other two types, cattail and yellow pond lily, are ranked only slightly lower in total value and are important systems for water quality control, flooding buffers, and wildlife and waterfowl utilization.

In 1972, the General Assembly took a positive step to protect and enhance the marine environment of the Commonwealth by passing the Wetlands Act. The wetlands zoning ordinance as enabled in the Act (Section 62.1-13.5) is specifically designed to promote compatible uses (e.g., cultivation and harvesting of shellfish, noncommercial outdoor recreational activities, cultivation and harvesting of agricultural or horticultural products, the construction or maintenance of aids to navigation, etc.) and to control noncompatible uses (e.g., extensive filling and/or excavation proposals) from causing irreversible deterioration to these valuable natural resources.

In addition, all federal agencies are mandated to consider wetland alteration as a last resort when carrying out programs affecting land use. This policy was established in order to avoid, to the extent possible, the long and short term adverse impacts associated with the destruction or modification of wetlands.

Using the State's authorization (Section 62.1-13.5 of the *Code of Virginia*) the County adopted an amendment to Chapter 112 (Zoning), of the Code of the County of Fairfax, Virginia. This amendment adopted the Fairfax County Wetlands Zoning Ordinance which now places the responsibility of management and control of the County's wetland resources with the County itself. The purpose and intent of the Wetlands Zoning Ordinance is as follows:

The County of Fairfax recognizes the unique character of the wetlands, an irreplaceable natural resource which, in its natural state, is essential to the ecological systems of the tidal rivers, bays and estuaries of the Commonwealth. This resource is essential for the production of marine and inland wildlife, waterfowl, finfish, shellfish and flora; is valuable as a protective barrier against floods, tidal storms and erosion of the shores and soil within the Commonwealth; is important for the absorption of silt and of pollutants; and is important for recreational and aesthetic enjoyment of the people for the promotion of tourism, navigation and commerce.

In order to protect the public interest, promote the public health, safety and the economic and general welfare of Fairfax County, and to protect public and private property, wildlife, marine fisheries and the natural environment, it is declared to be the public policy of Fairfax County to preserve the wetlands and to prevent their despoliation and destruction and to accommodate necessary economic development in a manner consistent with wetlands preservation.

To implement this policy, the County established the Wetlands Overlay District and the Fairfax County Wetlands Board. The Wetlands Overlay District sets forth the regulations for the use and development of the County's wetlands. District boundaries have been drawn on the Official Zoning Map and include all that land defined as vegetated and nonvegetated wetlands. If a proposed activity falls within the Wetlands Overland District, a Wetlands Permit may be necessary. The Wetlands Board has the responsiblity to hold public hearings and to issue or deny permits based upon the amount of impact a project may have on a tidal wetland.

With the Wetlands Zoning Ordinance, Fairfax County can now effectively implement and ensure that its planning policies along its coastal environment are not circumvented by State of Federal policies. Additionally, the ordinance reduces further development in or contiguous to wetlands thereby protecting their important ecological functions and their recreational/economic value to the County's citizens.

CONCLUSION AND FUTURE DIRECTIONS

MAJOR CONCEPTS OF THE PLUS PROGRAM

Environmental preservation and improvement have been a consistent theme in recent County planning. Environmental quality corridors, a concept first adopted through PLUS planning, bring together the integrated nature of the complex natural resources of the County. Analysis of these resources is an important first step toward improving environmental conservation and development of expanded open space. The environmental quality corridors (EQCs) reflect many types of land resources, including stream valleys, wildlife habitats, wetlands, recreational open space, visual resources, and other land features which should be related in a coherent fashion.

Major issues remain unresolved concerning implementation of EQCs. These issues range from the need to strengthen present acquisition and preservation tools to the institutional umbrellas necessary to satisfy the objectives outlined by EQCs. The future of Fairfax County's environment will rest significantly upon the ability of the County to implement successfully programs which protect the land identified under the EQCs.

The PLUS program has also devoted energies to other environmental issues. Air quality is one of the most significant concerns of the coming decade. Present and pending federal legislation and standards may constitute one of the most important developments in land use controls of this century. The County is working on many fronts to fully implement its potential role in air quality planning. The acquisition of improved monitoring and evaluation capabilities and the implementation of air quality modeling will be important to future County development.

Other significant environmental advances are also being achieved. The County, with leadership of the Stream Valley Board, has initiated a significant study of stream valley characteristics in Fairfax County. This effort will result in significant new data for the County to assist in many aspects of planning and development management. As this information becomes available, it will be integrated into the ongoing functions of the County.

The proposed planned development centers are also an important concept supporting the PLUS plans. To preserve environmental amenities, urban activities must be structured in clustered and meaningful patterns. All planning analysis points to the necessity of resource conservation and protection. Some of the most wasteful resource practices in urban America today result from ineffective land use patterns which lack coherent or meaningful purpose.

The County has conducted significant new research which points to the necessity of planned development centers as the basic pattern for future County development. The transportation analysis included in the Plan identifies serious constraints associated with the present transportation patterns. The dominance of work trips to the central city creates a transportation demand which Fairfax County may never be able to meet fully. In fact, the data suggest that County policies should respond through emphasis on employment in planned development centers in the western part of the County as a means of ameliorating the present radial transportation patterns. These centers should encourage reverse commuting patterns and intercept trips which would otherwise impact the eastern sections of the County. Simply planning the western portions of the County in extremely low densities will not solve the problem, as data indicate. The surrounding counties will contribute to peak-hour transportation impacts by channeling large numbers of automobiles onto the already crowded roads in Fairfax County.

Therefore, development of employment opportunities in the western sections of the County must be a major development objective of the County government.

Federal employment locations and work patterns are also significant. The County must exercise more effective influence toward decentralization of federal offices into the County. Fairfax County should not be expected to bear the burden of federal location policies, without a voice toward gaining better distribution of employment centers in the County and the region. Potential changes in work patterns, such as the four-day work week and flexible hours, may eventually have significant impacts on transportation requirements.

The transportation component of the Comprehensive Plan raise other major policy questions. One of the most significant concerns the County's willingness to invest its financial resources in road improvements. A first necessary step must be the establishment of a County transportation plan and program which makes effective use of current funds available through the Virginia Department of Highways and Transportation. Without adopted plans and programs, the current funds available cannot be utilized effectively to carry out County policies.

As the plans and programs in the document are considered, the County should deliberate whether County resources should be invested in new roadway development. Many of the plan objectives are contingent upon transportation responses. Under the past level of funding from the state government for new road construction, not all of the 15-year plan can be implemented during this period. Additional resources must be directed to County transportation, either through County resources or from the state government.

A major theme of the PLUS program has been the project impact evaluation system (PIES). Plans can only serve as general guidelines for decision-making. Although they are important, it is equally critical that evaluation methodologies be available to measure precise impacts of proposed projects. The County is carrying on systematic efforts to improve evaluation methodologies. As these are formulated, they will be applied to the appropriate planning and development processes. In the past, County plan analysis became dated and obsolete within a relatively short period of time. The County has, over the past several years, engaged in systematic improvement of evaluation skills which should improve needed information. Analysis is taking place in two primary areas, environmental constraints and fiscal impact. For example, the formulation of the air quality monitoring and evaluations skills will give the County a major new tool for analysis of development patterns. Fairfax County must constantly advance its analytical capabilities to meet the development problems found in this rapidly urbanizing jurisdiction.

IMPLEMENTATION TOOLS AND THE PLANNING PROCESS

One of the major themes of the PLUS program is the formulation of plans and implementation tools to time growth and development in an effective manner. The plans outline the desired future for Fairfax County. The implementation tools must provide the means to meet effectively the stated development objectives. The County has devoted considerable energy to the analysis of ways to ensure that adequate public facilities are provided its citizens. The possible use of an adequate public facilities ordinance was given careful attention during the past two years. One conclusion reached in these deliberations was that specific plans for future development and implementation of capital improvements programs are critical first steps prior to the establishment of public facilities constraints over new development. Therefore, substantial effort has been directed toward the implementation tools and planning processes necessary to provide the County with more effective control over the timing of growth and development.

The Capital Improvement Program (CIP) is an essential tool in plan implementation. During the first year of the PLUS program, the County published its first Capital Improvement Program. This CIP was primarily a compilation of existing project plans. Completion of the PLUS plans was required before a new CIP could reflect future needs and demands in a coherent, purposeful manner. The second CIP is being published in conjunction with the Comprehensive Plan. It will outline the public facilities necessary to support growth and development outlined in these plans for a five-year period. Fairfax County, for the first time in its history, will have both updated plans and the public facilities programs necessary for their implementation.

The annual review of the CIP associated with annual assessment of the Plan will provide decision makers and citizens an opportunity to guide and direct the growth and development of the County is a manner consistent with long range objectives and current needs. The CIP and annual Plan assessment will be subject to citizen review and comment prior to adoption by the Board of Supervisors. The County staff will monitor development trends and demographic changes, and prepare an annual assessment which may indicate ongoing adjustments in the Comprehensive Plan. Through this process, the County will significantly improve its ability to determine short range development patterns in a manner consistent with long term objectives.

Zoning is a basic implementation tool which has received considerable County attention during the past several years. The *Zoning Ordinance*, which is adopted in principle for implementation in the coming year, stands as a major advance toward simplification and improvement of zoning procedures and requirements. In the short run, the County has a substantial zoning docket which will have a tremendous impact on the future development of the County. Because the countywide and area plans are being completed on schedule, the County will make these zoning decisions on the basis of updated comprehensive plans. In the future, cyclical zoning processes should provide the County citizens and applicants an opportunity to have zoning cases heard in conjunction with appropriate area plans. In the past, zonings were considered largely on a fragmented and individual basis. In the future, the four area plans should provide an opportunity to consider cumulative impacts of zonings in conjunction with updated plans.

The future of Fairfax County planning rests significantly on future developments in federal and state law. Air quality planning will be impacted heavily by trends in federal legislation. As the federal government continues its development of standards and program initiatives concerning local land use, Fairfax County must maintain an active role in monitoring and influencing federal decisions. The County's location adjacent to the Nation's Capital facilitates its ability to carry on this type of activity.

State legislation is also of immediate concern. State laws govern County planning organization and activities as the PLUS plans are adopted and implementation tools come into use, state legislation should be sought to strengthen our planning tools.

IV. TECHNICAL APPENDIX

TRAVEL DEMAND FORECASTING

Long-range transportation planning is dependent on the ability to predict future trip-making. In general, the forecasting procedure follows an examination of trends in travel behavior. The forecasted travel demand is contrasted with future conditions of the transportation system. General transportation needs can be determined.

The basic premise of travel demand forecasting is that there is order in travel behavior. Trip-making can be estimated by the examination of forecasts of land use, economic activity, and population. Home-based work trips, for example, are highly predictable with the knowledge of the location and magnitude of dwelling units and employment.

Once trips are estimated or generated for assigned areas, they can be distributed among all analysis areas within the total study area. A trip table can be produced which depicts the expected number of trips between each analysis area or zone. The trips can then be assigned to specific roadways between any two analysis areas. Additional refinements to this process are possible, including identifying trips by purpose (commuting, shopping, etc.) or by mode (automobile, transit, etc.). Travel demand forecasting generally follows this process.

Travel forecasting for the Washington region is conducted by the Metropolitan Washington Council of Governments (COG) in cooperation with state and local governments utilizing various computer programs. Land use inputs to the programs are supplied by the respective local jurisdictions. Traffic forecasts for Fairfax County may be extracted from the regionwide analyses.

Land Use Trends

As previously mentioned, trip-making can be predicted by examining forecasts of land use. The type of land use will determine the type and volume of trips originating from and destined for a designated area. Residential land activity will generate trips for purposes such as school trips, social trips, and commuting. Office land activity will predominately attract work trips. The principle that land use determines trips has been corroborated by previous analyses of travel demand, wherein travel demand changes were identified with changes in land use activities. A more detailed discussion of this relationship is given in subsequent paragraphs.

A comparison has been made of existing, committed, and planned residential development in order to determine the likelihood and urgency of realizing the projections of future travel. This comparison is presented below.

Table 2
EXISTING AND ANTICIPATED DWELLING UNITS
FAIRFAX COUNTY
(January, 1981)

	Additional Dwelling Units Existing Dwelling Units (Jan. 1981)	Percentage Residential Construction Activity (Jan. 1981)	Percentage of Total Residential Construction Activity	Increase Over Existing Development
1 (Inside Beltway)	64,920	5,138	8.7%	7.9%
2 (Outside Beltway, Inside Rte. 123/Towlston Rd.)	109,139	21,875	37.2%	20.0%
3 (Outside Rte. 123/ Towlston Rd.	220,086	58,791	100.0%	26.7%

Note: Residential construction activity is defined as having approved zoning or in subsequent stages of development.

Source: *Standard Reports - January 1981,* Fairfax County ORS

Existing Housing. According to the *Standard Reports - 1981* prepared by the Fairfax County Office of Research and Statistics, as of January 1981, there were 220,086 dwelling units in Fairfax County. Single-family units accounted for the majority of the housing units (57.5 percent) followed by apartments (25.8 percent), and townhouses (12.9 percent).[1] Duplex, multiplex units and mobile home pads accounted for the remaining 3.8 percent. An inventory of the dwelling units in the County is presented in Table 1.

Approximately 30 percent of all existing dwelling units are located within the Capital Beltway. Nearly one-half of all existing dwelling units are located between Route 123/Towlston Road and the Capital Beltway. In general, higher densities are found in the inner portions of the County. Inside the Beltway, for example, there are higher percentages of garden apartments and high-rise apartments. The western and southern portions of the County have higher percentages of single-family and townhouse units.

Anticipated Development. The amount of development anticipated in the near future can also be identified through the examination of data compiled by the Fairfax County Office of Research and Statistics. The number of dwelling units actually in the development process—from the rezoning of land through site plan review, issuance of building permits, and construction—provides an accurate measure of the amount and distribution of committed development. The following data were extracted from the *Standard Reports - 1981* compiled by ORS. This information has significant implications for future transportation planning in Fairfax County.

Table 2 presents a comparison of existing and committed dwelling units in the County as of January, 1981. Examination of this table leads to several important findings. Countywide, nearly a 27 percent increase in dwelling units will be experienced. Ninety percent of this activity will occur outside the Beltway. Almost one-half of the development will take place in the western portion of the County, west of Route 123 and Towlston Road.

Planned Housing. Previous travel forecasts in the County have been developed using the adopted Plan land use projections as base data. These land use projections have been forwarded to COG and have become adopted for regional planning in conjunction with a process known as Cooperative Forecasting. This process is a continuing one with the forecasts adjusted periodically to reflect changing conditions.

The Round II Cooperative Forecasts for housing in Fairfax County are shown in Table 3, along with the number of existing, and existing plus committed, housing units. However, some caution should be exercised in making direct comparisons of committed and planned units for the following reasons:

1. The identification of committed development encompasses the entire land development process; from the rezoning of land through site plan review, issuance of building permits, construction of the units, and completion of construction. With the inclusion of rezoning in this "pipeline", the realization of the development activity may be several years away; possibly close to 1990.
2. The forecasting of the future residential base is dependent on several factors which can be quite variable and difficult to predict in themselves. Factors relating to the market such as absorption rates, regional growth rates and even general economic trends present difficulties in the prediction of residential development activity.
3. Finally, the issues presented by residential development activity approaching 1990 forecasts does not address the subsequent build-out of the Plan. With this higher level of development, concerns with regard to 1990 forecasts may be minor. The future impacts of transportation at build-out are not addressed in the Transportation Plan.

Table 1
DWELLING UNIT INVENTORY
FAIRFAX COUNTY
(January, 1981)

Ring	Single Family	Townhouse	Apartments	Other[1]	Total
1 (Inside Beltway)	33,574	4,668	26,166	512	64,920
2 (Outside Beltway Inside Route 123/ Towlston Rd.)	65,212	15,706	22,530	5,691	109,139
3 (Outside Route 123/ Towlston Rd.)	27,840	7,945	8,121	2,121	46,027
County Total	126,626	28,319	56,817	8,324	220,086

[1]Other includes Duplex units, multiplex units and mobile homes.

Source: *Standard Reports - January, 1981,* Fairfax County Office of Research and Statistics (ORS)

Table 3
COMPARISON OF EXISTING, EXISTING PLUS COMMITTED, AND PLANNED 1990 HOUSING UNITS IN FAIRFAX COUNTY

	Existing Plus Existing[1]	Committed[2]	Planned 1990[3]
Inside Beltway	64,920	70,058	67,138
Outside Beltway Inside Rte. 123/Towlston Rd.	109,139	131,014	125,188
Outside Rte. 123/ Towlston Rd.	46,027	77,805	72,820
Fairfax County Totals	220,086	278,877	265,146

[1]Based on Fairfax County ORS, *Standard Reports - January 1981*

[2]Committed units defined as having approved zoning, or in subsequent stages of development. Data based on *Standard Reports - January 1981,* Fairfax County ORS.

[3]Based on Round II, COG Cooperative Forecast

Nevertheless, the development activity which has occurred since the Plan was adopted has been individually consistent with the Plan, and the overall magnitude of committed development appears to be generally consistent with previous Plan forecasts. Examination of the data in Table 3 leads to several important findings regarding the location, magnitude, and timing of development in the County. Each of these elements has significant transportation implications.

With regard to the location of residential development, most of this growth is occurring beyond the Beltway. The Plan forecasts over 95 percent of such new development to take place beyond the Beltway. In fact, over 90 percent of the committed development is occurring in such areas. With the continuing presence of the regional core as the major employment destination, the continuation of residential development beyond the Beltway will add to existing radial traffic volumes. Furthermore, vehicle-miles of travel will increase with increasing distances between residences and workplace.

The magnitude of this committed and planned growth also has transportation implications. The Plan forecasts represent a 21 percent increase in the number of housing units Countywide, and a 28 percent increase in units beyond the Beltway. Committed development represents a 27 percent increase in units countywide, and also a 35 percent increase beyond the Beltway. With travel behavior closely related to housing activity, it is evident that corresponding increases in travel demand will result from this residential growth.

Finally, the timing of this development is also significant. Recognizing the previously described difficulties associated with preparing land use forecasts, the projections included in the Plan certainly do not appear unrealistic. With over 90 percent of the forecast 1990 residential growth already committed, these forecasts would appear to be conservative at best. For transportation planning purposes, the travel forecasts derived from these projections assume greater importance in view of their likely realization in the relatively near future.

Travel Characteristics

Existing Travel Demand. In order to evaluate and examine the trends in travel behavior within the County, 1972 was selected as a base year for the analysis of existing traffic due to the availability of data for this year. A simulation of 1972 (base) traffic was performed as an initial step in the TRIMS process. The travel demand was generated by existing (1972) land uses on the existing (1972) transportation network.

With the simulation, various existing travel characteristics were identified as described in the following paragraphs.

1. Trip Distribution: According to the simulation of 1972 base conditions, work trips are distributed in a radial pattern to the core of the metropolitan area. Fifty percent of all person work trips originating in Fairfax County travel into Arlington, Alexandria or across the Potomac River into Washington, D.C. Nearly 30 percent are destined for Washington, D.C., alone.

2. Mode Split: Mode split is the percentage of total trips which use a given mode for a given purpose, but it normally refers to the percentage of total work trips which occur via transit. Under 1972 base conditions, 20 percent of the work trips from Fairfax County to Washington D.C. are made via transit. This compares to 11 percent transit use to areas within the Beltway and 14 percent transit use for trips crossing into Arlington and Alexandria.

3. Highway Capacity and Level of Service: The simulation of 1972 travel indicated that the highway system is very heavily loaded at the Beltway and in the inner areas of the region. The Potomac River bridges are overloaded, and the roadways at the Beltway are operating at capacity. In terms of level of service, which is used to describe traffic conditions, it is estimated that the roadway system operates at level F at the Potomac River and level E at the County line and at the Beltway. The level of service of the system improves with increased distance to the center of the region.

Summary of Previous Forecasts. Since 1975, several travel demand forecasts have been developed and utilized for the metropolitan region and Fairfax County. The following paragraphs summarize these forecasts.

1. TRIMS (1975): In conjunction with the initial work during the development of the current County Plan, the TRIMS model was utilized in simulating future travel in the County based upon future land use estimates generated by the four area plans. The Countywide Transportation Plan was developed to reflect regional and subregional travel based on the testing of several alternative networks. A range of transportation networks from transit intensive networks with no highway improvements to a combination of both transit and highway improvements was tested.

2. Testing of Transportation Plan Alternatives (1976): In 1976 COG presented major findings resulting from the analysis of several transportation plan alternatives, all based upon the same fixed land use. The transportation plan alternatives which were tested were considered as alternative levels of investment in a transportation system. The alternatives varied from a base network (including the adopted Metrorail system, commuter rail and bus service, and the highway system consisting of existing roads or those under construction) to a network including the adopted Transportation Planning Board (TPB) Plan and all proposed Metrorail extensions.

3. Impact Assessment: 1980, 1985, 1995—Transportation Implications of Growth Forecasts (1977): A transportation impact analysis of revised land use forecasts for the urbanized region was conducted by COG in 1977. The analysis was not intended to produce detailed design forecasts for individual highway or transit facilities, but rather to show generalized changes in transportation demand and services based on new growth forecasts. A calculation of future travel was made for 1980, 1985, and 1995, given the growth forecasts for households and employment.

4. Metro Alternatives Analysis (1977-1978): In response to a federal request that the Washington metropolitan region undertake an alternatives analysis of certain unbuilt segments of the Metrorail system, the Metro Alternatives Analysis (MAA) was conducted by a Joint Policy Steering Committee (JPSC) during an 18 month period in 1977-1978. The JPSC was composed of representatives from the following regional bodies: The Board of Directors of the Metropolitan Washington Council of Governments (COG), the Board of Directors of the Washington Metropolitan Area Transit Authority (WMATA), and the Transportation Planning Board (TPB) of COG. In general, a total of six alternatives were considered for each of four Metrorail corridors ranging from full Metrorail systems to systems in which no additional Metrorail service was provided. Patronage forecasts used in the study were based upon operating assumptions provided by WMATA and on cooperative forecasts of future (1990) population and employment developed by COG and as supplied by respective local governments. Within the scope of this study, travel-demand forecasts for the region and local jurisdictions were developed.

Major Findings and Conclusions. In general, the conclusions resulting from the original travel-demand forecasts as utilized for Plan recommendations have been supported by the subsequent forecasts and analyses as discussed heretofore. It may be noted that the four completed studies utilized two different sets of land use projections. The TRIMS and Transportation Plan Alternatives studies were based on previous regional land use forecasts known as "Alternative 6.2 modified". The latter two studies—namely Impact Assessment and the Metro Alternatives Analysis—were based on the more recent Cooperative Forecast (Round 1) land use projections. While the general findings of the four studies are consistent, some of the variations in the results may be attributed to these land use variations. This issue is further discussed at the conclusion of this section. The following discussion summarizes the major conclusions with the subsequent work, and identifies the implications of future traffic in the County.

1. Travel Needs Determined by Development Patterns: The magnitude and distribution of travel demand is not significantly affected by changes in the transportation network. Rather, land use activity dictates the travel demand. This conclusion from the initial County forecasts has been substantiated by further analyses as documented in the "Testing of Transportation Plan Alternatives" (May 1976) and in another COG study entitled "Transportation Impacts of Alternative Land Use Concepts" dated December 1975. This study concluded that regional transportation indicators vary significantly when land use patterns are changed. The indicator which was most sensitive to land use changes was the distribution of travel demand.

2. Total Magnitude of Travel Will Increase: Continued growth both in Fairfax County and the region as a whole will result in significant increases in travel. This finding is a direct consequence of the relationship of land use patterns and travel demand described previously. With the number of households in the County expected to increase by over 27 percent over 1981 levels as a result of approved rezonings, corresponding increases in travel needs may be expected. Table 4 displays the increases in work trips for Fairfax County projected by the various recent studies. The following significant conclusions may be derived from this data:

- The total number of work trips generated by Fairfax County will approximately double the estimated 1972 levels.
- The number of Fairfax County work trips destined in the radial direction, that is, to Washington, Arlington, and Alexandria, will increase by between 50%-90%, again in comparison with estimated 1972 amounts.
- The number of Fairfax County work trips destined within Fairfax County will more than double.

3. Commuting to Inner Areas Will Continue as a Dominant Travel Pattern for Work: At present work trips from Fairfax County are distributed predominantly in a radial pattern to the core of the metropolitan area. This radial attraction to the core will continue into the 1990's. Between 25 and 30 percent of the work trips from the County are now destined for Washington, D.C. This percentage will drop only slightly into the 1990's. Work traffic crossing into Arlington and Alexandria (and into Washington, D.C.) currently represents 50 percent of all work trips from the County. This percentage will drop to about 40 percent by 1990-1995. These distributions have been substantiated in each of the aforementioned analyses as shown by Table 5.

4. Intra-County Travel for Work Will Significantly Increase: As the County's share of the metropolitan Washington area's office space increases, work trips generated from within the County and destined for locations within the County will increase. By 1990-1995 it is expected that half of all work trips originating in the County will be intra-County work trips. This compares to 40 percent for the base year (1972). In addition, this increase in intra-County travel to work is expected to be represented by a doubling of vehicle work trips in 1990-1995. Tables 5 and 7 indicate these future travel patterns.

5. Transit Use Will Increase for Radial Travel: The mode split (percent of work trips made by transit) of traffic from the County to Washington, D.C. will double by 1990-1995. Current mode splits for travel to the District range between 15 and 20 percent. It is projected that this mode split will increase to approximately 40 percent by 1990-1995. A similar doubling of the mode split for travel from the County into Arlington and Alexandria and into the District is also predicted. These percentages are depicted on Table 6 for the four studies discussed herein.

6. Auto Use Will Increase: Even with the increase in transit use, work trips by automobile to Washington, Arlington and Alexandria will also increase. As shown by Table 7, this increase is forecast to be between 10 percent and 20 percent over existing levels. Automobile usage will progressively increase as the distance from the core increases. Therefore, in addition to the increases to Arlington, Alexandria and Washington D.C., more significant intra-County traffic increases of between 100 and 200 percent are expected. In addition to the need for suitable radial roadway capacity, cross-County and other non-radial highway facilities will be necessary to accommodate these increases.

Transportation Implications of Development Activity. The analysis of the housing development activity has underscored several concerns with regard to future transportation planning and travel demand. The review has indicated that the 1990 household forecasts will be realized in many areas of the County with the development of property at current zoning categories. There are two extremely critical implications of this finding:

1. Travel Demand—Travel demand and trip-making characteristics are directly related to the magnitude and distribution of development. As the 1990 development projections are realized, and there is little doubt that in large measure they will be, so will the corresponding travel forecasts. Viewed in such a manner, these travel forecasts

Table 4
PROJECTED INCREASE IN TRAVEL
(WORK TRIPS ONLY)

Study:	TRIMS	Transportation Plan Alternatives	Impact Assessment	Metro Alternatives
Year Published:	1975	1976	1977	1978
Time Period:	1972-90	1968-92	1972-95	1972-90[1]
Total Person Work Trips Fairfax County (% Increase)	89%	145%	95%	99%
Total Person Work Trips from Fairfax County to D.C./Arl/Alex. (% Increase)	87%	85%	54%	43%
Total Person Work Trips within Fairfax County (% Increase)	78%	214%	134%	140%

[1]Note: Metro Alternatives Analysis percent increase calculated over TRIMS base data for 1972

Table 5
PROJECTED INCREASE IN TRAVEL
(WORK TRIPS ONLY)

Study:	TRIMS	Transportation Plan Alternatives	Impact Assessment	Metro Alternatives
Year Published:	1975	1976	1977	1978
Time Period:	1972-90	1968-92	1972-95	1990
Existing[1]	----------	----------	Forecast ----------	----------
% of Work Trips Destined to D.C.	29%	31%	26%	22%	17%
% of Work Trips Destined to Arl./Alex.	50%	49%	43%	40%	36%
% of Work Trips Destined Within Fairfax County	40%	38%	47%	52%	48%

[1]Note: Existing based on TRIMS data for 1972

Table 6
PROJECTED INCREASE IN TRAVEL
(WORK TRIPS ONLY)

Study:	TRIMS	Transportation Plan Alternatives	Impact Assessment	Metro Alternatives
Year Published:	1975	1976	1977	1978
Time Period:	1972-90	1968-92	1972-95	1990
Existing[1]	----------	----------	Forecast ----------	----------
% Transit Use to D.C.	20%	50%	38%	39%	35%
% Transit Use to D.C./Arl./Alex.	14%	42%	33%	34%	29%

[1]Note: Existing based on TRIMS data for 1972

Table 7
PROJECTED INCREASE IN TRAVEL
(WORK TRIPS ONLY)

Study:	TRIMS	Transportation Plan Alternatives	Impact Assessment	Metro Alternatives
Year Published:	1975	1976	1977	1978
Time Period:	1972-90	1968-92	1972-95	1972-90[1]
Auto Driver Work Trips to D.C./Arl./Alex. (% increase)	22%	N/A	13%	8%
Auto Driver Work Trips within Fairfax County (% increase)	62%	N/A	113%	114%

[1]Note: Metro Alternatives Analysis percent increase calculated over TRIMS base data for 1972

must assume greater significance than may have previously been attributed to them.

2. Right-of-Way Availability—In addition, a second major implication of this growth in households is the amount of land which has been or is committed for development. Obviously this property is no longer available for transportation purposes. In the past it has been possible to simply shift the alignment of planned transportation facilities away from development in the County. With the magnitude of committed development, however, opportunities for continuing this practice are fast disappearing if not already eliminated. Under such circumstances, it becomes extremely important for the County to recognize and take every action to protect needed rights-of-way in support of transportation facilities.

Subsequent Analyses. It has been noted that the land use projections which form the basis for travel forecasts have been modified. These modifications have resulted in modest changes in the forecasts of travel, although the major conclusions remain fairly constant. As continued refinements in the land use forecasts are made, their transportation implications will be tested. These subsequent analyses will be incorporated in future updates of the Plan as appropriate.

POPULATION FORECAST METHODOLOGY

Population forecasts serve useful purposes in assisting plan development and in allowing feedback to occur within the planning process. In order to provide comparability among the area's jurisdictions with respect to their population forecasts and to provide uniformity in the generation of the forecasts, the Metropolitan Washington Council of Governments established the cooperative forecasting program. Through this program, which was first established in 1975, regional forecasts of households and population are prepared which, in turn, are used to generate forecasts for each jurisdiction.

Within the context of the plan and the planning process, the numbers used for future growth are not predictions of what will happen. The distinction between prediction and forecast is that a prediction is an end unto itself and can be self-fulfilling prophecy, whereas a forecast provides a gauge against which wanted and unwanted ends can be measured. The numbers are relatively imprecise and primarily provide a means of feedback to update the plan—the numbers are used to estimate future demands for facilities and services and the impacts of providing those facilities and services may change the numbers during a plan revision.

The forecasts are only as good as the implicit and explicit assumptions upon which the forecasts are based. The assumptions relate to components of growth (natural increase and migration), to trends of historical growth, to regional economic growth. More specifically, the forecasts are based on the following assumptions:

- Historical trends were used to develop the County's long-range forecasts only within the context of the regional share allocation model. In this model, long-range forecasts prepared for Fairfax County and all other jurisdictions in the region were based on an extrapolation of past trends from 1950 to 1976 and short-term projections of the residential development pipeline. Because the model generated a set of high and low forecasts which are consistent with forecasts currently in use by the County and considered to be still valid, it was determined that Fairfax County would accept the results of the share allocation model for the County's high and low long-range forecasts.
- Household size factors were used to convert household forecasts into household population. The household size factors used in prepared Round II forecasts were developed by the Fairfax County Office of Comprehensive Planning and John Pershing Associates in 1977 and published in *Economic Projections: Fairfax County, Virginia, 1975-2000.* The projections show households in the County continuing to decline in size from 3.51 persons in 1970 to 2.83 persons by 2000.
- It was assumed from recent trends that the County's group quarters population would remain constant at 14,000 persons for the 1980-2000 period. The group quarters population was added to the household population to obtain the County's expected total population.
- Because the current Comprehensive Plan shows that Fairfax County has the capacity to accommodate the growth projected in the Round II Forecasts and, in fact, provides for growth beyond that projected for the year 2000, zoning constraints were not considered to have an impact on the size of the Round II Forecasts.
- It was further assumed that availability of sewer and water would not impose restrictions on the County's future growth in any long-range manner.

The methodology used to generate the cooperative forecasting projections relates historical increases in the number of households in the County to household increases in the Washington metropolitan area. This method assumes that trends from 1950 to 1976 will continue until the end of the forecasting period, the year 2000. Based on these historical trends, Fairfax is expected to increase its share of households in the suburban ring of jurisdictions from 32.6 percent in 1980 to 36.7 percent in 2000. Low and high forecasts were developed for Fairfax County given these extrapolations and low and high regional household forecasts.

Once the household forecasts were developed, population forecasts were prepared by applying household size factors to the projected number of households and by adding the group quarters population.

The forecasts developed through the Council of Governments provide for an average annual growth rate of 2.1 percent between 1980 and 2000, or an increase of approximately 16,200 persons per year. An analysis of growth by five-year increments shows that between 1980 and 1985 the growth rate is projected to be 2.5 percent per year, as compared to growth rates at 2.0 percent, 2.1 percent, and 1.9 percent in the succeeding five-year intervals. The basis for this trend lies in expected increases in employment in the late 1970s and early 1980s which will act to facilitate inmigration.

It is anticipated that the regional forecasts will be revised in 1981 once the final results of the 1980 *Census of Population* have been compiled. If necessary, population and household forecasts for each jurisdiction will be revised to reflect the census results and demographic trends which will have occurred between 1975 and 1981.

These forecasts are considered to be realistic projections of future population growth in Fairfax County. OCP and ORS will continue to monitor changes in local and regional demographic and economic processes and will revise future population forecasts accordingly.

V. GLOSSARY AND BIBLIOGRAPHY

GLOSSARY

Air pollution—The presence of contaminants in the air in concentrations which interfere directly or indirectly with human health, safety, or comfort or with the full use and enjoyment of property.

Anticipated development—Parcels of land for which a site plan and/or subdivision plat has been approved or for which a preliminary site plan and/or subdivision plat has been formally submitted.

Advanced wastewater treatment (AWT)— Wastewater treatment beyond conventional secondary treatment; it includes removal of nutrients, organic materials, bacteria, viruses, suspended solids, and minerals. The purpose of AWT may be to alleviate pollution of a receiving watercourse or to provide a water quality adequate for reuse, or both. The process may be used following, in conjunction with, or replace entirely the conventional secondary process.

Aquifer—A permeable underground geologic formation through which groundwater flows.

Aquifer recharge area—A place where surface runoff enters an aquifer.

Areas of critical environmental concern—Areas where uncontrolled development could result in irreversible damage to historic, cultural or aesthetic values, or natural systems or processes which are of more than local significance, or could unreasonably endanger life and property as a result of natural hazards of more than local significance. Source: Title V (e) of 5.268, the proposed Land Use Policy and Planning Assistance Act of 1973.

Arterial highway—The principal street carrying the major portion of trips entering and leaving an urban area, as well as the majority of through movements desiring to bypass a central city. Significant intra-area travel and important intra-urban and inter-city bus services should be served by this class of facilities. In the principal arterial system, the concept of service to the abutting land is subordinate to the provision of travel service to major traffic movements. Because of the nature of travel served by the principal arterial system, almost all fully and partially controlled access facilities will be part of this functional class.

Assisted housing—Housing built for families whose incomes limit or preclude them from purchasing or renting safe, decent and sanitary shelter of adequate size in the conventional market. This housing may be publicly or privately owned; rents or sales prices are controlled according to income.

Basic employment—Those jobs which serve a regional or national market.

Berm—A long, narrow, raised strip of ground used as a natural buffer between residential areas and noise-generating roadways or other incompatible land uses, or for landscape enhancement.

Below Market Housing—Includes housing programs by public agencies and/or private sources to provide housing at a sale price or rental rate below that which would otherwise be provided in the conventional housing market.

BMP's—(Best Management Practices)—any practice or structure that is used to reduce the amount of pollution generated by nonpoint sources.

Buffer Area—A strip of land established to protect one type of land use from another with which it is incompatible. Normally, a buffer area is landscaped and kept as open space. But, the term may be used more broadly to describe any area that separates two unlike areas such as a multifamily housing zone between single-family housing and business uses.

CBD (central or community business district)—The primary shopping area for a population of 20,000 to 30,000 persons, with a one- or two-mile radius, usually containing 100,000 to 300,000 square feet of commercial space on 20 to 40 acres and offering reasonable opportunity for comparison shopping in a compact location.

Cluster development—Development at a density authorized by application of a zoning district, in which development the individual lots are smaller than the average lot authorized by the zoning category, with the excess land thus made available used for common land and purposes. The intent of cluster development is improved relationship of uses on land to the land itself, as set forth in Section 2-408 of the *Zoning Ordinance.*

Collector street—Principal street leading from neighborhood to main thoroughfares. Its primary role is to gather traffic from local streets for connection with the arterial network. Direct residential frontage on collector streets in low-density areas is undesirable, but frequently occurs.

Community Improvement Area—A neighborhood with a plan adopted by the Board of Supervisors to upgrade the community by installing public facilities and protecting existing residential land uses.

Committed development—Parcels of land on which construction is underway or for which building permits have been issued.

Community park—A large local-serving park designed to serve citizens within a two-mile area.

Condominium—A form of property ownership, usually within a multifamily or townhouse building or complex, in which the interior space within each unit is independently owned. Within a condominium, all the owners collectively are responsible for the maintenance of all the common facilities, including the building structure and exterior grounds.

Conservation Area—An area deemed eligible for conservation activities provided under state law based on deteriorated or deteriorating conditions. Special powers are granted to the Fairfax County Housing and Redevelopment Authority within these areas to preserve the character of the community and carry out an adopted conservation plan.

Constraints—Physical characteristic(s) of a natural system which, if perturbed beyond the system's tolerance of capacity to stabilize or return to its normal state, produce(s) undesired effects with associated social and economic costs.

Cooperative—A form of property ownership, generally used in multi-unit development, whereby the building or complex of buildings is owned jointly by its occupants. Transfer of ownership must be approved by the governing board of a cooperative.

Critical environmental area—"... any area which due to its location, nature, or uniqueness must be preserved in order that special values essential in maintaining vital ecological relationships, as well as areas of special scenic or historic significance, be protected and conserved for the benefit, enjoyment, and general welfare of the people of the Commonwealth." Va. *Code* Ann. Section 10-187 et. seq.

DAAR—Dulles Airport Access Road.

Density—A number, typically population or dwelling units, expressed in terms of land area, typically in acres. For example: 12 persons per acre or four dwelling units per acre are density figures, representing the average extent of development concentration within an area.

Development Center—Various large areas within Fairfax County have been designated development centers. These centers focus on using urban design principles to cluster and concentrate growth in order to achieve a balance between new development and protection of the environment. It offers a mixture of housing types and densities, rather than low-density sprawl, and encourages a coordinated mixture of land uses including open space, public facilities, and commercial development. The concept encourages the expansion of job opportunities and less reliance on the automobile for long-distance commuting thus reducing noise and air pollution, and contributing to the quality of life. Examples of development centers in Fairfax County are Tyson's Corner, Fairfax Center, the Lehigh Tract, and Centreville.

Developed land—The total of all parcels containing permanent structures valued at $2,500 or more, plus all parcels not generally available for development (e.g., tax exempt land, private rights of way, parcels owned in common by homeowners associations, etc.). In general usage, these definitions should also point out that (a) an individual home may be established on two or more adjacent parcels, with one or more of those parcels inventoried as "undeveloped" under this definition; (b) a developed parcel larger than the minimum or typical zoning lot can, by simply being subdivided, create additional undeveloped land; and (c) single parcels of private right of way or homeowners' association land would not normally be considered as developed land but, in aggregate, they represent land not available for further development.

Development hazards—Physical constraints on land use, e.g. highly erodible soil.

District park—Minimum size, 200 acres. Development is generally of major recreational facilities, including tennis courts, athletic fields, multi-use court, picnic area and trails.

D.U. (du)—Dwelling unit or density unit.

Du/ac—Dwelling units per acre.

Easement—An interest in land owned by another that entitles its holder to a specific right with respect to that land.

Ecotone—The overlap of two or more separate plant communities. As a consequence of the overlap, ecotones contain plants from both communities, making a greater diversity of species. This diversity supports a high diversity of animals.

Elevator apartments—Apartments in structures requiring elevators to serve upper floors. Generally, elevator apartments would be more than five stories high.

EQC (environmental quality corridor)—An open space system designed to link and preserve natural resource areas and provide accessible outdoor recreation. The system is based primarily on existing and proposed parks, floodplains, and stream valleys. Wildlife habitats, potential reservoir sites, utility rights of way wetlands, commercial farms, historic sites, and citizen-identified environmental areas are all used to further delineate the system.

Erodible soils—Soils capable of diminishing by exposure to elements such as wind or water.

F.A.R—(Floor Area Ratio)—The ratio of floor area is an expression of density allowed on a specific parcel of land. Thus, a permitted floor area ratio of 3.0 on a 10,000 square feet lot would allow a building whose total floor area is 30,000 square feet.

Feeder bus system—A network of bus routes designed to systematically carry people to and from one or more central points (such as Metro stations) from outlying, and usually dispersed, locations.

Floodplain—Land area, adjacent to a stream or other surface waters, which may be submerged by flooding; usually the comparatively flat plain within which a stream or riverbed meanders.

Freeway—A highway with controlled access, designed to provide uninterrupted movement of vehicles.

Garden apartments—Low-rise apartment buildings, generally not more than 3½ stories in which elevator service between floors is not made available.

Grade separation—Use of an overpass/underpass structure to permit conflicting travel movements to change routes without interruption by eliminating the need for left-turn movements across facing traffic lanes.

High-rise or elevator apartments—Apartment buildings containing elevators. Can be ownership or rental.

Indirect source—Any structure or facility which will cause mobile source activity (e.g., auto traffic), resulting in the emission of air contaminants. Airports, highways, shopping centers, etc., are examples of indirect sources.

Infill—Completion of an established development pattern (usually residential) through the development of similar or compatible uses and densities on vacant parcels within the existing pattern.

Infill housing—Housing built on scattered sites, usually only a few lots wide. Constructed in such a manner that they conform with adjacent existing structures.

Land with development potential—Land suitable and feasible for new development—unimproved and underutilized land; land without environmental prohibitions; improved land suitable and feasible for redevelopment; land not already committed or anticipated for development.

Land with environmental constraints—Land with poor drainage, scenic vistas, need for open space, etc., limits its suitability for certain types of development.

Land with environmental prohibitions—Land which is in floodplain, has adverse soil conditions, excessively steep topography or forestation necessary to prevent soil erosion.

Level-of-service—Qualitative measure of the effect of a number of traffic factors, including speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs. In practice, selected specific levels are defined in terms of particular limiting values of certain of these factors.

Local-serving park—Facilities designed to serve the people in the immediate vicinity of the park, generally within two miles. Included are neighborhood and community parks.

Local streets—Streets within neighborhoods, providing direct access to abutting land uses and serving only to provide mobility within that locality.

Low-intensity commercial development—Low-rise office structures or other nonretail commercial use.

Mansion house—A residential structure with two or more units, each of which qualifies under the zoning ordinance as a single-family attached unit but externally the structure has the appearance of one single-family detached unit.

Marginally-viable commercial activity—A center of retail activity whose future profit is questionable.

Minor arterial streets—Streets which connect and augment the principal arterial system and provide for trips of moderate length.

Mixed Use Zoning—Zoning which permits a combination of uses within a single development. Many zoning districts specify permitted combinations of, for example, residential and office/commercial. More recently the term has been applied to major developments, often with several highrise buildings, which may contain offices, shops, hotels, apartments, and related uses.

Mode split—Term used to describe the percentage of travel which occurs by individual transportation modes (e.g., auto, transit).

Multifamily Units—Residential units including garden apartments, midrises and highrises.

Natural barrier—A form of buffer created by an existing object, such as trees, stone wall.

Node—The point where corridors of movement cross. In urban design terms, this is where roadways or pedestrian paths intersect. These are often points of significant activity. They can be important points for locating landmarks. Nodes are places which provide orientation and direction.

Nutrients—Elements or compounds essential as raw material for organism growth and development, e.g. oxygen, carbon, nitrogen and phosphorus.

NVPDC—Northern Virginia Planning District Commission.

Office use—A commercial land use categorized as follows:

Transitional low-rise office use. A nonretail low-intensity commercial use which provides an effective transition (e.g., townhouse style) between more intense commercial activity and existing stable or planned residential uses. Such use should be of a scale (height and bulk) and style that is compatible with the adjacent stable or planned residential community. In no case should transitional low-rise office uses exceed three stories in height.

Low-rise office use. A nonretail low-intensity commercial use which provides an effective transition between higher intensity commercial or industrial uses and residential of transitional low-rise office uses. Such use should be of a scale (height and bulk) and situated on a parcel of sufficient size to achieve compatibility with adjacent existing and planned uses. In general, low-rise office uses should not exceed three stories.

Mid-rise office use. A nonretail, medium-intensity commercial use which is located generally between higher intensity commercial or industrial uses and low-rise office, transitional low-rise office or low intensity, small scale commercial retail uses. Such use should be of scale (height and bulk) and situated on a parcel of sufficient size to ensure compatibility with the adjacent existing and planned uses. In general, mid rise office uses should not exceed six stories.

High-rise office use. A nonretail, high-intensity commercial use which is located either adjacent to medium- and high-intensity commercial and industrial uses or on a site of sufficient sized to ensure its compatibility with the surrounding existing and planned uses.

PAD—Planned Apartment Development.

PDH—Planned Development Housing.

Peak-hour traffic—Traffic during the hours of 7:30-8:30 AM and 5:00-6:00 PM, when most traffic occurs, in connection with trips to and from places of employment, on a typical work day.

Physical hazards—Physical constraints on land uses such as highly erodible soils, floodplains, and slippage-prone shrink-swell soils.

Pipeline—Term used to describe the administrative process by which development proposals are evaluated. In the Area Plans, the term may also be used to signify committed and/or anticipated development which is under construction or for which site plans have been approved.

Potomac estuary—The tidal portion of the Potomac River that extends from below Little Falls to the Chesapeake Bay.

Primary wastewater treatment—Removal of organic and inorganic settleable solids by the physical process of sedimentation.

Private recreation—Sites and facilities for tennis clubs, swimming clubs, golf courses, and other athletic facilities, provision for which can be made in attractive structures and/or on attractive grounds. Such uses, when well designed and appropriately located, can buffer less compatible uses as well as provide functional and visual relief to a development pattern.

Regional center—An activity center which normally contains a full range of urban facilities and services, including residential, commercial, and office uses as well as community facilities, adequate to serve 100,000 or more persons.

Regional-serving park—Generally, large County or Northern Virginia Regional Park Authority parks of 100 or more acres.

Residential density—Residential densities are defined in terms of average number of persons, families, or dwelling units per acre. Residential density ranges are defined in terms of dwelling units per acre only.

SMSA—Standard Metropolitan Statistical Area, the Bureau of the Census designation for a metropolitan area. Specifically, a "county or group of contiguous counties which contains at least one city of 50,000 inhabitants or more.... Contiguous counties are included if, according to certain criteria, they are socially and economically integrated with the central city." Fairfax County is part of the Washington SMSA.

Secondary wastewater treatment—Use of biological growths to effect decomposition or oxidation of organic material into more stable compounds and provide a higher degree of treatment than can be accomplished by primary sedimentation alone.

Sewershed—An area containing one or more watersheds, in which sewage flows are collected at a single location, usually a sewage treatment plant.

Single-family residential—Units designed to house one family per unit. In use, the term generally implies detached single-family residential.

Slippage soils—Marine or silty clay deposits, plastic in nature, with a high shrink-swell potential and which are generally unstable, particularly on steep slopes. Soil shrinkage results in damage to structures built on these deposits.

Small-area transit (SAT) service—An alternate mode for collecting and distributing those functions of a transportation system that are presently provided by automobile; e.g., small bus (Dial-a-Ride) is an example of SAT.

Stream valley—Any stream and the land extending from either side of it to a line established by the high point of the concave/convex topography, as delineated on a map adopted by the Stream Valley Board. For purposes of stream valley acquisition, the five-criteria definition of stream valleys contained in *A Restudy of the Pohick Watershed* (1969) will apply. The two primary criteria include all of the land within the 100-year floodplain and the area along the floodplain in slopes of 15 percent or more.

Subsidized housing—Housing provided at less than market prices or rents, for the sheltering of persons with limited resources and/or incomes. The subsidizing agent may be the federal (HUD), state (Virginia Housing Development Authority), or local government (County Redevelopment Housing Authority).

Transitional zone—A designation intended to guide the conversion of an area from one predominant use to another, usually from low-density residential to high-density residential, commercial, or industrial uses.

Travel corridors—A generalized but not route-specific indication of a need to get from place to place. A corridor may contain more than one transportation facility.

Ultimate development—According to the Comprehensive Plan, that activity which will occur by the year 1995.

Underenrolled schools—A school in which the number of students is below the planned capacity for the structure.

Underutilized land—Parcels with an assessed improvement of less than $2,500, and portions of large parcels which may reasonably be expected to undergo further development.

Undeveloped land—Unimproved or underutilized land. Land containing no structures valued at $2,500 or more. (See unimproved land.)

Unimproved land—All land lacking any structure or other improvement except those parcels not generally available for development (i.e., tax-exempt land, private rights of way, parcels owned in common by homeowners associations). (See also undeveloped land.)

VDH&T—Virginia Department of Highways and Transportation.

Vacant land—Parcels with no assessed improvement value.

VEPCO easement—An acquired right of use, interest, in lands owned by another, VEPCO easement to transmission support.

Watershed—The area drained by a particular stream or network of streams.

Wetlands—Lowlands covered by shallow and sometimes temporary or intermittent waters, including marshes, swamps, bogs, wet meadows, potholes, sloughs, and river bottom lands.

WMATA—Washington Metropolitan Area Transit Authority.

Wildlife habitat—Areas which contain the proper food, water and vegetative cover necessary to support a diverse community of animals, birds and fish; some examples include floodplains, upland hardwoods, pine woods, meadows and marshes. Sizes vary and hence habitats may occur in urbanized areas.

BIBLIOGRAPHY

A highly significant element in the PLUS effort since its inception has been the publications program, designed primarily to provide a solid foundation upon which the comprehensive plans could be based. They followed the publication of the Proposal for Implementing an Improved Planning and Land Use Control System in Fairfax County, the final report of the Task Force on Comprehensive Planning and Land Use Control, which was adopted by the Board of Supervisors for public hearing on June 11, 1973. Most of these subsequent documents were produced by County staff, while others were prepared under contract with the County. Two types were generated. PLUS program working papers were prepared primarily as staff working documents, with major concern for maximum feedback in review. PLUS program research papers were distributed widely, at no cost, and were placed in the public libraries for citizen review, in line with the continuing objective of encouraging the highest possible citizen participation.

PLUS Program Working Papers*

#1. Summary of Staff Review of Existing Plans and Major Issues for Updating District Plans. OCP. May 4, 1974.
#2. Land Supply Analysis and Land Area Classification for Land Use Planning Workshop. OCP. June 29, 1974.
#3. Documentation of Developed and Undeveloped Land In Fairfax County and by Planning District. OCP. July 15, 1974. (Published as PLUS Program Research Paper #6, August 1974.)
#4. A Housing and Environmental Development Corporation for Fairfax County. Prepared for COP by Cambridge Urban Associates. August 1974.
#5. Countywide Plan Alternatives. OCP. September 1974.
#6. The Role of Commercial Agriculture in Land Use Planning for Fairfax County. OCP. November 1974.
#7. Feasibility of a Transferable Development Rights Program for Fairfax County. ORS. October 1974.
#8. Citizen's Inventory of Environmental Resources. OCP. April 1975.

PLUS Program Research Papers*

#1. A Brief History of Planning, Zoning, and Environmental Constraints in Fairfax County, Va. County Attorney's Office. January 1974.
#2. The Legal Basis for a Growth Control System in Fairfax County, Va. Prepared for Fairfax County by Robert H. Freilich, Hulen Professor of Law in Urban Affairs, University of Missouri-Kansas City School of Law. March 1974.
#3. Fairfax County Study Design on Analytic Tools to Evaluate Development Alternatives. Prepared for OCP, Fairfax County, by CONSAD Research Corporation. January 1974.
#4. Economic Base Study, Cycle 1. OCP. June 1974.
#5. Demographic Factors of Growth in Fairfax County, 1960-1970. ORS. July j1974.
#6. Analysis of Developed and Undeveloped Land in Fairfax County. OCP. August 1974.
#7. Growth, Change and the Environment in Fairfax County—The Environmental Planning Process. OCP. September 1974.
#8. Housing for People: An Analysis of Housing Needs in Fairfax County. ORS. In press. June 1975.

* Note: All of these publications are out of print.

