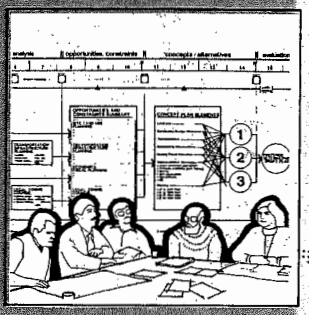
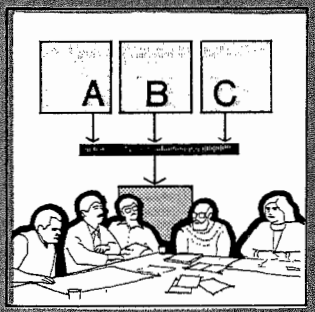
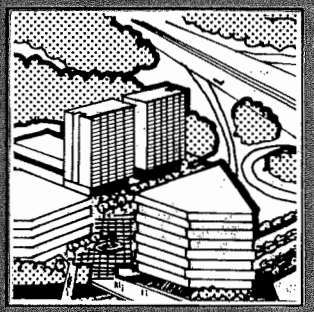
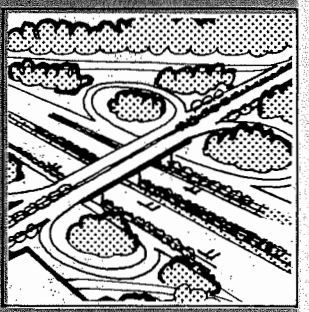
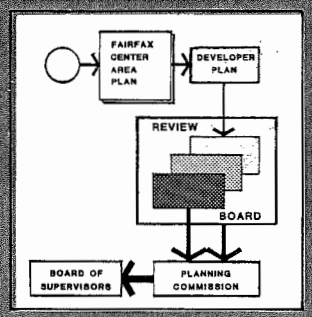


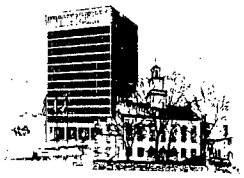
FAIRFAX CENTER AREA











COMMONWEALTH OF VIRGINIA
COUNTY OF FAIRFAX
4100 CHAIN BRIDGE ROAD
FAIRFAX, VIRGINIA 22030

November 16, 1981

Mr. John F. Herrity, Chairman
Fairfax County Board of Supervisors
4100 Chain Bridge Road
Fairfax, Virginia 22030

Chairman Herrity and Members of the Board of Supervisors:

On May 19, 1980 the Board of Supervisors approved the establishment of a Citizens Task Force to make planning recommendations for an area of over 5000 acres just west of Fairfax City. The Task Force examined existing conditions within the designated study area, evaluated the relative impacts of various development options and proposed multiple land use options based upon the provision of specified transportation, public facility and amenity improvements by zoning applicants.

The Route 50/I-66 Study was prepared by the consultant firms of EDAW, Inc., Gladstone Associates and Sverdrup & Parcel, in conjunction with the Route 50/I-66 Task Force and County staff. The Task Force, composed of local community and Countywide citizen representatives, business interests, representatives from landowners and other important segments of our County and assisted by the staff have participated in all facets of the preparation of the study. The Task Force is pleased to submit its final report concerning this important area of Fairfax County.

The Task Force report consists of two separate documents: the Fairfax Center Area which contains the full technical study and the Executive Summary.
The Task Force hopes that ultimately this study will result in the adoption of a plan amendment substantially incorporating its recommendations for the Study Area.

The Task Force stands ready to assist the Board in its further deliberations and to respond to inquiries regarding the study.

In appreciation for staff support, the Task Force unanimously passed the following resolution:

> The Task Force expresses its appreciation for the outstanding performance, professionalism and dedication of the staff from the Offices of Comprehensive

Planning and Transportation during the deliberation of the Task Force and in the completion of this report. The Task Force urges the Board of Supervisors to provide appropriate recognition to the County staff members for their outstanding performance and commitment.

Sincerely,

Michael S. Horwatt, Chairman
Route 50/I-66 Citizens Task Force

MSH:DWP:jhh0378A

FAIRFAX CENTER AREA COMPREHENSIVE PLAN

November 16,1981

Prepared By:

THE ROUTE 50/I-66 TASK FORCE

Technical Assistance By:

EDAW, Inc.
Alexandria, Virginia

Sub-Consultant Services by:

Gladstone Associates: Market Analysis
Sverdrup & Parcel: Transportation Analysis

COUNTY OF FAIRFAX

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Mr. James DeLanoy
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The Honorable Gladys Keating
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Mr. Reynold Thomas, Jr.
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Ms. Marty Treadwell, Alt.
Mr. Martin D. Walsh, Alt.

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7.0 PREFERRED LAND USE PLANNING DESCRIPTION

TASK FORCE PHILOSOPHY FOR THE ROUTE 50/I-66 STUDY

The Route 50/I-66 Study Area consists of more than 5,000 acres of land west of Fairfax City. Within its perimeter is the proposed site of the new Fairfax County Center. The vision of the proposed Fairfax County Center as the symbolic focal point of our County prompted the initial impetus for this study.

Other circumstances and conditions also prompted a rethinking of land use for the area. Since the adoption of the existing Comprehensive Plan, extension of I-66 inside the Beltway has begun and the Fair Oaks Shopping Center has become a reality. These occurrences constitute perhaps the most powerful influences on future land use in the area. The growing number of office parks in the area reinforce the trend toward change inevitably arising from the Fair Oaks Shopping Center and the vastly improved accessibility of the area to the District of Columbia and its environs.

The very establishment of the Route 50/I-66 Task Force by the Board of Supervisors indicated that the County was embarking on a new approach to land use planning. As the members of the Task Force representing a variety of interests and the major County-wide organizations worked together for eighteen months, they developed a philosophy regarding the area. Further, the Task Force recognized that Fairfax County's rich historical heritage and its proximity to the Nation's Capital provide a special incentive to make the proposed County Center and the area which surrounds it reflect the aspirations and concerns of our citizens.

An understanding of this common philosophy and belief that the proposed Fairfax County Center should service as the symbolic focal point for our County will enhance public understanding of the Task Force Report. Simply stated that philosophy is that changes in land use are inevitable and should be anticipated and controlled through a process of consensus to assure that these changes will enhance, rather than degrade, the high quality of life sought by the County residential and business communities.

Despite the profoundly divergent interests of its members and their differing points of view and perspective, the Task Force joined tofether in disciplined discussion and debate to reach a consensus on an approach which will foster and promote a land use policy born of this vision for the area.

The Route 50/I-66 Task Force recommends a policy for the Study Area that will include:

- the preservation of established neighborhoods, the natural environment, and open space;
- the mixing of residential, retail stores, and other commercial uses in the same land units;
- the provision of complimentary office, research and employment center uses;
- the diversification of the tax base and the creation of nearby employment opportunities.
- the conservation of energy through land use and site planning;
- the improvement of the transportation system, including mass transit, to accommodate future development; and
- the improvement of the transportation system, including mass transportation, to accomodate future development; and
- the discouragement of strip commercial zoning.

The land use policy recommended to achieve these goals takes the existing Comprehensive Plan applicable to the Study Area, with some modifications, as the point of departure for determining both land use and density within the Study Area. In order to obtain more intense uses and greater densities, applicants must provide facilities and amenities commensurate with those more intense uses and increased densities above and beyond the minimum set forth in the Comprehensive Plan. In this manner, the policy makes more intense uses and greater densities dependent upon the applicant providing facilities and amenities of an increasingly significant nature designed to mitigate the impact of that density. Moreover, the concept envisions an "Urban Village" consisting of a concentration of mixed use development centered around the Fair Oaks Mall and proposed Fairfax County

Center with increasingly lower density radiating out from the core.

This approach is a major departure from conventional County land use planning policy. Generally, the County practice is to plan one development program which provides for a single use with narrow ranges of density for each land unit. By contrast, the Task Force proposes multiple development programs for each land unit which provide for a variety of land uses and densities based upon submission to a special review process and upon performance guidelines which establish quality controls in exchange for quantity incentives.

In formulating an implementation strategy, the Task Force built upon existing planning tools and identified the use of the P Districts (PRC, PDC, and PDH) as the principal vehicle for achieving transitions, buffering and mixed land use in the area. The extensive review process and other requirements, not imposed in the conventional zoning districts, will increase the likelihood of higher quality development.

To assure continuity and consistency in administering this proposed new policy and in promoting its goals, the Task Force recommends establishments by the Board of Supervisors of an advisory five-member Review Board for a two-year period to review land use applications involving property within the Study Area; to confer with citizens, developers, and other interested parties regarding such applications; to act as a mediator in reconciling differing points of view; and to recommend actions on such applications to the Planning Commission and the Board of Supervisors. At the expiration of the two years, the Review Board should be continued if it achieves the objectives contemplated by its creation.

The Task Force recommendations do not merely reflect technical solutions to complex land use problems. Rather, they spring from a vision of what our County and this particular area should be. This vision contemplates a place which will serve as the focal point of Fairfax County, a place with which all our citizens can identify, a place which will boast beautiful buildings, surrounded by large areas of open space, where people can live, work, play, learn, and participate in their local government. In order for this vision to become a reality, the Task Force underscores the importance of establishing viable financing alternatives to provide required transportation facilities for the area before adopting a comprehensive plan which incorporates the Task Force recommendations. Accordingly, The Task Force recommends a transportation sequel to this Study to proceed immediately.

A corollary of this philosophy is that a strictly "numbers"-oriented approach to determining the intensity of use obscures the fact that site controls, the amount of open space, architectural excellence, intermingling of uses, transportation facilities and the interrelationship of component properties to the whole Study Area will largely determine the quality of development. The Task Force reached this conclusion after studying various projects with various ranges of density. It found that projects with significant density and mixed use, when accompanied by sensitive site controls, architectural excellence, amenities such as open space and adequate transportation, frequently offered a more aesthetically and environmentally satisfactory alternative to land use than some projects with lower densities which often lack these qualities.

The consensus reflected in the Task Force recommendations was born of difference and compromise. The very composition and process of decision-making assured that all points of view would receive consideration in the Task Force deliberations. The approach to decision-making finds its roots in the Madisonian theory of government, which envisions participation in the process by all relevant interests, so that all responsible interests and views receive a full airing in the policy process.

Rarely have historical conditions afforded Fairfax County the unique opportunity to exercise a persuasive influence on the future development of such a large, strategically situated parcel of land within its borders as the Route 50/I-66 Study Area. The Task Force has been mindful of both this opportunity and this challenge and has proposed an approach to land use which we believe represents the highest state of the art in contemporary land use planning, while doing so within the existing legal framework. We believe our approach, as reflected in this Report, offers the best hope for the future of the area and for the entire County. We hope that our fellow citizens will agree.

FINDINGS, CONCLUSIONS, RECOMMENDATIONS

The Route 50/I-66 Task Force has built upon the expertise and knowledge of its members who represent a wide diversity of interests. The effort to build an ongoing consensus has been difficult, but it has been achieved.

The Route 50/I-66 Task Force has been able to discuss the implications of many issues relevant to County planning and development. A summary of the more important areas of concern addressed include:

- o continuing pressures of residential development, which could preclude office, research and employment center development potential in the Study Area;
- o transportation, both internal and external to the Study Area;
- o concern with piecemeal and uncoordinated development;
- o energy conservation and better utilization of alternative forms of energy.
- o a mixed use Urban Village Concept of development;
- o provision through incentives in the form of density/intensity to provide a mechanism to encourage the type of high quality development the County seeks for the Study Area;
- o necessity to protect the environment, with emphasis on the Occoquan and Difficult Run watersheds, and
- o diversification of the tax base and preservation of the County's AAA bond rating.

A. Findings

1. Relation to Proposed Fairfax County Center

Fairfax County purchased 183 acres within the Study Area for a new government center.

The proposed Fairfax County Center design competition has started. The Task Force believes this competition will yield a design that will be a model for quality development and will simultaneously provide the County with a focal point. The Task Force also believes the Center will, by its presence, attract more intensive development and accelerate the rate of growth in the area.

The desire to insure compatible development around the proposed Fairfax County Center site was one of the primary factors which led to the creation of the Route 50/I-66 Task Force.

2. Planning and Zoning Considerations and Market Conditions

The Plan provides for more dense/intense utilization of land than the current zoning in many cases. However, when the Plan indicates less density/intensity than the current zoning, as it does in some areas within the study, it is unlikely that development will occur at the Plan levels.

The Task Force believes current Comprehensive Plan and zoning classifications have not resulted in, or achieved, mixed-use development. While the "P" districts provide an opportunity to develop land in a mixed use Urban Village Concept, there has been only limited utilization of this type of development.

It is the consensus of the Task Force that the land under study is unique in the sense that:

1) it is sparsely developed;

2) it is at a primary transportation junction, and

3) it is in the path of development which is likely to escalate greatly in the near future.

It is the consensus of the Task Force that market demand will produce development in the Study Area at uses and densities greater than and different from those currently planned.

The Study Area stands at a "timing threshold" in the development cycle. A number of plan amendments and rezoning applications on file have been deferred, with the consent of the applicants, pending the outcome of the Task Force efforts. These amendments, by themselves, will impact and substantially alter the current plan.

Fair Oaks Shopping Center exists and is planned for additional buildings. The Shell and High Ridge Industrial Parks are under construction. Uncoordinated commercial/industrial uses are steadily moving west from Fairfax City.

The basic infrastructure necessary to support many types of development is in place or about to be put in place:

- Water
- Sewer
- Electricity
- Gas
- Basic road access to the Study Area

The Study Area is the largest undeveloped area in the County serviced by the primary infrastructure necessary for development.

Large tracts are in single or limited ownership

The Task Force believes development pressures tend to threaten existing neighborhoods.

Utilization of mixed-use planning provides one of several mechanisms for buffering existing neighborhoods.

Market research indicates that the potential demand for greater utilization in terms of density will exist over the next 20 years. The Task Force believes this development will probably result in incremental erosion of the existing Comprehensive Plan

The actual levels of development are influenced by many factors, such as:

- County policy
- Area economic conditions
- Availability of sites
- Availability of manpower

3. Fiscal Implications

The current Comprehensive Plan does not adequately address the fiscal implications which follow from the Plan use designations, nor are these fiscal implications addressed in other County planning documents.

The predominant residential use designations of the current Comprehensive Plan will result in a

x

significant demand for services with a small offsetting increase in the non-residential tax base. The existing Plan does not provide a means for addressing or financing needed road and other off-site improvements.

The Task Force believes the current Comprehensive Plan encourages "suburban sprawl" and does not adequately encourage greater concern for husbanding the resource which the land itself represents.

4. Transportation

The Study Area is currently served by several major highways: I-66, Route 50, and Route 29. Several secondary roads also serve the area: West Ox Road, Stringfellow Road, Waples Mill Road, Jermantown Road, and Shirley Gate Road. The proposed Springfield Bypass is planned to traverse the Study Area.

The current road network provides access to and from the Study Area but lacks adequate facilities for movement of the traffic within the Study Area. Further, it does not appear that the road network shown on the Comprehensive Plan is sufficient to provide adequate levels of service within the Study Area.

Under the current Comprehensive Plan, projected levels of service will vary from adequate (relatively free flowing) to poor (stop and start with major delays), depending upon location.

The Task Force believes that development which is likely to be built under the current Comprehensive Plan will not provide necessary improvements to offset deteriorating levels of service throughout the area. Current County and state resources are inadequate to fund the transportation requirements of the Area without private sector participation.

There is no adequate set of incentive tools available to the County which encourages transportation infrastructure improvements under the current planning and development processes.

The current Comprehensive Plan provides neither incentives for adequately addressing the issues of mass transportation, van pools, car pools, and ride sharing, nor a concentration of density to stimulate mass transportation for this area.

There exists a need to coordinate better the implementation of transportation infrastructure

improvements with the actual development taking place in the Study Area.

5. Other Areas of Special Concern

The Study Area has several natural features of unique significance. It is situated at the headwaters of the Occoquan and the Difficult Run watersheds. A major aquifer traverses the area. Stream valleys and associated floodplain run throughout the area.

Many amenities exist, such as parks, monuments, trails, and open space.

There are several stable residential communities within the Study Area which must be preserved and protected.

Several existing publicly owned parcels in the area pose challenges in terms of quality development: the landfill, Camp 30, the Animal Control Center, and Weigh Station.

The Task Force believes the park storage site (which was the source of the cover used at the landfill) has significant development potential which the County could utilize to encourage quality development in the Study Area.

In this era of substantial dependence upon continually more expensive purchased energy, the Task Force believes energy conservation has become a prominent concern. There is need to increase energy efficiency and use renewable energy and to reduce total energy demand.

The opportunity to factor energy conscious land use planning and site design into the Route 50/ I-66 Study is both timely and important. The Task Force believes that multiple and mixed-use land arrangements, in which residential, retail and employment opportunities are located within close proximity to one another, can dramatically cut energy usage and reduce the total number of vehicle and/or person miles traveled.

By developing comprehensive transportation management strategies, including mass transportation, parking and traffic improvements, a ride-sharing program and an extensive interconnecting system of pedestrian and bicycle pathways, energy conserving goals can be accomplished.

B. CONCLUSIONS

1. Planning and Zoning Consideraions and Market Conditions

The current Comprehensve Plan needs to be revised. This revision should include mechanisms for encouraging assemblage and mixed use. It should include tools and incentives which can be utilized to encourage innovative quality development. It should reflect those instances where current zoning provides for more intense utilization than the current Plan. It should reflect a realistic level of development and provide for density/intensity bonuses when amenity packages are combined with requests for more utilizations.

The Task Force believes the Study Area can become a focal point for Fairfax County. Within this area of residential, commercial office, research, employment center, cultural and government land uses should be encouraged.

Market forces exist to bring mixed development to the Study Area, and these forces will continue to exist over the next 20 years.

The County must take positive steps to coordinate the development of infrastructure necessary to support development in the Study Area. Otherwise, the opportunity will be lost and any benefits which might have accrued will never materialize.

2. Fiscal Implications

The County can improve its non-residential tax base by encouraging high quality development of mixed-use residential, commercial, industrial and employment centers in the Study Area. Through utilization of these centers, or "Village Cores", economies of scale can be achieved, energy can be conserved, and a new model of development can be created in the County. These centers will serve as models for similar mixed-use development elsewhere in the County.

3. Transportation

A better transportation network is essential in order to realize the full market potential of the Study Area, and the economic return from increased densities should be used, in part, to provide the needed transportation improvements.

The existing road network, both into and within the Study Area, is insufficient to handle existing or planned traffic adequately or safely. First, it is important to ensure the completion of all Comprehensive Plan transportation improvements into and within the Study Area (See specific transportation recommendations for West of Fairfax Complex Area in the Comprehensive Plan.

Secondly, it is essential the the following improvements, inter alia, be incorporated in this plan. A north-south connector road, east of Greenbriar from Route 50 to Route 29 is needed with interchanges at Route 50, I-66, and Route 29 to provide adequate access and traffic movements in the western part of the Study Area. (See Figure 4, Traffic Impact Analysis in the Fairfax Center Area Study). A second north-south connector road from Route 50 and Route 29, will provide access and traffic movement in the eastern part of the Area.

The major arterial roads, Route 50, 29 and I-66 will all need to be widened to accommodate the increased traffic. Completion of the two missing ramps in the Route 50/ I-66 interchange is important to facilitate traffic flow through the area. This will also create the need to reconstruct on the Fair Oaks flyovers. If Route 50 is widened to eight lanes as planned, both flyovers must be rebuilt to accommodate the extra lanes. Therefore, only six lanes is recommended.

East-west connector roads from the western north-south connector to West Ox Road and from West Ox Road to the proposed Fairfax County Center site and Route 29 with a bridge spanning I-66 will help improve east-west circulation internally and connect the core areas.

Improved intersections such as West Ox Road, Fairfax Farms Road and others throughout the Study Area are needed using turn lanes, signalization, grade separations and even relocation as in the case of Legato Road which intersects West Ox Road so near Route 50 that it interferes with the already congested West Ox-Route 50 intersection. Residential roads such as Random Hills, Legato, (south of I-66) and three streets in Greenbriar, Middle Ridge, Acorn Street and Marshall Hall Lane, should be terminated in cul-de-sacs to keep them from becoming throughways for commercial traffic.

A great opportunity exists to promote alternate transportation modes including mass transit, an intra-area shuttle system, ride-sharing and van pools. Development of a pedestrian and bicycle circulation system within the Study Area is necessary.

Returns to the County, realized by the greater commercial density in the Study Area, should help finance transportation improvements in this area.

Returns to the County, realized by the greater commercial density in the Study Area, should help finance transportation improvements in this area.

Finally, further detailed study of the entire transportation system is recommended to assure that adequate infrastructure will be provided in a timely manner to serve the "Urban Village" development outlined in this report.

4. Areas of Special Concern

The land use Plan should encourage mixed-use/ Urban Village quality development.

Encouraging high quality development in the Study Area provides a tool to address many special concerns. It will:

- o provide a focal point for Fairfax County;
- o reduce development pressures elsehwere in the Occoquan and Difficult Run watersheds;
- o protect existing neighborhoods through buffering and other appropriate techniques;
- o provide for protection of the environment, particularly the Occoquan and Difficult Run watersheds;
- o preserve existing historic sites and recreational facilities;
- o encourage the protection of open space and other amenities in the area which include Environmental Quality Corridors;
- o encourage the County to resolve the landfill controversy and urge an alternate use of the transfer station and landfill site as a metro bus site and metro parking facility;

- o encourage an alternate use of the park storage site;
- o discourage strip commercial development and commercial sprawl, particularly on Route 50 and Route 29;
- o orient office and commercial development toward I-66;
- o provide for a better coordinated approach to development and
- o reduce energy consumption through better utilization of land development.

C. Recommendations

1. Revise the Comprehensive Plan to reflect the Baseline Plan recommended by the Task Force.

2. Adopt, in principle, the Intermediate and Overlay Plans recommended by the Task Force, subject to additional transportation recommendations to be made in the near future.

   The Task Force does not favor a total buildout of approximately 23 million nonresidential square feet. This number represents the approximate aggregate of all planned Overlay density figures on a parcel by parcel basis (minimizing housing as a secondary use in the PDC district). The Task Force firmly believes that this total density is too high and represents an unrealistic development level for the Route 50/I-66 Study Area. Consistent with this belief the Task Force recommends that an annual report be issued by the County which states the total nonresidential square footage and residential units (including planned and built) in relation to the 14 million square feet of nonresidential space and 11,000 residential units viewed by the Task Force as the maximum level of intensity which is appropriate for the Study Area. The Task Force urges the Board of Supervisors to adopt appropriate policies and provide guidance to the Fairfax Center Implementation Review Board and Planning Commission that will result in the encouragement of mixed uses of PDC districts with a concomitant reduction of nonresidential development intensity. The Task Force urges that public transportation investments be made to assure coordinated development for the Area.

3. Proceed as expeditiously as possible with the proposed Fairfax County Center project.

4. Create a Review Board with provisions for an evaluation of its effectiveness of two years.

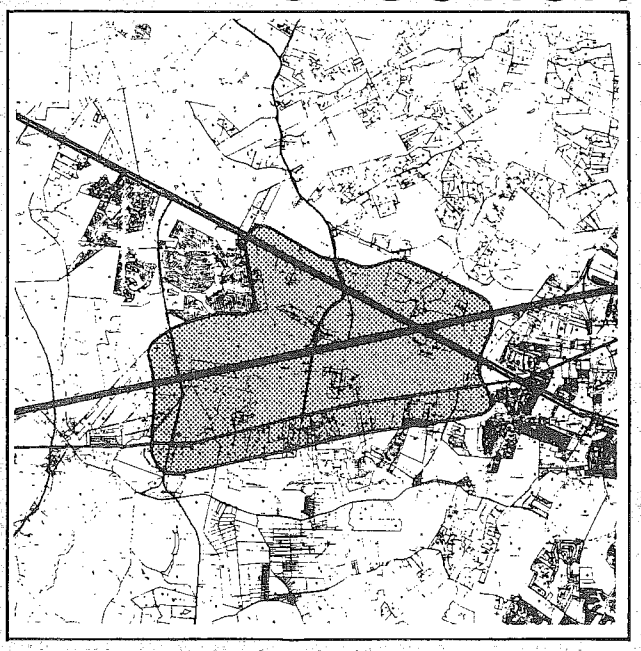
5. Provide a mechanism for funding transportation improvements in the Study Area by the public sectors.

   Sell the Park Authority's storage site to provide funding of necessary County infrastructure improvements required by the proposed Fairfax County Center and the Study Area.

6. Incorporate energy for creation of linear parks, plazas, open space, bike trails, pedestrian circulation networks and other quality development amenities.

7. Provide a mechanism for creation of linear parks, plazas, open space, bike trails, pedestrian circulation networks and other quality development amenities.

1.0
INTRODUCTION



1.0 INTRODUCTION

1.1 BACKGROUND/PURPOSE

On May 19, 1980, the Fairfax County Board of Supervisors approved the establishment of a Citizens Task Force to assist in the formulation of planning recommendations for an area of over 5000 acres adjacent to and west of the Route 50/I-66 interchange in Fairfax County. This Board action marked the beginning of the major planning effort described in this report.

It is beneficial to outline briefly some of the factors and events which led to the creation of the Route 50/I-66 Task Force:

- The Board of Supervisors decided to relocate the existing Fairfax County Government Center. A 183 acre site in the Route 50/I-66 area was identified and purchased by the County for the future governmental center.

- A Government Center Master Plan Committee was established to develop a design competition for the proposed governmental center. The Committee stated that the design excellence anticipated for the proposed Fairfax County Center should extend beyond that site to the surrounding area, and that the entire Route 50/I-66 area should be planned as a strong focal point for Fairfax County.

- Fair Oaks Regional Shopping Mall, with 1.2 million square feet of enclosed space, opened in mid-1980 at the intersection of Route 50 and I-66. The largest regional mall in the County, Fair Oaks and its associated development are expected to become a nucleus for development of a major shopping-office-hotel complex in the area. The opening of Fair Oaks Mall, along with the construction of the initial buildings of the Pender and High Ridge business parks east of the Route 50/I-66 interchange, underscore the area's present economic development potential.

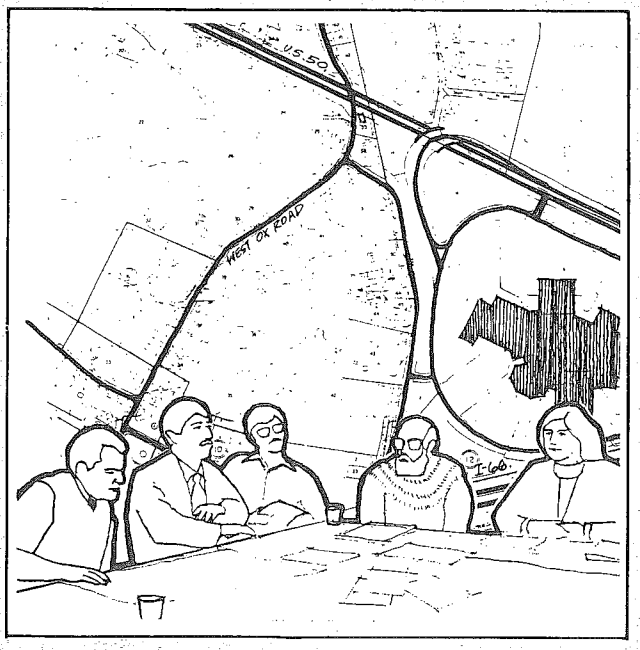
- Increased private developer interest in the I-66 development corridor, and the fact that a great deal of the Route 50/I-66 area today remains undeveloped, underscore the new development potential for the area. A good deal of discussion ensued regarding the concern that the Route 50/I-66 area might become "another Tyson's Corner". Such a comparison offers a somewhat positive economic picture but also elicits a concern for environmental quality for the area; there was unanimous Task Force agreement that certain aspects of the Tyson's Corner experience should be avoided in planning the Route 50/I-66 area. Notable lessons learned from earlier experiences at Tyson's Corner include increased planning emphasis in the areas of: improved pedestrian circulation; increased open space; closer proximity among the workplace, shopping areas and housing concentrations; avoidance of major strip commercial areas of free-standing buildings (such as large auto dealerships); the reduction and buffering of large expanses of parking; and transportation issues, especially the assurance of infrastructure construction in a timely fashion and improved opportunities for mass transit service.

Early in the process, the watchword was "implementation". The Task Force realized that the preparation of a land use plan which could not, or would not, be implemented with the highest quality standards, was not acceptable. Any proposed land use plan would need to be socially, economically, environmentally and politically acceptable to a wide range of Fairfax County citizens. The Task Force membership, with its diversity of backgrounds, represented the sensitivities, concerns and desires of Fairfax County citizens. Therefore, the assurance of the development of a truly "implementable" land use plan by this representative group could only be had through widespread agreement on that plan by the Task Force. Indeed, a general consensus was essential in dealing with the major issues before the Task Force. The land use plan proposed in this study is the product of many hours of effort, deliberation and discussion in an attempt to forge a consensus so that this plan can and will be implemented.

1.2 STUDY APPROACH

The problem at hand was to review the Comprehensive Plan for the 5340 acres comprising the Study Area. Issues and concerns to be addressed by the study needed to be identified; the basic approach to the study had to be defined and a process for achieving the study goals had to be developed. Also, the product of the study, a revised land use plan, had to embrace a quality concept for living while responding to the opportunities, constraints, and needs of this unique area and Fairfax County. Through an intensive process, with technical planning assistance from the EDAW project team, the Task Force developed a revised land use plan which is sensitive to the myriad of social, environmental and economic issues posed by the original problem. The issues fall into the broad categories of transportation, environmental quality, land use, market potential, and implementation, and are discussed more fully in Section 2.0. The key concept for future development of this area is that of the "Urban Village", further explained in Section 4.0.

2.0 MAJOR ISSUES SUMMARY



2.0 MAJOR ISSUES SUMMARY

A list of major issues was identified through inventorying the Task Force goal statements and Land Use Plan evaluation criteria statements. Generally, the list was categorized into five major issue areas:

2.1 LAND USE

- The existing Comprehensive and Zoning Plans for the Route 50/I-66 Study Area are predominantly single land use assignment plans. Large, homogeneous areas of similar densities and uses should be avoided in order to ensure that the Study Area will not ultimately develop in the familiar pattern of such places as Tyson's Corner. Instead, a rich mix of land uses, in quality developments, which respond to market and site-specific conditions should be encouraged.

- There is a need for multiple and mixed land use arrangements if the potential quality level of the Study Area is to be attained. This can be achieved through the use of existing Fairfax County "P" (Planned Development) Districts allowing for a quality mix of housing, employment, retail and other uses, and through the development of special "mixed use village cores" in strategic areas. Such multiple and mixed use projects must be governed by performance criteria which will insure quality development.

- The proposed Fairfax County Center will be a major focal point for future Study Area development; therefore, it is critical that adjacent development be compatible to the proposed center in general use relationships, scale and quality--it should complement and reinforce, not compete with the Center. This high quality of design should be encouraged in all development within the Study Area.

- Urban or suburban "sprawl" is not a desirable land use pattern for the area. The proposed land use plan should provide a strong conceptual and perceivable sense of order through the control of land use location, densities, hierarchical road systems, major focal areas (cores) for development, cluster design concepts and strong use of buffers and amenity features.

- Land uses should be allocated to specific sites based upon each site's suitability to support a particular use or uses in terms of natural conditions, support service availability and consideration of adjacent planned and existing uses.

- To ensure a high quality level of development throughout the Study Area, design review mechanism should be considered for inclusion in the implementation aspect of the proposed plan. This review process would help to maintain and assure a standard of excellence of development for the Study Area.

- Open space definition through the planning of continuous linear park and pedestrian/bicycle systems throughout the Study Area is desirable; these systems would frame and buffer development clusters while providing recreational and transportation opportunities. Fairfax County currently encourages the formation of stream valley parks, and actively pursues a policy of the protection of Environmental Quality Corridors along streams. The land use planning process should actively support and augment these County policies.

- Existing stable neighborhoods should be preserved, enhanced and reinforced through the use of buffering and recommended improvement actions. Buffering measures and compatible adjacent land uses must be incorporated into the Plan for protection of the integrity of neighborhoods such as Dixie Hills, Random Hills, and Greenbriar.

- Strip development should be minimized while maximizing the "cluster development" concept throughout the area.

2.2 TRANSPORTATION

- The need to attract suitable mass transit services to the Study Area through the planning of proper type, mix, location, and intensity of land uses was considered of primary concern. If the extension of commuter rail services proves infeasible, the assurance of express commuter bus service via I-66 to the Nutley Road Metro Station and the District of Columbia is desirable to reduce automobile traffic generated by the Study Area, as well as to conserve energy and lessen air pollution. Internal to the Study Area should be a well developed bicycle path system, linking homes, employment centers, retail areas and recreational sites; such systems will offer alternatives to using automobiles for short trips within the area, and link the Study Area to neighboring areas.

- The roadway system for certain parts of the area is already congested during peak traffic periods. Strong consideration must be given to the traffic impact of any proposed development beyond the current adopted Comprehensive Plan level. Therefore, transportation improvements must be provided in concert with new development, as needed.

  Particular areas of concern include Route 50 and West Ox Road north of Route 50. These major regional commuter routes are operating at the lowest level of service during peak hours, and future planning efforts should improve this situation as much as possible through redistribution of traffic along other (new or existing) routes or through highway infrastructure improvements. Sanitation truck traffic to and from the landfill via West Ox Road constitutes another traffic problem. Although the planned cessation of landfill operations in late 1982 would improve this situation, the proposed sanitation truck transfer station on that site would create new truck traffic in the area. A thorough analysis of likely transfer station impacts on the area should be undertaken with consideration given to the option of not establishing the station in this area. The interchange at Route 50 and I-66 is currently incomplete. This hinders the smooth flow of traffic by forcing drivers to resort to circuitous routes. Inclusion of the additional ramps necessary to create a full interchange must be considered in the planning process.

  Any proposed major thoroughfare must respect existing established residential neighborhoods to the greatest extent possible. The alignments of proposed roads should not reduce the livability of residential neighborhoods either by entering the neighborhood or by passing unreasonably close by, unless such impacts are mitigated.

- I-66, Route 50 and Route 29 should be recognized as major traffic corridors in the Study Area Land Use Planning effort. The proposed Springfield By-Pass or another major north-south connector road and other proposed internal collectors should be considered as primary future traffic carrier options which may complement the existing road system. Neighborhood collector streets should not be looked to as future major thoroughfares when such usage degrades the quality of the adjacent land uses.

- Currently proposed roadways should be assessed in light of Study Area planning objectives, opportunities and constraints. A major artery should run in a north-south direction and would be located between the Greenbriar Community and the Fair Oaks Mall. A substantial land use and noise buffer would be retained between the major roadway and the residential area along the eastern boundaries of the Greenbriar and Oakwood Estates communities.

- Quality truck and service vehicle access must be provided in such a way as to cause minimal negative impacts on Study Area users and residents. This applies particularly to vehicles servicing existing and proposed commercial, office, industrial, and utility uses. Limited access highways with adequate design characteristics, along with the proper location of service-oriented land uses, can reduce potential negative impacts.

- Proposed road alignments must be responsive to natural landscape conditions and existing

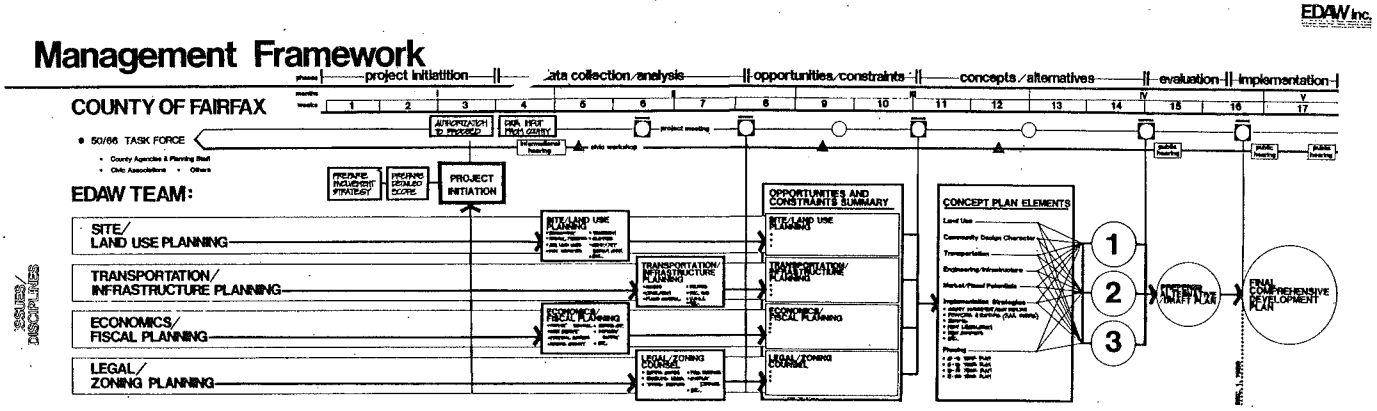
and proposed land uses. The visual impact of the roadway must be considered a primary design criteria during horizontal and vertical alignment planning and design. Roadway design through wooded areas should include tree preservation criteria, especially in the median area. The relationship of proposed roads to residential uses must be considered; safety, noise, air quality, and other issues should be addressed in this context.

2.3 ENVIRONMENTAL QUALITY CONCERNS

- There is a need to protect the water and environmental quality of the Occoquan Basin area. The Occoquan Basin drains approximately 20% of the total area of Fairfax County. The reservoir stores water for a large percentage of the Northern Virginia population. Even though the present overall intensity of development within the Occoquan Basin is relatively low, water quality levels in the Basin are worsening. Further influx of development into the area will be extremely detrimental to water quality and wildlife habitats unless environmentally sensitive site development measures are utilized.

- In order to achieve the environmental goals of swimmable and fishable waters within the Study Area, measures must be taken throughout the development process to control water pollution problems associated with increased development. All projects within the Study Area must abide by the "Best Management Practices" (BMP) criteria for non-point source pollution control, as adopted by the County Board of Supervisors in an effort to achieve water quality goals. Included in these practices are: sedimentation control, storm water detention (modified as per BMP's), storm water retention and detention, infiltration trenches, porous pavement usage, paved surface cleaning practices, erosion control, cluster development, grass swales and vegetation filter strips.

- There is a need to minimize, if not eliminate, point source pollution within the Study Area. These sources of pollution can have severe effects on water quality, and can become health hazards, particularly when pollutants permeate into the ground water supply. When this occurs in an aquifer (such as exists in the Study Area), drinking water can be severely affected. The inclusion of facilities which may generate point-source pollution must be



studied carefully within the planning process. In addition, mitigation methods must be employed for all situations where point source pollution may present a problem within the Study Area.

- A portion of the Difficult Run Watershed is contained within the Study Area. This has been designated as a "Critical Environmental Area" by the Commonwealth of Virginia in recognition of the serious threat that development makes on water quality, wildlife habitats and preservation of flora and fauna. Earthwork, reduction in vegetation cover, and increased rate of run-off resulting from the use of impervious surface materials can result in erosion and increased sedimentation of the stream system. Water quality, stream profiles, and vegetated wildlife habitats along stream edges may be adversely affected. While development could have adverse effects on the watershed, there are numerous available techniques of siting, choice of materials, construction methods and water-related management practices that can assure the preservation of the Difficult Run Watershed, while accommodating an increase in development. These techniques must be utilized in all development projects with the Study Area.

- The need to protect and enhance flora, fauna and water quality is of primary concern. This can be accomplished through the provision of Environmental Quality Corridors (EQCs). These EQCs form a vegetated filter strip around streams. In this way, impurities which flow in run-off are filtered out prior to entry into the stream system, thus ensuring higher water quality. The EQCs additionally serve as valuable wildlife habitats and zones where natural vegetation processes are allowed to progress. Consequently, all streams and other areas of particular environmental consequence must be protected through the strict adherence to a policy of protection of Environmental Quality Corridors. Once established, these Environmental Quality Corridors, when linked together and augmented by parks and other open space areas, can form a continuous open space system linking all major parts of the Study Area. Such a system of pedestrian and/or bicycle trails should be established during the planning process.

2.4 ENERGY CONCERNS

- In this era of substantial dependency upon continually more expensive purchased energy, energy conservation has become a prominent concern. There is need to increase energy efficiency and use of renewable energy and reduce total energy demand.

- The opportunity to factor energy conscious land use planning and site design into the Route 50/I-66 Study is both timely and important. Multiple and mixed-use land arrangements, in which residential, retail and employment opportunities are located within close proximity to one another, can dramatically cut energy usage and reduce the total number of vehicle and/or person miles traveled.

- By developing comprehensive transportation management strategies, including mass transportation, parking and traffic improvements, a ride-sharing program and an extensive interconnecting system of pedestrian and bicycle pathways, energy conserving goals can be accomplished.

2.5 MARKET POTENTIAL

- The land use assignments and densities ultimately chosen for the Route 50/I-66 Land Use Plan should accurately reflect the development potential of the area. A Plan that is overly optimistic in terms of the amount of development that can be attracted to the Study Area will remain unfulfilled. Conversely, a plan that underestimates the type and density of future development will likely cause serious pressures that can weaken the approved land use plan.

2.6 IMPLEMENTATION/ADOPTION

- In order for the Land Use Plan to be brought to fruition, an implementation strategy must be developed. An incentive-based approach, in which mutual benefits are agreed to between the developer and the County, has a better chance of success than a purely mandated, control-based approach. In the first case, both the County and the developer benefit - one through the provision of public amenities, public facilities and infrastructure improvements, and the other through an increase in allowable intensity of development. In a control-based system, where benefits expected from developers are more rigidly defined, the opportunity for this exchange is lessened. The implementation component of the Land Use Plan should be based upon a bonus density/amenity incentive concept with the understanding that this approach would create a forum for flexibility, compromise and mutually beneficial development solutions.

- Fairfax County presently has at its disposal certain planning tools - namely, a set of comprehensive plan and zoning classifications (including the special zoning category of "P" districts). The need to work within this existing framework to the greatest extent possible was recognized by the Task Force. The "P" districts, whether Planned Development Commercial (PDC) or Planned Development Housing (PDH), are sufficiently flexible to accommodate the major goals of the Plan. In a PDC district, commercial uses (including office and retail) are primary. Mixed use can be accomplished by the inclusion of suitable secondary uses (which may include housing). In a PDH, residential use is primary. Secondary uses which serve and enhance the residential use are permitted at graduated levels related to residential density. These secondary uses are primarily designed to be support commercial in nature. A third "P" district PRC (Planned Residential Community) is designed for large scale mixed-use planned community projects of 750 or more acres (such as Reston.

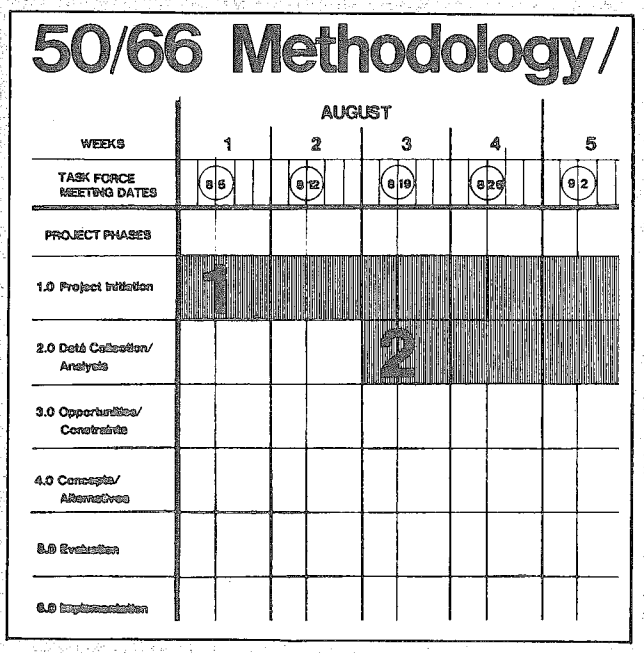
  In light of the flexibility of the "P" districts currently available as planning tools in Fairfax County, the Land Use Plan should attempt to work within the existing framework, rather than to develop and require authorization for a set of new controls.

- Within the Route 50/I-66 Study Area, individual ownership holdings range from less than one acre up to several hundred acres. In order to develop the land to its fullest potential, development parcels of sufficient size must be aggregated. This may be accomplished either by purchase or by joint development among groups of land owners. Incentives should be provided to promote this aggregation of small adjacent lots into larger parcels more suitable for quality development.

- Vehicular circulation within the Study Area already contains areas in which traffic is congested. An increase in development without accompanying infrastructure improvements will only serve to exacerbate the problem. Conversely, construction of a road network without the accompanying development will prove enormously expensive for the County. The planning and implementation process should, therefore, ensure that transportation improvements neither lead nor lag development.

- The County will have responsibility for overseeing the funding of the public infrastructure elements of the Land Use Plan. It is incumbent upon the County to determine the most realistically achievable method of financing these public/private sector improvements - be it through private, self-taxing associations, a schedule of prepayment of taxes, state/local revenue sharing, or any other feasible method.

3.0 PROJECT METHODOLOGY OVERVIEW



3.0 PROJECT METHODOLOGY OVERVIEW

The consultant team, led by EDAW, Inc., provided both technical assistance and guidance to the Task Force throughout the study process. A blend between direction and response on the part of the Task Force and consultants was necessary. The Task Force was the client group; it represented a microcosm of people of Fairfax County. The Task Force was comprised of an extremely diverse set of knowledgeable County residents, and this, along with the large number of members and alternates participating, assured that a wide range of concerns, desires, and issues at many levels, would be voiced during the meetings. Participation in these meetings provided the consultant with the opportunity to understand the philosophies and goals of the members, and to respond to these through an organized, yet flexible, planning process. The Project Methodology developed by the consultant contained the following major project phases and characteristics:

Project Initiation (Phase 1.0): During this phase the consultant became more acquainted with the Task Force and its concerns. The management framework was revised to reflect these concerns by incorporation of major Task Force comments developed earlier in the process. A more detailed project scope, by discipline, was developed. Once the project methodology was refined, work began on the data collection and analysis phase of the study.

Data Collection/Analysis (Phase 2.0): As the consultants continued to participate in the regular Task Force meetings in order to gain a fuller understanding of the issues, they began the process of collecting a data base for future decision-making. Both on-site reconnaissance and other research techniques produced a set of base data consisting of maps, reports, charts, studies, books, etc. for use in the analysis phase of the study on all major issue-related topics.

This data was, whenever applicable, graphically portrayed and analyzed for use in defining the opportunities and constraints of the Study Area and its relationship to the County-wide context. These analysis documents were summarized under the next project phase.

Opportunities/Constraints (Phase 3.0): The synthesis of the data collected in Phase 2.0 was accomplished through the preparation of a series of "Opportunities and Constraints" and "Summary" documents. These documents combined related pieces of data and information into a written or graphic format which readily allowed general comparisons and assessments, yet maintained a degree of specificity for detailed investigation. Generally, though, these summary documents provided the framework for the "drawing" of all alternative land use plans. Other summary information was prepared in the form of issue papers on public infrastructure and economic/marketing constraints and potentials. These issue papers also outlined parameters under which alternative land use plans were prepared. During this phase, "developable land units" were mapped and their acreages quantified for future land use programming efforts.

Concepts/Alternatives (Phase 4.0): During this phase, the preparation of alternative land use concepts was accomplished in a quantifiable manner. In other words, the developable land units were assigned specific land uses and density/intensity factors in each development scenario. Various development concepts could be investigated as options leading toward a preferred plan.