VI. INDEX COVERING ALL FIVE VOLUMES OF THE PLAN

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1988 APR - POLICY REVIEW YEAR
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GOALS				
Introduction	88-PY-6	Citizens Committee for the Review of Land Use and Trans. Planning (Citizens Committee)	Recommended approval as revised by PC, September 21,1988	Adopted PC Recommendation . October 24, 1988
Goals Statements	88-PY-3	B. R. Eggeman	Recommended approval as revised by PC, September 21,1988	Adopted PC Recommendation, as modified by BOS, 10/24/88
	88-PY-5	Lawrence Baldwin		
	88-PY-7 through 88-PY-24	Citizens Committee		
	88-PY-56	Citizens Committee		
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ENVIRONMENT				
EQC Policy	88-PY-38 -139	Citizens Committee OCP	Recommended approval as revised by PC, July 27, 1988	Adopted PC Recommendation October 24, 1988
Airport Noise	88-PY-134	Audrey Moore	Recommended approval as revised by PC, July 27, 1988	Adopted PC Recommendation as modified by BOS, 10/24/88
HOUSING				
Affordable Housing	88-PY-76 -90 -97	Barbara J. Fried The Federation The Federation	Action Deferred	Action Deferred pending PC Recommendation
Manufactured Housing	88-PY-93	Adrienne Crafton-Masterson	Recommended approval as revised by PC, July 27, 1988	Adopted PC Recommendation October 24, 1988
Specialized Housing	88-PY-123	Fairfax-Falls Church Community Services Board	Action Deferred	Action Deferred pending PC Recommendation
HUMAN SERVICES	88-PY-122 -124	Fairfax-Falls Church Community Services Board	Recommended approval as revised by PC, July 27, 1988	Adopted PC Recommendation October 24, 1988
LAND USE				
Cluster Development	88-PY-42	Citizens Committee	Recommended approval as revised by PC, July 28, 1988	Adopted PC Recommendation as modified by BOS, 10/24/88
Redevelopment	88-PY-107	Reston Community Association	Recommended approval as revised by PC, July 28, 1988	Adopted PC Recommendation October 24, 1988
Child Care	88-PY-133 -138	Patrick Hanlon OCP	Recommended approval as revised by PC, July 28, 1988	Adopted PC Recommendation October 24, 1988
Interim Improvements to Commercial Establishments	88-PY-135	OCP	Recommended approval as revised by PC, July 28, 1988	Adopted PC Recommendation October 24, 1988
Drive-thru Windows	88-PY-137	OCP	Recommended approval as revised by PC, July 28, 1988	Adopted PC Recommendation October 24, 1988

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LAND USE (Cont.)				
Residential Infill	88-PY-142	OCP	Recommended approval as revised by PC, July 28, 1988	Adopted PC Recommendation October 24, 1988
PUBLIC FACILITIES/ CIP	88-PY-88	The Federation	Recommended approval as revised by PC, July 28, 1988	Adopted PC Recommendation October 24, 1988
TRAILS	88-PY-112 88-PY-143	M.T. Gusic OCP	Recommended approval as revised by PC, July 27, 1988	Adopted PC Recommendation October 24, 1988
TRANSPORTATION				
Transportation Systems Management	88-PY-105 -131	Wm. Lockwood Patrick Hanlon July 27, 1988	Recommended approval as revised by PC,	Adopted PC Recommendation as modified by BOS, 10/24/88
Transportation Policies	88-PY-57 -87	Citizens Comm. The Federation	Recommended approval as revised by PC, July 27, 1988	Adopted PC Recommendation as modified by BOS, 10/24/88
Interparcel Connections	88-PY-126	Sidney Steele	Recommended approval as revised by PC, July 27, 1988	Adopted PC Recommendation October 24, 1988
MISCELLANEOUS				
Condemnation	88-PY-118	Mt. Vernon Council	Recommended approval as revised by PC, July 27,1988	Referred to County Attorney's Office for Review
Buffering & Screening	88-PY-141	OCP	Recommended approval as revised by PC, July 27,1988	Adopted PC Recommendation October 24, 1988
DEVELOPMENT CRITERIA	88-PY-28 -33 -44 -83 -113 -128 -136	Citizens Committee Citizens Committee Citizens Committee Eugene Durman Great Falls Citizen Association Sidney R. Steele OCP	Action Deferred	Action Deferred pending PC Recommendation

ADOPTED PLAN AMENDMENTS

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APR Items: 88-PY-3, -5, -6, -7 through -24, -56, -74, -82, -86, -89, -95, -96, -98 through -101, -121, -130, and -132.

DELETE: Page I/C 5, Board of Supervisors Policies, title and all text.

ADD: Page I/C 5, Goals for Fairfax County, new title and text to read:

GOALS FOR FAIRFAX COUNTY

INTRODUCTION

The primary purpose of Fairfax County's goals is to focus efforts toward maintaining a high quality of life for all County citizens; all of the specific goals listed below are integral to ensuring the achievement of this overarching goal. An excellent quality of life involves, in part, the absence of negative or oppressive factors in the environment and lives of County citizens. It also involves the presence of desirable amenities: an aesthetically pleasing environment; a style of life that does not place unacceptable stress on individuals; access to high-quality education and comprehensive services; and maintenance of economic prosperity and the availability of economic opportunities for all.

The following goals shall be considered when evaluating the public benefit of proposed land use. They should be implemented through the Fairfax County Comprehensive Plan, the Zoning and Subdivision Ordinances, the Public Facilities Manual, the Capital Improvement Program, and other appropriate mechanisms that generally guide public policy decisions.

GOALS

Quality of Life - The primary goal of Fairfax County's policies and priorities is to achieve an outstanding quality of life through:

- Economic prosperity and expanding opportunity;
- Access to high quality education, public services and facilities;
- A balance between access to convenient multi-modal transportation and residential, commercial and industrial growth; and
- A pleasing physical and cultural environment in which to live and work.

GOALS (Cont.)

Land Use - The County's land use policies should maintain an attractive and pleasant quality of life for its residents; provide for orderly and coordinated development for both public and private uses while sustaining the economic and social well-being of the County; provide for an adequate level of public services and facilities, including a system of transportation facilities, to sustain a high quality of life; and ensure sound environmental practices in the development and redevelopment of land resources. Growth should take place in accordance with criteria and standards designed to preserve, enhance, and protect an orderly and aesthetic mix of residential, commercial/industrial facilities, and open space without compromising existing residential development. The Comprehensive Land Use Plan should set forth long-range recommendations and implementation techniques to ensure the envisioned coordination of harmonious development, while still achieving our economic goals. Densities and heights in excess of those compatible with these goals should be discouraged, nor should these policies be construed as incompatible with the County's affordable housing goal.

Transportation - Land use must be balanced with the supporting transportation infrastructure, including the regional network, and credibility must be established within the public and private sectors that the transportation program will be implemented. Fairfax County will encourage the development of accessible transportation systems designed, through advanced planning and technology, to move people and goods efficiently while minimizing environmental impact and community disruption. Regional and local efforts to achieve a balanced transportation system through the development of rapid rail, commuter rail, expanded bus service and the reduction of excessive reliance upon the automobile should be the keystone policy for future planning and facilities. Sidewalks and trails should be developed as alternate transportation facilities leading to mass transit, high density areas, public facilities and employment areas.

Environmental Protection - The amount and distribution of population density and land uses in Fairfax County should be consistent with environmental constraints inherent in the need to preserve natural resources and to meet or exceed federal, state and local standards for water quality, ambient air quality and other environmental standards. Development in Fairfax County should be sensitive to the natural setting, in order to prevent degradation of the County's natural environment.

GOALS (Cont.)

Growth and Adequate Public Facilities - Growth in Fairfax County should be held to a level consistent with available, accessible, and adequate public facilities as well as with rational plans to provide new public facilities and to maintain existing public facilities. The County's plans for development should take into account financial limitations associated with increased needs for public facilities.

Adequate Public Services - Fairfax County is committed to provide a high level and quality of public services to the community, within its financial limitations.

Affordable Housing - Opportunities should be available to all who live or work in Fairfax County to purchase or rent safe, decent, affordable housing within their means. Affordable housing should be located as close as possible to employment opportunities without adversely affecting quality of life standards. It should be a vital element in high density and mixed-use development projects, should be encouraged in revitalization areas, and encouraged through more flexible zoning wherever possible.

Employment Opportunities - Fairfax County should maintain its prosperous economic climate and varied employment opportunities.

Education - Fairfax County should provide comprehensive education, training programs, and facilities in order to ensure quality education by effectively meeting student and community needs.

Human Services - Fairfax County should provide a range of services and facilities for all residents, so that they may sustain a secure and productive lifestyle. Each individual should have the opportunity to achieve self-sufficiency and function to the limits of his or her ability, particularly in providing family stability.

Culture and Recreation - Fairfax County should provide local systems and participate in regional programs for safe, accessible and enjoyable parks (including active, passive, and historical parks); recreational programs; libraries; and cultural programs and facilities. Fairfax County should also support and encourage the identification and preservation of its heritage resources for the aesthetic, social, and educational benefits of present and future citizens.

Open Space - Fairfax County should support the conservation of appropriate land areas in a natural state to preserve, protect and enhance stream valleys, meadows, woodlands, wetlands, farmland, and plant and animal life. Small areas of open space should also be preserved in already congested and developed areas for passive neighborhood uses, visual relief, scenic value, and screening and buffering purposes.

GOALS (Cont.)

Revitalization - Fairfax County should encourage and facilitate the revitalization of older areas of the County where present conditions warrant. Revitalization should prevent the effects of encroachment and deterioration of commercial and industrial development on stable residential areas, and should not hamper community improvements in these neighborhoods.

Regional Cooperation - Fairfax County's elected officials and staff should continue to participate in leadership roles in cooperative regional activities, recognizing that the physical, economic, and social well-being of the people of Northern Virginia and the Washington Metropolitan Area is dependent upon regional cooperation.

Private Sector Facilities - Fairfax County should continue to encourage the development of appropriately scaled and clustered commercial and industrial facilities to meet the need for convenient access to needed goods and services and to employment opportunities. Particular attention should be given to the needs of small and minority businesses.

Public Participation - The Fairfax County community should be encouraged to take part in the shaping of policies and plans that will affect the environment in which they live and work. Active and timely public participation in actions involving areas of public concern in the County should be encouraged and promoted.

Financial Planning and Management - Fairfax County should support equitable systems of taxation and user charges, where appropriate, necessary to implement all its policies and to support quality public services for its residents, recognizing the County's obligations to provide services and facilities to both established and new development, and to attract quality residential projects and desirable business and industry.

Monitoring - The County's performance in achieving these goals should be regularly and rigorously monitored, and the goals themselves should be reviewed at least once every four years.

ENVIRONMENTAL QUALITY CORRIDORS POLICY

APR Items 88-PY-38, -139

DELETE: Page I/C 69, Environment, Sensitive Lands EQCs, Paragraph 2.

ADD: Page I/C 69, Environment, Sensitive Lands EQCs, Paragraph 2, to read:

Lands along streams included in sensitive lands EQCs are as follows: all 100-year floodplains; all floodplain soils; soils adjacent to streams which exhibit a high water table and poor bearing-strength or some other severe development constraints; wetlands; and steep slopes greater than 15 percent adjacent to the above floodplains, soils, steep slopes, and wetlands. Where the above floodplains, soils, steep slopes and wetlands cover only a narrow area, a minimum buffer on each side of the stream will be provided.

DELETE: Page I/C 69, Environment, Sensitive Lands EQCs, Paragraph 4.

ADD: Page I/C 69, Environment, Sensitive Lands EQCs, Paragraph 4, to read:

Floodplain soils, high water table and poor bearing-strength soils and soils with severe development constraints (marine clays) adjacent to streams are also included in sensitive lands EQCs. These soils are poorly suited to development and include Fairfax County soils numbered 1, 2, 3, 5, 11, 12, 13, 30, 31, 33, 89, 92, 117 and 118. In addition, soils numbered 6, 8, 14, 15, 39, 52, 68, 76, 80, 84, 85, 90, 110, and 112 are considered to be sensitive lands EQC soils when they are found within or contiguous to the 100-year floodplain and are found to be extremely wet. While other soils in the County have high water table and moderate bearing-strength problems, these other soils can be developed and problems avoided with relatively inexpensive engineering solutions. The soils included in sensitive lands EQCs, on the other hand, impose severe problems on development, and there is likelihood that even extensive engineering measures will not adequately solve the wetness and bearing-strength problems they present. As discussed for the 100-year floodplain, these soils provide a good medium for rich plant growth and excellent wildlife habitat.

ENVIRONMENTAL QUALITY CORRIDORS (Cont.)

DELETE: Page I/C 69, Environment, Sensitive Lands EQCs, Paragraph 6.

ADD: Page I/C 69, Environment, Sensitive Lands EQCs, Paragraph 6, to read:

Non-tidal wetlands in the County may be mapped on County topographic and soils maps or National Wetlands Inventory maps, but generally require a site visit for identification. These wetlands provide the same kinds of environmental benefits as tidal wetlands. They are especially important where they occur next to streams since it is here that they are likely to have the most beneficial impacts in absorbing flood waters and where development is most likely to have an adverse impact on stream water quality. Non-tidal wetlands are included in sensitive lands EQCs where they are found adjacent to streams.

DELETE: Page I/C 70, Environment, Sensitive Lands EQCs, Paragraph 1.

ADD: Page I/C 70, Environment, Sensitive Lands EQCs, Paragraph 1, to read:

An EQC system including the above-mentioned lands is likely to contribute greatly to the protection of stream water quality; streamside vegetation; and good habitat for both aquatic and terrestrial wildlife. However, in some areas, the 100-year floodplain, poor soils, wetlands, and steep slopes together provide only a very narrow open space buffer along the stream. This buffer may not always be wide enough to protect the stream from sedimentation and extreme temperature changes, as well as to provide a corridor wide enough for effective wildlife habitat. In these areas, it is recommended that some additional land outside the floodplain, poor soil, wetlands, and steep slope area be included in the EQC. The U. S. Forest Service[1] has developed an empirical formula for computing the naturally vegetated buffer strip width needed to trap all eroded material before it can reach the stream in areas such as Fairfax County receiving an average rainfall of twenty inches or more:

Buffer width = 50 + (4 x percent slope) in feet.

ENVIRONMENTAL QUALITY CORRIDORS (Cont.)

DELETE: Page I/C 70, Environment, Sensitive Lands EQCs, first column, paragraph 2, sentence 5, which reads:

The sensitive lands EQC boundary is thus determined by this formula when the land encompassing the floodplain/ floodplain and poor soils/wetlands and steep slopes form an open space strip narrower than the minimum buffer strip calculated by the formula.

MODIFY: Page I/C 70, Environment, Sensitive Lands EQCs, center column, paragraph 3, sentence 3, to read:

An EQC, as defined herein, including floodplains, poor soils, wetlands, steep slopes, and the calculated buffer widths, in most cases, would provide at least this wide a buffer for perennial streams.

DELETE: Page I/C 70, Environment, Resource Protection EQCs, Paragraph 1.

ADD: Page I/C 70, Environment, Resource Protection EQCs, Paragraph 1, to read:

The resource protection EQCs are lands located outside the sensitive lands EQCs. The resource protection EQCs include important environmental resources which would be desirable to protect. Some of these lands, such as conservation areas, stream influence zones, wildlife habitats, important forest lands, and ecologically valuable areas not in sensitive lands EQCs are vulnerable and should be reserved for uses that are consistent with their preservation. Other resource protection EQCs, such as public parks, private recreation areas, heritage resource sites, and agricultural lands, can support somewhat heavier uses as appropriate.

ENVIRONMENTAL QUALITY CORRIDORS (Cont.)

DELETE: Page I/C 70, Environment, Resource Protection EQCs, center column, Paragraph 6.

ADD: Page I/C 70, Environment, Resource Protection EQCs, center column, Paragraph 6, to read:

Immediate identification of the prime wildlife habitat remaining, as well as other ecologically valuable resources, is necessary for the planning of an open space system that serves to provide a healthful environment for wildlife in the County. The sensitive lands EQCs provide a great deal of wildlife habitat, though they are too narrow in some areas to provide good habitat or even travel routes for the larger species such as deer. Wildlife specialists suggest that corridors 600 feet wide (300 feet on either side of the stream) may provide adequate travel routes for some of the large species. Such wide corridors should be provided between large parks and identified prime wildlife habitats.

MODIFY: Page I/C 70, Environment, Levels of Protection, Sensitive Lands EQCs, Paragraph 1, sentence 2, to read:

It is recognized, however, that some intrusions, such as road and utility crossings and stormwater management structures, ~~will have to be periodically~~ may be allowed in these EQCs if no other reasonable alternatives exist.

MODIFY: Page I/C 70, Environment, Levels of Protection, Sensitive Lands EQCs, Paragraph 2, to read:

Where steep slopes cover extensive areas and are relatively unlikely to slide, some buildings could be allowed on those steep slopes farthest from the stream if adequate measures are taken to minimize grading, clearance of vegetation, and erosion, and if the floodplain, floodplain soils, wetlands, and minimum buffer width calculated from the U.S. Forest Service formula are preserved in undisturbed open space. Generally, however, such areas should be dedicated as private or public open space. Marine clays may also be built upon in special cases where the design of the development has been approved by the County Geotechnical Review Board. . . .

ENVIRONMENTAL QUALITY CORRIDORS (Cont.)

MODIFY: Pages I/C 70 and 71, Environment, Levels of Protection, Resource Protection EQCs, Paragraph 2, sentence 3, to read:

Agricultural lands, ~~and~~ forest lands, and ecologically valuable areas would be best protected in their existing state ~~agricultural/and/forest/use~~ with no non-farm related residential, commercial, or industrial development allowed.

MODIFY: Page I/C 72, Environment, Water Quality, Land Use Planning and Water Pollution, Paragraph 2, sentence 2, to read:

They should also be applied above all of the County's impoundments and both ~~fresh/and~~ tidal and non-tidal wetlands.

MODIFY: Page I/C 74, Environmental Recommendations, Water Quality and Quantity, to read:

2. ~~Continue~~ Recognize the need for comprehensive water quality monitoring programs, ~~making/modifications, when~~ taking appropriate actionevise and expand such programs when results or new data requirements warrant ~~them~~.

3. Preserve or enhance surface water and groundwater quality throughout the County through the application of stormwater management best management practices (BMPs), point source pollution controls, and water-quality sensitive land use planning.

ENVIRONMENTAL QUALITY CORRIDORS (Cont.)

DELETE: Page I/C 74, Environmental Recommendations, Open Space, Number 1, first bullet, Sensitive Lands EQCs.

ADD: Page I/C 74, Environmental Recommendations, Open Space, Number 1, first bullet, Sensitive Lands EQCs, to read:

- Sensitive Lands EQCs. These basic EQCs are designed to protect the County's streams and adjacent lands which adversely affect and, at the same time, are most adversely affected by development. They are defined to include: all 100-year floodplains; all floodplain soils and soils adjacent to streams which exhibit a high water table and poor bearing-strength, or other severe development constraints, such as marine clays; tidal wetlands as defined by the Zoning Ordinance; non-tidal wetlands adjacent to streams; and steep slopes (greater than 15%) adjacent to the floodplains, soils, and wetlands. The EQC soils include Fairfax soils numbered 1, 2, 3, 5, 11, 12, 13, 30, 31, 33, 89, 92, 117, and 118. In addition, soils numbered 6, 8, 14, 15, 39, 52, 68, 76, 80, 84, 85, 90, 110, and 112, when found within or contiguous to the 100-year floodplain and when found to be extremely wet, are also considered to be sensitive lands EQC soils. Where the above floodplains, soils, steep slopes, and wetlands cover only a narrow area, a minimum buffer on each side of the stream will be provided, calculated from the following formula:

  Buffer width = 50 + (4 x percent slope) in feet.

  This EQC definition has been used in several watershed studies and should be used in the review of all proposed developments on a case-by-case basis to delineate the exact extent of the sensitive lands EQCs.

ENVIRONMENTAL QUALITY CORRIDORS (Cont.)

DELETE: Page I/C 74, Environmental Recommendations, Open Space, Number 1, second bullet.

ADD: Page I/C 74, Environmental Recommendations, Open Space, Number 1, second bullet, to read:

- Resource Protection EQCs. These are lands located outside the sensitive lands EQCs. The resource protection EQCs include important environmental resources which would be desirable to protect. Some of these lands, such as conservation areas, stream influence zones, wildlife habitats, important forest lands, and ecologically valuable areas not in sensitive lands EQCs, are vulnerable and should be reserved for uses that are consistent with their preservation. Other resource protection EQCs, such as public parks, private recreation areas, heritage resource sites, and agricultural lands, can support somewhat heavier uses as appropriate. These lands are to be further defined in watershed and other space preservation studies.

MODIFY: Page I/C 74, Environmental Recommendations, Open Space, Number 2, second bullet to read:

- Resource Protection EQCs. These lands are to remain primarily in low/intensity open space use/ through though some low-intensity development may occur to serve the purpose for which the resource is being preserved from/residential//commercial// or/industrial/development.

MODIFY: Page I/C 75, Environmental Recommendations, Physical Hazards, Number 1, to read:

1. Ensure that land use planning is responsive to the constraints imposed by such factors as floodplains, wetlands, slippage soils, steep slopes, erodible soils, septic limitation areas, and aquifer recharge zones, high water table soils, and poor drainage conditions.

ENVIRONMENTAL QUALITY CORRIDORS (Cont.)

MODIFY: Page I/C 75, Environmental Recommendations, Physical Hazards, Number 7, to read:

7. Require a detailed drainage study of areas with natural drainage swales or intermittent streams and high water table soils prior to development to safeguard against wet ~~basement~~ foundation problems.

ADD: Page I/C 117, Glossary, new definition in alphabetical order to read:

Ecologically Valuable Areas - Habitats (associations of plants and wildlife) that are good examples of Fairfax County's natural heritage, unique in Fairfax County or deemed significant by state or federal law due to the presence of threatened or endangered species. Such areas are being identified in the inventory of ecological resources currently underway in the Office of Comprehensive Planning. These ecologically valuable areas may be isolated from the sensitive lands EQC network or may be adjacent to that network, but fall outside of the physical definition of sensitive lands EQCs contained in this Comprehensive Plan. Ecologically valuable areas may serve as corridor connectors to the existing network of stream valley EQC systems.

ADD: Page I/C 118, Glossary, a new definition in alphabetical order, to read:

Stream Influence Zone - The most sensitive land area of a watershed outside of the sensitive lands EQC. These land areas are worthy of protection because development within stream influence zones most directly affects the stream. Uses within these zones should consider soil types, depth to and slope of bedrock, groundwater, and vegetative cover.

AIRPORT NOISE

APR Item 88-PY-134

MODIFY: Page I/C-73, Environmental Recommendations - Noise Pollution, Fairfax County Efforts, paragraph 2, sentence 2, to read:

Recognizing that some of the adverse impacts of transportation noise can be mitigated, . . .

ADD: Page I/C 73, Environmental Recommendations - Noise Pollution, Fairfax County Efforts, Paragraph 3, following line 12, to read:

A major issue affecting the development of a substantial portion of western Fairfax County is the extent of the area that is impacted by current and projected aircraft noise levels resulting from operations at Dulles International Airport. Due to the number and location of runways, air traffic patterns, the type and frequency of various aircraft using the airport, as well as airport operating procedures, portions of Fairfax County in the vicinity of Dulles Airport are either currently, or are projected to be, subjected to levels of aircraft noise which may be incompatible with certain types of land use activity. The County should continually assimilate and evaluate the best available data and make appropriate changes to land use policy as necessary. Fairfax County should also make every effort to mitigate undue impacts from airport developments upon existing and planned land uses in the airport vicinity.

MANUFACTURED HOUSING

APR Item 88-PY-93

ADD: Page I/C 86, Housing Recommendations, Policy Recommendations, following Paragraph A, Number 6, to read:

7. Encourage the use of manufactured housing and manufactured housing components on appropriate sites.

ADD: Page I/C 118, Glossary, a new definition in alphabetical order, to read:

Manufactured Housing - Homes built in a factory to federal standards and inspected by federally-certified agencies. These homes are often assembled on-site. Because 95% of these homes are never moved, and because the wheels are used only to move the homes to permanent sites, these are no longer called mobile homes.

HUMAN SERVICES

APR Items 88-PY-122, -124

DELETE: Page I/C 53, Human Services, Paragraphs 1, 3, and 8.

ADD: Page I/C 53, Human Services, a new paragraph L, to read:

Conditions and Issues for Human Services Program

The human services programs address the needs of physical health, mental health, mental retardation, substance abuse and social services.

ADD: Page I/C 53, Human Services, following the last paragraph in the section, to read:

Fairfax-Falls Church Community Services Board

The Fairfax-Falls Church Community Services Board both directly operates and contracts for mental health, mental retardation, and substance abuse treatment programs and services for residents of Fairfax County and the Cities of Fairfax and Falls Church. Public mental health services are provided by three community mental health centers, Mount Vernon, Northwest, and Woodburn. Public alcohol and drug abuse treatment and programs, Substance Abuse Services (SAS) and the Alcohol and Safety Action Program (ASAP). Additional mental health and substance abuse services are provided through contractual arrangements. Services offered to mentally ill and substance abusing persons include emergency, outpatient, day programs, long and short-term residential, prevention and early intervention. In addition, inpatient psychiatric services are available for mentally ill persons and detoxification for substance abusers. Mental retardation services include case management, community residences, transitional employment services, behavior management, respite, and training and support services. The Northern Virginia Training Center, and the Virginia Mental Health Institute, providing services to persons with mental health problems, are located in Fairfax County. Both of these state facilities are operated by the Virginia Department of Mental Health, Mental Retardation, and Substance Abuse Services.

HUMAN SERVICES (Cont.)

The political and economic changes of the past decade have presented challenges to the Community Services Board in its efforts to provide mental health, mental retardation, and alcohol and drug treatment services. Recent articles in professional journals and the media have documented the critical need for community-based residential services for mentally ill, mentally retarded or substance abusing persons. The trend toward deinstitutionalization and community-based treatment has left communities unprepared to meet the wide range of needs, particularly the residential needs, of mentally disabled or substance abusing persons. Community residences in the remainder of this century must meet the challenges of funding limitations for community-based care. Once thought of as an alternative to institutional placement, community residence now have become a focal point for the care of persons disabled by mental illness, mental retardation or substance abuse.

A number of issues face the County in terms of providing adequate service to these residents as a result of these trends; the prevailing philosophy which advocates provision of permanent homes for these individuals; and the stigma associated to persons with these conditions. These issues include:

- Extensive capital outlay in preparing rental units for specialized service, meeting health and fire code regulations, and moving expenses;
- Limitations in using rental units for group homes, since landlords are reluctant to negotiate long-term leases;
- The lack of long-term affordable housing in Fairfax County;
- Restrictive covenants which prevent placement of a group home in certain subdivisions;
- Anxiety of clients, families and neighbors resulting from group home relocations, which requires extensive community education and neighborhood meetings; and

HUMAN SERVICES (Cont.)

- Inadequate transportation for residents to reach mental health, mental retardation, and substance abuse service locations.

Planning Recommendations for Future Facilities

- Fairfax County is committed to enabling mentally ill, mentally retarded, or substance abusing persons to sustain a secure and productive lifestyle. The County will systematically plan and provide community services for its disabled residents through the Capital Improvement Program, public/private partnerships, affordable housing initiatives, and proffers of land and/or facilities.

- The proposed capital program for human services includes the relocation of the Crossroads residential substance abuse treatment facility, currently located on North Kings Highway. The facility must be vacated to allow for full development of the commercial area near the Huntington Metro Station. Site location in the southern part of the County for a new, relocated facility is being pursued. In October of 1982, a trailer housing ten additional beds was added to the program. Although this addition has accommodated a portion of the waiting list, at least fifty percent of the waiting list will not be served. Statistical projections based upon past admissions demonstrate a continued and increased demand for residential services. The size of the proposed facility is approximately 40,000 square feet and is estimated to be completed in 1990.

- A 16-bed mental retardation facility, scheduled to open in 1990, is being developed on the grounds of the Northern Virginia Training Center. This is a joint project between the Commonwealth of Virginia, from which the land is leased, and Fairfax County. Construction of the 8,700 sq. ft. facility is being financed through the County's Capital Improvement Program. Mentally retarded persons who also have behavior problems will receive residential services in this highly supervised environment.

HUMAN SERVICES (Cont.)

- The Community Services Board has proposed several additional projects for consideration in the Capital Improvement Program. These include 13 group homes, a licensed home for adults, two substance abuse treatment facilities, and renovations to Woodburn Center for Community Mental Health.

DELETE: Page I/C 58, Human Services Facilities text for Goals and Standards.

ADD: Page I/C 58, new text for Goals and Standards, to read:

HUMAN SERVICES FACILITIES

Goals

The major goals of the Human Services Facilities Program in the County are:

1) To provide quality community services as an alternative to institutional placements;

2) To provide facilities and services which will enhance the physical health, mental health and social well-being of County residents of all ages;

3) To establish additional group homes which promote integration within the community for persons who are in need of such housing;

4) To provide facilities and services that will assist in the rehabilitation of individuals suffering substance abuse; and

5) To establish additional treatment facilities and services in new growth areas to accommodate the human services needs of local residents and/or to provide adequate transportation to enable residents in new growth areas to travel to service delivery sites.

HUMAN SERVICES (Cont.)

Standards

The basic guidelines for the provision of human resource facilities are determined largely by the regional and state agencies charged with the administration and enforcement of relevant regulations and procedures. The County Zoning Ordinance provides the criteria for the location and relationship of proposed facilities. Additional standards for human services should be developed.

CLUSTER DEVELOPMENT

APR Item 88-PY-42

ADD: Page I/C 103, following the section titled Locational Guidelines for Multifamily Residential Development, to read:

CLUSTER DEVELOPMENT

Cluster development should be encouraged where appropriate to preserve open space, protect sensitive environmental lands (EQCs and other wildlife habitat), provide opportunities for active and passive recreation, reduce the impacts of stormwater runoff and soil erosion, achieve higher quality site design, and to provide for more economically efficient development. The following criteria should be considered when reviewing a cluster subdivision:

1. Individual lots, buildings, streets and parking areas should be designed and situated to minimize disruption to the site's natural drainage, and to minimize alteration of the natural topography.

2. EQC lands shall be preserved and dedicated to the County, or at the County's discretion, to a homeowner's association. Other environmentally sensitive lands, such as wildlife habitat, should also be preserved to the extent possible.

3. Site design should be sensitive to surrounding properties, with individual lots and buildings situated to be compatible with or to complement surrounding development.

4. No cluster development shall be considered when the primary purpose for the development is to maximize density on the site.

REDEVELOPMENT

APR Item 88-PY-107

DELETE: Page I/C 21, Recent History of Land Absorption, second paragraph, lines 1 and 2, the phrase: "for which details are not available."

MODIFY: Page I/C 22, Undeveloped Land, first paragraph, fourth sentence, to read:

Current statistics (1983) indicate 142,000 developed acres ~~(or 120,000 acres)~~ or less if the underutilized land concept is applied.

MODIFY: Page I/C 23, Undeveloped Land, Inner County, third paragraph, second sentence, replace phrase "along the eastern perimeter" with "in some parts."

MODIFY: Page I/C 23, Undeveloped Land, Inner County, third paragraph, third sentence, replace "may foreshadow" with "portends."

ADD: Page I/C 23, Undeveloped Land, a new paragraph following Table 4, to read:

Redevelopment

Underutilized land is currently defined primarily as parcels with an assessed improvement of less than $2,500.00, and as portions of parcels which may reasonably be expected to undergo further development. While this definition is descriptive from an economic viewpoint, it is not correct to apply it to land that is developed at lesser intensity than permitted by the applicable zoning district. It is not uncommon for land in the County to be developed in accordance with the Plan at less than the maximum intensity permitted by the Zoning Ordinance. Redevelopment of these parcels is often permitted under existing zoning and is, therefore, not subject to the County's rezoning or special exception review process. Land values in many parts of the County (i.e., Reston/Herndon and Merrifield) have resulted in existing uses being acquired and/or converted to different types, at higher intensities. This trend is likely to continue as land values continue to increase. Unconstrained redevelopment of these parcels has the potential to create adverse impacts on the County's environment, its ability to accommodate the resultant increase in traffic, its ability to implement transportation systems to meet the County's long-range needs, and other planning issues.

CHILD CARE

APR Item 88-PY-133, -138

ADD: Page I/C 102, a new section after "Development Criteria for Commercial and Industrial Evaluation," to read:

LOCATIONAL GUIDELINES FOR CHILD CARE FACILITIES

In Fairfax County, as in other areas of the country, an increasing proportion of households need high-quality child care facilities. Such facilities should be encouraged in employment-generating and residential developments, particularly those developed as P-districts, to the extent that they can be provided consistently with the following criteria:

1. Child care facilities should have sufficient open space to provide adequate access to sunlight and suitable play areas, taking into consideration the size of the facility.

2. Child care facilities should be located and designed in such a way as to ensure the safety of children.

3. Child care facilities should be located and designed in such a way as to protect children from excessive exposure to noise, air pollutants, and other environmental factors potentially injurious to their health or welfare.

4. Child care facilities should be located and designed so as to ensure safe and convenient access. Appropriate attention should be paid to parking and safe and effective on-site circulation of automobiles and pedestrians.

5. Child care facilities in residential communities should be located and designed in such a way as to avoid undesirable traffic, noise, and other impacts upon the surrounding community. This objective might, in appropriate cases, be achieved by siting child care centers on the periphery of residential developments or in the vicinity of planned community recreation facilities.

6. Child care facilities are to be encouraged to be located convenient to the workplace.

Child care facilities are also appropriate in retail areas, like shopping centers, if they are situated and designed in such a way as to provide a safe and healthful environment for children. In determining the appropriateness of child care facilities in specific areas, consideration should be given to the criteria listed above.

INTERIM IMPROVEMENTS TO COMMERCIAL ESTABLISHMENTS

APR Item 88-PY-135

ADD: Page I/C 15, Economic Development and Employment, a new section following Multi-Use Village Centers, to read:

INTERIM IMPROVEMENT OF COMMERCIAL ESTABLISHMENTS

In some areas of the County, the Comprehensive Plan envisions a substantial change in land use that is expected to come about in connection with eventual redevelopment. In such areas, it may be immediately beneficial and further the overall principles of the Plan to allow changes in existing uses that do not strictly conform with the long-term recommendations of the Comprehensive Plan. Such changes in use may be allowed, on a case-by-case basis, if:

- They result in significant public benefits, for example, improvements in circulation or access, parking, landscaping, site design or building design;
- Those public benefits outweigh any adverse effects of the change in use; and
- Allowing the change in use will not delay or interfere with the achievement of the long-range objectives of the Comprehensive Plan.

DRIVE-THRU WINDOWS

APR Item 88-PY-137

DELETE: Page I/C 102, "Clustering of Automobile-Oriented Commercial Uses," Paragraph 10.

ADD: Page I/C 102, "Clustering of Automobile-Oriented Commercial Uses," Paragraph 10, to read:

Drive-thru windows should be discouraged in these clusters unless they meet the general guidelines for such uses as provided in the following section.

GUIDELINES FOR DRIVE-THRU WINDOWS

Drive-thru windows for commercial establishments have the potential to cause serious traffic circulation problems both on- and off-site. In order to mitigate these problems, drive-thru windows should be approved only if the size and configuration of the lot are adequate to achieve a safe drive-thru window, parking circulation and pedestrian system. All activity generated by the use must be accommodated on the site. Noise, glare and other nuisance aspects related to drive-thru facilities must not adversely affect adjacent properties.

RESIDENTIAL INFILL

APR Item 88-PY-142

MODIFY: On the pages indicated in the following volumes of the Plan: Introduction/Countywide, page 6; Area I, page 1; Area II, page 1; Area III, page 1; Area IV, page 1. Modify the first paragraph of "Preservation of Existing Neighborhoods," to read:

The eastern part of Fairfax County, roughly the area east of Route 123 and Difficult Run, is largely developed, and A policy of protecting and enhancing existing stable neighborhoods in all Planning Areas is a prime objective of *in Area I, II, and IV plans* the Comprehensive Plan. *In these areas,* Infill development, *which is usually residential,* should normally be of a compatible use, type and intensity. *In Area III where most of the vacant and undeveloped land is located, stable neighborhoods including areas of much lower density and open space. This conservation land is classified as stable, with areas such as the western Pohick with its five-, and ten-acre estates included in this classification.* In stable areas, the Plan encourages buffering between potentially conflicting land uses, reduction of through-traffic on neighborhood streets, the containment of commercial expansion, and the protection of environmentally valued resources.

CIP/PUBLIC FACILITIES

APR Item 88-PY-88

MODIFY: Page I/C 104, Capital Facilities Programming, Benefits of Capital Programming, first paragraph, to read:

A long term capital improvement program has many obvious benefits that derive from its systematic approach to planning and financing public agency projects. These benefits will not occur, however, ~~simply with the annual production of the budget~~ unless the program is annually adopted by the Planning Commission and Board of Supervisors with full consideration given to the project schedules and fiscal implications. Failure to adopt the CIP weakens its overall importance and its effectiveness as a Plan implementation mechanism. Therefore, it should be a policy of the Board of the Supervisors to formally adopt the program annually. In addition, the ~~its~~ usefulness of the CIP will depend on continuing legislative support of the program and firm executive commitment in carrying out program recommendations on a daily basis. The CIP should include all public facilities required, within its time frame, as a result of land use decisions and should list all programmed facilities regardless of source of funds. The CIP should provide for implementation of public facilities concurrently with the development that generates the need for them, and where that is not feasible, that fact should be noted and an explanation given as to why such concurrent development is impractical. Reasonably foreseeable facilities requirements beyond the time frame of the CIP should be noted in a supplement to the CIP. Some of the more important benefits to be derived from a viable capital programming process include the following . . .

TRAILS

APR Items 88-PY-112, 143

DELETE: Text on page I/C 67, Countywide Trails System.

ADD: Text on page I/C 67, Countywide Trails System, to read:

COUNTYWIDE TRAILS SYSTEM

Introduction

A map outlining trail locations was adopted in 1978 and has been refined each year. The map serves as a schematic representation of the proposed countywide trails system. Several Magisterial District Trails Committees have worked with the County staff to identify the sides of roads and stream valleys preferred for trails. Where the more specific Magisterial District trails maps have been adopted by the Board of Supervisors, they will take precedence over the adopted Countywide trails map. In addition to these maps, several special studies have been completed and are included in various portions of the Plan. These include growth centers and the Metro Stations (in appropriate Area books).

Trails are generally located along road rights-of-way and stream valleys. Trails may be located along low-volume roads, service drives, and sidewalks; however, these locations will be used only when separate trail facilities are not feasible. Trails can be used as an alternative mode of transportation, and/or for recreation. Trails are available for all types of non-motorized use, including but not limited to bicycling, walking, hiking, horseback riding, and jogging.

Goals and Objectives

Goal 1: The overall goal of the Trails Program is to provide a safe and comprehensive network of non-motorized access throughout the County as part of the overall transportation network for the County.

Objectives:

1. Establish a Countywide Trails Plan Map showing the location of all planned non-motorized access routes in the County. The map shall be revised each year as needed.

2. Ensure implementation of facility provision, non-motorized commuter encouragement, safety education, and overall security through all available ordinances, guidelines, codes and programs in the County.

3. Maintain facilities adequately and actively promote the plan and program.

TRAILS (Cont.)

Goal 2: Establish a bicycle accessibility program and encourage the use of the bicycle as an alternate form of transportation and inclusion in all transportation plans.

Objectives:

1. Prepare a bicycle transportation map identifying currently planned non-motorized facilities suitable for use by commuter bicyclists. This map would function as an overlay on the Countywide Trails Map and would show routes to all major activity centers and identify ancillary facilities.

2. Increase educational awareness of bicycle safety and safe bicycle driving.

3. Encourage the use of the bicycle for commuting. VDOT Road Programs, County programs, the development review process, and community outreach programs should be used to achieve this objective.

4. Foster efforts to recognize the bicycle as a vehicle subject to enforcement and regulation.

5. Mark sidewalks authorized for use by bicycles as transportation trails.

Goal 3: Establish an unpaved trails program that identifies locations of trails for recreational use.

Objectives:

1. Prepare an unpaved trails map identifying currently planned trail locations and ancillary facilities to be used for recreation.

2. Adopt standards for construction and implementation of unpaved trails.

3. Establish "rules of the trail" governing the use of unpaved trails by several user groups.

Policies

1. Generally, trails are located within road rights-of-way and along stream valleys. Bicycle routes may be located within the roadway when reasonably safe travel can be expected. When bicycle lanes are established within the roadway, the curb lane should be widened and/or striping for a bike lane should be provided.

TRAILS (Cont.)

2. Criteria For Selecting Trail Locations: Trail locations have been suggested by the Magisterial District Trails Committees in consultation with County staff. Trail locations are selected according to the following criteria:

- provide links to existing trails;
- link trip origins (i.e., subdivisions) and trip destinations (i.e., schools, parks, commercial districts, transportation centers);
- serve the greatest number of users; and
- link parks.

Implementation

The Countywide Trails Program is implemented by the following groups.

The Development Community: Developers are required to provide trails through the Subdivision and Zoning Ordinances. When a trail is designated on the adopted Trails Plan, developers build trails and dedicate them to the County. The County also encourages proffers of trail construction and dedication through the development review process.

VDOT: The Virginia Department of Transportation constructs trails in conjunction with highway improvement projects. In the primary road system, a trail will be built as part of the highway improvement project if it is identified on the Trails Plan and is requested by the Board of Supervisors. If the improvement is part of the secondary road system, the County pays the acquisition costs of the additional right-of-way and one-half of the construction costs.

County: Funds are allocated from the County's general fund for trail acquisition, design and construction. Magisterial District Trail Committees and staff select construction priorities within each district, and recommend them for funding as part of the budgetary cycle. Trails are also provided during the construction of County Road Bond Projects if the trail is shown on the adopted Countywide Trails Plan.

FCPA: The Fairfax County Park Authority builds and maintains trails within public parks and stream valleys in accordance with park master plans. Priorities are established through the Trails Plan, consultation with Magisterial District Trail Committees, and the public hearing process.

TRAILS (Cont.)

NVRPA: The Northern Virginia Regional Park Authority acquires and operates a variety of sizable parks in Fairfax County. Major trail construction is often included in park development. Among the most notable and extensive trails in the County are those within the W&OD Railroad Regional Park and the Bull Run Regional Park.

Volunteers: Although volunteer groups have not built public trails under County auspices, it is anticipated that this may occur in the future. Important liability issues regarding volunteers were resolved during the 1979 Virginia legislative session.

TRANSPORTATION SYSTEMS MANAGEMENT

APR Items 88-PY-105, -131

ADD: Page I/C 37, TRANSPORTATION, following External Agency Acceptance, a new section, to read:

Transportation Systems Management

Road capacity is a scarce resource and it should be conserved to the extent possible. All new developments, therefore, should include provisions for transportation systems management strategies commensurate with their scope and size. The full range of transportation systems management strategies should be considered: ride share programs; preferred parking for car and van pools; staggered work hours and four day work weeks; as well as design measures to promote access by public transportation and other non-vehicular means. In addition, developers should be encouraged to coordinate transportation systems management strategies with other area landowners in order to achieve an overall system that will best conserve road capacity and minimize traffic impacts. To achieve this objective, the County should employ the following strategies:

1. Fairfax County should develop a system of incentives and disincentives aimed at the increased use of: car and van pooling; dedicated bus/van transportation between employment centers and Metro Stations or regional parking areas; covered bus stop shelters; staggered work hours; and four-day work weeks.

2. The County should encourage the use of alternative parking arrangements which would include, but not be limited to, such incentives/disincentives as:

   - Reduced rates for vehicles with three or more people, or for vehicles parked before a given hour; and

   - Preferential parking (i.e., closer to the work building or Metro Station) for vehicles with three or more people, or for vehicles parked before a given hour.

3. Fairfax County should employ a full-time Transportation Systems Management Coordinator to vigorously promote, manage and monitor a package of strategies to reduce vehicle use during the A.M. and P.M. peak periods.

TRANSPORTATION SYSTEMS MANAGEMENT (Cont.)

4. The County should encourage applicants for all rezonings and special exception requests to include a statement explaining the applicant's consideration of transportation systems management strategies. Proffers of TSMs should be encouraged where applicable, including proffers of cash to support the County's feeder bus system.

5. The County should support the on-going activities of transportation management associations and the creation of additional associations as a means of reducing traffic demands.

6. When TSM measures are proffered to demonstrate the trip reduction necessary to comply with transportation objectives in the Plan, they should be considered only if they are reasonable and legally enforceable. Also, these measures should be evaluated and enforced to ensure that they actually produce the benefit claimed.

7. The County should investigate and implement various low-cost strategies to increase capacity and safety, such as improved, coordinated and synchronized signal systems, pavement markings, turn lanes and related operations management techniques.

TRANSPORTATION POLICIES

APR Items 88-PY-57, -87

ADD: Page I/C 24, Transportation, a new Section I, "Policies," to read:

Policies

The recommendations contained in this Plan have been developed in accordance with the following policies.

- Fairfax County will conduct a continuing, comprehensive transportation planning process leading to the adoption of transportation plans and programs. The process will include an analysis of current and future travel patterns and problems, development of goals and objectives, and evaluation of alternative sets of multi-modal solutions including increased highway capacity, expanded transit and feeder bus service, strategies for managing travel demand, and facilities for bicycles and pedestrians. The cost of constructing, operating and maintaining the transportation plans and programs should be taken into account to ensure that those plans and programs are realistically achievable.

- Fairfax County will actively participate in, and promote, regional transportation planning to establish a framework for County plans and programs.

- Particular emphasis will be given to low-cost transportation strategies including traffic operations improvements and travel demand management. All opportunities to reduce the use of single occupant vehicles will be explored on a continuing basis, and an active demand management program will be established.

- The transportation element of the Comprehensive Plan will be developed with due consideration to its social, economic, and environmental impacts. Preference will be given to alternatives that minimize adverse effects.

- Implementation of the transportation element of the Plan will be accomplished through the Capital Improvement Program which identifies specific projects and funding sources. The programming process will include all projects, regardless of funding source, and will take into account measures of current traffic congestion, user benefit, environmental impact, safety, and facility condition.

TRANSPORTATION POLICIES (Cont.)

- The transportation planning process should evaluate alternatives for servicing planned land uses to determine technical and financial feasibility and relative cost effectiveness. Alternatives should include increased highway capacity, expansion of transit services, strategies for managing travel demand, and incorporation of non-motorized vehicle and pedestrian traffic. For example, transportation planning should consider connecting existing non-radial arterials so that they better serve cross-county travel, because highway capacity is particularly deficient for cross-County trips.

- The land use and transportation elements of Fairfax County's Comprehensive Plan will complement each other such as there is a balance between transportation demand and capacity. Highway facilities will be planned and designed to maintain level of service D wherever practicable.

- The cost of constructing, operating and maintaining the transportation system will be balanced with the availability of funds. The Plan will include a financial component showing how this balance will be achieved.

MODIFY: Page I/C 24, Transportation, Introduction and Purpose, paragraph 3, to include a reference to the Policy section.

MODIFY: Renumber remainder of Transportation discussion (existing Sections I and II) to reflect the addition of new Section I, Policies.

INTERPARCEL CONNECTIONS

APR Item 88-PY-126

ADD: Page I/C 30, between General and Buffering Roads and Highways, a new paragraph, to read:

Interparcel Connections

Interparcel connections, where determined to be appropriate, should be provided between adjacent and similar residential, commercial and/or industrial subdivisions in order to improve vehicular access, especially for emergency and service vehicles, and to reduce impedance on collector and arterial streets. The proposal should be evaluated to determine if the interparcel access would adversely affect the already established subdivision, and if so, the need for the interparcel access should be reassessed.

SCREENING AND BUFFERING

APR Item 88-PY-141

MODIFY: Page I/C 107, Buffering, title and first paragraph, to read:

Screening and Buffering

Screening and buffering between ~~incompatible~~ different types of land uses ~~activities such as transportation residential and commercial residential is another means of influencing land use. It is~~ are used to increase stability and to mitigate negative effects of new development on an established neighborhood. Buffering refers to an area of open land which serves to mitigate potential conflicts between different types of land uses. Buffer zones are most commonly employed between different types of uses but, in certain circumstances, it may be appropriate to provide a buffer between high and low density residential uses. Screening refers to the amount of landscaping and/or physical barriers that are erected to further mitigate potential incompatibilities between different types of land uses.

DELETE: Page I/C 107, Buffering, second, third and fourth paragraphs.

A P P E N D I X

NOMINATION STATUS LIST

(Nominations Not Acted Upon By the Board of Supervisors)

APR No.	Nominator	Brief Description	Status
88-PY-1	Bernard M. Fagelson	Proposed revision of FH1 - Franconia Community Planning Sector Text.	Screened out by Planning Commission
88-PY-2	B. R. Eggeman	Proposed revision to Comprehensive Plan's glossary.	Referred to OCP or other County agency
88-PY-4	Thomas B. White, Jr.	Proposal to alter fiscal policy in regard to taxation and new taxing districts.	Deferred to Major Plan Review
88-PY-25	Citizens Committee for Review of Land Use and Transportation Planning for Fairfax County	Proposed review of, new format for, and complete revision of the Comprehensive Plan.	Deferred to Major Plan Review
88-PY-26	Citizens Committee for Review of Land Use and Transportation Planning for Fairfax County, Sally Ormsby	Proposal to revise Board policy, regarding timing of development and Plan implementation.	Deferred to Major Plan Review
88-PY-27	Citizens Committee for Review of Land Use and Transportation Planning, Sally Ormsby	Nomination addresses three issues: o Proposed assessment of cumulative effects of plan amendments from 1975 to present; o Establishment of an on-going Plan monitoring process; and o Identification of improvements to Plan and planning process.	Referred to OCP or other County agency
88-PY-29	Citizens Committee for Review of Land Use and Transportation Planning, Sally Ormsby	Proposed policy recommendations regarding strategic land use planning.	Deferred to Major Plan Review
88-PY-30	Citizens' Committee for Review of Land Use and Transportation Planning, Sally Ormsby	Request to add functional policies for transportation.	Deferred to Major Plan Review
88-PY-31	Citizens' Committee for Review of Land Use and Transportation Planning, Sally Ormsby	Proposal to alter policies related to the provision of adequate public facilities.	Deferred to Major Plan Review

NOMINATION STATUS LIST

(Nominations Not Acted Upon By the Board of Supervisors)

APR No.	Nominator	Brief Description	Status
88-PY-32	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed changes to citizen participation in planning process.	Referred to OCP or other County agency
88-PY-34	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed revision of Zoning Ordinance to permit office development by right in C-1 through C-4 only,and by Special Exception in C-5 through C-8.	Referred to OCP or other County agency
88-PY-35	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed revision of Zoning Ordinance regarding Industrial District and Overlay Districts related to traffic congestion.	Referred to OCP or other County agency
88-PY-36	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed revision of Zoning Ordinance to improve standards for Commercial and Industrial Districts.	Referred to OCP or other County agency
88-PY-37	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed changes to County's actions regarding litter, including: greater effort to enforce litter laws; regular clean-up of roadsides, and; a new litter ordinance.	Referred to OCP or other County agency
88-PY-39	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed revision of environmental element of Plan to strengthen text regarding stormwater management and stream valley protection.	Referred to OCP or other County agency
88-PY-40	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed revision to Zoning Ordinance regarding waivers for transitional screening/buffering and storm water detention facilities.	Referred to OCP or other County agency
88-PY-41	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed revision to Zoning Ordinance regarding density credit for land in floodplain.	Referred to OCP or other County agency
88-PY-43	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed revision to Zoning Ordinance regarding Planned Districts.	Referred to OCP or other County agency

NOMINATION STATUS LIST

(Nominations Not Acted Upon By the Board of Supervisors)

APR No.	Nominator	Brief Description	Status
88-PY-45	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Request to revise proffer provisions regarding need for public improvements.	Denied by Planning Commission
88-PY-46	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Request to upgrade County's capability to perform transportation access studies of proposed land use changes, including development of a state-of-the-art transportation impact model.	Referred to OCP or other County agency
88-PY-47	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Request for a land use data base that reflects building permits and approved plan changes, to serve as a basis for estimating travel demands.	Referred to OCP or other County agency
88-PY-48	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed revision to Public Facilities Manual regarding transportation calculations and estimates.	Referred to OCP or other County agency
88-PY-49	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed revision to Public Facilities Manual regarding road construction standards.	Referred to OCP or other County agency
88-PY-50	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed revision to the Zoning Ordinance regarding parking requirements.	Referred to OCP or other County agency
88-PY-51	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed revision to Public Facilities Manual regarding standards for private streets.	Referred to OCP or other County agency
88-PY-52	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed policy regarding road building program for protection of parkland and environmentally valuable land.	Referred to OCP or other County agency
88-PY-53	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed policy regarding environmental review system for road building program.	Referred to OCP or other County agency

NOMINATION STATUS LIST

(Nominations Not Acted Upon By the Board of Supervisors)

APR No.	Nominator	Brief Description	Status
88-PY-54	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed reevaluation of the functions of the Economic Development Authority.	Screened out by Planning Commission
88-PY-55	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposal to change functional area goals for transportation.	Deferred to Major Plan Review
88-PY-58	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposal to prioritize transportation improvement projects.	Referred to OCP or other County agency
88-PY-59	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed methods for funding transportation improvements.	Referred to OCP or other County agency
88-PY-60	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed revisions to the public notification procedures for rezoning, special exceptions and special permits.	Referred to OCP or other County agency
88-PY-61	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed revision of the rezoning process to make staff reports available 30 days prior to public hearing.	Referred to OCP or other County agency
88-PY-62	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed revision to the rezoning process to establish a minimum of 21 days between Planning Commission and Board of Supervisors Public hearing.	Referred to OCP or other County agency
88-PY-63	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposed revision to the rezoning process to keep a written record of all meetings and phone calls between staff, applicants, Planning Commission members and Board members.	Screened out by Planning Commission
88-PY-64	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposal to schedule rezoning, special exception, special permit and public facilities hearings on evenings or Saturdays.	Referred to OCP or other County agency

NOMINATION STATUS LIST

(Nominations Not Acted Upon By the Board of Supervisors)

APR No.	Nominator	Brief Description	Status
88-PY-65	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposal that the County publish a public information brochure on the zoning process.	Referred to OCP or other County agency
88-PY-66	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposal that public facility submissions be listed in the Weekly Agenda and have public hearings before the Planning Commission and Board of Supervisors.	Referred to OCP or other County agency
88-PY-67	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposal to revise the site plan review process so that DEM works with adjacent communities and property owners.	Referred to OCP or other County agency
88-PY-68	Citizens' Committee for the Review of Land Use and Transportation Planning, Sally Ormsby	Proposal calling for the creation of a Transportation Commission.	Referred to OCP or other County agency
88-PY-69	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposal to revise the rezoning process to establish target dates and procedures on deferrals.	Referred to OCP or other County agency
88-PY-70	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposal to revise hearing procedure rules for presentation of new information and rebuttal.	Referred to OCP or other County agency
88-PY-71	Citizens' Committee for the Review of Land Use and Transportation Planning, Sally Ormsby	Proposal to establish the position of Hearing Examiner.	Screened out by Planning Commission
88-PY-72	Citizens' Committee for the Review of Land Use and Transportation Planning, Janet Howell	Proposal for improved citizen education and information programs on planning processes.	Referred to OCP or other County agency
88-PY-73	Citizens' Committee for the Review of Land Use and Transportation Planning, Sally Ormsby	Proposal to revise citizen participation policies through the creation of an ombudsman position and other methods.	Referred to OCP or other County agency

NOMINATION STATUS LIST

(Nominations Not Acted Upon By the Board of Supervisors)

APR No.	Nominator	Brief Description	Status
88-PY-75	JTL/Crippen, Lewis, Moore & Patrick	Proposed revision of policy regarding growth centers.	Deferred to Major Plan Review
88-PY-77	Bernard M. Fagelson	Proposed revision of MV5 - Groveton Community Planning Sector text.	Screened out by Planning Commission
88-PY-78	Bernard M. Fagelson	Proposed revision of RH1 - Franconia Community Planning Sector text.	Screened out by Planning Commission
88-PY-79	Eugene Durman for McLean Citizens Association	Proposed policy regarding preservation of existing community-serving retail uses.	Deferred to Major Plan Review
88-PY-80	Eugene Durman for McLean Citizens Association	Proposed revision to Implementation section of the Plan to recognize and articulate the concept of a Planned Central Business Development District, to allow greater ability to plan rationally for growth in local CBDs.	Deferred to Major Plan Review
88-PY-81	Eugene Durman for McLean Citizens Association	Proposed revision to Implementation section of the Plan regarding protection of stream valleys and wetlands.	Deferred to Major Plan Review
88-PY-84	Eugene Durman for McLean Citizens Association	Proposal to revise Section 2-405 of the Zoning Ordinance regarding grandfathering.	Referred to OCP or other County agency.
88-PY-85	Fairfax County Federation of Citizens Associations Glenn Bowman, President	Request to add seven "implementation policies" to the 16 existing Board of Supervisors policies.	Deferred to Major Plan Review
88-PY-91	Fairfax County Federation of Citizens Associations, Glenn Bowman, President	Request to revise County budgeting practices, taxation and fees, and CIP policies.	Referred to OCP or other County agency
88-PY-92	FCFCA Policy Review Task Force	Proposed comprehensive revision of environmental element of the Plan.	Deferred to Major Plan Review

NOMINATION STATUS LIST

(Nominations Not Acted Upon By the Board of Supervisors)

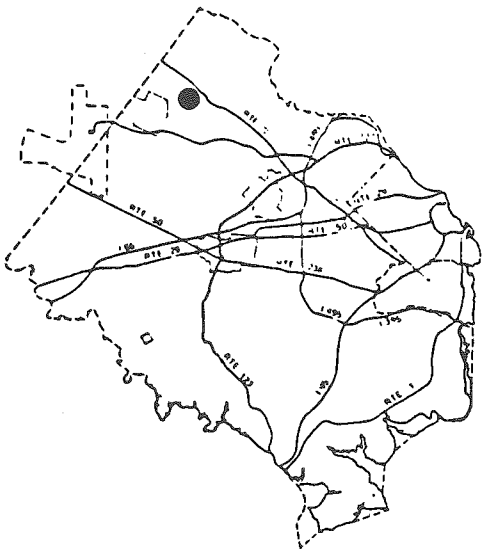
APR No.	Nominator	Brief Description	Status
88-PY-94	The Northern Virginia Conservation Council, Gary G. Nelson	Request to add provisions for reduction of vehicular trip generation to Transportation Element.	Deferred to Major Plan Review
88-PY-102	Candace Sindoris	Proposed changes to text of UP8, West Ox Community Planning Sector.	Screened out by Planning Commission
88-PY-103	B. R. Eggeman	Proposed deletion of paragraph D, Corridor Land Use Policy, Page IV-47.	Screened out by Planning Commission
88-PY-104	Gary W. Brooks	Proposal to change text in Area IV Plan, LP2, regarding area north of Lorton Road.	Referred to OCP or other County agency
88-PY-106	Francis A. McDermott for Furnace Associates and W & N Company	Proposed land use and transportation policies for the I-95 Corridor in Area IV.	Referred to OCP or other County agency
88-PY-108	B. R. Eggeman	Proposal to revise text on the Route 1 Corridor in Area IV to describe economic development opportunities.	Referred to OCP or other County agency
88-PY-109	Marian K. Agnew	Proposal to change implementation policies to include "by-right" development.	Referred to OCP or other County agency
88-PY-110	Gerri-Lynn Marks-Siegelman	Proposal to create an American Indian Cultural Center and park.	Referred to OCP or other County agency
88-PY-111	Great Falls Citizen Association	Proposal for improved buffering standards in the Zoning Ordinance.	Referred to OCP or other County agency
88-PY-114	Great Falls Citizen Association	Proposal for the creation of a Highway Overlay District in the commercial center of Great Falls.	Referred to OCP or other County agency
88-PY-115	Great Falls Citizen Association	Proposed increase in number of soccer fields in UP1, UP2 and UP3.	Screened out by Planning Commission
88-PY-116	Mount Vernon Council of Citizens Associations	Proposal to revise text on the Route 1 Corridor in the Economic Development section, subsection Area IV.	Referred to OCP or other County agency

NOMINATION STATUS LIST

(Nominations Not Acted Upon By the Board of Supervisors)

APR No.	Nominator	Brief Description	Status
88-PY-117	Mount Vernon Council of Citizens Associations	Proposal to widen Route 1 to six lanes between Belvoir Road and the Prince William County line in Area IV.	Referred to OCP or other County agency
88-PY-119	Mount Vernon Council of Citizens Associations	Proposal to create new mechanisms in the Plan and Zoning Ordinance to implement the Route 1 urban design objectives.	Referred to OCP or other County agency
88-PY-120	Mount Vernon Council of Citizens Associations	Proposal regarding sign regulation in an Urban Design Overlay District for the Zoning Ordinance.	Referred to OCP or other County agency
88-PY-125	Sidney R. Steele	Proposed revision of the Zoning Ordinance regarding submission and processing proffers.	Referred to OCP or other County agency
88-PY-127	Sidney R. Steele	Proposed land use recommendation for commercially and industrially planned areas west of Centreville Road.	Referred to OCP or other County agency
88-PY-129	Gray's Oakton Steering Committee	Proposal to amend Plan text for F3 - Mosby Woods Community Planning Sector.	Screened out by Planning Commission
88-PY-140	Office of Comprehensive Planning	Proposal to revise and update policies concerning the planning of fire and rescue stations.	Approved by Board of Supervisors on November 28, 1988.

AMENDMENT NO. 86-A-3



AN AMENDMENT TO

THE COMPREHENSIVE PLAN FOR FAIRFAX COUNTY, VIRGINIA 1986 EDITION

GENERAL LOCATION Reston

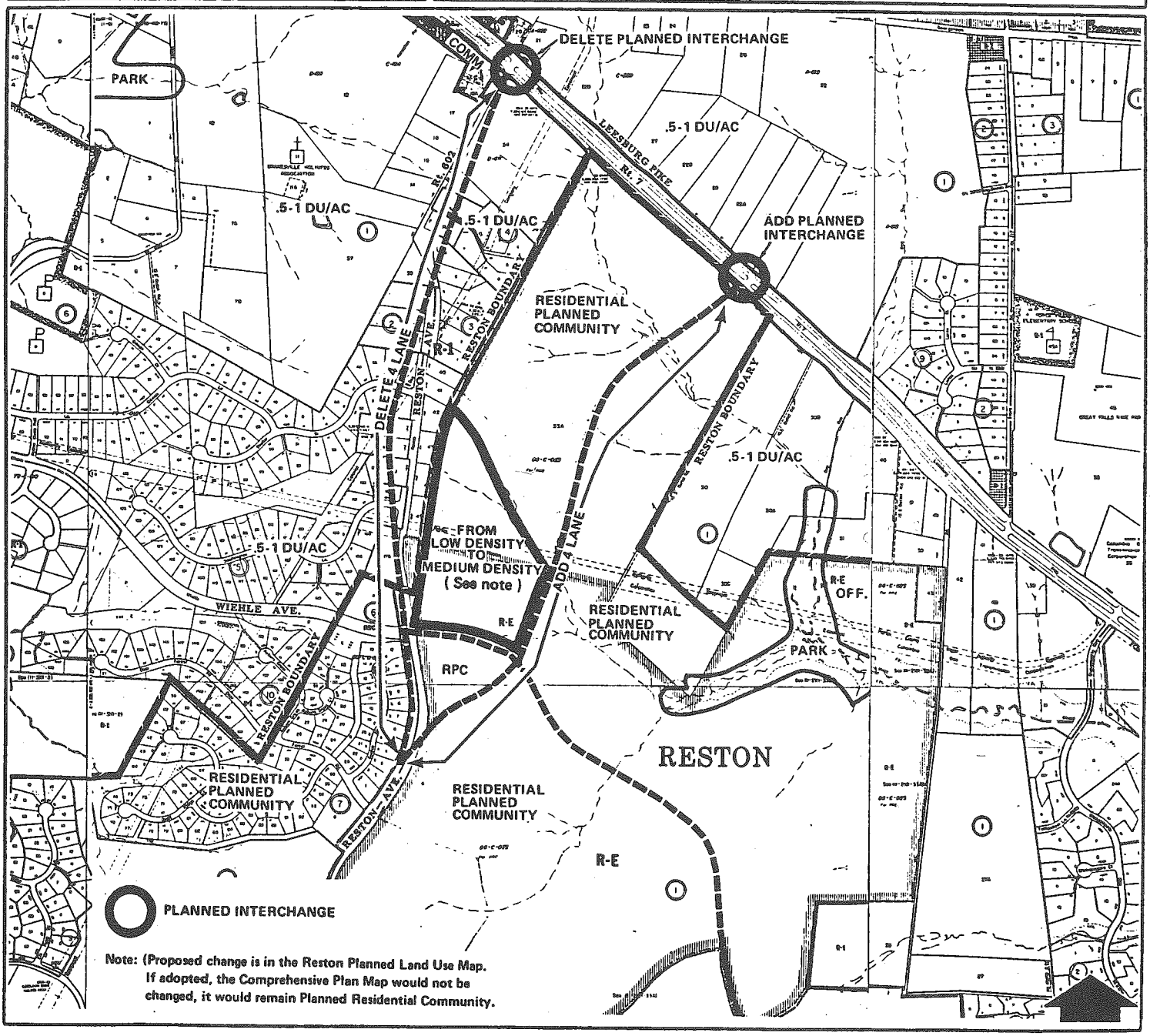
PARCEL LOCATION Map: 11-2 ((1)) pt. of 33A

PLANNING AREA AND DISTRICT Area III Upper Potomac

SUPERVISOR DISTRICT Centreville

ADOPTED January 12, 1987 ITEM NO. S86-III-UP1

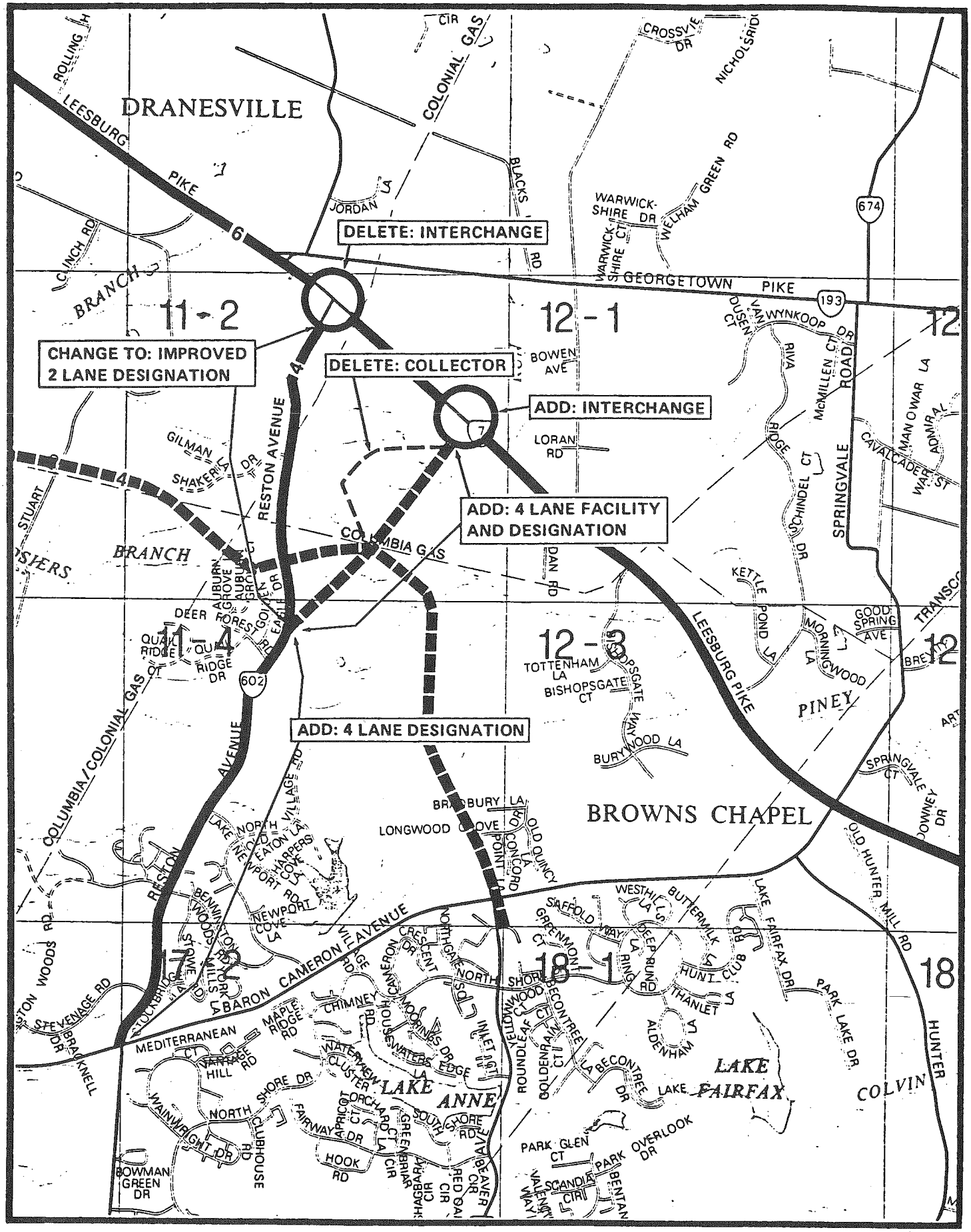
FOR ADDITIONAL INFORMATION CALL 691-3352



Note: (Proposed change is in the Reston Planned Land Use Map. If adopted, the Comprehensive Plan Map would not be changed, it would remain Planned Residential Community.

ADOPTED TRANSPORTATION FACILITY AMENDMENT TO THE COMPREHENSIVE PLAN

MAP 2
86A-3



Amendment No. 86A-3
Adopted January 12, 1987

ADOPTED AMENDMENT TO THE COMPREHENSIVE PLAN

MODIFY: The Comprehensive Plan map as shown on Map 2.

MODIFY: Page 444, 1984 Edition of the Plan; page I/C 31, 1986 Edition of the Plan, Transportation Recommendations, Countywide Recommendations, second column, Reston Avenue, the last sentence to read:

"Extend Reston Avenue as a four lane facility north of the Dulles Toll Road to Route 7."

ADD: Page 255, 1984 Edition of the Plan; page III 30, 1986 Edition of the Plan, Area III, Upper Potomac Planning District, Sector UP5, Recommendations, Land Use, a new paragraph B, to read:

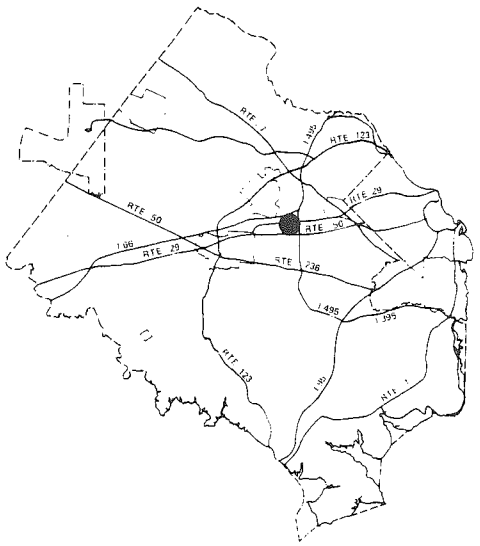
B. In the northern section of Reston the following policies should apply:

- The land located between the planned EQC, Reston Avenue realigned, Wiehle Avenue and the Reston boundary is planned for medium density residential use with the condition that a vegetated buffer be provided along the Reston boundary within Reston.

- On the periphery of North Reston within the areas currently shown on the Reston land use plan for low density residential use, development should occur as single family detached units at an overall density of one dwelling unit per acre.

Note: The addition of this paragraph does not delete existing Paragraph B. The other paragraphs will have to be relettered.

AMENDMENT NO. 86-A-13



AN AMENDMENT TO

THE COMPREHENSIVE PLAN FOR FAIRFAX COUNTY, VIRGINIA 1986 EDITION

GENERAL LOCATION Area bounded by I-495 to the east, Rt. 50 to the south, Old Lee Hwy. and Rt. 29 to the north and the Old Lee Hwy/Rt. 29 intersection to the west.

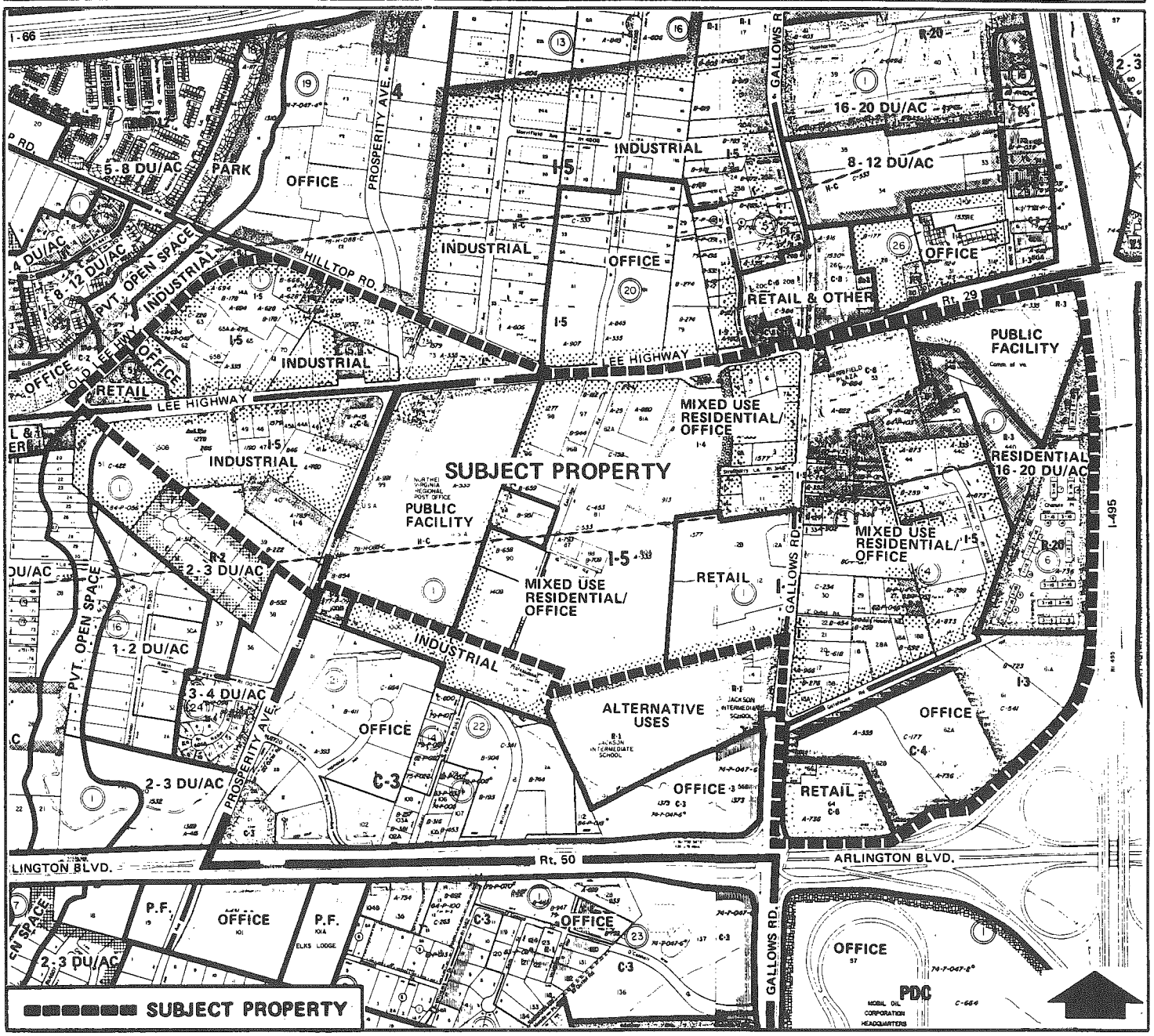
PARCEL LOCATION Various parcels on Tax Maps 49-1,2,3 & 4 as shown on map below.

PLANNING AREA AND DISTRICT Area I - Jefferson & Area II - Vienna

SUPERVISOR DISTRICT Providence

ADOPTED 4/27/87 **ITEM NO.** 85-II-3V, 85-II-31V & 85-CW-31T

FOR ADDITIONAL INFORMATION CALL 691-3352



CHANGES TO THE COMPREHENSIVE PLAN FOR THE MERRIFIELD AREA

AREA I MAP

The Comprehensive Plan map for Area I should be amended to reflect the recommendations contained in the Merrifield Area Section of the Comprehensive Plan text.

AREA I PLANNING DISTRICT AND SECTORS

MODIFY: On page I5, the Area I Planning District and Sectors map, to show a shaded area for the Merrifield Area.

JEFFERSON PLANNING DISTRICT

MODIFY: On page I36, the Jefferson Planning District map, to show a shaded area for the Merrifield Area.

MODIFY: On page I41, the Merrifield Community Planning Sector map to show a shaded area for the Merrifield Area.

DELETE: On page I41, Recommendations, Gallows Road/Route 50 Intersection, paragraphs C, D and E.

DELETE: On page I41, Recommendations, Gallows Road Corridor, paragraph A, second sentence.

DELETE: On page I41, Recommendations, Route 29 Corridor, paragraph A.

MODIFY: On page I55, heading to read - CENTRAL BUSINESS DISTRICTS, THE ROUTE 50/I-495 AREA, AND THE MERRIFIELD AREA.

MODIFY: On page I55, CENTRAL BUSINESS DISTRICTS AND THE ROUTE 50/I-495 AREA, first paragraph, second sentence, to read: Area I has five such locations: Annandale Central Business District, Baileys Crossroads Central Business District, Seven Corners Central Business District, the Route 50/I-495 Area, and the Merrifield Area.

MODIFY: On page I56, CENTRAL BUSINESS DISTRICTS AND THE ROUTE 50/I-495 AREA, Recommendations, to read: Descriptions of

specific issues and detailed land use recommendations for each of the three CBD's, the Route 50/I-495 Area, and for the Merrifield Area, are presented in the following sections.

MODIFY: On page I61, Route 50/I-495 Area map to reflect amended boundaries for the South Merrifield tract.

MODIFY: On page I72, Norhtwestern and Southwestern Quadrants of the Route 5o and Gallows Road Intersection (Tracts D and E), Recommendations, Sub-Tract F2, paragraph 2, third bullet, to read: Access to the service drive through Tract D to the extension of Gatehouse Road should be provided.

DELETE: On page I74, South Merrifield, Gallows Road Corridor, paragraph 2.

DELETE: On page I74, South Merrifield, Route 29 Corridor and Other.

MODIFY: On page I75, South Merrifield, Route 50 Corridor, paragraph 4, third bullet, to read: Extend the service drive on the north side of Route 50 through Tract D to the extension of Gatehouse Road.

DELETE: On page I75, South Merrifield, Prosperity Avenue Corridor, paragraph 1, second and fourth bullets.

DELETE: On page I75, South Merrifield, Gallows Road Corridor, paragraphs 1, 3, and 4.

MODIFY: On page I75, South Merrifield, Gallows Road Corridor, paragraph 5, third bullet, replace first sentence as follows:: Access to the site should be coordinated with Tract D, with primary access via the extension of Gatehouse Road. The extension of Gatehouse Road should interconnect with the service drive along the north side of Route 50, Williams Drive, and the circulation for the movie theater development to the north.

DELETE: On page I75, South Merrifield, Gallows Road Corridor, paragraph 6, first bullet, second sentence.

DELETE: On page I75, South Merrifield, Gallows Road Corridor, paragraph 6, second and third bullets.

DELETE: On page I75, South Merrifield, Route 29 Corridor.

Note: All other references to the South Merrifield text, maps, and tables will be modified accordingly.

AREA II COMPREHENSIVE PLAN MAP

The Comprehensive Plan map for Area II should be amended to reflect the recommendations contained in the Merrifield Area section of the Comprehensive Plan text.

AREA II PLANNING DISTRICT AND SECTORS

MODIFY: On page II5, the Area II Planning District and Sector map, to show a shaded area for the Merrifield Area.

VIENNA PLANNING DISTRICT

MODIFY: On page II30, the Vienna Planning District map to show a shaded area for the Merrifield Area.

MODIFY: On page II30, the Lee Community Planning Sector map to show a shaded area for the Merrifield Area.

ADD: On page II31, LEE COMMUNITY PLANNING SECTOR, following paragraph 3, a new paragraph to read:

A portion of this sector near the intersection of Prosperity Avenue, Lee Highway, and Old Lee Highway, is part of the Merrifield Area.

DELETE: On page II32, LEE COMMUNITY PLANNING SECTOR, RECOMMENDATIONS, Land Use, second paragraph, line eight, the phrase "and the western portion of parcel 50."

DELETE: On page II32, LEE COMMUNITY PLANNING SECTOR, RECOMMENDATIONS, Land Use, C, third paragraph.

DELETE: On page II32, LEE COMMUNITY PLANNING SECTOR, RECOMMENDATIONS, Land Use, F, first sentence.

INTRODUCTION/COUNTYWIDE TEXT

MODIFY: On page I/C33, second column, Route 50/I-495 Area, third bullet, second sentence, to read: Widen to six lanes divided between the City of Fairfax and Jaguar Trail.

DELETE: On page I/C33, Route 50/I-495 Area, fifth bullet.

MODIFY: On page I/C46, Adopted Countywide Transportation Plan map, to show 6 lane designation of Route 50 between the City of Fairfax and Jaguar Trail.

THE MERRIFIELD AREA

ADD: Following page I81 of the 1986 edition of the Comprehensive Plan, a new section to read:

MERRIFIELD AREA

DESCRIPTION OF THE MERRIFIELD AREA

The 300-acre Merrifield area is defined as the area west of I-495, south of Old Lee Highway and Route 29, east of the intersection of Old Lee Highway and Route 29, and north of Route 50 and Luther Jackson Intermediate School (see Figure 1). Immediately to the north is the Dunn Loring Metro Station area and to the south is the Route 50/I-495 area. To the west are stable low-density single-family residential communities and light industrial uses. To the east of the Beltway, is residential development, mostly townhouses and garden apartments.

The area has excellent regional access. Located in the I-495 (Beltway) corridor, it lies between the Tysons Corner development center to the north and the major concentration of planned office development in the Route 50/I-495 area to the south (see Figure 2). Gallows Road, a minor arterial, and the Beltway provide linkage to these two important commercial development centers. The area is also linked to the City of Fairfax and western Fairfax County to the west, and to the City of Falls Church and Arlington County to the east, by both Route 29 and Route 50. Prosperity Avenue provides access to Merrifield from Little River Turnpike (Route 236) to the south.

The Merrifield Area has traditionally been an industrial area. Light industrial uses, ranging from equipment rental to research and development facilities, dominate the area. Commercial land uses are scattered throughout the area, but frontages are generally clustered along Route 29 and Gallows Road. Residential land use is limited to the Yorktowne Square Condominiums, located on the eastern edge of the area along I-495.

The majority of the area is zoned I-4 and I-5. These zoning categories were originally intended for industrial development; however, office uses are permitted and have been developed throughout the area. Approximately 12 acres of the 300-acre area are zoned I-4, allowing office development at a .7 FAR. An additional 176 acres are zoned I-5, with a 1.0 FAR permitted. Much of this land is vacant or underutilized. Commercial zoning is scattered throughout the area. As older, industrial uses (often developed at an FAR of .4 or less) are redeveloped, it is likely that pressure to achieve permitted FARs will increase.

ISSUES

The location of Merrifield at the convergence of these major arterial highways creates opportunities for development and redevelopment. At the same time, the traffic congestion caused in part by the strategic nature of the road pattern may present significant constraints for such development activity.

The major issues facing the Merrifield Area relate to the proximity of the Dunn Loring Metro Station and related development, the Cadillac-Fairview office development east of I-495 at Route 50, the Mobil headquarters building on Gallows Road south of Route 50, and the growth of Tysons Corner.

Pressure will likely increase for additional office and research and development use. With rising land values many of the land-intensive industrial uses may be priced out and forced to relocate. Merrifield may find its land use balance may change to a higher percentage of office/research and development support services and a lower percentage of industrial uses.

BACKGROUND OF THE STUDY

Interest in the Merrifield Area was stimulated by a revitalization study conducted in 1984. The study evaluated seven older commercial areas, including Merrifield, in terms of their need for revitalization. In October 1984, the Board of Supervisors voted to proceed with further study of those three areas identified as having the greatest need for revitalization: Baileys Crossroads, Annandale and Springfield.

The Board of Supervisors also recognized that the Merrifield area was in need of special attention; therefore, in January 1985 the Board of Supervisors requested that staff prepare an amendment to the Comprehensive Plan addressing the needs of the Merrifield Area. On April 27, 1987 the Board of Supervisors received the Merrifield Area Study and adopted the Changes to the Comprehensive Plan for the Merrifield Area. The Merrifield Area Study (published April 6, 1987) includes background on the adopted plan and the study methodology.

LAND USE

The plan for the Merrifield Area:

- Recognizes the potential impacts on the area's transportation system if development were to occur at currently permitted levels, and attempts to lessen those impacts by identifying those areas where planned roadway improvements would be adequate to accommodate the traffic generated by office development.

- Preserves the intent of the I-4 and I-5 zones, and protect the service-oriented industrial nature of the Merrifield Area.

- Lessens traffic impacts by encouraging mixed-use development rather than office development (the residential component of a mixed-use development redistributes and substantially reduces the overall traffic generated as compared to office development).

- Provides opportunities for high-density residential development, a currently recognized need throughout the County.

The level of new residential development is appropriate for Merrifield as it responds to the desire to locate residential uses in proximity to employment, is in conformance with County policies regarding housing, and takes advantage of existing and potential transit linkages to the Dunn Loring Metro Station. The mix of development also recognizes the market for office uses in Merrifield.

Based on its distinctive locational and physical characteristics, the Merrifield Area warrants special development regulations and incentives. These regulations and incentives include urban design guidelines, parcel consolidation, transportation policies and special funding mechanisms for roads and other public improvements.

Development within the Merrifield Area must fully consider traffic congestion in the greater Dunn Loring-Merrifield area. The road improvements contained in the Plan are essential and development at the densities planned for the Merrifield Area is premised upon the assumption that the improvements are actually made. While the County is striving to implement the needed road improvements and is encouraging the use of transportation systems management strategies, the developers must address the concerns of traffic congestion for any new development within the Merrifield Area. This may be addressed by any number of responses including transportation systems management, financing or actual construction of road improvements, deferral of development until adequate road improvements are made, or any appropriate combination of such measures. In summary, the Merrifield Area requires special planning controls, development incentives and implementation strategies.

The plan for the Merrifield Area contains a mix of office, industrial, retail and residential uses. Figure 3 illustrates the land use plan for the Merrifield Area. This land use plan ensures a balanced mixed use development which enhances transit usage, and is compatible with the surrounding community and permitted industrial uses.

It is necessary that new development be responsive to general criteria and site-specific conditions, which focus on mitigating potential impacts. The following 15 development criteria apply to all sites in the Merrifield Area:

1. Development applications within the Area should be accompanied by a development study report which describes the impacts of the

proposed development and demonstrates the proposal's conformance with the Comprehensive Plan and adopted Board of Supervisors' policies.

2. Development in accordance with the Urban Design Concept Plan for the Area as illustrated in Figure 4.

3. Proffer of a development plan that provides exceptional quality site and architectural design, streetscaping, urban design and development amenities. The applicant will submit an urban design plan which achieves superior design quality.

4. Substantial land consolidation and/or coordination of development plans with adjacent development to achieve Comprehensive Plan objectives.

5. Provision of a phasing program which includes on- and off-site roadway, intersection, signalization and parking improvements as related to the development program. Any increase in development which is not accompanied by the appropriate transportation improvements will only serve to exacerbate traffic problems. Accordingly, further development and redevelopment shall be phased with appropriate transportation improvements in order to assure a balanced roadway network consistent with achieving Level of Service D in the long-term and not exacerbating overall existing conditions in the short-term. If Transportation System Management techniques are utilized to affect the development density, intensities related to TSM success shall be subject to phasing as described in the section entitled Transportation System Management Strategies of this plan. Further, when in the opinion of the County intensities warrant, the developer may be required to phase development and to limit the timing of phases to a demonstration that roadway system capacity exists or will exist in the short-term. Monitoring to the satisfaction of the Office of Transportation may be required to be provided by the developer demonstrating that system capacity is in balance with the development program.

6. Provision of on- and off-site public facility improvements, or funding of such improvements, to accommodate impacts associated with new development. A public facilities phasing program should be implemented to ensure that the identified improvements are in place in accordance with development phasing. Improvements are the responsibility of both the public and private sectors. If the provision of adequate public facilities is not completed, then the developer should reduce development density to a level deemed satisfactory by the County.

7. Provision of design, siting, style, scale and materials compatible with adjacent development and the surrounding community, and which serves to maintain and/or enhance the stability of existing neighborhoods.

8. Contributions toward the provision of an environmental monitoring program for noise and air quality.

9. Creation of a pedestrian oriented environment recognizing the need for interparcel connections, access to the Dunn Loring Metro Station and other public transportation, and pedestrian circulation.

10 Inclusion of energy conservation features.

11. Inclusion of affordable housing in residential projects or projects with residential components that will serve the needs of the County's population. Housing development should only be approved for the maximum level of development if dwelling units are provided for low- and moderate-income households and in accordance with County policy. Development proposals must be reviewed by the Department of Housing and Community Development.

12. All parking (at, above, or below grade) should provide the highest level of screening and landscaping. Screening should be adequate to reduce glare into residential neighborhoods.

13. Consolidation of vehicular access points to minimize interference with arterial roadways.

14. Provision and construction of environmental facilities using Fairfax County's Best Management Practices standards.

15. Provision of substantial buffering for all new and existing residential development.

In addition to these 15 general criteria, site-specific conditions are identified for each of the land bays in the area (See Figure 5).

Land Bay A

This sector has been developed predominantly with industrial uses, with some scattered commercial facilities. Recent development to the north and west of land bay A includes an office complex on the west side of Old Lee Highway, and Prosperity Business Campus - an office park north of Hilltop Road. A stable industrial park remains to the northeast along Dorr Avenue. This industrial park is indicative of the service-oriented industrial development traditional to the Merrifield Area. This type of development should continue to be encouraged in this land bay. Planned transportation improvements may impact existing uses in this sub-unit located along Route 29.

A1 - A six-story office building (56,586 sq.ft.) and associated low-rise retail strip (25,000 sq.ft.), at the intersection of Old Lee Highway and Route 29, define the western entrance to the Merrifield Area, and comprise sub-unit A1. The plan for the area is office and retail uses. Redevelopment is not anticipated in the near future in this sub-unit, however, if redevelopment occurs, the following criterion must be met:

- o Right-of-way required for planned roadway improvements should be provided.

A2 - This sub-unit is fragmented into a number of small parcels, and is developed with a variety of industrial uses. Many of the existing industrial facilities contain associated retail components; this is particularly true of those uses fronting on Route 29. All of A2 is planned for industrial use.

When redevelopment occurs, the following criteria must be met:

- o Development should be clustered and parcels consolidated.
- o Direct vehicular access/egress to Route 29 should be limited.
- o Right-of-way required for planned roadway improvements should be provided.

The following options could be appropriate:

- o An industrial park, utilizing shared parking and access/egress points.
- o A food park, designed in accordance with the provisions contained in the Plan for clustered automobile-oriented uses.

A3 - Sub-unit A3 is separated from the remainder of Land Unit A by Prosperity Avenue. A3 is currently developed with automobile-oriented uses. Light industrial/Research & Development uses, having low trip generation rates, are planned.

- o Access should be limited to Prosperity Avenue and Hilltop Road, with no direct access to Route 29.
- o Right-of-way required for planned roadway improvements should be provided.

A4 - Sub-unit A4 displays similar characteristics to A2, exhibiting little parcel consolidation. The area is developed predominantly with service-oriented industrial uses and associated retail facilities. The auto dealership at the intersection of Route 29 and Prosperity Avenue, and a parcel along Prosperity Avenue developed for public facility use, are two exceptions.

Industrial use is appropriate for the sub-unit. Office development is not appropriate because of the need to preserve service-oriented industrial uses.

When redevelopment occurs the following criteria must be met:

- o Development should be clustered and parcels consolidated.
- o Direct vehicular access/egress to Route 29 should be limited.
- o Right-of-way required for planned road improvements should be provided.
- o A substantial landscaped buffer should be provided to minimize the impact on nearby residents.
- o Waivers and modifications of landscaping and screening requirements should not be permitted.

Land Bay B

Land bay B has been developed with a variety of commercial (office/retail), industrial, private recreation, and public facility uses. Office development exists just outside of the study area, at the southern edge of this land bay. Adjacent to the southern border of land bay B is Luther Jackson Intermediate School. Internal vehicular circulation should be coordinated by completing the circulation plan, and consolidating access at a new intersection of Dorr Avenue extended and Route 29, the combined intersection of Eskridge Road and Merrilee Drive, and the (theater road).

B1 - The majority of this sub-unit is occupied by the Northern Virginia Regional Post Office. This facility was originally constructed in the late 1960s and was expanded in 1987. This sub-unit is planned for public facility use.

B2 This sub-unit is developed with a mixture of industrial and commercial uses, and many parcels are likely to redevelop in the near future.

Sub-unit B2, with frontage along Route 29 and Gallows Road, and proximity to the Dunn Loring Metro Station, provides a prime location for mixed-use development (office/high density residential). A density bonus of .5 FAR over the maximum density allowed under existing zoning could be granted for the mixed-use development, provided that at least two-thirds of the gross floor area is residential. Should office development occur without a residential component, a density component would not be provided, height should be restricted to that permitted under existing zoning, and landscaping and screening requirements should not be waived or modified.

If redevelopment occurs, the following criteria must be met:

- Parcels should be consolidated.
- Right-of-way required for planned road improvements should be provided.

B3 - Retail uses are appropriate for this sub-unit. If redevelopment occurs, this sub-unit should remain in retail use and the following criterion must be met:

- o Right-of-way required for planned road improvements should be provided.

Land Bay C

Development within Land Bay C is quite varied, including light industrial, commercial, public facility and residential uses. Access to Route 29 should be oriented to median crossover locations at Porter Road Extended, and Hartland Road. Direct vehicular access/egress to Gallows Road should be limited.

C1 - The Merrifield Plaza Shopping Center (84,334 sq. ft.) occupies sub-unit C1.

The planned interchange improvements at Route 29 and Gallows Road are anticipated to impact this site. The strategic location of this sub-unit within the Merrifield Area and its proximity to the Dunn Loring Metro Station make it an appropriate site for mixed-use development (office/high-density residential). A density bonus of .5 FAR over the maximum density allowed under existing zoning could be granted for mixed-use development provided that at least two-thirds of the gross floor area is residential.

When redevelopment occurs the following criteria must be met:

- o The necessary right-of-way, extension and construction of Porter Road Extended should be provided.
- o Right-of-way required for planned road improvements should be provided.
- o Buildings should be oriented toward Porter Road Extended.
- o Vehicular and pedestrian access should be oriented toward Porter Road Extended.

C2 - A portion of sub-unit C2 is developed with public facility uses. If redevelopment occurs, the following criteria must be met:

- o The necessary right-of-way way, extension and construction of Porter Road Extended should be provided.
- o Right-of-way required for planned road improvements should be provided.
- o Pedestrian linkages to Porter Road Extended should be provided.

This sub-unit is not likely to develop at its existing zoning. The plan designation for the northeastern portion of this sub-unit, public facility use, is appropriate if the existing uses remain. However, if redevelopment occurs, an option for high-density residential use should be considered. The remainder of the sub-unit is planned for high-density residential use (16-20 du/ac). Any redevelopment/development in this area should provide a substantial landscaped buffer along the eastern edge, adjacent to Yorktowne Square Condominiums and along I-495. Waivers and modifications to landscaping and screening requirements should not be granted.

C3 - Mixed office, commercial and industrial development exist in sub-unit C3. The frontage along Gallows Road has numerous curb cuts. Research and development facilities have traditionally located along Telestar Court. The area is fragmented into a number of small parcels.

Proximity to the Dunn Loring Metro Station makes this sub-unit appropriate for mixed-use development (office/high-density residential). A density bonus of .5 FAR over the maximum density allowed under existing zoning could be granted for mixed-use development provided that at least two-thirds of the gross floor area is residential.

When redevelopment occurs, the following criteria must be met:

- Right-of-way required for planned road improvements should be provided.
- Parcels should be consolidated.
- Heights should be limited to 75 feet.
- The landscaped buffer on the eastern edge adjacent to Yorktowne Square should be preserved and enhanced.

C4 - Sub-unit C4 is occupied by the Yorktowne Square Condominiums (developed at a density of approximately 20 du/ac). The area is planned for residential use at 16-20 dwelling units per acre. This area should be preserved and protected consistent with the Board of Supervisors' Policy 16, Preserving Existing Residential and Open Space. In the event that adjacent sub-units develop in a way that precludes preservation of residential use at Yorktowne Square, the plan for this sub-unit should be reassessed.

The landscaped buffer along the southern edge should be preserved. The addition of a lane to I-495 in 1986 eliminated the screen of trees once located along the eastern edge of the complex. A landscape screen must be reestablished and a noise wall must be installed along the border with I-495.

C5 - A six-story office building (247,708 sq.ft.) is the dominant feature within sub-unit C5, and serves as a focal point at the southern boundary of the Merrifield Area. The eastern portion of this sub-unit is developed as low-rise office. Sub-unit C5 is planned for office use.

Site design should include the retention of mature vegetation, provide substantial periphery and interior parking lot landscaping, and provide pedestrian connections to Yorktowne Plaza Shopping Center and other parts of the area. Heights should be scaled down from west to east, to minimize the visual impact on residents of Yorktowne Square. Redevelopment of the eastern portion of C5, should be be in accordance with the high-quality office in the remainder of C5. In addition to the general provisions for this sub-unit, redevelopment of the eastern portion of C5 should adequately buffer the residents of the Yorktowne Square Condominiums by preserving the existing landscape screen, designing lighting to avoid glare into adjacent residential units, and being sensitive to existing topography. Interparcel access with uses in C6 should be provided.

C6 - The Yorktowne Plaza Shopping Center (66,962 sq. ft.) occupies sub-unit C6. The area is planned for commercial use. Interparcel access with uses in C5 should be provided.

URBAN DESIGN CONCEPT

The urban design concept developed for the Merrifield Area is predicated on satisfying the four basic principles of Urban Design: Function, Order, Identity and Appeal. The Merrifield Area Study contains the urban design goals and objectives which have guided the formulation of associated policies and guidelines for the visual and functional aspects of the area. By incorporating established design principles in the design of future development, positive effects on both residential and business communities can be achieved. The use of these principles has been shown to attract and encourage development and redevelopment while reinforcing conservation of stable neighborhoods.

The urban design concept discusses pedestrian circulation, streetscape treatment, and building heights. Additional detail can be found in the urban design section of the Merrifield Area Study, and should be used to formulate both public and private sector improvements to the area.

Pedestrian Circulation/Streetscaping

A major deficiency in the Merrifield Area has been its lack of pedestrian walkways. With the opening of the nearby Dunn Loring Metro Station, strong pedestrian linkages are more important. A comprehensive pedestrian walkway system can unify the area and reduce the dependence on private automobiles (See Figure 6).

The urban design plan provides an interconnected pedestrian circulation and streetscape system which provide pedestrians with a safe, direct and pleasant walking experience. This system provides new pedestrian routes along roadways, improves existing pedestrian facilities, and identifies of internal walkways to help unify the area. In addition, a comprehensive streetscape system involving landscaping, lighting and street furniture enhances the pedestrian experience. Throughout the area, new sidewalks and sidewalk improvements should be constructed to facilitate pedestrian access between employment and shopping nodes, and between Metro and these uses. In addition, pedestrian facilities should be linked to existing walkway systems in surrounding areas.

Building Heights

Building heights should transition down to existing residential uses. Buildings heights in the mixed-use area should be limited to 96 feet (approximately 8 stories). Heights throughout the remainder of the Merrifield Area should be limited to 75'(approximately 6 stories).

Open Space and Landscaped Buffers

Open space and landscaped buffer areas should be used to mitigate the impact of new development and improve the appearance of the area. Landscaped buffer areas--strips of land that are intensely planted with trees and shrubs and which may include berms--are generally planned on parcels which abut existing residential development.

Additional Urban Design Issues

- Increased landscaping of both public and private properties should be instituted to improve the area's visual appeal.
- Overhead utility lines should be placed underground so that roadways are clear of visual clutter.
- Signage should be visually cohesive, attractive and legible.

TRANSPORTATION

The land use plan in the Merrifield Area seeks to encourage interdependent relationships between land uses that will reduce automobile dependency and encourage transit use. As such, it is anticipated that changes in trip modes should occur in the greater Dunn Loring-Merrifield area, due to the availability and convenience of Metro and other transit service, as well as the complementary nature of adjacent land uses.

The transportation plan includes:

- road improvements;
- public transit improvements;
- non-motorized facility improvements;
- transportation systems management strategies, which may include but are not limited to:
  - aggressive ridesharing programs,
  - careful bus transit planning and promotion,
  - development and implementation of parking management strategies,
  - provision of comprehensive non-motorized connections; and
- implementation and phasing of transportation improvements to land use phasing

In addition, key concerns in carrying out this plan are discussed in the section on implementation.

ROADWAY NETWORK FOR THE PLAN

The following roadway improvements are planned for the Merrifield Area. (These road improvements are designed for Level of Service D.)

Arterial Plan

The arterial roadway plan with lane requirements is displayed in Figure 7 and highlighted in the following discussion. Subsequent detailed engineering studies for each road may indicate additional or other appropriate improvements which may be necessary in order to ensure the safety of motorists as well as an adequate level of service on each roadway.

Gallows Road. Traffic generated by development with access to/from Gallows Road requires widening of this roadway to six lanes from Route 50 to Tysons Corner. To obtain smooth and efficient traffic flow, the number of access points should be minimized especially for the section between 50 and Lee Highway.

At the intersection of Gallows Road and Lee Highway, a grade separated interchange is planned. Based on traffic forecasts and consideration of potential issues, the most appropriate configuration appears to be a single point diamond (also termed an urban diamond) with Gallows Road as the through street. Given the significant access and right-of-way issues however, the exact configuration cannot be determined until a detailed design process is undertaken.

Lee Highway. The plan recognizes widening Lee Highway to six lanes, from Nutley Street to Hartland Road. The number of access points should be minimized to obtain smooth and efficient traffic flow. An auxiliary lane is also required on an eastbound section of Lee Highway between Prosperity Avenue and Merrilee Drive to accommodate heavy traffic flows in the morning peak hour. Multiple turning lanes are required to achieve Level of Service D at the intersections of Lee Highway and Prosperity Avenue and Lee Highway with Merrilee Drive.

Prosperity Avenue. The programmed widening and extension of this roadway will generally be sufficient. Additional turning lanes at the intersections with Lee Highway, Hilltop Road, and Gallows Road will be required to achieve an adequate Level of Service D.

Hilltop Road. Increased traffic volumes on Hilltop Road require the provision of four lanes between Old Lee Highway and Dorr Avenue. For the most part, these improvements can be accomplished by prohibiting on-street parking along Hilltop Road.

The intersection of Hilltop Road and Old Lee Highway is currently characterized by confusing geometrics on the eastbound approach of Hilltop Road. In the future, the heaviest approach volumes will be

on Hilltop Road. Improvements at the Hilltop Road/Old Lee Highway intersection are needed to improve safety and the operation of the intersection. A reconfiguration in which Hilltop Road becomes the through street and Old Lee Highway is brought to a stop at a right angle is planned.

Route 50. Travel demands require widening Route 50 to six lanes between the City of Fairfax and Prosperity Avenue.

Circulation Plan

The circulation plan for the Merrifield Area is divided into two sections: east and west of Gallows Road. Figure 8 depicts the plan graphically.

East of Gallows Road

- Extend Porter Road to the east and north to Route 29 just east of the Merrifield Plaza Shopping Center.
- Extend Telestar Court to intersect with the Porter Road extension.
- Access should be consolidated to a minimum number of locations along Gallows Road and Route 29.
- Access on Route 29 should be oriented to median crossover locations at Porter Road Extended and Hartland Road.

West of Gallows Road

- Extend Gatehouse Road along the Luther Jackson School property to the rear of the site and interconnect with the movie theater circulation system; connect Williams Drive and the Route 50 service drive to the extension of Gatehouse Road.
- Connect the movie theater circulation system to Eskridge Road.
- Realign Eskridge Road and Merrilee Drive to meet at the same location.
- Extend Dorr Avenue to Route 29 and vacate the eastern portion of Hilltop Road between Dorr Avenue and Route 29.
- Access on Route 29 should be oriented to median crossover locations at Dorr Avenue Extended, Eskridge Road and the movie theater entrance.

The planned circulation system will provide alternative means of access for right and left turns at the Gallows Road/Route 29 intersection. Since the planned circulation system diverts turning movements from this interchange, it should make possible the

construction of a smaller interchange, thus reducing the direct impact that a larger grade separated interchange might have on the community. Moreover, until the grade separated interchange is constructed, the planned circulation system will provide relief to the at-grade Route 29/Gallows Road intersection.

PUBLIC TRANSIT IMPROVEMENTS

The County should consider replacing or supplementing the WMATA provided feeder bus service to the Orange Line. Assuming that the current County operated bus service at Huntington proves financially desirable, the County should give the Orange Line Metro stations its highest priority for new service. The County should concentrate its bus service in close-in residential areas which can be more efficiently served by bus and leave the longer distance trips to come by auto, carpool, and WMATA or privately operated buses. A transit strategy that emphasizes local service should reduce auto travel on local streets.

Consideration should be given to providing peak period shuttle bus service for the residential areas as well as to the commercial and institutional developments within the greater Dunn Loring-Merrifield area.

NON-MOTORIZED FACILITY IMPROVEMENTS

For walking, good access requires a sidewalk system which conveniently serves existing and future development and allows adequate protection for pedestrian crossing at intersections. This system should provide routes which are safe, convenient, and pleasurable to travel. Walkways should be accessible at all times and well lit. Well designed and clearly marked trails should be provided to the Dunn Loring Metro Station.

Vehicular traffic in the Area may affect pedestrian safety. When appropriate, pedestrian improvements such as crosswalks, signals, overpasses and refuge islands should be provided.

TRANSPORTATION SYSTEM MANAGEMENT STRATEGIES

Transportation management strategies should be used to the maximum extent to mitigate transportation impacts of development. These strategies should make maximum use of the Transportation Systems Management opportunities afforded by proximity to the Metro Station. In order for specific projects to achieve an acceptable traffic level, developers shall provide TSM strategies with performance standards and measures commensurate with traffic reduction assumptions used to evaluate the impact of the project. If overall Transportation Systems Management measures are required, development shall be phased so as to demonstrate the effectiveness of those measures. The development intensity which is dependent upon the success of Transportation Systems Management measures shall not be approved until such time as those measures are demonstrated effective for the earlier phase.

Strategies which may be used to mitigate traffic impacts may include but are not be limited to the following:

- Transportation Coordination Programs:

  -employee surveys to determine employee needs;

  -coordination with the County RIDESOURCES program for carpool/vanpool matching services; and

  -establishment of goals for future Transportation Systems Management strategies.