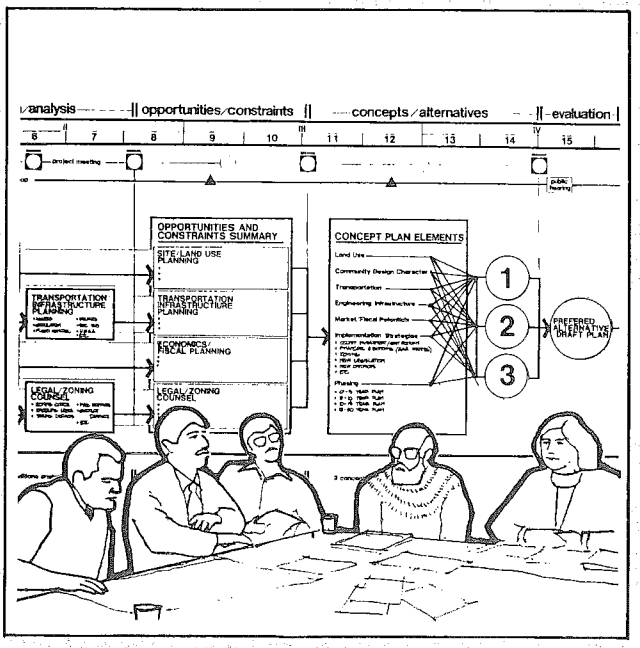
Evaluation (Phase 5.0): Although a great deal of evaluative comments were made during the entire Concepts/Alternatives Phase of the Study, a distinct phase was established for final alternative land use plan evaluation. Phases 4.0 and 5.0 were essentially combined due to the functional requirements of the Task Force setting, but a major effort was made to identify alternative Land Use Plan Evaluation Criteria for Task Force use in its deliberations. The fiscal impact of the various plan alternatives was also used as a gauge for evaluation. The County Fiscal Impact Model was applied to representative alternative plans in order to determine their respective positive or negative impacts on County costs/revenues.

Preferred Plan Preparation (Phase 6.0): The preparation of a preferred land use plan occurs on many levels of detail: The broad, county-wide conceptual planning context, the more focused Study Area level, the key area-level within the study area and finally, the specific land unit level. All of these levels must be considered and addressed by the preferred land use plan.

Various techniques were used to distill the alterative land use plans down to a preferred plan, but one of the most successful tools was that of the Task Force Workshop. After the development of a number of land use plan alternatives by the consultant, the first workshop was held. During this workshop three alternative plans, each with distinctly different characteristics, were addressed by Task Force members. The "product" was a general Task Force agreement on the concept and characteristics of the preferred plan. The second workshop focused on the assignment of land uses to the preferred plan, although this was a preliminary activity which did not offer final rigid recommendations. The development of the preferred land use plan was a cyclical process involving the preparation of alternative land use plans with specific characteristics (e.g., program, mixed use core concept, etc.) by the consultant, presentation to and review by the Task Force, and revisions/adjustments/refinements by the consultant. With each cycle of the process, alternatives became more defined and the preferred plan became more explicit. The third workshop dealt with assigning land use densities/intensities to the plan, as well as with evaluating the transportation infrastructure requirements for the plan. Afterwards, further Task Force discussions and inputs were required to better define the final land use plan proposed in this study.

Adoption/Implementation Strategy (Phase 7.0): The implementation aspects of the preferred land use plan were considered absolutely critical to the success of the study. The consultant, along with the Implementation Sub-committee of the Task Force, researched various plan implementation techniques and proposed the use of an incentive-based process. Described in detail in Section 6.0, the implementation component of the plan is incentive-based rather than solely control-based. This tandem approach forms a complementary relationship between existing minimum ordinance and regulation requirements and well-defined land use density/ intensity bonus incentives; it assures public amenity and infrastructure provision at three levels of development. Conceptually, the quality control of the development product is tied to quantity incentives offered to the developer. Development criteria for the proposed land use plan were developed by the consultant as performance standards; these guidelines, as well as density bonus recommendations, would be administered in the Study Area by a review board.

4.0 BUILDING BLOCKS FOR A PLAN



4.0 BUILDING BLOCKS FOR A PLAN

4.1 DATA COLLECTION/ANALYSIS

A detailed analysis of the Study Area was undertaken as a data base for the planning effort. This data was collected in two major areas:

Physio-biological, which included:
- o Land structure (elevations)
- o Soils analysis
- o Environmental Quality Corridors
- o Watersheds
- o Climatic conditions, and

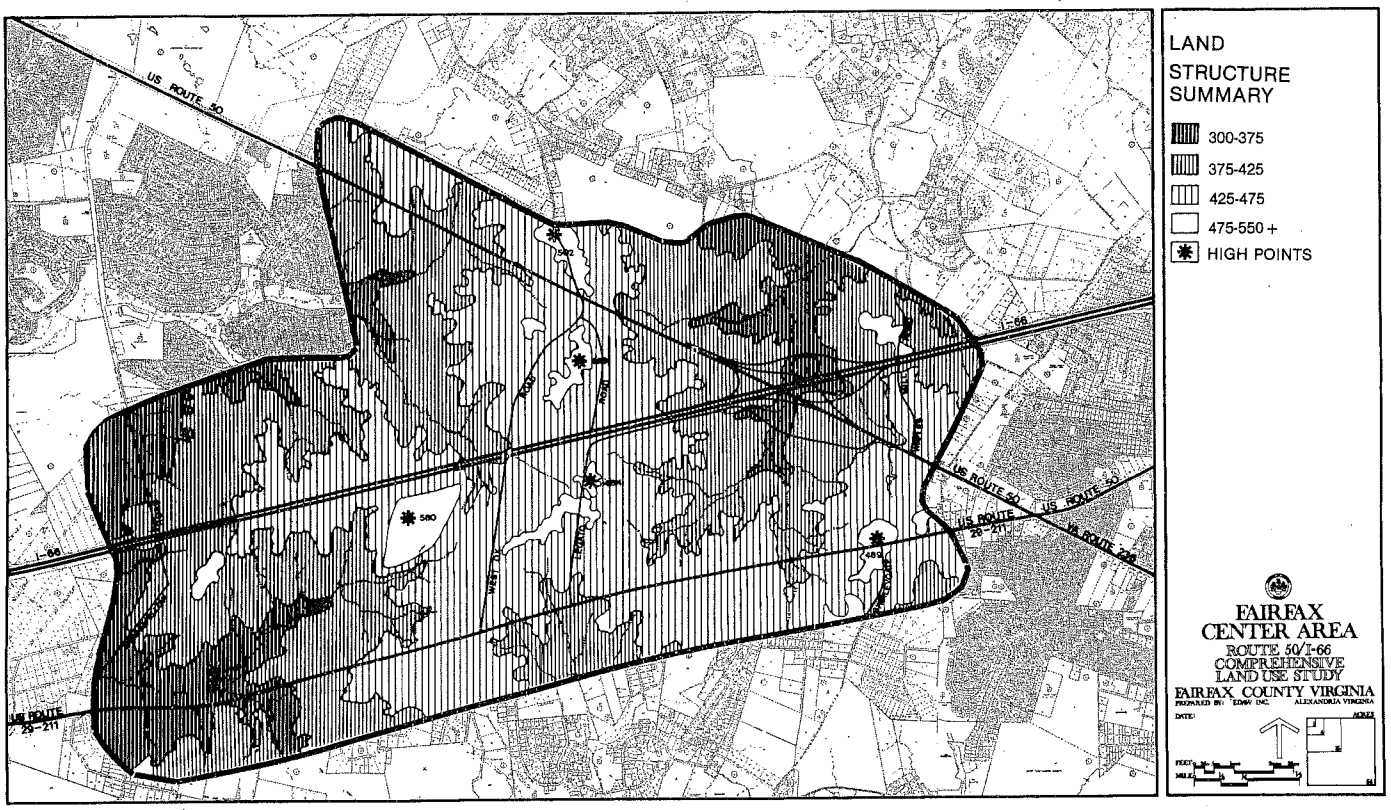
Socio-cultural, which included:
- o Ownership patterns
- o Land use
- o Land utilization
- o Community features
- o Archeologic and historic features
- o Visual features
- o Transportation infrastructure
- o Utilities

4.1.1 Land Structure

The characteristics of the Study Area's major land forms are illustrated by the Land Structure Map. Ridges, valley walls and waterways comprise the basic structure of this Piedmont Terrain. The stream valleys can provide buffer/amenities and the framework for major area and regional open space/recreational systems. Development proposed for the area must respect the natural land structure. Structural elements also aid in defining the developable land units for consideration in planning efforts. High points become potential quality image, roadway and building sites; these areas have high visibility to and from the surrounding areas and must be treated sensitively as major focal points. When necessary, land uses can be located at lower elevations to reduce their overall visual impact, especially when used in conjunction with buffer treatments.

The Study Area's predominant north-south ridge defines the upper limits of its watersheds. This ridge generally follows West Ox and Legato Roads and contains the highest natural point in the Study Area (488' above sea level). The landfill site actually has a higher elevation, 580' above sea level, and is proposed to be no higher at the end of operation in 1982. The relative lack of soil stability and potential problems resulting from methane gas release probably preclude the landfill as a primary building site.

The lowest elevations occur where Little Rocky Run and Difficult Run leave the Study Area; these points are approximately 325' above sea level. A maximum elevation change of approximately 153' occurs within the Study Area.



4.1.2 Soils

The Study Area is located in the Piedmont Geologic Province, approximately halfway between the Triassic Lowland Province to the west and the Coastal Plain Province to the east. Bedrock in the area consists primarily of fine grained mica schists and chlorite schists, the predominant rock types of the Washington metropolitan area. The schists are crystalline and are highly resistant to erosion; soils which form over the schists are deep and residual.

East of Legato Road, a schist aquifer traverses the area in a northeasterly direction. The aquifer band averages 4000 feet in width; yields from the aquifer are low.

Soils were analyzed in terms of their particular characteristics including slope, erodability, septic system suitability, and flooding or water table problems (drainage). Other characteristics of soils determine suitability for locating highways and bearing capacities for structures. These factors determine the relative ability of various soils to sustain development.

Soils subject to flooding were considered unbuildable and were incorporated into the EQC areas. Other soil types were considered buildable but with severe constraints. These were soils where:

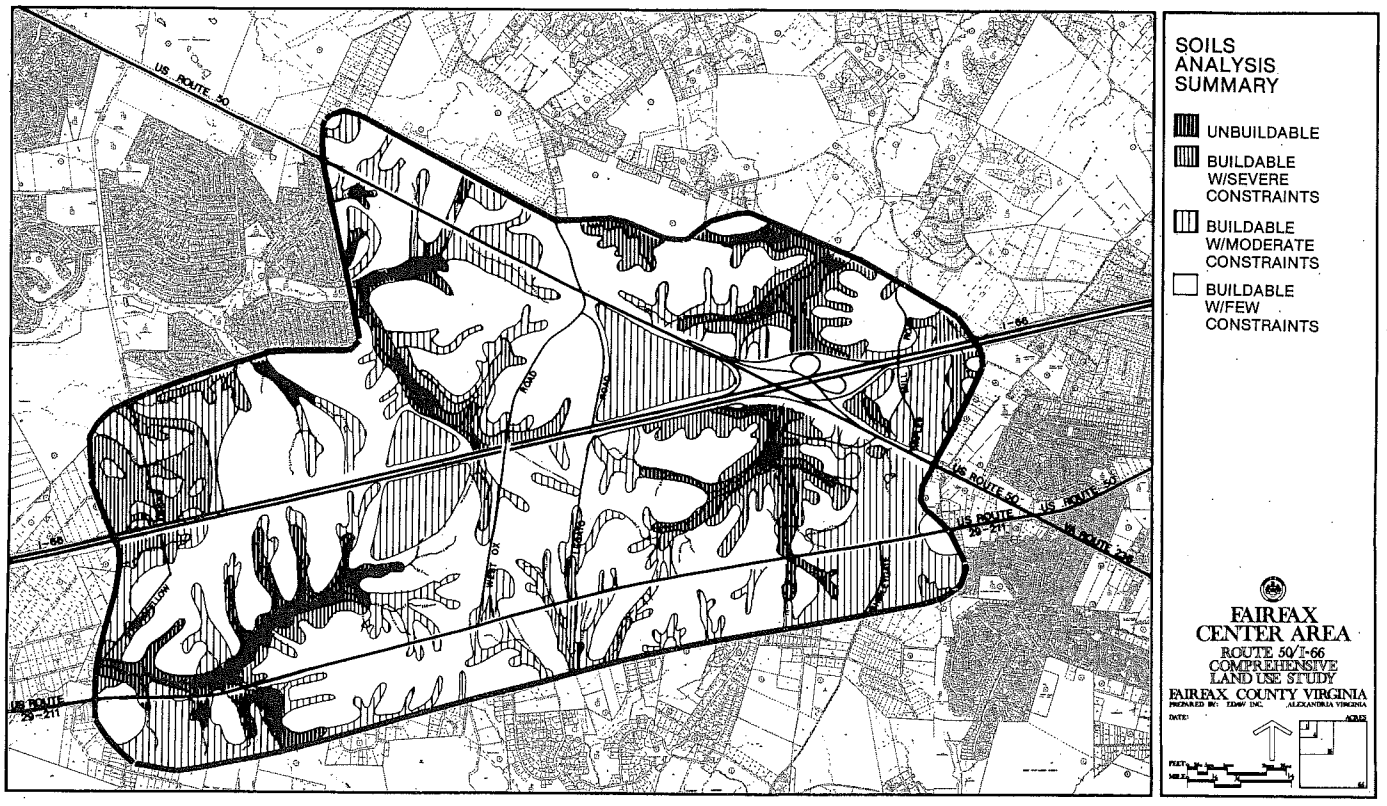
- o bedrock was only 6" to 21" below the surface
- o high water tables were only 6" to 10" below the surface
- o slopes were over 15 percent

The next group of soils was considered buildable with moderate constraints. These are soils with the following characteristics:

- o seasonal high water tables
- o high shrink/swell potential
- o disturbed soils

The final classification included soils with few constraints to building.

For a more detailed description of the soils within the Study Area, see Appendix 1.



4.1.3 Environmental Quality Corridors and Watersheds

The Environmental Quality Corridor, (EQC) as described in the Fairfax County Comprehensive Plan, uses "the water resources of the county as the core elements of the system - streams, their floodplains, wetlands and shoreline areas". The parameters of the Environmental Quality Corridors are formed by a delineation of the 100 year floodplain, its adjacent steep slopes (those over 15%), and flood plain soils. Additionally, a vegetative filter strip, defined by the U.S. Forest Service and used by the County as (4 x percent slope) + 50' on either side of a stream, is included. This vegetative buffer filters runoff before it is able to enter the waterways, thus protecting water quality. This filter strip is particularly important in the context of the Study Area since it drains both to the Occoquan Reservoir and the Difficult Run Stream Valley.

Fairfax County is currently conducting a study and analysis of the Occoquan Watershed to protect and preserve high standards of water quality and wildlife habitats. This watershed is located in the southwestern corner of the County and drains an area of approximately 80 square miles, or about 20%, of the total Fairfax area. The watershed is the largest remaining rural area in the County. Increased development could cause water quality problems.

Another major watershed - Difficult Run - is fed by a portion of the Study Area. The Difficult Run has been designated as a "Critical Environmental Area" by the Commonwealth of Virginia.

> "A critical environmental area is any portion of land...which because of location, physical features, historical character, natural productive capability, scenic significance or unique flora or fauna contributes to the economic, aesthetic or cultural well-being of individuals in society, and which because of their peculiar qualities is in limited supply. ("Critical Environmental Areas", Division of State Planning and Community Affairs, Commonwealth of Virginia, 1972). Furthermore, designation of critical environmental areas identifies areas where encroachment of suburban densities on rural landscapes would endanger the "natural, productive, scenic, or historic qualities of Virginia's Countryside".

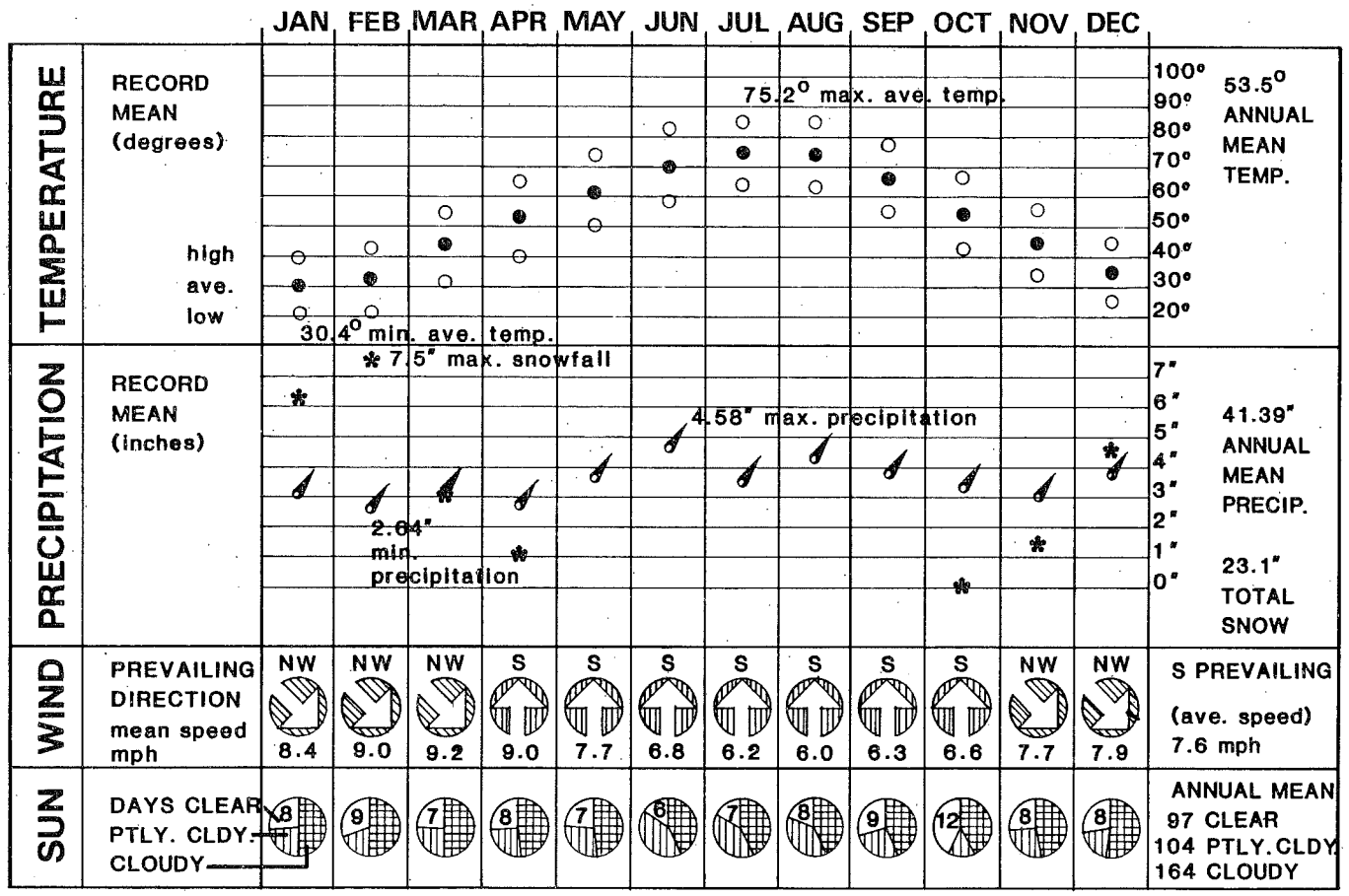
In the case of the Difficult Run, Occoquan, Cub Run and Bull Run watersheds, maintenance of high quality surface and groundwater resources is at stake. Urbanization presents serious threats to water quality. The amount of rainwater absorbed by the ground is decreased in a direct relationship to the increase in the use of impervious surface materials. This creates a situation in which more water runs off overland, entering the streams in a relatively short period of time. Storm sewers discharging directly into streams add to this already increased rate of runoff. Flooding, soil erosion, and increased sedimentation of the waterways occur, contributing to an enlargement of the stream channels and a loss of vegetation and wildlife habitats. Consequently, in order to protect water and environmental quality, care must be taken during site planning and design (particularly in the areas of siting, amount of impervious site coverage, preservation of vegetative cover, choice of paving materials, use of devices such as sedimentation and detention ponds and the protection of aquifer recharge areas).

4.1.4 Climatic Conditions

The Study Area lies within the Virginia Piedmont. Fairfax County experiences four distinct seasons due to its location in the middle latitudes, where the general atmospheric flow if from west to east. Summers are warm and humid, winters are mild. Spring and fall are characterized by pleasant weather. The coldest weather occurs in mid-January, the warmest at the end of July.

Precipitation is relatively evenly distributed throughout the year. Storm damages result mainly from heavy snow and freezing rain in winter and hurricanes and thunderstorms during the rest of the year.

Prevailing winds are from the south, except in the winter when they are from the northwest. Most severe winds occur in late winter and early spring. Winds tend to be less severe during the night and early morning, increasing in intensity toward the afternoon.



Source: NOAA
EDAWinc.

4.1.5 Ownership Patterns

A map illustrating ownership patterns on a parcel by parcel basis in the Study Area was developed in order to pinpoint large versus small areas of single ownership or control.

Large parcels of land under single ownership, or an assemblage of commonly owned, adjacent smaller parcels offer greater assurance of public influence on the quality of eventual development products, than do small independently owned tracts. This is partially due to the potential for "Planned Development" and cluster developments, which require development plan review. The developer(s) of such large holdings has the ability to respond to market, financial and construction needs in a more flexible manner.

The following Ownership Pattern map describes contiguous land ownership in the following categories:

- o 100+ Acres
- o 50-100 Acres
- o 25-50 Acres
- o 5-25 Acres
- o 0-5 Acres

4.1.6 Land Use

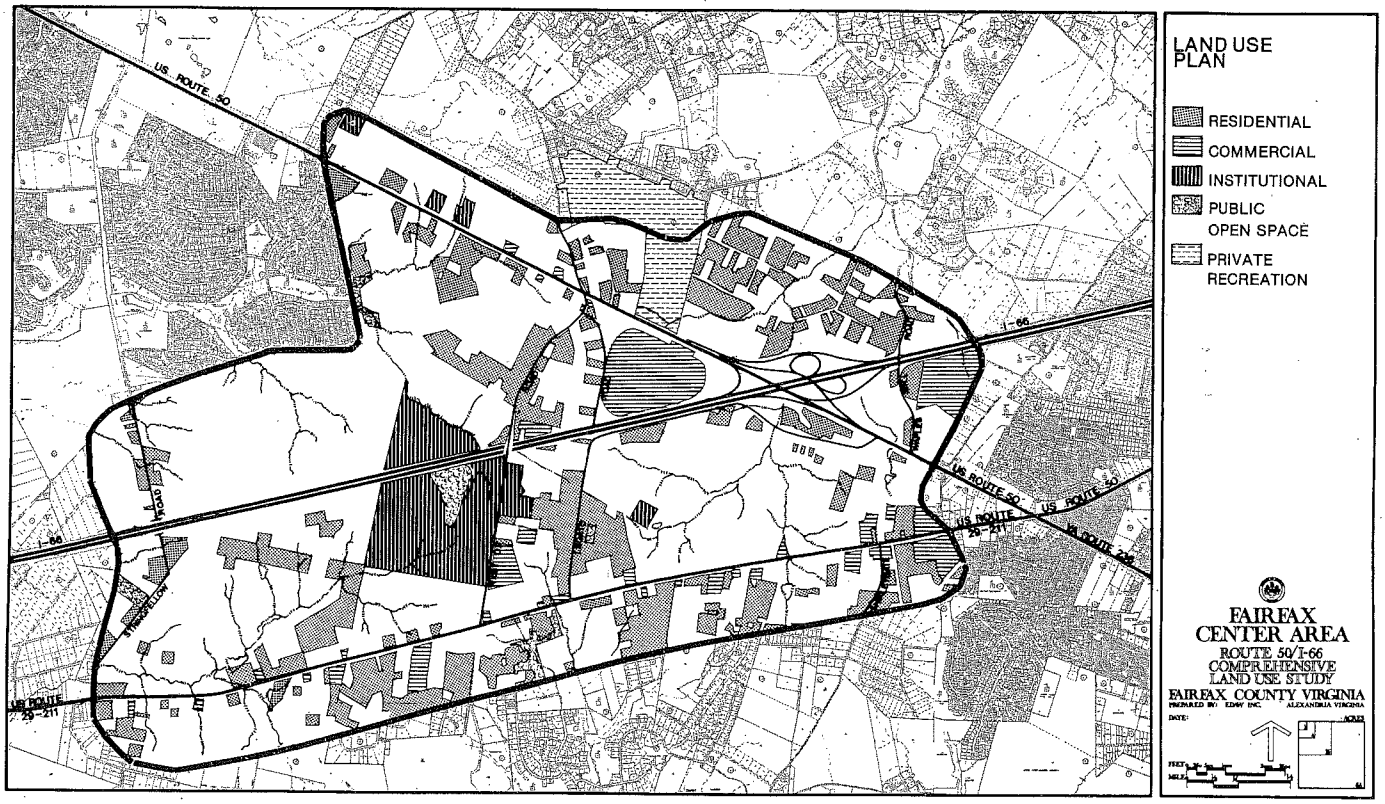
All parcels in the Study Area were analyzed in respect to existing land use. The categories of land use, as portrayed on the Land Use Map, are: residential, commercial, industrial, institutional, County land, and park and open space. This inventory enables formulation of a comprehensive plan that is cognizant of, sensitive to, and compatible with existing uses. It is also necessary as a baseline reference for the formulation of market projections and capabilities of transportation and utility systems to carry increased capacities.

4.1.7 Land Utilization

The Study Area was analyzed on a parcel by parcel basis to determine the degree of utilization of each individual lot. The categories used were 0 percent, 1-49 percent, 50-99 percent and 100 percent utilized. The utilization analysis of commercial and industrial properties was refined through a study of: type of establishment; condition of structure; comparison between assessed building and land values; and relationship of existing use to zoning.

Residential utilization percentages were determined through a comparison between lot size and zoning. A lot with no structure was said to be 0% utilized. A lot having a maximum number of residences allowable under current zoning would be considered 100% utilized - e.g., in an R-1 district a lot less than 2 acres in size with 1 house on it would be 100% utilized, or in an R-2 district, if a 1 acre lot had 2 houses, it too would be 100 percent utilized.

Examples of the two intermediate categories of utilization are as follows:



- in an R-1 district, a single house on 3 or more acres of land is considered to be 1-49% utilized.

- in an R-1 district, a single house sitting on between 2 and less than, 3 acres of land is assigned to the '50-99% utilized' category.

Land fully utilized is less susceptible to change, while under-utilized land is more susceptible to financial and adjacency pressures. Unutilized lands may be prime for development. This analysis reveals those portions of the Study Area that are under the most pressure to develop, those which will be under pressure at a later date and those which are relatively fixed in use.

This degree of utilization on a parcel-by-parcel basis was used as an integral component of the Inclusion Criteria Analysis (see Section 4.2.3).

4.1.8 Residential Neighborhoods

Currently, the developed land within the Study Area is predominantly residential in use. The majority of this residential development consists of single family detached housing in subdivisions. These neighborhoods are located on the Community Features Map and are described in the following chart which classified neighborhoods in terms of average lot size and current general degree of utilization. The lot size classifications correspond to the categories used in the ownership patterns map and analysis, while the percentage of current utilization figure corresponds to generalized land utilization analysis categories.

Residential Neighborhood	Average Lot Size (Acres)	Approx. % Utilized
Murray Farms (South-East Portion)	0-3	50-100
Fairfax Farms	3-5	0- 50
	0-3	50-100
Oakwood Estates	0-3	50-100
Dorforth Drive	3-5	50-100
Centerville Hills (Eastern Portion)	3-25	0
Cedar Lake Estates	1-3	50-100
Pendercrest Estates	1-3	50-100
Centerville Farms	25-100	1- 49
Anna Mohr Estates	3-25	0
Marshall Farms	3-5	0-49
Willowmeade	1-3	50-100
Centennial Hills	1-3	50-100
Willow Springs	3-25	0- 49
Crystal Springs	1-3	50-100
Cannon Ridge	1-3	50-100
Lee Pines	1-3	50-100
Glen Alden	1-3	50-100
Lee High Village (Northern Portion)	1-3	50-100
Legato Acres	1-3	50-100
Dixie Hills	1-3	50-100
Random Hills	3-25	1- 49
	1-3	50-100
Pinewood	1-3	50-100
Katherine Moore Farm (North-East Portion)	1-3	0
Kiels Garden	1-3	50-100

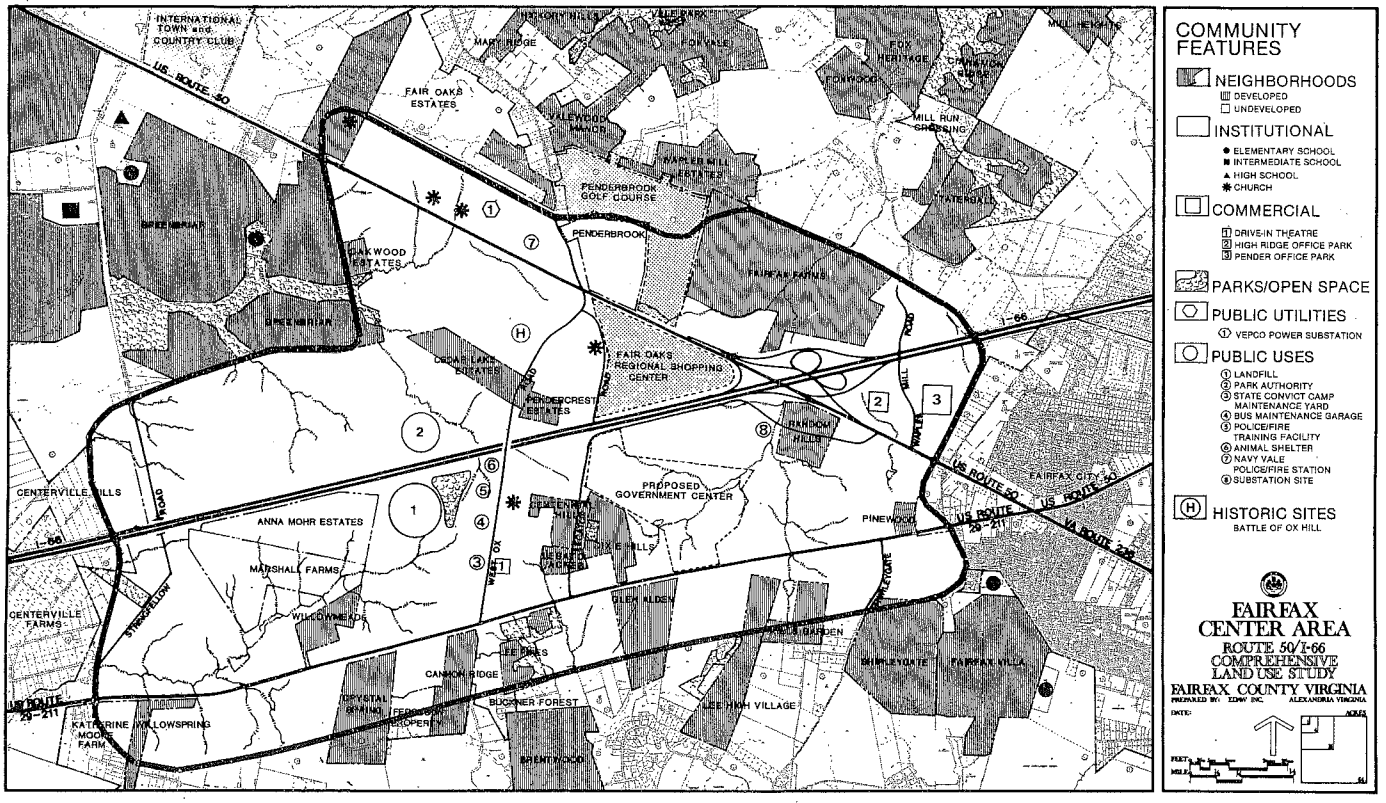
4.1.9 Community Features

The Fair Oaks Regional Shopping Mall, which opened in late 1980 at the intersection of Route 50 and I-66, contains 1.2 million square feet of enclosed retail space. This is the largest regional mall in the County. The mall, combined with its peripheral development sites, is expected to become a nucleus for development in the Study Area.

Currently the Pender and High Ridge Business Parks, situated just east of the Route 50/I-66 interchange are being developed. It is anticipated that approximately 350,000 square feet of office and industrial space will be completed in these office parks during 1981. This will include the planned relocation of U.S. Air's Computer and Operations Center - a $12 million facility which will accommodate approximately 300 employees.

Additional existing commercial development is primarily isolated strip uses, and is located predominately along Routes 29 and 50, with some additional industrial uses along West Ox Road. The commercial establishments include auto-repair businesses, gas stations, plant nurseries, antique stores, restaurants, mini-storage warehouses and a drive-in theatre. Montgomery Ward plans to construct a branch store on their land at Route 50 and Waples Mill Road.

In addition, there are a number of public institutional land uses within the Study Area. Along West Ox Road, between I-66 and Route 29, Fairfax County maintains an animal shelter, a fire training facility and a school bus garage. The County also maintains a Park Authority maintenance yard north of I-66 and west of West Ox Road.



Fairfax County operates a solid waste sanitary landfill south of I-66 between Stringfellow and West Ox Roads. Access is from West Ox Road. It is anticipated that this facility will reach its capacity by late 1982. At that time the County has proposed that a sanitation truck solid waste transfer station will be set up on this site. The State of Virginia maintains a Convict Camp (Camp #30) on West Ox Road just west of the landfill site.

There are also a number of private institutional uses - including the Bethlehem Baptist Church and school, three other churches and the Moose Lodge.

In the private sector, the Penderbrook Golf Course is located in the northeast quadrant of Route 50 and West Ox Road. The golf course is privately owned and operated.

The Waples Mill Mobile Home Park, located at Route 29 and Shirley Gate Road has a capacity of approximately two hundred units. Although both the existing Comprehensive Plan and County zoning recognize the mobile home park use, this site will probably be under pressure to develop in a more intense manner.

Parks are an integral part of the County open space system. The County recognizes six classifications of parks. For a listing of parks within the Study Area and vicinity see Appendix 2.

Community Parks are designed to "provide for the daily relief of an urban setting", and are thus oriented to a few hours of activity. Ranging from two to twenty-five acres, these parks are designed to be readily accessible and to serve local neighborhoods. Activities provided include playgrounds, athletic fields, picnic areas, and open play spaces. Citizen input is sought in the selection, design and operation of these parks. Arrowhead Park (on Stringfellow Road) and West Ox Road will provide community park level recreation when they are fully developed.

District Parks normally range in size from 50 to 200 acres and are designed to provide area-wide services such as sports complexes, tennis courts, pools, amphitheatres, day camp areas, and nature centers.

County Parks are oriented to individual or group day-long or over-night activities. Included in the 200 or more acres may be: swimming pools, sports complexes, golf courses, trails, nature centers, picnic areas, equestrian facilities, outdoor education/conservation areas, nature centers and fishing.

Natural and Passive Areas are selected by the County either for their value as an educational resource or for their special environmental quality. Uses are restricted by ecological considerations, which may include unique flora or fauna, anthropologic or geologic features.

Historically Significant Sites and/or Structures deemed worthy of preservation are placed under the auspices of and maintained by the County Park Authority. There is an historic site in the Study Area which commemorates the Civil War battle of Ox Hill (adjacent to 4126 West Ox Road).

Stream Valleys: Fairfax County has established a system of Environmental Quality Corridors as an approach to open space identification and preservation. Stream valleys are considered critical environmental areas and, as such, should remain undisturbed except for passive activities (such as hiking, horseback riding and bicycling) and necessary road crossings. This land should be excluded from development although it is frequently maintained as part of privately owned parcels in the form of backyards or common open spaces.

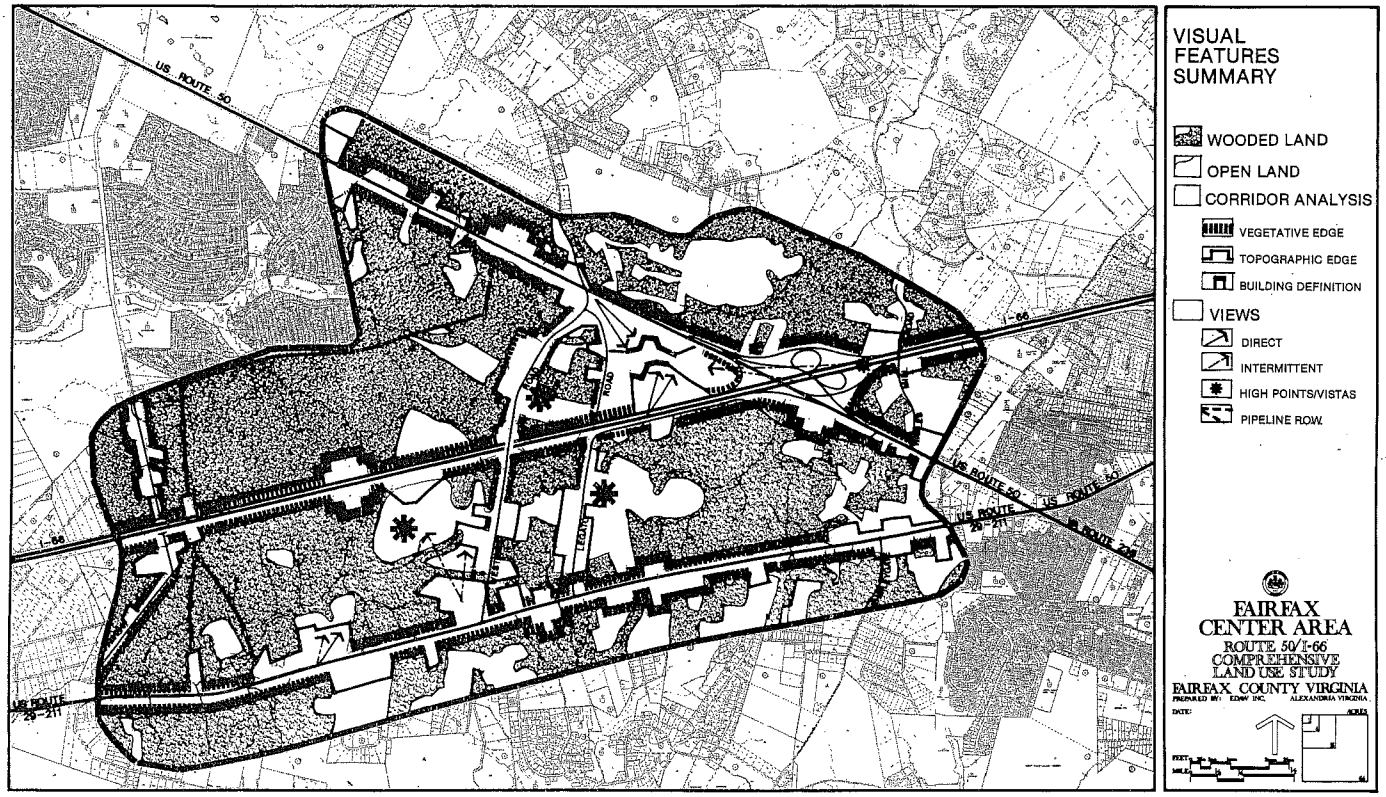
4.1.10 Archeological and Historic Survey

A preliminary archeological survey of the Government Center site was conducted by Edward R. Chatelain and Michael F. Johnson for Fairfax County. A review of historic maps, and files, was conducted along with field tests and reconnaissance. The rest of the Study Area was surveyed in less detail. A general description of this survey's findings can be found in the Appendix.

The major historic site within the Study Area commemorates the Battle of Ox Hill, one of the largest and most important actions of the Civil War to take place in Fairfax County. The Battle marked the point when General Lee decided to enter Maryland to meet the Union forces in Antietem, instead of attacking Washington. Two Union Generals - Issac I. Stephens and Philip Kearny - were killed in the battle. Presently, memorial marker stones with bronze plaques are surrounded by an iron railing about ten feet long by five feet wide. There is also a wooden marker describing the battle. The memorial is located adjacent to 4126 West Ox Road - and the property maintained by neighborhood residents.

4.1.11 Visual Features

The Study Area was analyzed in respect to certain visual features. Visual corridors from the major roadways, as defined by vegetation and topography, were defined. Vista points (particularly sites affording views of the surrounding area) and long sight lines were identified. Visual analysis of this type determines the zones where the greatest potential impacts of new construction will occur. This impact can be positive - the establishment of a "high quality" image for the Study Area, or negative, depending upon the type and quality of development.



4.1.12 Transportation

Major External Transportation Influences

Presently, the primary traffic movement through the Study Area originates from the west and travels into eastern Fairfax County, Washington, D.C. and other employment centers in Northern Virginia and Maryland. A secondary flow of traffic impacting the Study Area is from the Reston area via West Ox, Fox Mill and Waples Mill Roads to Fairfax, I-66 and Route 50 east. These relatively heavy flows of traffic enter the Study Area in order to access I-66 at its interchange with Route 50. This causes congestion where Route 50 and West Ox Road intersect.

Continued growth in the Study Area, and to its north and west, has caused the traffic conditions in the area to decline steadily. "Level-of-service" categories are used as a measure of traffic congestion on roadways. Precise definitions for the various categories can be found later in this Section, although, in general, they range from "A" to "F", with "A" being the best condition and "F" the worst.

Existing Traffic Congestion

Existing peak period traffic within the Study Area creates congestion on Route 50, I-66 and West Ox Road. The arterial traffic is heavy eastbound in the a.m. peak period and westbound during the p.m. peak period. West Ox Road has become congested southbound at the Route 50 intersection in the morning. In order to avoid a long wait in the evening, drivers use the Fair Oaks Mall flyover to reach northbound West Ox Road, creating congestion south of Route 50 and on the shopping center roadway.

Interstate 66

Interstate 66 is the major east/west arterial in the Study Area. It consists of three lanes in each direction east of its interchange with Route 50, and two lanes in each direction to the west. Level-of-Service "F" occurs in the eastbound (E.B.) direction during the a.m. peak hour and in the westbound (W.B.) direction in the p.m. peak hour.

The addition of a third lane in each direction at I-66 west of the Route 50 interchange is included in the County Comprehensive Plan, but has not yet been programmed for construction by the Virginia Department of Highways and Transportation (VDH&T).

The only access from I-66 within the Study Area boundaries occurs at the Route 50/I-66 interchange. Ramps at this interchange which would permit access from west-bound Route 50 to east-bound I-66 and access from west-bound I-66 to east-bound Route 50 are on the County Comprehensive Plan and are on the County's Transportation Improvement Priority List. However, they are not currently programmed for construction. Some construction funds are available in escrow (as provided by members of the Route 50-66 Association) which have been specifically ear-marked for construction of these ramps. The addition of these would serve development on Waples Mill Road. It would also reduce traffic on Route 50 and Jermantown Road, by allowing traffic to bypass the Route 123/I-66 interchange.

The addition of the westbound I-66 to eastbound Route 50 ramp will require the relocation of the existing ramp in the northwest quadrant of the interchange, and could possibly require rebuilding the existing flyover ramp at that location. (The west support for the flyover is very close to the ramp, potentially requiring relocation westward.)

Route 50

Route 50 is a major east/west arterial, classified as a primary road. Limited access control is provided on Route 50 west of the City of Fairfax. It has two lanes in each direction, widening at certain intersections for turning lanes. On inbound Route 50 traffic is severely constricted at the I-66 interchange where it narrows, allowing one lane for eastbound I-66 and only one lane for Route 50. Level-of-service "F" occurs on the approaches to the West Ox Road intersection in the predominant direction of travel during peak hours.

Route 50 has been designed to permit widening to four lanes in each direction west of the I-66 interchange and three lanes in each direction through the interchange. Flyovers have been provided at the east and west ends of Fair Oaks Mall for high capacity access into the Mall. The County's future roadway improvements call for widening Route 50 to eight lanes between a cross-county north-south connector and I-66 and to six lanes west of the connector; however, the plans are not presently programmed. The County Plan also calls for a grade separated interchange at West Ox Road and Route 50, but this improvement is not currently programmed.

Route 29

Route 29 is an east/west arterial in the southern portion of the Study Area, classified as a primary road. Adjacent sparse development patterns and the presence of I-66 to carry a major portion of east-west through traffic both contribute toward Route 29's current level-of-service designation of "A".

Due to its rolling vertical alignment, Route 29 has inadequate sight distance for drivers to view potential hazards, resulting in a number of unsafe intersections. Construction of additional lanes on Route 29 between West Ox Road and Kamp Washington is not presently programmed.

West Ox Road

West Ox Road is a two lane collector road, classified as a secondary road in the state system. It provides access from the Reston area and communities north of the Study Area to Route 50 and I-66. West Ox Road also provides access to the Navy /Vale residential communities. South of Route 50 it serves as a connector between Route 29 and Route 50, providing access for several hundred trucks per day to the County landfill and truck maintenance facilities. Its capacity is restricted by at-grade, signalized intersections with Route 50 and Route 29. During peak hours, the level-of-service is in the "A" to "C" range, except at Route 50 where it operates at level-of-service "D".

The Comprehensive Plan currently calls for a grade separated interchange with Route 50, but this has not yet been programmed. The current at-grade intersection with Route 50 is severely congested between Legato Road and Route 50 by shopping center traffic.

Legato Road

Legato Road south of I-66 is a two lane residential road operating at level-of-service "A" conditions. Legato Road north of I-66 serves as an access road to Fair Oaks Mall. The at-grade intersection with West Ox Road is severely congested due to inadequate intersection capacity at Route 50, only several hundred feet to the north.

Legato Road/West Ox/Route 50 Intersection Complex

The intersection of Legato and West Ox Roads just south of Route 50 becomes congested under even relatively light traffic volumes. There is insufficient storage room for traffic waiting to cross Route 50 northbound on West Ox Road. The resultant backup prevents vehicles from exiting Legato Road, (even for the left turn lane). As the shopping center becomes more heavily patronized, the condition will become exacerbated even during the off-peak and weekend hours. The intersection should be relocated southward in any development plans.

Random Hills Road

Random Hills Road is a two lane state secondary road providing access to the Random Hills community, and connecting Route 50 east of the I-66 interchange to Legato Road south of I-66. It does not provide significant through-traffic movements and operates at level-of-service "A".

Waples Mill Road

Waples Mill Road, a state secondary road, serves as a collector for residential traffic north of Route 50, as well as an access road into the developing Pender/High Ridge office complex located just north of Route 50. Its current traffic load is light; however, entry onto heavily traveled Route 50 at an unsignalized, at-grade intersection presents problems.

The Comprehensive Plan calls for a four lane extension of Waples Mill Road from Route 50 to Route 29. Dedication of a portion of the right-of-way and partial construction by a private developer will complete one-half of the extension. The remainder of the extension, while called for in the Comprehensive Plan, is not included in the VDH&T list of programmed improvements.

Stringfellow Road

Stringfellow Road is a two lane state secondary road serving scattered institutional and residential development. It also serves as a lightly used connector between Routes 50 and 29 and operates at level-of-service "A" conditions.

The Comprehensive Plan calls for widening Stringfellow Road to four (4) lanes and relocating the segment south of I-66 to connect to Clifton Road at Route 29. This improvement is not currently programmed for construction. In addition, it is anticipated that Stringfellow Road will be extended north of Route 50 by private developers.

Fairfax Farms Road

Fairfax Farms Road is a two lane secondary road providing the only access to the residential community of Fairfax Farms. Unsignalized left turn movement across Route 50 creates a hazardous condition that will worsen as traffic volumes increase. The right turn into this road from Route 50 will also become increasingly more hazardous for vehicles coming from Fairfax as a result of the requisite weaving with I-66 off-ramp traffic. The Comprehensive Plan provides for the extension of Fairfax Farms Road to West Ox Road at Avery Road in order to provide access to the residential community and future golf course-oriented development while eliminating existing hazardous conditions at the present Route 50 intersection.

Mass Transportation

Metrorail Transportation, provided by the Washington Metropolitan Area Transit Authority (WMATA), is not presently available within the Study Area. Bus service provided by WMATA is available in the Kamp Washington area as far as Jermantown Road to the east and in Greenbriar to the west. There is no north-south service through the Study Area. Continental Trailways has a terminal at Jermantown Road which provides bus service to Washington, D.C.

Currently, there are no formal park-and-ride lots or coordinated carpool programs available in, or in proximity to, the Study Area. WMATA is currently constructing the Vienna Metro-rail line with a terminal station in the I-66 median at Nutley Road. The station, approximatley five miles east of Fair Oaks Mall, will have park-and-ride facilities and feeder bus service to surrounding areas, including the Study Area.

Springfield Bypass and Extension

The Virginia Department of Highways and Transportation has recently distributed a Draft Environmental Impact Statement (DEIS) describing potential alignments for a north-south County arterial roadway called the Springfield Bypass and Extension. This bypass would carry local and cross-county traffic from I-95 south of Springfield to Route 7 in Reston. This road would provide increased accessibility to the Study Area.

Within the Study Area boundaries, three alternative alignments were offered in addition to a no-build and a transit option:

Alternative "A" intersects Route 50 to the east of the Greenbriar subdivision. A full interchange with I-66 occurs to the west of the landfill. The roadway proceeds in a south-easterly direction, with an additional interchange at West Ox Road and 29.

Alternative "B" also intersects Route 50 east of Greenbriar. The proposed alignment turns eastward, crossing I-66 between Legato and West Ox Roads. It then proceeds along the northern boundary of the proposed Government Center site, turning southward to an interchange at Route 29 and Shirley Gate Road.

Alternative "C" runs in a north-south direction along the western boundary of the

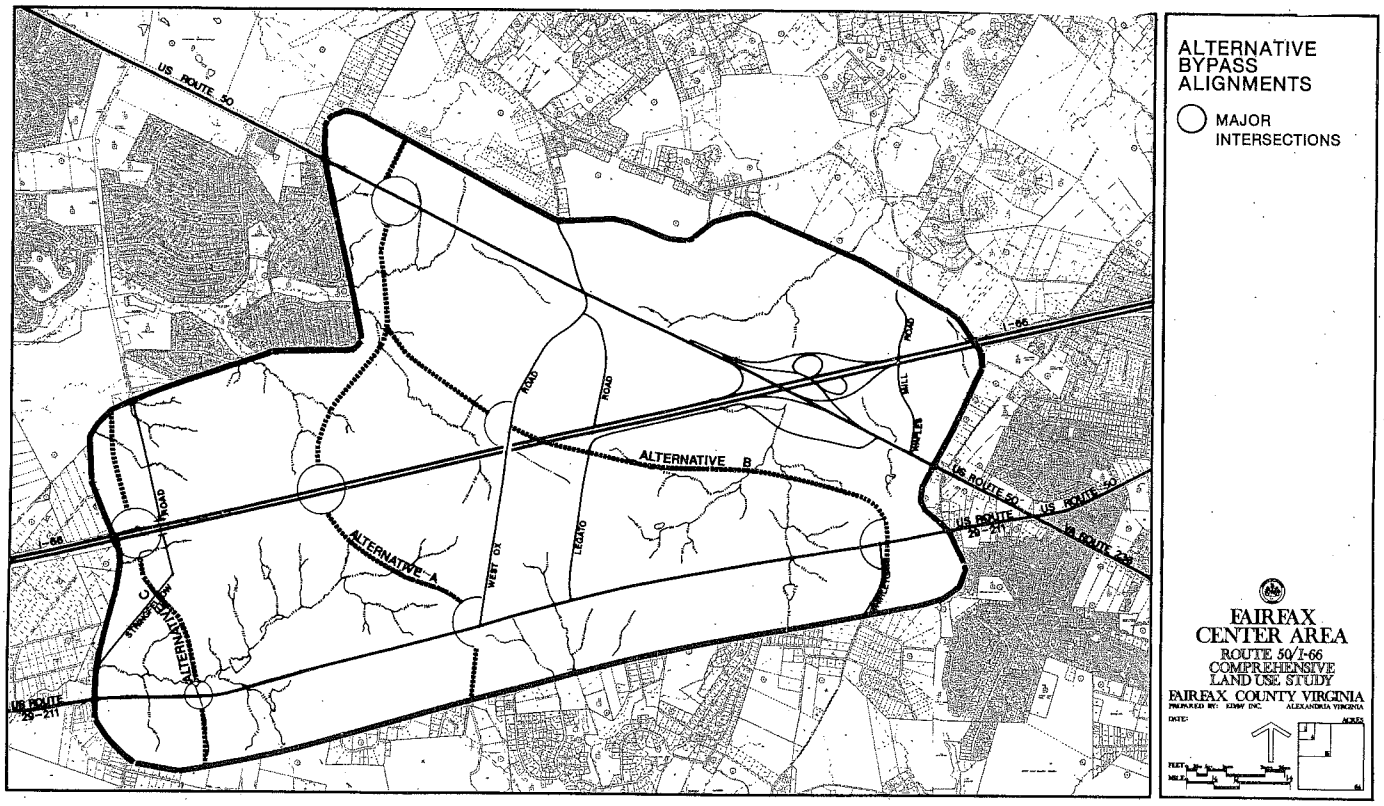
Study Area generally coinciding with the existing right-of-way of Stringfellow Road. An interchange is planned at the intersection of I-66 and the by-pass.

As of this writing, the Fairfax County Office of Transportation has recommended a preferred alignment for the by-pass from Route 7 to I-95. This alignment has been presented to, and adopted by, the County Board of Supervisors. Within the Study Area, the alignment endorsed by the Fairfax County staff essentially corresponds to the alternative "B" alignment.

The Route 50/I-66 Study used the preliminary draft material developed for the DEIS to generate traffic volumes. The forecast traffic volumes were developed by the VDH&T consultant from traffic assignments produced by the Metropolitan Washington Council of Governments (COG). The VDH&T consultant reviewed the assignments and modified them accordingly. The base land use data utilized in COG's assignment process was input from the region's Cooperative Forecasts.

Carney Tract Connection

A portion of a right-of-way has been dedicated to provide for an east-west connection from Waples Mill Road north of Route 29 into the proposed Government Center. It is not a VDH&T project and would be constructed in concert with future site development.



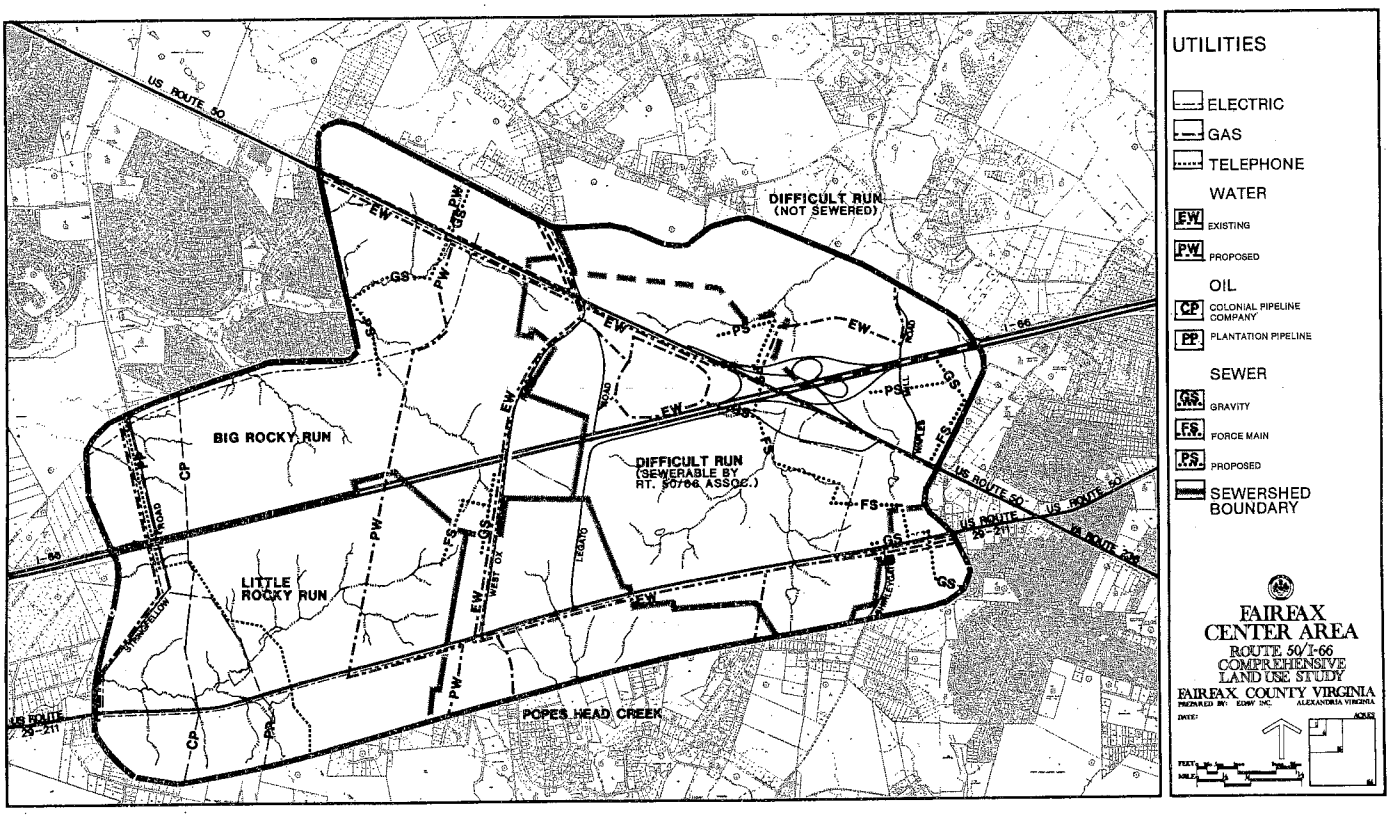
4.1.13 Utilities

Natural Gas

Gas service is supplied to the Route 50/I-66 Study Area by the Washington Gas Light Company. The eastern edge of the site is served by a line in Route 29. From the west, service is provided along Route 50, fed by the Columbia Gas Transmission pipeline. The gas company is obligated by the Federal Energy Regulatory Commission to provide service where requested. New customers pay the difference between the cost of the new facilities and two years worth of revenues. If revenues exceed the capital cost, no charges would be incurred by the customers. Presently, the Washington Gas Light Company's ten year plan indicates that there is an adequate supply of gas to serve the needs of the Study Area.

Electricity

Electric service is provided by Virginia Electric Power Company through a network of 34.5 kv feeders in Routes 50 and 29. Ridge Top, Legato, and Stringfellow Roads. These are fed by the Burke Substation to the south and the Sully Substation to the northwest. A proposed substation (Pender) in the northwest quadrant of the Study Area (along Route 50) will provide additional capacity. This substation will be fed by a new 230 kv transmission line which, from the south, runs east of Stringfellow road, turns eastward along the southern border of Greenbriar and then turns northward into the substation.



VEPCO is required by law to provide electric service to anyone who requests it. Where there is insufficient primary capacity, part of the service costs may be incurred by the customer as flat facility uses and monthly facility charges, reproduction costs, or overhead/underground differentials, or various combinations of these. VEPCO feels that there will be adequate capacity to serve the future needs of the Study Area.

Water

Water service is provided to the Study Area by the Fairfax County Water Authority (FCWA). The Authority is currently constructing an independent supply source from the Potomac River. Scheduled for completion in 1981, this new supply facility will allow the Authority to meet the maximum daily needs of its service area through 1995. This supply will be adequate to serve projected commercial, residential, or mixed uses within the entire Study Area.

Sanitary Sewer

1. Popes Head Creek Watershed: No sewer is currently existing or authorized in this basin due to the limitations imposed in the Occoquan Watershed. Some portions of this area, however, could be sewered by means of a pumpover into adjacent basins under the following conditions:

   a. The eastern portion, consisting of the Waples Mobile Home Estates, lots on the east side of Shirley Gate Road, and Pleasant Valley along Route 29, are currently accessible to the existing Fairfax City Sewer line either by gravity or by means of a lift station at the southwestern corner of the mobile home park.

   b. The western area of this watershed could be served by a pumping station on the upper branch of Popes Head Creek in the park area of Brentwood, Section 2, (approximately 1200 feet north of Goodwood Drive), and pumped over to the Little Rocky Run or Big Rocky Run watersheds. The pumpover to the Big Rocky Run would pass through and serve the County's landfill and Fire Training Center, eliminating potential future groundwater problems in that area. Such a pumpover would require enlargement of the existing sewer at Greenbriar.

2. Route 50/66 Association Sewer Area: The existing contract between the Association and Fairfax County provides sewer capacity to the Association's 1460-acre service area in an amount equal to 100 gallons per capita per day for an equivalent population of 37,456 persons, or a total average daily flow of 3.7456 MGD.

   The area is currently served by two pumping stations. A third station is proposed next year and a fourth will be added in the future when development north of Route 50 and I-66 warrants its construction.

3. Difficult Run: The existing Difficult Run trunk sewer is approximately 27,000 feet from the Study Area. Extension of this sewer (in the foreseeable future) is improbable. It was this prognosis which, in effect, led to the current Route 50/66 Association contract with Fairfax County The area included in the Association boundaries is almost entirely within the Difficult Run watershed, with the exception of a small area west of West Ox and Legato Roads and south of Route 50 which is in the Big Rocky Run Basin.

   The sections which are outside the Association boundaries, (north of Route 50 and I-66, and east of West Ox Road), could be served by a pumpover to the Big Rocky Run. However, the number of lift stations and long force main required would make this scheme uneconomical by current standards. Pumpover to the east, into Fairfax City, is not practical due to capacity availability. Pumpover into the Route 50/66 Association is currently not consistent with County objectives.

Little Rocky Run: No sewer is existing or approved in this basin. However the Compton Road Associates have received approval of their plans for a pumping station and force main to the Upper Occoquan Sewage Treatment Plant. The design flows, which are based upon two times average flow, are for an initial two million gallons per day capacity (MGD) and an ultimate four MGD pumping rate. A proposed sewer has been studied from the pumping station north to Braddock Road.

If sewage from the Popes Head Creek area were pumped over into this watershed, it would require:

a. Enlargement of the proposed sewer in agreement with the Compton Road Associates.

b. Extension of the sewer north of Braddock Road to handle both present zoning, and the pumpover volume.

c. Possible enlargement of the already approved pumping station and force main.

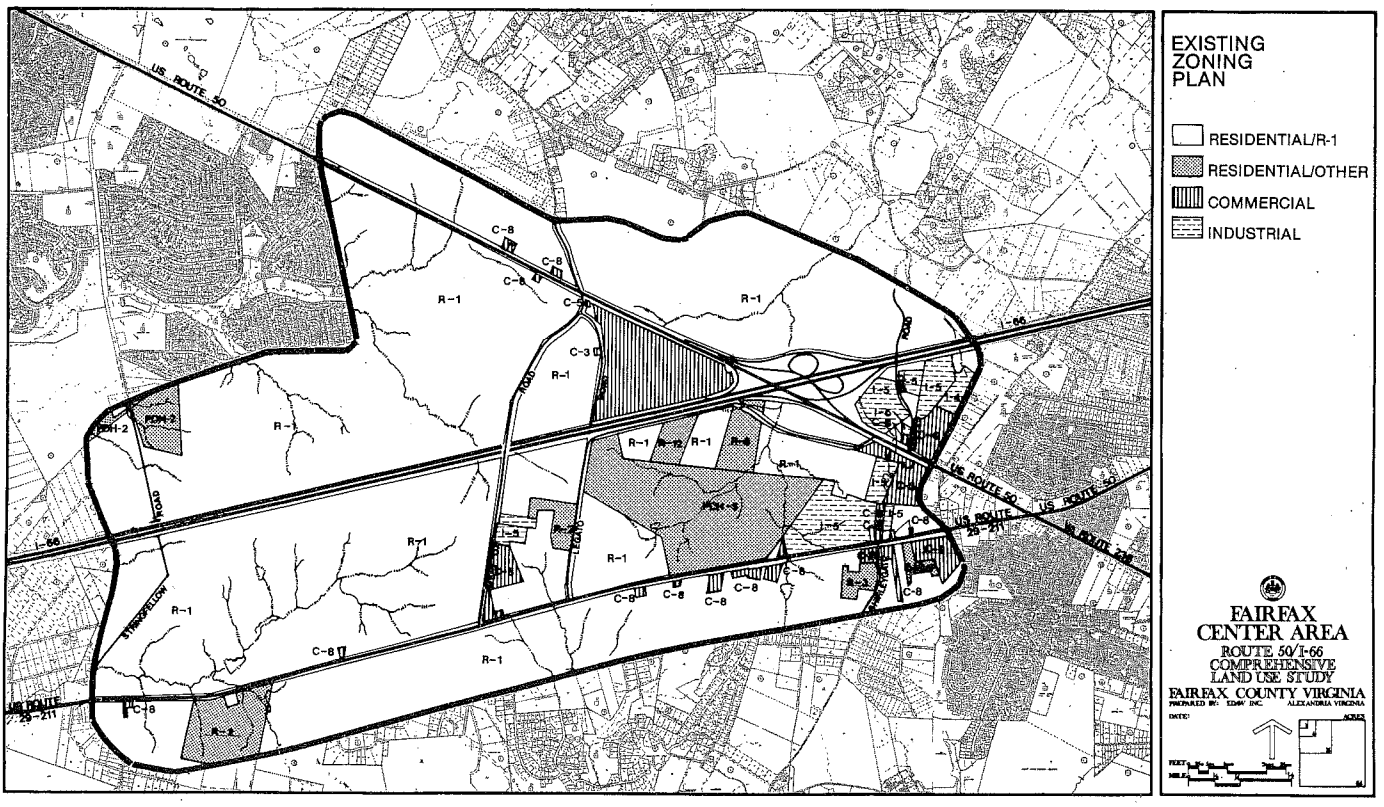
All of these additional costs would accrue to the Popes Head Creek developers who would be requesting the pumpover.

Big Rocky Run: The existing Upper Occoquan Sewage Authority (UOSA trunk sewer from the Cub Run pumping station (P.S.) (also called Compton Road P.S.) is adequate in size from the pumping station to Sully Road to accommodate existing zoning as well as additional residential or commercial development east of Greenbriar. The existing UOSA sewer from Sully Road to Stringfellow Road is adequate for existing residential zoning but would require an additional parallel sewer if densities were increased west of Stringfellow Road, or if a pumpover were allowed from the Popes Head Creek or Difficult Run watersheds.

A trunk sewer from Stringfellow Road past Middle Ridge Drive to Route 50 has recently been constructed providing adequate capacity to serve development east of Stringfellow Road.

4.1.14 Existing Zoning

Existing zoning within the Study Area was researched and mapped on a parcel by parcel basis. The majority of land is currently zoned R-1, although the Study Area also contains numerous parcels with industrial and commercial zoning - particularly in the Kamp Washington and I-66/Route 50 Interchange areas. Additional commercial zoning is found in isolated parcels along Routes 50 and 29. The Government Center site, and the adjacent Carney Tract are currently zoned for PDH-5 development.



4.1.15 Existing Comprehensive Land Use Plan

The existing Comprehensive Land Use Plan is predominately low-density residential in character. The major portion of the Study Area is planned for a residential density of 1-2 dwelling units per acre. Higher density residential development is called for in two portions of the Study Area - west of the Fair Oaks Mall, and between the proposed Government Center site and I-66. The notable exception to residential development occurs in the eastern portion of the Study Area where Kamp Washington is planned for industrial, retail and office use. In addition, industrial development is called for in the area east of the I-66/Route 50 interchange which includes the Pender and High Ridge Business Parks.

The transportation infrastructure component of the Comprehensive Plan incorporates improvements to the existing road network, including the ramps at the I-66/Route 50 interchange, major improvements to Route 50, construction of a major county-wide north-south arterial roadway (the Springfield Bypass and Extension), and the widening and extensions of Waples Mill Road to Shirley Gate Road and Stringfellow Road to Braddock Road.

The Task Force generated a method for determining the level of development which could occur within the Study Area under the aegis of the existing Comprehensive Plan. It was determined that the densities/intensities permitted under the Plan would be realized. In instances where the allowable zoned density/intensity of a parcel exceeded that of the Comprehensive Plan, the zoning categories took precedence. If development were to actually occur in the Study Area based upon these presumptions, approximately 8 million square feet of additional non-residential development and 7000 dwelling units would be realized.

The existing Comprehensive Plan was adopted in 1975 and is updated yearly. In the six years since its adoption, a number of factors have changed the underlying assumptions of the plan - rendering it inoperable within the context of the Study Area. These factors include:

- o the decision to relocate the Fairfax County Government Center to a site within the Study Area;
- o the opening in 1980 of the Fair Oaks Regional Shopping Mall with its 1.2 million square feet of enclosed commercial space;
- o an increase in developer interest in the Study Area as witnessed by current construction in the Pender and High Ridge Business Parks.

In addition, the land use assignments and Plan configurations do not fully conform to the majority of the goals and criteria set forth by the Task Force. One area in which the Existing Comprehensive Plan diverges substantially from Task Force philosophy is that of the mixed use concept, since the Comprehensive Plan is basically a single land-use-assignment plan. The existing plan is, however, a valid benchmark to which proposed alternative land use plans can be compared.

4.2 PLAN SYNTHESIS

4.2.1 Criteria Development

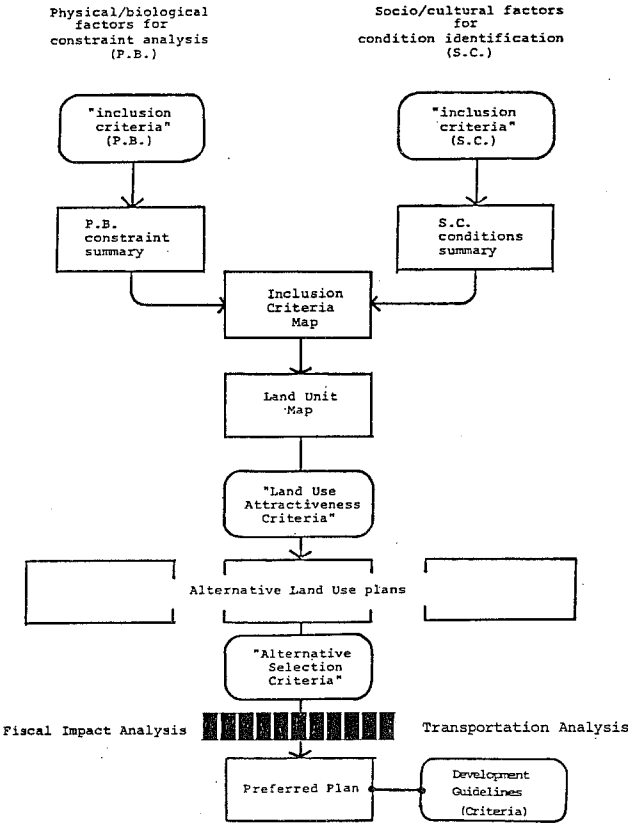
Land Use Plan Evaluation Criteria were used in the planning process to generate a common basis for the evaluation of alternative land use plans. The criteria were developed as a direct result of the philosophies and goals expressed by Task Force members. Based upon analysis of these goals and objectives, three categories of criteria application were identified as follows:

- Analysis Inclusion Criteria: An analysis of physical, biological and socio/cultural data for the Study Area defined areas which should be included or avoided when planning for future development. This approach helped to clarify essential decision making information in the opportunity/constraints analysis.

- Land Use Attractiveness Criteria: This s set of criteria is used as a basis to determine which land uses - from a market, physical/biological, or other essential basis - are attracted to certain conditions or adjacent land uses.

- Alternative Land Use Plans Selection Criteria: This is a consolidation of Task Force goals and objectives that forms the basis by which land use plans can be compared and evaluated.

Planning Process With Criteria Application



4.2.2 Initial Planning Criteria Factors/ Analysis Inclusion Criteria

Physical and biological data, previously researched, analyzed and mapped, were synthesized into the Physiographic Features map which pinpointed "avoidance" constraints on development. The primary categories included were:

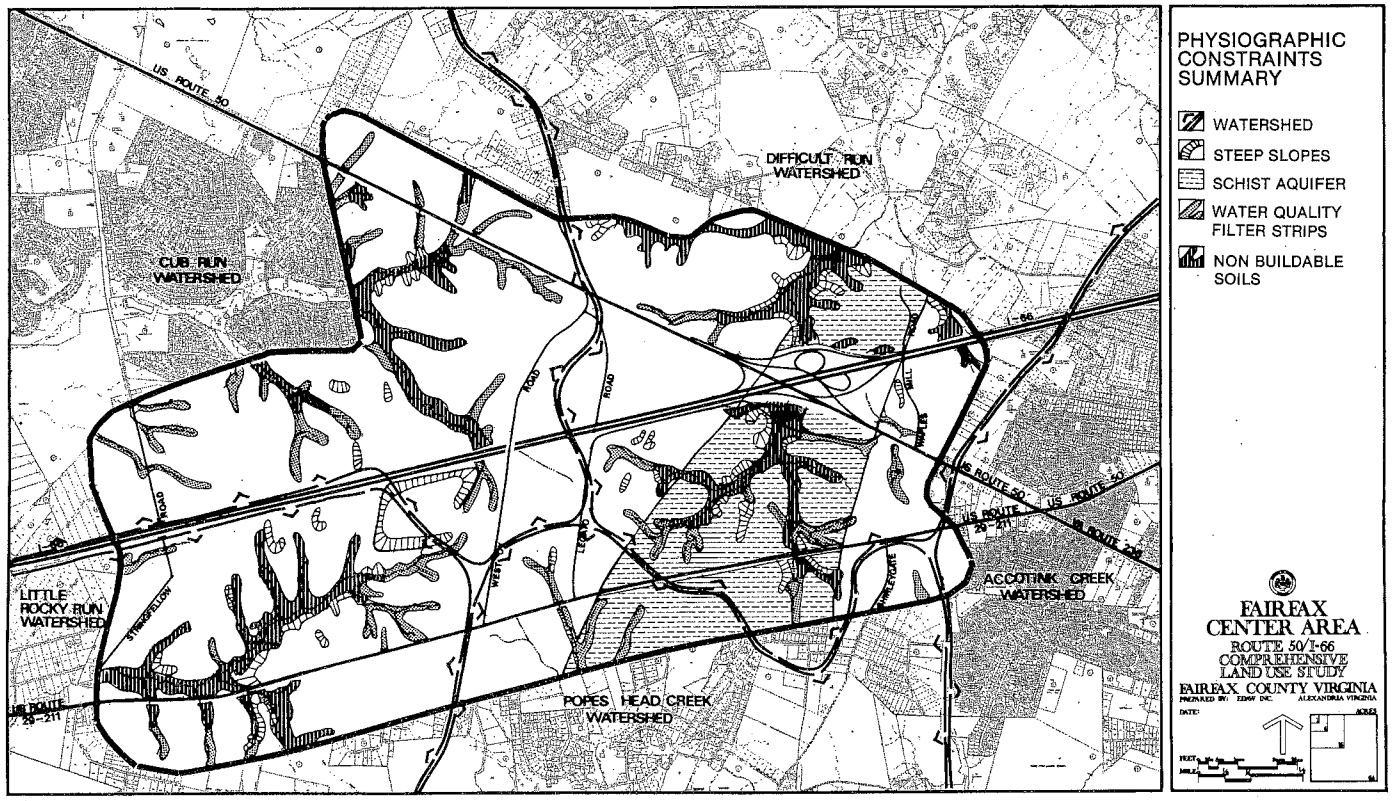
- o Topographic slopes over 15%
- o Floodplains and flood prone soils
- o Water quality filter strips

The avoidance of these environmentally sensitive areas during development will allow them to remain intact as open space, buffer and pedestrian system amenities.

Also included in the Physiographic Features Map were areas of potential concern which must be addressed in the development process, rather than avoided. These include:

- o Schist aquifer
- o Watersheds

Socio/cultural data, previously researched and mapped during the analysis stage of the project, were synthesized as well. This information became the data base for the Inclusion Criteria.



4.2.3 Inclusion Criteria

The inclusion criteria map was instrumental in determining which land units were to be considered stable (hard) and which ones were considered flexible and subject to change (soft).

Certain land uses were determined to be hard by objective criteria. These included certain physical/ biological conditions - the 100 year floodplain, flood prone soils, slopes greater than 15 percent, and the environmental quality corridors. The socio-cultural fixed uses include road and utility rights-of-way and easements, as well as fixed land uses (Fair Oaks Mall, parks, institutions). Other uses were determined to be fixed by subjective criteria. These included committed land uses - the Government Center, Montgomery Ward site, VEPCO substation and the landfill. Also considered fixed-in-use were those parcels determined to be utilized between 50 and 100% (see Land Utilization, Section 4.1.7) with the following characteristics:

- o Commercial properties in good structural/site condition that are served by state and/or federal roads.
- o Residential parcels that are portions of existing subdivisions where the ownership pattern consists of small, individually owned lots, and where parcels are served by driveways, subdivision streets or county roads.

At the soft or changeable end of the spectrum it was determined, as an objective criterion, that vacant land (0% utilized) would be subject to change. More subjectively, it was determined that lands utilized between 1 percent and 49 percent were subject to change as well - perhaps not in the first phase of development, but soon thereafter. Lands utilized between 50 percent and 100 percent were also considered available as Route 50 or 29).

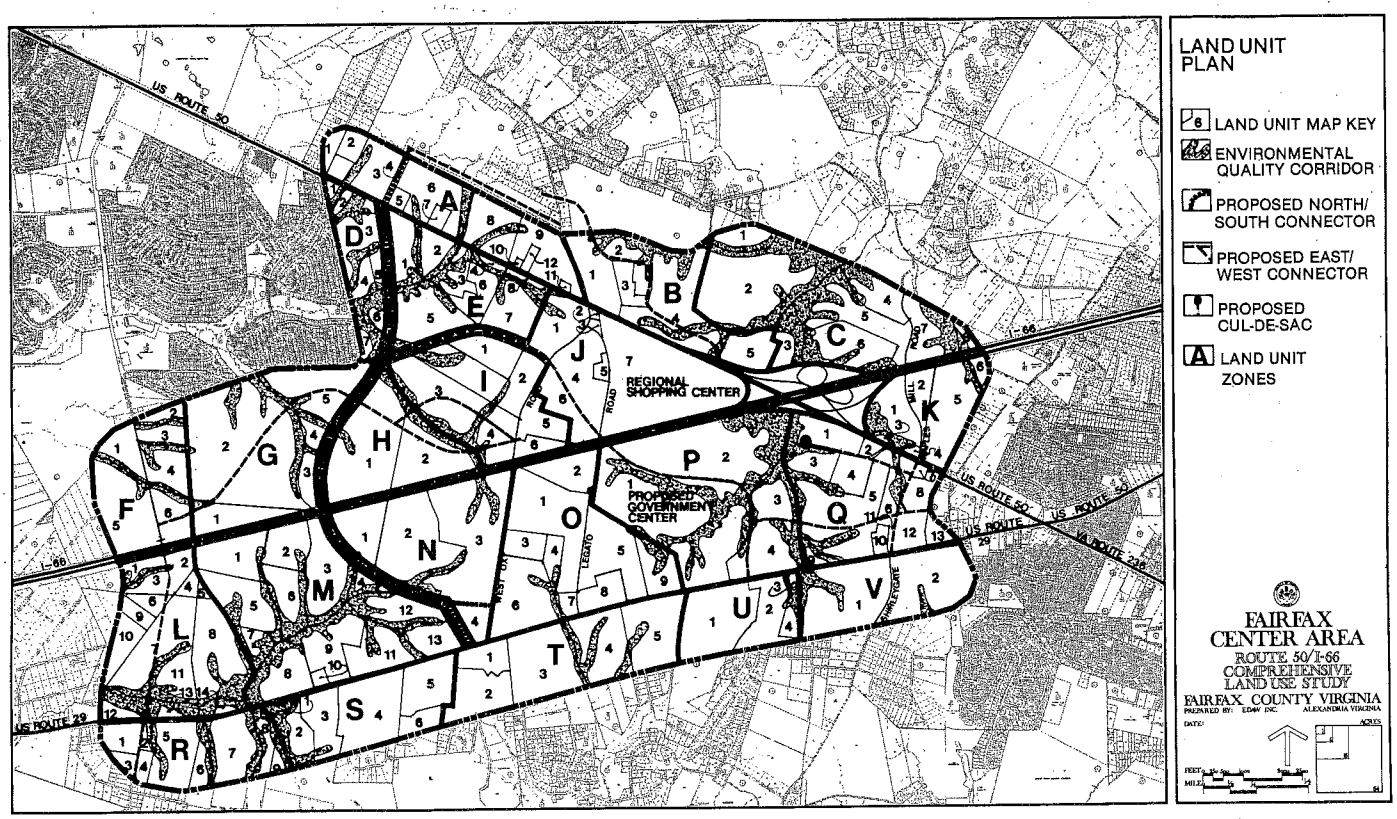
- Commercial structures/sites that are in poor condition, or where there was a low level of use considering location on a major road (such as Route 50 or 29).

- Residences situated on single isolated lots, or where a number of small contiguous lots are under common ownership. Instances where a parcel is a portion of a larger, developable parcel under common ownership were determined to be subject to a change in use, as were those adjacent to significant parcels of improvable land. Vulnerability to change was increased if the parcel was served by a state and/or federal road.

- Existing structures on parcels that were determined to be subject to change, were highlighted in order to underscore the fact that there are, indeed, existing uses on the land.

4.2.4 Land Units

In order to subdivide the Study Area into developable parcels, land units were defined. This was accomplished by utilizing physical, legal, natural, and man-made boundaries (e.g., roads, streams, swales, topographic features, existing developments, easements, rights-of-way, etc.) The "hard" and "soft" inclusion criteria determinations of the individual parcels were used as a basis for the aggregation of the individual parcels into the larger land units. The individual land units were then described as being either fixed in use or developable. The developable units thus become the "building blocks" upon which future development can be accommodated, while the fixed units constitute areas for preservation, protection and enchancement.



4.2.5 Land Use Attractiveness Criteria

The relative degree to which various land uses are attracted to, or are more compatible with, various on-site conditions or adjacent land use relationships have been studied and defined in the following matrix.

Site Condition Attraction / Preferred Site Qualities For Land Use Types

	SITE CONFIGURATION					SITE SIZE A MAJOR FACTOR?		SITE VEGETATIVE COVER		
	HORIZONTAL LINEAR	HORIZONTAL AREA	VERTICAL FLAT	VERTICAL MOD	STEEP	YES	NO	WOODED	MIXED	OPEN
SINGLE FAMILY DETACHED		●	●	●			●	●	●	●
TOWNHOUSE		●	●	●			●	●	●	●
GARDEN APTS		●	●				●	●	●	●
ELEVATOR CONDOS		●	●	●			●	●	●	●
INSTITUTIONAL		●	●	●		●		●	●	●
OFFICE		●	●	●		●		●	●	●
NEIGHBORHOOD COMMERCIAL		●	●	●			●	●	●	●
COMMUNITY RETAIL		●	●	●		●		●	●	●
DISCOUNT RETAIL		●	●			●		●		●
REGIONAL RETAIL		●	●			●		●		●
HOTEL/MOTEL		●	●	●		●		●	●	●
INDUSTRIAL RESEARCH/DEV.		●	●	●		●		●	●	●
INDUSTRIAL MFG.		●	●			●		●	●	●
LANDFILL		●	●	●		●			●	●
UTILITY	●	●	●	●		●			●	●
PUBLIC AMENITY SPECIAL FEATURE	●	●	●	●				●		
OPEN SPACE	●	●	●	●	●		●	●	●	●
MASS TRANSIT	●	●	●	●		●		●	●	●
CIRCULATION INTERSTATE	●		●	●		●		●	●	●
CIRCULATION STATE/FED	●		●	●		●		●	●	●
CIRCULATION COUNTY	●		●	●		●		●	●	●
CIRCULATION SUBDIVISION	●		●	●		●		●	●	●
CIRCULATION DRIVEWAY	●		●	●	●		●	●	●	●
CIRCULATION PEDESTRIAN/BIKE	●		●	●	●		●	●	●	●

4.2.6 Alternative Land Use Plan Selection Criteria

The Task Force agreed that the following criteria statements were suitable for application on the general planning level, and could be used as a mechanism by which to select among alternative land use plans. The Selection Criteria have been divided into five categories, as follows:

Transportation

- Provide an well integrated, mutually reinforcing transportation network, including automobile, pedestrian, bicycle, and mass-transportation circulation systems.
- Provide an integrated Study Area road network which operates within Level-of-Service "D" (approaching a congested level), or better, during normal daily A.M. and P.M. peak periods of use (excluding peak Christmas shopping traffic).
- Recognize the roles of I-66, Route 50, Route 29, the proposed Springfield Bypass alignments, and major internal collectors in the overall land use plan as the major traffic corridors.
- Provide the potential for harmonizing a Springfield Bypass alignment with the development plan for Route 50/I-66 Study Area.
- Minimize negative visual impacts of road alignments through various land use types.
- Provide quality truck and service access which causes the least overall negative impact.
- Provide intensification of land use patterns attractive to and suitable for mass transportation (i.e., multi-modal service nodes, mixed use ramifications, shared parking structures, multi-level aspects, etc.).

- Incorporate trails, bike paths and pedestrian walkways.
- Encourage development configurations which reduce the need for vehicular transportation.

Land Use

- Maintain, protect and preserve existing neighborhood communities.
- Provide opportunity for mixed use/multiple use village cores.
- Minimize large land use zones which are homogeneous, single use, and single density.
- Provide conceptual and perceivable land use order (sense of community versus sprawl): density patterns, cluster divisions, mixed use, buffer uses, core(s), hierarchy of road network.
- Provide linear park and open space definition through continuous area-wide trail/open space linkages which frame and buffer developmental clusters and provide recreation opportunities.

Environmental Quality

- Protect Occoquan Watershed.
- Minimize point-source and non-point source water pollution sites in the Study Area, particularly in the schist aquifer area.
- Protect the "critical environment area" of Difficult Run Watershed (flora, fauna, water quality).
- Accomplish the Best Management Practices (BMPs) criteria for non-point source and thermal pollution control in area (e.g., stormwater retention, detention and sedimentation control). Cluster development and grass swales should be encouraged.
- Eliminate or reduce air quality pollution point sources and reduce impact of odor-producing land uses.
- Protect and enhance environmental quality (flora, fauna, etc.) in general, and specifically through the use of Environmental Quality Corridors.
- Reduce energy usage through energy efficient siting and design.

Market Potential

- Respond to existing developmental forces in the Study Area.
- Realize the achievable development potential of the Study Area.

Implementation/Adoption

- Encourage plan implementation through incentives and assure basic compliance through controls.
- Maximize use of existing authorized zoning and planning tools to the greatest extent possible, thus minimizing the need for authorizations for new controls.
- Provide incentives to aggregate small adjacent lots into larger parcels more suitable for planned development.
- Finance infrastructure improvements through the most realistically achievable method within the next three years (e.g., private, self taxing associations; prepayment of taxes; state/local revenue sharing).

4.3 MARKET RESEARCH/ANALYSIS*

Increasingly over the past two decades, Fairfax County has become a preferred location for major residential and commercial development in the Washington metropolitan area. Excellent regional accessiblity, proximity to the downtown business district and the federal government core, the availability of labor as well as prospects for high quality of life are among its advantages.

Fairfax County accounted for approximately 10 to 15 percent of new office development construction in the Washington metropolitan area during the early 1970's. By the second half of the past decade, this share of the larger total office market climbed to 20 percent, and has reached almost 40 percent in recent years. Current indications are that the County will continue to strengthen this leading position, due in part to a policy commitment by the Board of Supervisors and recently expanded efforts by the Economic Development Authority to retain and attract business in the County.

In recent years, these initiatives have influenced many employers, both in the County and beyond. Since 1970, research and development, technical manufacturing, trade and professional associations and corporate headquarters have all been attracted to Fairfax County, and these same employment categories show continued growth potentials for the future. Recently, the dominant location for office development has been Tyson's Corner, with some "leapfrogging" occurring into western sectors of the County. While established locations remain in greatest demand as office development sites, indications are that locations in certain western portions of the County, including the Study Area, are now being sought for general purpose and research and development office uses.

Until recently, the Study Area attracted only limited development due to its perceived remote location. However, the area's market position has been altered substantially by recent events, particularly the opening of Fair Oaks Mall in mid-1980. The Fairfax Center Area is in transition. It is about to "take-off" into a period of accelerated, sustained development. Within five to ten years, it could become a major activity center, with a concentration of shopping, office and residential development.

The Study Area's current market position has been established primarily by these significant events:

- Broad-based development in the Washington region, including Fairfax County, during the past two decades, with continued strong growth potentials for the 1980's and 1990's. This outlook contributes to strong market potentials for residential and commercial development within the Study Area in the coming years.

- Opening of Fair Oaks Regional Shopping Mall in mid-1980 (with 1.2 million square feet of enclosed space) at the intersection of Route 50 and I-66. The largest regional mall in the County, Fair Oaks and its additional internal ring-road sites are expected to become the nucleus for development of a major shopping-office-hotel complex within the Study Area.

- Development of the Pender and High Ridge business parks, both a first-of-their kind in this Study Area. Approximately 350,000 square feet of office and industrial space will be completed in these parks during 1981, including the planned relocation of U.S. Air's computer and operations facility (a $12 million project with over 300 employees). This represents a sufficient "critical mass" of commercial activity to act as a major nucleus in attracting new development to the area.

- Extension of I-66 to the Capital Beltway and into the District of Columbia, now slated for completion by 1982. This artery represents a major improvement in regional access to the Study Area.

- Selection of a 183-acre site within the Study Area for the proposed Fairfax County Center, thereby enhancing this area's identity as a quality place to locate.

*NOTE: This section is a summary of a more detailed report by Gladstone Associates.

- Active interest on the part of major office and industrial space users in sites within the Study Area.

- Private development plans for major new projects within the Study Area, many of which may occur on large, already assembled landholdings.

Although these factors appear to support the popular attitude that the Study Area rivals Tyson's Corner in its development potential other factors tend to temper this impression. Available commercial/office demand in Fairfax County will be allocated among numerous competitive sites, some with superior access and locations which enable them to capture a substantial share of the market. Although there is a growing interest in the I-66 corridor, these competitive sites are still in greater demand for most commercial development.

Supporting this idea are the results from a separate evaluation of competitive commercial development. This evaluation, recently conducted by an independent panel of experts from the Urban Land Institute (ULI), found several established office locations to be more attractive than the Fairfax Center Area. Among these currently more competitive sites are: the Tyson's Corner area, the Merrifield area at Route 50 and the Capital Beltway, the Nutley Road/I-66 area and the Route 123/I-66/ Oakton area. Theoretically, these areas could accommodate the County's projected office space demands for over a decade, although this is unlikely to occur.

In addition, the question of whether the Study Area would rival Tyson's Corner during the short term was discussed in interviews conducted by Gladstone Associates with numerous Task Force members of diverse backgrounds and perspectives. Most Task Force members agreed in the interviews that the Study Area could become one of several "growth poles" in the County, but probably would not approach the level of development now present at Tyson's Corner until at least the year 2000. Essential to the understanding of the Study Area's overall market potential is the realization that the area does not currently have the strong development potential of Tyson's Corner. However, with a well conceived plan, reinforced with development performance criteria which will assure a quality built environment and the provision of exceptional amenities, the Study Area can attract and accommodate substantial amounts of commercial and residential mixed uses. The market potential of the Study Area can be additionally improved by a public policy that strongly advocates and promotes growth in this area.

Market Analysis/Approach

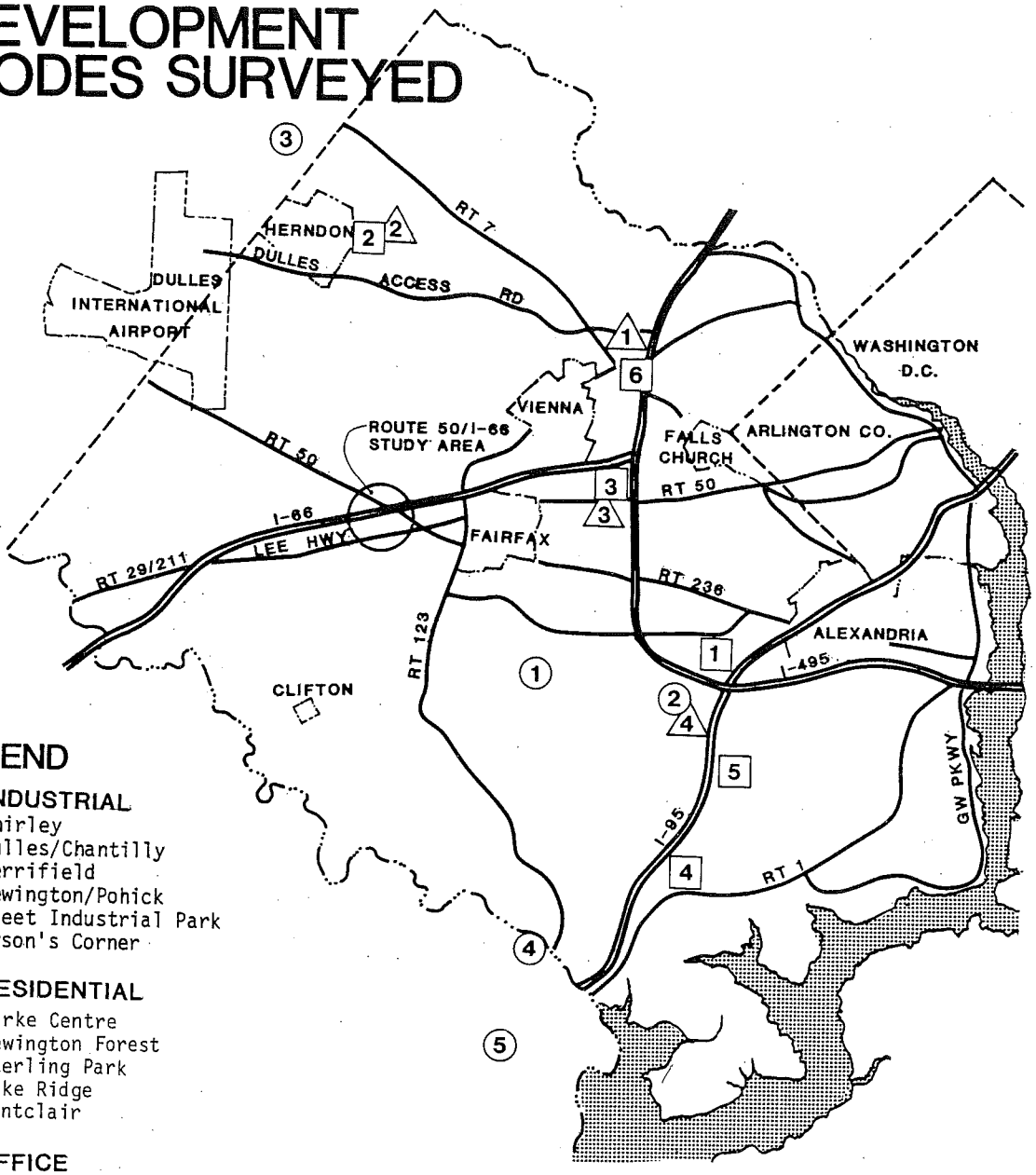
The market analysis of the Fairfax Center area was based on current and projected future market conditions and development trends for the Study Area.

The initial step was an estimation of market potentials for Fairfax County (and environs) and development potentials for the Study Area. These findings, in turn, were used in the formulation of three development scenarios.

In the terminology of market research, "market potential" is the expected total sales of a commodity or service during a stated period (e.g., office space, expressed in square feet per year). "Development potential" is the share of the market that can be captured by a specific area (e.g., the Fairfax Center Study Area) given its location, access and other applicable factors, "Development scenario" combines market conditions with other development assumptions in the specific conditions - i.e. the Study Area.

Three development scenarios were formulated for the Fairfax Center area. Each was predicated on differing assumptions as to 1) market conditions (e.g., the rate of new office development in the Study Area), 2) County policies (e.g., emphasis on economic development), 3) planning objectives (e.g., as reflected by the availability of land for a particular type of development) and other similar considerations. As such, these development scenarios represent a broad range of varying assumptions - based on market and non-market considerations - as to how the Study Area could develop over the coming decades. Each scenario also contemplated a different overall character for the Study Area, ranging from primarily residential to primarily commercial use, depending on the type of use emphasized, rate of development, and so forth.