- Transit Promotion Programs:

  -transit pass discount programs;

  -subscription bus service;

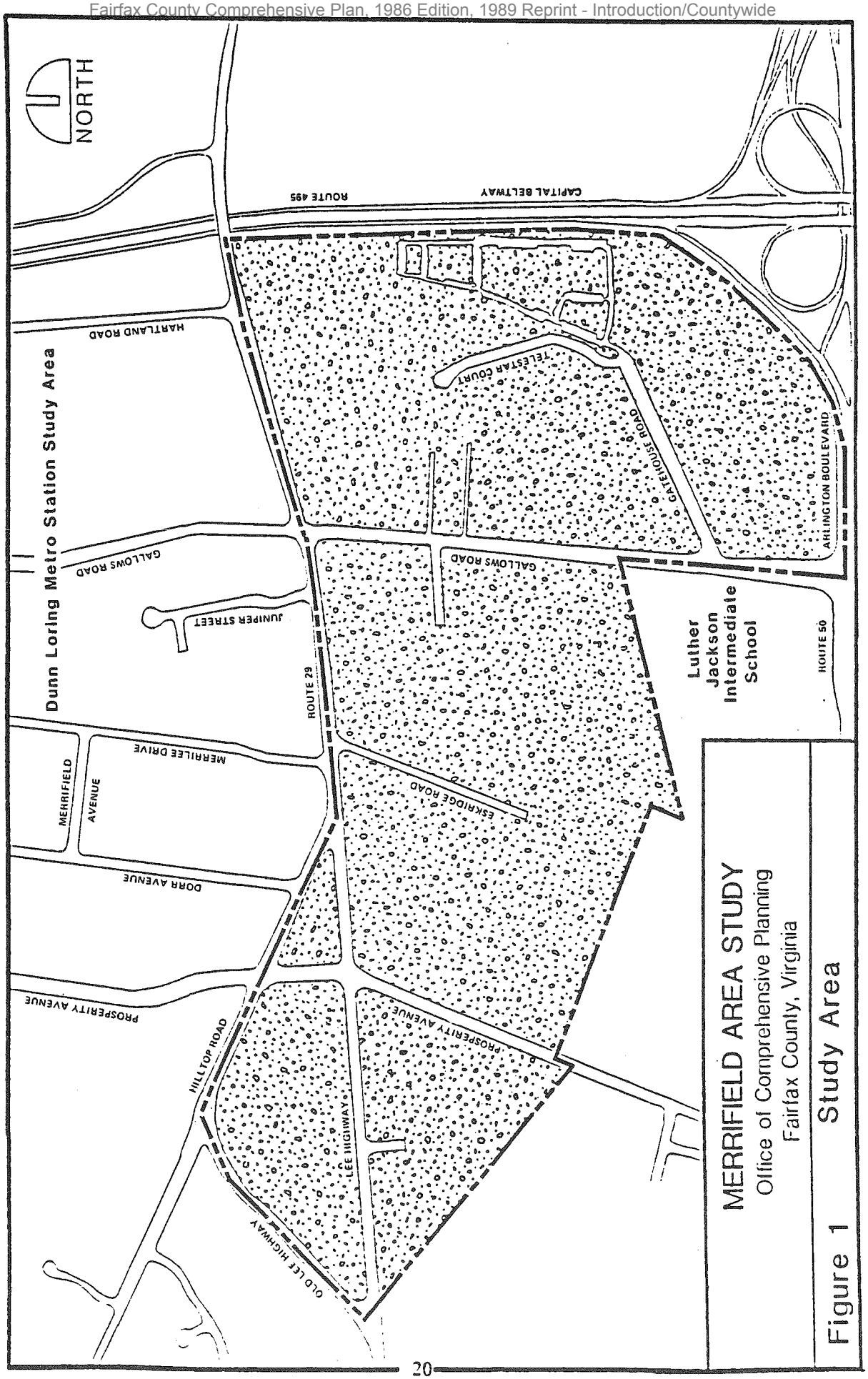
  -distribution of Metrobus/County bus schedules and routes;

  -provision for use of at-work transportation for mid-day travel;

  -provision for flex-time options.

IMPLEMENTATION AND PHASING OF TRANSPORTATION IMPROVEMENTS TO LAND USE DEVELOPMENT

A number of highway improvements are planned that will improve circulation in the greater Dunn Loring-Merrifield area. However, in light of the existing congestion and the limited public funding available Countywide for roadway improvements, the traffic impact of any proposed development in the Area should be carefully analyzed. Any increase in development which is not accompanied by the appropriate transportation improvements will only serve to exacerbate traffic problems in the station vicinity. Accordingly, further development shall be phased with appropriate transportation improvements in order to assure a balanced roadway network consistent with achieving Level of Service D in the long-term and not exacerbating overall existing conditions in the short-term. Strict adherence to the general and site specific development requirements is necessary in order to provide for orderly development phasing. In addition, traffic in the Area should be encouraged to travel on arterial roadways and discouraged from traveling on residential and neighborhood collector streets. Finally, to expedite roadway construction, whenever possible, the County should seek rights-of-way for roadway improvements during the planning process and before the re-zoning evaluation process.


NORTH
ROUTE 495
CAPITAL BELTWAY
HARTLAND ROAD
Dunn Loring Metro Station Study Area
GALLOWS ROAD
JUNIPER STREET
TELESTAR COURT
GATEHOUSE ROAD
ARLINGTON BOULEVARD
GALLOWS ROAD
ROUTE 29
Luther Jackson Intermediate School
ROUTE 50
MERRILEE DRIVE
MERRIFIELD AVENUE
ESKRIDGE ROAD
DOAR AVENUE
PROSPERITY AVENUE
HILLTOP ROAD
LEE HIGHWAY
PROSPERITY AVENUE
OLD LEE HIGHWAY
MERRIFIELD AREA STUDY
Office of Comprehensive Planning
Fairfax County, Virginia
Figure 1 Study Area

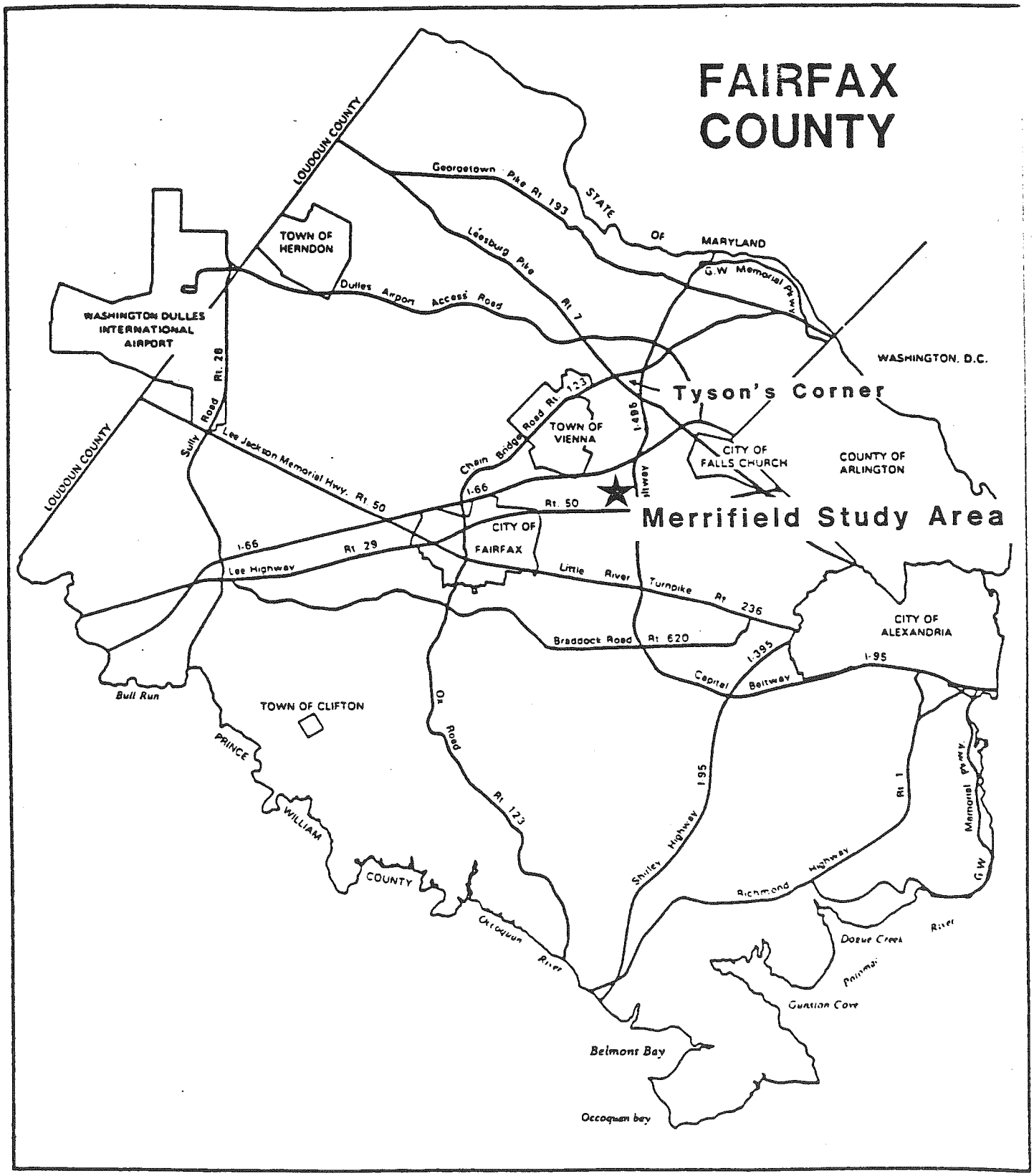
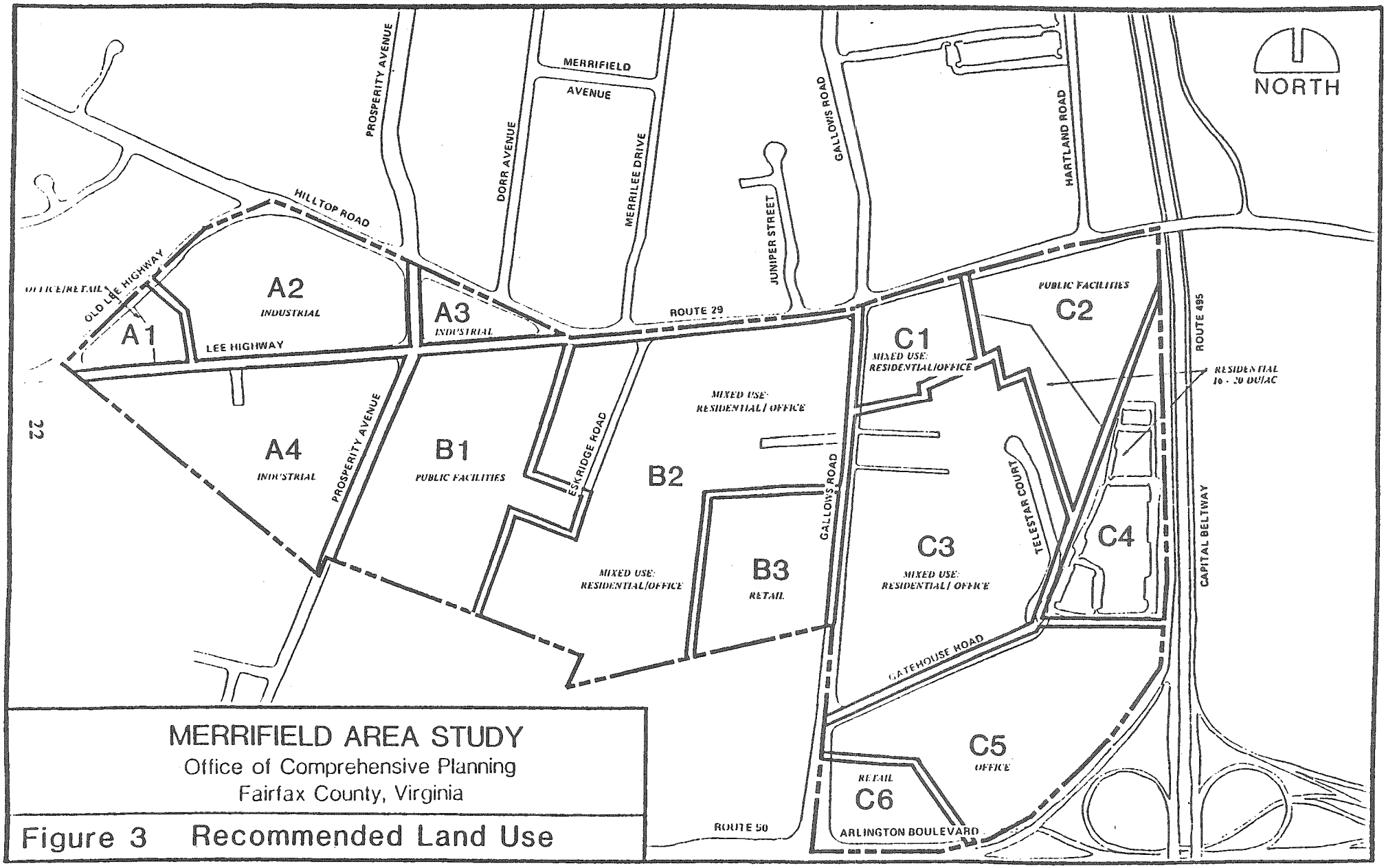


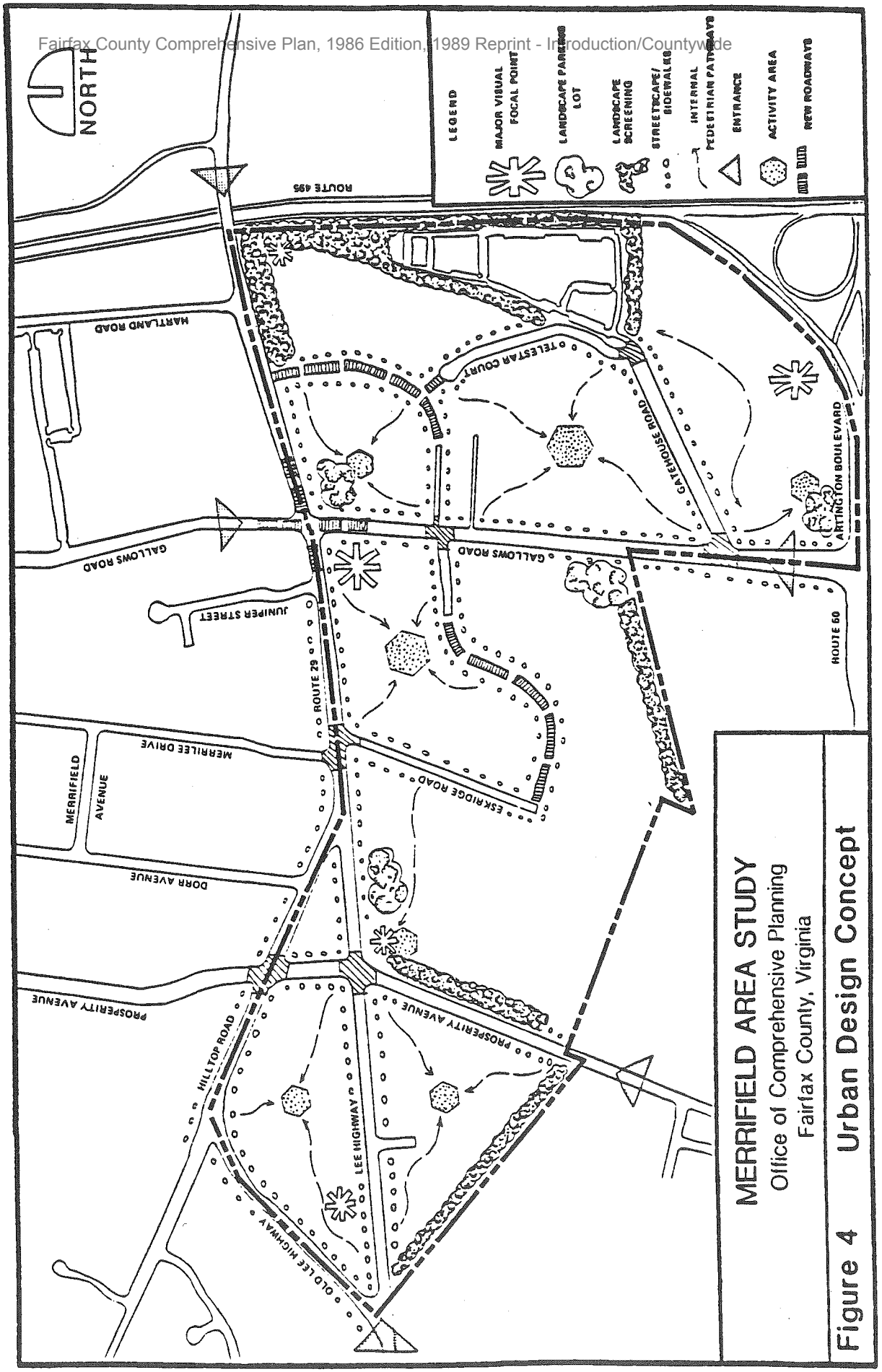
Figure 2
Regional Context

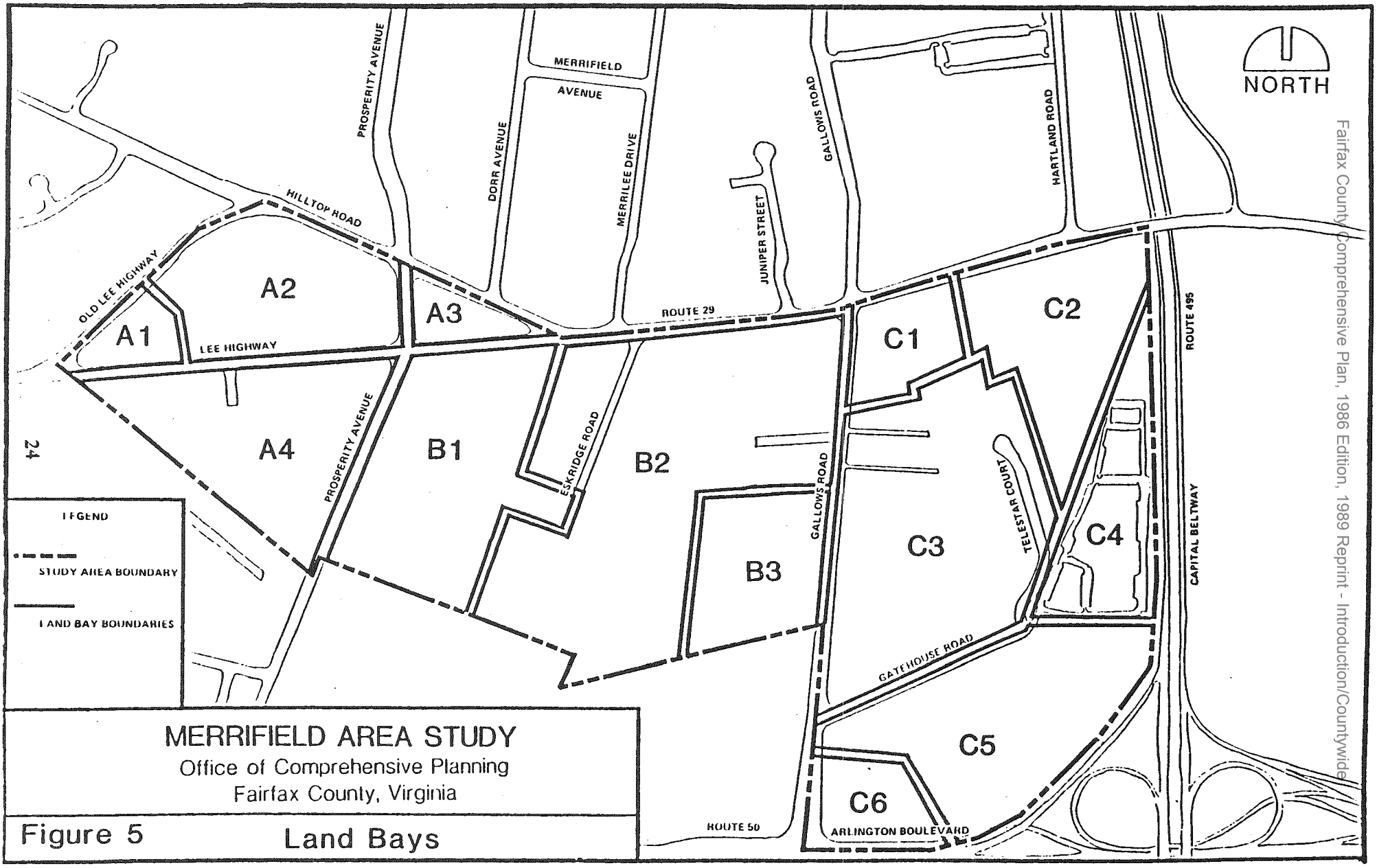


MERRIFIELD AREA STUDY

Office of Comprehensive Planning
Fairfax County, Virginia

Figure 3 Recommended Land Use

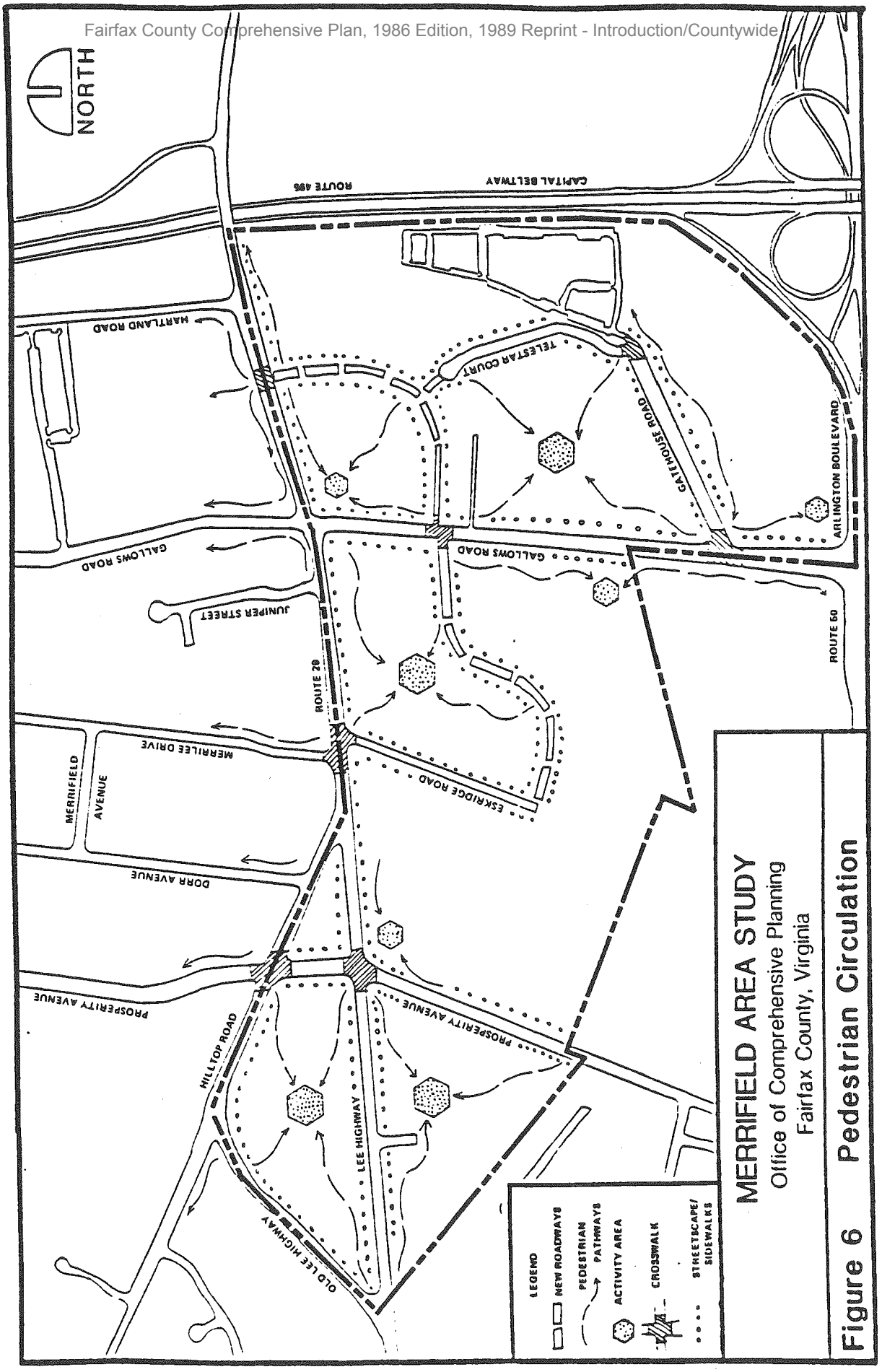

NORTH
LEGEND
MAJOR VISUAL FOCAL POINT
LANDSCAPE PARKING LOT
LANDSCAPE SCREENING
STREETSCAPE/ SIDEWALKS
INTERNAL PEDESTRIAN PATHWAYS
ENTRANCE
ACTIVITY AREA
NEW ROADWAYS
ROUTE 495
HARTLAND ROAD
TELESTAR COURT
GATEHOUSE ROAD
ARLINGTON BOULEVARD
GALLOWS ROAD
JUNIPER STREET
ROUTE 29
ROUTE 50
MERRILEE DRIVE
MERRIFIELD AVENUE
ESKRIDGE ROAD
DORR AVENUE
PROSPERITY AVENUE
HILLTOP ROAD
LEE HIGHWAY
OLD LEE HIGHWAY
MERRIFIELD AREA STUDY
Office of Comprehensive Planning
Fairfax County, Virginia
Figure 4 Urban Design Concept

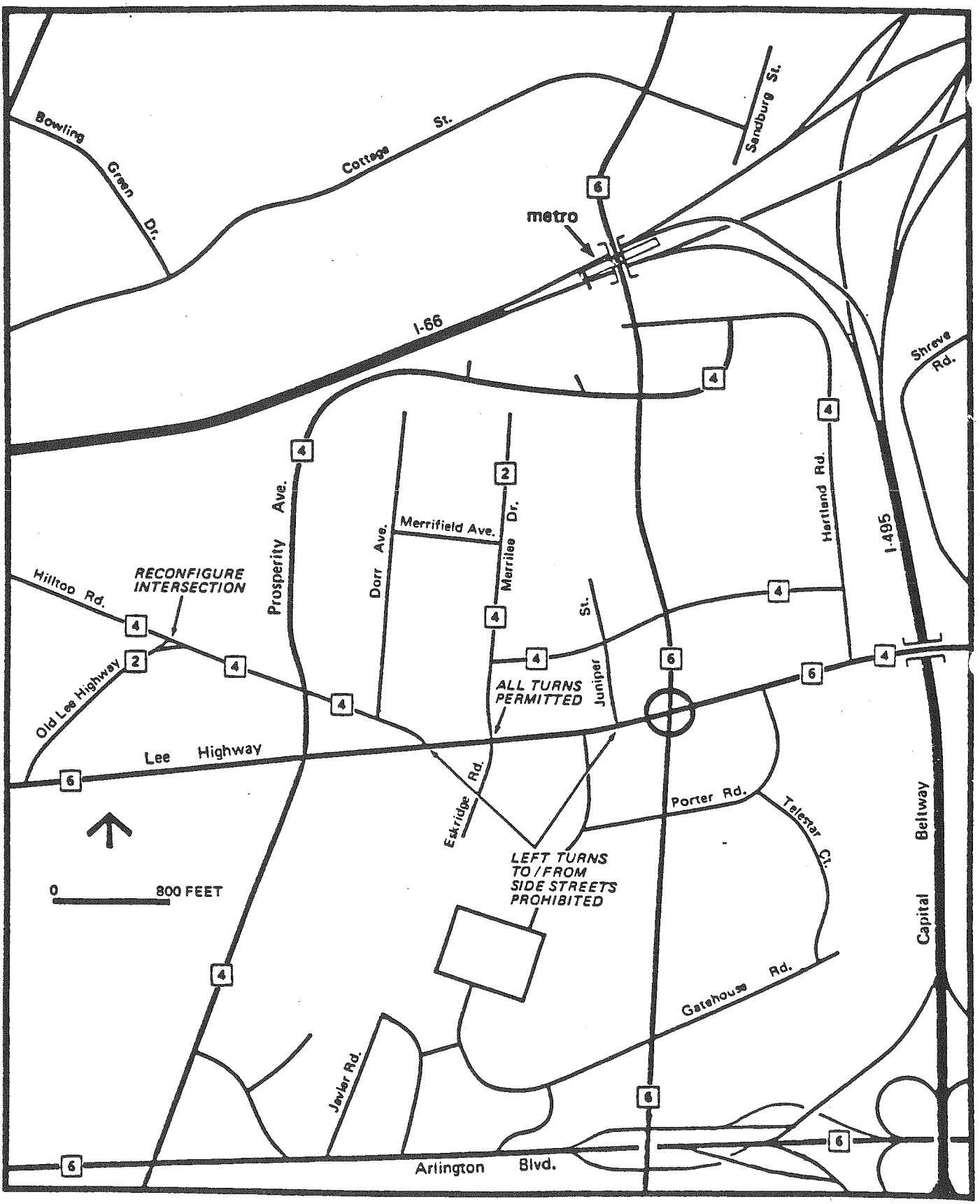


MERRIFIELD AREA STUDY

Office of Comprehensive Planning
Fairfax County, Virginia

Figure 5 Land Bays


NORTH
ROUTE 495
CAPITAL BELTWAY
HARTLAND ROAD
TELESTAR COURT
GATEHOUSE ROAD
ARLINGTON BOULEVARD
GALLOWS ROAD
JUNIPER STREET
ROUTE 29
ROUTE 50
MERRILEE DRIVE
MERRIFIELD AVENUE
ESKRIDGE ROAD
DOOR AVENUE
PROSPERITY AVENUE
HILLTOP ROAD
LEE HIGHWAY
OLD LEE HIGHWAY
LEGEND
NEW ROADWAYS
PEDESTRIAN PATHWAYS
ACTIVITY AREA
CROSSWALK
STREETSCAPE/ SIDEWALKS
MERRIFIELD AREA STUDY
Office of Comprehensive Planning
Fairfax County, Virginia
Figure 6 Pedestrian Circulation



RECOMMENDED ROADWAY NETWORK

6 NUMBER OF THRU LANES

GRADE SEPARATED INTERCHANGE

Figure 7
Roadway Network

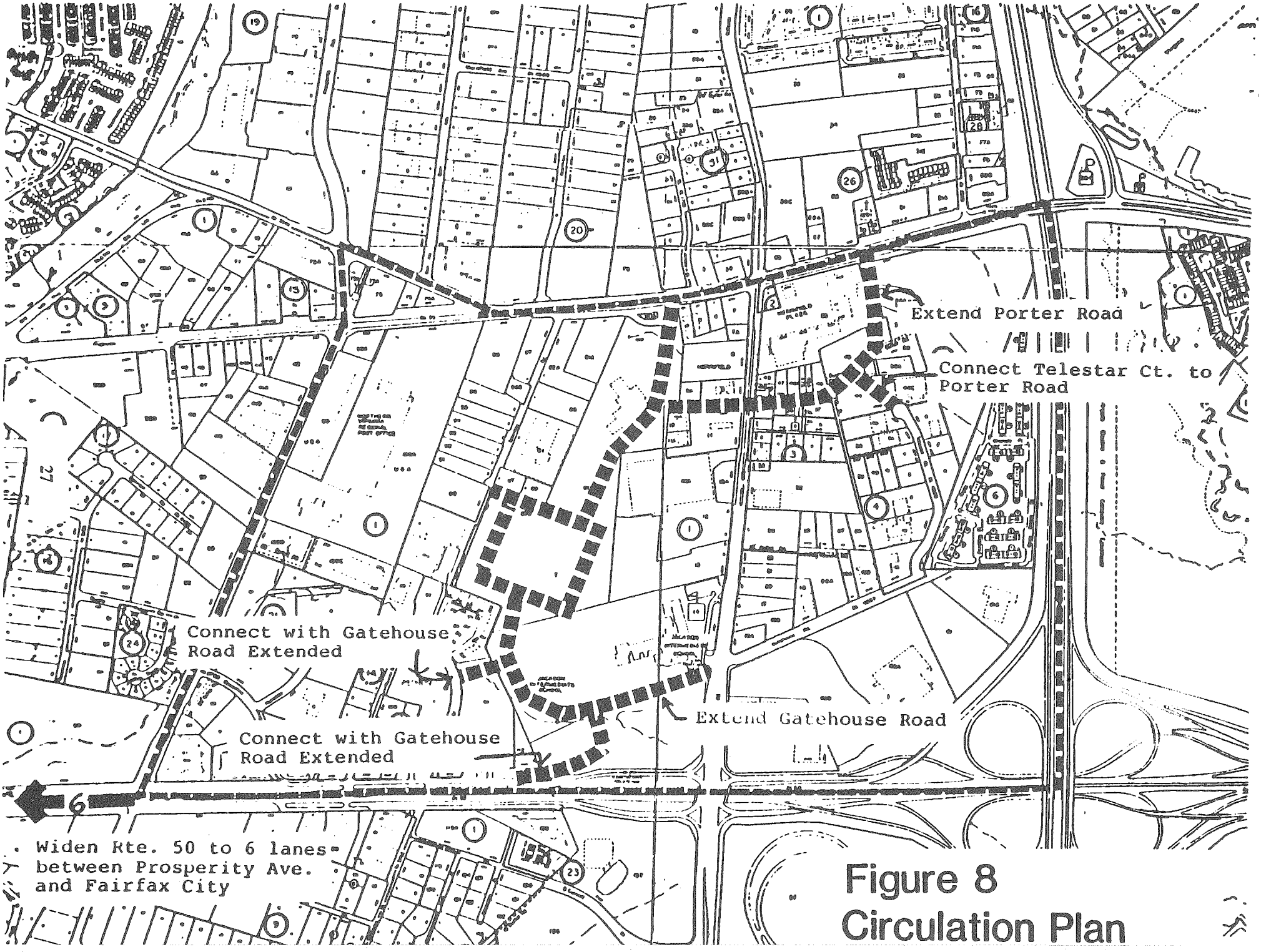
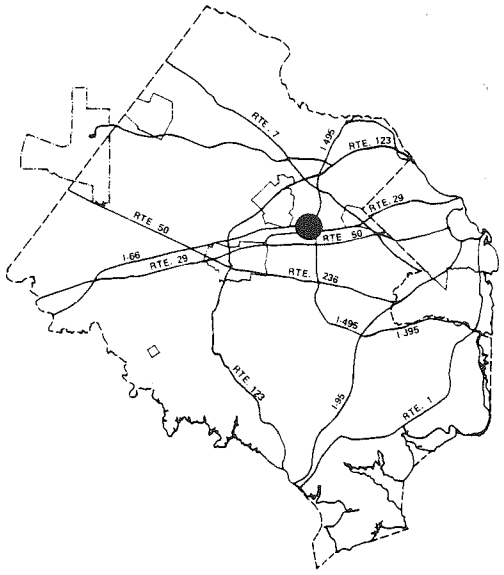


Figure 8
Circulation Plan

AMENDMENT NO. 86-A-15



AN AMENDMENT TO

THE COMPREHENSIVE PLAN FOR FAIRFAX COUNTY, VIRGINIA 1986 EDITION

GENERAL LOCATION: Area bounded by I-495 to the east, Old Lee Highway and Rt. 29 to the south, Long Branch (a creek) to the west, and I-66 to the north.

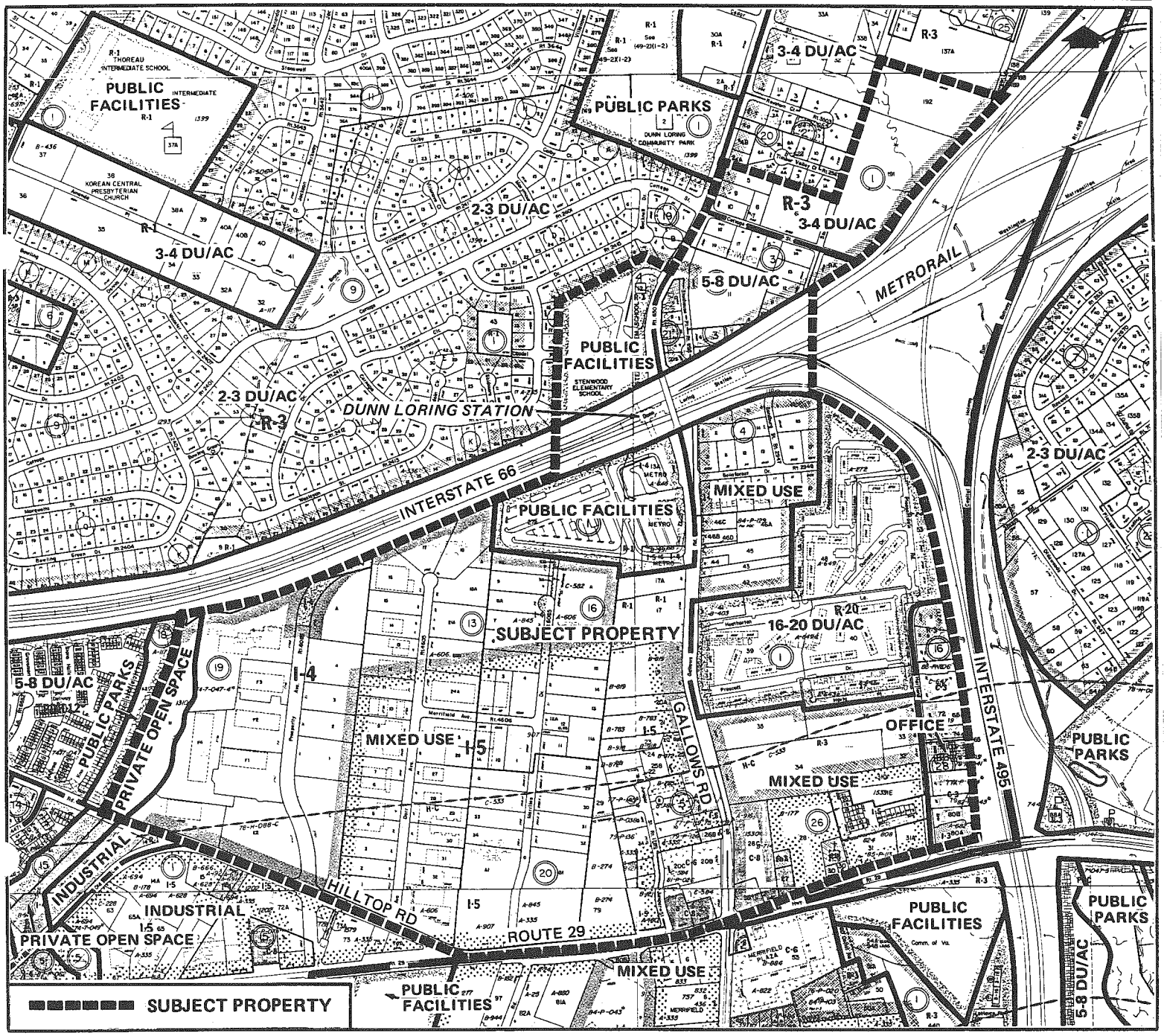
PARCEL LOCATION: The Dunn Loring Metro Station Area, which consists of various parcels on tax maps 49-1,2,3, and 4 as shown on the map below.

PLANNING AREA AND DISTRICT: Area III - Vienna

SUPERVISOR DISTRICT: Providence

ADOPTED: May 18, 1987 ITEM NO. 82-II-2V, 83-II-2V, 83-II-6V, 84-II-7V

FOR ADDITIONAL INFORMATION CALL 691-3352



CHANGES TO THE COMPREHENSIVE PLAN FOR THE DUNN LORING METRO STATION AREA

The following amendments to the 1986 edition of the Fairfax County Comprehensive Plan are recommended by the Dunn Loring Task Force, County staff and the consultant team. These changes are presented by Plan page number. The amendments involve an addition ("A"), deletion ("D") or modification ("M") to the current Plan. For reference, this document includes photocopies of the affected Plan pages with the specific location of the amendments highlighted.

ECONOMIC DEVELOPMENT AND EMPLOYMENT

M1 MODIFICATION: On page I/C 19, the last paragraph, second sentence, replace "will be" with "is".

TRANSPORTATION

D1 DELETION: On page I/C 33, "Gallows Road" bulleted item, delete the entire section.

D2 DELETION: On page I/C 33, "Route 50/I-495 Area" bulleted item and "Gallows Road" recommendation, delete latter part of the first sentence and entire second sentence, "and to four lanes north of Lee Highway. The Gallows Road bridge over I-495 should be widened to four lanes."

D3 DELETION: On page I/C 39, under "Sector V2" heading, delete recommendation "A" and reletter the other recommendations in the section.

ROUTE 50/I-495

M1 MODIFICATION: On page I 61, "Tract Designations within the Route 50/I-495 Area" map, replace Tracts F3 and North Merrifield with a shaded area identifying the Dunn Loring Metro Station Area and add a paragraph in italics as follows:

"A portion of the Dunn Loring Metro Station Area is included in the Route 50/I-495 Area. Discussion and recommendations for this area are found in the section of the Plan entitled 'Dunn Loring Metro Station Area' which begin on page II 100."

M2 MODIFICATION: On page I 61, within the "Description of the Route 50/I-495 Area" section, first paragraph, replace "Dunn Loring Metro and the Route 50/Gallows Road Complex Areas" with "Dunn Loring Metro Station Area and the Route 50/Gallows Road Complex Area".

D1 DELETION: On page I 61, within the "Description of the Route 50/I-495 Area" section, fifth paragraph, first sentence, delete "the remainder of the Dunn Loring Metro Complex Area . . . North Merrifield, while . . .".

D2 DELETION: On page I 61, within the "Adoption of the Route 50/I-495 Area Study section second sentence, delete "the Dunn Loring Metro Complex Area".

D3 DELETION: On page I 72, after the "Southeastern Quadrant of I-66 and Cedar Lane (Tract F)" heading, within the "Analysis: A Summary of Development Potential" section, first paragraph, fifth bulleted item, delete "proposed".

D4 DELETION: On page I 72, after the "Southeastern Quadrant of I-66 and Cedar Lane (Tract F)" heading, within the "Analysis: A Summary of Development Potential" section, second paragraph, first sentence, delete "future".

M3 MODIFICATION: On page I 72, after the "Southeastern Quadrant of I-66 and Cedar Lane (Tract F)" heading, within the "Hilltop Avenue Corridor" section, number "2." replace "Sub-Tract F3" with "The Dunn Loring Metro Station Area".

D5 DELETION: On page I 72, after the "Southeastern Quadrant of I-66 and Cedar Lane (Tract F)" heading, within the "Intersection of Hilltop Avenue and Prosperity Avenue, and the Northward Extension of Prosperity Avenue into Tract F" section, number "1.", delete "future".

M4 MODIFICATION: On page I 73, "Recommended Land Use Options for Tract F" map, replace Sub-Tract F3 areas (east of park use) with shaded areas identifying the Dunn Loring Metro Station Area and add a paragraph in italics as follows:

"A portion of the Dunn Loring Metro Station Area is included in Tract F. Discussion and recommendations for this area are found in the section of the Plan entitled 'Dunn Loring Metro Station Area' which begins on page II 100."

D6 DELETION: On page I 73, after the "Southeastern Quadrant of I-66 and Cedar Lane (Tract F)" heading, within "The Intersection of Hilltop Avenue and Prosperity Avenue, and the Northward Extension of Prosperity Avenue into Tract F" section, number "1.", first bulleted item, delete "proposed".

D7 DELETION: On page I 73, after the "Southeastern Quadrant of I-66 and Cedar Lane (Tract F)" heading, within "The Intersection of Hilltop Avenue and Prosperity Avenue, and the Northward Extension of Prosperity Avenue into Tract F" section, number "1.", delete third bulleted item.

D8 DELETION: On page I 73, after the "Southeastern Quadrant of I-66 and Cedar Lane (Tract F)" heading within the "Other" section, number "4.", delete "future".

A1 ADDITION: On page I 73, after the "Recommendations" heading, add a paragraph in italics as follows:

"A portion of the Dunn Loring Metro Station Area is included in Tract F. Discussion and recommendations for this area are found in the section of the Plan, entitled 'Dunn Loring Metro Station Area' which begins on page II 100.

M5 MODIFICATION: On page I 73, within the "Sub-Tract F2" section, number "5.", first sentence, replace "Sub-Tracts F3 and F2" with "the Dunn Loring Metro Station Area and Sub-Tract F2".

M6 MODIFICATION: On page I 73, within the "Sub-Tract F2" section, number "5.", first sentence, replace "Sub-Tract F3" with "the Dunn Loring Metro Station Area".

M7 MODIFICATION: On page I 73, within the "Sub-Tract F2" section, number "5.", third sentence, replace "F3" with "the Dunn Loring Metro Station Area".

M8 MODIFICATION: On page I 73, within the "Sub-Tract F2" section, number "6.", first sentence, replace "Sub-Tracts F2 and F3" with "Sub-Tract F2 and the Dunn Loring Metro Station Area".

M9 MODIFICATION: On page I 73, within the "Sub-Tract F2" section, number "6.", third sentence replace "F3" with "the Dunn Loring Metro Station Area".

D9 DELETION: On pages I 73 and I 74, delete the "Sub-Tract F3" section in its entirety except for last paragraph.

M10 MODIFICATION: On page I 74, within the "Sub-Tract F3 section, first paragraph after bulleted items, replace "Sub-Tracts F2 and F3" with "Sub-Tract F2 and the Dunn Loring Metro Station Area".

D10 DELETION: On page I 74, under "South Merrifield" heading, within analysis: A Summary of Development Potential" section, second paragraph, third bulleted item, delete "future".

D11 DELETION: On page I 74, under "South Merrifield" heading, within "Prosperity Avenue Corridor" section, number "1.", delete "future".

D12 DELETION: On pages I 75 and I 76, delete the "North Merrifield" section in its entirety.

M11 MODIFICATION: On pages I 77 and I 78, the "Recommended Land Use" maps (Maps 30, 31, and 32), replace Tracts F3 and North Merrifield with a shaded area identifying the Dunn Loring Metro Station Area and add a paragraph in italics as follows:

"A portion of the Dunn Loring Metro Station Area is included in the Route 50/I-495 Area. Discussion and recommendations for this area are found in the section of the Plan entitled 'Dunn Loring Metro Station Area' which begins on page II 100."

M12 MODIFICATION: On page I 79, the "Summary of Residential and Non-Residential Growth Planned for the Route 50/I-495 Area" table, delete "F3" and "North Merrifield" rows in their entirety, and adjust all figures in "Total (Chiles)", "Total (Merrifield)" and "Area Total" rows to reflect these deletions.

M13 MODIFICATION: On page I 80, the "Planned Residential and Non-Residential Growth Planned for Route 50/I-495 Area" table, delete "F3" (Off.)" row in its entirety, adjust all figures in "F" row to reflect deletions, and adjust Footnote 20.

D13 DELETION: On page I 80, the "Planned Residential and Non-Residential Growth Planned for Route 50/I-495 Area" table, delete "North Merrifield" section in its entirety.

AREA II COMPREHENSIVE PLAN MAP

The Comprehensive Plan map for Area II should be amended to reflect the recommendations contained in the Dunn Loring Metro Station Area section of the Comprehensive Plan text.

AREA II PLANNING DISTRICT AND SECTORS

M1 MODIFICATION: On page II 5, the Area II Planning District and Sectors map, amend the shaded area relating to the Dunn Loring Metro Station Area to reflect current boundary.

VIENNA PLANNING DISTRICT

D1 DELETION: On page II 5, the Area II Planning District and Sectors map, amend the shaded area relating to the Dunn Loring Metro Station Area to reflect current boundary.

A1 ADDITION: On page II 29, after the "Recommendations" heading, add a paragraph in italics as follows:

"A portion of the Dunn Loring Metro Station Area is included in the Vienna Planning District. Discussion and recommendations for this area are found in the section of the Plan entitled 'Dunn Loring Metro Station Area' which begins on page II 100."

D2 DELETION: On page II 29, after the "Recommendations" heading, paragraph "C.", delete "planned".

M1 MODIFICATION: On page II 30, the Vienna Planning District map, amend the shaded area relating to the Dunn Loring Metro Station Area to reflect current boundary.

COMMUNITY PLANNING SECTOR V1 (LEE)

A1 ADDITION: On page II 31, the Planning Sector V1 map, add a shaded area and note "Dunn Loring Metro Station Area".

M1 MODIFICATION: On page II 31, before "Land Use" section, second paragraph, replace phrase, "lie within the Vienna and Dunn Loring Metro Complex Areas" with the "Vienna Metro Complex Area and the Dunn Loring Metro Station Area".

D1 DELETION: On page II 31, within the "Land Use" section, third paragraph, second sentence delete the word "planned".

D2 DELETION: On page II 31, within "Land Use" section, fifth paragraph, first sentence, "and are included in the Dunn Loring Metro Complex Area".

M2 MODIFICATION: On page II 31, within the "Land Use" section, sixth paragraph, first sentence, replace "Metro Complex areas" with "Metro station areas".

D3 DELETION: On page II 31, within the "Land Use" section, delete the eighth paragraph, "Any consideration of . . . Vienna Metro Corridor."

D4 DELETION: On page II 31, within the "Transportation" section, fifth paragraph, first sentence, replace "planned Metro stations in this sector are to be located" with "Metro stations in this sector are located"; and second sentence, replace "will be" with "is".

M3 MODIFICATION: On page II 31, within the "Transportation" section, fifth paragraph, first sentence, replace "planned Metro stations in this sector are to be located" with "Metro stations in this sector are located"; and second sentence, replace "will be" with "is".

D5 DELETION: On page II 32, within the "Housing" section, second paragraph, fifth sentence, delete the word, "planned".

A2 ADDITION: On page II 32, after the "Recommendations" heading, add a paragraph in italics as follows:

"A portion of the Dunn Loring Metro Station Area is included in this planning sector. Discussion and recommendations for this area are found in the section of the Plan, entitled 'Dunn Loring Metro Station Area' which begins on page II 100."

A3 ADDITION: On page II 33, within "Public Facilities" section, add the following recommendation:

"C. Review Dunn Loring Metro Station Transit Development Area for special library services."

COMMUNITY PLANNING SECTOR V2 (CEDAR)

A1 ADDITION: On page II 34, the Planning Sector V2 map, add a shaded area and note "Dunn Loring Metro Station Area".

A2 ADDITION: On page II 35, after the "Recommendations" heading, add a paragraph in italics as follows:

"A portion of the Dunn Loring Metro Station Area is included in this planning sector. Discussion and recommendations for this area are found in the section of the Plan entitled 'Dunn Loring Metro Station Area' which begins on page II 100."

COMPLEX AREAS

D1 DELETION: On page II 59, within "Transportation" section, delete fourth paragraph and all bulleted items.

A1 ADDITION: On page II 59, within the "Rapid Transit Stations" section, first paragraph after second sentence, add the following sentence:

"These transit station areas should be continuously studied and monitored."

METRO STATION COMPLEX AREAS

D1 DELETION: On page II 78, first paragraph of discussion, first sentence, delete the word, "proposed".

D2 DELETION: On page II 78, first paragraph of discussion, fourth sentence, delete the word, "slated".

D3 DELETION: On page II 78, delete second paragraph in its entirety.

D4 DELETION: On page II 78, within "The Need for Metro" section, first paragraph, first sentence delete the word, "planned".

D5 DELETION: On page II 78, within "The Need for Metro" section, first paragraph, fourth sentence delete", and along the route . . . and the County".

D6 DELETION: On page II 78, within the "Planning Decisions and Timing Issues" section, delete second paragraph in its entirety.

M1 MODIFICATION: On page II 78, within the "Implementation and Development Coordination" section, third paragraph, third sentence, replace "At least one, and possibly two or three, Planned Transit Station (PTS)" with "Planned Development - Transit (PDT)".

M2 MODIFICATION: On page II 78, within the "Implementation and Development Coordination" section, fourth paragraph, first bulleted item, replace "PTS zone would" with "PDT zone should".

M3 MODIFICATION: On page II 78, within the "Implementation and Development Coordination" section, fourth paragraph, eighth bulleted item, replace "PTS" with "PDT".

DUNN LORING METRO STATION COMPLEX AREA

D1 DELETION: On page II 100, delete the "Dunn Loring Metro Station Complex Area" discussion in its entirety.

THE DUNN LORING METRO STATION AREA

A1 ADDITION: On page II 100, add a new section to read:

THE DUNN LORING METRO STATION AREA DESCRIPTION

The Dunn Loring Metro Station, the next to the last stop on the Orange Line in Northern Virginia, lies within the median of I-66 west of the Gallows Road overpass. The station has vehicular access

to Gallows Road but no direct access to I-66. The single-sided platform affords pedestrian access south of I-66 and is intended for use as a local commuter station.