DEVELOPMENT NODES SURVEYED



LEGEND

INDUSTRIAL

1 Shirley
2 Dulles/Chantilly
3 Merrifield
4 Newington/Pohick
5 Fleet Industrial Park
6 Tyson's Corner

RESIDENTIAL

1 Burke Centre
2 Newington Forest
3 Sterling Park
4 Lake Ridge
5 Montclair

OFFICE

1 Tyson's Corner
2 Reston
3 Merrifield
4 Springfield

Source: Gladstone Assoc., EDAW.

Formulated from likely projected market conditions and other specifically stated assumptions, the resulting development scenarios can be used as major progammatic indicators in the preparation of alternative land use plans for the Study Area.

Derivation of Development Potential/Approach

Formulation of development potentials for the Study Area began with an analysis of the performance of selected office, industrial and residential developments in Fairfax County over the past 15 years. The office development nodes surveyed - Tyson's Corner, Reston, Merrifield and Springfield - presently account for approximately 65 percent of the total office square footage in the County. Industrial nodes at Shirley Highway, Dulles/Chantilly, Merrifield, Newington/Pohick, Fleet Industrial Park and Tyson's Corner, comprising about 90% of the County's existing stock, were analyzed.

Residential communities studied included Burke Centre, Newington Forest, Montclair, Lake Ridge, and Sterling Park as well as several smaller scale single and multi-family projects throughout the County.

This empirical data was augmented by an analysis of the Study Area capture rate figured as a percentage of the overall County market potential, a review of development currently underway in the area, and interviews with people familiar with real estate and economic development in Fairfax County.

Working Assumptions

The basic assumptions upon which marketing predictions were predicated include the following:

- o continued economic growth in Fairfax County during the 1980's and 1990's (based on a sustained economic recovery in the nation and a strong real estate market in the Washington, D.C. region).
- o conditions within the Study Area which are conducive to development - including availability of land, suitable zoning and provision of necessary infrastructure improvements.
- o implementation of certain public and private projects as presently anticipated, including the extension of I-66 into Washington and development of the High Ridge and Pender Business Parks.
- o continued growth of local economy in its historically strong manner, serving as a meaningful indicator of future potential.

Three development scenarios were developed for the Study Area based upon those working assumptions and the prediction for long-term development trends at major competitive locations in Fairfax County. The assumptions for each of the scenarios are summarized below:

Scenario I: Mixed Employment and Residential Center

Overall, Scenario I approximates the average performance of major commercial and residential nodes in the County over the past five years. It anticipates a continuation of past trends relative to level, type and density of development.

Scenario I development potentials are presented below. Office development, the cornerstone land use in this scenario, would capture about 17 percent of the total development expected in the County through 1985. The percentage of total County market potential which the Study Area might be expected to capture rises steadily during each 5-year period, reaching 25 percent by 1995 with a total of 6.4 million square feet of space. Likewise, the Study Area's share of total County industrial/research and development activity increases, from 11 percent to 15 percent over the 20-year period, as the area becomes established as a nucleus for new development. Residential development in the area represents about 4 percent of the County total from 1980 to 2000.

Assumptions for Office and Industrial Development

1. Development in the Study Area would approximate the median performance of major office and industrial development nodes in the County over the past 15 years.

Exhibit 4.

SCENARIO I DEVELOPMENT POTENTIALS
FAIRFAX CENTER AREA
1980-2000

	Average Annual Development Potential				Cumulative Development
	1980-1985	1985-1990	1990-1995	1995-2000	1980-2000
Office Development (s.f.)	165,000	250,000	300,000	350,000	5,325,000
Industrial Development (s.f.)	135,000	200,000	240,000	280,000	4,275,000
Residential Development (units)	370	370	370	370	7,400

Note: Development potentials are based on the median performance over the last 15 years of major office and industrial development nodes and large-scale residential developments in the county.

Source: Gladstone Associates.

2. The proposed Government Center site on Route 29 would act as a stimulus to quality development in the Study Area.

3. Pender Business Park and the High Ridge Corporate Park would be successfully marketed during the early to mid-1980's, establishing the area as an emerging office node.

4. Due to the existence of Fair Oaks Mall and the two business parks currently under construction, office development would "take-off" shortly at this location, skipping the slower start-up phase experienced at some other nodes.

5. The Fairfax County Economic Development Authority would continue its aggressive marketing campaign regarding non-residential development.

6. An adequate supply of land area at suitable locations would be zoned for office development. Preferably, these sites would be clustered in nodes around centers of economic activity (e.g., shopping centers, business parks) or transportation facilities (e.g., interchanges or a major arterials). Sites offering access, visibility and freeway frontage would be provided for office uses.

7. Development in the Study Area would be competitive with that of other areas in the County with respect to the physical appearance and floor plans of buildings, views and access to parking facilities.

8. Pricing would be competitive with other new construction in the Fairfax County market.

Assumptions for Other Commercial Development

1. Neighborhood retail centers would average approximately 80,000 square feet each, and would be anchored by a supermarket and/or drug store. Community retail centers would average about 160,000 square feet, and be anchored by a variety or junior department store.

2. Retail potential would be a function of resident population growth in the Study Area (including growth in a larger market area for community-serving retail). While modest retail opportunities may be associated with employment growth in this area, most would be accommodated in ground-floor retail space in office buildings.

3. Hotel/motel development potential would be modest through the 1980's and remain a function of employment growth in the Study Area thereafter.

Assumptions for Residential Development

1. Residential development in the Study Area would approximate the median performance of selected large-scale residential developments in the County.

2. Large tracts of land would be zoned and made available for residential development.

3. Successful marketing would be undertaken for a Planned Unit Development (PUD) or other large-scale development, so as to maximize development potentials.

4. Residential development would be predominantly single-family detached and attached units. Approximately 20 percent would be multi-family units (both garden and high-rise), reflecting the County trend over the last 5 years.

5. Pricing would be competitive with other new residential developments in Fairfax County.

6. Financing (including "end loans" to consumers) would be available at economically viable rates.

7. Provision would be made for suitable locations for high density residential uses. This may be in conjunction with non-residential uses in mixed-use developments, some of which may require special zoning.

Scenario II: Major Employment Center

Scenario II anticipates rapid growth, relative both to other scenarios and recent development in Fairfax County at competitive nodes. Under Scenario II, the emphasis on commercial land uses increases, and the Study Area emerges as a major employment center. Conceivably, it could take on a compact Urban Village configuration, containing employment and shopping opportunities, and a variety of housing forms, many within walking distance of commercial activity.

In this scenario, more high density office development would occur than is anticipated under Scenario I, with an average FAR (floor area ratio) of approximately .45. Also in this scenario, 11.3 million square feet of non-residential development could be realized. Residential development would assume a more urban character, with about 35 percent occurring in multi-family structures of 12 to 20 dwelling units per acre. Most of this development would occur in proximity to commercial activities, allowing employees in the area to walk to work.

The image created by this scenario could be one of quality locations for large single-purpose office users and high technology firms. Large, well-planned business parks would be available to create a corporate environment. Industrial development under Scenario II would reflect "high end" industrial uses such as research and development

Exhibit 6.

SCENARIO II DEVELOPMENT POTENTIALS
FAIRFAX CENTER AREA
1980-2000

	Average Annual Development Potential				Cumulative Development
	1980-1985	1985-1990	1990-1995	1995-2000	1980-2000
Office Development (s.f.)	165,000	290,000	415,000	540,000	7,050,000
Industrial Development (s.f.)	135,000	200,000	240,000	280,000	4,275,000
Residential Development (units)	420	420	420	420	8,400

Source: Gladstone Associates.

and technical manufacturing firms, rather than warehouse/distribution uses. Resulting development in this scenario is summarized in the preceding table.

Assumptions for Office and Industrial Development

1. Office development in the Study Area would approximate that experienced by some of the more successful office nodes in the County - i.e., Tyson's Corner and Merrifield. Office development will be approximately one-third higher than anticipated in Scenario I.

2. The Pender Business Park and the High Ridge Corporate Park would be successfully marketed during the early to mid-1980's establishing the area as an emerging office node.

3. Office and industrial development would begin at a "take-off", rather than start-up level as a result of currently existing or contemplated developments in the Study Area.

4. There would be an acceleration of development in the Study Area for major corporate business and association uses, as well as for speculative office users. Over the last five years, the County has attracted major employers at the rate of approximately 350,000 square feet annually.

   Based upon a continuation and possible acceleration of this trend, and the relative attractiveness of the Study Area, a portion of the demand created by major employers locating in Fairfax would be captured by the Study Area.

5. The area would attract "high end industrial" uses such as research and development and technical manufacturing companies, rather than warehouse/distribution firms. These types of uses are consistent with the upward pressure on land costs associated with significant office development and with recent County trends toward high technology "R & D" concerns, as opposed to land uses such as distribution centers which tend to rely heavily on proximity to major arterial routes (e.g., I-95).

6. An adequate supply of land area would be zoned for office development at suitable locations, preferably clustered in nodes around centers of economic activity (e.g., shopping centers, business parks) or transportation facilities (e.g., interchanges or major arterials). Sites offering access and visibility will be provided.

7. Construction would be competitive with other major employment centers in respect to quality, architectural appearance and floor plans, views and access to parking.

8. Large tracts of land would be provided which would be planned or zoned and made available for commercial development.

9. The Fairfax County Economic Development Authority would continue its aggressive campaign to attract major employers to Fairfax County.

Assumptions for Other Commercial Development

1. Neighborhood retail centers, anchored by a supermarket and/or drug store, would be developed to serve Study Area residents.

2. Community retail centers, anchored by variety or junior department stores, would be developed to serve Study Area employees and residents within a 15-minute driving radius. Some convenience shopping and eating and drinking establishments would be accommodated in the ground-floor retail space of office buildings. Additional employment-related development of this nature would be included in community retail center.

3. Hotel/motel development potential would be a function of employment growth in the Study Area.

Assumptions for Residential Development

1. Residential development would be approximately 15 percent higher than the level anticipated under Scenario I. The unit mix, however, would vary substantially, with multi-family development at more than twice that expected in Scenario I.

2. Multi-family development, representing 35 percent of the total, would be composed of garden and elevator units. Absorption of low-rise units would be approximately 70 units annually, equalling the median performance at comparable projects in the County over the last several years. High-rise projects would occur somewhat below the median of other recent projects, since the area is not an established one for such development. About 85 units annually could be expected to be sold.

3. Single-family development would occur in small subdivisions rather than large PUD's. Single-family detached developments would be incorporated at a pace higher than that of comparable subdivisions in the County. Illustratively, three single-family detached subdivisions, each selling 60 units annually, could be marketed each year. Townhouse sales could total 110 units annually. This is approximately the median performance for similar subdivisions across the County.

Scenario III: Major Single-Family Residential Center

Scenario III anticipates a relatively slow rate of development, and a shift in emphasis to residential development. Under Scenario III, the Study Area will emerge as a less intense employment center than under previous scenarios. It would capture less than 20 percent of the County's total office market, even in the Study Area's later, more mature phases. Total commercial development would reach approximately 6 million square feet by the year 2000, compared to 9,600,000 square feet under Scenario I and 11,300,000 square feet under Scenario II.

Although the area would be slow in establishing itself as an employment center, it would continue to accommodate major single-family low density residential development. Multi-family development would account for only 5 percent of the total under Scenario III. This would occur primarily in garden apartment-type projects.

The resulting development potentials are summarized in the following table:

Assumptions for Office and Industrial Development

1. Office and industrial development in the Study Area would proceed at a slower rate than assumed under Scenario I, ultimately achieving approximately two-thirds of the total commercial development of that scenario.

2. This development would approximate the median performance of major office and industrial nodes in the County, starting with the slow start-up that many of these projects have experienced.

Exhibit 8.

SCENARIO III DEVELOPMENT POTENTIALS
FAIRFAX CENTER AREA
1980-2000

	Average Annual Development Potential				Cumulative Development
	1980-1985	1985-1990	1990-1995	1995-2000	1980-2000
Office Development (s.f.)	75,000	165,000	215,000	265,000	3,600,000
Industrial Development (s.f.)	54,000	135,000	175,000	215,000	2,895,000
Residential Development (units)	370	370	370	370	7,400

Source: Gladstone Associates.

3. Successful marketing of emerging office parks in the area and the development of industrial parks for research and development use probably will not take place until after the mid-1980's. Thus, the image of the area as an attractive one for commercial development would not be established until that time.

4. An adequate supply of land area would be zoned for office development at suitable locations, preferably clustered in "nodes" around centers of economic activity (e.g., shopping centers, business parks) or transportation facilities (e.g., interchanges of major arterials). Office sites offering access, visibility, and freeway frontage would be provided.

5. New construction would be competitive with other developments with respect to the physical appearance and floor plans of buildings, views and access to parking.

6. Pricing would be competitive with other comparable construction in the Fairfax County market.

Assumptions for Other Commercial Development

1. Neighborhood retail centers would average approximately 80,000 square feet in size and would be anchored by a supermarket and/or drug store. Community retail centers would average about 160,000 square feet each and would be anchored by a variety or junior department store.

2. Retail potential would be a function of the resident population growth in the Study Area (as well as growth in a larger market capture area for community-serving retail). While there may be some retail opportunities associated with employment growth in the area, most would be accommodated by ground-floor retail space in office buildings.

3. Hotel/motel development potentials would be a function of employment growth in the Study Area.

Assumptions for Residential Development

1. The Study Area would continue to develop as a predominantly single-family residential node, with about 60 percent of the total housing in single-family detached units, 35 percent in single-family attached units, and 5 percent in multi-family garden units.

2. Although the total amount of residential development is the same as anticipated under Scenario I, the number of single-family units would be somewhat higher (about 18 percent). Only about one-fourth as many multi-family units would be accommodated. This would create a predominantly single-family, low-rise residential image for the Study Area.

3. The successful marketing of a PUD or other large-scale development would be necessary to maximize development potentials. Absorption would approximate the median of other large residential developments in the County, or 370 units annually.

4. Pricing would be competitive with other new residential developments in Fairfax County.

5. Financing, including mortgage money, would be available.

4.4 THE URBAN VILLAGE CONCEPT

The goals of the Task Force, particularly regarding the concept of mixed use development, relate specifically to the special issues and needs of the Study Area. In a more generalized context, they also correspond to the Urban Village Concept as formulated by the Council on Development Choices of the 80's.[1]

The Urban Village Concept is an organizing principle or framework for putting development choices into practice". All aspects of the development concepts should be planned together as mutually reinforcing parts of a whole.

Goals which are integral to the concept include the recognition of the desirability for: compact growth, mixed use, transportation options, affordable housing and infill development; combining together in such a way as to harmonize with, and enhance, existing residential neighborhoods.

These goals evolved in part from the recognition of a number of areas of concern, including the following:

- o reducing the growth of energy consumption;
- o maintaining a high level of transportation mobility;
- o providing a strong sense of community;
- o maintaining standards for protection of the environment;
- o providing a high level of amenities in housing and commercial areas.

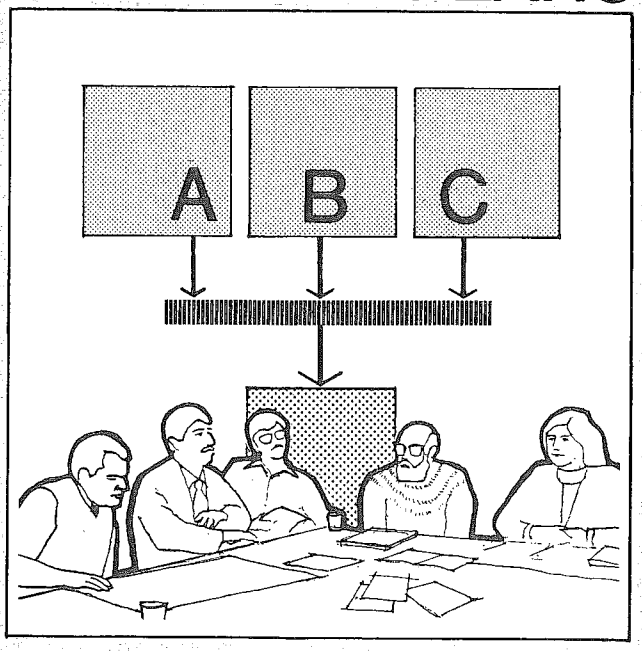
The Urban Village Concept is flexible in its ability to adapt to a wide variety of scales and contexts. In order to achieve the highest degree of success, the Urban Village should maintain a balance between residential and employment uses and be substantial enough in size and density to support efficiencies in transportation and public service facilities and the provision of substantial amenities which are in the public interest.

The Task Force advocated an implementation process based upon the premise of an increased density of development tied to the provision of amenities. Necessary public infrastructure improvements could also be substantially developer paid-for under this implementation method. The result would be high quality development which would produce a favorable relationship between people and places. People oriented spaces would co-exist with office and commercial uses, creating a well-integrated, heterogeneous and exciting environment. The Urban Village was perceived by the Task Force, as well as the Council on Development for the 80's, as the "framework to organize the various development choices . . . into communities that meet the goals of the 1980's".

[1] In 1980, The Land Urban Institute, in conjunction with the United States Department of Housing and Urban Development convened a thirty-seven member council consisting of state and local officials and private sector delegates representing development, financial and design interests. The Council on Development Choices for the 80's addressed "physical development and revitalization issues in the context of growth, economic and environmental change".

The Council discussed, analyzed and evaluated a wide spectrum of physical development scenarios. They ultimately reached a consensus on an overall concept which encompassed the Council's goals by advocating the organization of existing and newly developing areas into Urban Villages.

5.0 ALTERNATIVE LAND USE PLANS

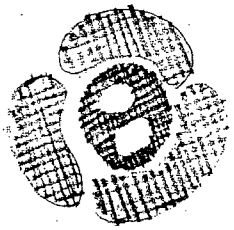


5.0 ALTERNATIVE LAND USE PLANS

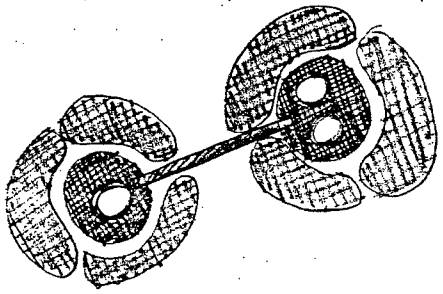
5.1 CONCEPTS

Within the framework defined by the Study Area's major existing and proposed roadways and key land use areas, a number of basic alternative conceptual land use patterns could develop. Generally, the alternative land use concepts for major mixed use development may fall into five categories:

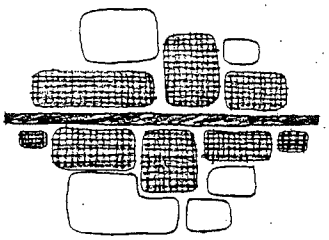
- Single Core: A single major concentration of mixed use development centered around the Fair Oaks Regional Mall and the proposed Fairfax County Government Center. Such a core would accommodate the highest intensity of development at its center, with increasingly lower-intensity rings of development radiating from that center.



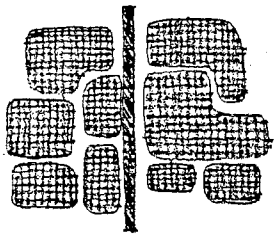
- Dual Core: Two major concentrations of mixed use development: one centered around the Fair Oaks Mall and the proposed County Government Center, and the other located west of the first core at the intersection of two major roadways (e.g., at I-66 and the proposed North/South Connector Road). Both cores may be similar to the single core described above or they may differ. For instance, the degree of mixed use may be lessened in the western core, or it may be almost singular in use (as in the case of a corporate headquarters office park).



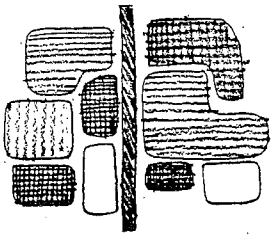
- Corridor: A land use pattern that strongly relates to the roadways of the Study Area. Under the corridor concept, some core development would occur, but the lining of major road(s) with commercial or mixed use development reduces the "sense of place" of any one segment of the corridor. Such a development pattern is so heavily "roadway-oriented" that it can easily cause major traffic problems.



- Saturated: A general covering of most of the Study Area with intensive mixed use development. The scale of such a concentration of development could cause major visual, functional and environmental problems.

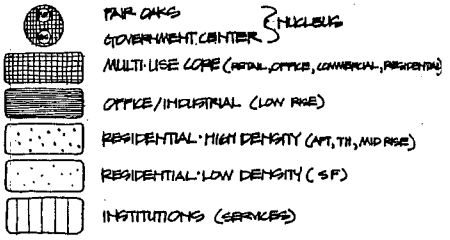


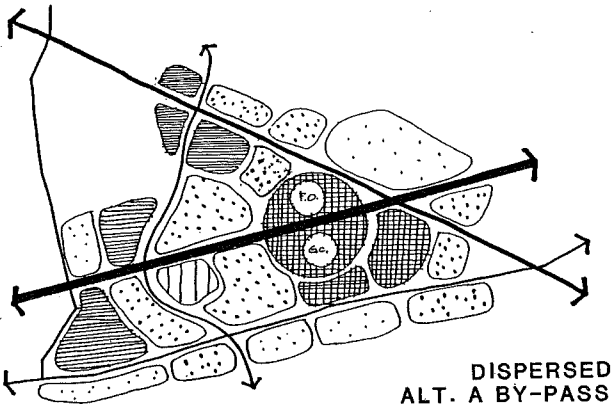
- Dispersed: The locating of several, smaller mixed use centers throughout the Study Area. This pattern could fragment the visual order and functional needs of the area.



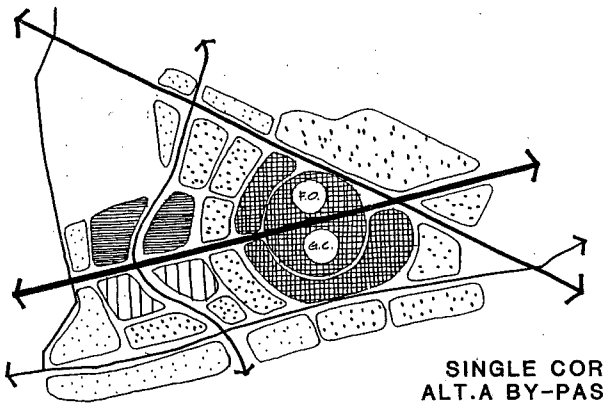
When an alternative concept is applied to the Study Area framework, it becomes somewhat more complex. The major mixed use concentrations must be complemented by other compatible and less intense development, and the potential for some combinations of concepts occurs. Following are some of the basic land use concepts analyzed by the Task Force early in the plan synthesis process.

LEGEND

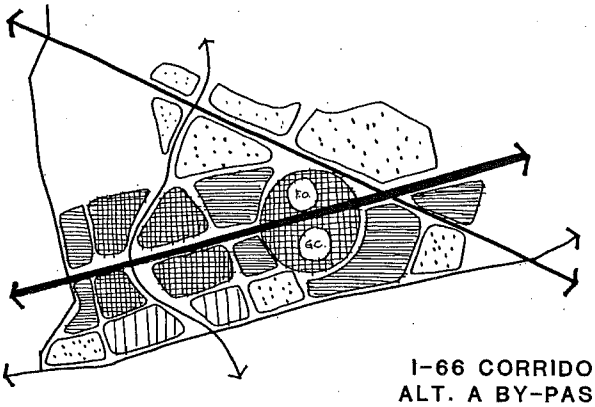




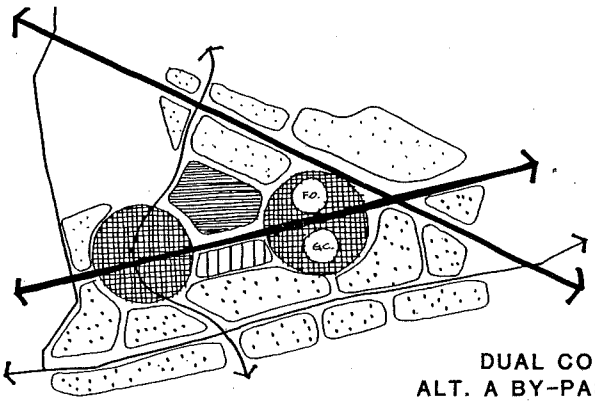
DISPERSED
ALT. A BY-PASS



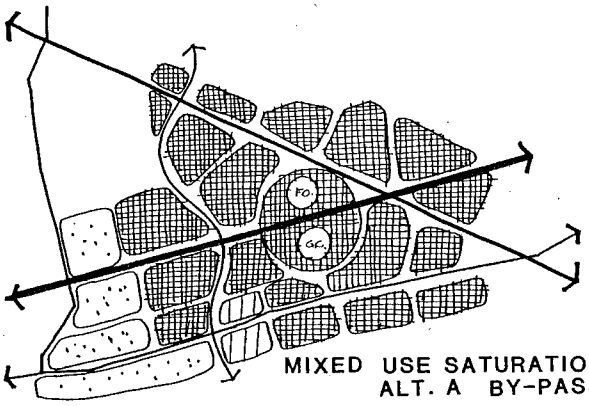
SINGLE CORE
ALT.A BY-PASS



I-66 CORRIDOR
ALT. A BY-PASS



DUAL CORE
ALT. A BY-PASS



MIXED USE SATURATION
ALT. A BY-PASS

5.2 ALTERNATIVE LAND USE PLANS

Alternative Land Use Plans were generated based upon three main variables: concept, proposed North/South Connector Road alignment, and intensity of development.

The concepts which were developed into Alternative Land Use Plans all contained cores of high intensity mixed-use development. These cores were potentially located across Legato Road from Fair Oaks Mall, between the Government Center and I-66, at the I-66-North/South Connector Road interchange or in combinations as dual or split cores. A North/South Connector Road was determined to be a necessary adjunct to the development of the Study Area: therefore, a number of alternative alignments for this connector road between Route 29 and Route 50 were considered. Marketing projections undertaken by Gladstone Associates generated three development scenarios, with their accompanying absorption rates, for the Study Area.

Combining these variables with the goals of the Task Force, Alternative Land Use Plans were formulated.

Alternative Land Use Plan "A" was based upon a dual-core concept - with one core to the west of Fair Oaks Mall, and a second north of the proposed Government Center Complex. The North/South Connector Road proposed for this scheme was generally located between the Greenbriar community and West Ox Road, with a major interchange just west of the weigh station on I-66. The development scenario for this alternative was based upon the Gladstone mid-range projection in which approximately 9,800,000 square feet of office/industrial development and 7,400 dwelling units would be absorbed by the Study Area by the year 2000.

Alternative Land Use Plan "B" was also based upon the Gladstone mid-range development potential scenario. However, it differed from Alternative Land Use Plan "A" in both concept and North/South Connector Road alignment. This plan was based upon the concentrated core concept. The core, situated west of Fair Oaks Mall extended across West Ox Road. The alignment for the North/South Connector Road was basically the same as that proposed in Alternative "A". However, the interchange with I-66 was located at a point east of the weigh station.

Alternative Land Use Plan "C" was based upon the single core concept. In this scenario, the core was located between I-66 and the proposed Government Center site. The North/South Connector Road began at Route 50 east of the Greenbriar Community, crossed I-66 at Legato Road passing along the northern boundary of the Government Center site to its termination at Route 29 and Shirley Gate Road. This land use plan was developed under the Gladstone scenario that emphasized housing development in the Study Area. This particular plan would accommodate 7,400 dwelling units and approximately 6,495,000 square feet of office, industrial and commercial development over the next twenty years.

Alternative Land Use Plan "D" responded to the Gladstone development scenario which envisioned the Study Area developing into a major employment center over the next twenty years. This plan provided for the development of 11,500,000 square feet of non-residential use along with 4,600 dwelling units. The relatively small number of residential units planned for in this Alternative reflected the Task Force's desire to prepare an alternative, for comparative purposes, which consciously minimized residential development. This plan, utilizing the same alignment of the North/South Connector Road as in Alternative Plan "A", had a dual core as its conceptual base. A more intensely developed core was planned at the location adjacent to Fair Oaks Mall. This core included land on both sides of West Ox Road. A less intensely developed core was planned for the north-east quadrant of the I-66 North/South Connector Road interchange. The remaining three quadrants surrounding this interchange were to be developed in an employment center use.

Alternative Land Use Plan "E" responded to Gladstone's low range scenario in which the Study Area would be developed to its full potential as a residential area. Consequently, this plan called for the development of only 6,400,000 square feet of office/industrial and commercial space in the Study Area, and

approximately 7000 low to medium density dwelling units. A mixed-use core was planned in the area north of the proposed Government Center and south of I-66, and an employment center was proposed to the east of the North/South Connector/I-66 interchange, north of the weigh station.

In all Alternative Land Use Plans, certain premises remained constant. These included:

- Preservation of existing neighborhoods.
- Retention of the Penderbrook Golf Course.
- Development of the Pender Park and High Ridge areas, east of the I-66/Route 50 interchange, as office park.
- Development of the Kamp Washington area north of Route 29 and east of the Government Center site in office and commercial uses.
- Establishment of an employment center area in the vicinity of I-66 and the weigh station.
- Primarily residential use north of Route 50.
- Primarily residential use south of Route 29.
- Residential use in the portion of the Study Area east of the Greenbriar subdivision.
- Incorporation of pedestrian and bicycle circulation systems.
- A major North/South Connector roadway from Route 50 to Route 29.
- In those plans in which the North/South Connector Road does not traverse the site in the northwest/southeast direction, a secondary East/West Subconnector Road was proposed.

Following the preparation, presentation and discussion of the five Alternative Land Use Plans, the Task Force voted to take a position on its preferred alignment for the proposed North/South Connector Road. This alignment, exhibited in Alternative Land Use Plans A, B, D, and E, connected Route 50 east of the Greenbriar Community to Route 29, just west of West Ox Road, passing to the west of the I-66 weigh station.

5.3 LAND USE PLAN EVALUATION

Task Force Workshop I: Refining the Alternative Plans

With the acceptance of the preferred North-South Connector Road alignment, Task Force attentions focused on three alternative land use plans - A, D, and E - each representing one of the Gladstone development scenarios. These three plans were subject to a process of refinement (becoming Plans A1, D2, and E1) which culminated in an all-day Task Force workshop. The Task Force was divided into three groups: each group discussed and refined land use assignments on one of the plans, rendering it more responsive to the goals and concerns of the group. The Task Force attempted to quantify the merits of each individual plan for comparative purposes in terms of meeting certain environmental and land use planning criteria, but this effort was not found to be as useful as the Task Force had originally thought. Therefore, a more general evaluation of the alternatives was performed by the Task Force.

5.4 FORMING THE PREFERRED LAND USE PLAN

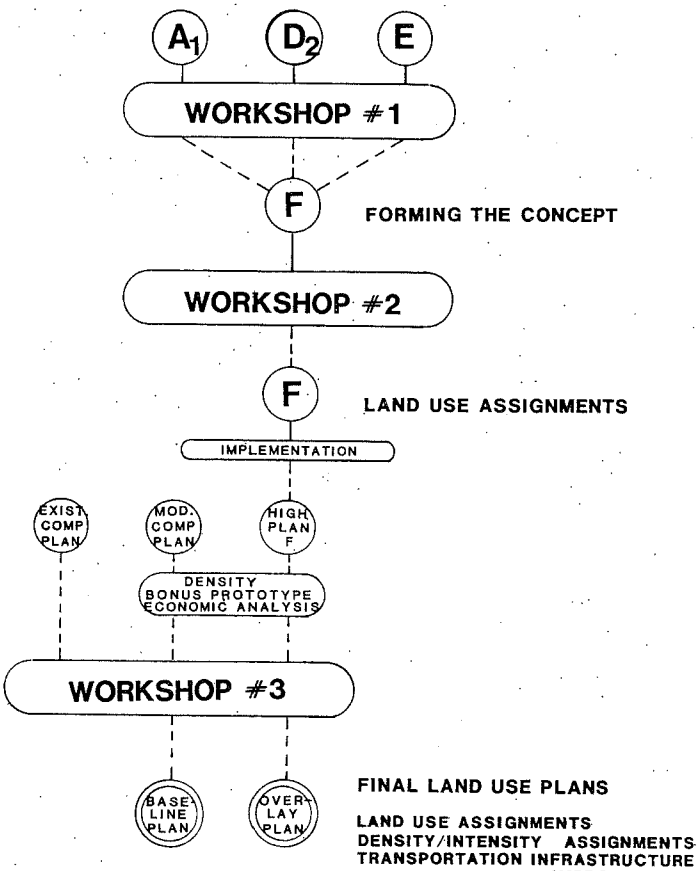
Task Force Workshop II: Toward a Preferred Plan

Analysis of the recommendations of the three Workshop I groups with respect to their individual plans revealed striking similarities. Using these areas of agreement as a basis, a consensus plan (Plan "F") was formulated. Plan F was based on the single mixed use core concept with the addition of a separate major employment center.

The Route 50 corridor west of West Ox Road was proposed for varying densities of residential use. The Penderbrook Golf Course was retained as a major Study Area amenity, while a mix of residential development was intended for its periphery as well as some internal areas of the course. The Fairfax Farms Community was proposed to continue in low density residential use.

The far western edge of the Study Area north of I-66 along the Stringfellow Road corridor was identified for primarily residential land use, except for some office/commercial areas along I-66. Moving eastward along I-66, the Task Force proposed a major office employment area ("Employment Center West") centered around the proposed I-66/North/South Connector Road interchange.

This employment center would be developed in a campus-like setting with an emphasis on providing a high quality development, for example the Perimeter Center in Atlanta, Georgia. It is anticipated that there would be substantial residential development as a secondary use under the PDC concept, especially in the northern portions of the parcel bordering the Greenbriar Community. Furthermore, the Task Force emphasized the desire to orient the non-residential development toward I-66 and the North/South Connector Road. The Task Force also recommended that the parcel of land currently owned by the County and used as the Park Authority maintenance yard be incorporated into this employment center development. This land would either be sold or leased by the County to private developers in an effort to generate funds which would help the County "front-end" the construction of the proposed interchange of I-66 and the North/South Connector Road.



The major mixed use core proposed for the Study Area was split by I-66, but connected by a grade-separated roadway across this interstate highway. The most intensively developed portion of the core was located just west of Fair Oaks Mall and would relate strongly to that major retail complex. Located between I-66 and the proposed Fairfax County Center site was the remaining portion of the core, exhibiting a strong orientation toward, and development phasing with, the proposed Fairfax County Center.

A major East-West Sub-Connector Road, in the form of a landscaped parkway, was proposed from the North-South Connector Road to Route 29 through the mixed use core and adjacent to the Fairfax County Center site.

The Kamp Washington area was proposed for primarily commercial use in response to the already strong development pressures existing there. Viewed as a transition zone between the intense development pressures from Fairfax City and the more residential nature of Route 29 within the Study Area, this area of relatively intense non-residential development was to terminate east of the Fairfax County Center site. Although this development is centered on the Route 29 corridor, it was not anticipated that the development be "strip" in nature, nor that it have access off Route 29 through multiple curb cuts. To the contrary, access was encouraged from secondary roadways away from Route 29/211, allowing a quality, landscaped appearance along this primary road.

Located just east of the Route 50/I-66 interchange along Waples Mill Road, the already developing Pender/High Ridge Business Park area was recognized by the committee as being consistent with the Study Area-wide goals and objectives; therefore, no change in land use was recommended.

A transportation network for the Study Area was proposed. In addition to the North/South Connector Road already agreed to by the Task Force, two east/west sub-connector roads were included - one serving the Employment Center West from Stringfellow Road to West Ox Road and the second connecting the North/South Connector to Route 29 east of the Fairfax County Center. This road would provide access to the cores and the proposed Fairfax County Center. It would cross I-66 in the vicinity of Legato Road, providing an efficient through-traffic circulation route. With the construction of this east/west sub-connector, the potential for cul-de-sac construction on Legato Road and Random Hills Road south of I-66 could be realized. Through traffic on these two streets would not be possible, consistent with the preservation of their residential character.

The Task Force agreed upon the need to complete the ramp system at the Route 50/I-66 interchange, and also endorsed a system of pedestrian and bicycle trails throughout the Study Area. It also foresaw the need for mass transit within the Study Area. A Metro bus and shuttle bus system connecting this Study Area to the Nutley Road metro-rail station in Vienna was proposed. A bus station should be constructed within the landfill site, with the future potential for conversion to Metro-rail use should the opportunity arise. As an adjunct to either form of mass transit, Task Force members planned for the inclusion of a commuter parking lot in the Study Area. It was determined that a location within the County owned landfill site would be most appropriate, especially after the landfill is no longer in active use. This parking lot would be reached from the North/South Connector Road, eliminating the potential of further traffic congestion on nearby West Ox Road.

Although there were a few areas in which land use assignments remained unresolved - most notably along West Ox Road, and the commercially zoned parcels along the Route 29 and Route 50 corridors - these determinations became the basis of the Preferred Land Use Plan.

This preferred plan, Plan "F", underwent a process of modification and refinement, being sensitized at each step to reflect more accurately Task Force objectives and planning practices. When appropriate densities for the various land uses were calculated, the total was found to be greater than the development potential as determined by Gladstone Associates. Modification was made to the Plan both in terms of land use assignment changes and density/intensity reductions in specific parcels to reduce the total amount

of development. The most significant assignment change was at the Employment Center West, where the parcels south of I-66 would be planned exclusively for residential rather than commercial/office housing uses.

Through this process of plan refinement (of both specific density/intensity levels and land uses) the final plan was formulated. This plan remained faithful to the Task Force consensus Plan "F" both in terms of concept and planning philosophy.

This preferred overlay plan reflects the Gladstone Associates development scenario in which the Study Area will develop as a Major Employment Center with its emphasis upon commercial land uses. This scenario was embellished to respond to specific Task Force planning criteria as well as specific existing zoning conditions.

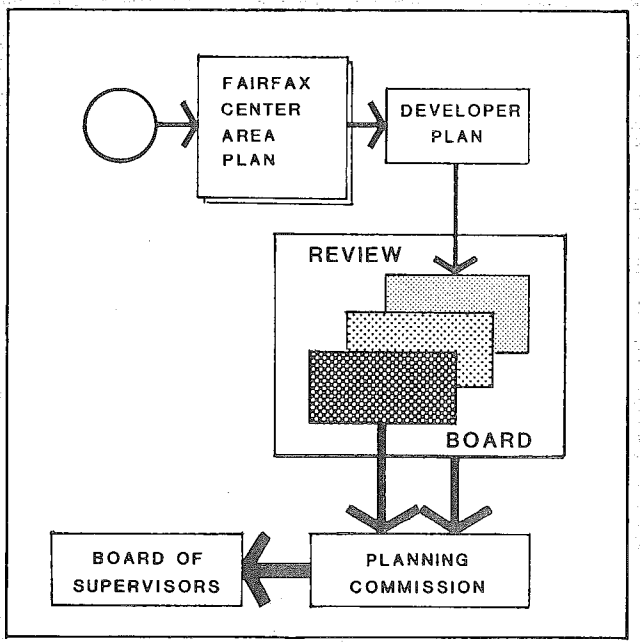
The major elements of the plan include:

- the single core/split mixed-use core concept in which the core areas will develop as relatively intense mixed-use districts forming the nucleus of the "urban village" configuration
- the vehicular transportation system as previously approved by the Task Force, including a major North-South Roadway
- the accommodation of a future mass transit system including commuter parking
- the interconnecting pedestrian/bicycle pathway system
- the Employment Center West district (described in the preceding section)
- the commerical zone at Kamp Washington
- the preservation and protection of existing neighborhoods
- the addition of new residential communities of varying densities

When determining land uses and their accompanying density/intensity, the Task Force promoted the use of "P" districts - Planned Development Housing and Planned Development Commercial - in order to encourage innovative and creative design solutions which would fulfill Task Force goals and objectives.

The preferred plan and its implementation process will be discussed in detail in the following sections (6.0 and 7.0).

6.0 PREFERRED LAND USE PLAN IMPLEMENTATION



6.0 PREFERRED LAND USE PLAN IMPLEMENTATION

6.1 PLAN IMPLEMENTATION PHILOSOPHY

Fairfax County has proved itself a leader in the utilization of planning and zoning controls to create a higher quality of life for its citizens. This process has been strengthened by substantial local citizen participation in the development process. An example of major citizen input is the existing Fairfax County Comprehensive Plan. Frequently, land developers and citizens have varying ideas on the way in which a specific parcel of land should be developed, particularly if it is likely to have an impact on nearby residential neighborhoods. An appropriate forum for issue discussion, problem solving and compromise between the citizens and developers has not always been available. The Route 50/I-66 Study Task Force was created to serve as just such a forum for the consideration of amendments to a key area of the existing County Comprehensive Plan. Comprised of citizen association representatives, developers, local residents, land owners, attorneys, environmental professionals, and other interested citizens, the Task Force realized the special opportunities and constraints of the Study Area and chose to engage in a process that resulted in a sensitive and innovative plan for the area.

Quality implementation techniques are essential to the success of the proposed land use plan. The philosophy of this implementation concept is that a higher quality of life will result from an incentive-based, rather than a solely control-based, process. Only by encouraging the highest quality development at all levels can the full potential of the Study Area be attained while preserving the natural systems and special qualities of the area. Additionally, the process allows for the timely construction of required community support systems (e.g., transportation, open space, public service sites). Public amenities can be used as a lever at many levels to ensure the success of conceptual planning as well as detail design goals. Homes can be located within walking distance of work; energy-efficient and solar design principles that efficient and solar design principles that lessen demand for purchased energy should be incorporated into all projects; transportation alternatives can be emphasized; the environmental issues can be addressed in a strong, positive manner; and the entire area can provide a mixed-use focal point for Fairfax County. Since a major portion of the area is presently undeveloped, there is still time not only to achieve quality development in general, but also to create a new concept for community development: The Urban Village.

6.2 PLAN IMPLEMENTATION METHOD

Attention to detail in this area will help to ensure a quality product at Study Area-wide and site-specific levels. The Route 50/I-66 Land Use Study implementation component is incentive-based rather than control-based. The intent is to create a tandem approach, forming a complementary relationship between existing minimum ordinance and regulation requirements and well defined density/intensity bonus incentives, therefore assuring quality amenity and infrastructure provision at many development levels.

Bonus provisions have worked successfully in central cities of many major metropolitan areas. Bonus densities will not stimulate development per se, but will allow a municipality to affect the development that does occur. The use of the bonuses (overlay plan) will probably not convince a developer to build in a particular location, but will provide the incentive to consider certain options once the decision to develop has been made. In order for the system to work, the bonuses must offer a more profitable option to the developer than if the bonus provisions did not apply. If this incentive is not provided, the developer might either build elsewhere, or forego the bonus provisions and build within the basic density of the plan with no added amenity elements provided.

The key elements of the implementation portion of the Land Use Plan are:

6.2.1 Proposed Land Use Plans and Inherent Density/Intensity Levels

A. Baseline Plan
- o The "lowest" plan in terms of overall development density/intensity.
- o Based on the adopted Comprehensive Plan for the Study Area with certain modifications in transportation infrastructure, open space and other key land use assignments.

B. Intermediate Range
- o An "intermediate" range in terms of overall density/intensity for the Study Area.
- o This offers a level of guidance for performance in terms of controls/incentives above the Baseline Plan yet less than the maximum level.

C. Overlay Plan
- o The "highest" plan in terms of overall development density/intensity.
- o This plan offers maximum guidance for performance in terms of controls/incentives, and thereby offers the highest program with commensurate highest level of quality and amenities.

The intent of defining the two basic levels (baseline and high overlay) of Study Area development density/intensity is two fold: first, it allows more flexibility for development to respond to changing market conditions and; second, it offers a framework for quality control mechanisms to be utilized. The latter concept is a plan implementation tool which attaches progressively more detailed performance guidelines (as quality controls) to progressively greater density/intensity bonuses (quantity incentives above a baseline).

6.2.2 Performance Guidelines for Density/Intensity Increases

Conceptually, the quality control of the development product is tied to the quantity incentive offered to the developer; therefore, any development quantity increase allowed above the baseline must result in a proportional development quality increase through the provision of added amenities.

The basic components of the performance guidelines aspect of the implementation portion of the plan are the Review Board and the Development Plan Application Process Options (bonus incentive requirements and the amenity element bonus levels).

6.2.2.1 Fairfax Center Implementation Review Board (FCIRB)

The Task Force has reviewed numerous areas of development in and around Fairfax County. With the exception of the planned communities of Reston and Burke Centre, the Task Force generally found a lack of overall project coordination. In areas such as Tyson's Corner, many buildings have been constructed with little concern for their relationship to other development or the total transportation needs of the area. As a result, the pedestrian is lost within the total area; buildings and/or uses on adjoining parcels do not complement one another; little attention is paid to the appearance of parking areas or their impact on adjoining property; overall aesthetic coordination is lacking and it is difficult to find a central focal point for the area. This is not a condemnation of individual projects and/or buildings but is a result of the inability of the County to provide area-wide coordination for individual projects.

The Task Force believes that a review board, working in an advisory capacity to the Planning Commission and the Board of Supervisors, could understand and interpret policies underlying the plan. Such a body would have the continuity of existence necessary to provide consistency in policy and administration which would promote Study Area-wide design excellence over the long term. It would recommend approval only if the applicant demonstrated that his proposal was sensitive to the overall objectives of the plan. If the applicant fully understands the objectives of the plan and is able to work with a review board in resolving issues, time will be saved before the Planning Commission and Board of Supervisors. Moreover, a review board could resolve, at an early stage of the proceedings, many of the conflicts between the developer and the citizens that surface during public hearings on zoning applications.

The Task Force recommends that a Fairfax Center Implementation Review Board (FCIRB) be established for an initial period of two years, after which the Board of Supervisors should evaluate its performance. The Task Force believes that a shorter evaluation period would not be realistic as it is anticipated that only a limited number of applications would be heard within the Review Board's first year of operation. Upon such evaluation, if the Board of Supervisors determines that the Review Board is not making a substantial contribution to the planning process, the Review Board should be abolished.

Responsibilities of the Fairfax Center Implementation Review Board:

The Review Board would review development, zoning, site and other relevant plans (e.g. special use permits) affecting parcels in the Study Area. The Task Force believes it is imperative that this additional review not cause any delay in the normal application process. The Review Board's consideration of the application should occur immediately after it has been filed. Public hearing dates scheduled for the Planning Commission and the Board should not be deferred unless the applicant agrees.

Specific responsibilities of the Review Board would include:

- Reviewing zoning applications to determine the extent to which they are in harmony with the criteria and goals of the plan;
- Serving as a mediator between the various relevant interests within the community;
- Reviewing site plans to determine the extent to which they meet the criteria and goals of the plan;
- Expediting the development and review process;
- Serving as an advocate to facilitate the overall implementation of the plan.

The Review Board will evaluate all proposals to determine their conformity to the goals of the plan. Site plan review will include (a) analysis and coordination of transportation and environmental concerns to assure that the proposal serves the needs of the surrounding area as well as the users and operators of the facility; and (b) design review of all buildings, structures and places, public or private, within the Study Area, with recommendations for the development of architecture of high quality and for improving the aesthetic of neighborhoods. The Review Board will not engage in architectural review, but may make suggestions for improvements to architectural treatment and site design.

Composition of the Review Board:

The Task Force spent a great deal of time discussing the composition of the Review Board. The Task Force believes that, if the Review Board is to be successful in persuading applicants to provide the amenities recommended in the Overlay Plan, it should have a continuity of existence and conscience to assure consistent treatment of the plan objectives. Its members must have an understanding of and a commitment to the overall policies and objectives of the plan.

It is the consensus of the Task Force that the Review Board should be limited to five members, with each member having an alternate who would also attend the meetings, thus providing continuity in the event of the absence of one of the members and bringing additional skills to the Review Board's deliberations. The members and alternates of the Review Board should represent diverse points of view, including both the residential and development communities, and have expertise in many fields, such as architecture, engineering, transportation, landscape architecture, energy planning, urban design, environmental planning and financial planning. The Task Force does not recommend a specific composition of the Review Board, but suggests that the Board of Supervisors appoint members and alternates who have a broad interest and/or expertise in these fields.
In order to attract the most competent individuals, the Task Force recommends that membership not be limited to individuals who have

no interest (financial or otherwise) in the Study Area. The Task Force believes that to limit the composition of the Review Board on the basis of a strict conflict of interest approach would deprive the Review Board of the talent and interest reflected in the Task Force and would eliminate many knowledgeable persons who are committed to the objectives of the plan. The public interest will be adequately protected by the existing disclosure requirements, which would require each member to reveal his or her interests in the Study Area.

The Task Force feels that it would be inappropriate for a member of the County staff to serve as a direct participant on a policy board such as the Review Board. However, it is essential that staff provide support to the Review Board and serve as the liaison between the Review Board and the County government. As the Review Board would be advisory to both the Board of Supervisors and the Planning Commission, the Task Force believes it would be inappropriate for a member of either body to serve on the Review Board.

Functions of the Review Board:

The primary tool of the Review Board to encourage implementation of the plan is a system of density credits to be awarded to applicants based upon their contribution to the accomplishment of the overall goals and objectives of the plan. The Task Force has developed certain objective criteria by which the Review Board may analyze this contribution. These criteria are divided into three distinct areas of emphasis:

A. Study Area: General criteria applied throughout the Study Area relating to the factors and systems which serve and reinforce and define that area:

   - o Programmatic Factors
   - o Density/Intensity Factors
   - o Transportation Factors
   - o Environmental Systems
   - o Public Service Site/Systems
   - o Buffer Relationships (adjacency)

B. Key Area: More specific criteria applied to "concept plans" for key development areas which establish the image of the Study Area.

C. Use Specific: Criteria applied to land use categories, such as single family detached residential, office park, or light industrial, to be employed in evaluating the proposed uses upon specific parcels of land within the Study Area.

These criteria are intended to provide a basis for assuring equitable and standardized plan evaluation. However, each site plan submission is unique, and the Task Force recommends that the Review Board be permitted a degree of flexibility in the application of density/intensity bonuses. At the discretion of the Review Board, disproportionate weight may be assigned to one or more bonus elements in certain unique instances where development features, circumstances, innovations, or the costs incurred by the developer to provide the requested amenities merit such weighting. In these cases, the Review Board need not strictly adhere to specific criteria stated in the guidelines in the plan.

The Review Board shall determine the applicable bonus amenity/incentive elements for each application on a case-by-case basis. It will consider the impact on the surrounding properties, communities and the public in general in assessing the relative merits of development plans. All recommended density increases and the amenity provisions upon which such recommendations are based are advisory in nature and must be reviewed by the Planning Commission and approved by the Board of Supervisors.

The Fairfax Center Implementation Review Board should reevaluate the amenity/incentive relationship as development proceeds in the Study Area to assure achievement of the type of high quality development envisioned by the Task Force.

6.2.2.2 Development Plan Application Process Options and Bonus Elements

The Review Board will select the bonus amenity/incentive elements applicable to each individual case from the following categories. The baseline category corresponds to the lowest level of density/intensity allowable for planned development, and the overlay category represents the highest level of density/intensity allowable. An intermediate level of density/intensity is also presented as a single reference point between the low and high levels of development; this intermediate level is offered merely as a benchmark from which the Review Board can determine more finite development levels on a case-by-case basis.

Also presented here are general guidelines for use by the Review Board in evaluating the number of amenity elements required for individual plan applications related to the density/intensity level desired by the applicant.

A. Baseline/Basic Expectation Development Plan Level

Requirements:
The Applicant/Developer shall submit to the Review Board a development plan of sufficient detail as to respond to at least:

* All applicable "Baseline/Basic Expectation" Amenity/Incentive Elements.

SPECIFIC DEVELOPMENT PLAN AMENITY ELEMENTS
(individual elements denoted by "*")

STUDY AREA-WIDE RELATED AMENITY ELEMENTS

TRANSPORTATION SYSTEMS

Automobile
* minor street R.O.W. dedication
* minor street construction
* major street R.O.W. dedication
* planting trees

Mass Transportation
* bus loading zones
* pedestrian access to bus or rail transit stations, as needed

Pedestrian
* pedestrian trails
* bicycle trails

ENVIRONMENTAL SYSTEMS

* private preservation of EQC (continuity of public access assured)
* public dedicated EQC

Drainage Control (BMP)
* sedimentation control
* storm water detention
* storm water retention
* erosion control
* cluster development
* grassy swales/vegetative filter areas

Preservation of Natural Features
* vegetation preservation
* surface water preservation (streams/lakes/ponds, etc.)
* land form preservation
* minimize site disturbance
* road noise impacts mitigated
* site roads and buildings for maximum solar access

PUBLIC USE SITE SYSTEMS

* dedication of stream valley parks

Public Site Dedication (application of density credits under existing systems is not precluded)
* schools
* police/fire facilities

KEY AREAS AND/OR USE SPECIFIC RELATED AMENITY ELEMENTS

Site Planning
* clustered development patterns
* transportation and sewer infrastructure construction phased to development construction
* orientation of planned uses toward most compatible adjacent land uses

Buffers
* land use buffers
* vegetative buffers

DETAILED DESIGN

Site Entry Zone
* signage
* planting
* lighting
* visibly buffered surface parking

Street Furnishings (public
* lighting
* signage
* trash receptacles

Plant Materials/Landscaping
* major street trees

B. Intermediate Range/Minor Bonus Development Level

Requirements:
The Applicant/Developer has the option to apply for a MINOR (density/intensity) BONUS, defined generally as the Intermediate Range Level for that site as specified in the Land Unit Summary Chart (Section 7.0). The Applicant shall submit to the Review Board a development plan fulfilling at least:

1. All requirements of the Baseline/Basic Expectation Amenity/Incentive Level, PLUS

2. The inclusion in the development plan, of one of the following: Either, (a) three-fourths of applicable MINOR BONUS elements or (b) one-half of the applicable MINOR BONUS elements plus one-fourth of the applicable MAJOR BONUS elements.

SPECIFIC DEVELOPMENT PLAN AMENITY ELEMENTS
(individual elements denoted by the "*")

STUDY AREA-WIDE RELATED AMENITY ELEMENTS

TRANSPORTATION SYSTEMS

Transportation Systems

Automobile
* major street construction of immediately needed portions (pro-rated costs based upon number of peak hour auto trips generated per site)
* shared parking allowances
* signage

Mass Transportation
* bus shelters
* commuter parking lot

ENVIRONMENTAL SYSTEMS

* expanded EQC (above O.C.P. minimum)
* increased on-site open space
* aquifier recharge areas protected (reduced impervious surfaces for parking, roadways, etc.)

PUBLIC USE SITE SYSTEMS

Park Dedications
* natural/passive
* neighborhood

Public Site Dedications
* libraries
* community centers
* government offices/facilities

KEY AREAS AND/OR USE SPECIFIC RELATED AMENITY ELEMENTS

Site Planning
* aggregation of parcels
* commitment to construction of all phases in mixed use plans
* mixed use development (PUD's, etc.)
* 24 hour use activity cycle encouraged through proper land use mix (such as a mix of hotels, restaurants, theatres/entertainment uses, and residential and office/instiutional uses in a mixed use urban village core).
* inclusion of low/moderate income housing
* buffering with land forms

DETAILED DESIGN

Building Entry Zone
* signage
* special planting
* lighting

Parking
* planting
* lighting
* provision of minor plazas

Street Furnishings
* seating
* drinking fountains

Plant Materials/Landscaping
* entrances
* parking areas

Structures
* architectural excellence
* energy conservation techniques employed

C. Overlay/Major Bonus Development Plan Level

The Applicant/Developer has the option to apply for a MAJOR (density/intensity) BONUS, defined as the Overlay Plan Level for that site as specified in the Land Unit Summary Chart (see Section 7.0). The Applicant shall submit to the Review Board a development plan fulfilling at least:

1. All requirements of the Baseline/Basic Expectation Amenity/Incentive Level, PLUS

2. The inclusion of the following in the development plan: Either, (a) three-fourths of the applicable MINOR BONUS elements and one-half of the applicable MAJOR BONUS Elements, or (b) the inclusion of all applicable MINOR BONUS elements and one-third of the MAJOR BONUS elements.

SPECIFIC DEVELOPMENT PLAN AMENITY ELEMENTS (individual elements denoted by the star "*")

STUDY AREA-WIDE RELATED AMENITY ELEMENTS

TRANSPORTATION SYSTEMS

Automobile
* construction of later (future) needed major road improvements
* major thoroughfare improvements (e.g., roadways, interchanges, highway bridges, etc., with possible combination of public and private funding)
* traffic signals

Mass Transportation
* bus or rail transit station parking lot
* car/van pool program (reduce auto trips/day)
* local shuttle services

Pedestrian
* overpasses/skywalks
* underpasses

ENVIRONMENTAL

* drainage control (BMP) - innovative techniques in the areas of sedimentation control, storm water detention, storm water retention, erosion control, cluster development, and grassy swales/vegetative filter area provisions
* air, water and noise pollution control and reduction-innovative techniques
* extraordinary sensitivity to the environment and environmental systems, including vegetation, water and land form

PUBLIC USE SITE SYSTEMS

Utility Provision
* major off-site utility contributions

Park Dedications
* community
* county
* historic
* mini-parks

Public Indoor Activity Spaces
* recreation centers
* meeting rooms
* auditoriums/theatres

KEY AREAS AND/OR USE SPECIFIC RELATED AMENITY ELEMENTS

Site Planning

* extraordinary innovation and quality in site design
* extraordinary innovation in energy conservation techniques
* buffers

DETAILED SITE DESIGN

* structured parking
* major plazas

Street Furnishings
* structures (special planters, trellises, etc.)
* kiosks

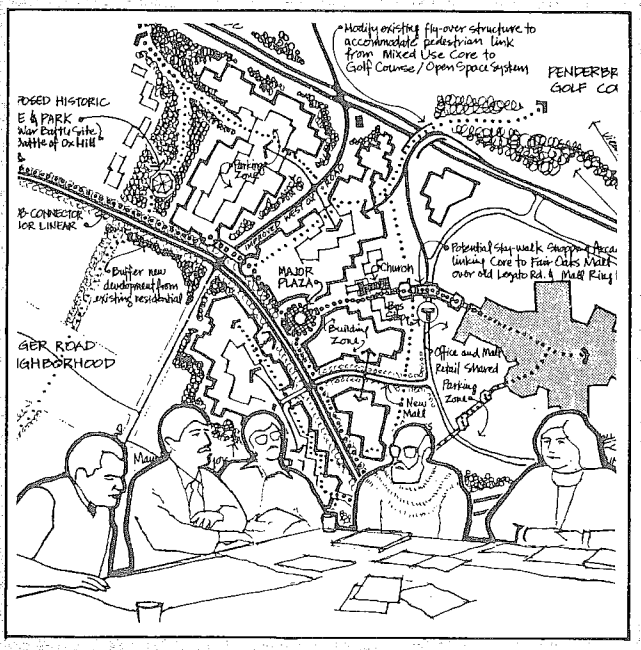
* covered pedestrian areas (arcades, shelters, etc.)
* water features/pools
* special surface treatments

Plant Materials
* landscaping of major public spaces

D. Office Density Bonuses - Prototype Analysis

The incentive implementation approach was anslyzed by Gladstone Associates for a 10 acre prototypical office development site within the Study Area. For the purposes of this analysis, it was assumed that the intensity level for development would be .25 FAR (Floor Area Ratio) for the Base-line (No Bonus) Plan, .625 FAR at the Intermediate (Minor Bonus) level and 1.0 FAR for the Overlay (Major Bonus) Plan. The analysis proved that costs incurred by the provision at the requisite amenities necessary to qualify for the Minor Bonus (.625 FAR) would be more than offset by the increased level of development allowed the developer. At a .625 FAR, all required parking for the development could be accommodated as surface parking. However, at the Major Bonus level of 1.0 FAR, structured parking would be necessary in order to accommodate all required parking. The cost of structured parking is more than ten times tht of surface parking; consequently, it was felt that the economic incentive for the Major Bonus/Overlay Plan would not present itself within the next few years. However, once the Study Area has established itself as a major County development node, realization of the Overlay Plan intensity would become economically viable.

7.0 PREFERRED LAND USE PLAN DESCRIPTION



7.0 PREFERRED LAND USE PLAN DESCRIPTION

7.1 CONCEPT

7.1.1 Land Use

Land use assignments and density/intensity levels in the preferred Overlay Plan were based upon a single core concept. In this concept the core area contains the most intense mixed-use development. One portion of the core relates to the Fair Oaks Mall and the other to the proposed Government Center site. Land uses within the core areas consist of office (with a maximum FAR of .35 in the Government Center core area and 1.0 in the Fair Oaks core); housing in elevator buildings and garden apartments; hotels and supporting commerical uses; as well as plazas, parks and additional open space areas. In general, levels of density/intensity diminish with distance from the core areas. In residential uses this progression is from elevator apartments to garden apartments to townhouses to single family detached housing. In office/commercial uses the level of intensity diminishes from an FAR of 1.0 in the core to .25 in the outline parcels.

The Kamp Washington area is a notable exception to the concept of progressively decreasing intensity of development. In this particular area, a substantial portion of the site is presently zoned for commercial and industrial use with allowable FARs of .7 and 1.0. Based upon established area prototypes such as the Pender Business Park, it appears unlikely that development will actually occur at such a high intensity level. However, the potential for such a level of development is accommodated in the final plan. Recognizing that development in this area is currently proceeding the Task Force sanctioned this as the most equitable approach for dealing with this portion of the Study Area in the development plan. However, although the land use plan recognizes this existing permitted level of development potential, the land use assignments were designated as PDC in development concept in order to encourage well planned office/commercial uses rather than the industrial uses of the current Comprehensive Plan and existing Zoning.

A detailed summary of the density/intensity levels of individual land units follows in Section 7.3.

7.1.2 Market Relationships

The final Overlay Plan recognizes the potential of the Study Area to develop into a major employment center node in Fairfax County. The image of the Study Area would be one of high quality developments of large single-purpose office users and high technology firms in planned mixed use core and campus-like business park situations.

High quality industrial development, including 'research and development' and technical manufacturing companies (as opposed to warehouse/distribution/ service facilities) will locate in the area. Consequently, in the assignment of land uses, an emphasis was placed upon the inclusion of desirable sites for such development - in particular, the Core areas and the Employment Center West. Concentrations of primarily multi-family residential developments in proximity to areas of commercial activity were incorporated in the land use plan.

7.1.3 Product/Plan Relationship

The Overlay Plan Study Area represents a level of density/intensity achievable only in conjunction with the provision of substantial amenities. As such, it is a planning goal, rather than a prediction of the level of development which will be realized in the Study Area.

The bonus incentive philosophy is the underlying premise for setting development levels within the Study Area. However, in specific areas, existing industrial and/or commercial zoning, with their accompanying high FARs, took precedence in setting the density/intensity levels for the Overlay Plan. These situations normally occur where the commercial land development process is already underway; thus, these areas are clearly unique in that density bonus incentives and development criteria will not readily apply. In these cases, the density/intensity level of Overlay Plan is also a planning number

There is frequently a disparity between the "allowed" development level (planned/zoned) and the actual product ultimately constructed on any given site. This disparity can result from any number of circumstances including market demand, availability of land and economic or site specific constraints. In the Study Area, the Pender Business Park is currently zoned at FARs of 1.0 and .7. However, final development plan approvals have been for development at approximately .6 FAR.

There is frequently a disparity between the "allowed" development level (planned/zoned) and the actual product ultimately constructed on any given site. The intensity of land use at the time of development is frequently different than the intensity permitted in a specific zoning category. This disparity can result from any number of circumstances including market demand, availability of land and economic or site specific constraints. In the Study Area, the Pender Business Park is currently zoned at FARs of 1.0 and .7. However, final site development plan approvals have been for development at approximately .6 FAR. Similar trends can be seen throughout the County. An analysis of the ratio between developed and allowed FARs in the Tyson's Corner area (as exhibited in the chart in the Appendix) shows that range to be between 26 and 82 percent. The Tyson's Corner data represents 50 buildings with a total of 4,475,000 square feet of gross floor area. In the more urban setting of Rosslyn, Virginia, where developable land is at a premium, an analysis of 21 buildings accommodating 4,390,000 square feet of gross floor area shows that development has occurred at the rate of 98% of the allowable intensity. In general, it was found that planned office use maximum FAR in the I-66/Route 50 area would need to be discounted by at least 25 percent to translate "Planned" land use building capacity into a more realistic expected building FAR.

7.2 THE THREE LEVELS OF THE PREFERRED PLAN

7.2.1 The Baseline Plan

The adopted Comprehensive Land Use Plan is the foundation for the proposed Baseline Plan, which represents the minimum level of density/intensity in the three-tiered implementation approach. Certain modifications were made to reflect more accurately Task Force planning goals and concepts for the Study Area. As is the case with the existing Comprehensive Plan, the Baseline Plan is substantially low density residential in character. In the existing adopted Comprehensive Plan, a range of densities is given for each residential category. In the majority of cases, the Baseline Plan uses the low end of this residential density range.

Modifications to the existing Comprehensive Plan fall into five major categories:

- Areas planned and zoned for industrial uses in the existing Comprehensive Plan were recommended for commercial/office use on the Baseline Plan.

- In instances where zoned density/intensity is higher than that of the Comprehensive Plan, zoning densities took precedence.
- Land units directly adjacent to Fair Oaks Mall and the proposed Government Center were planned for office/commercial use in the Baseline Plan. On the existing Comprehensive Plan, these areas are planned for relatively high density residential use (8-16 du/ac). These densities are sufficient to encourage development at that level; however, residential development in these areas would be inconsistent with Task Force criteria which advocates mixed use development. Therefore, in order to reflect Task Force objectives, these land use assignments were changed to low density office use on the Baseline Plan.

- The EQC system was expanded as a result of a more-detailed analysis, as part of this Study, consistent with existing County guidelines.

- Transportation network improvements:
  - North/South Connector Road
  - East/West Sub-Connector Roads

- Cul-de-sacs at Random Hills Road and Legato Road
- North/South Connector Road Interchanges at Route 50 and I-66
- Completion of needed ramps at Route 50/I-66 Interchange

7.2.2 The Overlay Plan

The Overlay Plan represents the upper limit of density/intensity achievable at the major bonus level in the amenity/incentive implementation process. The basic elements of the Overlay Plan are as follows:

- o Preferred land use assignments as determined by Task Force.
- o Density/Intensity level as approved by Task Force.
- o Transportation Network Improvements appropriate to the more intense development at the Overlay Plan level.
- o Realization of the Urban Village Concept through major mixed-use core development.

7.2.3 Intermediate Level

The Intermediate Level represents a possible mid-range of density/intensity achievable through Minor Bonuses in the Amenity/ Incentive Implementation process. The intermediate level depicted in the Land Unit Data Summary Chart is illustrative of only one of many potential development scenarios. The basic elements of the Intermediate Level include:

- o Land use assignments based upon High Overlay Plan concept as determined by the Task Force.
- o Density/intensity levels set as intermediate range between Baseline and Overlay Plans.
- o Transportation infrastructure improvements appropriate to the more intense development at the Intermediate Plan level.

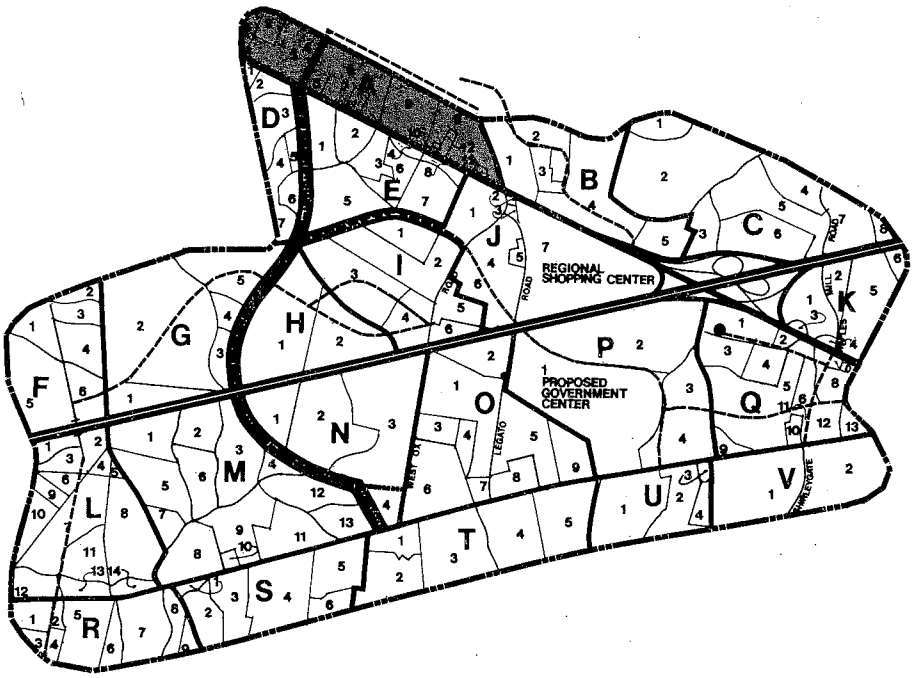
7.3 PREFERRED LAND USE RECOMMENDATIONS

The following recommendations are presented on an individual land unit basis; these land units are aggregated into larger zones of units having similar land use or geographic characteristics. To describe these recommendations fully, each zone is described through the use of the following elements:

- o Land Unit Data Summary Chart. This chart represents the key linkage mechanism between the proposed Land Use Plan and the proposed performance criteria for the development of that plan. The chart describes the proposed use and density/ intensity quantities for each land unit for the three levels of the plan (in terms of square footage of non-residential and number of dwelling units of residential uses). All density/intensity calculations are based on gross acres of land.
- o Land Unit/Zone Map. Each land unit group is map-keyed for ease of location and delineation within the Study Area.
- o Plan Text. Specific plan text recommendations and considerations for the development of each specific land unit are included. Recommendations for key areas of development (e.g. Fair Oaks Mixed Use Core) are described in greater detail and are supplement by Illustrative Concept Plans for potential development.
- o In addition to the developable land units presented in the land use summary charts and summarized at the end of this section, the study area also includes 38 land units which are already developed or committed.

A LAND USE SUMMARY CHART

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE		EXISTING CONDITIONS		BASELINE: Density/Intensity Development Potential Achievable at "No Bonus" Level						
	NET	GROSS	ZONING	COMP. PLAN	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
A3, A6	70	84	R-1	R 2-3	RES		2			168	
A9, A10, A11	41	43	R-1 C-8	R 2-3	RES COMM	.7	2			82	60,984



DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level					
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
A3, A6	PDH		3.5			294	35,280	PDH		5			420	37,800
A9, A10, A11	PDC	.15		A B	326,127 217,418	0 72		PDC	.25		A B	468,270 312,180	0 104	

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept

A-1, A-2

No land use assignment change from the adopted Comprehensive Plan is recommended. This land unit is a portion of the existing Murray Farms subdivision containing residential dwellings and the Fairfax Church of Christ.

A-4

No land use assignment change from the adopted Comprehensive Plan is recommended. This land unit accommodates the existing access road to Fair Oaks Estates, and eventual extension of North/South Connector Road.

A-3, A-6

Primary access from Route 50 should occur through the minimum number of access roads rather than service roads or multiple curb-cuts along Route 50. Buffer adjacent existing residential development and major roadways.

A-5, A-7

No land use assignment change from the adopted Comprehensive Plan is recommended. Existing churches are anticipated to remain.

A-8

Christ Presbyterian Church and proposed Vepco substation. Buffer substation equipment from Route 50 and adjacent development, and preserve unused land in open space. Church in southwest corner to remain.

A-9, A-10, A-11

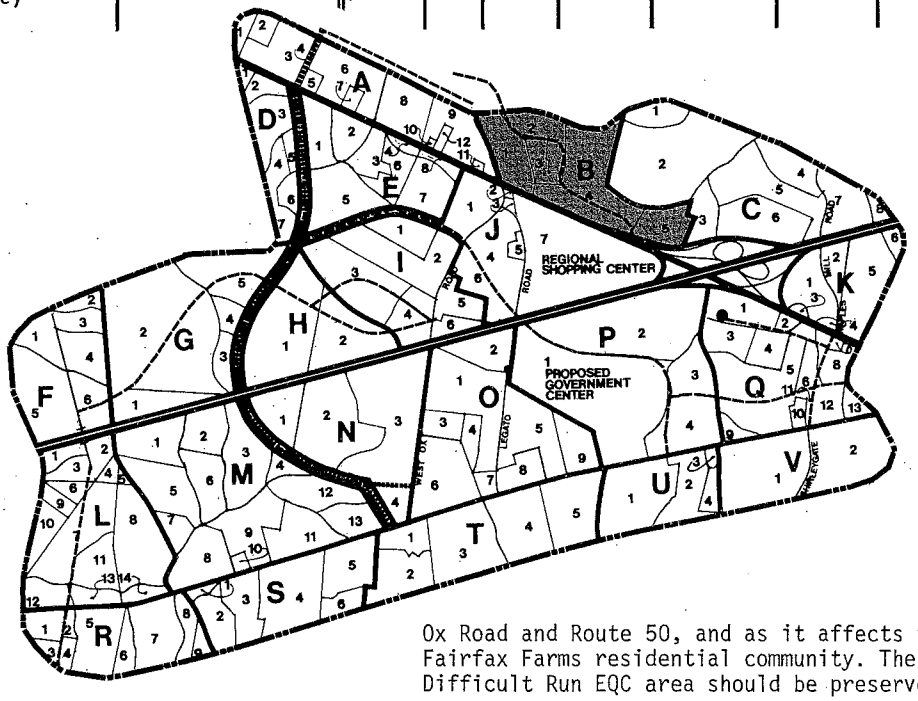
Low intensity (PDC) office/housing mixed use. Primary access from Route 50 with secondary access from proposed east-west road to Fair Oaks Estates on the northern boundary. Minimize access points onto West Ox Road.

A-12

Proposed Navy/Vale Police/Fire Substation.

B LAND USE SUMMARY CHART

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE NET	APPROXIMATE ACREAGE GROSS	EXISTING CONDITIONS ZONING	EXISTING CONDITIONS COMP. PLAN	BASELINE: Density/Intensity Development Potential Achievable at "No Bonus" Level PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
B1, B2, B3, B4, B5	141	163 (283 includes entire golf course)	R-1	R 1-2 R 4-5	RES		1, 4			535	



B-1, B-2, B-3, B-4, B-5
Key Area/"Golf Course"

The preservation of the Penderbrook Golf Course as an area-wide amenity is extremely desirable. Future development by golf course owners, or others, should strive to accommodate the preservation of the golf course. Due to the difficulty in determining development density needed to make retention of the golf course economically feasible, the Task Force recommends as an interim measure, the continued application of currently allowed densities. However, the Task Force recognized that the Comprehensive Plan for the golf course would probably have to change to assure its continued viability. Our suggestion was to consolidate density currently shown on the Comprehensive Plan into one building area. If this approach were followed, it would, in essence, consolidate density in one area thus leaving the balance of the tract in open space or in its current use; i.e., golf course. Future development will be evaluated within the context of the Route 50/I-66 Task Force philosophy, goals, and objectives. Access is a critical issue, especially as it relates to potentially increased congestion of West Ox Road and Route 50, and as it affects the Fairfax Farms residential community. The Difficult Run EQC area should be preserved.

The following qualities will contribute to the successful high quality development of this area:

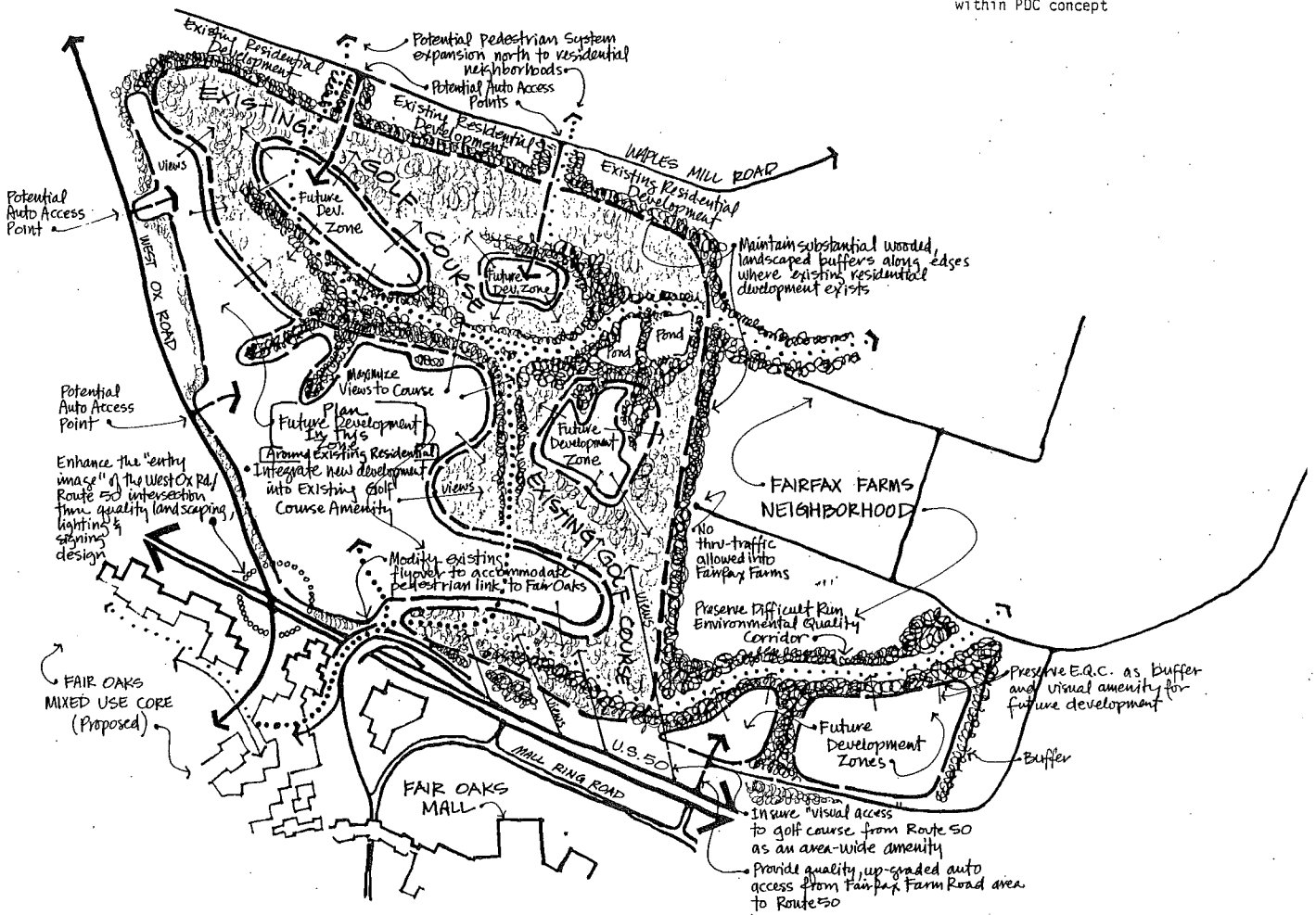
- Good visual relationship to Route 50.
- Ownership pattern - minimum number of owners for implementation control.
- Mixed open and wooded vegetative conditions.
- Sewer partially available.
- Other utilities available.
- Golf course is high image amenity for surrounding development.

Additional issues and areas of concern include:

- The economic feasibility of retaining the golf course as an area-wide and site specific amenity.

DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level					
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B'	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
B1, B2, B3, B4, B5	RES		1,4			535		RES		1, 4			535	

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept



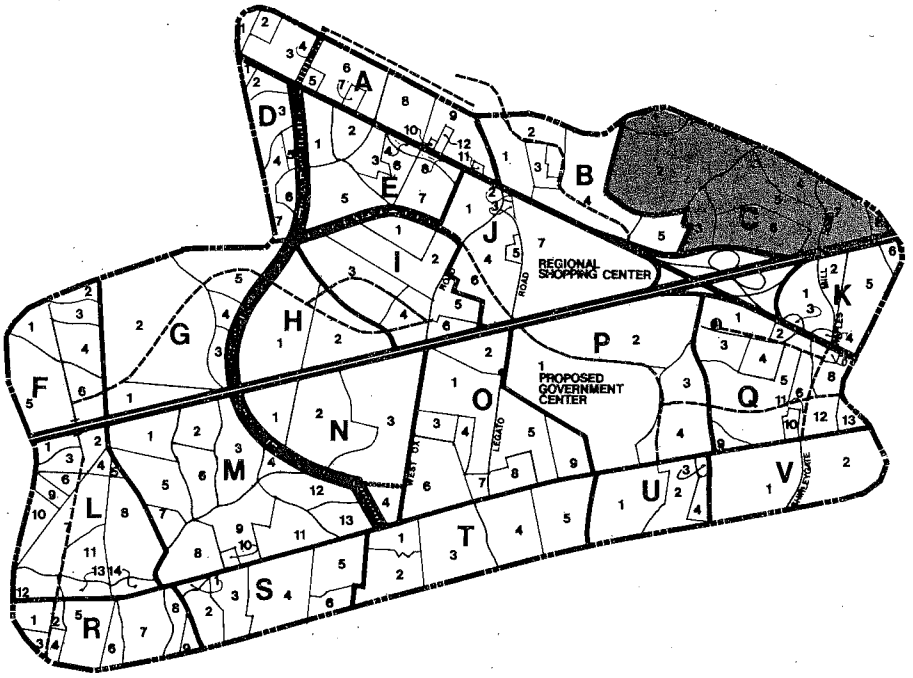
SCHEMATIC CONCEPT PLAN

GOLF COURSE AREA

C LAND USE SUMMARY CHART

BASELINE: Density/Intensity Development Potential Achievable at "No Bonus" Level

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE NET	APPROXIMATE ACREAGE GROSS	EXISTING CONDITIONS ZONING	EXISTING CONDITIONS COMP. PLAN	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
C3	13	17	R-1	R .5-1	RES		.5			8	
C4	23	31	R-1	R .1-.2 R .5-1	RES		.1,.5			10	
C6	36	49	R-1	R .1-.2 R .5-1	RES		.1,.5			11	
C7	16	30	R-1	R .1-.2	RES		.1			3	
C8	4	7	R-1	R .1-.2	RES		.1			1	



DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level						
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B[1]	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
C1	RES		.75			12		RES		1			17	
C4	RES		.15, .75			15		RES		.2,1			20	
C6	RES		.15 .75			16		RES		.2,1			22	
C7	RES		.15			5		RES		.2			6	
C8	RES		.15			1		RES		.2			2	

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept

C-2, C-3, C5

No land use assignment change from the adopted Comprehensive Plan is recommended. These land units are a portion of the Fairfax Farms subdivision and should be buffered and preserved. Access problems to Fairfax Farms at Route 50 should be mitigated through intersection treatment, potential new outlets to Waples Mill Road (to north, west or east), or access through the golf course to West Ox Road (potentially at Avery Road). A detailed analysis of access problems to Fairfax Farms and the golf course should be undertaken in the near future.

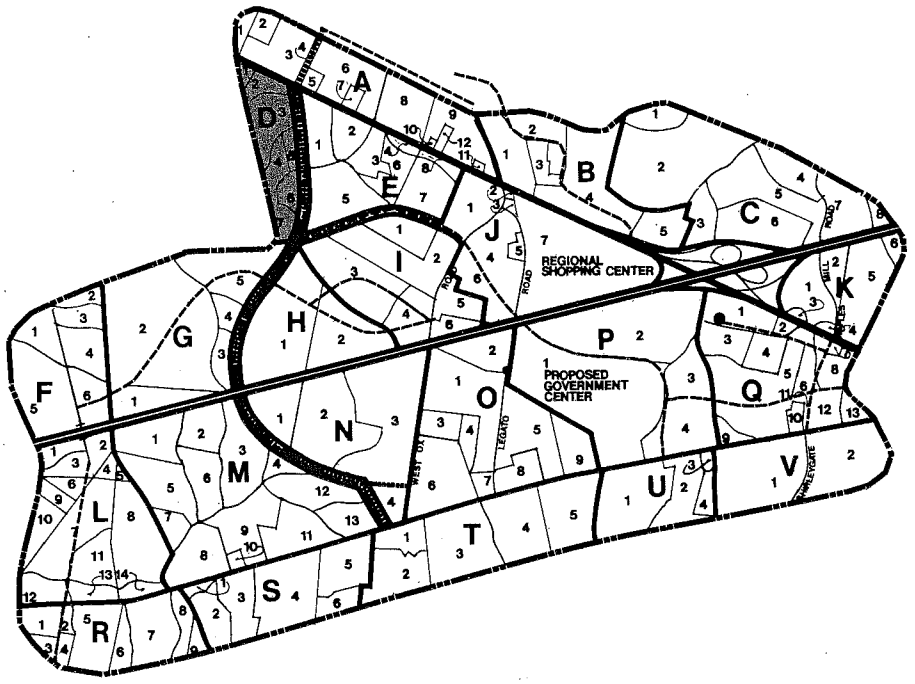
C-1, C-4, C-6, C-7, C-8

These areas are part of, or adjacent to, the Fairfax Farms community and should reflect that land use, density and character.

D LAND USE SUMMARY CHART

BASELINE: Density/Intensity Development Potential Achievable at "No Bonus" Level

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE		EXISTING CONDITIONS		PROPOSED LAND USE	DENSITY/INTENSITY		PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
	NET	GROSS	ZONING	COMP. PLAN		FAR	DU/AC				
D1, D2, D3, D5, D6	39	78	R-1	R 2-3	RES		2			156	



DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level						
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B[1]	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
D1, D2, D3, D5, D6	PDH		2.5			195	23,400	PDH		3			234	28,080

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept

D-1, D-2, D-3, D-5, D-6

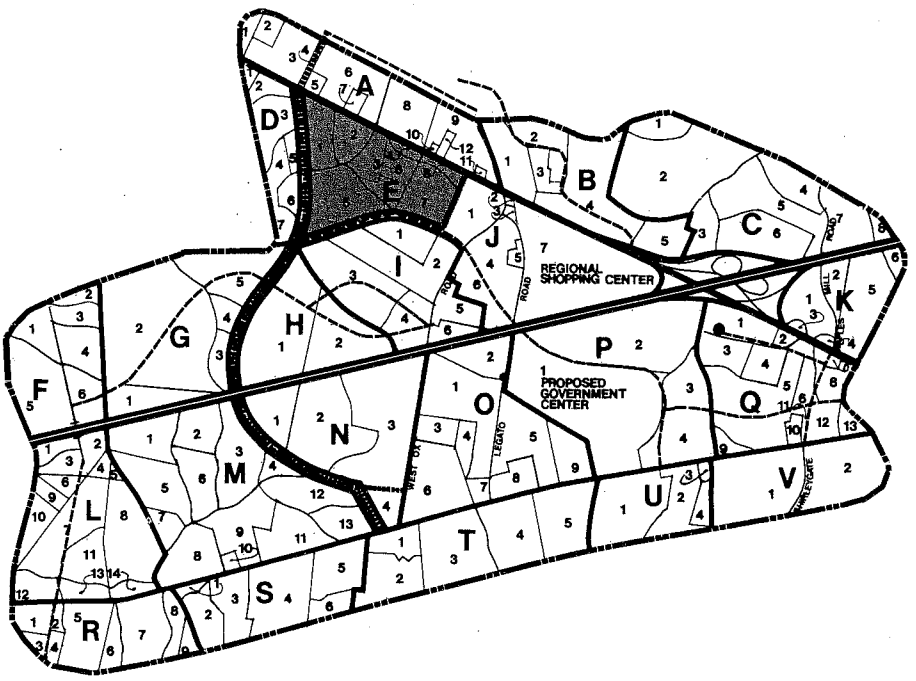
The final configuration of these units will depend upon the actual built alignment of the North/South Connector Road. Regardless of exact configuration, parcels west of the North/South Connector and east of the Greenbriar community shall be a PDH-3 on the Overlay Land Use Plan. A substantial land use and noise buffer should be retained between the North/South Connector Road and the eastern boundaries of Greenbriar, Oakwood Estates and other residential units in the D-1 through D-7 areas (if any). Access to units D-1 and D-2 should be accessed via Milan Lane, and units D-5 and D-6 from the North/South Connector Road. Roadway noise mitigation techniques (e.g. berms and depressed roadways) should be employed along the North/South Connector edge of units D-3, D-5, D-6, and D-7.

D-4, D-7

No land use assignment change from the adopted Comprehensive Land Use Plan is recommended. Oakwood Estates is an existing residential neighborhood. Noise mitigation and buffering measures should be employed to protect this area from negative impacts.

E LAND USE SUMMARY CHART

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE		EXISTING CONDITIONS		BASELINE; Density/Intensity Development Potential Achievable at "No Bonus" Level						
	NET	GROSS	ZONING	COMP. PLAN	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
E1	6	34	R-1	R 2-3	RES		2			68	
E2, E4, E5, E6	75	110	R-1	R 2-3	RES		2			220	
E7	24	39	R-1	R 2-3	RES		2			78	
E8	5	8	R-1 C-8	R 2-3 Retail	RES COMM	 .7	2			14	 30,504



DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level						
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B'	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
E1	PDH		3			102	12,240	PDH		4			136	16,320
E2, E4, E5, E6	PDH		4			440	52,800	PDH		6			660	59,400
E7	PDH		5			195	17,550	PDH		8			312	28,080
E8	PDH		5			35		PDH		8			56	5,040
	PDC	.7					30,504	PDC	.7					30,504

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept

E-1, E-2, E-4, E-5, E-6

Land unit E-1 is proposed to be developed at PDH-4, while E-2, E-4, E-5, and E-6 are proposed to be developed at PDH-6 in the Overlay Plan. Units E-1, and E-2 should be reached via Route 50, but the number of such access points must be minimized. E-4 and E-6 should be treated as a single development unit, with E-4 and the EQC area paralleling Route 50 maintained in open space. Entry may occur from Route 50, if well controlled, but preferably should occur from the proposed East/West Sub-Connector. The building orientations should present a quality image to the North/South and East/West Connector roadways bounding the land unit and take advantage of the open space amenity for buffering and views. The Big Rocky Run EQC headwaters penetrate the center of this cluster of land units and should be preserved. A major amenity of the Overlay Land Use Plan is the east-west linear park connecting this portion of the Big Rocky Run EQC and neighborhoods to the west to the proposed Fair Oaks Mixed Use Village Core, Fair Oaks Mall and the proposed County Government Center. Since this linear park is essential to the area's primary pedestrian open space system, its dedication to the County is necessary in any related site plan submission. Physical linkage and design continuity of this open space system is critical to the success of the area's planning objectives.

E-3

No land use assignment change from the adopted Comprehensive Plan is recommended. This land unit consists of an existing small cluster of low density residential lots along Dorforth Drive.

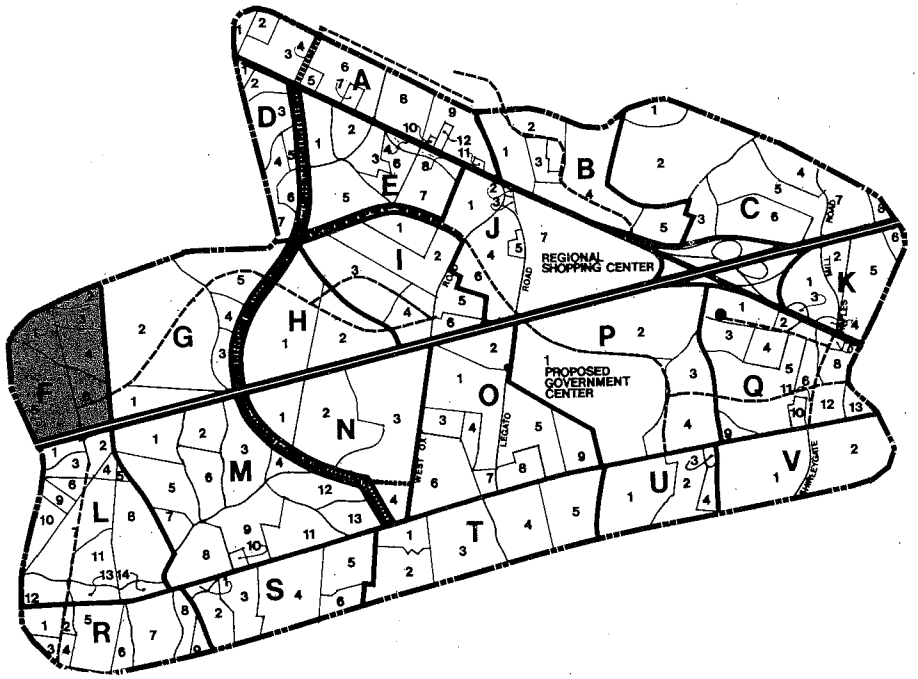
E-7, E-8

These units are proposed for PDH-8 usage and their future development should have access from, and orient positively to, the proposed East/West Sub-Connector Road and linear park. The provision of this road and park is essential to the achievement of the objectives of the area's land use plan. Unit E-8 should be considered as an integral open space portion of the development for unit E-7 north of the Connector Road. Of major importance is the provision of a portion of the proposed historic site along the eastern boundary of Unit E-7. and site plan sensitivity to the proposed use.

F LAND USE SUMMARY CHART

BASELINE: Density/Intensity Development Potential Achievable at "No Bonus" Level

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE NET	APPROXIMATE ACREAGE GROSS	EXISTING CONDITIONS ZONING	EXISTING CONDITIONS COMP. PLAN	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
F1, F2, F3, F4, F5	124	137	R-1 PDH 2	R 1-2	RES		1			137	
F6	23	24	R-1	R 1-2	RES		1			24	



DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level						
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B'	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
F1, F2, F3, F4, F5	PDH		2			274	32,880	PDH		3			411	49,320
F6	PDC	.14		A B	148,680 99,786	0 33		PDC	.25		A B	261,360 174,240	0 58	

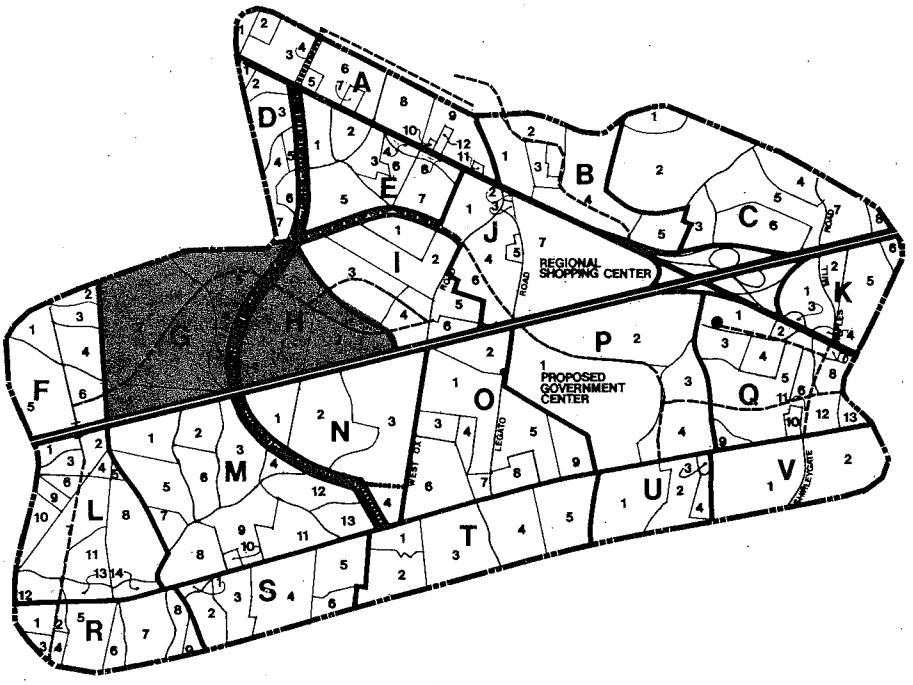
[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept

F-1, F-2, F-3, F-4, F-5, F-6

These land units represent a transition in land use and intensity between the proposed employment center to the east and residential neighborhoods to the west. As such, units F-1 through F-5 are proposed as PDH-3 development. The proposed employment center East/West Sub-Connector Road intersects Stringfellow Road through unit F-6; therefore, this unit is proposed for low-intensity mixed use development (PDC at .25 FAR).