ISSUES

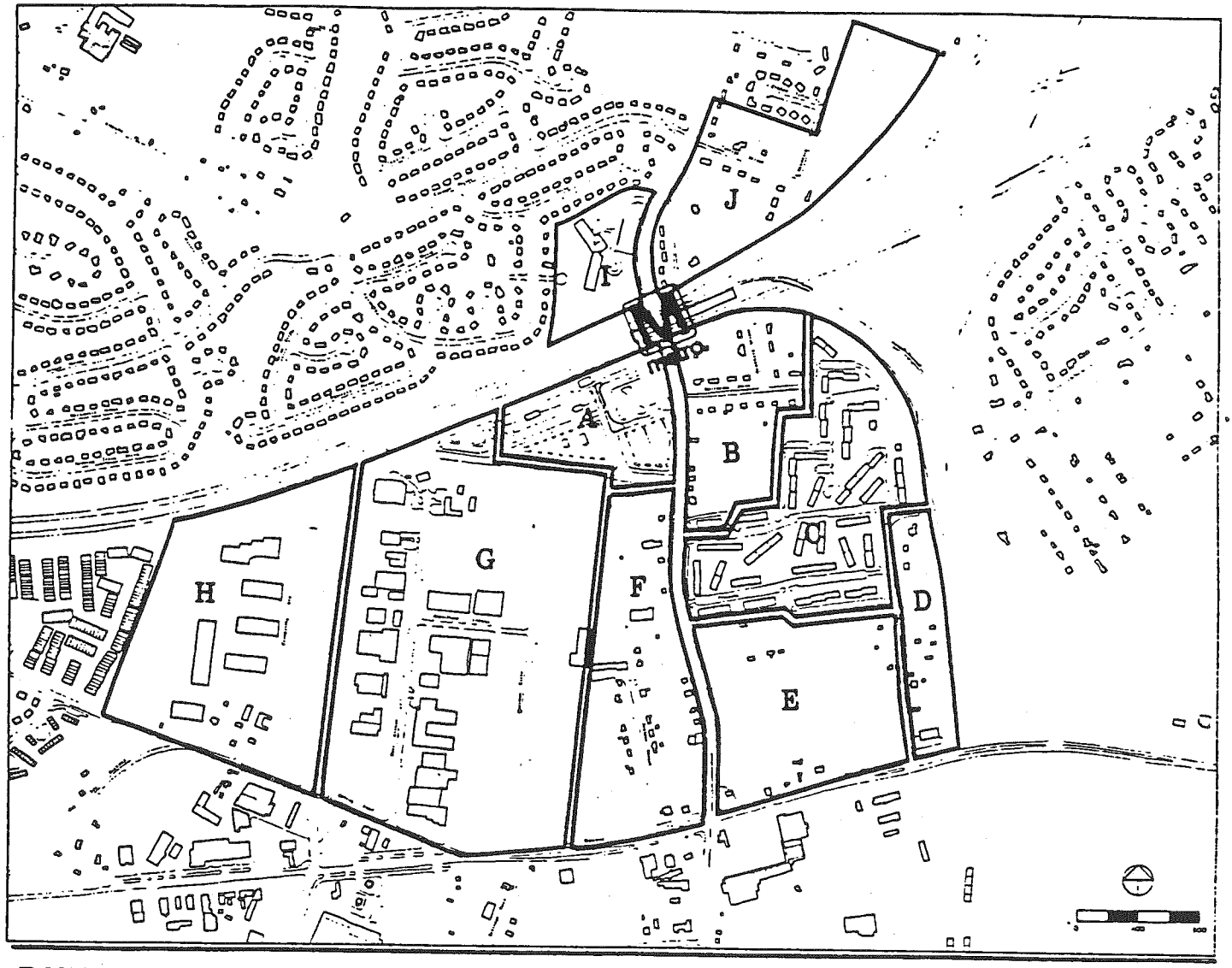
The major issues facing the Dunn Loring Metro Station Area relate to appropriate Metro-related development, traffic congestion, maintenance of a residential component within the station area, and protection of existing stable residential areas. Pressure exists to continue development of the area west of Gallows Road in commercial/office uses while maintaining a residential presence east of Gallows Road. This would include redevelopment of the Belleforest neighborhood, into a mixed residential, commercial and retail complex. In addition to Metrorail users, the influx of traffic generated by areawide development raises concern about congestion. Functional tracts defined to facilitate study of the area are shown in Figure 1.

BACKGROUND OF THE STUDY

On February 2, 1981, the Fairfax County Board of Supervisors directed the staff of the Offices of Comprehensive Planning and Transportation to: 1) review County policy regarding the functions of the County's six future Metrorail stations in providing transportation service to the County and 2) reevaluate the planned land uses around each of the Metrorail stations to ensure that Fairfax County's interests are best served by development at these station areas.

The proposal endorsed by the Board of Supervisors called for a two-phased study. Phase I of the Metro Station Areas Study, presented to the Board on December 13, 1982, consisted of an overview of land uses and transportation facilities in the vicinity of the County's Metrorail stations. Objectives to be achieved through the utilization of Metrorail and the development of land in its vicinity were identified both on a system-wide basis and for each of the six stations. The predominant function of each individual station was identified. The development guidelines which were recommended for each station area reflected a general analysis and provided a point of departure for the in-depth analysis undertaken in Phase II of the study. A more detailed understanding of the substance of Phase I can be gained by reference to the document, Fairfax County Metro Station Areas Study - Phase I. Phase II of the Metro Station Areas Study began in November 1984 with detailed planning studies in the areas of land use, transportation, urban design, environment and economic development of the Dunn Loring Metro Station Area. These analyses led to the formulation of a plan for the future development of the Dunn Loring Metro Station Area, and culminated in the publication of the Dunn Loring Metro Station Area Study. It is recognized the Metro System in Fairfax County is an integrated system impacting land use and other transportation facilities.

Figure 1



DUNN LORING METRO STATION AREA

FUNCTIONAL TRACTS

TRACT BOUNDARY

RECEIPT OF THE METRO STATION AREA STUDY

On May 18, 1987, the Board of Supervisors received the Dunn Loring Metro Station Area Study and adopted the Changes to the Comprehensive Plan for the Dunn Loring Metro Station Area. The Dunn Loring Metro Station Area Study (published on October 16, 1986) includes background on the recommendations and the study methodology.

TRANSIT DEVELOPMENT AREA: CONCEPT AND PURPOSE

The Plan for the Dunn Loring Metro Station Area is based upon the concept of concentrating a variety of land uses, around the Metro station. This area surrounding the station is called the Transit Development Area.

The Transit Development Area recognizes that the greatest impact of transit facilities in suburban locations occurs within a 5 to 7 minute walking distance from the station. Development within this area can generate a substantial number of walk-in Metrorail riders. In suburban locations such as Dunn Loring, mixed use development is appropriate. The residential component contributes to the Metrorail and bus commuter trips and the non-residential uses encourage off-peak and reverse ridership while each element improves the pedestrian environment.

New development is channelled to the vacant and redevelopable parcels in the Transit Development Area in order to preserve stable neighborhoods. The planned level of new residential development is appropriate for Dunn Loring as it responds to County and Task Force concerns regarding adequate housing opportunities near the Dunn Loring Metro Station. The mix of development also recognizes the market for office uses at Dunn Loring.

Based on its distinctive locational and physical characteristics, the Transit Development Area warrants special development regulations and incentives that would be limited to Metro station area locations. These regulations and incentives include a transit district zone, urban design guidelines, transportation policies and special funding mechanisms for roads and other public improvements.

Development within the Dunn Loring Transit Development Area must fully consider traffic congestion in the greater Dunn Loring-Merrifield area. The road improvements stated in the Dunn Loring Metro Area Study are essential, and development at the densities planned for the Transit Development Area is premised upon the assumption that improvements are actually made. While the County is striving to implement the needed road improvements and is encouraging the use of Transportation Systems Management strategies, the developers must address the concerns of traffic congestion for any new development within the Transit Development Area. This may be addressed by any number of responses including transportation systems management, financing or actual construction of road improvements, deferral of development until adequate road improvements are made, or any appropriate combination of such measures.

In summary, the Dunn Loring Transit Development Area is an area designated in the Comprehensive Plan for Metro-oriented mixed use development. Because of its special relationship to the Metro station, the Transit Development Area requires special planning controls, development incentives and implementation strategies.

LOCATION OF THE DUNN LORING TRANSIT DEVELOPMENT AREA

As illustrated in Figure 2, the Dunn Loring Transit Development Area is comprised of several land areas within a 5 to 7 minute walk of the Metro station. The areas which provide the greatest opportunities for development and redevelopment are Tracts B, D, E, F, and G. Tract A (the Metro station site), C (Merrifield Village Apartments), and H (the Long Branch Environmental Quality Corridor and the Prosperity Business Campus) are already developed in a way that is appropriate for their respective sites.

LAND USE PLAN FOR THE TRANSIT DEVELOPMENT AREA

The Plan for Transit Development Area calls for a mix of office, retail and residential uses. Figure 3 illustrates the land use plan for the Transit Development Area. Figure 4 illustrates the conceptual organization of land uses.

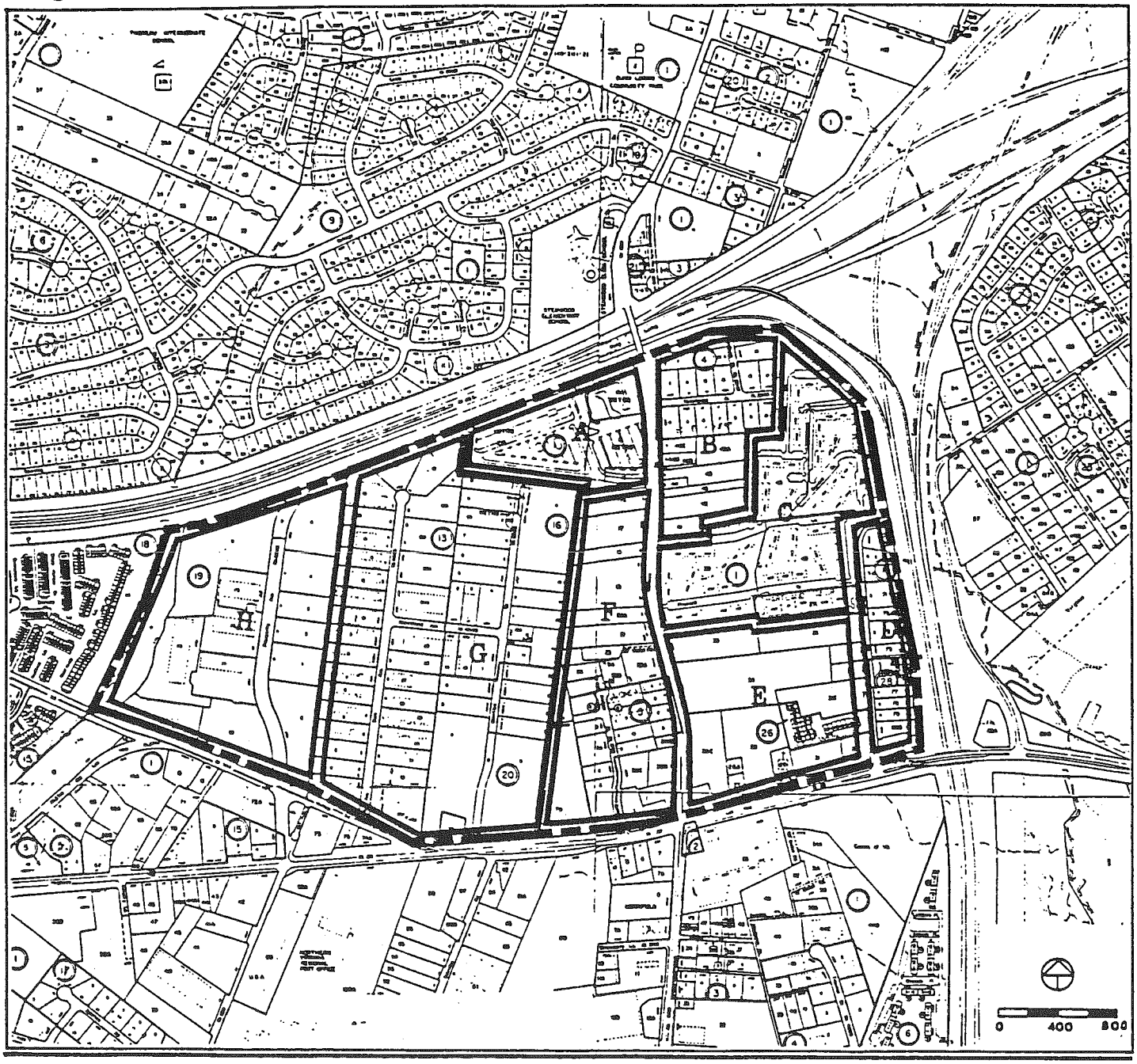
The land use plan ensure a balanced mixed use development which is both Metro-oriented and compatible with the surrounding community. The Board of Supervisors general goals for the station are the promotion of Metrorail ridership, equitable distribution of development, maintenance of Level of Service D or better, and the reduction of automobile dependency while maintaining commuter accessibility. It is necessary that new development be responsive to general criteria and site-specific conditions, which focus on mitigating potential impacts. The following 15 development criteria apply to all sites in the Transit Development Area:

1. Development applications within the Transit Development Area should be accompanied by a development study report which describes the impacts of the proposed development and demonstrates the proposal's conformance with the Comprehensive Plan and adopted Board of Supervisors policies.

2. Development in accordance with the Urban Design Concept Plan for the Transit Development Area as illustrated in Figures 3, 4, 5, 6, and 7.

3. Proffer of a development plan that provides exceptional quality site and architectural design, streetscaping, urban design and development amenities. The applicant will submit an urban design plan which achieves superior design quality.

4. Substantial land consolidation and/or coordination of development plans with adjacent development to achieve Comprehensive Plan objectives.



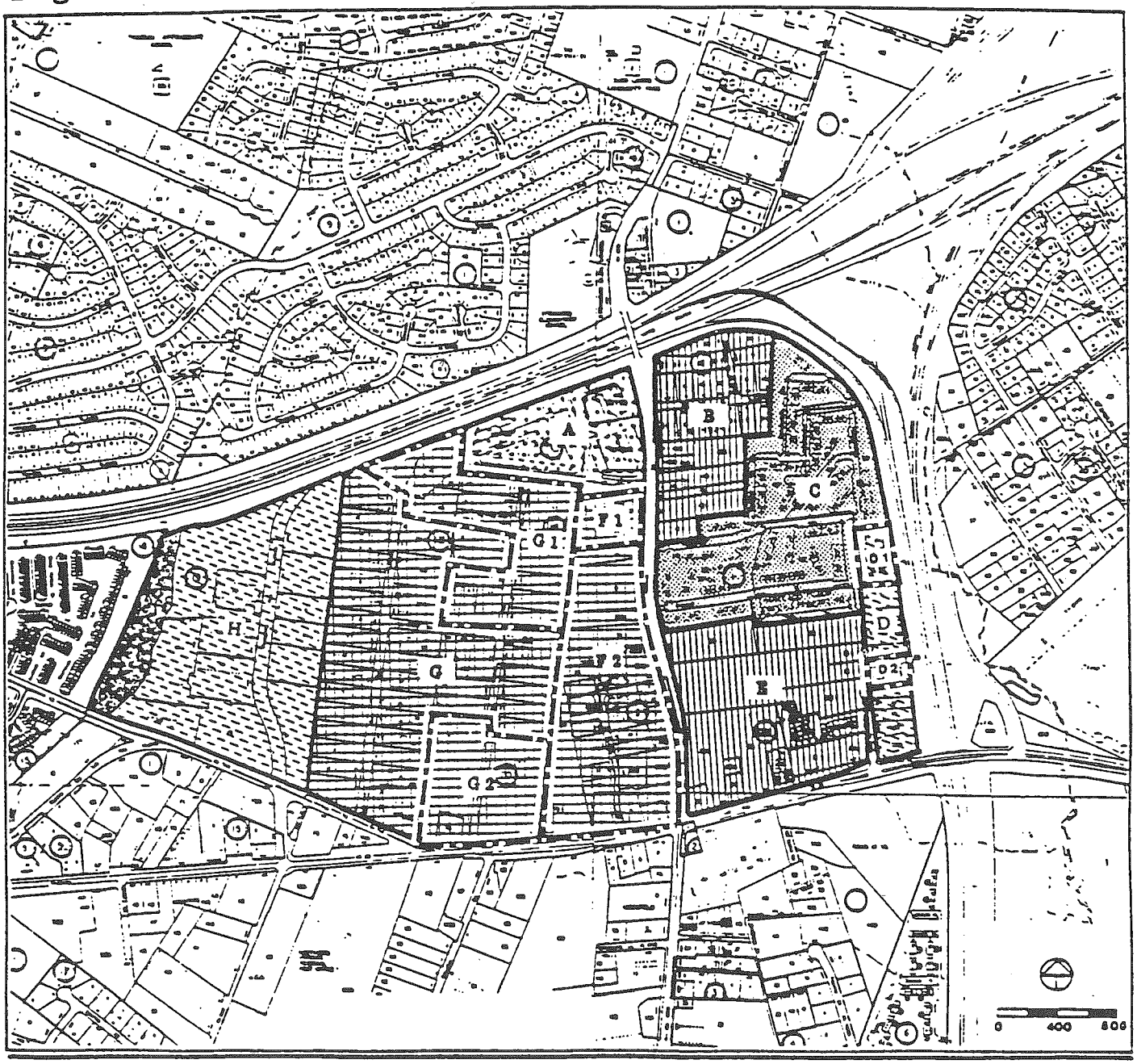
DUNN LORING METRO STATION AREA

TRANSIT DEVELOPMENT AREA

TRACT BOUNDARY

TRANSIT DEVELOPMENT AREA BOUNDARY

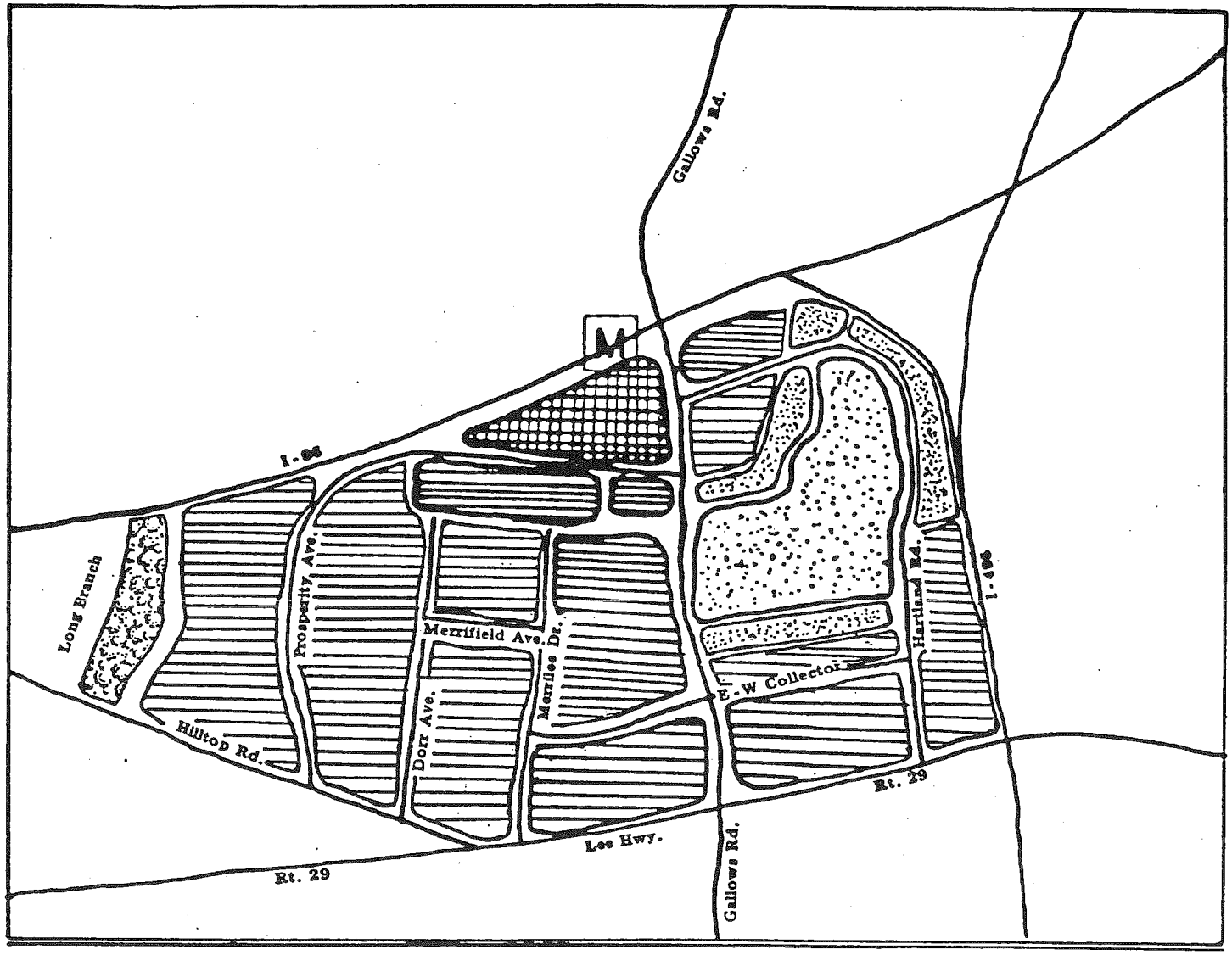
Figure 3



DUNN LORING METRO STATION AREA

LAND USE PLAN
FOR THE TRANSIT DEVELOPMENT AREA

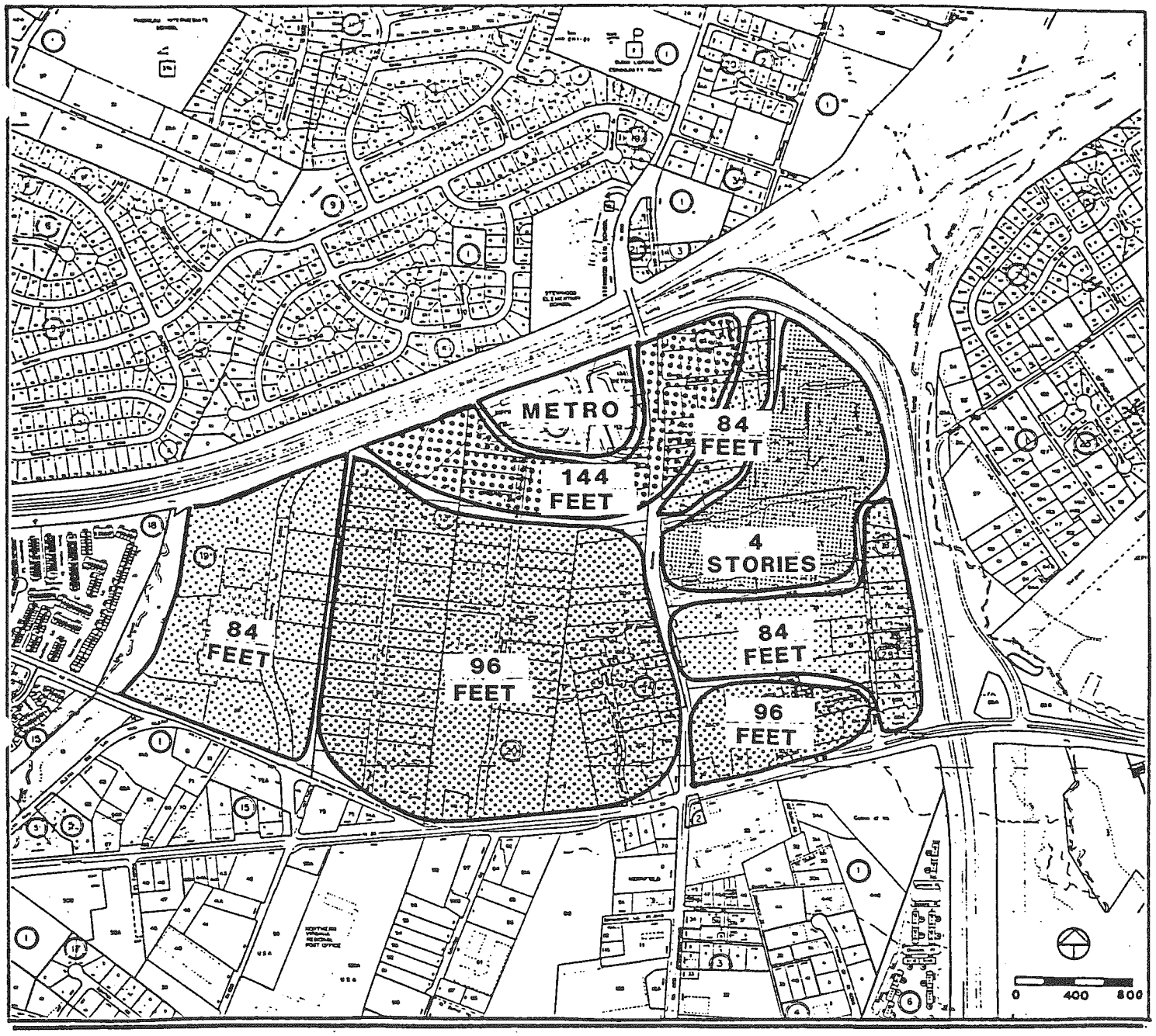
- TRACT BOUNDARY
- SUB - TRACT BOUNDARY
- RESIDENTIAL
- INSTITUTIONAL
- MIXED RESIDENTIAL/OFFICE
- MIXED INDUSTRIAL/COMMERCIAL/OFFICE
- OFFICE
- PUBLIC PARK



DUNN LORING METRO STATION AREA

CONCEPTUAL LAND USE PLAN FOR THE TRANSIT DEVELOPMENT AREA

- METRO
- COMMERCIAL
- RESIDENTIAL
- OPEN SPACE



DUNN LORING METRO STATION AREA

HEIGHT LIMITS IN THE TRANSIT DEVELOPMENT AREA

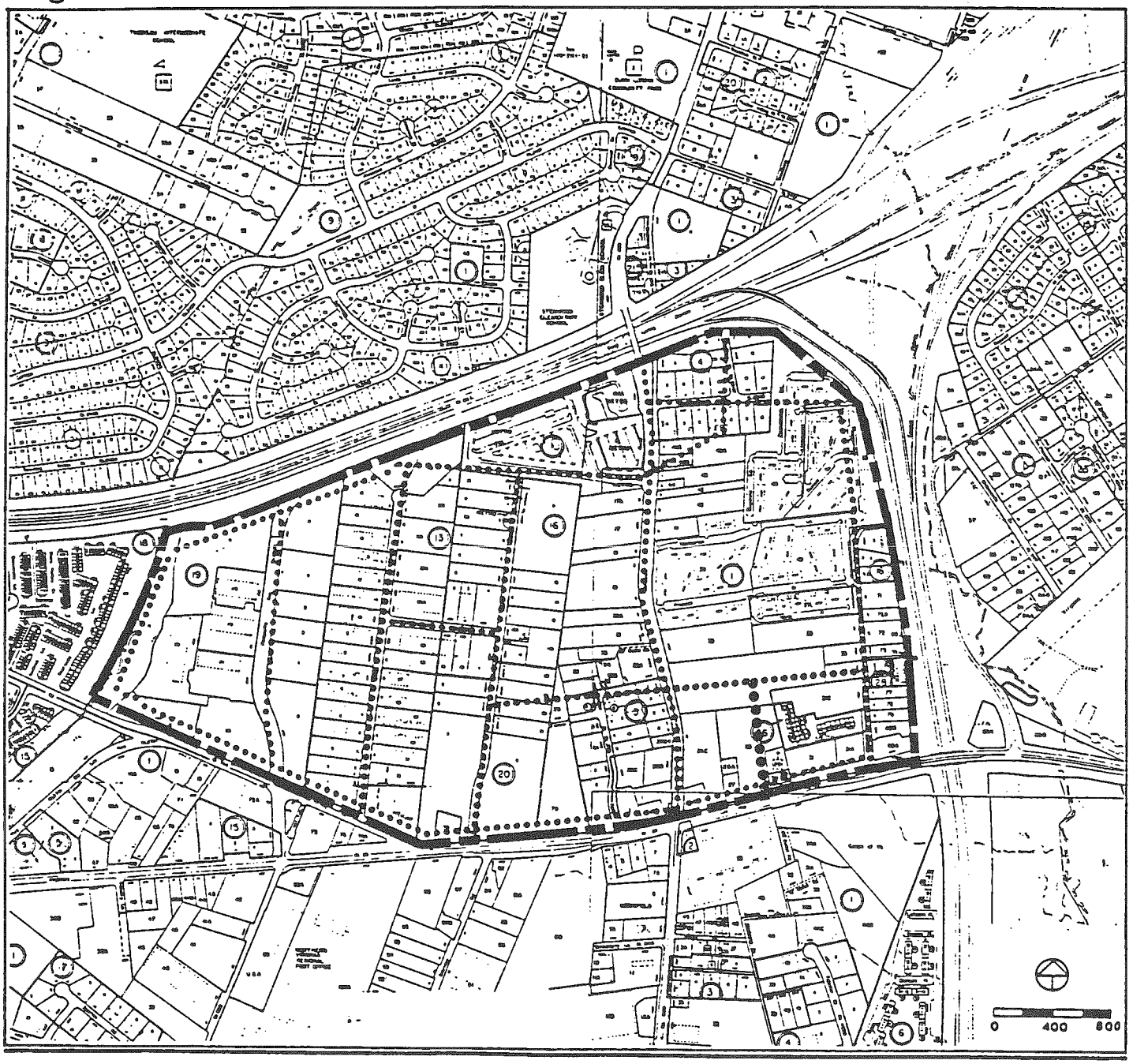
144 FEET

96 FEET

84 FEET

4 STORIES

Figure 6

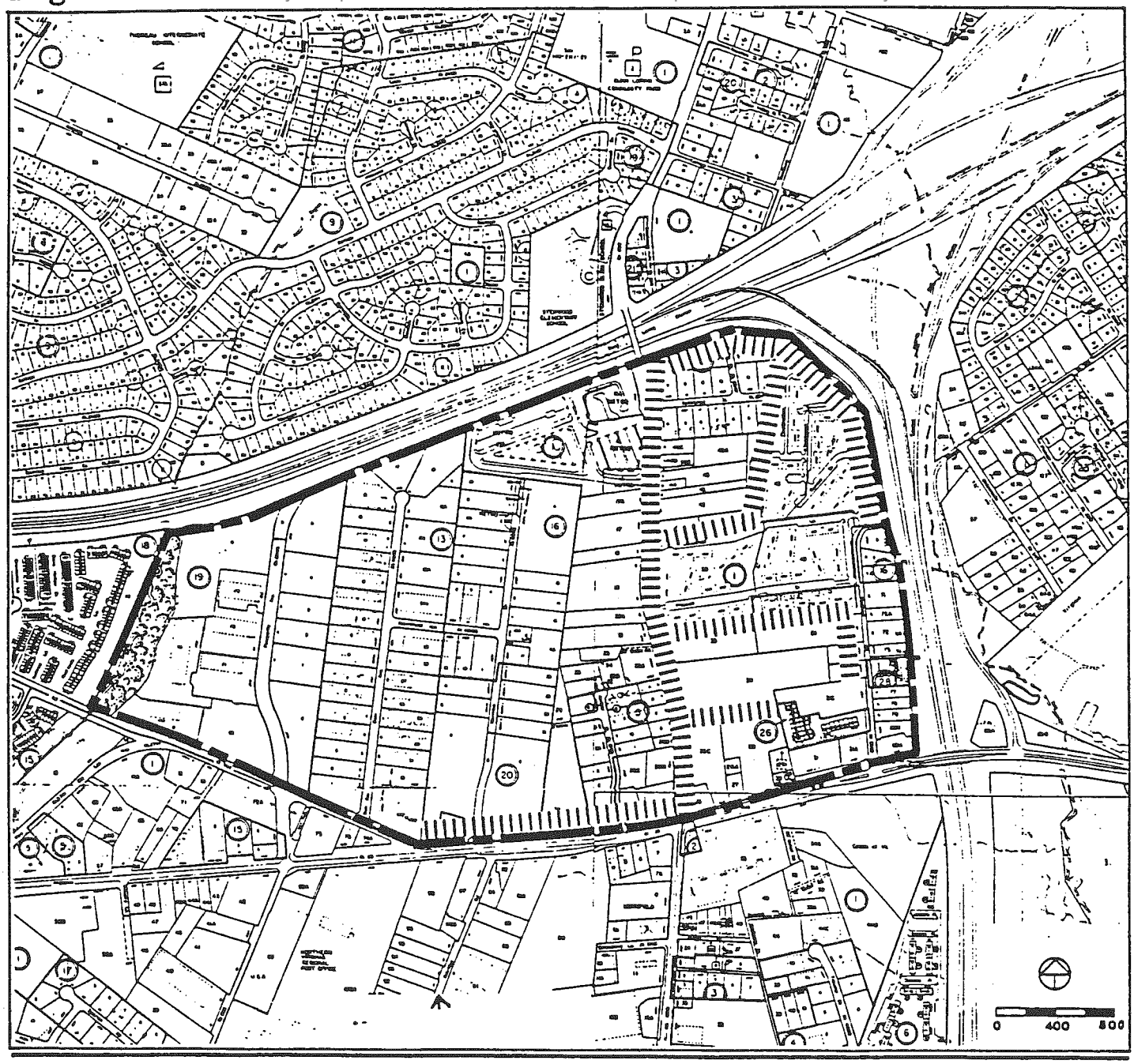


DUNN LORING METRO STATION AREA

PEDESTRIAN CIRCULATION
IN THE TRANSIT DEVELOPMENT AREA

..... PEDESTRIAN CIRCULATION AND STREETSCAPE

▬ ▬ ▬ TRANSIT DEVELOPMENT AREA BOUNDARY



DUNN LORING METRO STATION AREA

OPEN SPACE AND LANDSCAPED BUFFERS
IN THE TRANSIT DEVELOPMENT AREA

BUFFERS AND TRANSITIONS

TRANSIT DEVELOPMENT AREA BOUNDARY

OPEN SPACE

5. Provision of a phasing program which includes on- and off-site roadway, intersection, signalization and parking improvements as related to the development program. Any increase in development which is not accompanied by the appropriate transportation improvements will only serve to exacerbate traffic problems in the station vicinity. Accordingly, further development shall be phased with appropriate transportation improvements in order to assure a balanced roadway network consistent with achieving Level of Service D in the long-term and not exacerbating overall existing conditions in the short-term. If Transportation Systems Managment techniques are utilized to affect the development density, intensities related to TSM success shall be subject to phasing as described in the section entitled Transportation Systems Management Strategies of this Plan. Further, when in the opinion of the County, intensities warrant, the developer may be required to phase development and to limit the timing of phases to a demonstration that roadway system capacity exists or will exist in the short-term. Monitoring to the satisfaction of Office of Transportation may be required of the developer toward demonstrating that system capacity is in balance with the development program.

6. Provision of on- and off-site public facility improvements, or funding of such improvements, to accommodate impacts associated with new development. A public facilities phasing program should be implemented to ensure that the identified improvements are in place in accordance with development phasing. Improvements are the responsibility of both the public and private sectors. If the provision of adequate public facilities is not completed, then the developer should reduce development density to a level deemed satisfactory by the County.

7. Provision of design, siting, style, scale and materials compatible with adjacent development and the surrounding community, and which serves to maintain and/or enhance the stability of existing neighborhoods.

8. Contributions toward the provision of an environmental monitoring program for noise and air quality.

9. Orientation of development toward the Metro station.

10. Creation of a pedestrian oriented environment recognizing the need for interparcel connection, access to the Metro Station, and pedestrian circulation.

11. Inclusion of energy conservation features.

12. Inclusion of affordable housing in residential projects or projects with residential components that will serve the needs of the County's population. Housing development should only be approved for the maximum level of development if dwelling units are provided for low- and moderate-income households and in accordance with County policy. Development proposals must be reviewed by the Department of Housing and Community Development.

13. Provision of structured parking (above or below grade). If surface parking is permitted, it should provide the highest level of screening at the street level. Parking lot(s) should also provide the highest level of interior screening and landscaping. Screening should be adequate to reduce glare into residential neighborhoods.

14. Consolidation of vehicular access points to minimize interference with commuter access to the Metro station.

15. Provision and construction of environmental facilities using the Fairfax County's Best Management Practices standards.

In addition to these 15 general criteria, site-specific conditions are identified with the following recommendations for each of the tracts in the Transit Development Area.

Tract A

This tract is currently used as a Metro parking lot. Future development should provide additional parking opportunities for Metro uses and the enhancement of the pedestrian environment. Future uses should not adversely affect the roadway network.

Tract B

Tract B includes the Belleforest neighborhood and adjacent underdeveloped parcels to the south along Gallows Road. The tract is surrounded by I-495, I-66, Gallows Road and the Merrifield Village Apartments, and lies directly across Gallows Road from the Metro station complex. This tract is recommended for mixed use with a maximum FAR (for all uses, including residential) of 1.4. The level of commercial development should not exceed one-half of the total gross floor area for the entire mixed-use development. Appropriate retail and service uses designed to serve the development on this tract should be encouraged, and retail floor area should be treated as one-half of commercial for purposes of determining the allowable commercial square footage. To be considered for the maximum level of development, the following site specific conditions must be met along with the 15 general development criteria:

- The commercial component of the development must be oriented closest to the Metro station.

- A transition downward of development heights adjacent to the Merrifield Village Apartments should occur as a means to reduce the physical impact of Tract B development on the existing apartment complex. This transition should be in addition to the maintenance of the existing 100 foot buffer located in Tract C.

- Street level activity zones should be provided and include retail activities, abundant landscaping and pedestrian amenities.

- Adequate pedestrian connections between the station and residential communities east and south of Tract B should be provided through the new development. This should include adequate pedestrian access across Gallows Road which is well designed for safety and aesthetics.

- If at the time of development of Tract B it is determined that the extension of Hartland Road is not in the best interest of County, provision will be made via right-of-way dedication and financial contribution for the future extension and connection of Hartland Road.

- Development on parcels facing Gallows Road should provide for rights-of-way.

Tract C

This tract contains the Merrifield Village Apartments and Hartland Manor. This important affordable housing resource should remain planned at its current stable use and density. The pedestrian system in the tract should be improved and coordinated with adjacent tracts north and south. An opportunity for extension of Hartland Road should be provided in the tract. This extension may require the removal of some buildings.

Tract D

Tract D should be maintained as office development. D1 and D2 portions have been identified and infill office development should occur at levels generally consistent with existing development in Tract D. To be considered for the maximum level of development, the following site specific conditions must be met along with the 15 general development criteria:

- Provision for the extension of Hartland Road as a four-lane facility. If at the time of development it is determined that the extension of Hartland Road is not in the best interest of the County, provision will be made via right-of-way dedication and financial contribution for the future extension and connection of Hartland Road.

- Pedestrian connections and streetscape should be provided and coordinated within Tract D as well as with Tracts C and E.

Tract E

Tract E has the opportunity for development. Existing development in the southeast corner of the site at Hartland Road and Lee Highway should be retained. The existing cemetery on the site shall be preserved. A pedestrian connection should be made across Lee Highway from Porter Road to Tract E and the East-West Connector. The dwelling units should be located generally on parcels adjacent to Tract C and on parcels already zoned for residential uses. The commercial component should be generally concentrated south and east of the dwelling units. This tract is planned for mixed-use with a maximum FAR (for all uses, including residential) of 1.0. The level of commercial development should not exceed one-third of the total gross floor area for the entire mixed-use development. Appropriate retail and service uses designed to serve the development on this tract should be encouraged, and retail floor area should be treated as one-half of commercial for purposes of determining the allowable commercial square footage. To be considered for the maximum level of development, the 15 general development criteria must be met as well as the following site specific criteria:

- An east-west connector road between Gallows Road and Hartland Road must be provided.

- Adequate buffering (no less than a 50 foot buffer) between existing residential development in Tract C to the north and any new development in Tract E to the south must be provided. In addition, Hartland Road must be buffered through adequate streetscape and screening.

- The tallest buildings in Tract E should be oriented towards the intersection of Gallows Road and Lee Highway.

- Any development with frontage on Lee Highway or Gallows Road in Tract E should provide adequate right-of-way for an improved Lee Highway as well as an intersection improvement at Gallows Road and Lee Highway. A streetscape program should be initiated to lessen any adverse impacts of such improvements and to enhance the pedestrian experience.

- The residential component of the tract should be adequately buffered from other uses.

- Provision for the extension of Hartland Road as a four-lane facility. If at the time of development it is determined that the extension of Hartland Road is not in the best interest of the County, provision will be made via right-of-way dedication and financial contribution for the future extension and connection of Hartland Road.

Tract F

The four acres closest to the Metro station could be developed to a maximum of 201,465 sf. The 26 remaining acres in the tract could be

developed to a maximum of 1,116,007 sf. To be considered for the maximum levels of development, all 15 of the general development criteria must be met as well as the following site specific criteria:

- The development on the northernmost parcels adjacent to Metro should be oriented to the station and connected to it by adequate pedestrian pathways.
- Development on parcels facing Gallows Road should provide for rights-of-way.
- An east-west connector road linking Merrilee Drive to Hartland Road should be provided and adequately streetscaped.
- Substantial land consolidation must occur between parcels in this tract.

Tract G

The parcels designated as G1, totalling 17 acres, could be developed to a maximum of 911,819 sf. The remaining 13 acres, designated as G2, should be developed to a density consistent with existing adjacent uses. To be considered for the maximum levels of development all 15 of the general development criteria must be met as well as the following site specific criteria:

- Development on parcels closest to the station should be oriented to the Metro and provided with pedestrian access to the station.
- Development on parcels fronting on Prosperity Avenue extended should provide adequate rights-of-ways and streetscape. Improved pedestrian connections across Prosperity Avenue should be developed.
- Adequate pedestrian connections at, above or below grade between the parcels in the southern portion of G1 and the station should be provided.
- Substantial consolidation must occur between parcels in thls tract.
- Coordinated parking with WMATA as well as shared and joint parking opportunities should be explored.

Tract H

A portion of the Long Branch Environmental Quality Corridor (EQC) is included in Tract H and should be maintained and protected as an EQC. The remaining portion of this tract contains the Prosperity Business Campus. Development uses and levels should be consistent with existing uses. Pedestrian access between Tract H and adjacent parcels in Tract G and the residential community on the west should also be coordinated and developed. If additional parking is required within Tract H, structured parking should be explored.

Alternative Levels of Development

Should the developer not satisfy applicable development criteria, the maximum intensities of the Plan may be reduced to an intermediate level which could be achieved. The identified intermediate level will be the midpoint between its base level and recommended maximum level of development.

To reach the intermediate level of development, the developer would still have to meet all site specific conditions, criteria 1 through 10 of the general development criteria, and one-half of the remaining general development criteria. For any proposed development beyond the base level, County staff has the discretion to set criteria priorities for evaluation purposes. This allows flexibility in the planning process.

Urban Design Concept

The use of urban design within the Transit Development Area ensures that Metro-related development is internally organized to provide important community spaces based upon transit and pedestrian activities. The use of urban design also results in positive impacts for both the residential and business communities, since it attracts and encourages development and redevelopment while reinforcing conservation of stable residential areas. This section provides guidelines for the urban design concept plan for the Dunn Loring Metro Station Area. These guidelines, along with the land use plan, will help achieve the goals and objectives identified for the station area.

Building Heights

To reduce the visual impact of new development upon the surrounding community while providing a strong physical image for the Dunn Loring Metro Station Area, the development building heights should not exceed those as shown in Figure 5. A maximum height of 144 feet applies to the portions of Tracts F and G near the station eligible for a 1.25 FAR; and to the commercial component of Tract B located in the northern portion of the tract and to the parcels within that tract fronting Gallows Road. Eighty-four feet is the height limit elsewhere in Tract B. Tract C has a height limit of four stories. The portion of Tract E north of the new east-west connector road is limited to 84 feet while the height limit south of the new road is 96 feet. Ninety-six feet is the height limit for the remaining portions of Tracts F and G. To be considered for the maximum height limits, all general criteria must be satisfied with particular emphasis placed on site plan and architectural design excellence. These heights reinforce the Metro station as the focal point for activity by providing a strong identity for the community yet cluster away from nearby existing residential areas. New development adjacent to existing neighborhoods should be stepped back from the residential areas as appropriate.

Pedestrian Circulation

Improvements in the pedestrian circulation system shown in Figure 6 are needed throughout the Transit Development Area to facilitate access to the Metro station and to new development. In addition to the functional benefits, such improvements can also upgrade the appearance of the area and create a sense of identity and strong pedestrian organization throughout the community.

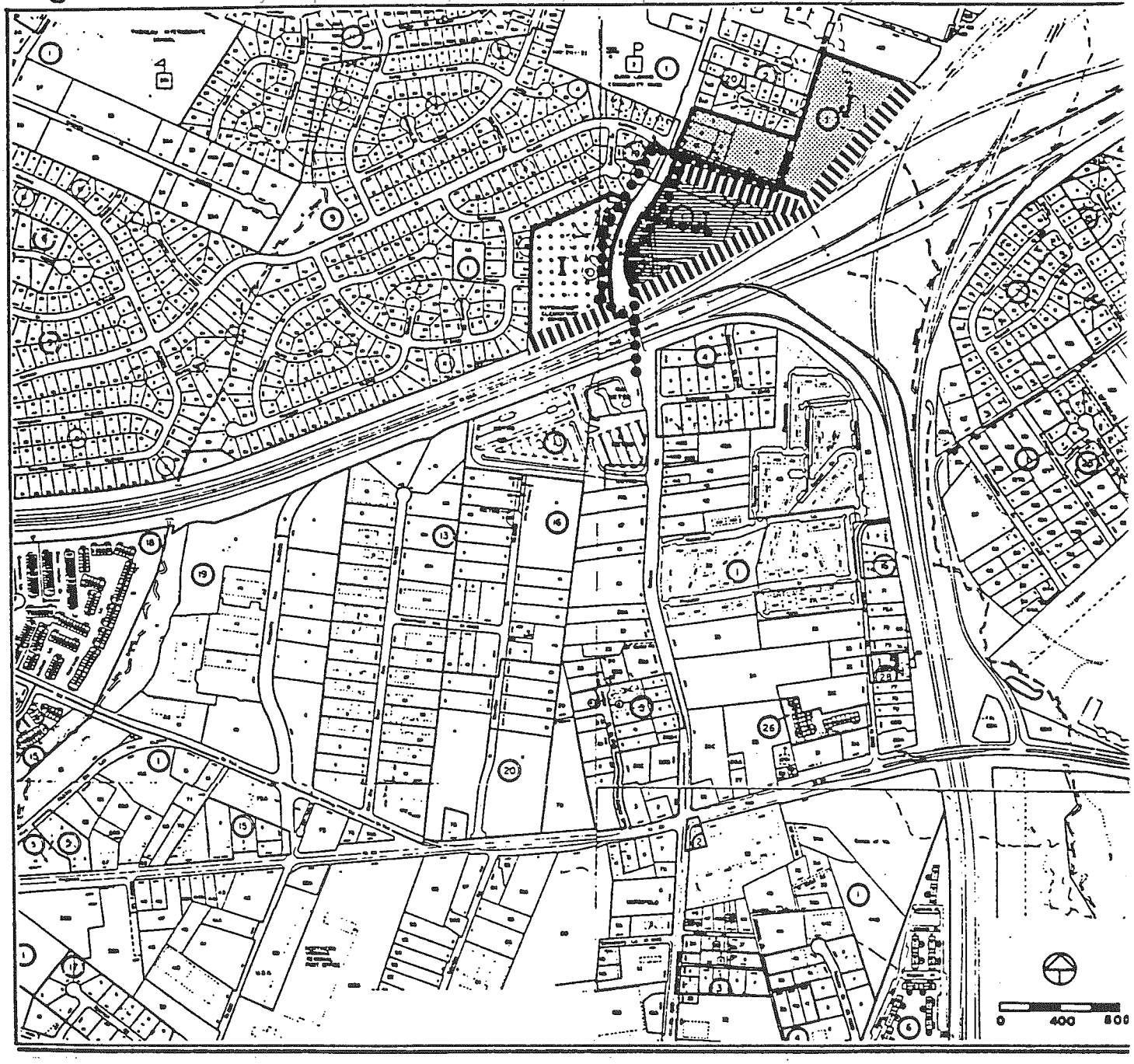
For the entire area, a pedestrian circulation and streetscape system will provide an interconnected system of landscaped walkways linking pedestrians to their destinations. This system proposes new pedestrian routes, improves existing pedestrian facilities, interparcel access, and provides streetscape, that is, special physical treatments (landscaping, lighting and street furniture) to enhance the pedestrian experience. Bicycle trails should be provided where appropriate. The decision regarding specific bicycle routes should be made in association with each community. Throughout the station area, new sidewalks and sidewalk improvements should be constructed to facilitate access between the Metro station, new development, and existing neighborhoods. In addition, these improvements around the immediate station area should be linked to existing pedestrian systems outside the area.

Open Space and Landscaped Buffers

Figure 7 shows where open space and landscaped buffer areas should be located in order to mitigate the impact of new development and improve the appearance of the area. Landscaped buffer areas -- strips of land that are intensely planted with trees and shrubs and which may include berms -- are generally recommended on parcels which abut existing residential development.

LAND USE PLAN OUTSIDE THE TRANSIT DEVELOPMENT AREA

Tracts I and J lie outside the Transit Development Area but are within the station area. (See Figure 1.) Tract I contains the Stenwood School and is regarded as stable and protected under its existing use. Tract J north of Cottage Street has some portions which are vacant. Infill development should occur in these tracts at a maximum density of 3-4 dwelling units per acre and within environmental constraints. The area south of Cottage Street in Tract J may be considered for redevelopment at 5-8 du/ac if County policies on neighborhood consolidation are met. In order to be considered for the maximum density allowed by the Plan, exceptional urban design must be provided. Both the Stenwood School and those residential areas immediately north of the station should be protected and buffered from possible adverse impacts. These areas should also have adequate pedestrian linkages to the station. Figure 8 illustrates the land use plan for Tracts I and J. Noise barriers should be provided on the north side of Interstate 66 and the west side of Route 495, starting at the western edge of the Stenwood School property and continuing east and north along Tracts I and J.



DUNN LORING METRO STATION AREA

LAND USE FOR THE STATION AREA

OUTSIDE THE TRANSIT DEVELOPMENT AREA

- TRACT BOUNDARY
- RESIDENTIAL 3-4 DU/AC
- RESIDENTIAL 5-8 DU/AC
- INSTITUTIONAL
- PEDESTRIAN CIRCULATION AND STREETSCAPE
- BUFFERS AND TRANSITIONS

TRANSPORTATION PLAN

The land use Plan in the Dunn Loring Station Area seeks to encourage interdependent relationships between land uses that will reduce automobile dependency and encourage transit use. As such, it is anticipated that changes in trip modes should occur in the vicinity of the Dunn Loring Metro Station due to the availability and convenience of Metro and other transit service as well as the complementary nature of adjacent land uses.

The transportation plan includes:

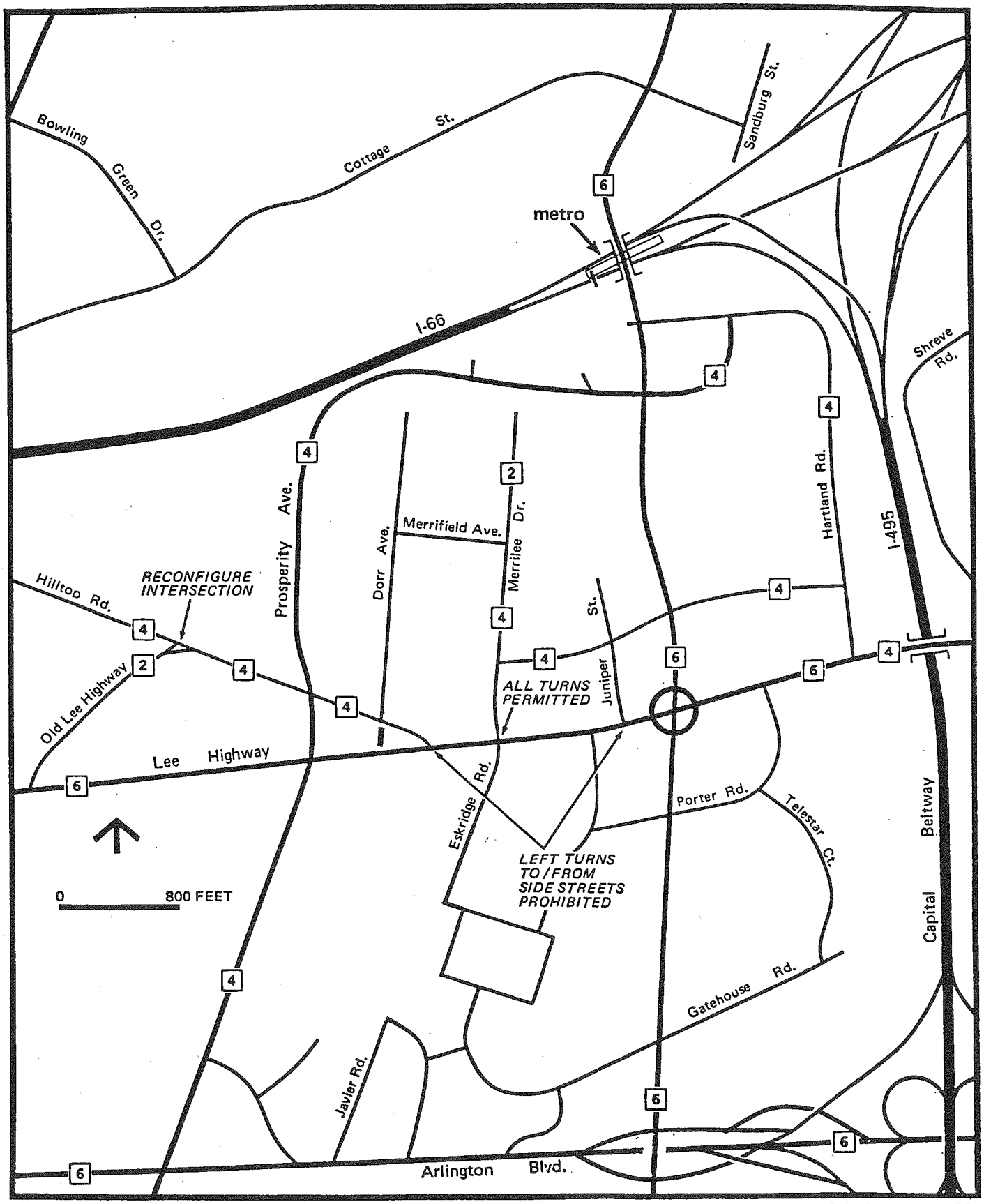
- road improvements,
- public transit improvements,
- non-motorized facility improvements, and
- Transportation Systems Management strategies, which may include but are not limited to:
  - -aggressive ridesharing programs,
  - -careful bus transit planning and promotion,
  - -development and implementation of parking management strategies, and
  - -provision of comprehensive non-motorized connections.
- implementation and phasing of transportation improvements to land use phasing;

In addition, key concerns in carrying out this Plan are discussed in the following section on implementation.