G,H LAND USE SUMMARY CHART

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE		EXISTING CONDITIONS		BASELINE: Density/Intensity Development Potential Achievable at "No Bonus" Level						
	NET	GROSS	ZONING	COMP. PLAN	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
G1, G2, G3, G4, G5	221	309	R-1	R 1-2	RES		1			309	
H1, H2	120	158	R-1	R 1-2, PARK	RES PARK		1			98	



DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level					
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DU/AC	PDC RANGE A / B'	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
G1, G2, G3, G4, G5	PDC	.14		A	1,914,255	0		PDC	.25		A	3,365,010	0	
				B	1,276,170	425					B	2,243,340	747	
H1, H2	PDC	.14		A	963,547	0		PDC	.25		A	1,720,620	0	
				B	642,348	214					B	1,147,080	382	

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept

G-1, G-2, G-3, G-4, G-5
Key Area/"Employment Center West"

This area is proposed to be developed under a PDC concept, with housing as a major secondary land use to the office/commercial development. High quality "campus-like" office park development, for example, Perimeter Center in Atlanta, Georgia, is expected in this area. Architectural excellence, preservation and enhancement of natural features, uniform signing, lighting and landscaping systems, and quality roadway entry treatments are expected. The proposed East/West Sub-Connector provides major internal circulation for these units and should be the only access from this area to the North/South Connector Road and to Stringfellow Road. Close Middle Ridge Drive, Marshall Hall Lane, and Acorn Street (where they now currently end) to all future commercial development south of Greenbriar.

H-1
Key Area/"Employment Center West"

As in the preceding discussion ("G" units), high quality "campus-like" office park and residential development is anticipated. The East/West Sub-Connector through these units will provide major internal circulation and access to the North/South Connector and West Ox Road. The two alternative road linkages shown to West Ox Road should be analyzed during development plan submission stages, and a preferred alignment selected.

H-2
Key Area/"Employment Center West"

This land unit is currently owned by Fairfax County and is used as a Park Authority maintenance yard. The unit has been excavated to obtain earth fill material for use in the nearby County landfill operation. It is planned that this land unit will be developed as part of the Employment Center West under the same criteria as the "G" and "H-1" land units. The County has the option of selling or leasing this land to private developers or possibly acting as the developer itself.

The "Employment Center West" area has the potential to explore a number of unique opportunities that can assure successful development of this key area. It is located adjacent to, or near the following:

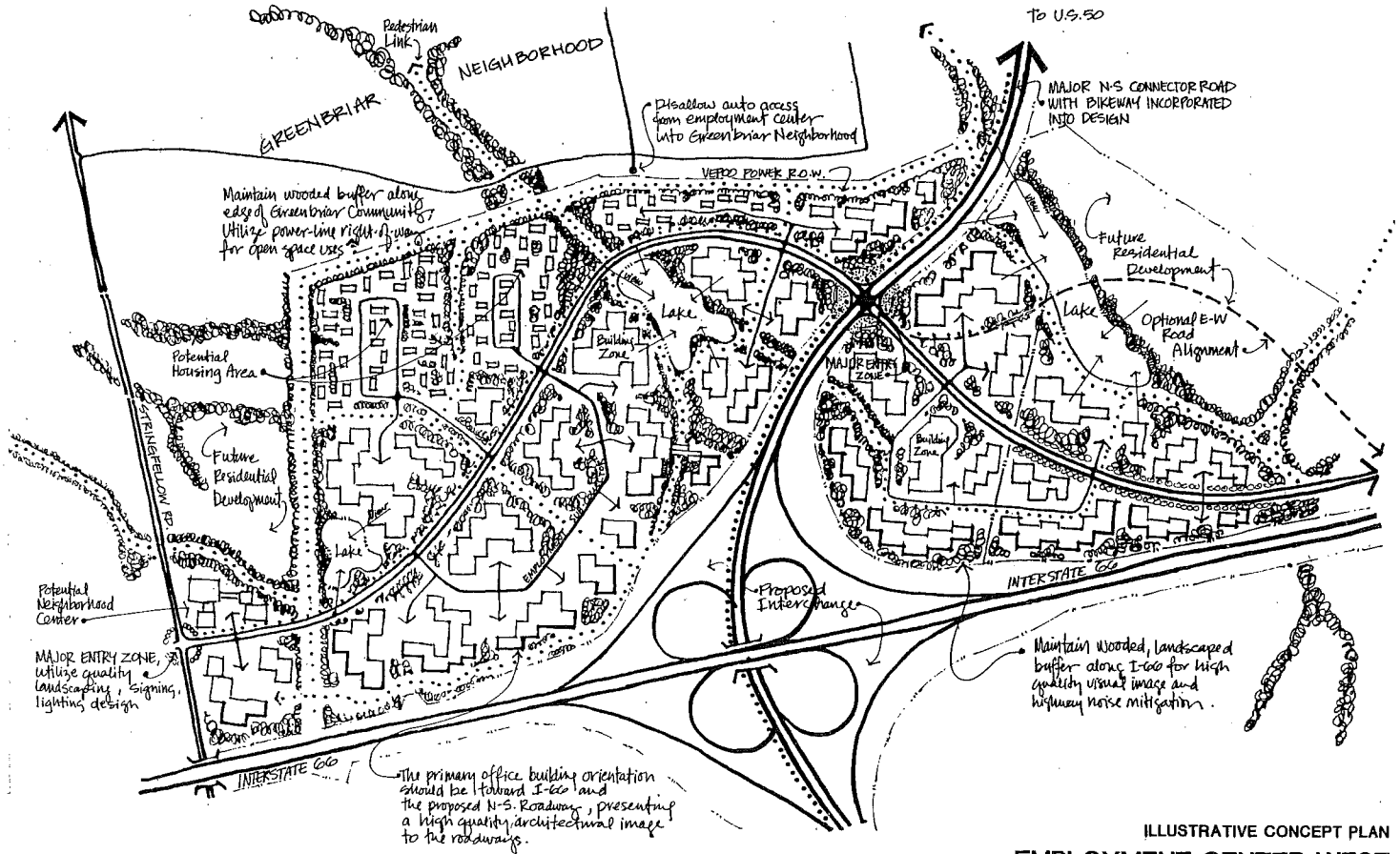
- o North/South Connector Road.
- o I-66 Corridor.
- o North/South Connector/I-66 Interchange.
- o Greenbriar residential neighborhoods.
- o Environmental Quality Corridors (EQC).

The land has the following qualities that can aid in the realization of its development potential:

- o High quality highway frontage and internal orientation potential.
- o Gently rolling slopes.
- o Utility service availability.
  Sewer (partial now available).
  Water/gas/electric available.
- o Ownership pattern - minimum number of owners for implementation ease.
- o Excellent vegetative cover (west of connector).
  - High quality image.
  - Buffer potential enhanced.
- o Major County-owned parcel

Issues and concerns pertaining to the successful development of this area include:

- o Role of County owned lands (options).
  - County as developer.
  - Long term lease to private sector.
  - Sale to private sector.
  - Other.
- o Impacts on existing residential neighborhood (particularly Greenbriar, Oakwood Estates) - mitigate impact through buffering and land uses.
- o Noise impact mitigation from I-66 and North/South Connector.
- o Water quality impacts on Occoquan Reservoir and EQCs.
- o Potential for high quality architectural and site design with area-wide developer-imposed design controls/amenities
- o Low to moderate density/intensity (approximate gross FAR .25).
- o Primary office building concentration should orient toward I-66 and North/South Connector Road.
- o Vehicular access through Greenbriar should be prevented.

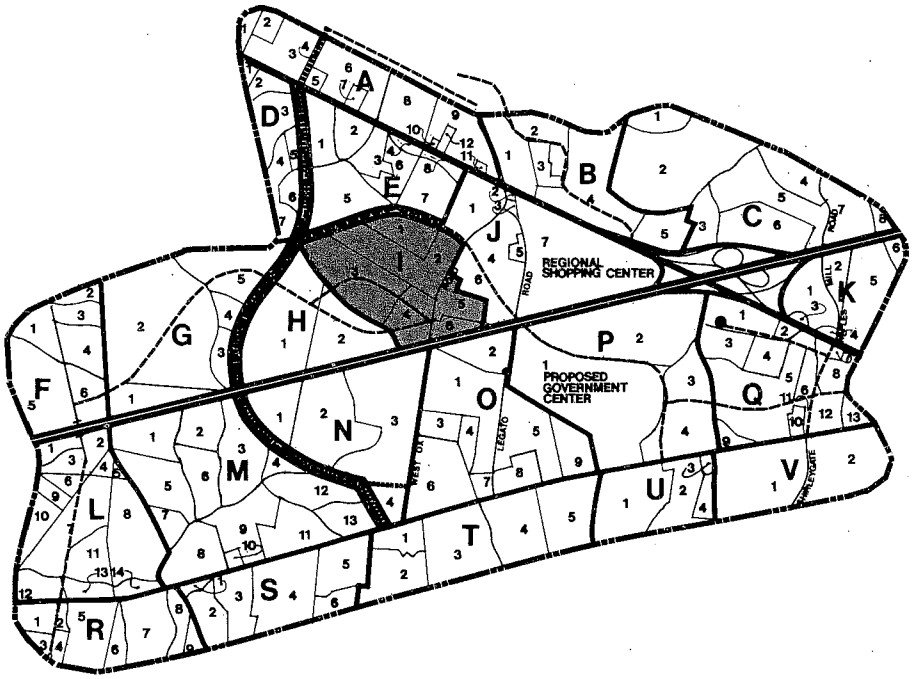


ILLUSTRATIVE CONCEPT PLAN

EMPLOYMENT CENTER WEST

LAND USE SUMMARY CHART

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE		EXISTING CONDITIONS		BASELINE: Density/Intensity Development Potential Achievable at "No Bonus" Level						
	NET	GROSS	ZONING	COMP. PLAN	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
I1	24	24	R-1	R 2-3	RES		2			48	
I3, I4	76	93	R-1	R 1-2	RES		1			93	



DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level						
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B'	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
I1	PDH		5			120	10,800	PDH		8			192	17,280
I3, I4	PDH		2.5			232	27,840	PDH		4			372	44,640

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept

I-1

This land unit is proposed for PDH-8 development. Access should be provided from the East-West Sub-Connector Road. Development in this parcel should orient positively to both the East/West Sub-Connector and the linear park. The provision of this roadway and park are essential to the achievement of the objectives of the Land Use Plan.

I-2

No land use assignment change from the adopted Comprehensive Plan is recommended. This land unit contains the existing residential neighborhood of Cedar Lake Estates (Hanger Road). Efforts should be made to maintain this residential area in its current use through buffering and traffic controls. The provision of a minor north/south pedestrian linkage through this land unit to the historic site, the Fair Oaks Core and Fair Oaks Mall should be studied.

I-3, I-4

These land units are planned for PDH-4 as a transitional use between the Employment Center Area and the Cedar Lake Estates subdivision (Hanger Road). Access to these parcels could occur from West Ox Road, Hanger Road-extended or through an extension of the Employment Center West Sub-Connector.

I-5

No land use assignment change from the adopted Comprehensive Plan is recommended. The existing residential community of Pendercrest Acres forms this land unit. This neighborhood should be preserved and enhanced. Buffering and compatible adjacent land uses should be planned to and in transition from this area to the more intense development of the Fair Oaks Core.

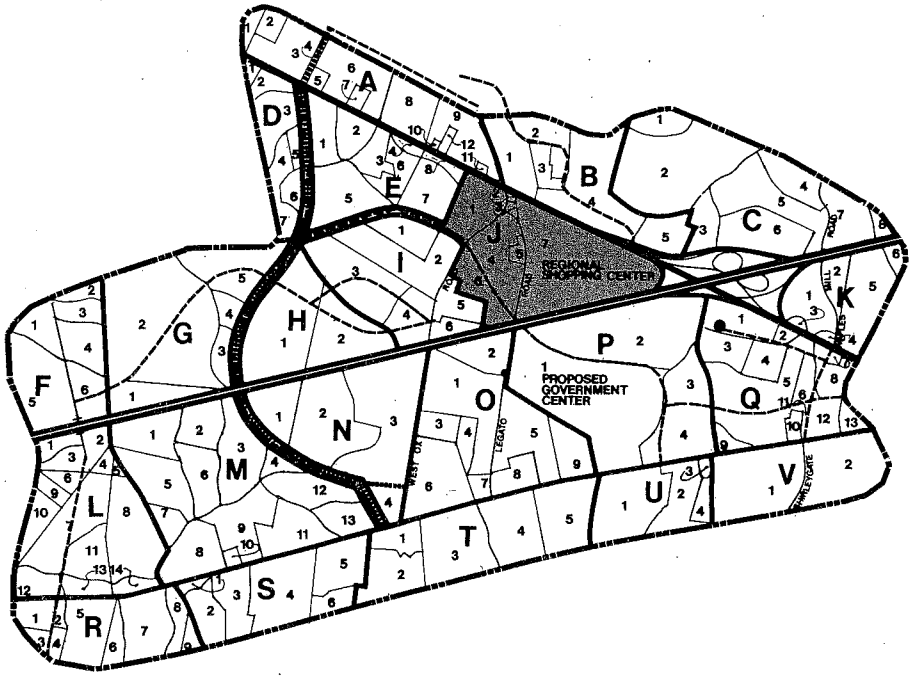
I-6

No land use assignment change from the adopted Comprehensive Plan is recommended. This land unit, formed by West Ox Road, I-66, and the Pendercrest Acres neighborhood contains the Moose Lodge. This is a private club/institution which is expected to remain.

J LAND USE SUMMARY CHART

BASELINE: Density/Intensity Development Potential Achievable at "No Bonus" Level

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE		EXISTING CONDITIONS		PROPOSED LAND USE	DENSITY/INTENSITY		PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
	NET	GROSS	ZONING	COMP. PLAN		FAR	DU/AC				
J1	35	41	R-1	R 2-3	RES		2			82	
J3, J4	42	42	R-1	R 4-5 R 8-12	OFF RES	.25	 5		359,370	 45	
J6	33	33	R-1	R 1-2 R 4-5 R 8-12	RES		4 8			192	



DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level						
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DU/AC	PDC RANGE A / B[1]	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
J1	PDC	.29		A	473,142	0		PDC	.45		A	823.284	0	
				B	315,428	105					B	548,856	83	
J3, J4	PDC	.57		A	1,041,075	0		PDC	1.0		A	1,655,280	0	
				B	694,050	231					B	1,103,520	368	
								Hotel	300	Rooms				
J6	PDC	.35		A	503,370	0		PDC	.5		A	718,740	0	
				B	355,580	111					B	479,160	160	

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept

J-I

This unit is proposed for mixed use development under a PDC Concept. Access should occur in a controlled manner from West Ox Road and/or the proposed East-West Sub-Connector. The proposed historic site park area along the unit's western boundary and the linear park on the southern edge are major amenities for the Study Area and must be reflected in future site development plans. This unit, with its moderate intensity of development, plays a key transition role between the major mixed use core to the east and housing areas to the west and south. Excellence in site planning and design is an expected quality of this development, particularly since the unit occupies such a high visibility location near the village core and I-66.

J-2

No land use assignment change from the adopted Comprehensive Plan is recommended. The Pender Veterinary Clinic currently occupies this land unit. Its use and structural conditions are consistent with Task Force goals. Consequently, this existing use should be encouraged to remain.

J-3, J-4
Key Area/"Fair Oaks Mixed Use Core"

This area is likely to undergo the earliest development of all the Key Areas. Because of this probability, the need for quality in the proposed development must be underscored. As the primary mixed use development in the Study Area, the Fair Oaks Village Core should exemplify the overall planning philosophy of the Route 50/I-66 Task Force. The proposed linear park, East/West Sub-connector road and "urban plaza" must be accommodated in site development plans for the area. Although a maximum FAR of 1.0 is allowed for future commerical development, it is anticipated that in the first 10 to 15 years an FAR of over .625 will not be achieved as a result of private development economic considerations (such as structured parking costs). Therefore, development plans for this area should portray any future building and parking structure phasing which would result in the maximum allowable FAR. The highest quality of site and architectural design is expected for proposed development in this area. In addition, landscaping, lighting and signing design should be well integrated.

Consideration should also be given to:

- o Parking requirements/surface and/or structure and possible parking reduction measures (e.g. van-pooling, car-pooling, compact car lots, shared parking between uses).
- o Open space requirements.
- o Historic site provision and enhancement.
- o Developer incentives to provide public amenities, including public indoor activity spaces and major outdoor plaza development.
- o Phase public improvements to private developments.

J-5

No land use assignment change from the adopted Comprehensive Plan is recommended. The church which currently occupies the land unit is a viable land use within the context of the proposed plan. The building is attractive and in good repair. It is located on a high point topographcally and presents a quality image for the area. Therefore, this is a fixed land use whose continuation should be assured. The major pedestrian system from the west to Fair Oaks Mall is expected to traverse this land unit. It is anticipated that this open space linkage will enhance, not detract from, the church site.

J-6

This land unit is proposed for mixed use development under a PDC concept. Access should occur in a controlled manner from the proposed East/West Sub-Connector. Provision for the proposed linear park and East/West Sub-Connector must be reflected in site development plans. This unit, with its relatively high intensity of development acts as an integral portion of the Fair Oaks Village Core and provides a transition zone between the Core and the residential neighborhood to the southwest.

J-7

No land use assignment change from the Comprehensive Plan is recommended. This land unit, the Fair Oaks Mall, is a nucleus for development within the Study Area. A pedestrian/open space linkage between the Mall and Fair Oaks Village Core to the west is an important element in the Study Area-wide open space system - and should be reflected in site development plan submissions.

The Fair Oaks core is strategically located in proximity to the following major elements of the Study Area:

- o Major highways (I-66, Route 50)
- o Potential future Metro bus and rail station
- o Fair Oaks Mall - regional retail center
- o Vacant land west of West Ox Road suitable for planned density housing development.
- o West Ox Road and proposed E-W Sub-Connector.
- o Battle of Ox Hill historic site.
- o Proposed Fairfax County Government Center.

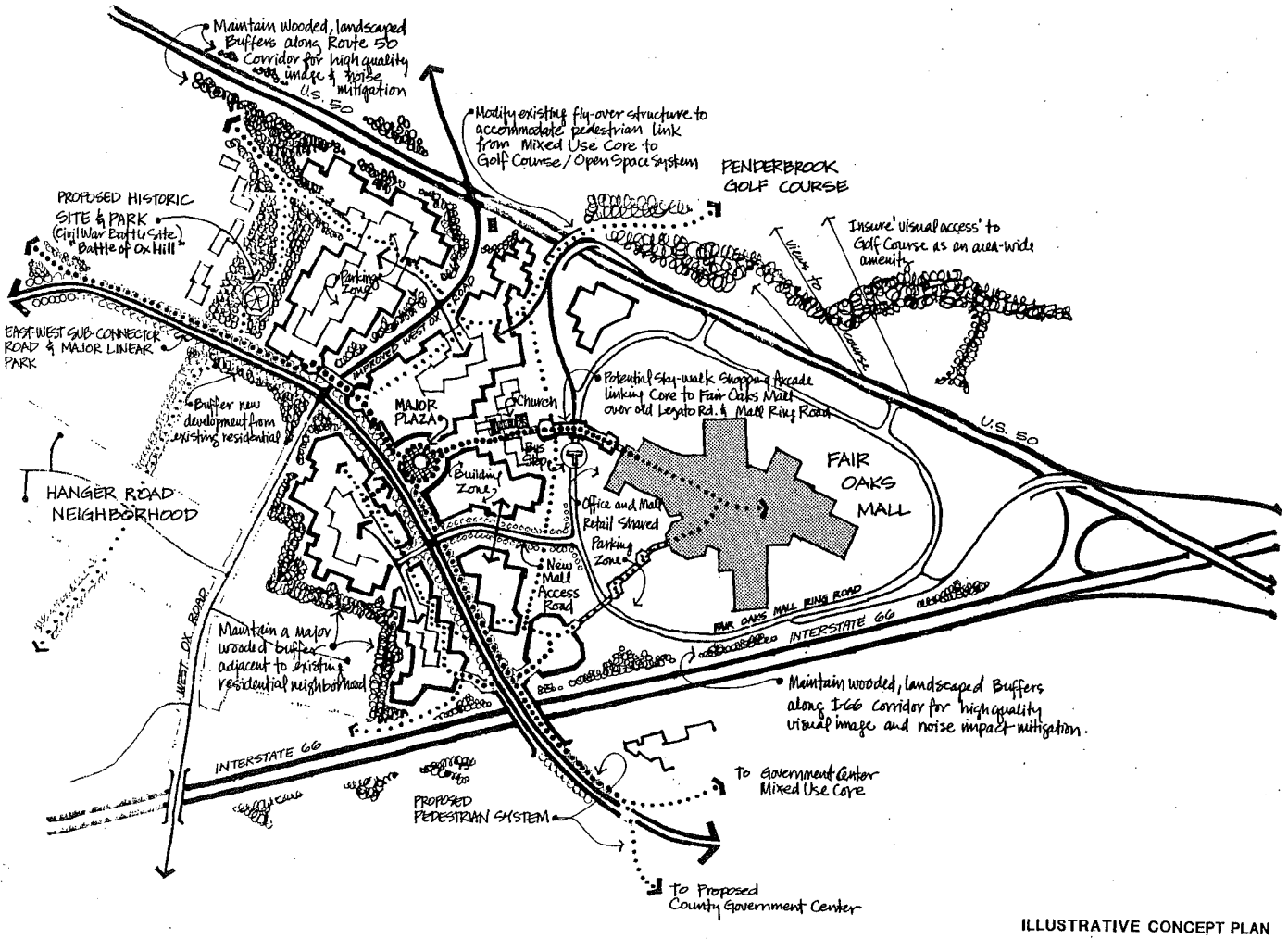
The Fair Oaks Core area is considered prime developable land as a result of the following qualities:

- o High point topographically - quality visibility.
- o Gently rolling slopes.
- o Mixed wooded/open land.
- o Utility service availability.
  - Sewer service partially available in short term.
    Water/gas/electric services available.
- o Nearly-single ownership pattern for development quality and phasing control.

There are a number of issues and concerns which must be addressed to assure that the Fair Oaks Core becomes a High Quality Image/ Focal Point for Fairfax County.

These include:

- o Impact on existing Hanger Road residential area (mitigation measures).
- o Improvements of West Ox Road from East/ West Sub-Connector to Route 50.
- o Stormwater run-off impact (mitigation).
- o Quality linkages to residential areas, Penderbrook Golf Course, proposed government Center and Fair Oaks Mall (critical linkage).
- o Quality landscape architectural treatment.
- o Access to Fair Oaks Mall directly from Sub-Connector Road through core area
- o 24-hour activity cycle through use mix (e.g. office, retail, hotel entertainment and housing mix).
- o Pedestrian access to Metro bus/rail facilities, as needed.
- o Shared parking potential between uses.
- o Mixture of commercial, residential, recreation, etc. uses.
- o Highest intensity/density in Study Area allowed here (approximate gross FAR = 1.0).



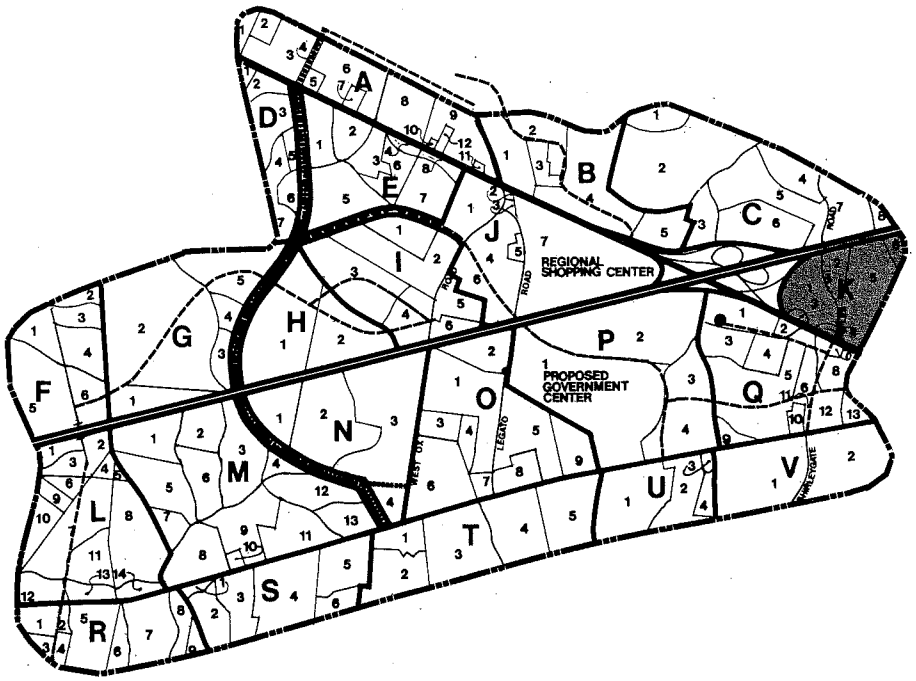
ILLUSTRATIVE CONCEPT PLAN

FAIR OAKS MIXED USE CORE

K LAND USE SUMMARY CHART

BASELINE: Density/Intensity Development Potential Achievable at "No Bonus" Level

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE NET	APPROXIMATE ACREAGE GROSS	EXISTING CONDITIONS ZONING	EXISTING CONDITIONS COMP. PLAN	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
K1, K3, K4	27	38	I-5, C-8 R-1	IND.	PDC	1.0, .7, .5			1,489,752		
K2	12	12	I-5, R-1	IND.	PDC	1.0, .5			348,480		
K5, K6	60	63	I-5, I-4, C-6, R-1	IND.	PDC	.6			1,646,568		



DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level						
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B[1]	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
K1, K3, K4	PDC	1.0, .7, .5			1,489,752			PDC	1.0, .7, .5			1,489,752		
K2	PDC	1.0, .5			348,480			PDC	1.0, .5			348,480		
K5, K6	PDC	.6			1,646,568			PDC	.6			1,646,568		

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept

K-1, K-2, K-3, K-4, K-5, K-6

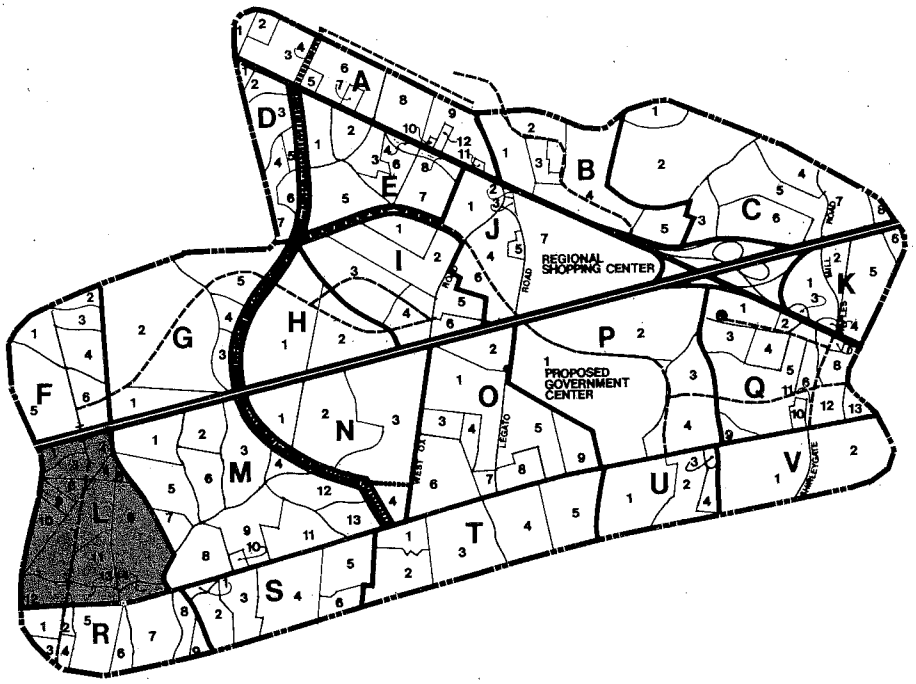
The development process for these land units has already begun, particularly the High Ridge and Pender Business Parks. The Task Force has recommended that the land use assignment for this area be changed from the currently planned industrial and commercial to office use in a PDC concept. Within the overall context of site development for this area, land units K-1, K-3, and K-4 should be developed in coordination with one another with K-3 and K-4 preserved in open space. K-5 and K-6 should be developed as a unit with K-6 preserved in open space. Access to, and internal circulation within, the sites should be from collector roads which intersect with Waples Mill Road. Particular attention should be given to the presentation of a high quality image from I-66 and Route 50.

L

LAND USE SUMMARY CHART

BASELINE: Density/Intensity Development Potential Achievable at "No Bonus" Level

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE		EXISTING CONDITIONS		BASELINE: Density/Intensity Development Potential Achievable at "No Bonus" Level						
	NET	GROSS	ZONING	COMP. PLAN	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
L1, L3, L4, L5, L6, L7, L8, L10, L11, L12, L13, L14	160	241	R-1	R 1-2	RES		1			241	



DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level						
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B'	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
L1, L3, L4, L5, L6, L7, L8, L10, L11, L12, L13, L14	RES		1.5			361		RES		2			482	

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept

L-1, L-3, L-4, L-5, L-6, L-7, L-8, L-10, L-11, L-12, L-13, L-14

Low intensity residential use, with access generally from Stringfellow Road, is planned for this area. Land units L-13 and L-14 should be left undeveloped as part of the open space system. Sensitivity in site planning is required in areas affected by utility easements and rights-of-way which traverse these land units. Noise and visual mitigation methods should be employed in portions adjacent to I-66.

L-2

No land use assignment change from the adopted Comprehensive Plan is recommended. This land unit consists of a small existing residential neighborhood. New residential development should be compatible with this existing development.

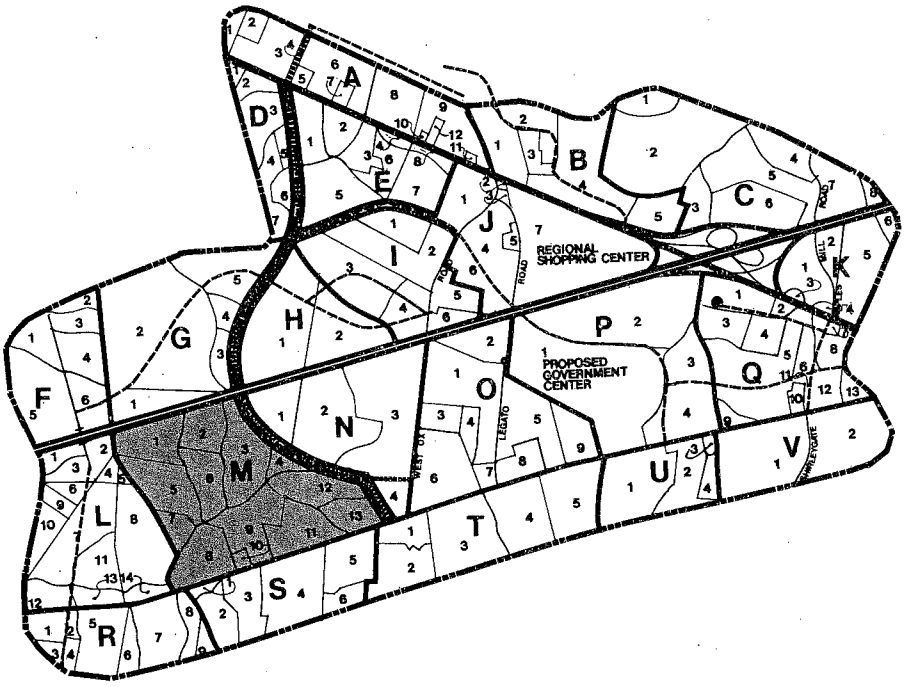
L-9

No land use assignment change from the adopted Comprehensive Plan is recommended. Arrowhead (Stringfellow) Park forms this land unit.

M

LAND USE SUMMARY CHART

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE NET	APPROXIMATE ACREAGE GROSS	EXISTING CONDITIONS ZONING	EXISTING CONDITIONS COMP. PLAN	BASELINE; Density/Intensity Development Potential Achievable at "No Bonus" Level: PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
M1, M2, M3	71	102	R-1	R 1-2	RES		1			102	
M4, M5, M6, M7, M8, M10	137	193	R-1	R 1-2	RES		1			193	
M12, M13	44	69	R-1	R 1-2	RES		1			69	



DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level						
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B[1]	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
M1, M2, M3	PDH		1.75			178	21,360	PDH		2.5			255	30,600
M4, M5, M6, M7, M8, M10	PDH		1.5			289	34,680	PDH		2			386	46,320
M12, M13	PDH		2.5			172	20,700	PDH		4			276	33,120

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept

M-1, M-2, M-3, M-4, M-5, M-6, M-7

These land units are located within the residential development of Anna Mohr Estates and Marshall Farms. They are planned for low density (PDH) residential use. The entrance and internal circulation should be from a collector road from Stringfellow Road. Noise mitigation methods must be employed to buffer impacts from I-66. Visual buffering should also be incorporated into the site planning for this area.

M-8, M-10, M-11

Land units M-8, M-10, and M-11 are planned for low density residential use. Access and internal circulation should be through collector roads with limited entrances from Route 29, Visual buffering between the residential development and Route 29 should be incorporated into site planning for these land units.

M-9

No land use assignment change from the existing adopted Comprehensive Plan is recommended. Land unit M-9 consists of the Willowmeade subdivision. It is anticipated that this will remain a viable land use.

M-12, M-13

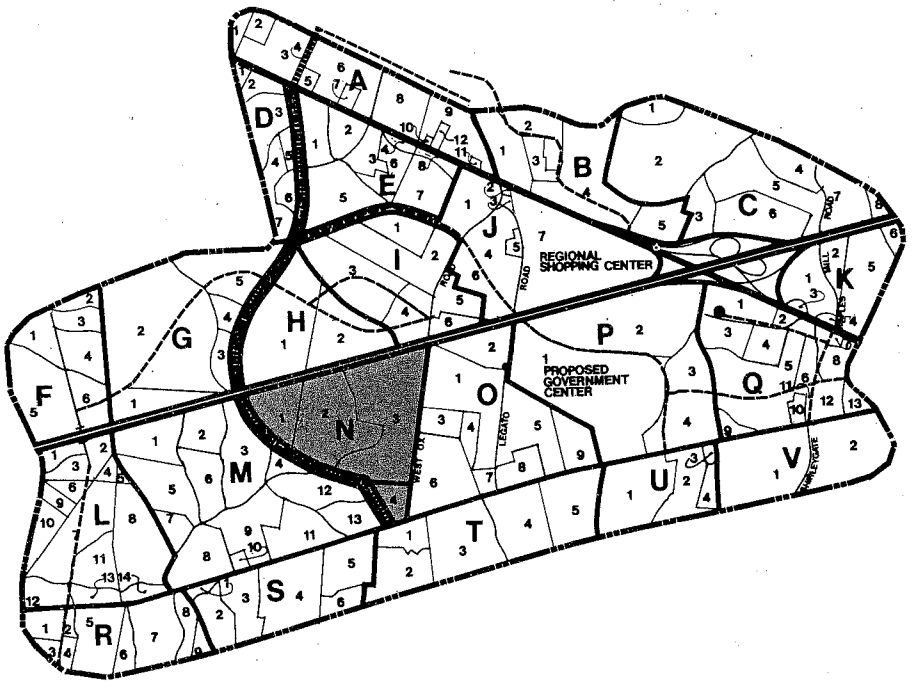
Land units M-12 and M-13 are planned for residential use of four dwelling units per acre within a PDH concept. Access should be from Route 29 through limited entrances via collector roads. These collector roads will also provide internal circulation.

N

LAND USE SUMMARY CHART

BASELINE: Density/Intensity Development Potential Achievable at "No Bonus" Level

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE		EXISTING CONDITIONS		PROPOSED LAND USE	DENSITY/INTENSITY		PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
	NET	GROSS	ZONING	COMP. PLAN		FAR	DU/AC				
N1	11	11	R-1	R 1-2	OPEN SPACE						
N4	11	20	R-1	R 1-2	RES		1			20	



DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level					
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B[1]	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
N1	OPEN SPACE							OPEN SPACE						
N4	PDC	.07		A B	59,894 39,929	0 13		PDC	.14		A B	119,733 79,822	0 26	

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept

N-1

This land unit is located between the landfill and the proposed I-66/North/South Connector interchange. Due to this location and the land demand for the I-66 interchange, development would be undesirable on this site. Therefore, it is recommended that this land unit be retained in open space.

N-2

Land unit N-2 comprises the landfill site. It is anticipated that operations of the landfill will cease within the next two years. In 1979 Fairfax County commissioned a Solid Waste: Energy Resource Recovery Study to evaluate options for waste disposal. This study proposed using a portion of this site as a solid waste truck transfer station after the landfill is no longer in operation. It was determined that this type of transfer system was more cost efficient than a direct haul (house to new landfill site) option. Establishment of this truck transfer station is controversial both in terms of the traffic it generates and the image it presents within the Study Area. The Route 50/I-66 Task Force opposes establishment of the truck transfer station within the Study Area. Additional study of this issue should be undertaken prior to any final determination. If the transfer station is located on this site, access should be from the North/South Connector and not from West Ox Road, in order to reduce traffic congestion.

Landfill operations and transfer station are incompatible with the quality of development in the study area. The primary use should be for mass transportation and associated parking in the area with an access drive from the North/South Connector Road. The proposed commuter bus system will serve this parking lot.

N-3

No land use assignment change from the adopted Comprehensive Plan is recommended. This land unit consists of a variety of public/institutional uses, including West Ox Road Park, the Fairfax County Animal Shelter, the County Fire Training Center and the State Convict Camp (#30). It is anticipated that these land uses will remain.

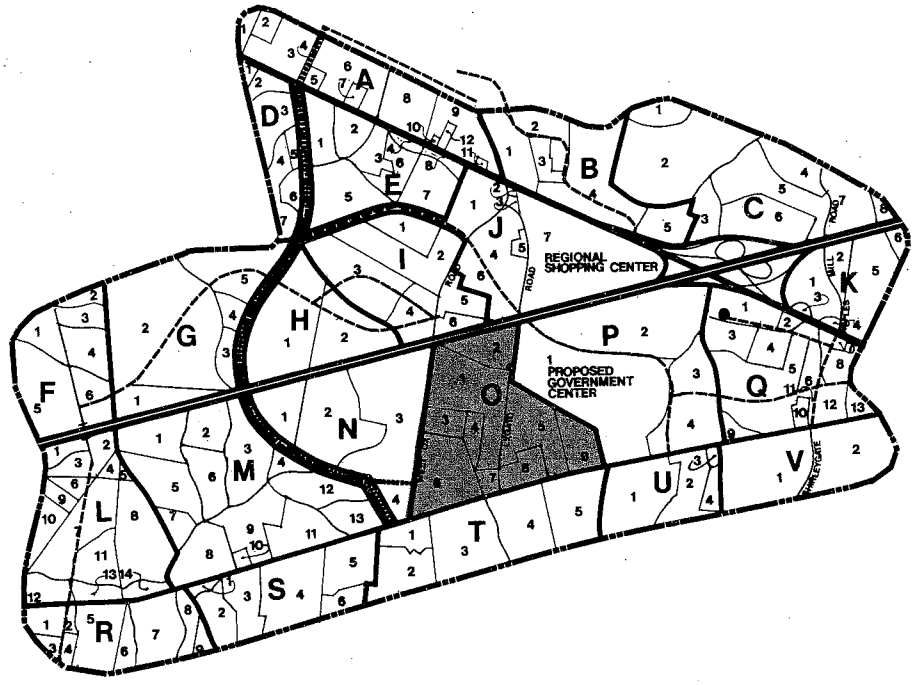
N-4

This land unit is located between the exit/entrance to the North-South Connector and West Ox Road. Due to its location, this site has been planned as PDC use for possible community center service/support facilities.

O LAND USE SUMMARY CHART

BASELINE; Density/Intensity Development Potential Achievable at "No Bonus" Level

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE NET	APPROXIMATE ACREAGE GROSS	EXISTING CONDITIONS ZONING	EXISTING CONDITIONS COMP. PLAN	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
02	26	28	R-1	R 8-12	RES		8			224	
04	8	12	R-1	R 3-4	RES		3			36	
06	64	66	R-1, C-5, C-8	IND, R 1-2	PDC	.7		A B	731,808 487,872	0 162	
					RES		1			44	
07	6	7	R-1, C-5,	R 1-2 RETAIL	PDH COMM	 .5	1			5	 43,560
08	19	19	R-1	R 1-2	RES		1			19	
09	24	29	R-1	R 1-2	RES		1			29	



DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level						
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE[1] A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE[1] A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
02	PDH		14			392	23,520	PDH		20			560	33,600
04	PDH		3.5			42	5,040	PDH		4			48	5,760
06	PDC	.7		A	731,808	0		PDC	.7		A	731,808	0	
				B	487,872	162					B	487,872	162	
	PDH		2.5			105	12,600	PDH		4			176	21,120
07	PDH		2.5			12	43,560	PDH		4			20	43,560
08	RES		1.5			28		RES		2			38	
09	PDH		3.5			101	12,120	PDH		6			174	15,660

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept

0-1

No land use assignment change from the adopted Comprehensive Plan is recommended. This land unit consists of the Bethlehem Baptist Church and School, as well as the residential neighborhoods of Centennial Hills and Legato Acres. These uses should be expanded and enhanced within the philosophy and goals of the Route 50/I-66 Task Force.

0-2

This triangular parcel is bounded by I-66 Legato Road and West Ox Road. It is listed as high residential density of twenty dwelling units per acre in a PDH concept only for the purpose of assuring its use in support of the adjacent proposed Fairfax County Center, and to assure the establishment of the proper road system to the east through the Fairfax County Center, west to West Ox Road, and north across I-66, but not through the residential developments on Legato Road to the south. This latter must be assured by a cul-de-sac at the south border of the property shown as 0-2. Random Hills Road to the east should also be protected with a cul-de-sac appropriately placed to protect the residential developments on that road and to prevent its use to the developments on 0-2.

0-3

No land use assignment change to the adopted Comprehensive Plan is recommended. The current land use, warehousing, is expected to remain; however, buffering measures to adjacent land uses must be incorporated.

0-4

Land unit 0-4 is planned for residential use at a density of four (4) dwelling units per acre in a PDH concept. This land unit is adjacent to and must be buffered from the commercial use in land unit 0-3. Development in this land unit must also be compatible with the adjacent residential communities of Centennial Hills and Legato Acres. Access to this parcel should be from Ruffin Drive and/or Deljo Drive.

0-5

No land use assignment change from the adopted Comprehensive Plan is recommended. The Dixie Hills neighborhood is contained in this land unit. Adjacent proposed development should preserve, enhance, and protect this existing neighborhood. Incompatible land uses, particularly on the proposed Fairfax County Center site, should be sited and/or buffered to protect the residential character of Dixie Hills.

0-6

This land unit is planned for a combination of PDC and PDH use. The PDC district is located in the portion currently zoned commercial. These commercial uses could be neighborhood center service/support facilities. Buffering and transitional uses should be encouraged between this area and the adjacent residential uses. The remainder of the site is planned for residential use at four dwelling units per acre in a PDH concept. Access to the residential portion would be from Route 29 via a residential collector road. Visual buffering to Route 29 is encouraged. Buffering to the surrounding commercial/industrial uses should be incorporated in site development plans.

0-7

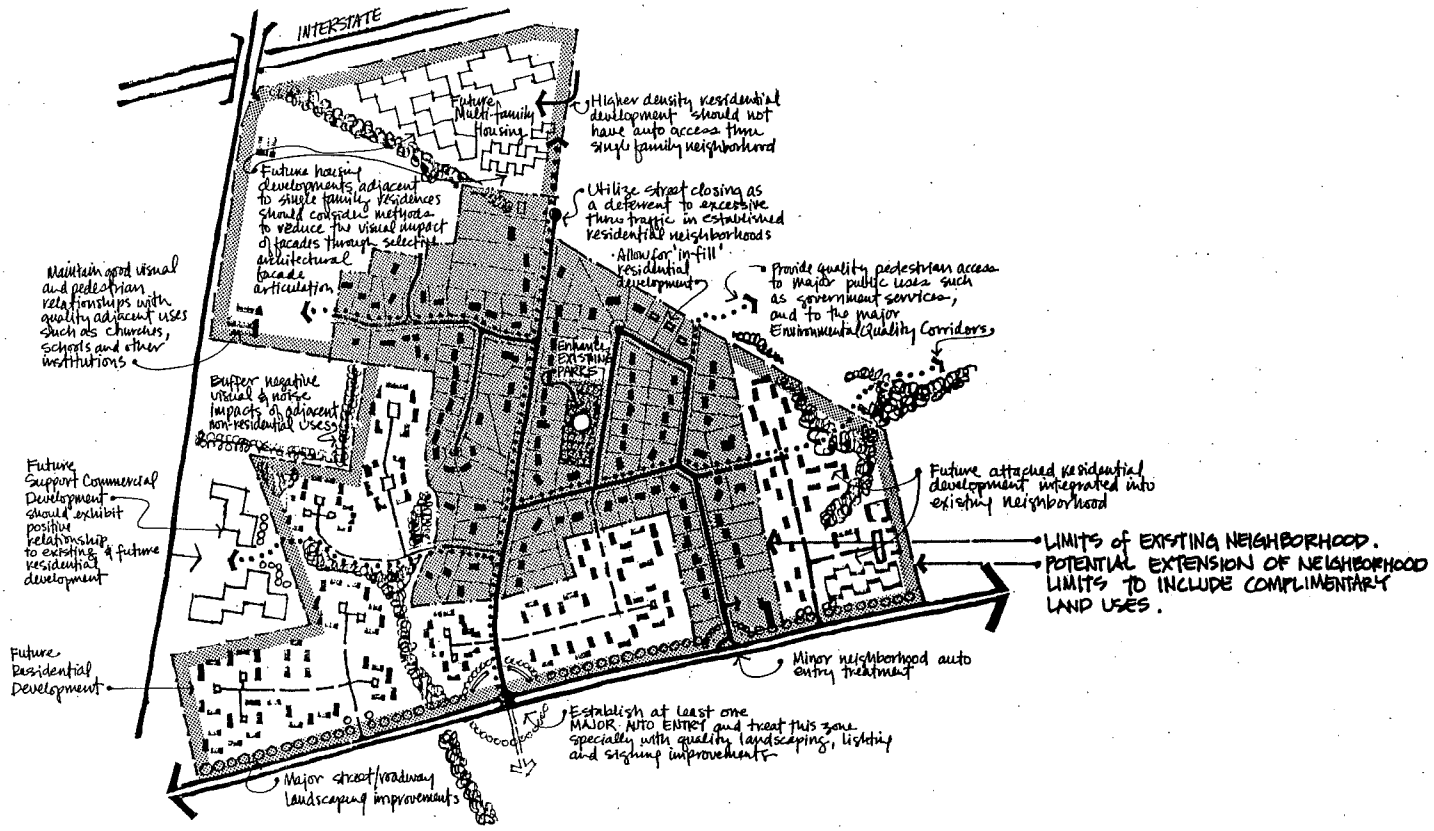
Land unit 0-7, located at the intersection of Legato Road and Route 29 is planned for residential use (PDH concept) at four dwelling units per acre. Access to the site should be from Legato Road at a distance far enough from the intersection to allow for adequate automobile stacking. Buffering measures from Route 29 should be incorporated into the site plan.

0-8

Located at the intersection of Legato Road and Route 29, this land unit is proposed for residential development at a two dwelling unit per acre density. Access to the site may be from both Route 29 and Legato Road. Buffering measures should be implemented in areas affected by Route 29.

0-9

This land unit is planned for a PDH-type development of six dwelling units per acre. As this density is higher than that of the adjacent Dixie Hills neighborhood, adequate transitional buffers should be incorporated into the site plan. Higher density development should be oriented toward the proposed Government Center. The substantial EQC which runs through this parcel should be respected by site development. Access should be via a residential collector road from Route 29.