Roadway Network for The Plan

The following roadway improvements for the Dunn Loring Metro Station Area are designed for Level of Service D.

The lane configurations throughout the station area are displayed in Figures 9 and 10 and highlighted in the following discussion. Any increase in development which is not accompanied by the appropriate transportation improvements will only serve to exacerbate traffic problems in the station vicinity. Accordingly, further development shall be phased with appropriate transportation improvements in order to assure a balanced roadway network consistent with achieving Level of Service D in the long-term and not exacerbating overall existing conditions in the short-term. If Transportation System Managment techniques are utilized to affect the development density, intensities related to TSM success shall be subject to phasing as described in the section entitled Transportation Systems Management Strategies of this Plan. In addition, traffic in the Dunn Loring Metro Station Area should be encouraged to travel on arterial



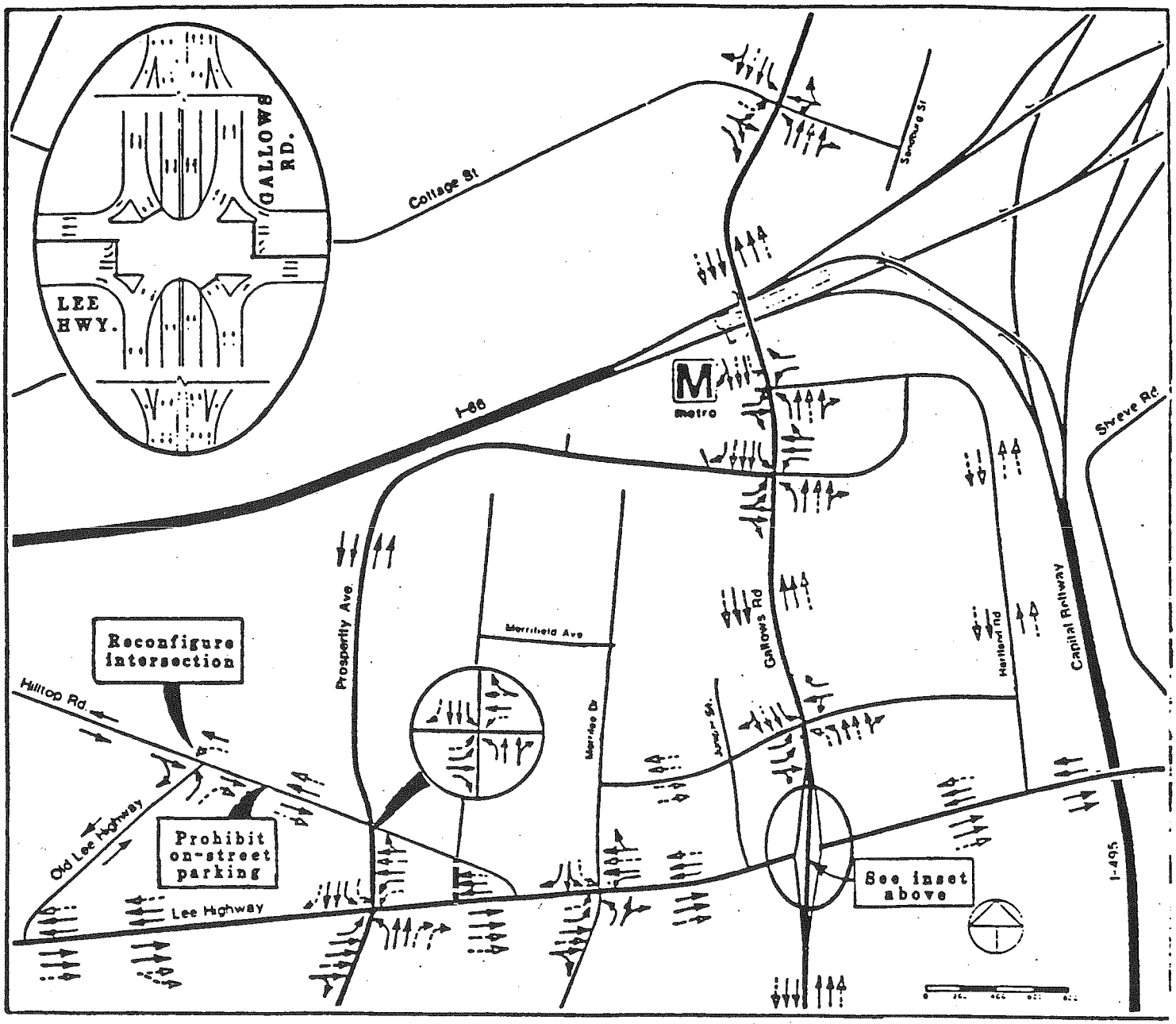
ROADWAY NETWORK

GREATER MERRIFIELD AREA

6 NUMBER OF THRU LANES

GRADE SEPARATED INTERCHANGE

Figure 10



ROADWAY IMPROVEMENTS

DUNN LORING METRO STATION AREA

——→ — EXISTING OR PROGRAMMED LANE

– – ▷ — ADDITIONAL REQUIRED LANE

NOTE: The required lane configurations shown are for planning purposes only and therefore should not be considered in and of themselves as a final recommendation regarding the actual design and construction of roadway improvements in this area. Refer to text for more discussion.

roadways and discouraged from traveling on residential and neighborhood collector streets. Finally, to expedite roadway construction, whenever possible, the County should seek rights-of-way for roadway improvements during the planning process. Subsequent detailed engineering studies for each road may indicate additional or other appropriate improvements which may be necessary in order to ensure the safety of motorists as well as an adequate level of service on each roadway.

Gallows Road. Traffic generated by development with access to/from Gallows Road requires widening of this roadway to six lanes from Route 50 to Tyson's Corner. To obtain smooth and efficient traffic flow, the number of access points should be minimized especially for the section between Route 50 and Lee Highway. Access to Tract B from southbound Gallows Road should be required as Prosperity Avenue and at the Metro kiss and ride entrance. This is needed because of inadequate left turn storage distance at Prosperity Avenue.

At the intersection of Gallows Road and Lee Highway, a grade separated interchange is recommended. Based on traffic forecasts and consideration of potential issues, the most appropriate configuration appears to be a single point diamond (also termed an urban diamond) with Gallows Road as the through street. Given the significant access and right-of-way issues the exact configuration cannot be determined until a detailed design process is undertaken.

Lee Highway. The Plan requires widening Lee Highway to six lanes, from Nutley Street to Hartland Road. The number of access points should be minimizad to obtain smooth and efficient traffic flow. An auxiliary lane is also required on an eastbound section of Lee Highway between Prosperity Avenue and Merrilee Drive to accommodate heavy traffic flows in the morning peak hour. Multiple turning lanes are required to achieve Level of Service D at the intersections of Lee Highway and Prosperity Avenue and Lee Highway with Merrilee Drive.

Prosperity Avenue. The programmed widening and extension of this roadway will generally be sufficient. Additional turning lanes at the intersections with Lee Highway, Hilltop Road, and Gallows Road will be required to achieve an adequate Level of Service D. Parcels on Tracts F and G, should be provided access to/from Prosperity Avenue at a minimum number of points.

Hilltop Road. Increased traffic volumes on Hilltop Road require the provision of four lanes between Old Lee Highway and Dorr Avenue. For the most part, these improvements can be accomplished by prohibiting on-street parking along Hilltop Road.

The intersection of Hilltop Road and Old Lee Highway is currently characterized by confusing geometrics on the eastbound approach of Hilltop Road. In the future, the heaviest approach volumes will be on Hilltop Road. If cut-through traffic along Cottage Street which is bound for the station area is to be kept to a minimum, then improvements at the Hilltop Road/Old Lee Highway intersection are

needed. This would not only improve the operation of the intersection, but also improve safety, is a reconfiguration of Hilltop Road at Dorr Avenue. Hilltop Road would end at an improved Dorr Avenue intersection and Dorr Avenue would be extended to Lee Highway.

Cottage Street. With the amount of traffic generated by development in the Plan, Cottage Street has the potential to carry heavy volumes even with the adequate improvements at other locations. It is classified as a collector street. Given the residential character of the street measures may be necessary to discourage the use of Cottage Street by cut-through traffic. An additional eastbound left turn from Cottage Street is recommended. This improvement is not intended to increase capacity on Cottage Street, but rather maintain existing capacity.

East-West Collector Road. This roadway is recommended to improve access and circulation in the station area. Final location will depend upon redevelopment in the station area.

Hartland Road. If it is recommended that Hartland Road be improved and extended, it should be a four-lane collector road to Gallows Road. This improvement will provide a second point of access for Tracts B, C, D and E. This extension requires substantial financial contributions as well as potential rights-of-way from the owners of Tracts B, D and E. If at the time of development of these tracts it is determined that the extension of Hartland Road is not in the best interest of the County, provision will be made via right-of-way dedication and financial contribution for the future extension and connection of Hartland Road.

Merrilee Drive. This street is not to be extended to an intersection with Prosperity Avenue.

Public Transit Improvements

The County should consider replacing or supplementing the WMATA provided feeder bus service for the Orange Line. Assuming that the current County operated bus service at Huntington proves financially desirable, the County should give the Orange Line Metro stations its highest priority for new service. The County should concentrate its bus service in close-in residential areas which can be more efficiently served by bus and leave the longer distance trips to come by auto, carpool, and WMATA or privately operated buses. A transit strategy that emphasizes local service should reduce auto travel on local streets.

Consideration should be given to providing peak period shuttle bus service from the residential areas adjacent to the station as well as to the commercial and institutional developments along Gallows Road.

Non-motorized Facility Improvements

For walk trips, good access requires a sidewalk system which conveniently serves existing and future development and allows

adequate protection for pedestrian crossing at intersections. This system should provide non-circuitous routes which are safe, convenient, and pleasurable to travel to ensure that the maximum potential of the walk mode of access is achieved. Walkways should be surfaced, lighted and open to pedestrian traffic during times when the station is open. Direct and safe connections should be provided between existing trails and the Dunn Loring Station Area through the use of well designed and clearly marked trails.

Vehicular traffic in the Dunn Loring Metro Station Area may affect pedestrian safety. When appropriate, improvements such as pedestrian crosswalks, pedestrian signals, pedestrian overpasses, particularly crossing Gallows Road at the station entrance, and pedestrian refuge islands should be provided.

Public Facilities

Public facilities projects may be needed to improve pedestrian access to the Metro station, improve the appearance of the area, and provide recreation facilities. These should include the following:

- Development of a streetscape program which emphasizes the presence of the Metro transit area, and provide an inviting pedestrian environment.

- Construction of sidewalk improvements to ensure a safe and pleasant pedestrian environment in walking to and from the Metro station.

Transportation Systems Management Strategies

Transportation management strategies should be used to the maximum extent to mitigate transportation impacts of development. These strategies should make maximum use of the Transportation Systems Management opportunities afforded by the Metro Station. Where Transportation Systems Managment strategies are relied upon in conjuction with specific projects to achieve acceptable traffic levels, developers shall provide acceptable Transportation Systems Management strategies, with performance standards and measures, commensurate with traffic reduction assumptions used to evaluate the impact of the project. If overall Transportation Systems Management measures are required, development shall be phased so as to demonstrate the Transportation Systems Managment effectiveness.

Development shall be phased such that the development intensity which is dependent upon the success of Transportation Systems Management measures shall not be approved until such time as Transportation Systems Management measures are demonstrated effective for the earlier phase. Transportation Systems Management strategies, especially those which encourage the use of Metrorail and buses, as well as carpools and vanpools, should be coordinated among land owners throughout the Greater Merrifield Area.

Strategies which may be used to mitigate traffic impacts may include but are not be limited to the following:

- Transportation Coordination Programs:

  -employee surveys to determine employee needs;

  -coordination with the County RIDESOURCES program for carpool/vanpool matching services; and

  -establishment of goals for future Transportation Systems Management strategies.

- Transit Promotion Programs:

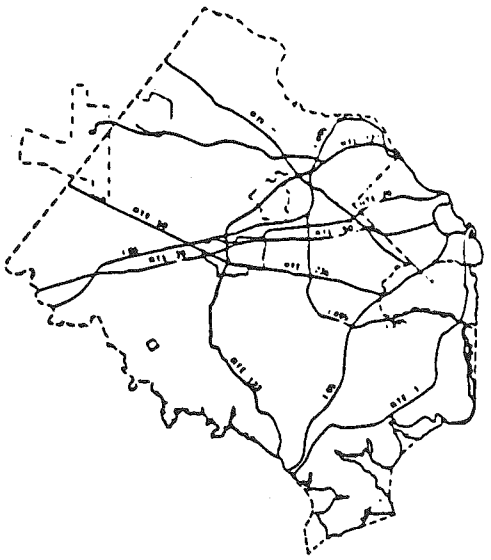
  -transit pass discount programs;

  -subscription bus service;

  -distribution of Metrobus/County bus schedules and routes; and

  -provision for use of at-work transportation for mid-day travel.

AMENDMENT NO. 86-A-19-



AN AMENDMENT TO

THE COMPREHENSIVE PLAN FOR FAIRFAX COUNTY, VIRGINIA 1986 EDITION

GENERAL LOCATION Springfield Bypass Corridor

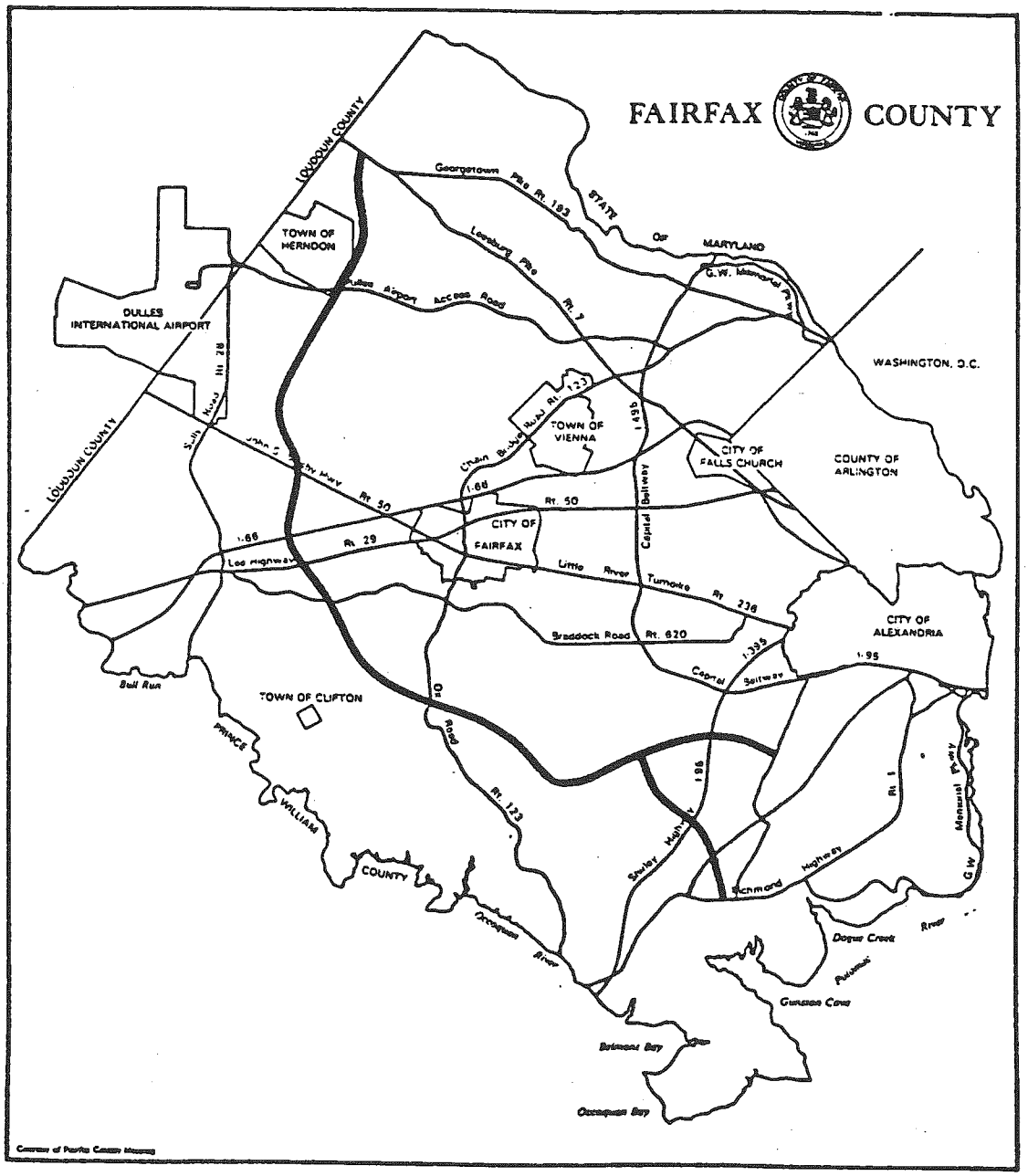
PARCEL LOCATION

PLANNING AREA AND DISTRICT Mt. Vernon, Springfield

SUPERVISOR DISTRICT Dranesville, Centreville, Lee

ADOPTED September 14, 1987 ITEM NO. S87-CW-T1

FOR ADDITIONAL INFORMATION CALL 691-3352



Amendment No. 86-A-19
Adopted Sept. 14, 1987

ADD: Page 446, Countywide Roadway Recommendations, a new bullet:

o Springfield Bypass. The Springfield Bypass shall be constructed in accordance with the action of the Commonwealth Transportation Board on July 16, 1987. These plans include those portions of the Bypass between Rt. 7 and Rt. 50, and between Braddock Road and Rt. 1, including the spur to Beulah Street In particular, these plans shall govern the following major characteristics of the facility:

  - o location and alignment.
    number of lanes and approximate right-of-way width
  - o access control features, including the location of intersections and interchanges, the configuration of interchanges, and
  - o the realignment and/or provision of local streets to provide public street access to affected properties
  - o other particular items to be included are:

    (1) Performance of a noise study to identify specific areas needing noise attenuation. The study is to be conducted by the County and/or the State.

    (2) Noise attenuation techniques should be used for those areas deemed to be inacceptable impact areas, and when attenuation is economically feasible, irrespective of the source of construction funding and whether or not affected residential communities were included in the original Environmental Impact Statement.

    (3) Consideration for widening any roadway section from that currently designed (approved by the Commonwealth Transportation Board on July 16, 1987) should be undertaken only after all other area road improvements directly impacting the Bypass have been implemented.

    (4) Construction of a grade-separated intersection at Lawyers Road and at-grade intersection at Fox Mill Road are desired. An overpass or underpass at Pinecrest Road is also preferred.

These design plans supersede other Plan elements where conflicts may exist.

In addition to the features shown on the Commonwealth Transportation Board-approved plans, provision should be made for an interchange of the Bypass with Baron Cameron Avenue. Although traffic projections indicate that an at-grade intersection can accommodate traffic in the year 2005, it is likely that an interchange will be needed at this location in subsequent years. At such time as this interchange is constructed, the median break allowing left turns at the East-West parkway of the Reston Town Center must be closed.

Due to impacts on the local street network caused by the construction of the Springfield Bypass, two local street connections should be made:

- o Tatnuck Court should be extended to New Parkland Drive or another public street. The preferred local street pattern in this area is the extension of Tatnuck Court and New Parkland Drive to a new local street system on parcel 25 in order to minimize the length of single-ended access to Tatnuck Court. At such time as alternate public street access to Tatnuck Court is available, the temporary connections of Coronation Drive with the Bypass should be closed.

- o Stuart Road should be extended southward to Walnut Branch Road to minimize the length of single-ended access.

Additional adjustments may occur during the process of final design, especially with regard to phasing of construction and such auxilliary features as landscaping, noise walls, and buffering. These issues should be resolved through the normal process of project development rather than through the comprehensive planning process. This Plan is not intended to preclude the construction of fewer lanes or at-grade intersections on an interim basis.

MODIFY: The Area Plan maps and the Countywide Plan map to show the location of the Bypass, the designation of interchanges, and the provision and/or realignment of local streets, in accordance with the action of the Commonwealth Transportation Board and shown approximately on Exhibit III.

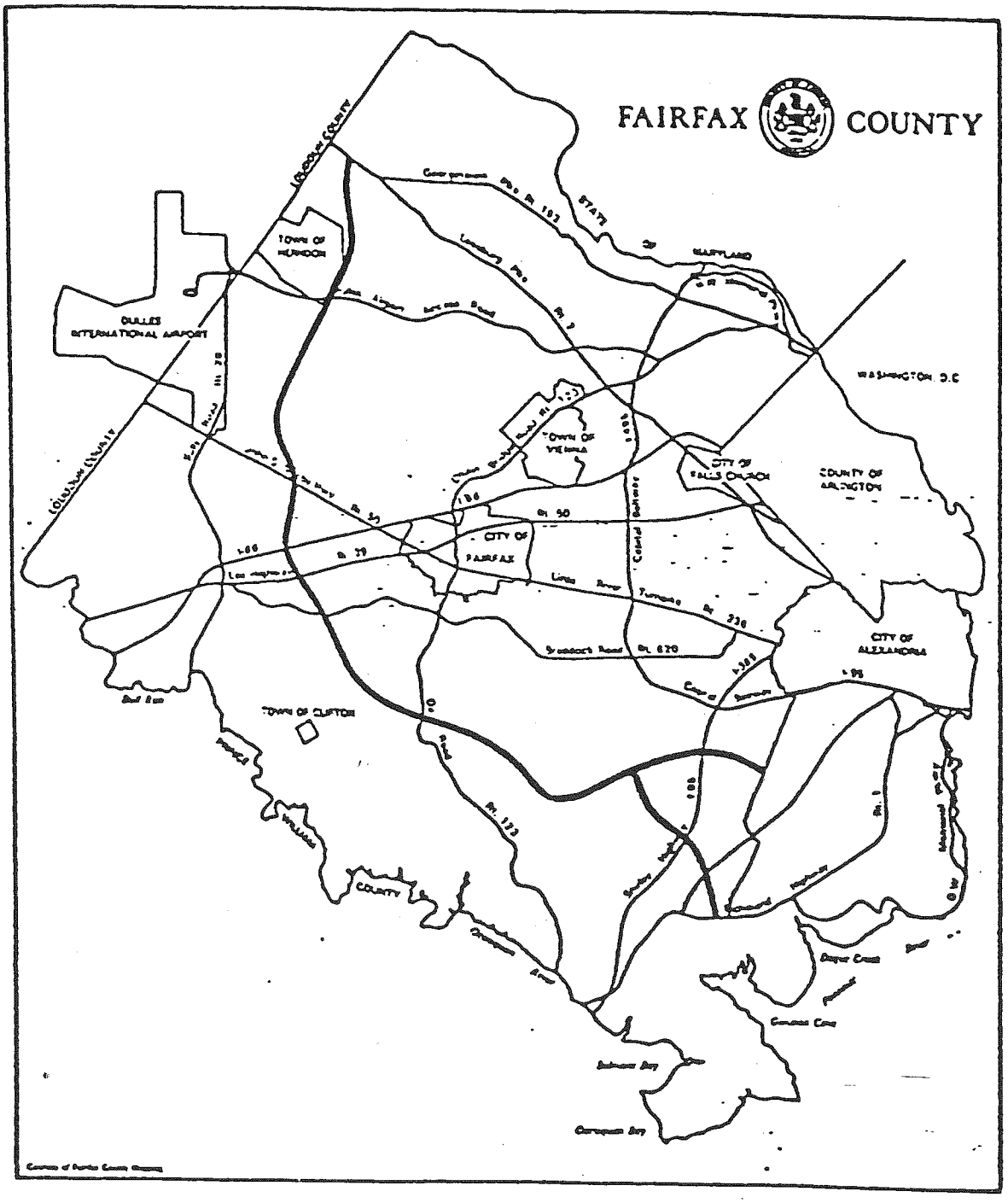
MODIFY: The Area Plan maps and the Countywide Plan map to show an interchange of the Bypass with Baron Cameron Avenue

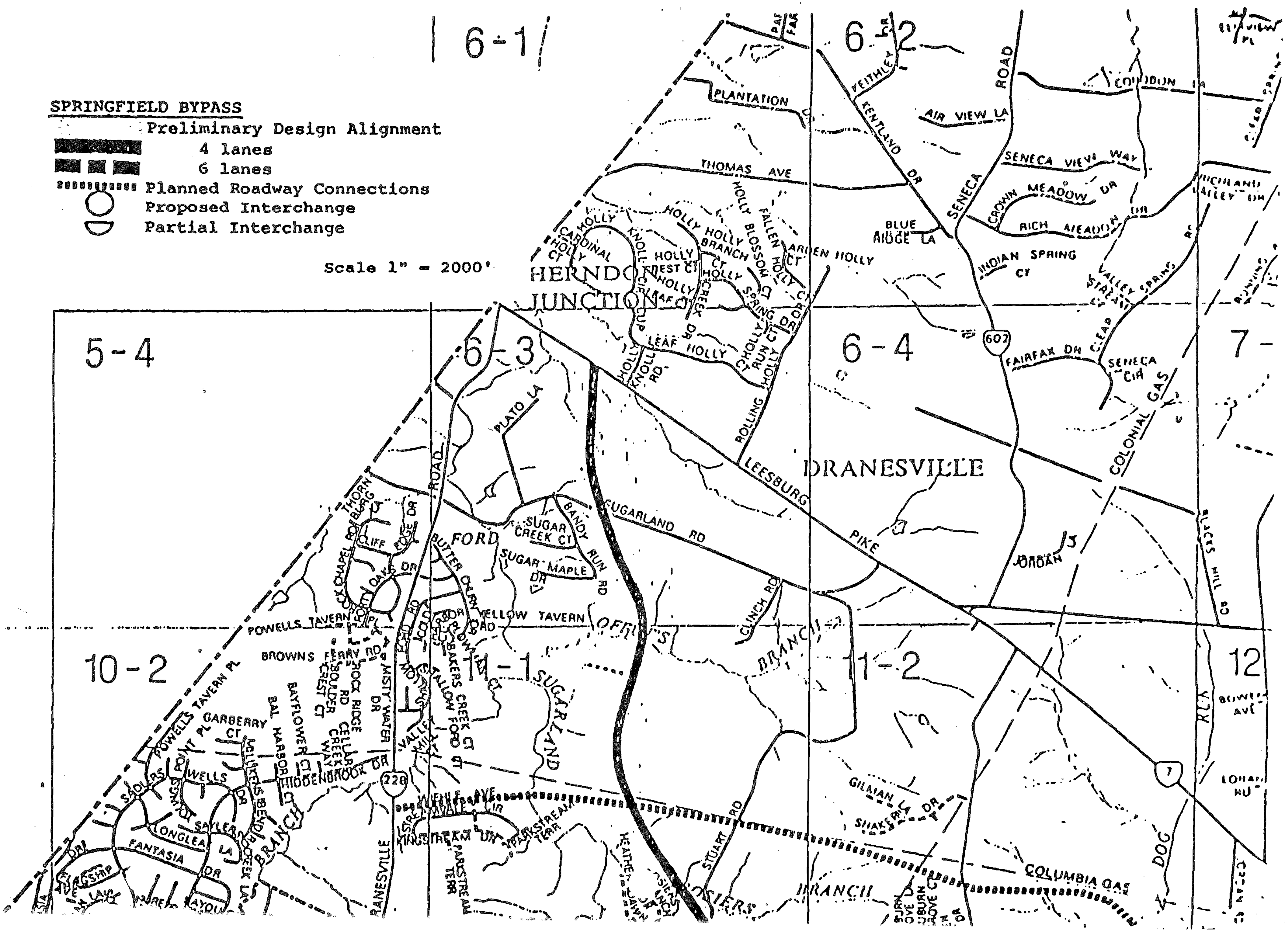
MODIFY: The Area Plan maps and the Countywide Plan map to show a local street connection and between Stuart Road and Walnut Branch Road and between Tatnuck Court and New Parkland Drive as shown approximately on pages 2 and 3 or Exhibit III, respectively.

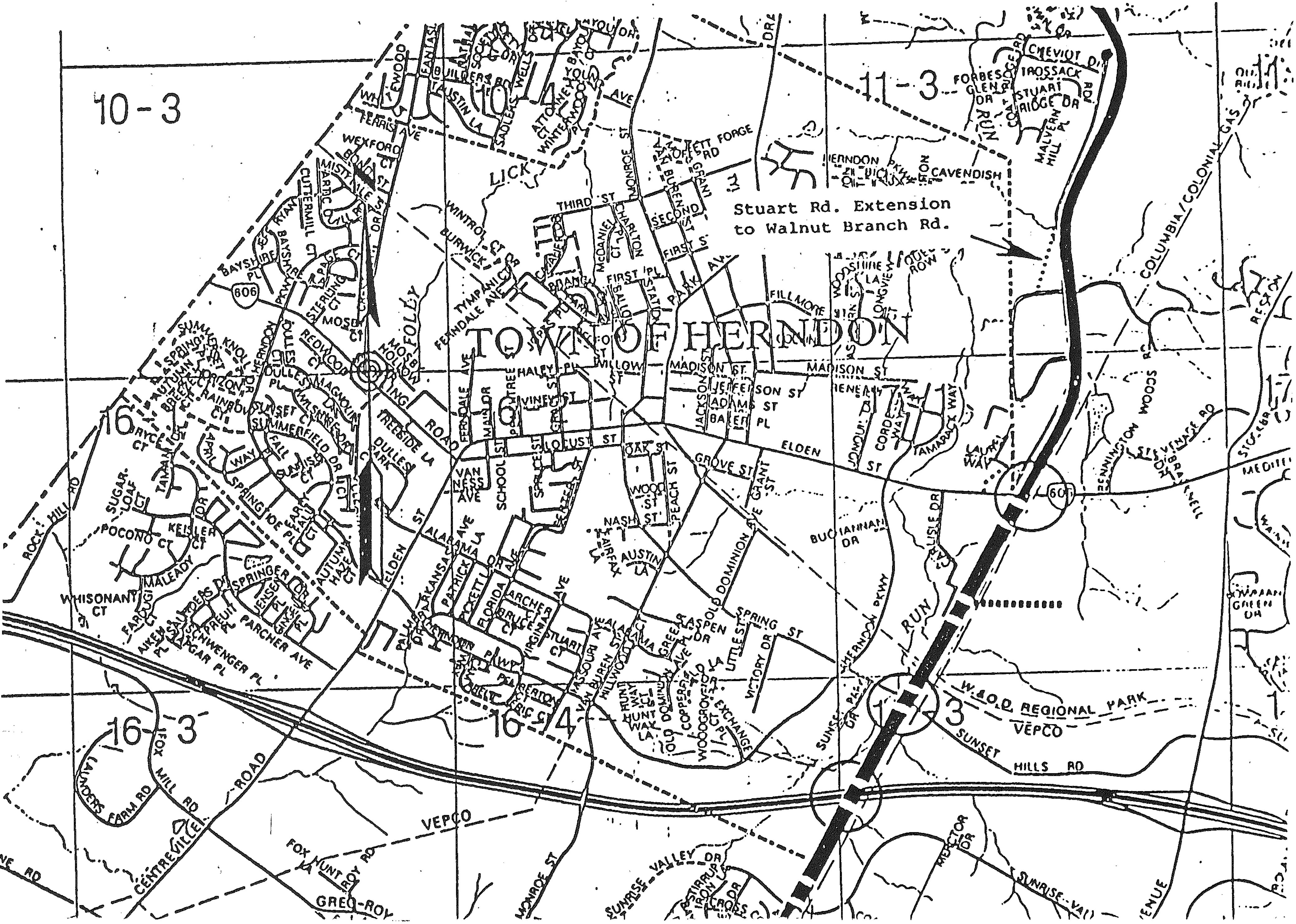
MODIFY: The Area Plan maps and the Countywide Plan map to show grade separations of the Bypass, with no direct access, at Pinecrest Road and Clara Barton Drive.

MODIFY: The Area Plan and the Countywide Plan to preserve to the best extent possible, the existing tree buffer to the west of the existing creek located east of Pinecrest View Court.

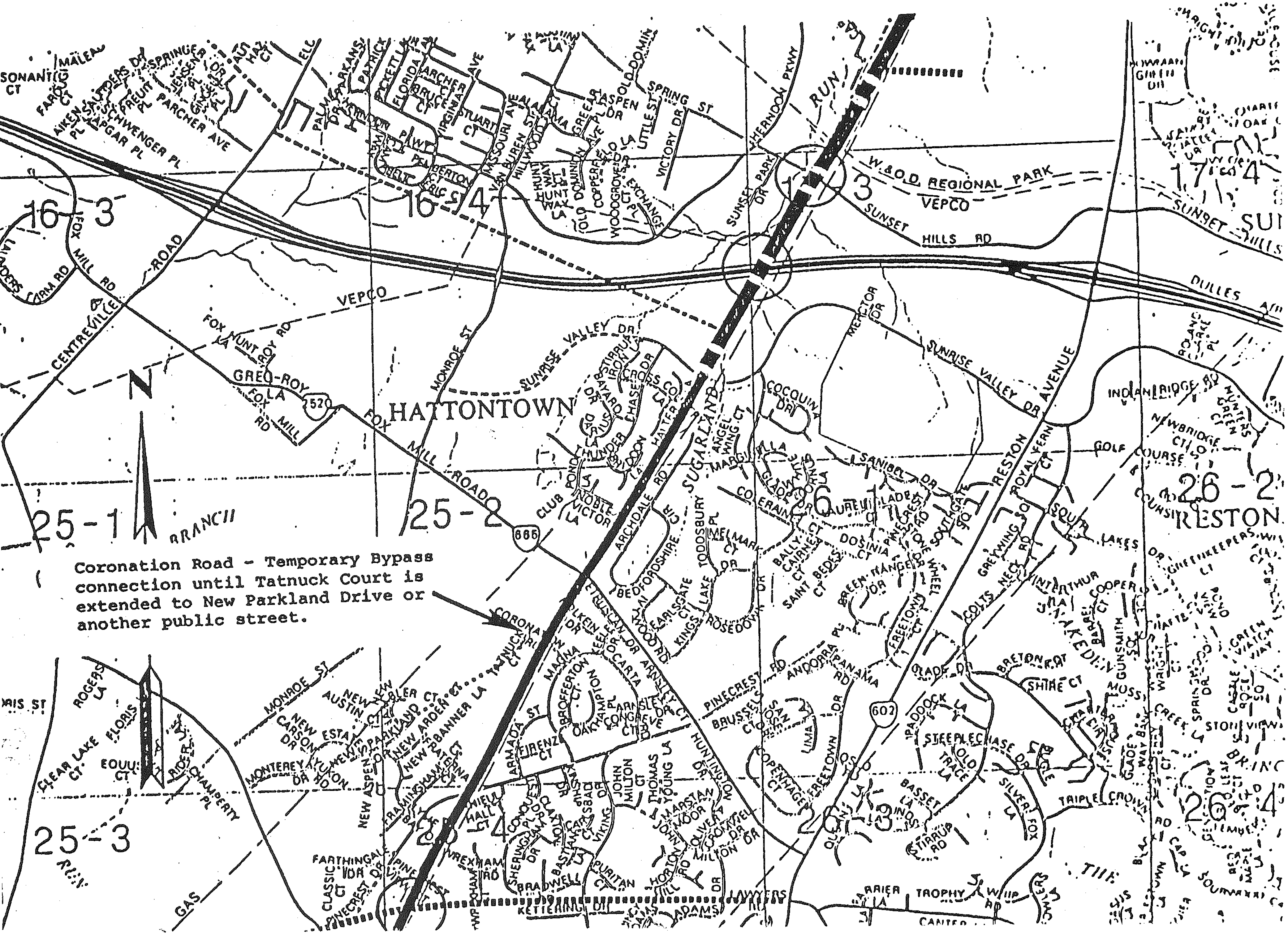
SPRINGFIELD -- BYPASS



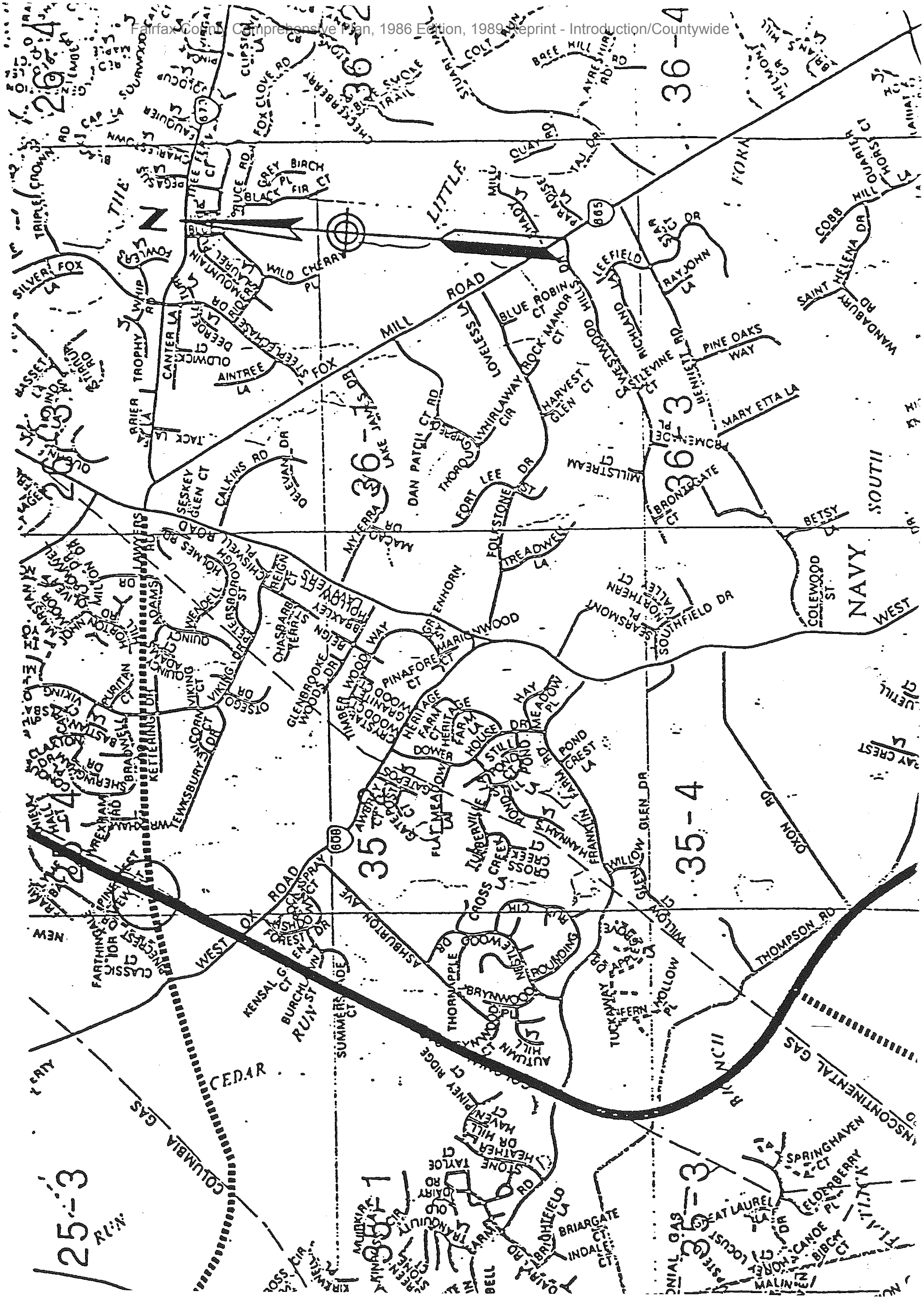

SPRINGFIELD BYPASS
Preliminary Design Alignment
4 lanes
6 lanes
Planned Roadway Connections
Proposed Interchange
Partial Interchange
Scale 1" = 2000'
6-1
6-2
5-4
6-3
6-4
7-
10-2
11-1
11-2
12
HERNDON JUNCTION
DRANESVILLE
FORD
PLANTATION
THOMAS AVE
AIR VIEW LA
SENECA VIEW WAY
SENECA ROAD
CROWN MEADOW DR
RICH MEADOW DR
INDIAN SPRING CT
BLUE RIDGE LA
ARDEN HOLLY
LEAF HOLLY
ROLLING HOLLY
FAIRFAX DR
SENECA CIR
COLONIAL GAS
LEESBURG PIKE
SUGARLAND RD
PLATO LA
SUGAR CREEK CT
SUGAR MAPLE DR
BANDY RUN RD
CLINCH RD
JORDAN
POWELLS TAVERN PL
YELLOW TAVERN
BROWNS FERRY RD
HIDDENBROOK DR
GARBERRY CT
BAL HARBOR CT
BAYFLOWER CT
ROCK RIDGE RD
MISTY WATER DR
BAKERS CREEK CT
FALLOW FORD CT
LONGLEAF LA
FANTASIA DR
FLAGSHIP
DRANESVILLE ROAD
228
602
7
PARKSTREAM TERR
STUART RD
GILMAN LA
SHAKER DR
COLUMBIA GAS
DOG
BRANCH
SUGARLAND

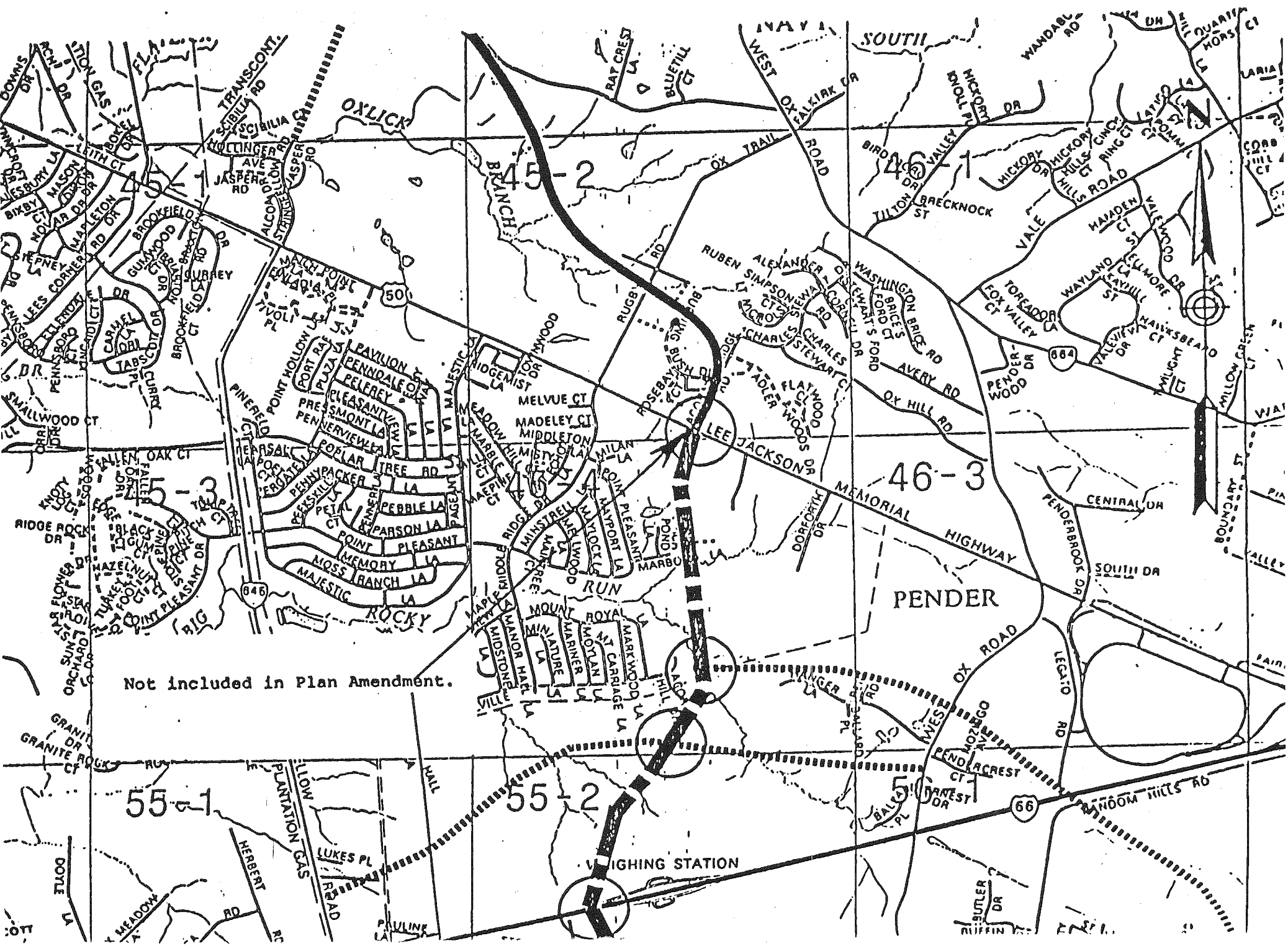


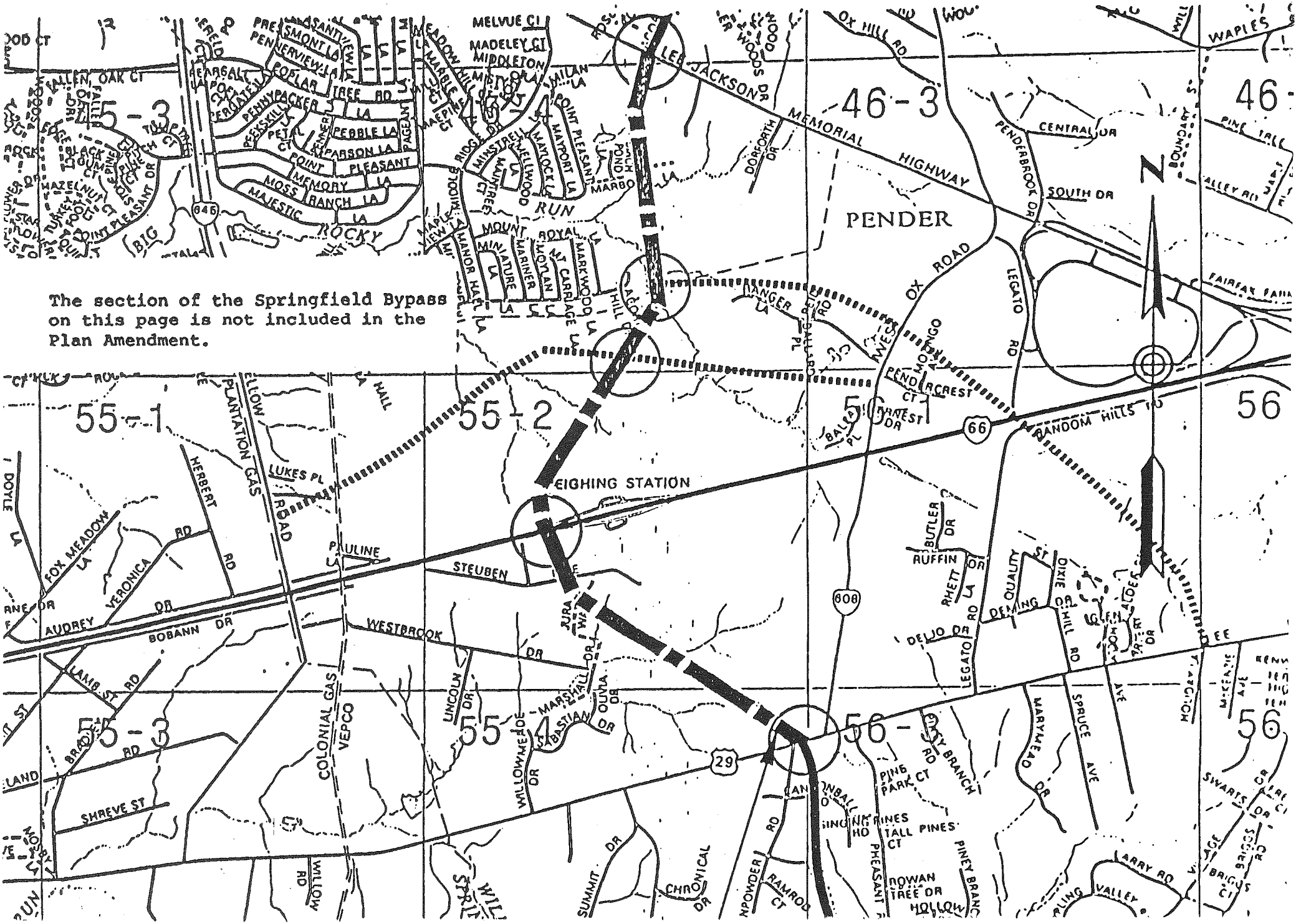
10 - 3
11 - 3
16 - 3
TOWN OF HERNDON
Stuart Rd. Extension
to Walnut Branch Rd.
CHEVIOT DR
TROSSACK RD
FORBES GLEN DR
STUART RIDGE DR
MALVERN HILL PL
CAVENDISH
HERNDON PKWY
COLUMBIA/COLONIAL GAS
THIRD ST
SECOND ST
FIRST ST
MONROE ST
CHARLTON
McDANIEL CT
FIRST PL
FILLMORE
PARK AVE
WEXFORD CT
FERRIS AVE
LICK
BAYSHIRE PL
606
SUMMERFIELD DR
DULLES PARK
TREESIDE LA
ELDEN ST
MADISON ST
JEFFERSON ST
ADAMS ST
BAKER PL
JACKSON ST
HALEY PL
VINEY ST
LOCUST ST
OAK ST
GROVE ST
WOOD ST
NASH ST
PEACH ST
GRANT ST
SCHOOL ST
VAN NESS AVE
ALABAMA AVE
ARKANSAS AVE
PATRICK LA
FLORIDA AVE
ARCHER CT
BRUCE CT
VIRGINIA AVE
STUART CT
MISSOURI AVE
VAN BUREN ST
FAIRFAX LA
AUSTIN LA
OLD DOMINION DR
ASPEN DR
SPRING ST
LITTLE ST
VICTORY DR
EXCHANGE PL
HERNDON PKWY
BUCHANNAN DR
CARLISLE DR
TAMARACK WAY
LAUREL WAY
BENNINGTON WOODS RD
STEVENAGE RD
RUN
W.&O.D. REGIONAL PARK
VEPCO
SUNSET HILLS RD
ROCK HILL RD
SUGARLOAF CT
POCONO CT
KEISLER CT
MALEADY CT
WHISONANT CT
SPRINGER DR
PARCHER AVE
SCHWENGER PL
APGAR PL
AIKEN PL
LAUNDERS FARM RD
FOX MILL RD
CENTREVILLE ROAD
FOX HUNT LA
GREG-ROY
SUNRISE VALLEY DR
MONROE ST
RECTOR DR
SUNRISE VALLEY