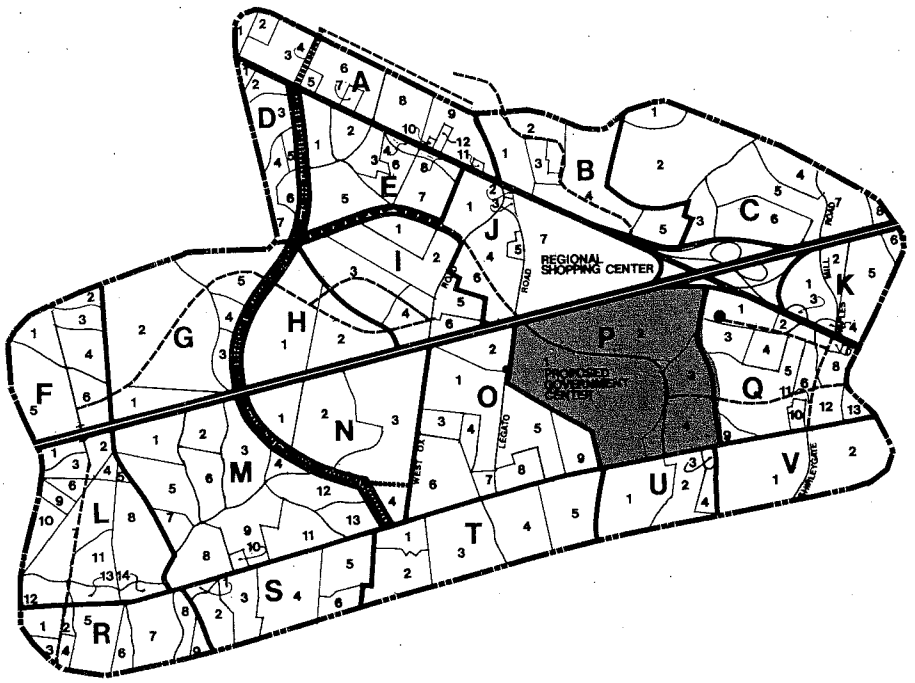


ILLUSTRATIVE CONCEPT PLAN

PRESERVATION/ ENHANCEMENT OF EXISTING NEIGHBORHOODS

P LAND USE SUMMARY CHART

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE		EXISTING CONDITIONS		BASELINE; Density/Intensity Development Potential Achievable at "No Bonus" Level						
	NET	GROSS	ZONING	COMP. PLAN	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
P2	85	121	R-1, R-5, R-12	R 4-5 R 8-12 R 12-16	OFF RES	.25	 4,8		392,040	 510	
P3	16	24	PDH-5	PUBLIC	RES		5			105	
P4	30	52	PDH 5 R-1 C-8	PUBLIC, R 1-2 COMMERCIAL	OFF RES	.2	 5		243,936	 240	



DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level						
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B[1]	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
P2	PDC	.28		A	1,455,165			PDC	.35	A		1,753,290	0	
				B	970,110	323				B		1,168,860	389	
								Hotel	300	Rooms				
P3	PDH		8			192	17,280	PDH		10			240	21,600
P4	PDC	.23		A	525,987	0		PDC	.35/.7		A	808,038	0	
				B	350,658	116					B	538,692	179	

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept

P-1
Proposed Fairfax County Center

Primary access to the proposed Fairfax County Center should be from Route 29, with a secondary major access drive from the proposed East/West Sub-Connector Road along the site's northern boundary. Buffering measures must be incorporated to mitigate potential impacts on adjacent residential communities. Pedestrian linkages to the Proposed Fairfax County Center and Fair Oaks Core must be assured in the site plan. Information on this site can be obtained from the Design Competition Guidelines.

P-2
Key Area/"Proposed Fairfax County Center Mixed Use Core"

Development of this area should relate in timing and orientation to the Proposed Fairfax County Center development. Techniques to mitigrate noise impacts from I-66 should be incorporated into site planning. Primary access should be from the East/West Sub-Connector.

The Proposed Fairfax County Center is centrally located, in proximity to:

- o Major highways: I-66, Route 29.
- o Potential future Metro bus and rail station along I-66.
- o Proposed East/West Sub-Connector road.
- o Proposed Fairfax County Center.
- o Proposed planned development office employment and residential developments.
- o Existing residential neighborhoods.
- o Major open space amenity.

The qualities that contribute to the development potential of this area include:

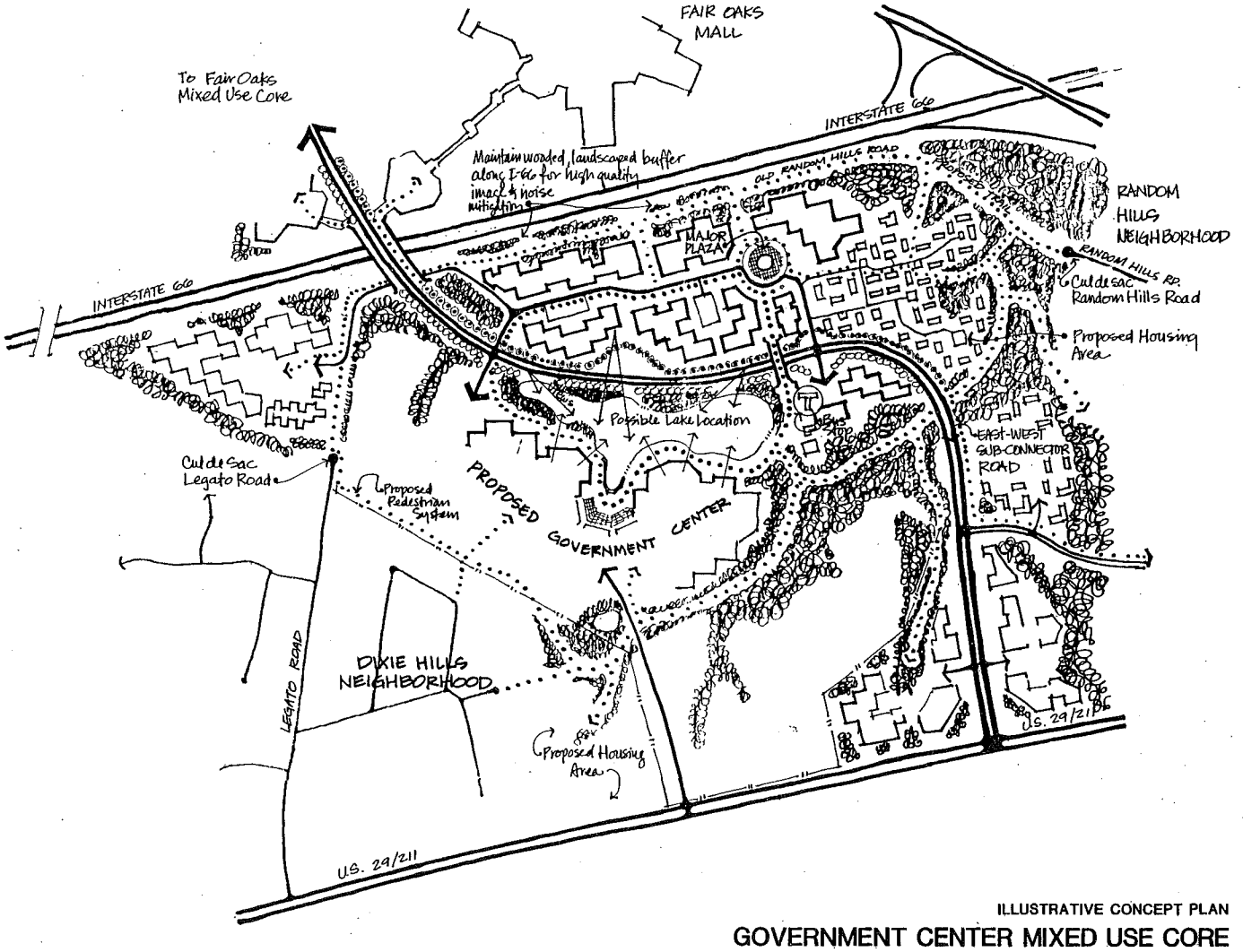
- o I-66 Corridor orientation along northern boundary.
- o Quality open space orientation south and west.
- o Strong relationship to proposed Fairfax County Center.
- o Gently rolling slopes (excluding EQC).
- o Good vegetative cover/mix.
- o Utility service availability.
  - Sewer (available through Route 50/66 Association).
  - Water/gas/electric services available.
- o Ownership pattern - relative ease of assembly over mid-term.

The areas and issues of particular concern for the successful development of the Proposed Fairfax County Center Core are:

- o Emphasis on assembly of parcels to facilitate cohesive quality development
- o Timing of development must relate directly to proposed Fairfax County Center phasing
- o Impacts on existing residential areas- (mitigation measures)
  - Dixie Hills (limit vehicular access; buffer homes)
  - Random Hills (access/traffic impact issues)
- o Linkage to Fair Oaks Core via bridge (East/West Sub-Connector) near Legato Road.
- o Impact of storm water run-off into Difficult Run
- o Preservation/enhancement of EQC
- o Mitigate potential negative traffic impacts on surrounding areas
- o Mixture of Commercial, Residential, Recreational, etc., uses
- o Overall intensity lower than Fair Oaks Core (approximate gross FAR = .35)
- o Noise impact (I-66 related) mitigation.
- o East/West Sub-Connector sensitively aligned.
- o Office development orientation to I-66
- o Housing development orientation to EQC
- o Potential sharing of amenities with proposed Fairfax County Center
- o Program: Some support services for proposed Fairfax County Center included
- o Provide pedestrian access to future potential Metro bus and rail
- o Achieve a 24-hour activity cycle with use mix (e.g., office, retail, hotel, entertainment and housing mix)

P-3, P-4

These land units are proposed for a combination of residential (PDH at ten units per acre) and commercial (PDC at predominantly .35 FAR) use. Access should be from the East/West Sub-Connector or from the proposed connection between this connector and Waples Mill Road. The strong relationship between this site and the proposed Fairfax County Center would indicate that development in this parcel might include government-related service and support uses. There is a substantial amount of EQC land in this parcel, which must be recognized and protected in site planning and development.



ILLUSTRATIVE CONCEPT PLAN

GOVERNMENT CENTER MIXED USE CORE

Q

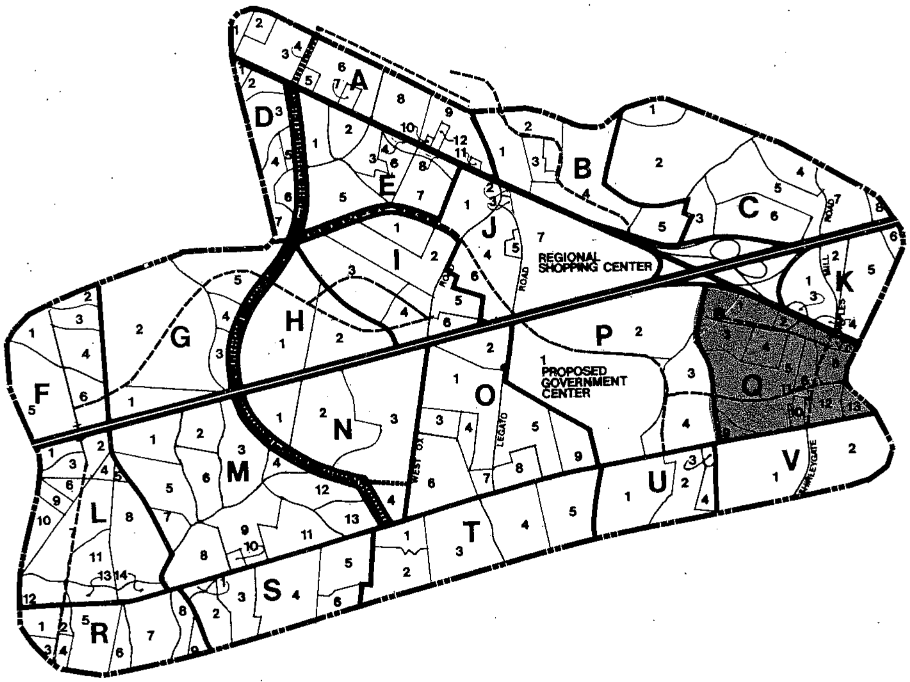
LAND USE SUMMARY CHART

BASELINE: Density/Intensity Development Potential Achievable at "No Bonus" Level

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE		EXISTING CONDITIONS		PRO-POSED LAND USE	DENSITY/ INTENSITY		PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESID-ENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
	NET	GROSS	ZONING	COMP. PLAN		FAR	DU/AC				
Q2	4	4	R-1	PRIVATE REC	RES		1			4	
Q3	12	24	R-1	R 1-2, R 2-3	RES		1,2			36	
Q4	20	21	R-1	R 4-5	RES		4			84	
Q5	71	88	I-5, R-1 PDH-5	IND	PDC	1.0		A	2,090,880	0	
				RET		.5		B	1,393,920	464	
				OFFICE	RES		1,5			124	
				PUBLIC							
Q6	7	12	I-5	IND	PDC	1.0		A	522,720	0	
								B	348,480	116	
Q7	3	4	C-8	OFFICE	PDC	.7		A	121,968	0	
								B	81,312	27	
Q8	19	19	C-6	RETAIL	PDC	.7			579,348	0	
Q9	3	10	I-5	IND	PDC	1.0		A	435,600	0	
								B	290,400	99	
Q11	7	7	I-5, C-8, C-6	IND	PDC	1.0, .7		A	278,784	0	
								B	185,856	62	
Q12	20	20	I-5, C-8, R-1	IND	PDC	1.0, .7, .5		A	509,652	0	
				R 1-2				B	339,768	113	

DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level						
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B'	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
Q2	RES		4			16		RES		8			32	
Q3	RES		1.75			42		RES		2			48	
Q4	RES		6			126		RES		8			168	
Q5	PDC	1.0 .3		A B	2,619,480 1,746,320	0 582		PDC	1.0 .5		A B	2,962,080 1,974,720	0 657	
Q6	PDC	1.0		A B	522,720 348,480	0 116		PDC	1.0		A B	522,720 348,480	0 116	
Q7	PDC	.7		A B	121,968 81,312	0 27		PDC	.7		A B	121,968 81,312	0 27	
Q8	PDC	.7			579,348	0		PDC	.7			579,348	0	
Q9	PDC	1.0		A B	435,600 290,400	0 99		PDC	1.0		A B	435,600 290,400	0 99	
Q11	PDC	1.0 .7		A B	278,784 185,856	0 62		PDC	1.0 .7		A B	278,784 185,856	0 62	
Q12	PDC	1.0 .7 .5		A B	509,652 339,768	0 113		PDC	1.0 .7 .5		A B	509,652 339,768	0 113	

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept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REGIONAL SHOPPING CENTER
PROPOSED GOVERNMENT CENTER
ROAD
LEGATO
WEST OX
ROAD

Q-1

No land use assignment change from the adopted Comprehensive Plan is recommended. The land unit includes a developed portion of the Random Hills neighborhood. Preservation of the residential nature of this area should be considered in the development of its adjacent parcels. Current access problems should be eliminated by the extension of Random Hills Road to the proposed Waples Mill Road extension. The western end of Random Hills Road should be cul-de-sacced in order to prevent heavy traffic to the proposed Core area from passing through this neighborhood.

Q-2

This land unit represents a developable portion of the Random Hills subdivision. Access should be from Random Hills Road. This land unit is proposed for residential development at the rate of eight dwelling units per acre. Noise and visual mitigation techniques should be incorporated in development of this site in order to reduce the impacts from Route 50.

Q-3

Land unit Q-3 includes a predominately undeveloped portion of the Random Hills subdivision. This parcel has been planned for residential use at two units per acre, approximately the current planned density. A substantial Environmental Quality Corridor surrounds this land unit. Protection of this EQC must be assured in any site plan for this area.

Q-4

Land unit Q-4 is planned for residential use, as a transition between the PDC development to the east and the lower density residential development of Random Hills to the west. This land unit should be buffered from the Random Hills neighborhood. Access from Random Hills Road is recommended.

Q-5, Q-6, Q-7, Q-8, Q-9, Q-11, Q-12

These land units, in the Kamp Washington area, are currently planned and zoned for PDH 5, industrial, retail and office use. In order to reflect Task Force goals, this area is planned for PDC development in the Overlay Plan. Currently allowable intensities (.7 and 1.0 FAR) were retained. Q-8 is the Montgomery Ward development site, and is anticipated to be constructed under current zoning. Land unit Q-9 should be developed in concert with unit Q-5 and should be retained as open space within that development.

Q-10, Q-13

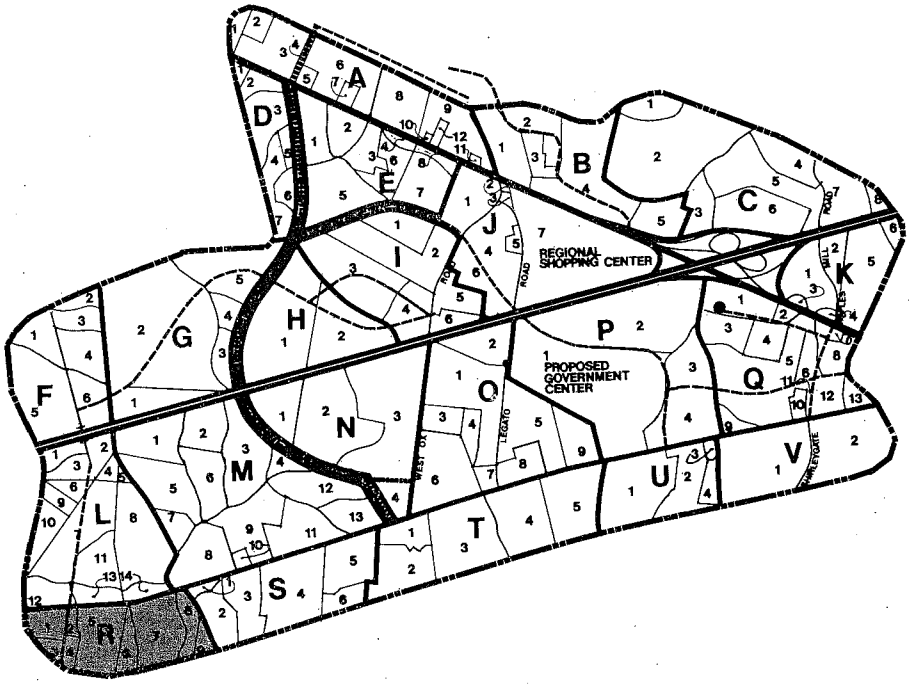
No land use assignment change from the adopted Comprehensive Plan is recommended; currently, mini-warehouses and a K-Mart discount store occupy these land units.

R

LAND USE SUMMARY CHART

BASELINE; Density/Intensity Development Potential Achievable at "No Bonus" Level

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE		EXISTING CONDITIONS		PROPOSED LAND USE	DENSITY/INTENSITY		PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
	NET	GROSS	ZONING	COMP. PLAN		FAR	DU/AC				
R1	16	16	R-1 C-8	R 1-2	RES COMM	.7	1			15	30,492
R2, R5, R6, R7, R8, R9	101	134	R-1 R-2	R 1-2	RES		1			134	



DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level						
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B'	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
R1	PDH		2.5			40	35,292	PDH		4			64	38,172
R2, R5, R6, R7, R8, R9	RES		1.5			201		RES		2			268	

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept

R-1, R-2, R-5, R-6, R-7, R-8, R-9

These land units, located south of Route 29, are planned for single family residential use. Visual and noise buffering is recommended to reduce the negative impacts of Route 29 Stringfellow Road on the residential development. Access should be limited to major entrances on Route 29 and Stringfellow Road.

R-3, R-4

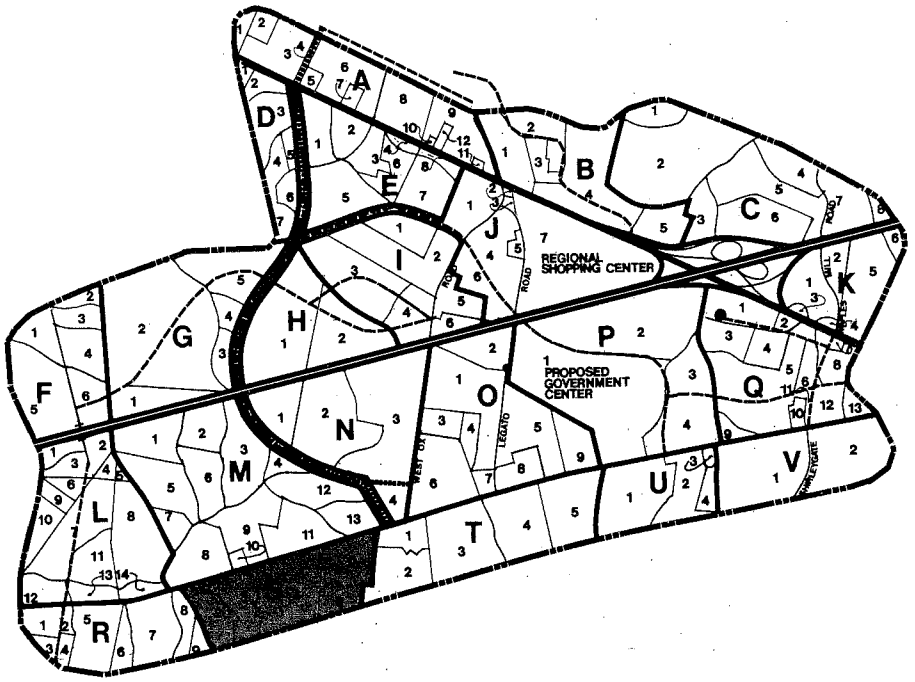
No land use assignment change from the adopted Comprehensive Plan is recommended.

S

LAND USE SUMMARY CHART

BASELINE: Density/Intensity Development Potential Achievable at "No Bonus" Level

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE		EXISTING CONDITIONS		PROPOSED LAND USE	DENSITY/INTENSITY		PDC RANGE A / B	BASELINE: Density/Intensity Development Potential Achievable at "No Bonus" Level		
	NET	GROSS	ZONING	COMP. PLAN		FAR	DU/AC		PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
S1, S2, S3, S5, S6	79	99	R-1 R-2 C-8	R 1-2	RES COMM	.7	1			98	30,492



DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level						
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B[1]	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
S1, S2, S3, S5, S6	RES		1.5			148		RES		2			198	
	COMM	.7					30,492	COMM	.7					30,492

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept

S-1, S-2, S-3, S-5, S-6

These land units are planned for low density residential use at a rate of two dwellings per acre. Access should be through a limited number of major entrances along Route 29. Buffering along Route 29 should be incorporated in the site planning process.

S-4

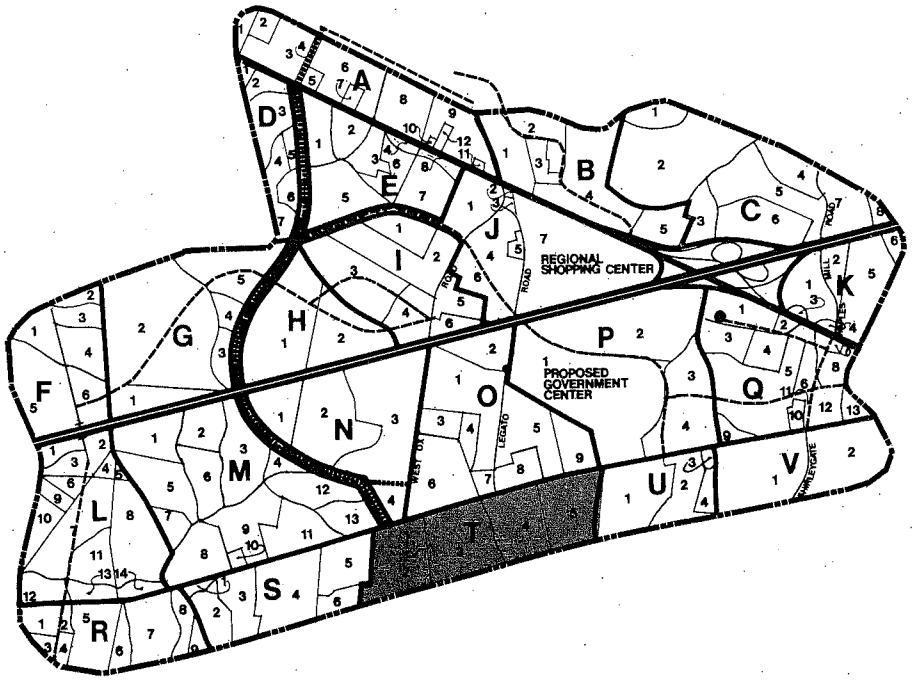
No land use assignment change from the adopted Comprehensive Plan is recommended. The parcel consists of a portion of the Crystal Springs subdivision.

T

LAND USE SUMMARY CHART

BASELINE: Density/Intensity Development Potential Achievable at "No Bonus" Level

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE		EXISTING CONDITIONS		PROPOSED LAND USE	DENSITY/ INTENSITY		PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
	NET	GROSS	ZONING	COMP. PLAN		FAR	DU/AC				
T1, T4	57	66	R-1	R .5-1 R 1-2	RES		1			66	



DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level						
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B'	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
T1, T4	RES		1.5			99		RES		2			132	

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept

T-1, T-4

Low density residential use is planned for these parcels at a rate of two dwelling units per acre. Access to parcel T-1 (a portion of the Cannon Ridge subdivision) should be from Gunpowder Road. Access to T-4 should be from Route 29 via a collector road. Buffering to Route 29 should be provided.

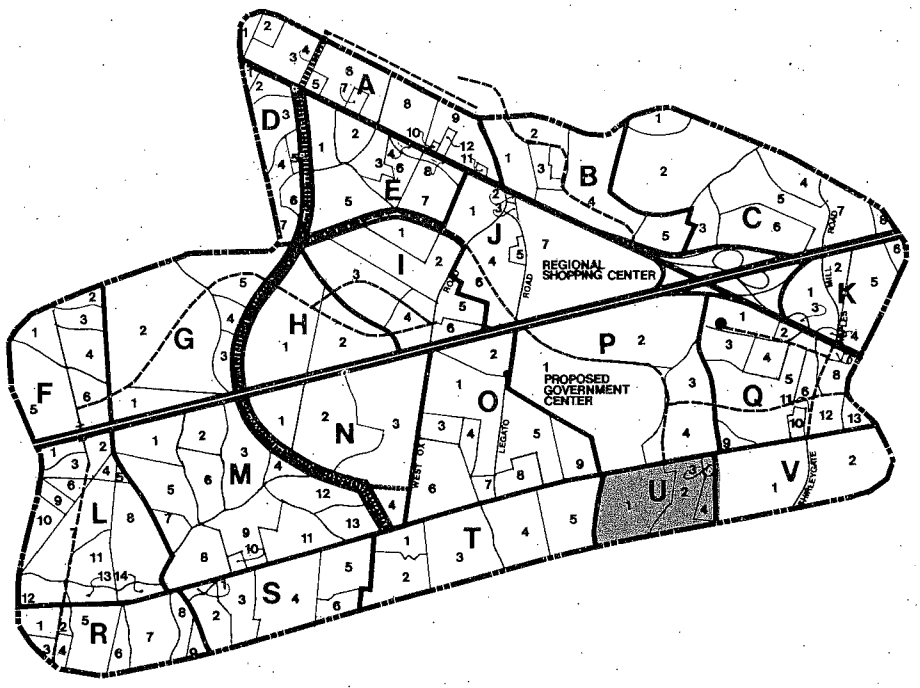
T-2, T-3, T-5

No land use assignment change from the adopted Comprehensive Plan is recommended. These land units are comprised of portions of the Lee Pines, Piney Branch and Glen Alden subdivisions.

U

LAND USE SUMMARY CHART

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE NET	APPROXIMATE ACREAGE GROSS	EXISTING CONDITIONS ZONING	EXISTING CONDITIONS COMP. PLAN	BASELINE: Density/Intensity Development Potential Achievable at "No Bonus" Level — PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
U1	66	66	R-1, C-8	R .5-1 R 1-2 R 2-3	RES		1,2			68	
					OFF	.7			137,214		
U2	7	7	R-1, C-8	R 2-3	OFF	.7			213,444		
U3	1	2	R-1	R 2-3	PDC	.7		A B	10,890 7,260	0 2	
					RES		2			2	
U4	7	10	R-1	R 1-2	RES		1			10	



DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level						
	PRO-POSED LAND USE	DENSITY/ INTENSITY FAR	DU/AC	PDC RANGE A / B'	PRIMARY COMMERCIAL SQ. FT.	RESID-ENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PRO-POSED LAND USE	DENSITY/ INTENSITY FAR	DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESID-ENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
U1	RES		1,3			77		PDH/RES		4,1			118	9,600
	PDC	.7, .13		A B	167,716 111,810	0 37		PDC	.7, .25		A B	286,219 190,812	0 63	
U2	OFF	.7			213,444			OFF	.7			213,444		
U3	PDC	.7, .13		A B	16,335 10,890	0 3		PDC	.7, .25		A B	21,780 14,520	0 4	
U4	RES		1.5			15		RES		2			20	

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept

U-1

Land unit U-1 is planned for a combination of office and residential use. The northeastern portion of the site is planned for PDC use at a .7 FAR in the currently zoned commercial portion, with the remainder at a .25 FAR. The remainder of the land unit is planned for residential use. Those portions which are within the Route 50/66 Sewer Association boundary are planned for four dwelling units per acre in a PDH concept, with the rest at a two unit per acre density. The residential area should have an internal collector road system which provides access to Route 29. Service to the office component should be from the south; however, the building orientation should be toward Route 29. Appropriate buffering and use transitions should be incorporated between differing land uses.

U-2

The major portion of land unit U-2 contains the subdivision of Lee High Village, an existing use; however, the northern portion of the land unit is developable. This portion is planned for office use in a PDC concept at a .7 FAR. Orientation should be toward Route 29. Service access should be from the south. Appropriate measures must be taken to buffer the Lee High Village residential community.

U-3

Land unit U-3 is planned for office (PDC concept) use at .25 FAR and .7 FAR (where currently zoned commercial). Particular consideration must be given to protection of the substantial Environmental Quality Corridor that surrounds this site on three sides. Access should be from Route 29.

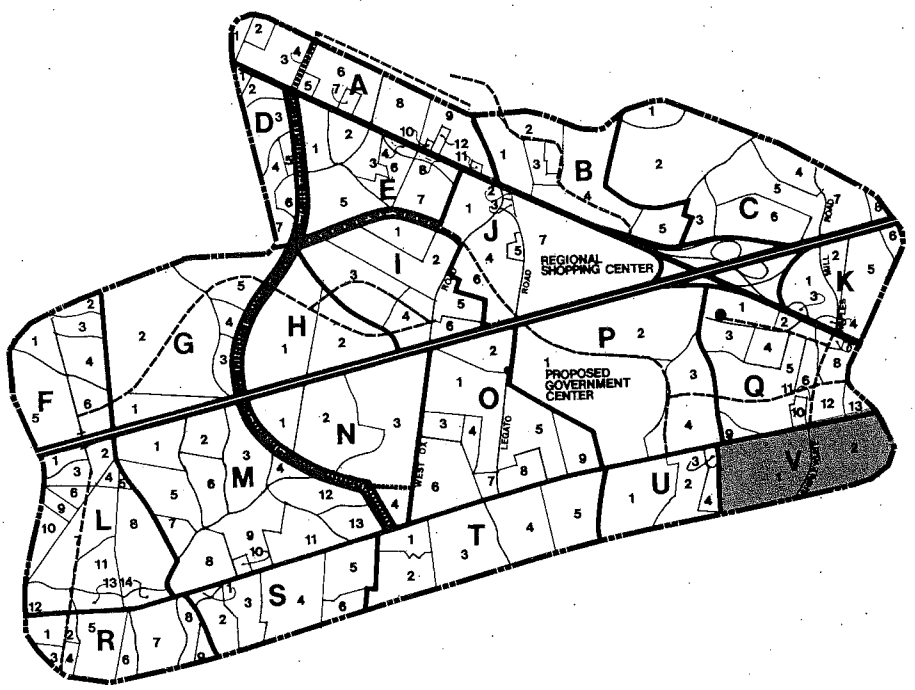
U-4

A residential use is planned for this site at the density of two units per acre. Access should be via the road and right-of-way currently existing off of Forest Hill Drive to the east.

V

LAND USE SUMMARY CHART

DEVELOPABLE LAND UNITS (MAP KEY)	APPROXIMATE ACREAGE		EXISTING CONDITIONS		BASELINE: Density/Intensity Development Potential Achievable at "No Bonus" Level						
	NET	GROSS	ZONING	COMP. PLAN	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
V1	76	89	R-1, R-3, C-8	R 1-2 R 2-3 COMM	RES		1,2			106	
					OFF	.7			121,968		
V2	72	72	R-1, R-MHP, C-8	R .5-1 R 5-8 R 8-12 RETAIL	RES		.5,5			144	
					OFF	.7			701,316		



DEVELOPABLE LAND UNITS (MAP KEY)	INTERMEDIATE LEVEL: Possible Density/Intensity Development Level Achievable Through "Minor Bonus"							OVERLAY PLAN: Maximum Density/Intensity Potential Achievable at "Major Bonus" Level						
	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B'	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.	PROPOSED LAND USE	DENSITY/INTENSITY FAR	DENSITY/INTENSITY DU/AC	PDC RANGE A / B	PRIMARY COMMERCIAL SQ. FT.	RESIDENTIAL DUS	SUPPORT COMMERCIAL SQ. FT.
V1	RES		2			128		PDH		4			256	30,720
	PDC	.7,		A	236,035	0		PDC	.7,		A	350,380	0	
		.13		B	157,357	52			.25		B	233,586	77	
V2	PDH		4			196	17,640	PDH		6			294	24,460
	PDC	.7,		A	723,096	0		PDC	.7,		A	744,876	0	
		.13		B	482,064	160			.25		B	496,584	165	

[1]PDC RANGE:
A - Permitted principal commercial uses only, no secondary uses
B - Maximization of housing as a secondary use within PDC concept

V-1, V-2

A combination of residential and commercial use is planned for these land units. In the residential portions, a density of four units per acre is anticipated in parcel V-1, and six units per acre in parcel V-2, both within the PDH concept. Access should be from Shirley Gate Road and limited to intersections with the major internal collectors. Office/commercial uses are planned at an FAR of .7 (where parcels are presently zoned commercial) and .25 for the remainder. Office building orientation should be toward Route 29. Service access should be from Shirley Gate Road, and not from Route 29. Appropriate buffering and transition measures should be established between land uses.

SUMMARY OF TASK FORCE DEVELOPMENT RECOMMENDATIONS

Comparison of Task Force Recommendations and the Existing Plan

The Task Force developed a set of recommendations relating land uses, density, intensity, and amenities. These recommended levels of development are summarized below and are compared to the development levels which can be anticipated under the existing Comprehensive Plan and related Zoning.

As noted in the table under existing Comprehensive Plan and zoning conditions, 8 million square feet of commercial space and 7,300 dwelling units can be anticipated. Under the Task Force Baseline Plan recommendations, 7.2 million square feet of total commercial space and 5,800 dwelling units can be anticipated. Under the Intermediate Plan recommendations, 10.6 million square feet of total commercial space and 7,800 dwelling units can be anticipated. And, under the Overlay Plan recommendations 13.2 million square feet of total commercial space and 10,900 dwelling units can be anticipated to develop.

RECOMMENDED LEVELS OF DEVELOPMENT

STUDY AREA PLANS	COMMERCIAL SQUARE FEET (ROUNDED IN THOUSANDS) PRIMARY	SUPPORT	TOTAL	DWELLING UNITS
EXISTING COMPREHENSIVE PLAN & ZONING	8,020	-	8,020	7,300
BASELINE PLAN	7,030	200	7,230	5,800
INTERMEDIATE PLAN	10,110	520	10,630	7,800
OVERLAY PLAN	12,540	700	13,240	10,900

- The Task Force recommendations were developed utilizing a technique which required designation of land use followed by assignment of intensity at each level: Baseline, Intermediate, and Overlay. The final iterations of the process are presented parcel-by-parcel in the land use Summary Charts on previous pages. (The intensity presented in these charts was reduced by the Task Force when earlier iterations were found to be too high.)

- The recommendations in the above table reflect the Task Force objective of creating an Urban Village atmosphere which mingles residential, retail, commercial, and industrial uses in the same land unit. The concept of an Urban Village, as envisioned by the Task Force, is designed generally to promote housing as a secondary use in the PDC districts.

Relationship Between Actual Development and Planned or Zoned Maximum Density/ Intensity

In developing the recommendations, it was recognized that in Fairfax County actual development did not take place at maximum allowable planned or zoned intensity. This phenomenon results from any one or any combination of development constraints related to the site itself, limited current market potential or economic requirements such as the high cost of building structured parking necessary to achieve the maximum allowable floor area.

As empirical analysis of commercial development by the County Office of Comprehensive Planning for the Tysons Corner area (See Appendix 9) found that the actual development was 18% to 74% less than maximum planned and/or zoned potential. Another example of this phenomenon is within the Study Area itself. The Pender Business Park is zoned to allow FAR's of 1.0 and .7; however, final plans call for development at approximately a .6 FAR.

Market conditions also affect the relationship between actual and maximum potential development. The Route 50/I-66 Study Area will be in competition with Tysons Corner, the Chiles Tracts (Route 50/I-495), the Reston/Dulles area and sites at the County's Metro stations for a share of the County's long range office market. This market has its limits.

The highest County forecasts for new office development in all of Fairfax County estimate an additional 43.8 million square feet during the 1980-2000 period. This amount of development already assumes that the County will attract a dramatically increasing share of the metropolitan region's new office type employment in the future - from a 20% share between 1970 and 1980 to about 28% between 1980 and 1990 and 37% between 1990 and 2000. The recommended Overlay primary commercial level of approximately 12.5 million square feet represents more than 28% of the forecast's high level of Countywide office growth. This is an optimistic share when considering the quality and attractiveness of competing locations.

In order to accommodate the discount phenomenon and the market condition relationship in the recommendations of the Task Force, a conservative discount factor of 25% of potential maximum intensity was utilized. Thus, the primary commercial square footage shown in the above table represents a 25% discounting of that which could theoretically be developed under the alternative plans. (It is important to note that the Intermediate and Overlay densities are, in fact, development incentives. In order to achieve such densities, developers will be called upon to provide various improvements and amenities.) The Task Force did not find evidence of comparable significant discounting in residential development and therefore, the dwelling unit figures have not been discounted in locations where residential is proposed as the primary use. However, in PDC locations, when commercial is the primary use, related secondary housing uses were discounted in proportion to the discounting of primary commercial areas.

Theoretical Maximum Intensity

The following table summarizes the theoretical maximum intensity potential levels of development of all the individual parcels noted in the report. Two different assumptions are used in order to develop the table. The first assumption provides for no housing as a secondary use in the PDC districts. The second provides for maximum housing as a secondary use in the PDC districts. Utilizing these two assumptions, the Task Force was able to bracket the theoretical levels of intensity allowable in the Baseline, Intermediate and Overlay Plans.

THEORETICAL MAXIMUM INTENSITY

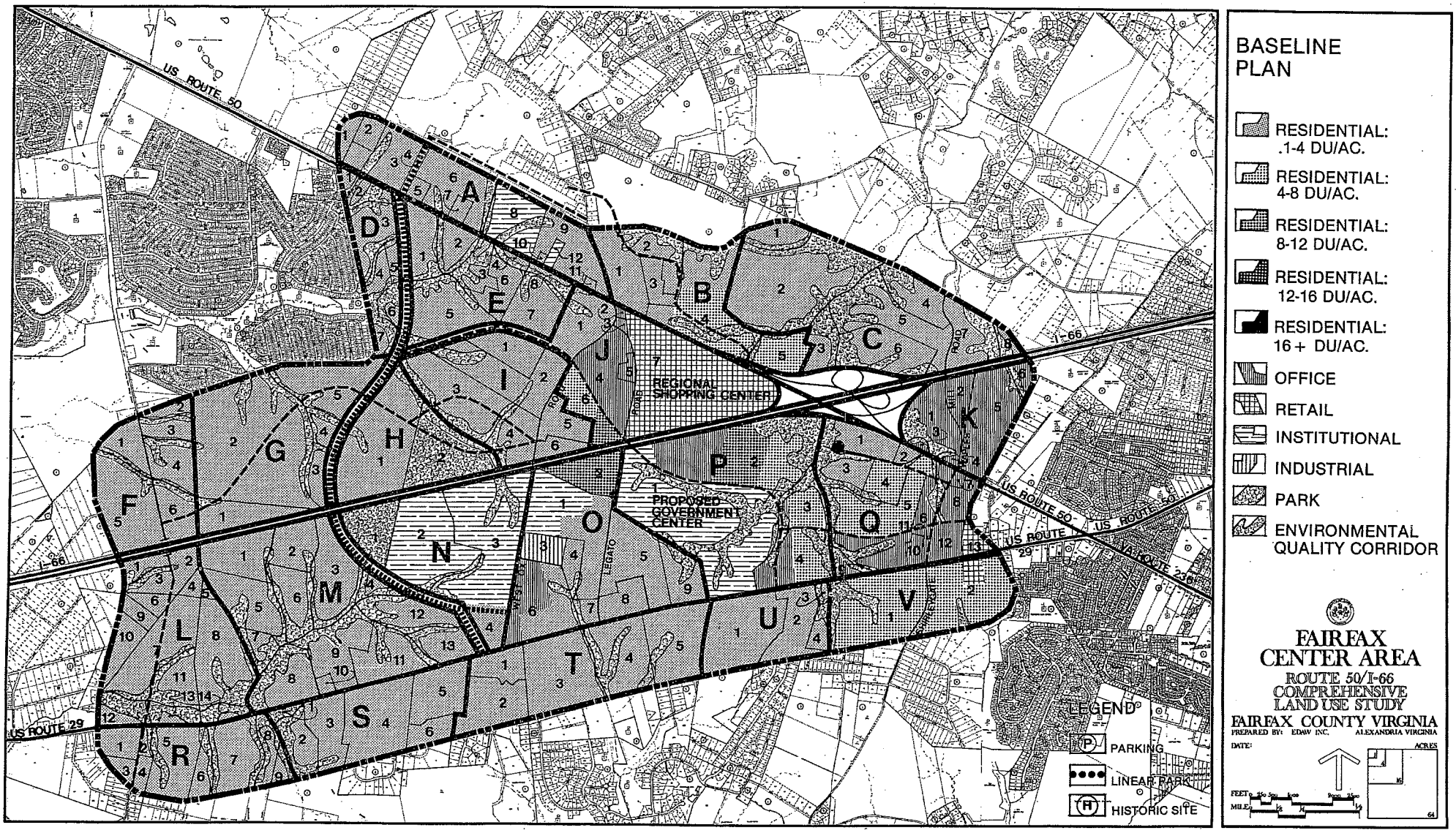
ASSUMPTIONS				
A-NO HOUSING AS SECONDARY USE				
BASELINE	10,940	200	11,140	5,100
INTERMEDIATE	18,050	520	18,570	5,750
OVERLAY	22,940	700	23,640	7,650
B-MAXIMUM HOUSING AS SECONDARY USE				
BASELINE	9,370	200	9,570	6,150
INTERMEDIATE	13,480	520	14,000	8,470
OVERLAY	16,720	700	17,420	11,790

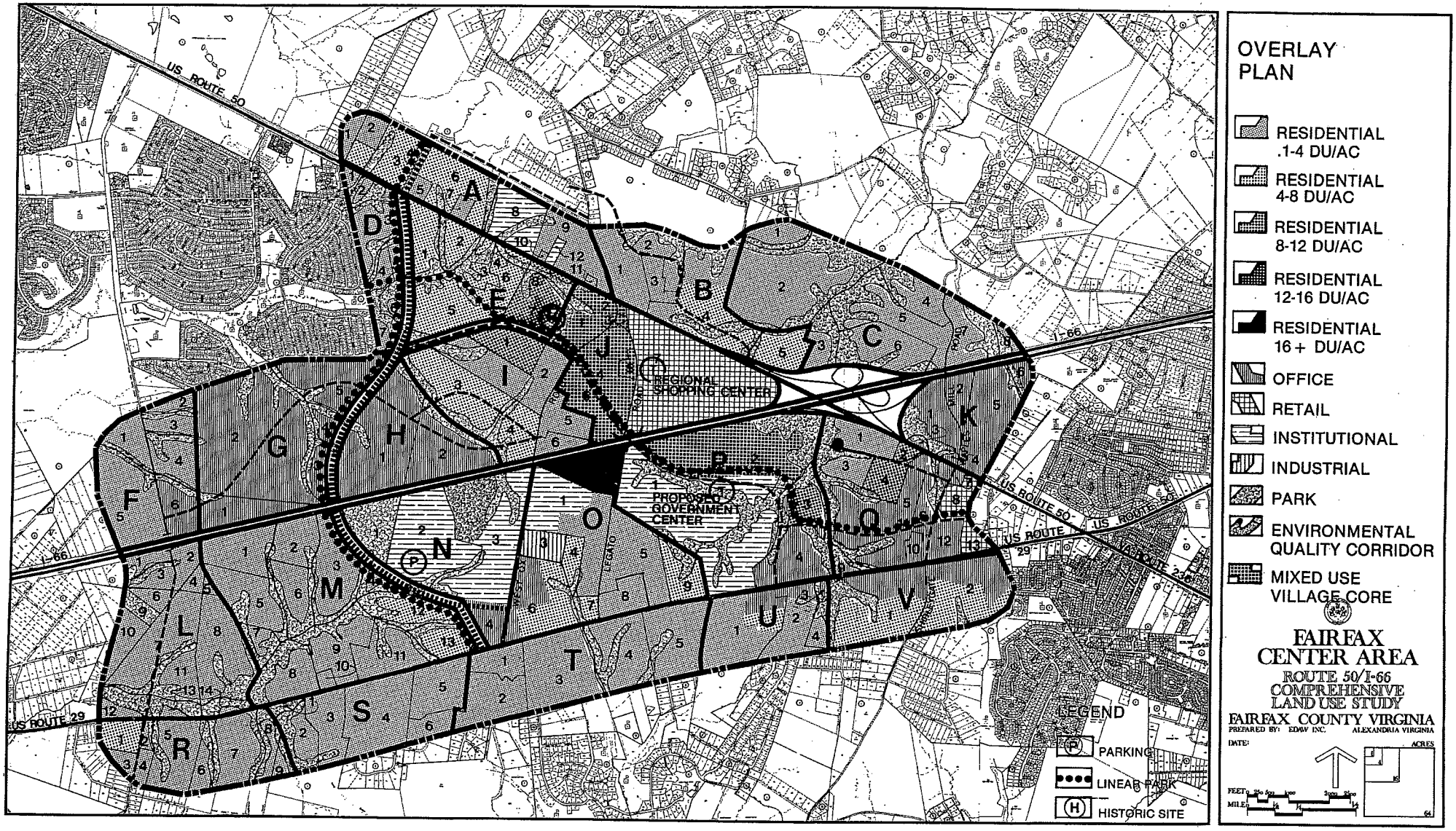
It should be emphasized that the above table reflects theoretical development potential only and not what actual development will yield. In fact, the Task Force does not favor a total buildout of approximately 23 million non-residential square feet. This number represents the approximate aggregate of all planned Overlay intensity on a parcel by parcel basis (minimizing housing as a secondary use in the PDC district). The Task Force firmly believes that this total intensity is entirely too high and represents an unrealistic development level for the Route 50/I-66 Study Area. Consistent with this belief, the Task Force recommends that an annual report be issued by the County which states the total non-residential square footage and residential units (including planned and built) in relation to the 14 million square feet of non-residential units viewed by the Task Force as the maximum level of intensity which is appropriate for the Study Area. The Task Force urges the Board of Supervisors to adopt appropriate policies and provide guidance to the Fairfax Center Implementation Review Board and Planning Commission that will result in the encouragement of mixed uses in PDC districts with a concomitant reduction of non-residential development intensity. The Fairfax Center Implementation Review Board would re-evaluate the amenity/incentive relationship as development proceeds in the Study Area to assure achievement of the type of high quality development envisioned by the Task Force.