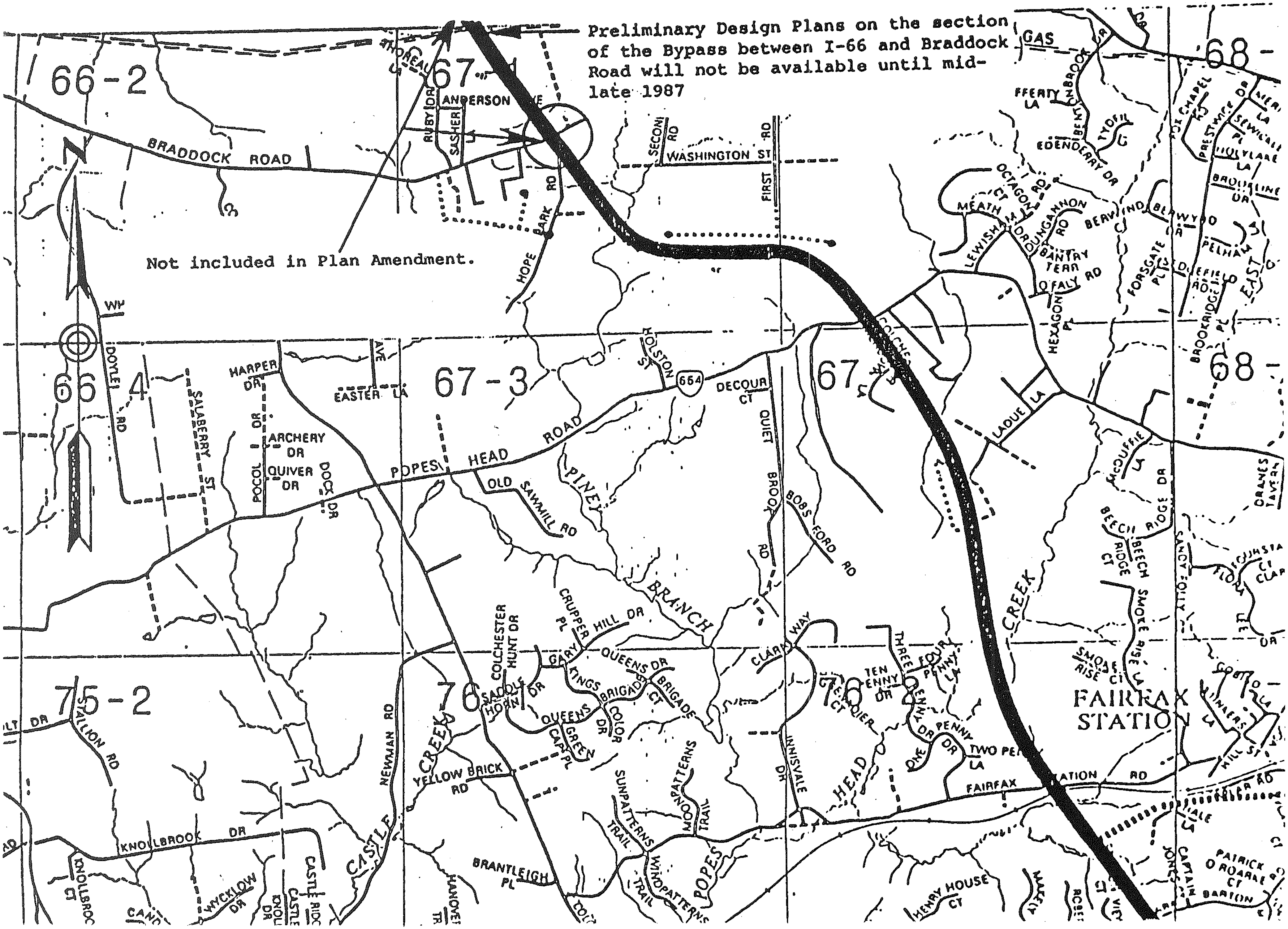


Coronation Road - Temporary Bypass connection until Tatnuck Court is extended to New Parkland Drive or another public street.
HATTONTOWN
RESTON
N
16-3
16-4
17-4
25-1
25-2
25-3
26-1
26-2
26-3
26-4
W.&O.D. REGIONAL PARK
VEPCO
SUNSET HILLS RD
DULLES
CENTREVILLE ROAD
FOX MILL RD
FOX MILL ROAD
SUNRISE VALLEY DR
SUGARLAND RD
RESTON AVENUE
MONROE ST
LAWYERS RD
HERNDON PKWY
PINECREST RD
GLADE DR
SOUTH LAKES DR
CORONATION
TATNUCK CT
FREETOWN DR
520
666
602


FOX MILL ROAD
WEST OX ROAD
LAWYERS ROAD
LITTLE
SOUTH
NAVY
WEST
CEDAR
RUN
COLUMBIA GAS
TRANSCONTINENTAL GAS
36-4
36-1
36-3
35-4
25-3
THOMPSON RD
SOUTHFIELD DR
MARIONWOOD
CALKINS RD
DELEVAN DR
FORT LEE DR
TREADWELL LA
PINE OAKS WAY
MARY ETTA LA
COBB MILL
SAINT HELENA DR
WANDABURY RD
LEEFIELD
RAYJOHN LA
BLUE ROBIN CT
LOVELESS LA
MILLSTREAM CT
COLEWOOD ST
BETSY
OXON RD
WILLOW GLEN DR
FRANKLIN FARM RD
GREY BIRCH PL
SILVER FOX LA
TRIPLE CROWN RD
QUAY RD
BREE HILL RD
FOX CLOVE RD
WILD CHERRY PL
CANTER LA
TROPHY RD
AINTREE LA
TACK LA
SESKEY GLEN CT
HOLMES RD
SEARSMONT PL
GLENBROOKE WOODS DR
DOWER HOUSE RD
KETTERING DR
ASHBURTON AVE
THORNAPPLE
AUTUMN HILL
CLASSIC CT
SPRINGHAVEN CT
ELDERBERRY
BRIARGATE


45-1
45-2
45-3
46-1
46-3
55-1
55-2
56
PENDER
Not included in Plan Amendment.
WEIGHING STATION
RUN
ROCKY
BRANCH
OXLICK
OX TRAIL
WEST OX ROAD
OX HILL ROAD
MEMORIAL HIGHWAY
SOUTH DR
PENDERBROOK DR
PENDER-WOOD DR
AVERY RD
RUBEN SIMPSON CT
WASHINGTON BRICE RD
BRICE'S FORD CT
CHARLES STEWART CT
CHARLES STEWART'S FORD
ALDER WOODS
FLAXWOOD CT
ROSEBAYSH DR
MELVUE CT
MADELEY CT
MIDDLETON
MILAN LA
POINT PLEASANT
MAYPORT LA
MAYLOCK LA
MINSTRELL LA
MEADOW HILL CT
MAPLE RIDGE DR
MAPLE HILL LA
MANOR HALL
MIDSTONE
MOUNT ROYAL
MOUNT MARINER
MOYLAN
MINIATURE
MT CARRIAGE
MARKWOOD
MARBO
POND
DOREATH DR
LEGATO RD
PENDERCREST CT
PENDERCREST DR
BALLA PL
WINDOM HILLS RD
66
50
846
864
TRANSCONT.
SCIBILIA RD
HOLCINGER AVE
JASPER RD
ALCOA DR
STRINGFELLOW RD
ELM MAPLE POINT
IVOLI PL
BROOKFIELD DR
GUNWOOD CT
SURREY
CARMEL DR
JABSCOTT PL
CURRY
PINEFIELD CT
POINT HOLLOW
FORT RAY
PLAZA
PAVILION
PENNDALE
PELEREY
PLEASANTVIEW
PRESSMONT
PENNERVIEW
POPLAR TREE RD
PEARSALL
PORTERGATE
PENNYPACKER
PEEKSKILL
PETAL CT
PEBBLE LA
PARSON LA
POINT PLEASANT
MEMORY
MOSS RANCH LA
MAJESTIC
RIDGEMIST
IVYWOOD
RUGBY
BUSH RIDGE RD
FALLEN OAK CT
SMALLWOOD CT
KNOTTY OAK CT
RIDGE ROCK DR
GRANITE DR
GRANITE ROCK CT
SUNSET ORCHARD
HAZELNUT CT
TURKEY FOOT CT
POINT PLEASANT DR
BLACK PINE CT
PINE BRANCH CT
FALLEN TREE CT
LEITH CT
BOKEE DR
MASON DR
MAPLETON DR
BIKBY CT
DOWNS DR
ARCH DR
LEES CORNER RD
PENNSBORO DR
KINGSTON CT
CARMEL RD
ELLENDALE DR
LEES CORNER
PINEY
ION GAS
FLA
WANDABLE RD
WEST OX FALKIRK DR
RAY CREST LA
BLUETILL CT
HICKORY HOLL PL
HICKORY DR
HICKORY HILLS CT
RING CT
BIRD VALLEY DR
TILTON BRECKNOCK ST
HILLS ROAD
VALE
HAYDEN CT
VALEWOOD DR
WAYLAND CT
FAYHILL ST
TORREADOR CT
FOX VALLEY CT
VALEVIEW DR
HAWKSBEARD CT
TWILIGHT CT
MILLOW CREEK CT
CENTRAL DR
BOUNDARY ST
HERBERT
LUKES PL
PLANTATION GAS
ROAD
HALL
MEADOW RD
PAULINE
BUTLER DR
MUFFIN


The section of the Springfield Bypass on this page is not included in the Plan Amendment.
55-1
55-2
55-3
55-4
46-3
56-3
PENDER
LEE JACKSON MEMORIAL HIGHWAY
OX ROAD
RANDOM HILLS RD
FUELING STATION
STEUBEN
PAULINE
WESTBROOK DR
BOBANN DR
AUDREY DR
VERONICA DR
FOX MEADOW LA
HERBERT RD
PLANTATION ROAD
LUKES PL
LAMB ST
BRADDOCK RD
SHREVE ST
COLONIAL GAS
VEPCO
WILLOWMEADOW DR
MARSHALL DR
LINCOLN DR
SUMMIT DR
CHRONICAL DR
RAMROD CT
POWDER HORN RD
PINE PARK CT
TALL PINES CT
PINEY BRANCH RD
MARYMEAD DR
SPRUCE AVE
LEGATO RD
DEMING DR
DEJO DR
RUFFIN DR
BUTLER DR
RHETT LA
OUALEY CT
DIXIE DR
HILL RD
PENDERBROOK DR
CENTRAL DR
SOUTH DR
MANGER RD
MANGER PL
WESTMINSTER CT
PENDERCREST CT
PENDERCREST DR
BALLARD PL
MELVUE CT
MADELEY CT
MIDDLETON CT
MEADOW HILL CT
MARBLE CT
MAEPINE CT
MAYPORT LA
POINT PLEASANT LA
MILLWOOD RUN
MOUNT ROYAL LA
MARKWOOD LA
MOUNT CARRIAGE LA
MOUNT MARINER LA
MINIATURE LA
MANOR HALL LA
MAPLE VIEW LA
ROCKY RUN
BIG
FALLEN OAK CT
FAIRFIELD
PENNYPACKER LA
PEEKSKILL CT
PEBBLE LA
PARSON LA
MEMORY LA
MOSS RANCH LA
MAJESTIC LA
TREE RD
POPLAR LA
PENNVIEW LA
SMONT LA
SANTIVIEW LA
MEARSALT LA
ERMADALE LA
MAZELNUT CT
BLACK PINE CT
POINT PLEASANT DR
646
OX HILL RD
WAPLES
BOUNDARY
ALLEY RD
FAIRFAX FARMS
56
56-1
29
808
66


Preliminary Design Plans on the section of the Bypass between I-66 and Braddock Road will not be available until mid-late 1987
Not included in Plan Amendment.
66-2
67-1
68-
66-4
67-3
67-4
68
75-2
76
76-2
BRADDOCK ROAD
POPES HEAD ROAD
654
FAIRFAX STATION
FAIRFAX STATION RD
WASHINGTON ST
ANDERSON
HOPE PARK RD
PINEY BRANCH
POPES HEAD CREEK
CASTLE CREEK
KNOLLBROOK DR
NEWMAN RD
YELLOW BRICK RD
CLARA WAY
QUIET BROOK RD
BOBS FORD RD
OLD SAWMILL RD
HARPER DR
EASTER LA
ARCHERY DR
QUIVER DR
DOYLE RD
SALABERRY ST
STALLION RD
BRANTLEIGH PL
HENRY HOUSE CT
BEECH RIDGE DR
SMOKE RISE LA
LEWISHAM RD
LAQUE LA
MCDUFFIE LA
CRUPPER PL
HILL DR
QUEENS DR
KINGS BRIGADE CT
SADDLE HORN DR
COLCHESTER HUNT DR
SUNPATTERNS TRAIL
MOONPATTERNS TRAIL
WINDPATTERNS TRAIL

AMENDMENT NO. 86-A-20

AN AMENDMENT TO

THE COMPREHENSIVE PLAN FOR FAIRFAX COUNTY, VIRGINIA 1986 EDITION

GENERAL LOCATION Route 28 Corridor

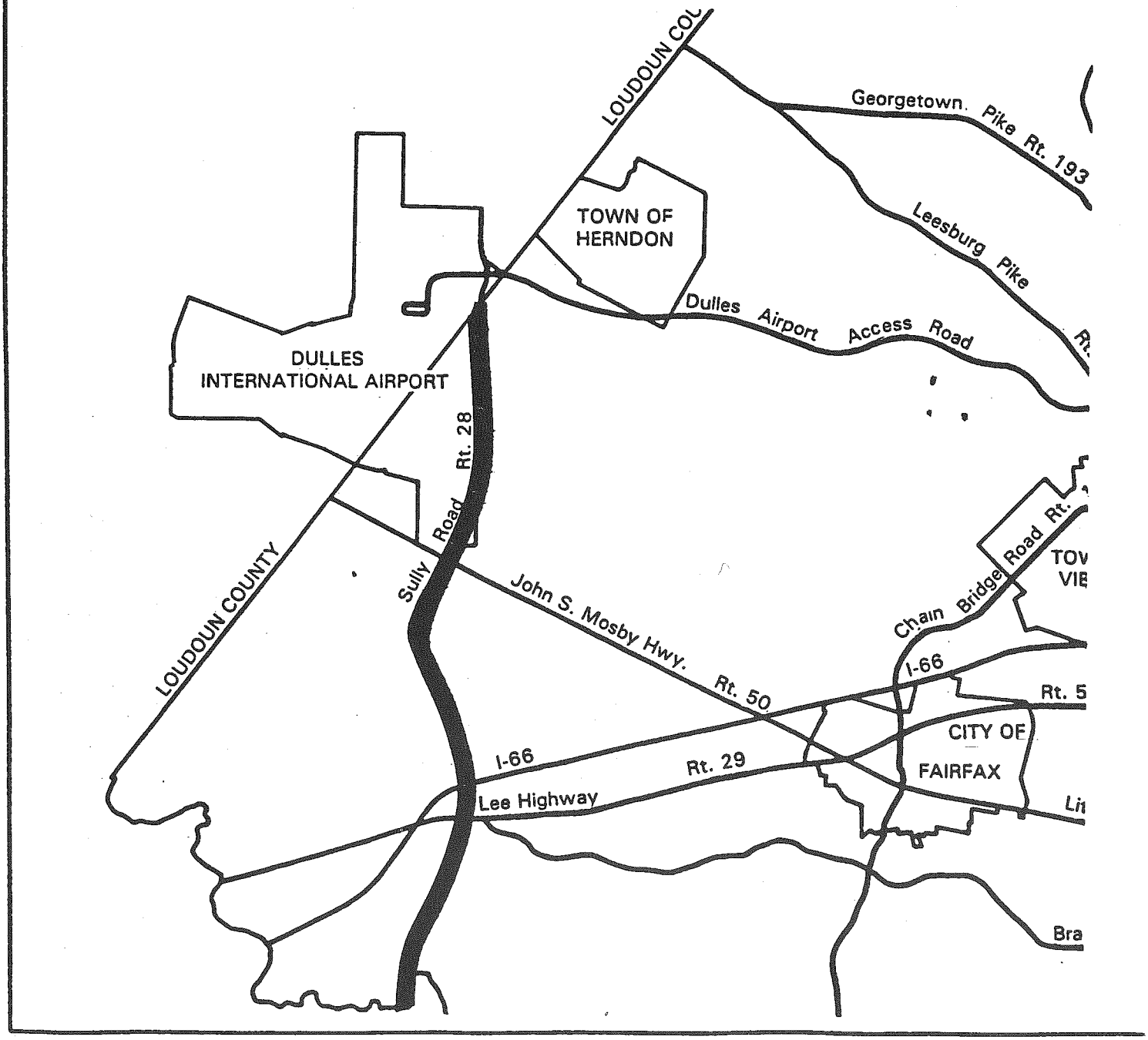
PARCEL LOCATION

PLANNING AREA AND DISTRICT

SUPERVISOR DISTRICT Centreville, Springfield

ADOPTED September 14, 1987 ITEM NO. S87-CW-T2

FOR ADDITIONAL INFORMATION CALL 691-3362



Amendment No. 86-A-20
Adopted Sept. 14, 1987

ADOPTED AMENDMENT TO THE COMPREHENSIVE PLAN

MODIFY: Plan text for Sully Road (page I/C 31 of the 1986 Plan), paragraph 1, to read:

Sully Road (Rt. 28) Widen to four lanes and limit access between Prince William County and Route 29. Widen to six lanes and limit access between Route 29 and I-66. Between I-66 and the Loudoun County line, Route 28 should be constructed in accordance with the action of the Commonwealth Transportation Board on July 16, 1987. On an interim basis, Braddock Road should be realigned to intersect Route 28 across from existing Walney Road.

Route 28 should not be directly connected to Centreville Road via an extension of Barnsfield Road without further study and further modification of this Plan. Alternate studies should continue to discourage business and commuter traffic from using the residential streets of communities located east of Centreville Road near Barnsfield Road. Any realignment, relocation, or redesign of Barnsfield Road should not provide a direct connection to Centreville Road.

The Virginia Department of Transportation (VDOT) design plans should govern the following major characteristics of the facility:

- o location and alignment
- o number of lanes and approximate right-of-way width, and
- o access control and configuration of interchanges.

The dependence of economic. . .

MODIFY: Plan text for Sully Road (page I/C 31 of the 1986 Plan), paragraph 3, to read:

Actual staging of an intersection/interchange at Route 28/Frying Pan Road is to be determined based. . .

ADD: Page I/C 31 of the 1986 Plan, a new paragraph 12 to read:

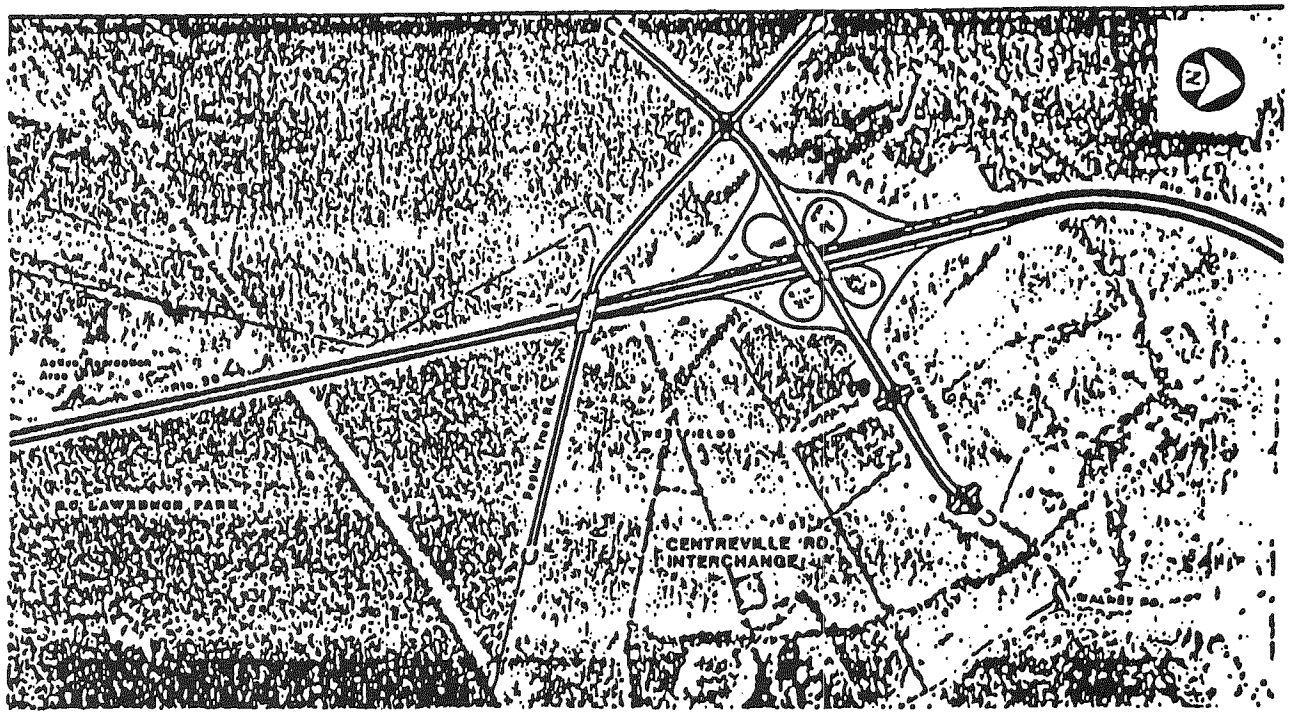
It is recognized that additional adjustments may occur during the process of final design, especially with regard to phasing of construction. These issues should be resolved through the normal process of project development rather than through Plan language. This Plan is not intended to preclude the construction of fewer lanes or at-grade intersections on an interim basis.

MODIFY: The Area Plan maps and the Countywide Plan map to show the location and alignment of Route 28, and the designation of interchanges, in accordance with the design plans as shown approximately on Attachment II.

Attachment II

Figure 1

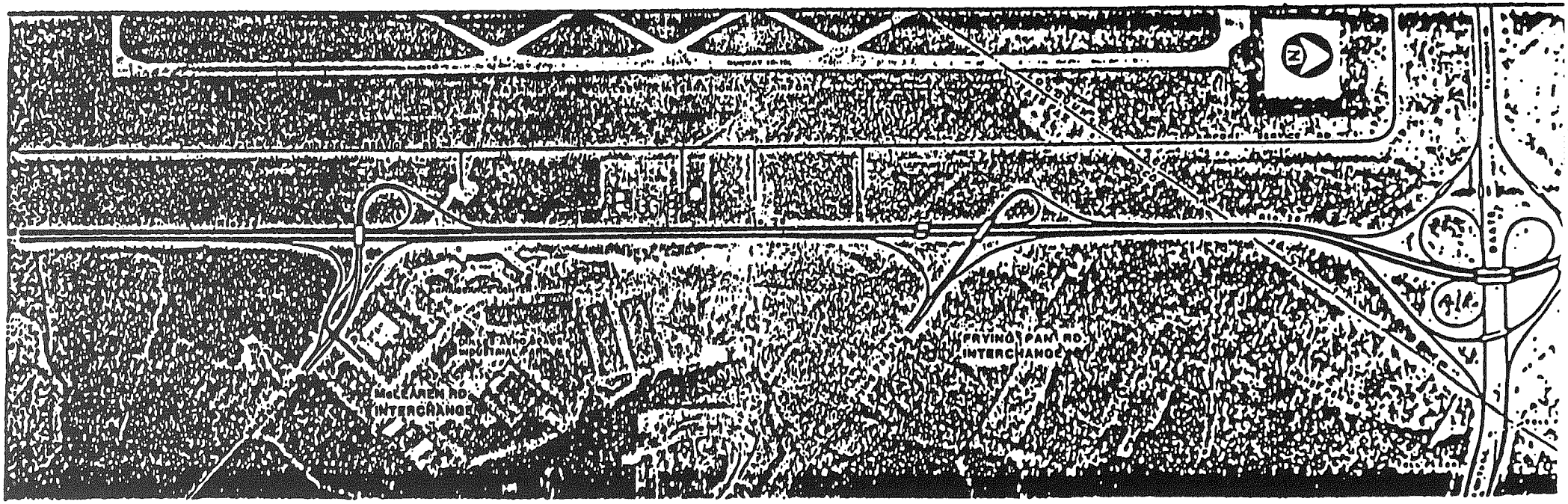
Rte. 28 Plan
Centreville Rd. Interchange



Attachment II

Figure 3

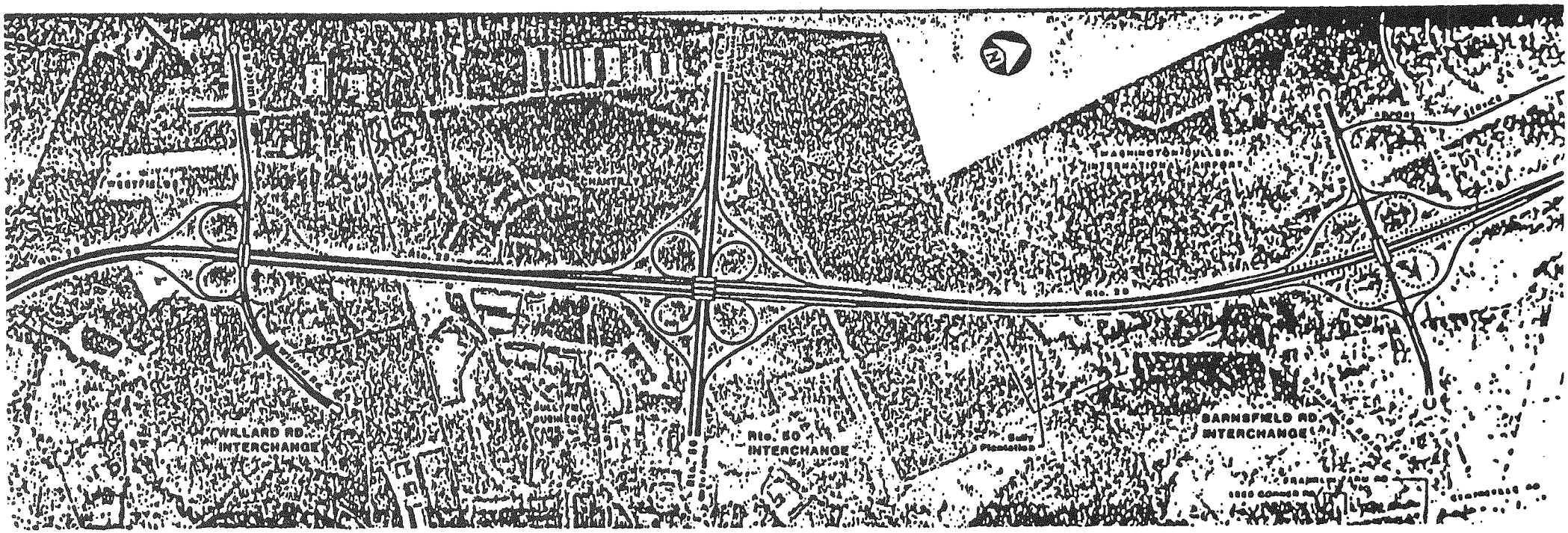
Rte.28 Plan
From South of McLearen Rd. Interchange To North of DAATR Interchange



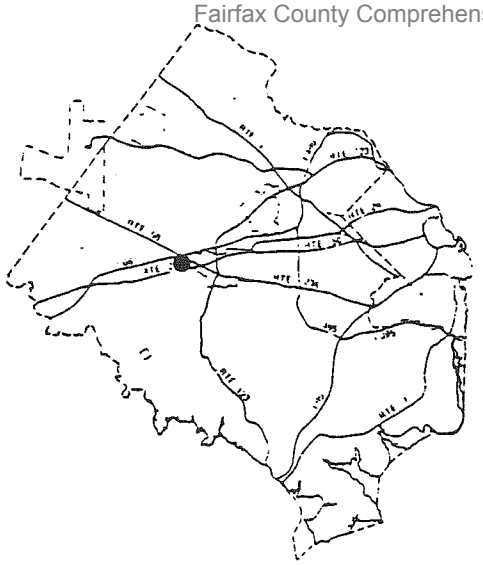
Attachment II

Figure 2

Rte.28 Plan
From South of Willard Rd. Interchange To North of Barnsfield Rd. Interchange



AMENDMENT NO. 86-A-21



AN AMENDMENT TO

THE COMPREHENSIVE PLAN FOR FAIRFAX COUNTY, VIRGINIA 1986 EDITION

GENERAL LOCATION North and South of Random Hills Road, South of the I-66/Route 50 Interchange.

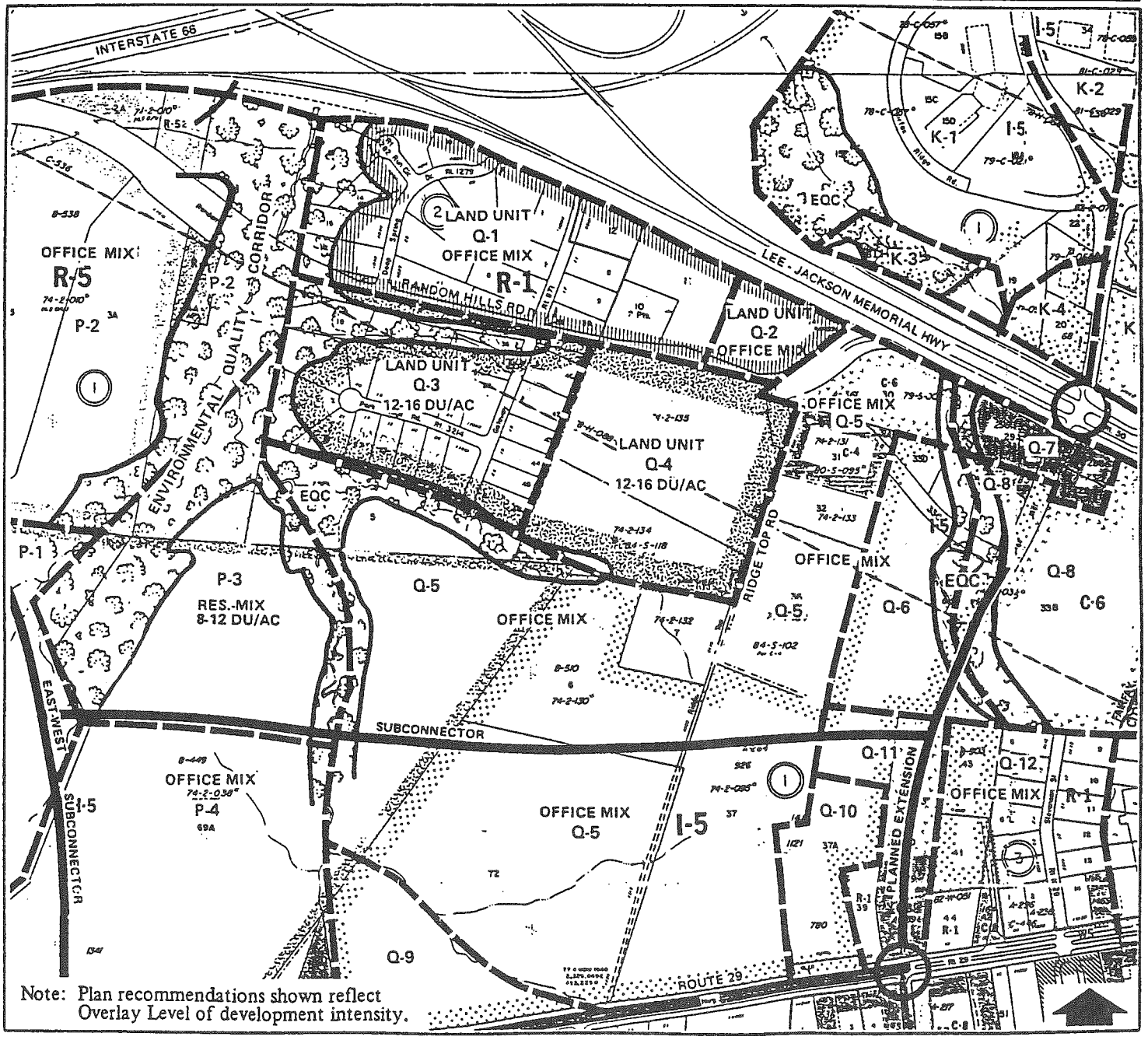
PARCEL LOCATION 56-2 ((1))8,9,10,11,12 & all ((2))

PLANNING AREA AND DISTRICT II ; Fairfax

SUPERVISOR DISTRICT Springfield

ADOPTED September 14, 1987 ITEM NO. 85-II-2F

FOR ADDITIONAL INFORMATION CALL 691-3352



Note: Plan recommendations shown reflect Overlay Level of development intensity.

Amendment No. 86-A-21
Adopted September 14, 1987

AMENDMENT TO THE COMPREHENSIVE PLAN - 1986 EDITION

DELETE: On page III-106, Fairfax Center area, separate subheading recommendation for Land Units Q1, Q2, Q3, Q4 as identified in the right hand column.

ADD: On page III-106, Fairfax Center area, single subheading for Land Units Q1, Q2, Q3, Q4 to read:

"Q1, Q2, Q3, Q4

A key objective of this recommendation is to create a coherent, harmonious and compatible mixed use development that results in a distinctive and coordinated office-mix use to the north of Random Hills Road and a residential use south of this roadway. Mid and/or high-rise residential structures are appropriate within the area designated for office-mix use and should be located in the western portion of the development in order to avoid use conflicts with the existing and planned intensive commercial uses east of Ridge Top Road. This location enables the residential uses to take advantage of the Difficult Run Environmental Quality Corridor (EQC) and the planned parkland recommended for the Random Hills area. In addition, hotel, office and support retail uses are appropriate within the area designated for a office-mix use. The office-mix development should not exceed a total of approximately 300,000 square feet gross floor area of non-retail commercial use and approximately 30,000 square feet gross floor area of retail use. Development proposals should employ measures to assure site compatibility, noise mitigation, amenity space, and pedestrian access. Within the area planned for residential use, the effective densities should generally exhibit a regressive transition from north to south with the high density located in the northern portion of the site. In addition, the effective density should transition downward from east to west.

Neighborhood access shall be provided between Random Hills Road and Ridge Top Road in Land Bays Q3 and Q4.

The residential development, at a maximum of 16 dwelling units per acre, should include low-moderate income housing in accordance with the provisions of the Zoning Ordinance. A wide variety of dwelling unit types sited and clustered, as appropriate, to achieve harmonious design should be included as part of the development plan in order to promote the adopted County housing policy that provides opportunities for all County residents to rent or purchase safe and decent dwellings.

A community center and recreational facilities of adequate size should be provided for the use of the residents within the planned neighborhood. Usable public park land should also be dedicated to the County Park Authority. Parcel 4 should be dedicated to Fairfax County for open space. If this property is not usable by the County, it should be used for private open space purposes.

Support commercial uses in the office and hotel buildings developed under the planned development standards are appropriate. However, such uses should not exceed 30,000 square feet of gross floor area. Exceptional design and significant internal and peripheral landscape treatment within Land Units Q1 and Q2 should be carefully planned to obscure undesirable views usually associated with non-residential development (e.g. parking areas, loading areas, trash areas), without compromising the need for adequate visibility along Random Hills Road. Because of site design constraints resulting from the narrowness of Land Units Q1 and Q2 (north of Random Hills Road) and the need for substantial landscaping on this site adjacent to Route 50 and Random Hill Road, the Plan recommends that no commercial free-standing buildings or drive-through facilities be permitted. In conjunction with the development plan submission, a sign and amenity plan should demonstrate that the type, size, height, and location of such features will be of exceptional design and will not intrude upon the adjacent residential use or the residential development located south of Random Hills Road. Every effort must be made to save the existing vegetation that can effectively contribute to a "greenbelt" function for Random Hills. A 25' landscape buffer to include a berm not less than three feet in height with appropriate landscaping material as approved by the Office of Comprehensive Planning and the County Arborist are recommended along the eastern boundary of the area planned for residential use in order to protect it from the intensive commercial development existing or planned east of Ridge Top Road. Additional landscape treatment may be needed to supplement the existing vegetative cover, where necessary, to meet the purpose of providing a significant buffer in this area.

The residential component of adjacent properties planned for office-mix use should be oriented toward the south Random Hills areas. Any adjoining parcels planned for office mix use within land bay Q that are, in a practical sense, too small to develop individually, may be included in the residential development.

In order to encourage parcel consolidation within land units planned for office-mix use, the Plan recommends that when such parcels are developed in conjunction with adjoining residential development, no planned commercial

intensities be converted into residential densities. The development potential should reflect the densities planned for the residential component of adjoining office-mix use property. Further, adjacent residential development should be coordinated and compatible with the residential component of the Random Hills area.

Land use applications submitted subsequent to the date of adoption of this amendment should be accompanied by a unified illustrative plan of development showing the general location of office/mix uses, intensities, buffers, open space and roadways. A similar plan of development should be submitted with any subsequent application for residential use in the Random Hills area south of Random Hills Road.

The Difficult Run environmental quality corridor is a sensitive and valuable natural resource in this area and, as such, should be protected and, where appropriate, used as an adjacent amenity feature to complement the planned residential development. In addition, this development should preserve and integrate to the greatest extent possible the existing internal tree cover to complement the design of the site.

In order to preserve the right-of-way for the construction of grade separations and other arterial roadway improvements, development should be contingent upon:

1. A traffic study justifying the effective densities for Land Units Q1, Q2, Q3 and Q4, including a forecast for traffic build-out of the Fairfax Center Area.

2. Dedicating right-of-way as identified for the design concept and other associated roadway connections, subject to the approval of the Fairfax County Office of Transportation and the Virginia Department of Transportation."

ADD: On the Land Use Summary Chart for Land Bay Q, on page III-106, to read:

Developable Land Units (Map Key)	Approximate Net	Approximate Gross
Q1	19	21

Developable Land Unit (Key Map)	Proposed Land Use	Intensity FAR	Density Units/Ac	Primary Commercial St. Ft.	Residential Units	Support Commercial Sq. Ft.
Baseline Level						
Q1	RES		1		21	----
Intermediate Level						
Q1, Q2, Q3, Q4	RES		5		375	----
Overlay Level						
Q1, Q2	OFF/MIX			300,000	200	30,000
Q3, Q4	RES		16		720	

DELETE: All previous Land Use Summary Chart references to Land Units Q2, Q3 and Q4 under the Intermediate Level as identified on Page III-106 of the Plan.

DELETE: All previous Land Use Summary Chart references to Land Units Q2, Q3 and Q4 under the Overlay Level, as identified on Page III-106 of the Plan.

MODIFY: The Fairfax Center Area Baseline Map, as shown on page III-111 of the Comprehensive Plan, to show residential use at 1 to 2 dwelling units per acre for Land Units Q1, Q2, Q3, and Q4. Modify the Fairfax Center Area Overlay Map, as shown on page III-113, to show residential use at 12 to 16 dwelling units per acre for Land Units Q3 and Q4. Land Units Q1 and Q2 should reflect office-mix use.

ADD: On page III-115, third column, second paragraph, to last sentence:

for this section.

DELETE: On page III-115, third column, fourth paragraph, the phrase:

Random Hills,

MODIFY: On page III-115, third column, sixth paragraph, second bullet, Route 50, by replacing first sentence with:

Widen to six lanes between Chantilly and I-66, eight lanes between I-66 and Waples Mill Road and six lanes between Waples Mill Road and the City of Fairfax.

MODIFY: On Page III-116, first column, second bullet, Waples Mill Road, by replacing first sentence with:

Widen to four lanes immediately north of Route 50 and construct a six lane extension to Route 29 and Shirley Gate Road.

ADD: On Page III-116, first column, another bullet to read:

Random Hills Road. Construct as a four lane divided facility (45 mph design speed) between Ridge Top Road and the major east-west subconnector between P1 and P2.

MODIFY: On page III-116, third column, eleventh bullet, by replacing language with:

Widen Route 50 to eight lanes between I-66 and Waples Mill Road.

MODIFY: On page III-116, third column, fourteenth bullet, by replacing language with:

Widen Route 50 to six lanes between Stringfellow Road and I-66 and to eight lanes between I-66 and Waples Mill Road and improve the interchange with I-66 to accommodate the southbound Route 50 to eastbound I-66 traffic and the southbound Route 50 through traffic.

ADD: On page III-117, C. Recommended Roadway Improvements, first column, another bullet to read:

Widen Random Hills Road to 4 lanes between Ridge Top Road and the major east-west subconnector between P1 and P2.

MODIFY: The Plan map on pages III-111, III-113, III-116, and I/C-46 by adding 8 lane designation to Route 50 between I-66 and Waples Mill Road, by adding 6 lane designation to Waples Mill Road Extension between Route 50 and Route 29, by deleting Random Hills Road cul-de-sac designation immediately west of Random Hills neighborhood, and by adding 4 lane designation to Ridge Top Road between Random Hills Road and Route 29. (see Figure T-4).

MODIFY: On page I/C-32, third column, first bullet, Route 50, by replacing first sentence with:

Widen to six lanes between Loudoun County and I-66, to eight lanes between I-66 and Waples Mill Road, and to six lanes between Waples Mill Road and the City of Fairfax, limiting access on the entire section.

MODIFY: On page I-C-42, second column, Bull Run Planning District, Sector BR2, by replacing with:

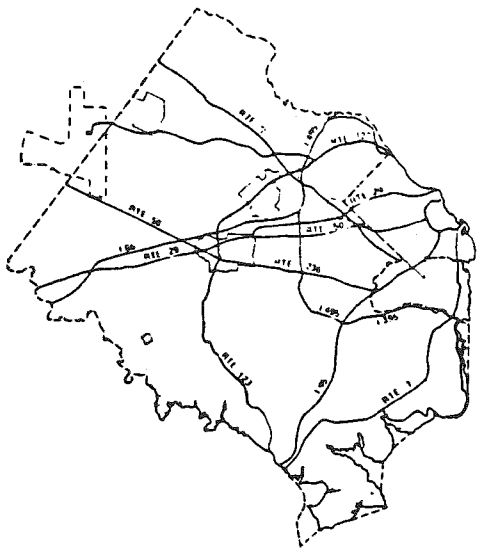
A. Route 50 should be improved to a limited-access facility with six lanes between the Loudoun County line and I-66, with eight lanes between I-66 and Waples Mill Road, and with six lanes between Waples Mill Road and the City of Fairfax.

MODIFY: On page I/C-42, third column, Bull Run Planning District, Sector BR3, by replacing with:

B. Route 50 should be improved to a limited-access facility with six lanes between the Loudoun County line and I-66, with eight lanes between I-66 and Waples Mill Road, and with six lanes between Waples Mill Road and the City of Fairfax.

MODIFY: On page I/C-42, third column, Bull Run Planning District, Sector BR4, by replacing with:

A. Route 50 should be improved to a limited-access facility with six lanes between the Loudoun County line and I-66, with eight lanes between I-66 and Waples Mill Road, and with six lanes between Waples Mill Road and the City of Fairfax.



AMENDMENT NO. _____

AN AMENDMENT TO

THE COMPREHENSIVE PLAN FOR FAIRFAX COUNTY, VIRGINIA 1986 EDITION

GENERAL LOCATION Countywide

PARCEL LOCATION N/A

PLANNING AREA AND DISTRICT All

SUPERVISOR DISTRICT All

ADOPTED October 19, 1987 ITEM NO. 86-CW-1CP

FOR ADDITIONAL INFORMATION CALL 691-3352

Amendment No. 86-A-24
Adopted October 19, 1987

Adopted Amendment to the Comprehensive Plan (1986 Edition):

REPLACE: pages I-101 and I-102 of the Introduction/Countywide Element of the Plan under Implementation Section heading **DEVELOPMENT CRITERIA FOR RESIDENTIAL DENSITY RANGES** to read:

"Residential density ranges recommended in the Plan and shown on the Planning Area maps are defined in terms of dwelling units per acre. When the Plan map and text differ, the text governs.

Only the low end of the density range is planned as a presumptive density that is contingent upon satisfactory conformance with all applicable ordinances, policies, regulations and standards and protection of the health, safety, and general welfare of the public. Except where review of the development proposal and the Comprehensive Plan clearly justifies consideration above the low-end of the planned density range, densities shall be based upon satisfactory resolution of issues identified through analysis of the development proposal. Only those development plans with the highest quality design and amenities should be approved at the high-end of the residential density range.

Responsibility for demonstrating that a proposed development merits consideration above the low end of the Comprehensive Plan density range rests with the applicant. Justification can be demonstrated by satisfactory fulfillment of the applicable development criteria listed below. Fulfillment of a particular criteria is defined as a commitment by the applicant, using a proffer or a development condition.

In evaluating fulfillment of development criteria, the number of criteria credited through proffered conditions will be weighed against the number of applicable criteria. At least two-thirds of applicable criteria should be satisfied for approval of density at the high end of a one-unit density range. As a general guide for multi-unit density ranges, approximately one-half of the applicable criteria should be satisfied for approval of mid-range densities and three-fourths satisfied for approval of high end of the density range.

Criteria need not be weighed equally. In exceptional cases, a single criterion may be of overriding importance in the evaluation of the merits of a particular development proposal.

Development Criteria for Residential Evaluation

1. Proffer a development plan in which the natural, man-made and cultural features result in a high quality site design that achieves, at a minimum, the following objectives: complements

the existing and planned neighborhood scale, character and materials as demonstrated in architectural renderings and elevations (if requested); establishes logical and functional relationships on- and off-site; provides appropriate buffers and transitional areas; provides appropriate berms, buffers, barriers, and construction and other techniques for noise attenuation to mitigate impacts of aircraft, railroad, highway and other obtrusive noise; incorporates site design and/or construction techniques to achieve energy conservation; protects and enhances the natural features of the site; includes appropriate landscaping and provides for safe, efficient and coordinated pedestrian, vehicular and bicycle circulation.

2. Provision of or for the public facilities (other than parks) beyond those necessary to serve the proposed development, such as schools, fire stations, and libraries, to alleviate the impact of the proposed development on the community.

3. Proffer the phasing of development to coincide with planned or programmed provision of public facility construction to reduce impacts of proposed development on the community.

4. Contribute to the development of transportation improvements beyond ordinance requirements.

5. Dedicate parkland suitable for active recreation and/or provide developed recreation areas and/or facilities which meet adopted County standards and which accomplish a public purpose.

6. Provide usable and accessible open space areas and other passive recreational facilities in excess of County ordinance requirements and those defined in the County's Environmental Quality Corridor policy.

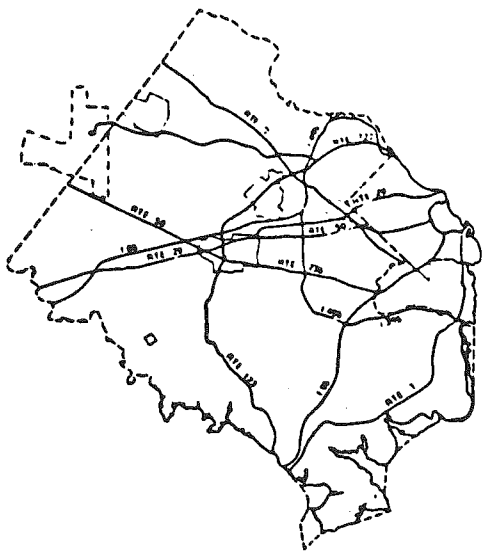
7. Enhance, preserve or restore natural environmental resources on-site, (through, for example, EQC preservation, wetlands preservation and protection, limits of clearing and grading and tree preservation) and/or reduce adverse off-site environmental impacts.

8. Contribute to the County's low- and moderate-income housing goals by providing an appropriate proffer of land, dwelling units and/or a contribution.

9. Preserve, protect and/or restore structural, historic or scenic resources which are of architectural and/or cultural significance to the County's heritage.

10. Land assembly and/or development plan integration which achieves Plan objectives.

AMENDMENT NO. 86-A-25



AN AMENDMENT TO

THE COMPREHENSIVE PLAN FOR FAIRFAX COUNTY, VIRGINIA 1986 EDITION

GENERAL LOCATION Crowells Corner: Sunset Hills Road Relocated

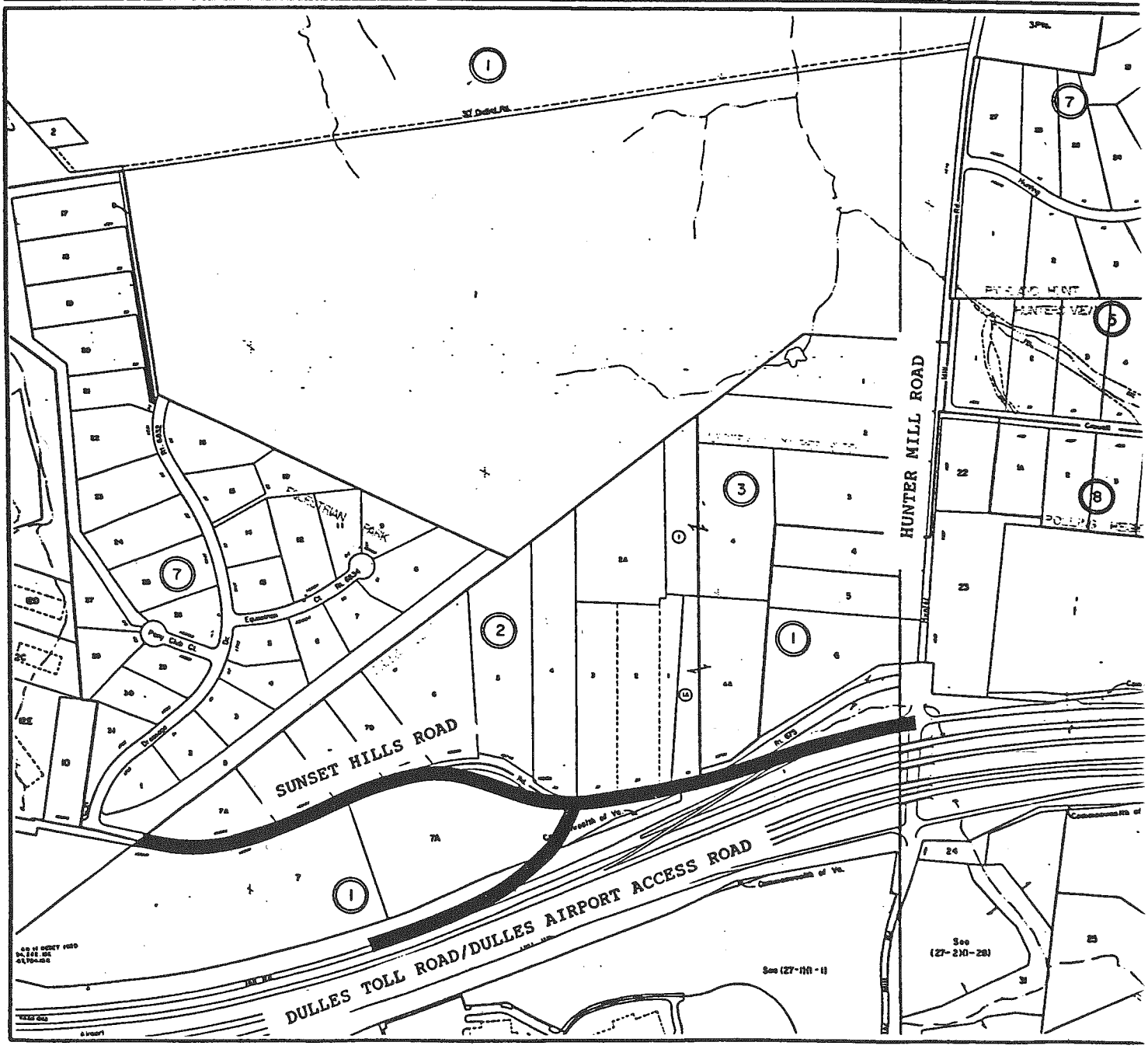
PARCEL LOCATION All or part of 18-3((2))1,2,3,4,5,6; 18-3((3))4A and 18-3((1))4,5,6

PLANNING AREA AND DISTRICT III, Upper Potomac

SUPERVISOR DISTRICT Centreville

ADOPTED March 14, 1988 **ITEM NO.** S87-CW-T3

FOR ADDITIONAL INFORMATION CALL 691-3352



Amendment No. 86-A-25
Adopted March 14, 1988

ADOPTED AMENDMENT TO THE COMPREHENSIVE PLAN

MODIFY: On page I/C-32, Countywide Roadway Recommendations, Hunter Mill Road, by replacing the first sentence with:

Reconstruct to an improved two lane roadway between Baron Cameron Avenue and Sunset Hills Road (Option A or B, whichever is implemented), and a four lane roadway between Sunset Hills Road (Option A or B, whichever is implemented) and Sunrise Valley Drive thereby creating a four lane loop between Sunset Hills Road and Sunrise Valley Drive and the Dulles Toll Road.

MODIFY: On page I/C-32, Countywide Roadway Recommendations, by adding the following after the paragraph on Hunter Mill Road:

o Sunset Hills Road. Sunset Hills Road as it terminates at Hunter Mill Road provides for primary access to the Dulles Toll Road for the residential areas and commercial office areas within the eastern periphery of Reston. This access can be provided for by either option A or B below. Option A is the preferred plan option:

> The preferred option A is to slightly modify the current Sunset Hills Road/ Hunter Mill Road intersection by moving it opposite the Dulles Toll Road westbound off-ramp and relocate the Toll Road westbound on-ramp to begin at Sunset Hills Road west of Hunter Mill Road and east of the existing VDOT maintenance facility.
>
> A secondary option B if option A is not accepted by VDOT would be to relocate Sunset Hills Road in a configuration that brings the intersection of Sunset Hills Road and Hunter Mill Road as close as possible to the Reston Presbyterian Church ((1)) parcel 6. (See UP5 P111-29, Paragraph F).

ADD: On Page III-29 of the Area III Plan Reston Community Planning Sector (UP5), New Paragraph F, to read:

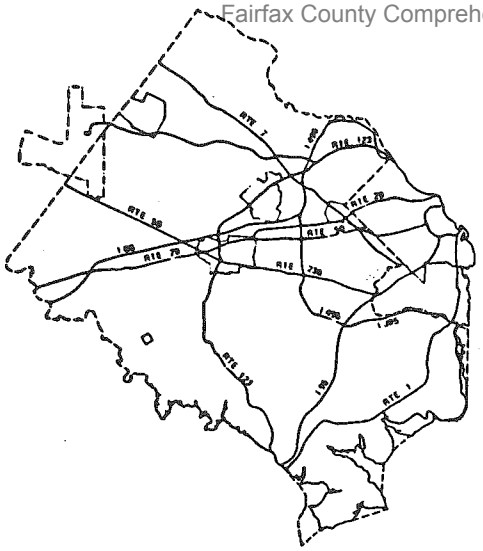
"F" ... The area between planned Sunset Hills Road, Hunter Mill Road and the Dulles Toll Road is planned for residential at .2 to .5 du/ac. However, the area is also appropriate for institutional or public uses if all non-residential impacts are satisfactorily mitigated.

1. Any relocation of the existing alignment of Sunset Hills Road must be designed so as to not adversely impact the ability of the Tara Reston Christian School to operate at its authorized capacity (Feb. 1988). Safe and convenient access for ingress and egress must be provided. Noise engineering studies must also accompany any relocation engineering studies.

2. Any relocation of Sunset Hills Road must provide direct access for parcels [on 18-3 ((1))] 4, 5, and 6, upon actual relocation and must be accompanied by abandonment of existing Sunset Hills Road.

MODIFY: Maps on pages III-30, III-31, I/C-27, and I/C-46 to show Sunset Hills Road (option A) as depicted on the attached map.

AMENDMENT NO. 86-A-33



AN AMENDMENT TO

THE COMPREHENSIVE PLAN FOR FAIRFAX COUNTY, VIRGINIA 1986 EDITION

GENERAL LOCATION Springfield Bypass/Algonkian Parkway/Route 7

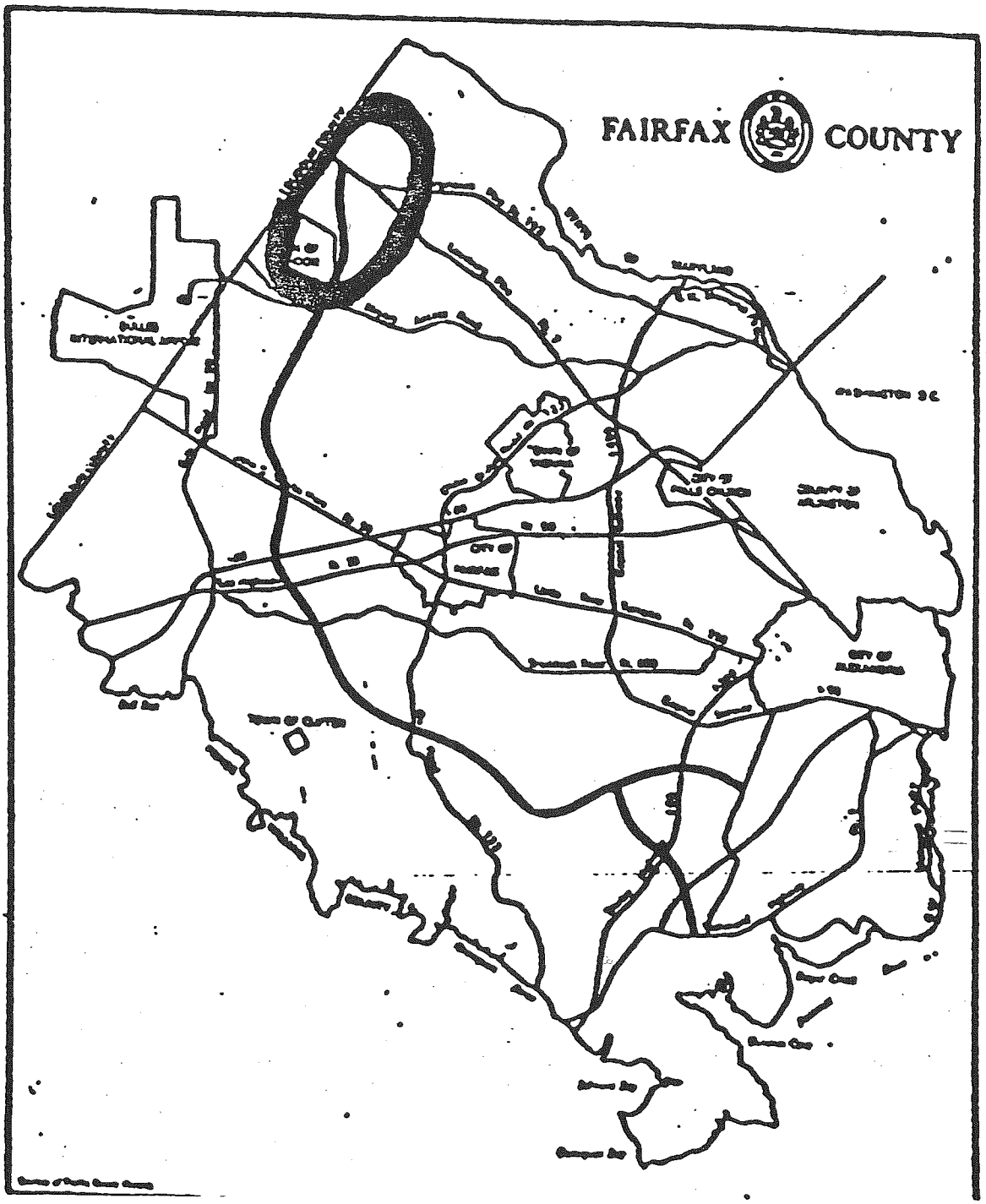
PARCEL LOCATION N/A

PLANNING AREA AND DISTRICT Area III, Upper Potomac

SUPERVISOR DISTRICT Dranesville District

ADOPTED July 25, 1988 ITEM NO. S88-CW-T1

FOR ADDITIONAL INFORMATION CALL 246-3510



ADOPTED AMENDMENT TO THE COMPREHENSIVE PLAN

Add: On Page I/C-34, County Recommendations, Springfield Bypass, a new paragraph to read:

Provision should also be made for an interchange of the Bypass with the Algonkian Parkway at Route 7. The alignment of the Bypass with this roadway will minimize traffic conflicts on Route 7.

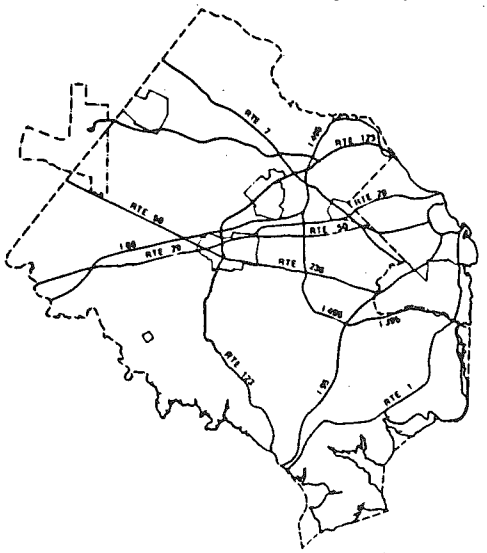
Add: On page I/C-35, County Roadway Recommendation, a new paragraph to read:

- Algonkian Parkway. Construct a four lane facility to extend from the western boundary of Fairfax County to Route 7, where it will align with the Springfield Bypass. Provide a grade-separated interchange at this intersection. In order to prevent high volumes of through traffic within adjacent residential areas in Fairfax County, the following features should be implemented once the Parkway is constructed:
  - Kentland Drive should not be extended to intersect the Parkway;
  - A cul-de-sac should be provided on Brockman Lane near the Fairfax/ Loudoun Line; and
  - Thomas Avenue should be closed at the Fairfax County Water Authority easement.
  - Cup Leaf Holly Court should be closed at the Fairfax County Water Authority easement.

Delete: From the Plan Map, N.W. Quadrant, the four lane roadway which extends eastward along Thomas Avenue from the Loudoun County/Fairfax County Line to the Fairfax County Water Authority easement.

Modify: The Plan Map to show the features identified in these recommendations.

AMENDMENT NO. 86-A-34



AN AMENDMENT TO

THE COMPREHENSIVE PLAN FOR FAIRFAX COUNTY, VIRGINIA 1986 EDITION

GENERAL LOCATION Route 28/McLearen Road/Wall Road

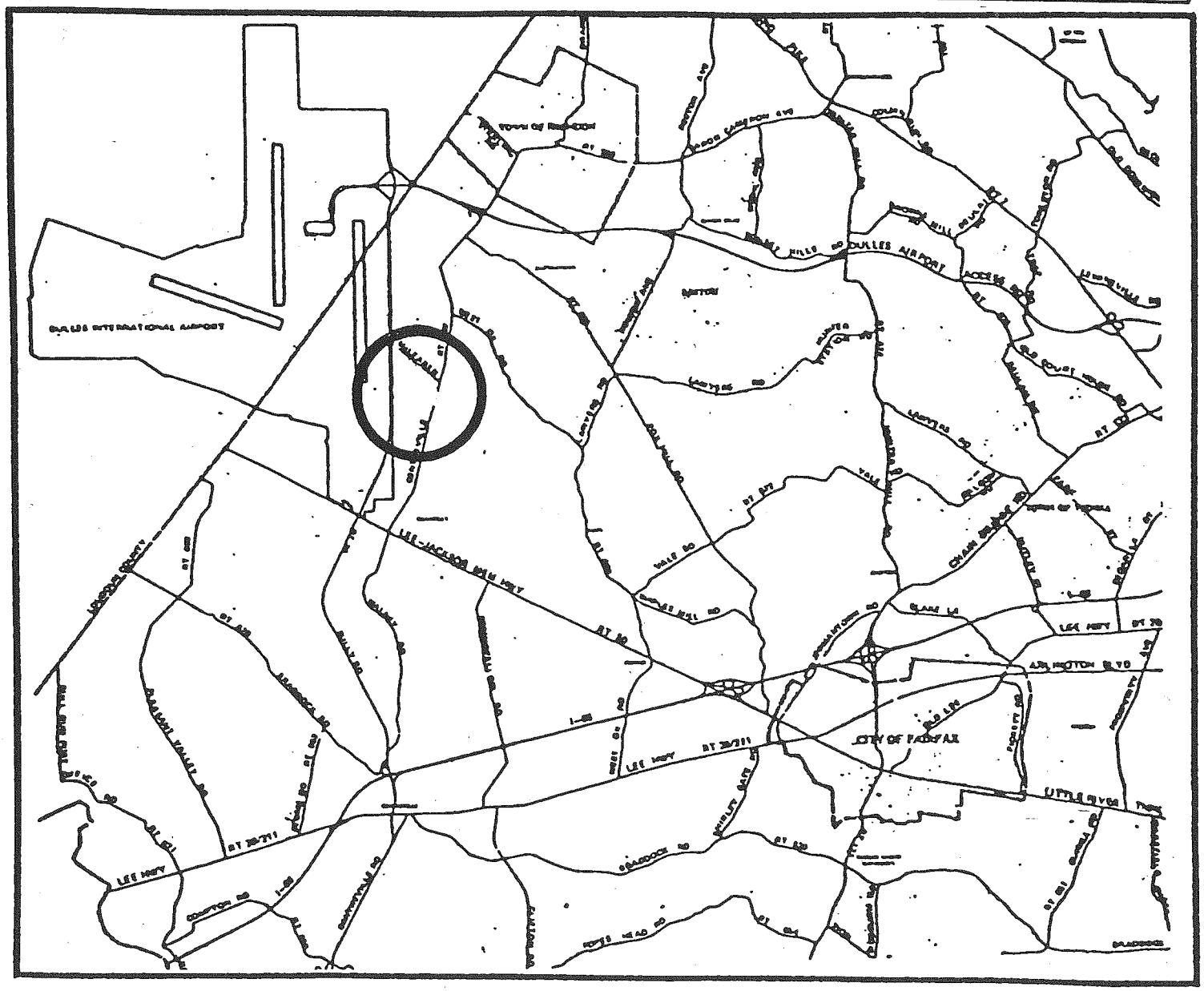
PARCEL LOCATION N/A

PLANNING AREA AND DISTRICT III, Upper Potomac

SUPERVISOR DISTRICT Centreville

ADOPTED September 19, 1988 ITEM NO. S88-CW-T2

FOR ADDITIONAL INFORMATION CALL 246-3510



Amendment No. 86-A-34
Adopted September 19,1988

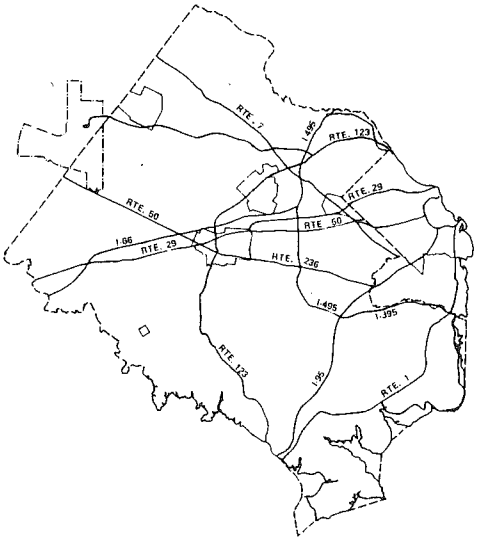
ADOPTED AMENDMENT TO THE COMPREHENSIVE PLAN

DELETE: From the Plan map, N.W. Quadrant, the four-lane collector road east of Route 28 between McLearen Road and Wall Road.

ADD: To the Plan text, page I/C 41, Sector UP 7, a new paragraph E to read:

E. The property between EDS Drive and Wall Road should be accessed via EDS Drive, Wall Road, and Centreville Road. Internal streets within this area should be interconnected and may be built and operated as private roads.

AMENDMENT NO. 86 - 36



AN AMENDMENT TO

THE COMPREHENSIVE PLAN FOR FAIRFAX COUNTY, VIRGINIA 1986 EDITION

GENERAL LOCATION Countywide

PARCEL LOCATION N/A

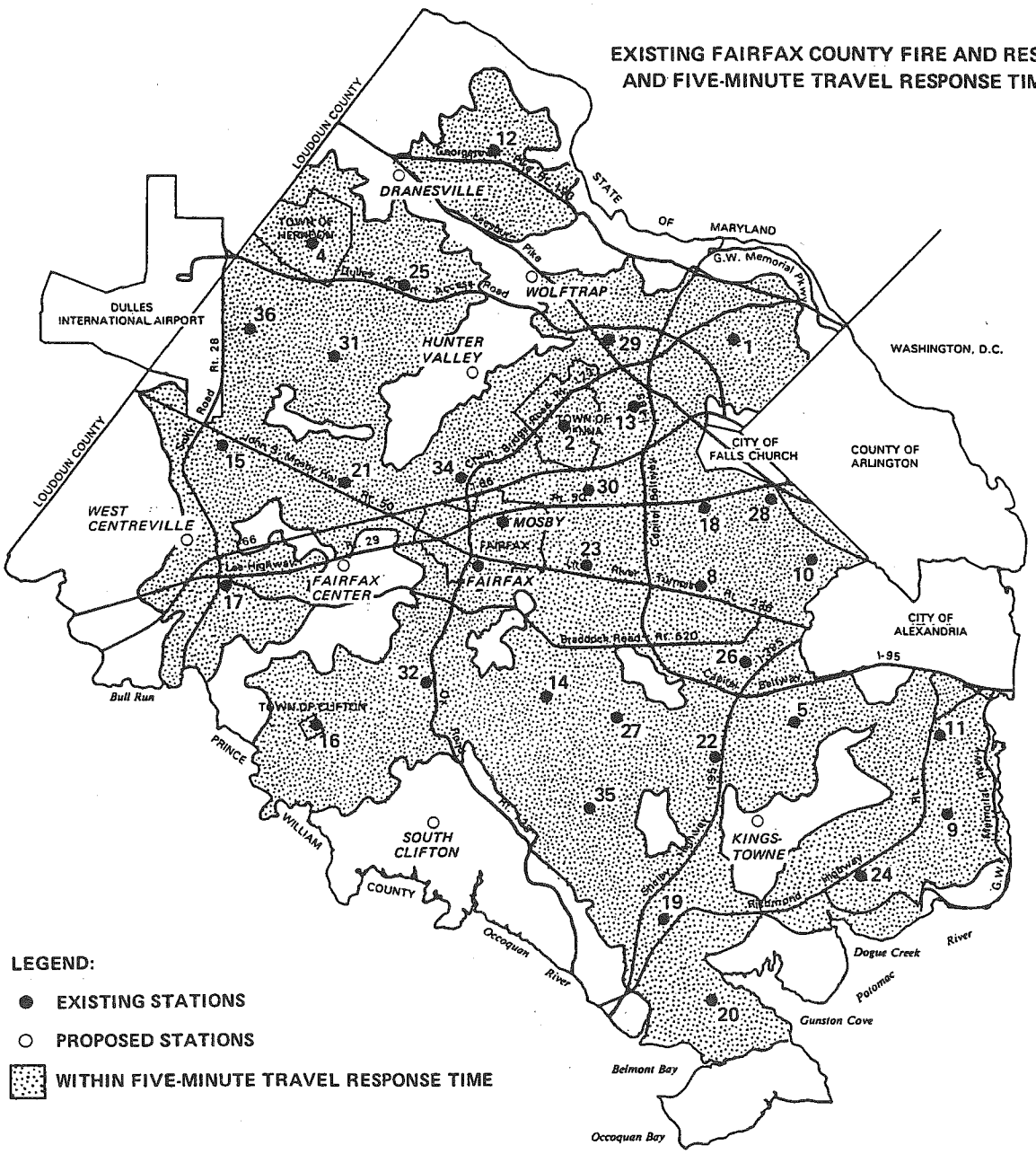
PLANNING AREA AND DISTRICT N/A

SUPERVISOR DISTRICT N/A

ADOPTED November 28, 1988 ITEM NO. PY - 88 - 140

FOR ADDITIONAL INFORMATION CALL 246-1210 OR 246-1220

EXISTING FAIRFAX COUNTY FIRE AND RESCUE STATIONS AND FIVE-MINUTE TRAVEL RESPONSE TIME COVERAGE



Amendment No. 86-36
Adopted November 28, 1988

ADOPTED AMENDMENT TO THE COMPREHENSIVE PLAN

DELETE: Page I/C 54 (below Public Safety), Paragraphs 2, 6, and 7

ADD: Page I/C 54 (following paragraph 1), new section to read:

The fire and rescue services system in the County is composed of local fire and rescue stations, training facilities, and a communications center established under the authority of the Police Department for joint use of computer aided dispatching (CAD). County fire stations also are augmented by cooperative agreements for emergency response with surrounding jurisdictions. Under the terms of an agreement between the County and Fairfax City, the City serves those portions of the County which are adjacent to the City on its northern, western and southern borders. The other two agreements are between the County and the City of Alexandria and Arlington County. These are two independent agreements but are categorized under the Northern Virginia Regional Response Agreement which provides for Fire and Rescue response on the basis of the closest station, regardless of jurisdictional boundaries. The general areas in which this agreement ensures an adequate level of coverage include Lincolnia, Franconia-Telegraph Road, and Baileys Crossroads.

Fire and rescue station distribution throughout the County should be predicated on the recommendations of the County's Master Plan for Fire and Rescue Service Facility Locations and the County's Public Facilities Standards which are based on population, number of dwelling units, nonresidential development, incident activity, target hazards, and time and distance factors. Future stations recommended in this Plan will be programmed into the Capital Improvement Program (CIP). Additions to these recommendations will take place only during the Plan update process every four years.

In general, new locations for fire and rescue stations should meet basic guidelines. While on occasion there will be unusual needs or requirements when such guidelines cannot be fully addressed, they should serve to assist on determining if a proposed location for a facility is feasible and in keeping with Fire and Rescue Master Plan objectives. The following section describes the standards which serve as the general guidelines for the placement of new fire and rescue facilities.

DELETE: Page I/C 58 (below Public Safety), entire Standards section.

ADD: Page I/C 58 (below Public Safety), new section to read:

STANDARDS

In general, fire and rescue station locations should be free from land uses which make it difficult or dangerous for rapid egress; on sites which are adequate to accommodate the size and type of emergency response apparatus; and in close proximity to the area in which the greatest number of fire and emergency medical incidents are likely to occur. In the case where there is either a man-made or natural obstacle such as a railroad or river, the station should be located on the side where the greatest hazard or higher incident activity exists.

o Current Standards

Fire and Rescue Service standards fall into three categories: Facility Needs, Site Location and Site Size. General guidelines are identified in the following section. For more detail on these standards, reference should be made to the Public Facilities Standards Manual published by the Office of Comprehensive Planning.

- Facility Needs

The Fairfax County Master Plan for Fire and Rescue Service Facility locations reflects the varying degrees of hazards within the service area and the need for Department services based upon the following criteria.

1. Area definition: Characteristics of the area include population, development types and densities, environmental factors, transportation systems, target hazards such as schools, nursing homes, hospitals, etc., and topographic information as provided by the Fairfax County Comprehensive Plan.

Guidelines

2. The following are guidelines which may be used for determining the need for a new facility:

a. The projected service area has a population density of 1,000 persons per square mile;

b. The projected service area encompasses a minimum of two square miles;

c. The projected service area is estimated to experience an activity level of 730 calls annually, or an average of 2 per day;

d. Those service areas which are never expected to meet the population density or incident activity criteria due to land-use restrictions should receive consideration for a mini-fire station when they encompass eight square miles or more.

e. The established service area of a fire and rescue facility is based upon a five-minute travel response time from the station. This five-minute maximum travel response time is required to produce the necessary initial attack to suppress a building fire prior to the critical flashover point, as determined by the standard time-temperature curve for fire development. This response time also falls within the American Heart Association's recommended four to six minutes for initiating action to sustain cardiac patients.

f. In general, stations should be located to minimize service area overlap and to provide coverage to areas not within five minutes of an existing station. However, in certain situations when a new station is required to remove an existing service void, there will be unavoidable overlap with other existing service areas. In such cases, the new station should be located so that any service overlap benefits high risk, high density and high value areas and alleviates the response requirements of other high activity stations.

g. Apparatus storage facilities are required for every 10 reserve vehicles. These facilities should be co-located with fire stations, and are needed to ensure the security and maintenance of critical emergency response apparatus. Such storage facilities have special location criteria and should be located to minimize impact on surrounding properties.

- Site Location

The criteria for site location involve logical planning considerations, including the following:

1. Sites close to intersections are considered good provided there is no problem with highway access.

2. Hillside locations or locations at the bottom of hills are not satisfactory when many responses must be made upgrade.

3. Station locations on heavily traveled major arteries are unsatisfactory; a location on a parallel street or cross street with a traffic light with pre-emption capability at a nearby intersection is preferable.

4. Station location should be on a paved road, preferably state-maintained, with shoulders and a minimum of curves in the immediate vicinity of station access.

5. Sites should have a relatively flat topography, and provide the opportunity to buffer the station from adjoining properties. Although not essential, ideally sites should have public sewer and water service.

- Site Size

Usually, a minimum of two acres is recommended for a station site. Although, if an apparatus storage facility is planned also for the site, a minimum of three acres is appropriate. The site should have sufficient land to provide parking

facilities, and adequate space for company training exercises and to meet Fairfax County Zoning Ordinances, specifically setback and FAR requirements of the district.

- National, Professional or Regulatory Standards

There are currently no national, professional or regulatory standards which are applicable to Fairfax County for fire and rescue facilities.

Although in the past the Fire and Rescue Department utilized the Insurance Services Office (ISO) Grading Schedule in its station location planning efforts, it is now recognized that the intent of the Grading Schedule is to provide municipal suppression data to private industry. Therefore, the County now uses the Grading Schedule only as a supplement to its study of local needs rather than as a primary planning guide for local fire protection. This is especially appropriate as the fire protection system within Fairfax County focuses primarily on prevention rather than suppression.

AMENDMENT NO. 86-37

AN AMENDMENT TO

THE COMPREHENSIVE PLAN FOR FAIRFAX COUNTY, VIRGINIA 1986 EDITION

GENERAL LOCATION West Ox Road between Route 29 and Route 50

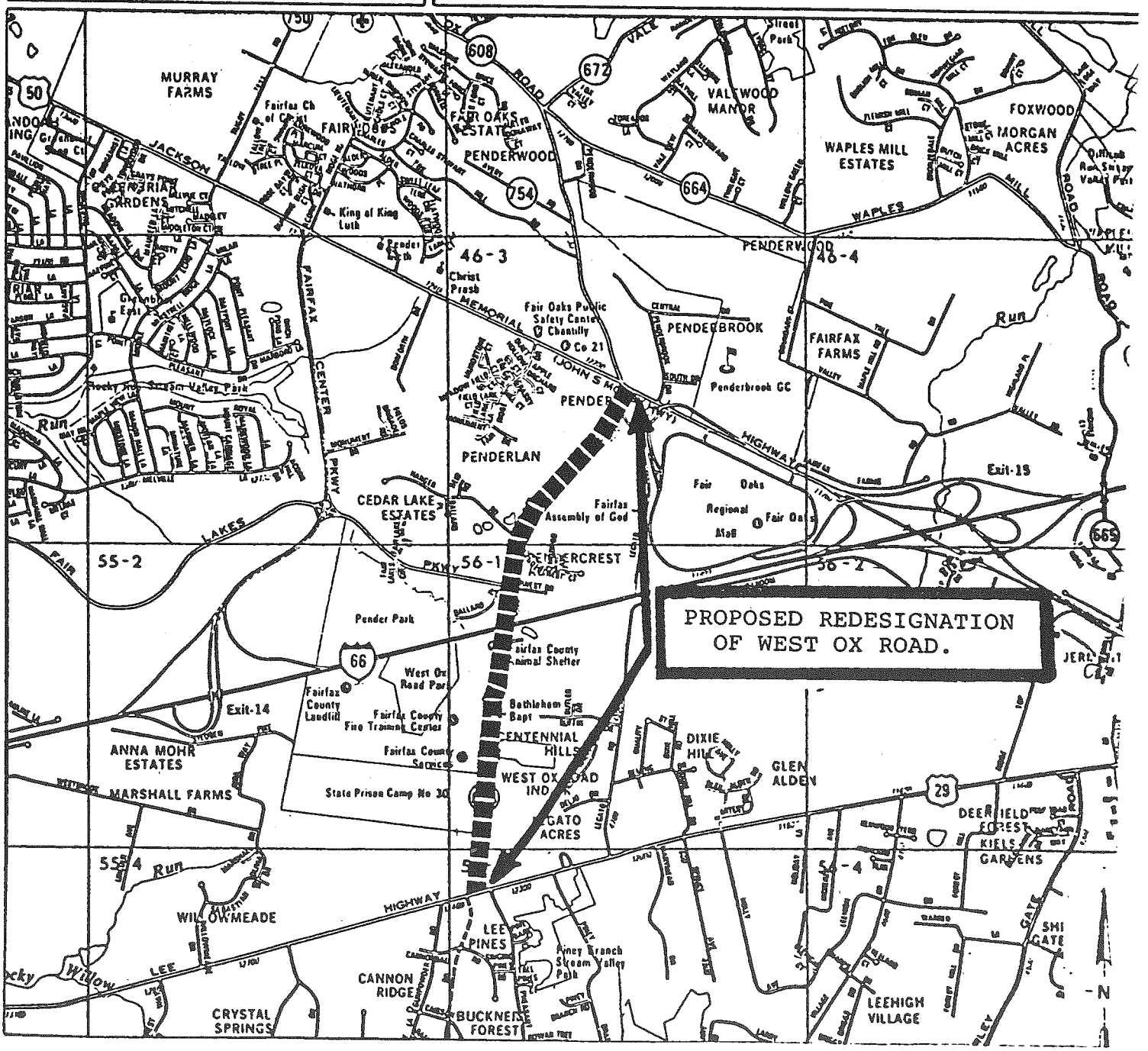
PARCEL LOCATION --

PLANNING AREA AND DISTRICT II-Bull Run, III-Fairfax Cente

SUPERVISOR DISTRICT Springfield, Providence

ADOPTED April 3, 1989 ITEM NO. S88-CW-T4

FOR ADDITIONAL INFORMATION CALL 246-3510



Amendment No: 86-37
Adopted April 3, 1989

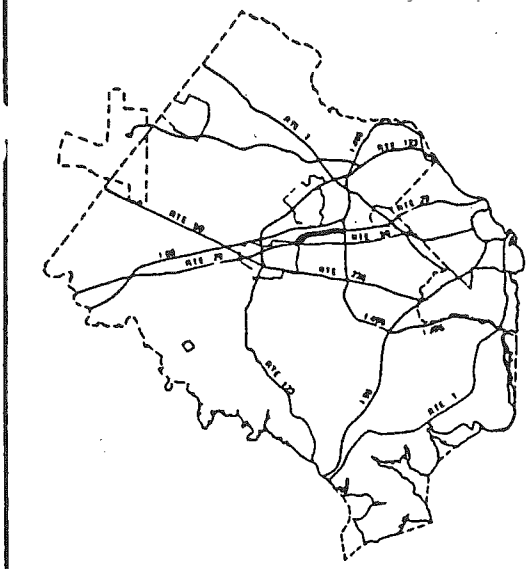
ADOPTED AMENDMENT TO THE COMPREHENSIVE PLAN (1986 Edition)

MODIFY: The Countywide Plan map and the text maps on pages I/C 47, III 110, 112, and 116 to show West Ox Road as a six lane facility between Route 29 and Monument Drive and eight lanes between Monument Drive and Route 50.

MODIFY: The Plan text for West Ox Road, page III 116, in the Fairfax Center Area to read:

"West Ox Road. Widen to six lanes between Monument Drive and Route 29. Widen to eight lanes between Monument Drive and Route 50. A grade separated interchange should be provided at Route 50. Widen to four lanes from Route 50 to Ox Hill Road, to provide a continuous section from Route 50 to Lawyers Road. A connection from West Ox Road should be provided to the Fairfax County Parkway/Route 29 interchange."

AMENDMENT NO. 86-38



AN AMENDMENT TO

THE COMPREHENSIVE PLAN FOR FAIRFAX COUNTY, VIRGINIA 1986 EDITION

GENERAL LOCATION Lee Highway between Fairfax City and I-495

PARCEL LOCATION --

PLANNING AREA AND DISTRICT I-Jefferson, II-Vienna

SUPERVISOR DISTRICT Providence

ADOPTED April 3, 1989 ITEM NO. S88-CW-T5

FOR ADDITIONAL INFORMATION CALL 246-3510

PROPOSED REDESIGNATION OF ROUTE 29 TO SIX LANES BETWEEN FAIRFAX CITY AND I-495

Amendment No: 86-38
Adopted April 3, 1989

ADOPTED AMENDMENT TO THE COMPREHENSIVE PLAN (1986 Edition)

MODIFY: The Countywide Plan map and the text map on page I/C 47 to show six lanes between Fairfax City and I-495.

MODIFY: The Plan text, page I/C 33, Lee Highway (Route 29) to read:

"Widen to six lanes between the City of Fairfax and I-495. Widen to four lanes between I-495 and Falls Church. This project will increase the capacity and improve safety on this section of Lee Highway while providing a continuous section from I-495 to Rosslyn. Widen Lee Highway to six lanes between I-66 and the City of Fairfax."

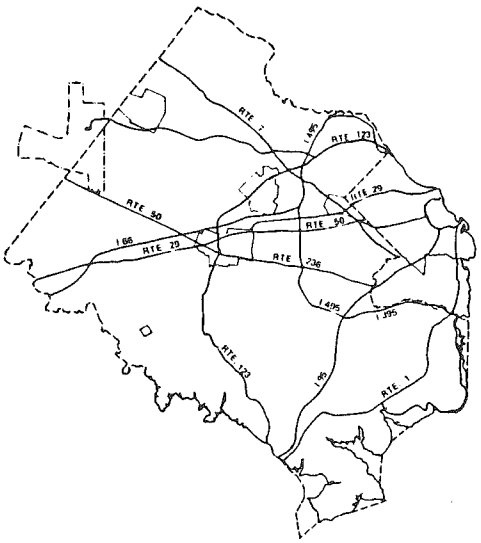
MODIFY: The plan text, page I/C 38, under sector VI, paragraph B, sub-paragraph 3, first sentence to read:

"Widen Lee Highway (Route 29) to a six lane divided roadway, with turning lanes, between Fairfax City and I-495. Such widening should preserve intact the Thompson family cemetery, which is an important historical resource, and should occur only after completion of appropriate archaeological studies to ensure preservation of potential archaelogical resources in this area. In addition, the service lane on the south side of Lee Highway in the vicinity of the Braxton and Covington subdivisions should be retained from its Western terminus to Ellenwood Drive in order to provide adequate, safe access to those communities. Improvements to Lee Highway in this area should be accompanied by provisions for adequate pedestrian movement in the corridor, particularly including pedestrian access to and from the Vienna and Dunn Loring Metro Stations. All existing and future residential communities should be buffered to the fullest extent possible from the roadway by berms, landscaping, vegetation, etc. Widen to four lanes, with turning lanes, between I-495 and the Falls Church City line."

MODIFY: The plan text, page II 102, under Specific Transportation Recommendations, paragraph E to read:

"Lee Highway (Route 29). Widen to a six lane divided roadway with turning lanes between Fairfax City and I-495. Such widening should preserve intact the Thompson family cemetery, which is an important historical resource, and should occur only after completion of appropriate archaeological studies to ensure preservation of potential archaelogical resources in this area. In addition, the service lane on the south side of Lee Highway in the vicinity of the Braxton and Covington subdivisions should be retained from its Western terminus to Ellenwood Drive in order to provide adequate, safe access to those communities. Improvements to Lee Highway in this area should be accompanied by provisions for adequate pedestrian movement in the corridor, particularly including pedestrian access to and from the Vienna and Dunn Loring Metro Stations. All existing and future residential communities should be buffered to the fullest extent possible from the roadway by berms, landscaping, vegetation, etc. Widen to four lanes, with turning lanes, between I-495 and Falls Church."

AMENDMENT NO. 86-40



AN AMENDMENT TO

THE COMPREHENSIVE PLAN FOR FAIRFAX COUNTY, VIRGINIA 1986 EDITION

GENERAL LOCATION Frontier Drive South of Franconia Road

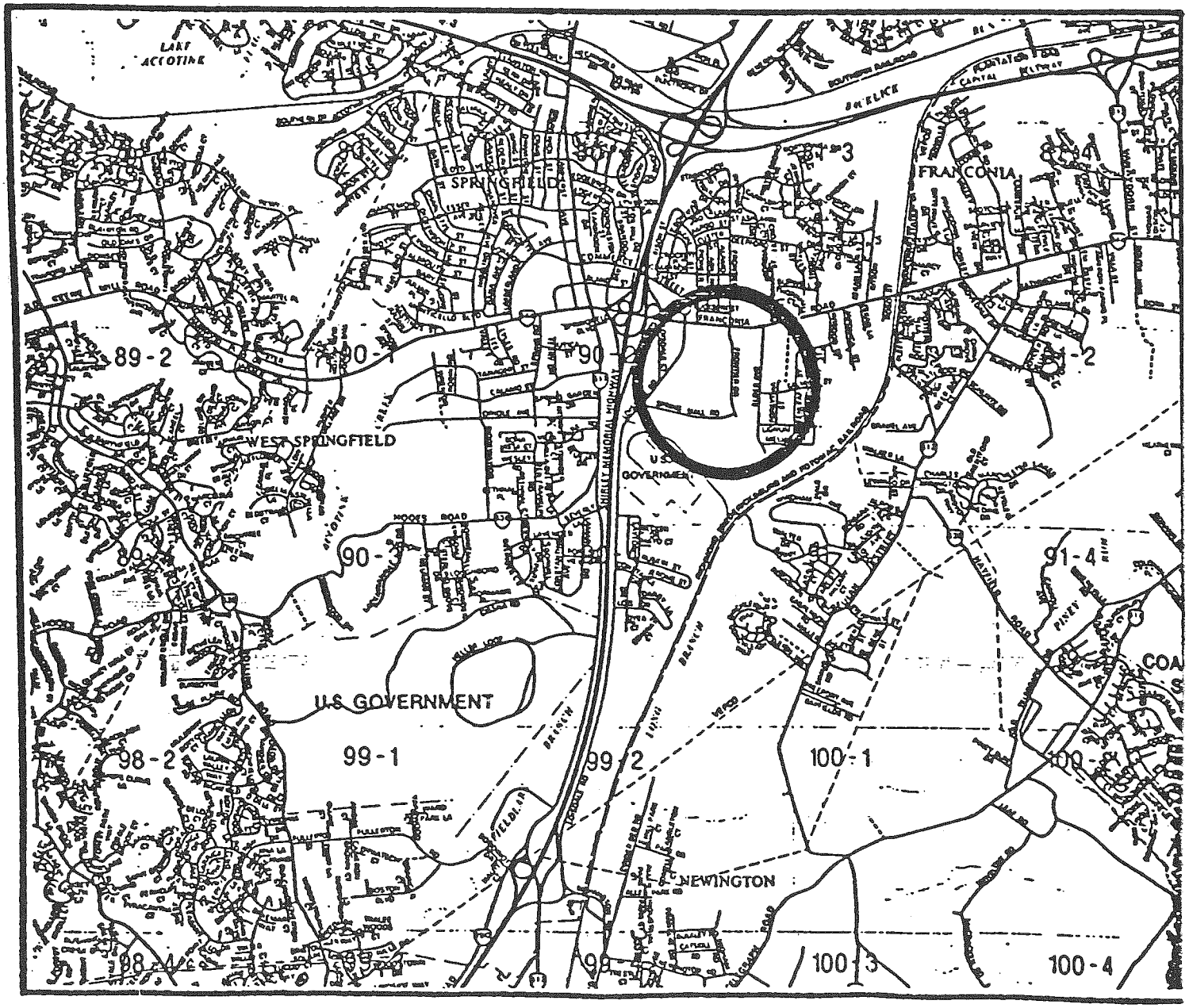
PARCEL LOCATION N/A

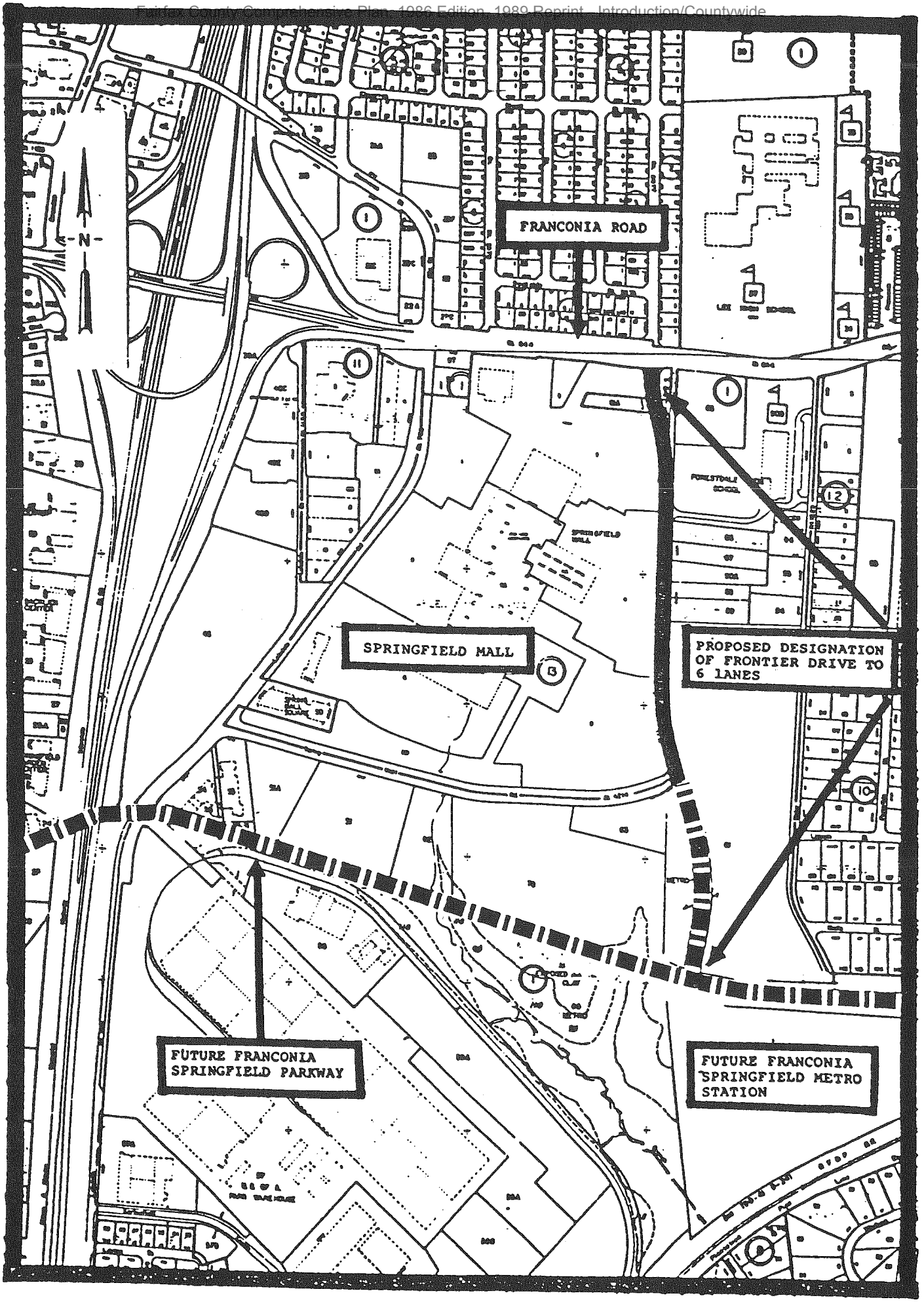
PLANNING AREA AND DISTRICT IV Springfield

SUPERVISOR DISTRICT Lee

ADOPTED June 12, 1989 ITEM NO. S-89-CWT1

FOR ADDITIONAL INFORMATION CALL 246-3510




FRANCONIA ROAD
SPRINGFIELD MALL
PROPOSED DESIGNATION OF FRONTIER DRIVE TO 6 LANES
FUTURE FRANCONIA SPRINGFIELD PARKWAY
FUTURE FRANCONIA SPRINGFIELD METRO STATION
N

Amendment No: 86-40
Adopted June 12, 1989

ADOPTED AMENDMENT TO THE COMPREHENSIVE PLAN (1986 Edition)

ADD: To the Countywide Transportation Plan map and the text map on page I/C 47 to show Frontier Drive as six lanes between Franconia Road and the Franconia-Springfield Parkway.

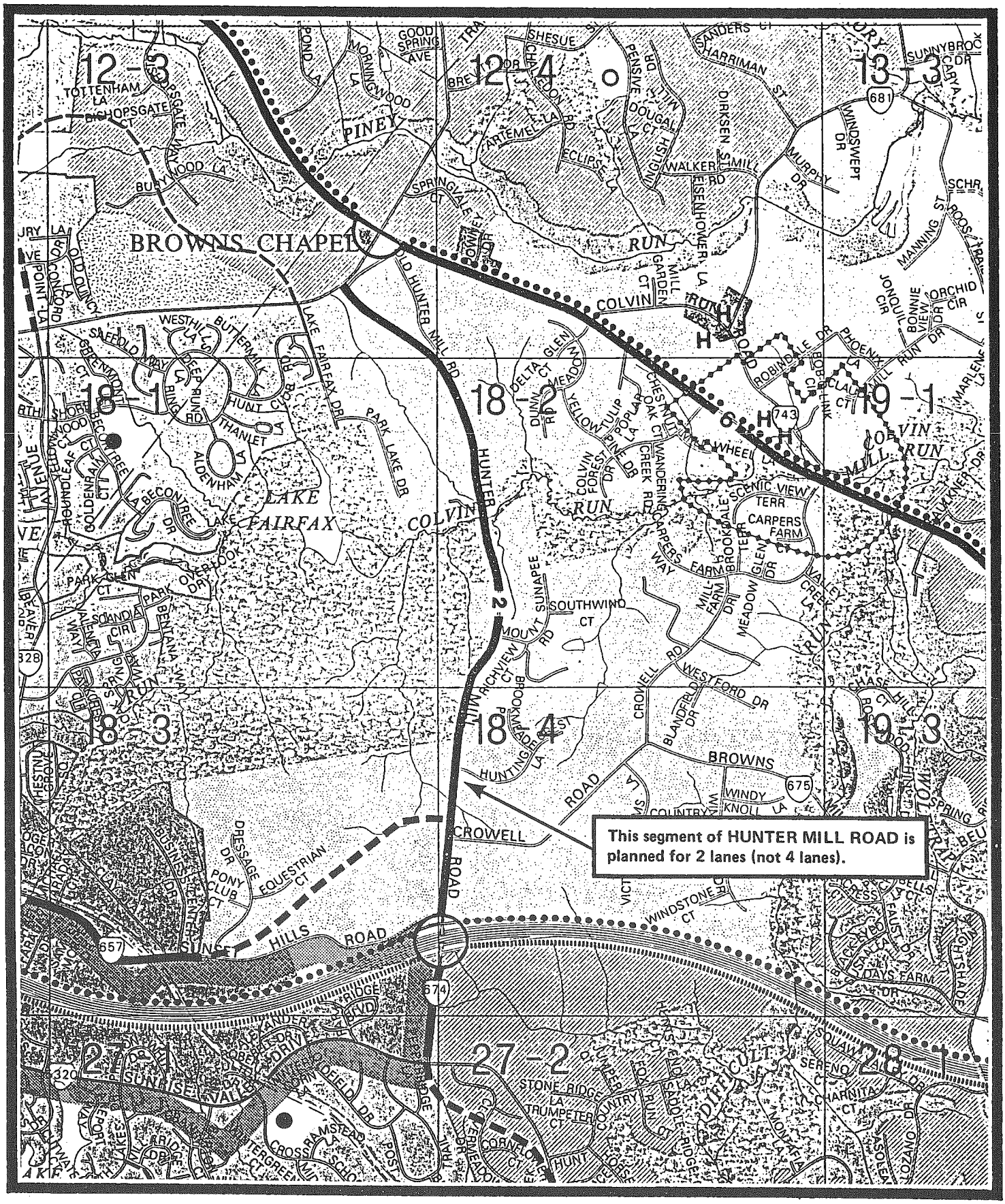
ADD: To the Plan Text, on page I/C 45 under the Sector S7 recommendations, the following:

"E. Frontier Drive should be extended southward from its present terminus at Spring Mall Road to intersect the Franconia-Springfield Parkway. The entire segment between Franconia Road and the Franconia-Springfield Parkway should be designated as a six lane facility."

ERRATA

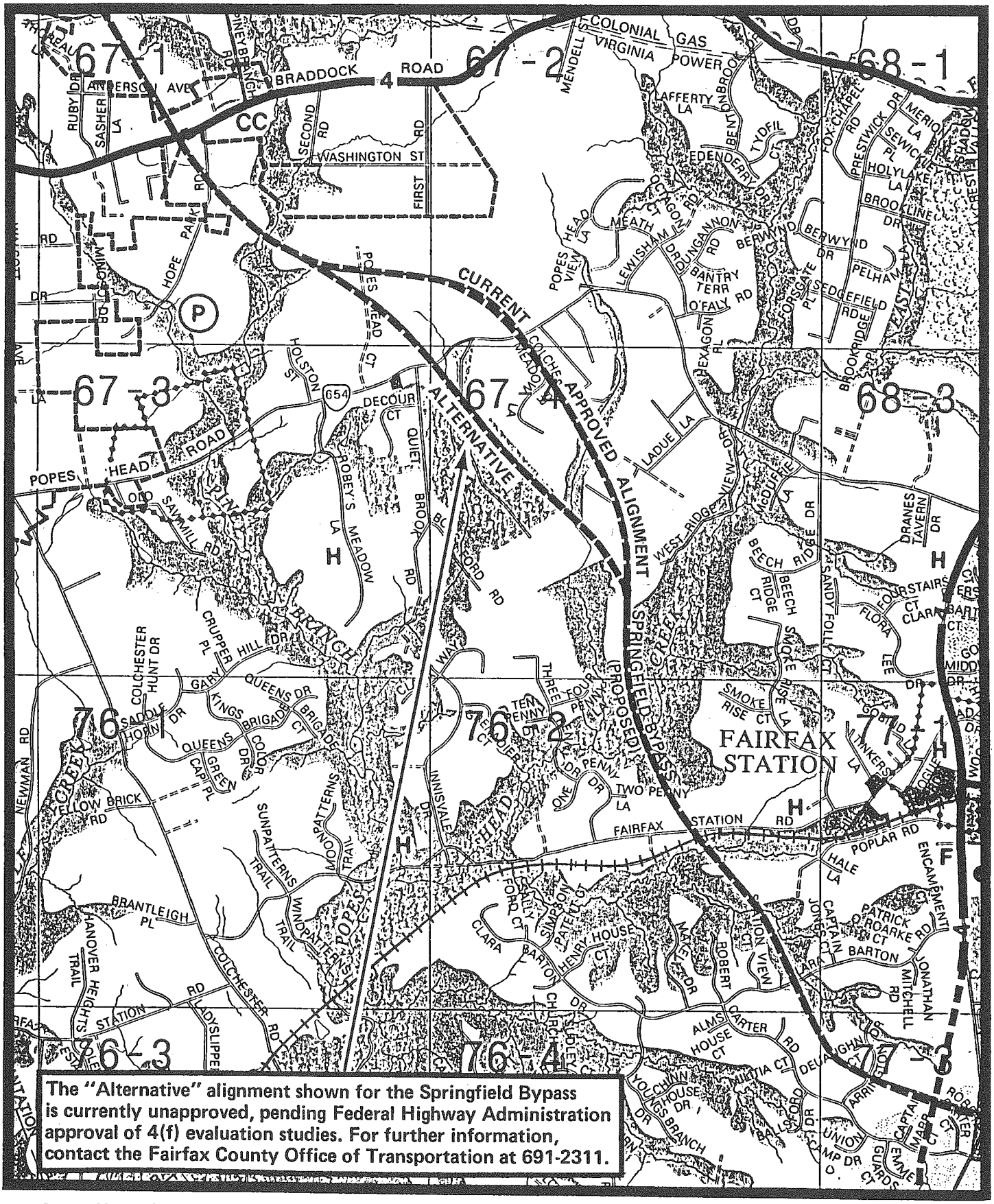
The following three pages clarify or correct the present roadway alignments or designations as delineated on the current Plan map.

HUNTER MILL ROAD



SPRINGFIELD BYPASS - ALTERNATIVE ALIGNMENT

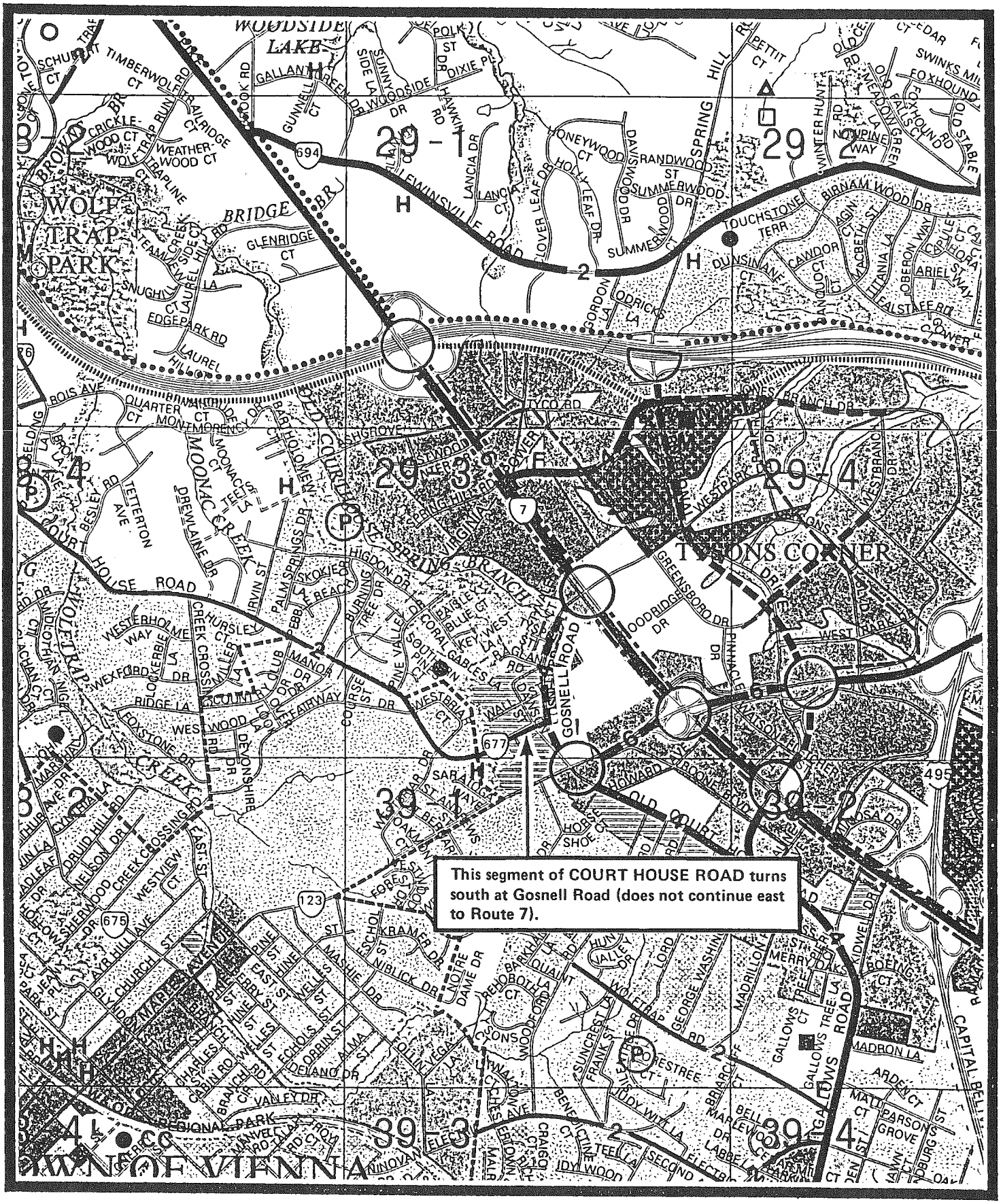
To be distributed as an addendum to Comprehensive Land Use Plan map, edition of October 27, 1986.



The "Alternative" alignment shown for the Springfield Bypass is currently unapproved, pending Federal Highway Administration approval of 4(f) evaluation studies. For further information, contact the Fairfax County Office of Transportation at 691-2311.

Prepared by Fairfax County Office of Transportation
for distribution with the Comprehensive Plan, 10/26/87.

COURT HOUSE ROAD




COUNTY OF FAIRFAX
1742
VIRGINIA