D. Other Development Committed Or In Place

The theoretical figures in the previous table summarize the analysis of the parcels noted in the detailed land use charts. The numbers do not reflect existing development such as houses already built, existing shopping centers such as Fair Oaks Mall, or the proposed Fairfax County Center. (However, all of such development has been included for purposes of transportation and traffic analysis.) The development which is committed or in place in addition to that noted in the parcel-by-parcel analysis in the report can be summarized as follows:

Single Family Residential Units		550
Churches		7
Commercial Square Footage		2,600,000 sq.ft.
Industrial Square Footage		10,000 sq.ft.
Mini-warehouse development		74,000 sq.ft.
Proposed Fairfax County Center	Range:	352,000 sq.ft. to 748,000 sq.ft.
Other County Facilities (Landfill Fire Training, Animal Shelter, Equipment Yard)		77,000 sq.ft.
No. Va. Correctional Unit No. 30		15,000 sq.ft.


US ROUTE 50
I-66
US ROUTE 29
REGIONAL SHOPPING CENTER
PROPOSED GOVERNMENT CENTER
LEGEND
PARKING
LINEAR PARK
HISTORIC SITE
BASELINE PLAN
RESIDENTIAL: .1-4 DU/AC.
RESIDENTIAL: 4-8 DU/AC.
RESIDENTIAL: 8-12 DU/AC.
RESIDENTIAL: 12-16 DU/AC.
RESIDENTIAL: 16+ DU/AC.
OFFICE
RETAIL
INSTITUTIONAL
INDUSTRIAL
PARK
ENVIRONMENTAL QUALITY CORRIDOR
FAIRFAX CENTER AREA
ROUTE 50/I-66 COMPREHENSIVE LAND USE STUDY
FAIRFAX COUNTY VIRGINIA
PREPARED BY: EDAW INC. ALEXANDRIA VIRGINIA
DATE:
ACRES
FEET
MILES


US ROUTE 50
I-66
US ROUTE 29
REGIONAL SHOPPING CENTER
PROPOSED GOVERNMENT CENTER
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S
T
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V
LEGEND
PARKING
LINEAR PARK
HISTORIC SITE
OVERLAY PLAN
RESIDENTIAL .1-4 DU/AC
RESIDENTIAL 4-8 DU/AC
RESIDENTIAL 8-12 DU/AC
RESIDENTIAL 12-16 DU/AC
RESIDENTIAL 16+ DU/AC
OFFICE
RETAIL
INSTITUTIONAL
INDUSTRIAL
PARK
ENVIRONMENTAL QUALITY CORRIDOR
MIXED USE VILLAGE CORE
FAIRFAX CENTER AREA
ROUTE 50/I-66 COMPREHENSIVE LAND USE STUDY
FAIRFAX COUNTY VIRGINIA
PREPARED BY: EDAW INC. ALEXANDRIA VIRGINIA
DATE:
ACRES
FEET
MILES

7.4 FISCAL IMPACT ANALYSIS

In order to assess the impact of major development projects on the County's budget, as well as to compare probable fiscal impacts of alternative development proposals, the County has developed a FISCAL IMPACT MODEL FOR FAIRFAX COUNTY.

The Fairfax County model is not, in the most strict sense, a predictive model. Rather, it estimates what impact a given development would have on the current year's budget if the development were completed today. When the computer model is 'run' on one or more alternative proposals for the same land area, a comparison can be made to determine which alternative is most likely to provide the greatest fiscal benefit. Given the relationship of the model to the present year's budget, all values are stated in constant 1981 dollars without inflation escalators.

New developments require the provision of additional facilities and services to maintain existing County standards. Revenues to offset these costs are derived primarily from real estate and other additional taxes from the project. This fiscal analysis shows the effects of specific land use decisions on cash flow, but does not reflect indirect fiscal impacts of such development. In general, residential development, with its accompanying need for services, will produce a negative cash flow, while nonresidential commercial or industrial development will provide a surplus. If land use decisions are made in concert with one another, rather than as single land use assignment determinations, a positive fiscal impact is more likely.

Perhaps the most valuable use of the model, however, is as a comparative tool for considering alternative plans or development proposals. In this way, varying ratios and densities of residential and nonresidential uses can be assessed against one another in a cost/benefit type analysis. The relative results can be helpful in selecting the preferred Land Use Plan.

Although the Fiscal Impact Model has certain limitations, it was the best tool available to the Task Force in their effort to quantify and compare alternative Land Use Plans objectively. The model ultimately was run on four alternative development scenarios:

- The adopted Comprehensive Plan as interpreted by the Task Force in their effort to predict potential built development products. The primary modification was the inclusion of zoning intensities in instances where they exceeded that of the Comprehensive Plan.

- The three levels of the Task Force Land Use Plan for the Study Area:
  - Baseline
  - Intermediate Level
  - Overlay Plan

The level of density/intensity of these four plans reflected planning numbers. These quantities were reduced by a Task Force-approved factor in order to reflect more acurately the development 'products' likely to be constructed on the land.

The Fiscal Impact Model for the various Plans was run in five year increments. These "snapshots" were deemed sufficient points of evaluation over the next twenty years, based upon the degree of detail available.

The model output reflects the cumulative effect of a number of categories:

- General fund revenues as generated from:
  - Real estate property taxes
  - Personal property taxes
  - Other local taxes
  - Business, professional and occupational licenses
    Revenues from the Commonwealth of Virginia
  - Other miscellaneous taxes

- General fund expenditures account for:
  - General government administration and support
  - Conservation, management and development of the community environment
  - Personal development, rehabilitation and health services
  - Administration of justice
  - Public safety
  - Capital expenditures
  - Public works construction
    Educational expenditures

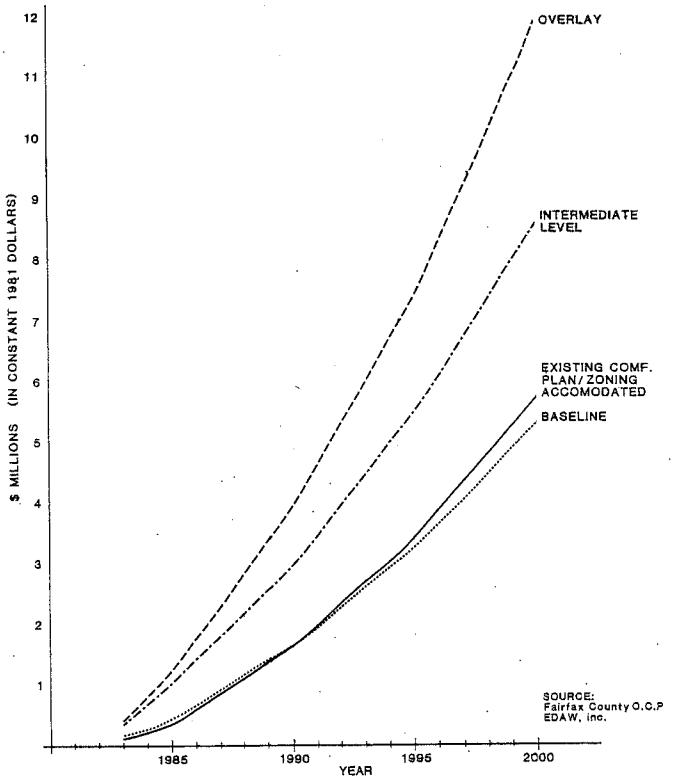
Certain of these revenues and expenditures are allocated to residential development, some to nonresidential and others to both. The collective monetary impacts to the County's budget are broken out in the Fiscal Impact Model by residential and nonresidential categories.

A surplus or deficit in the General Fund is derived from the balance between revenues and expenditures. The ratio between revenue and expenditures is also provided, as is the overall increase in bonded indebtedness resulting from the proposed development.

The following chart and graph display and compare the results of the Fiscal Impact Model application to the existing Plan and final Land Use Plan Levels.

ESTIMATED ANNUAL FISCAL SURPLUS FROM DEVELOPMENT ALTERNATIVES AT FAIRFAX CENTER AREA (RT. 50/I-66)

YEAR	COMPREHENSIVE PLAN AND ZONING	PLAN "F" ALTERNATIVES		
		BASELINE	INTERMEDIATE	HIGH
1981	-	-	-	-
1982	-	-	-	-
1983	$ 113,758	$ 140,286	$ 351,001	$ 404,983
1984	227,516	280,572	702,002	809,966
1985	341,275	420,859	1,053,004	1,214,950
1986	601,422	668,714	1,431,150	1,755,100
1987	861,569	916,569	1,809,296	2,295,250
1988	1,121,716	1,164,424	2,187,442	2,835,400
1989	1,381,863	1,412,279	2,565,588	3,375,550
1990	1,642,020	1,660,134	2,943,736	3,915,704
1991	1,995,896	1,976,477	3,446,217	4,604,925
1992	2,349,772	2,292,820	3,948,698	5,294,146
1993	2,703,648	2,609,163	4,451,179	5,983,367
1994	3,057,524	2,925,506	4,953,660	6,672,588
1995	3,411,403	3,241,853	5,456,145	7,361,813
1996	3,871,604	3,657,307	6,077,638	8,254,362
1997	4,331,805	4,072,761	6,699,131	9,146,911
1998	4,792,006	4,488,215	7,320,624	10,039,460
1999	5,252,207	4,903,669	7,942,117	10,932,009
2000	5,712,410	5,319,125	8,563,614	11,824,562
Cumulative (in $ Million)	$43.76	$42.15	$71.90	$96.72



ANNUAL FISCAL SURPLUS COMPARISON

7.5 TRAFFIC IMPACT ANALYSIS

Significant changes in land use, especially in the levels of development, necessitate examination of the impact on the future transportation system. The ability of the transportation system to accommodate any increases in traffic needs to be evaluated. This section describes the analysis of future traffic impact within the Study Area. The following paragraphs describe in detail the methodology, steps, and results of the impact analysis.

7.5.1 Description of Methodology

The methodology utilized in the impact analysis is based upon a standard travel demand analysis procedure as schematically represented on Figure 1. The initial phase of the process can be identified as the trip generation phase. In this phase, the number of trips which will be generated by a particular land use type and density level are estimated. Any factors which may increase or decrease the magnitude of the trips can be incorporated during this phase. The second phase can be described as the distribution phase. The generated trips are distributed to specific origins and destinations. An assignment phase follows which includes the actual assignment of trips to specific roadway links. These assigned trips are added to the base forecast traffic volume to identify the total anticipated traffic along the roadway links. The expected volumes are then compared to the capacity of the roadway. If deficiencies exist, that is, if the volume is expected to exceed a certain proportion of the capacity, improvements are recommended.

These phases are more fully described and detailed in the following paragraphs.

7.5.2 Trip Generation

7.5.2.1 Land Use Inputs

The land use assignments for the Study Area used in the traffic analysis are those established by the Task Force during the course of its study. These are used on an individual land unit basis to develop traffic volumes generated by the proposed Study Area development alternatives and are expressed in square feet of office, commercial or industrial development and number of residential dwelling units.

The actual trip generation rates are taken from the Institute of Transportation Engineer's Informational Report: "Trip Generation" (second edition - 1979). The rates are based upon observed trip-making characteristics of various land use types throughout the country. The rates utilized in this analysis are summarized in Table 1.

TABLE 1

ESTIMATED A.M. PEAK HOUR TRIP GENERATION RATES

Land Use	Vehicle Trips In	Vehicle Trips Out
Residential (per dwelling unit)		
Single Family	0.3	0.6
Townhouse	0.1	0.3
Garden Apartment	0.1	0.4
Elevator Apartment	0.1	0.3
Office (per 1000 sq. ft.)		
Private Office	2.0	0.5
Government Office	5.0	1.0
Light Industrial (per 1000 square feet)	0.9	0.2

Source: "Trip Generation" (1979, 2nd edition) Institute of Transportation Engineers

Trips were generated for morning peak hour conditions. This is the maximum traffic volume during a 60 minute segment of the morning 'rush hour' period, (7 a.m. to 8 a.m. in this vicinity) based on traffic counts by the Virginia Department of Highways and Transportation (VDH&T). The a.m. peak hour volumes for both directions of travel represent approximately nine percent of the Average Daily Traffic (ADT) in this area. The eastbound traffic is approximately 75 percent of the two way volume during this period. The a.m. peak hour trip generations for each development alternative are summarized in Tables 2 through 5. The trip generations do not reflect the existing development such as the existing residential and retail development.

FIGURE 1

PREFERRED LAND USE PLAN TRANSPORTATION EVALUATION METHODOLOGY

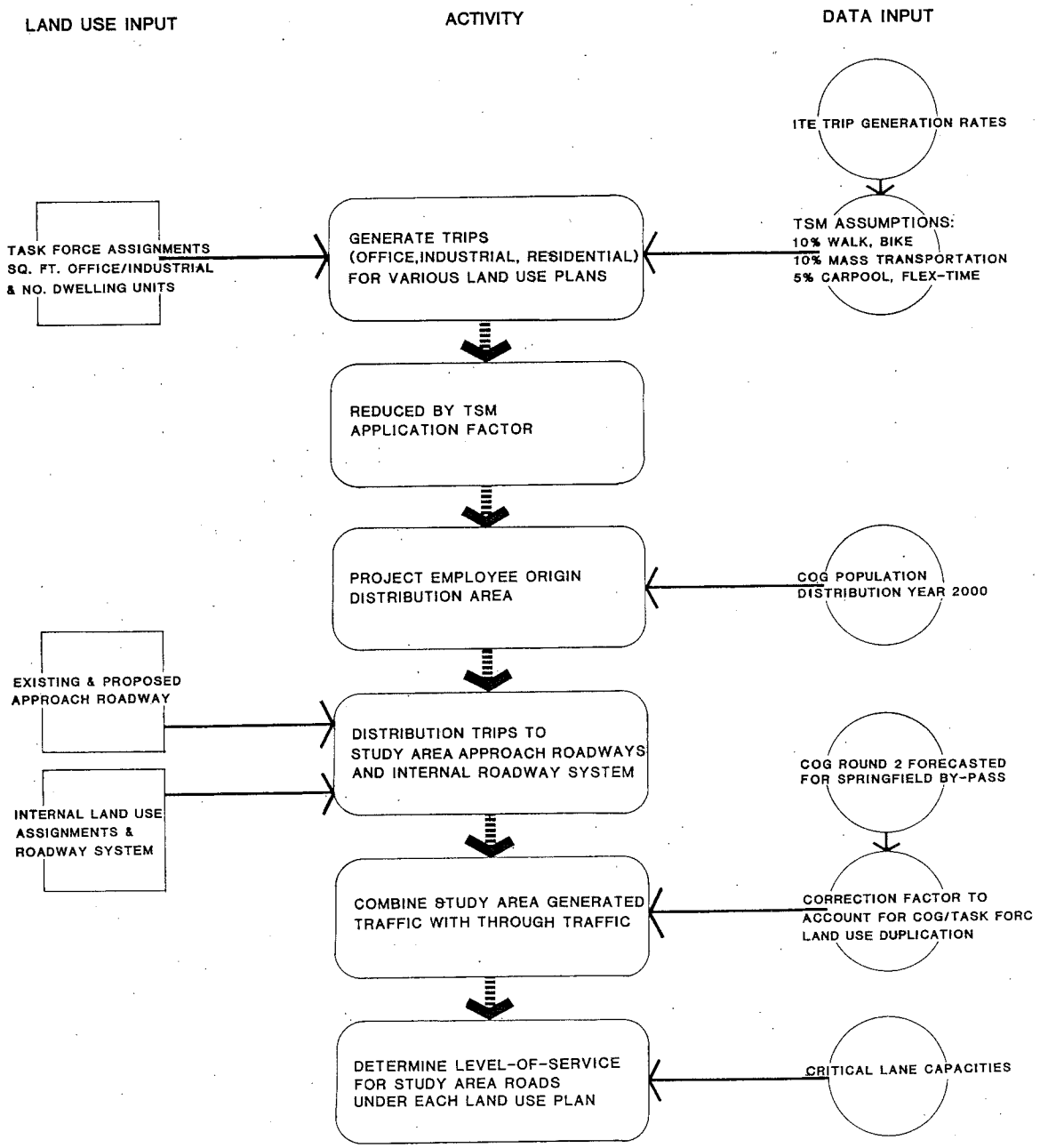


TABLE 2

A.M. Peak Hour Trip Generation

Comprehensive Plan/Zoning Plan

Land Units	Residential Trips In	Residential Trips Out	Office/ Industrial Trips In	Office/ Industrial Trips Out
A3, A6, A9, A10, A11	94	187	91	23
B1, B2, B4, B5	160	320		
C1, C4, C6, C7, C8	17	34		
D1, D2, D3, D5, D6	58	116		
E1, E2, E4, E5, E6	108	216		
E7, E8	34	68	46	11
F1, F2, F3, F4, F5, F6	78	156		
G1, G2, G3, G4, G5	139	278		
H1, H2	40	80		
I1, I3, I4	60	120		
J1, J3, J4, J6	111	274	5,227	1,307
K1, K2, K3, K4, K5, K6				
L1, L3, L4, L5, L6, L7, L8, L10, L11 L12, L13, L14	110	220		
M1, M2, M3, M4, M5, M6, M7, M8, M10, M11	166	332		
N4	14	28		
O2, O4, O6, O7, O8, O9	83	194	1,281	320
P1			3,912	803
P2, P4	153	452	46	11
Q2, Q3, Q4, Q5, Q6, Q7, Q9, Q11, Q12	86	106	8,526	2,132
R1, R2, R5, R6 R7, R8, R9	77	154	46	11
S1, S2, S3, S5, S6	48	96	46	11
T1, T4	20	40		
U1, U2, U3, U4	39	78	366	91
V1, V2	85	198	412	103

TABLE 3

A.M. Peak Hour Trip Generation

Baseline Plan

Land Units	Residential Trips In	Residential Trips Out	Office/ Industrial Trips In	Office/ Industrial Trips Out
A3, A6, A9, A10, A11	75	150		
B1, B2, B4, B5	160	320		
C1, C4, C6, C7, C8	15	30		
D1, D2, D3, D5, D6	47	94		
E1, E2, E4, E5, E6	86	172		
E7, E8	28	56		
F1, F2, F3, F4, F5, F6	48	96		
G1, G2, G3, G4, G5	93	186		
H1, H2	29	58		
I1, I3, I4	42	84		
J1, J3, J4, J6	49	121	539	135
K1, K2, K3, K4, K5, K6			5,227	1,307
L1, L3, L4, L5, L6, L7, L8, L10, L11 L12, L13, L14	72	144		
M1, M2, M3, M4, M5, M6, M7, M8, M10, M11	109	218		
N4	6	12		
O2, O4, O6, O7, O8, O9	75	183	732	183
P1			3,500	700
P2, P4	75	225	958	238
Q2, Q3, Q4, Q5, Q6, Q7, Q9, Q11, Q12	74	148	4,829	1,207
R1, R2, R5, R6 R7, R8, R9	45	90		
S1, S2, S3, S5, S6	29	58		
T1, T4	20	40		
U1, U2, U3, U4	60	120	537	134
V1, V2	15	43	1,235	309

TABLE 4

A.M. Peak Hour Trip Generation

Intermediate Level

Land Units	Residential Trips In	Residential Trips Out	Office/ Industrial Trips In	Office/ Industrial Trips Out
A3, A6, A9, A10, A11	5	192	326	81
B1, B2, B4, B5	160	320		
C1, C4, C6, C7, C8	15	30		
D1, D2, D3, D5, D6	58	116		
E1, E2, E4, E5, E6	163	326		
E7, E8	23	69		
F1, F2, F3, F4, F5, F6	85	172	148	37
G1, G2, G3, G4,	32	111	1,914	478
H1, H2	16	54	963	241
I1, I3, I4	82	176		
J1, J3, J4, J6	27	80	2,017	504
K1, K2, K3, K4, K5, K6			5,227	1,307
L1, L3, L4, L6, L7, L8, L10, L11 L12, L13, L14	108	216		
M1, M2, M3, M4, M5, M6, M7, M8, M10, M11	192	383		
N4	1	3	60	15
O2, O4, O6, O7, O8, O9	137	345	732	183
P1			3,500	700
P2, P4	52	167	1,981	495
Q2, Q3, Q4, Q5, Q6, Q7, Q9, Q11, Q12	104	330	5,357	1,339
R1, R2, R5, R6 R7, R8, R9	72	144		
S1, S2, S3, S5, S6	44	88		
T1, T4	30	60		
U1, U2, U3, U4	69	140	498	124
V1, V2	36	112	959	240

TABLE 5

A.M. Peak Hour Trip Generation

High Overlay Plan

Land Units	Residential Trips In	Residential Trips Out	Office/ Industrial Trips In	Office/ Industrial Trips Out
A3, A6, A9, A10, A11	50	149	468	117
B1, B2, B4, B5	54	160		
C1, C4, C6, C7, C8	20	40		
D1, D2, D3, D5, D6	50	110		
E1, E2, E4, E5, E6	80	239		
E7, E8	37	110		
F1, F2, F3, F4, F5, F6	127	259	261	65
G1, G2, G3, G4, G5	56	194	3,365	841
H1, H2	29	99	1,720	430
I1, I3, I4	131	282		
J1, J3, J4, J6	50	186	3,190	797
K1, K2, K3, K4, K5, K6			5,227	1,307
L1, L3, L4, L5, L6, L7, L8, L10, L11 L12, L13, L14	115	230		
M1, M2, M3, M4, M5, M6, M7, M8, M10, M11	275	550		
N4	2	6	120	30
O2, O4, O6, O7, O8, O9	171	455	732	183
P1			3,500	700
P2, P4	66	215	2,417	604
Q2, Q3, Q4, Q5, Q6, Q7, Q9, Q11, Q12	114	353	5,700	1,425
R1, R2, R5, R6 R7, R8, R9	100	200		
S1, S2, S3, S5, S6	59	119		
T1, T4	40	80		
U1, U2, U3, U4	46	97	628	157
V1, V2	125	297	1,095	274

7.5.2.2 Transportation System Management (TSM) Factor

Energy conservation goals call for a reduction in the dependence of the automobile for transportation. Utilization of TSM measures can be instrumental in attaining these goals. The assumed degree of TSM impact used in this analysis is considered a conservative estimate of future likely occurrences.

The TSM assumptions:

- The inclusion of major residential and employment center development within the Study Area encourage walking and biking to work. Ten percent of the potential trips to work generated in the Study Area fall into this category.
- Public transportation via local service buses, regional buses, and feeder buses (from the proposed Vienna Metro-Rail station) will be utilized by ten percent of the Study Area employees.
- An additional five percent of the employees working in the area will utilize one of the following TSM options:
  a. Carpools and vanpools
  b. Staggered work hours ('flex-time').

With these TSM assumptions, trips to work are expected to be reduced by 25 percent.

7.5.3 Trip Distribution

The anticipated population distribution within Northern Virginia, as projected by the Council of Governments (COG) Cooperative Forecast (Round II - Intermediate) for the year 2000, is used as a basis for estimating origins of Study Area employees.

Arlington, Alexandria, portions of Loudoun County and areas bordering I-95 are excluded as they are more conveniently oriented to other employment centers. These areas are illustrated in Figure 2.

The population for the entire origin area is based on COG Transportation Planning Board (TPB) Analysis Districts' population projections. The percentage of employees contributed by each 'origin' zone (A-E) is that zone's proportional share of the total population with the entire defined employee residential origin area.

Table 6 lists the COG Transportation Planning Board (TPB) Analysis Districts associated with each area, their projected year 2000 populations, and the percentage of Study Area employees they are each expected to house. Table 7 illustrates the distribution of incoming employee vehicle trips to the roadway network accessing the Study Area.

TABLE 6

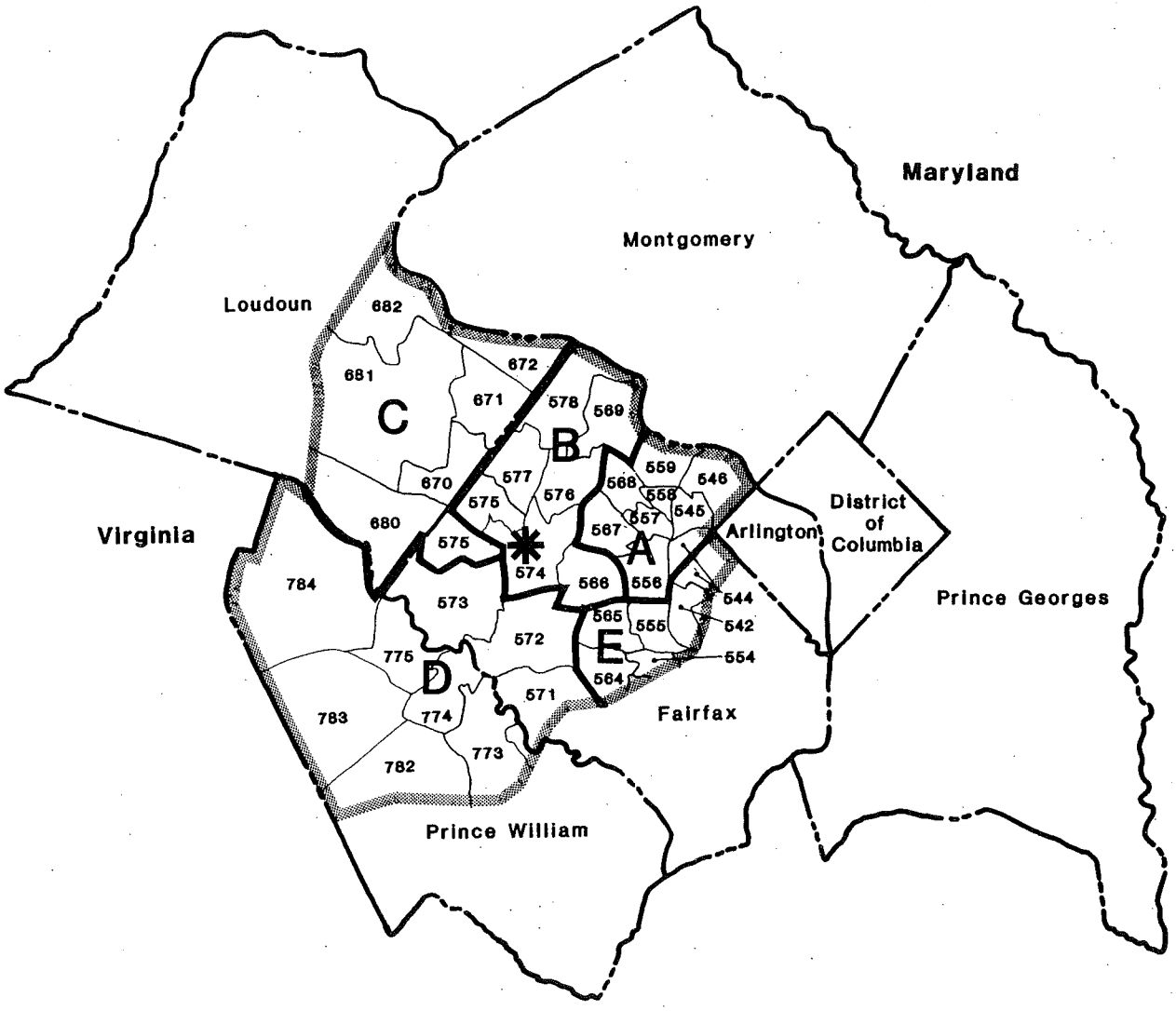
PROJECTED EMPLOYEE ORIGIN DISTRIBUTION

ROUTE 50/I-66 FAIRFAX CENTER AREA

ORIGIN ZONE	TPB ANALYSIS DISTRICT	PROJECTED 2000 POPULATION	PORTION OF STUDY AREA EMPLOYEES ACTUAL % ALL SECTIONS	PORTION OF STUDY AREA EMPLOYEES ROUNDED % USED FOR DISTRIBUTION
A	544 (½)	24,700		
	545	27,200		
	546	36,800		
	556 (½)	25,000		
	557	16,900		
	558	3,400		
	559	8,600		
	567	25,900		
	568	10,500		
		179,000	19.2	20
B	566	36,900		
	569	12,700		
	574	32,200		
	575 (½)	8,600		
	576	36,500		
	577	41,500		
	578	21,500		
		189,900	20.4	20
C	575 (½)	8,600		
	670	0		
	671	47,200		
	672	27,900		
	680	4,400		
	681	9,500		
	682 (½)	12,000		
		109,500	11.8	11
D	571 (½)	7,000		
	572	19,000		
	573	60,700		
	773	7,400		
	774	50,700		
	775	35,600		
	782 (½)	12,600		
	783	6,400		
	784	15,300		
		214,700	23.0	23
E	542	33,300		
	544 (½)	24,700		
	554	30,200		
	555	24,600		
	556 (½)	25,000		
	564	26,700		
	565	36,900		
		239,600	25.7	25
TOTAL EMPLOYEE ORIGIN AREA		932,700	100.0	100

FIGURE 2

Estimated Year 2000 Employee Origin Distribution (By COG-TPB Districts) For Route 50/I-66 Study Area



✱ Study Area
574 COG-TPB District

SOURCE: SVERDRUP & PARCEL
EDAW INC.

TABLE 7

APPROACH ROUTE ASSUMPTIONS

ORIGIN ZONE	PORTION OF STUDY AREA EMPLOYEES	APPROACH ROUTE
A	10%	I-66 from the East
	10%	Route 123 from the North
B	20%	North/South Connector
C	6%	Route 50 from the West
	5%	North/South Connector
D	8%	Clifton Road
	15%	I-66 from the West
E	20%	Route 236/Route 50/Route 29
	6%	I-66 from the East

7.5.4 Trip Assignment

7.5.4.1 Network Descriptions

Figure 3 depicts the planned transportation improvements as currently exist in the Comprehensive Plan. The planned transportation improvements as shown in the Comprehensive Plan, are modified for the traffic impact analysis of the alternative development proposals. The modified transportation network is shown on Figure 4. The most significant variations between the two networks exist with the internal roadway configurations. In addition, the north/south connector road differs with the alignment shown on the Comprehensive Plan. The connector does not continue south of Route 29 in the modified network.

7.5.4.2 Assignments

Trips entering the internal Study Area road network are assigned to one or more routes accessing the various employment sites. Thus, all link and turning volumes are determined. The sum of trips on each link or turn are then obtained by adding trips (by movements) to and from all employment locations.

Residential trips are closely represented in the volumes developed for the Springfield Bypass EIS by COG and are considered along with the COG volumes.

The COG peak hour volumes are derived from Projected 1995 Average Daily Traffic (ADT) volumes developed for the Springfield Bypass Study. For all arterials, the ADT is tailored to a.m. peak hour volumes using the aforementioned percentages. The Bypass volume is estimated for 1995 using a combination of the projected growth in ADT on other arterials and the observed existing traffic patterns on Route 50 and West Ox Road. This estimate is necessary since the Bypass is considered by the Task Force to be constructed only from Route 7 to Route 29 for the purposes of this Study.

The Study Area trip volumes are reduced to account for the fact that a portion of the projected Study Area trips are already included in the COG volumes. The volumes represent traffic generated by the existing and proposed development under the Comprehensive Plan. The existing development includes Fair Oaks Mall, Additionally, reductions are made to account for differences between the Comprehensive Plan and the alternative proposed developments. A 20 percent reduction is used for the high Overlay Land Use option.

A traffic volume that incorporates both through and locally oriented traffic is obtained by combining the Study Area's assigned volumes with COG projections. Figures 5 through 8 depict the traffic assignments on the modified network for each development alternative and the comprehensive plan.

FIGURE 3

Comprehensive Plan
Transportation Improvements

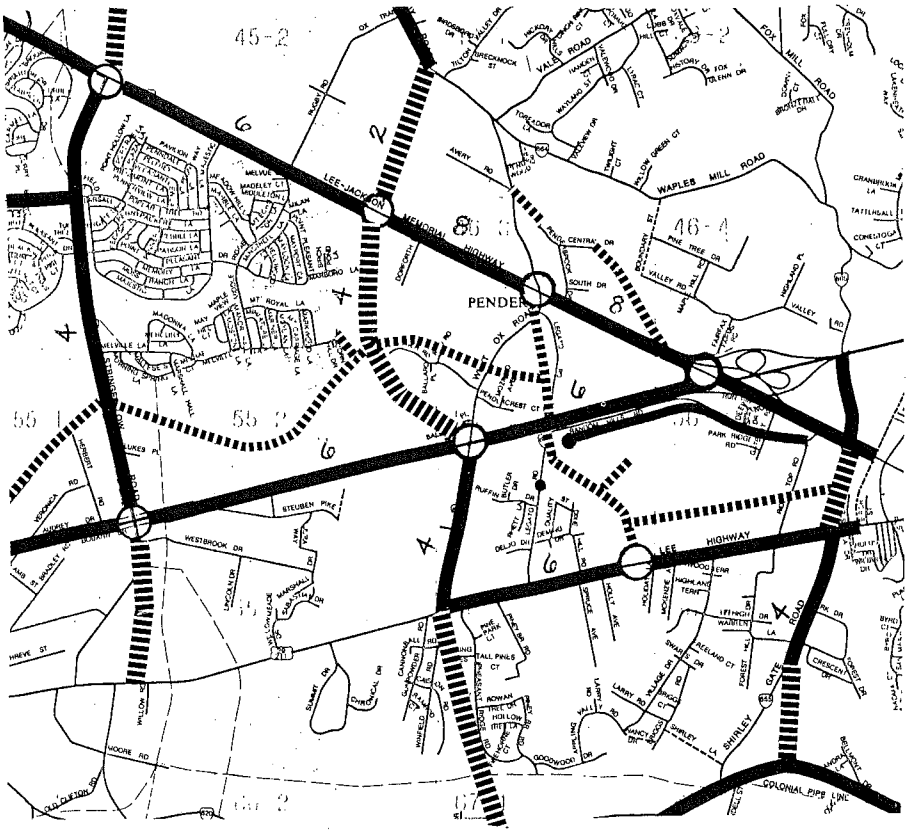


FIGURE 4

Modified Transportation Network

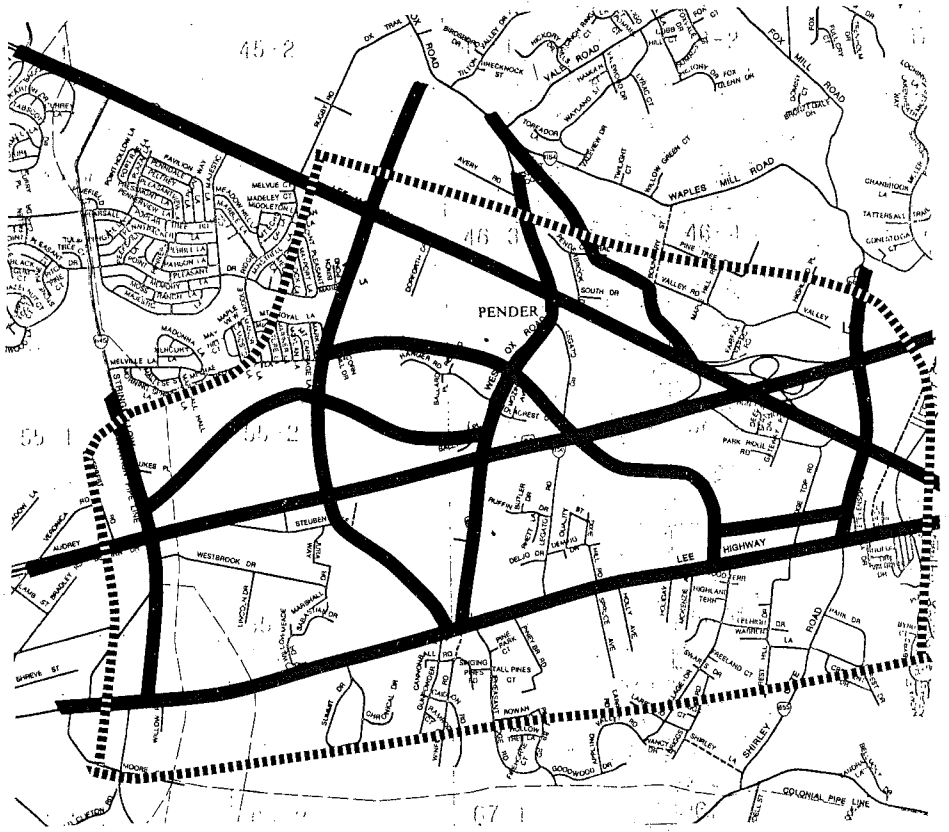


FIGURE 5

TRAFFIC ASSIGNMENT

Comprehensive Plan/Zoning Interpretation

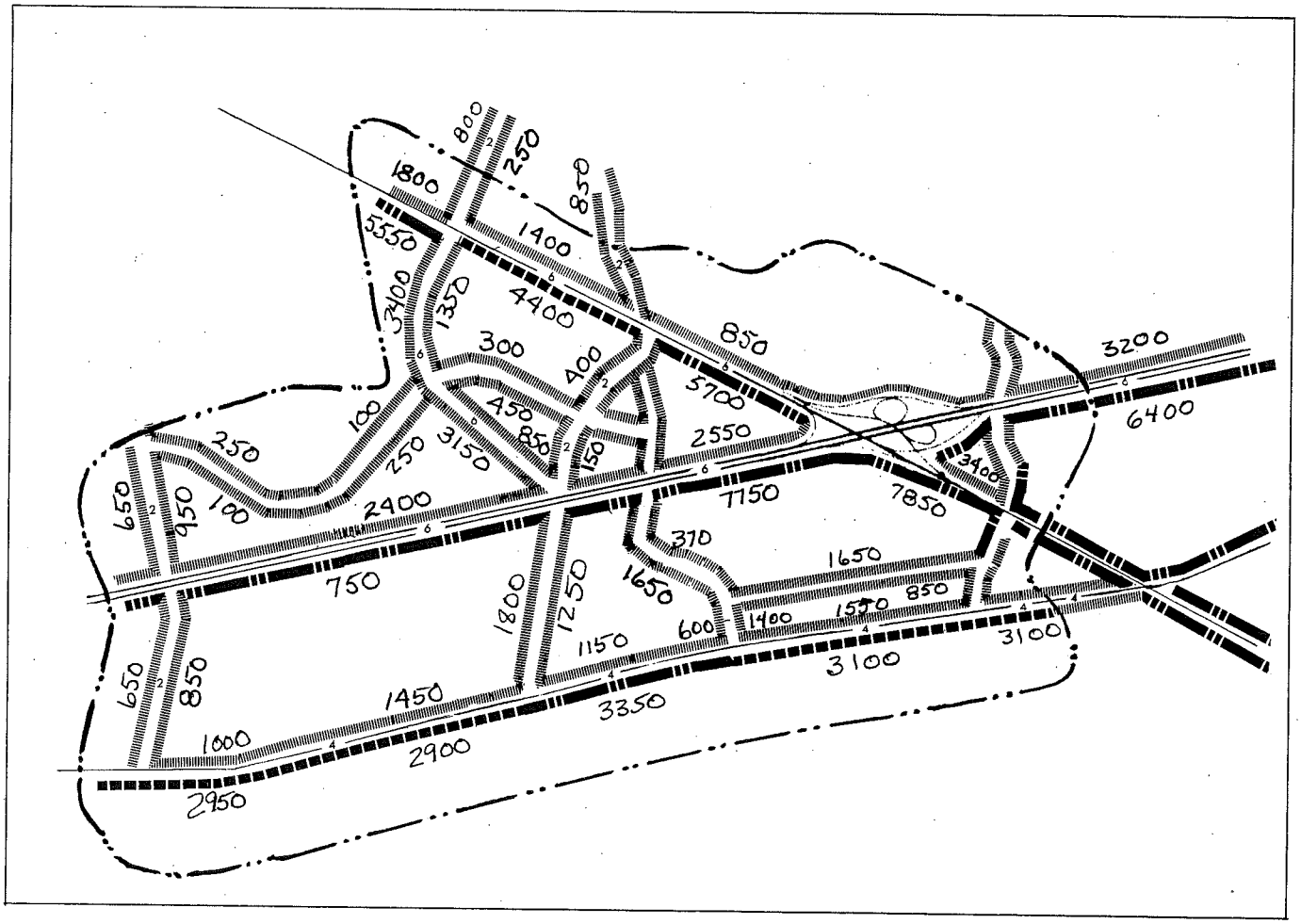


FIGURE 6

TRAFFIC ASSIGNMENT

Baseline Plan

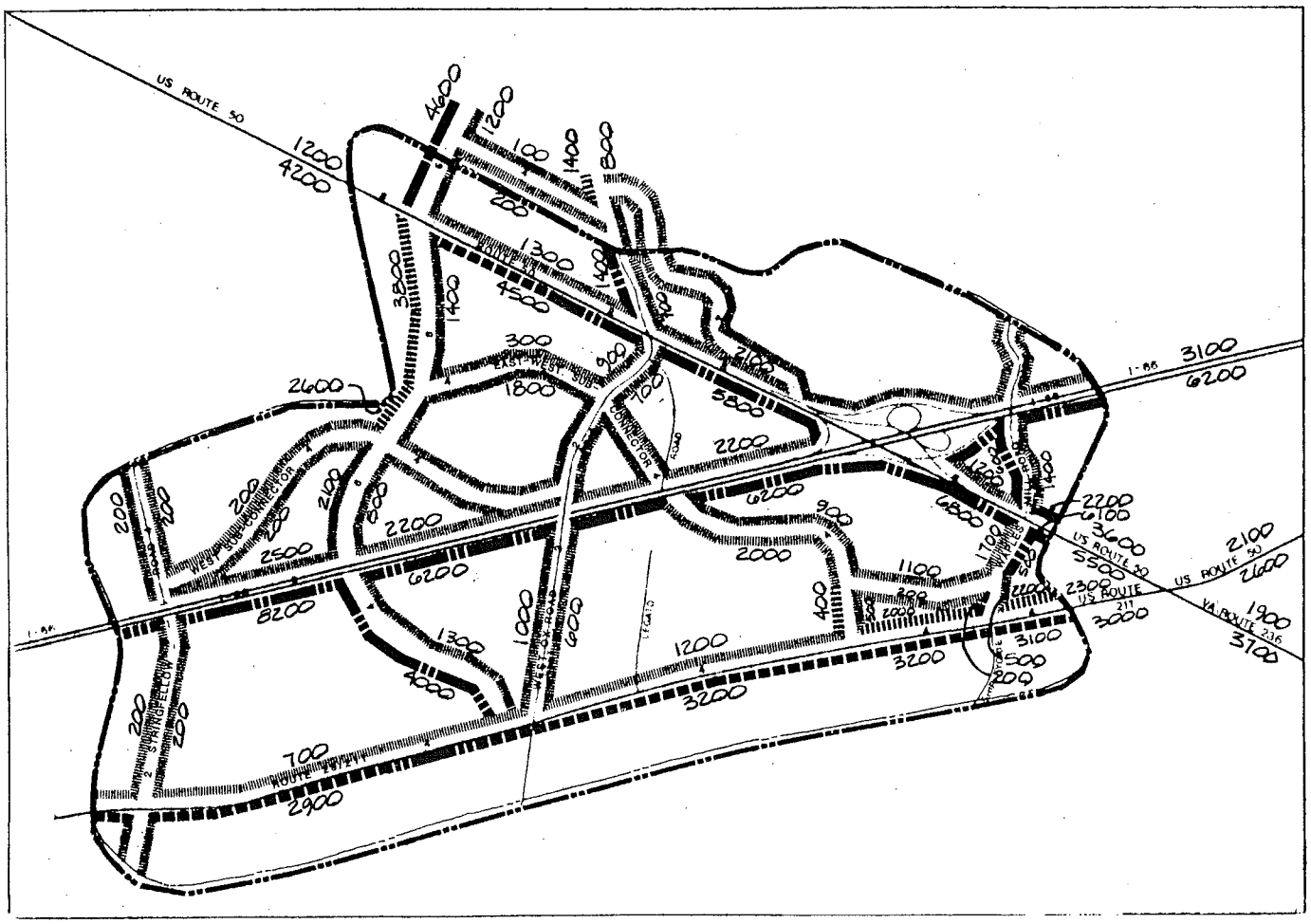
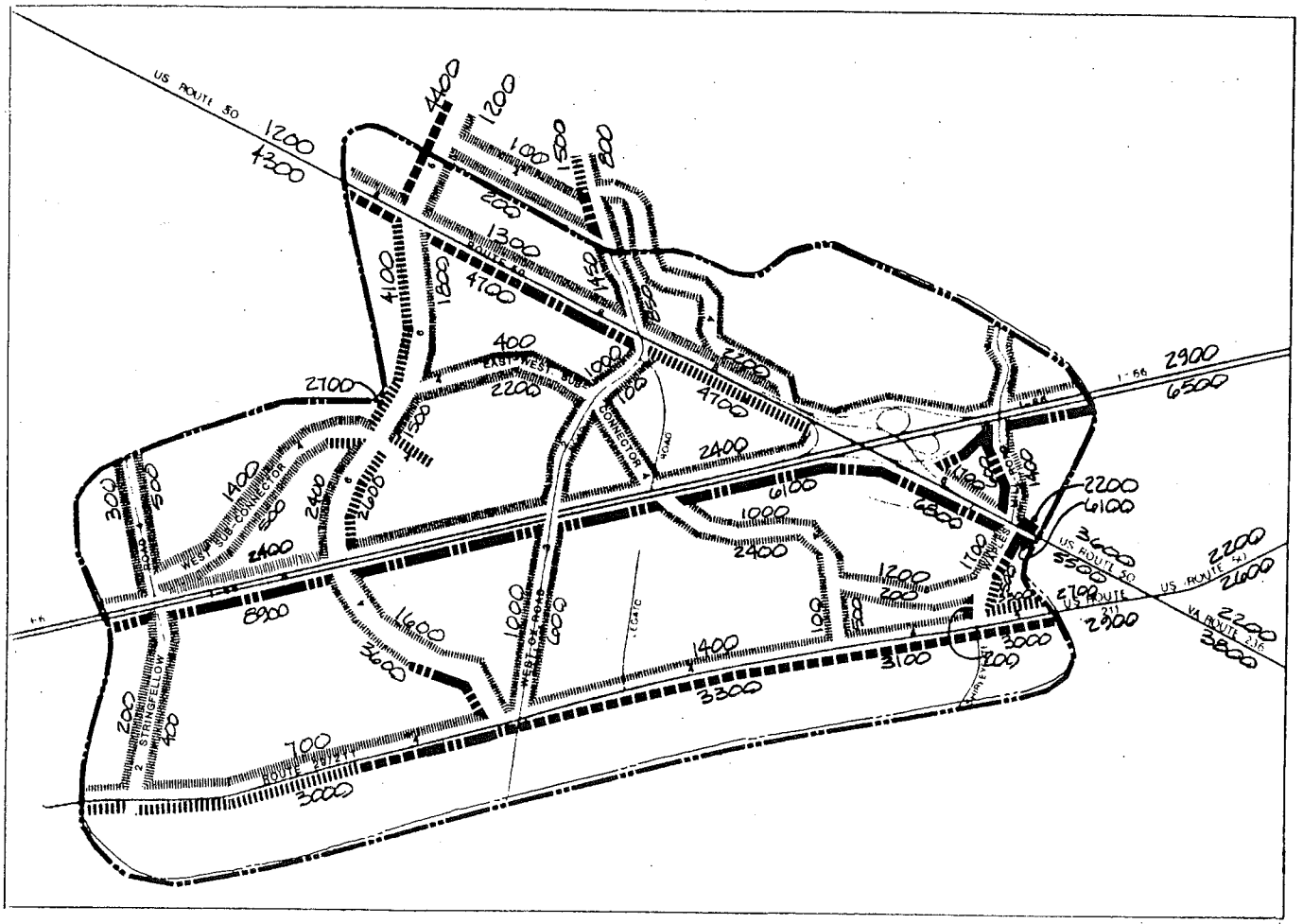


FIGURE 7

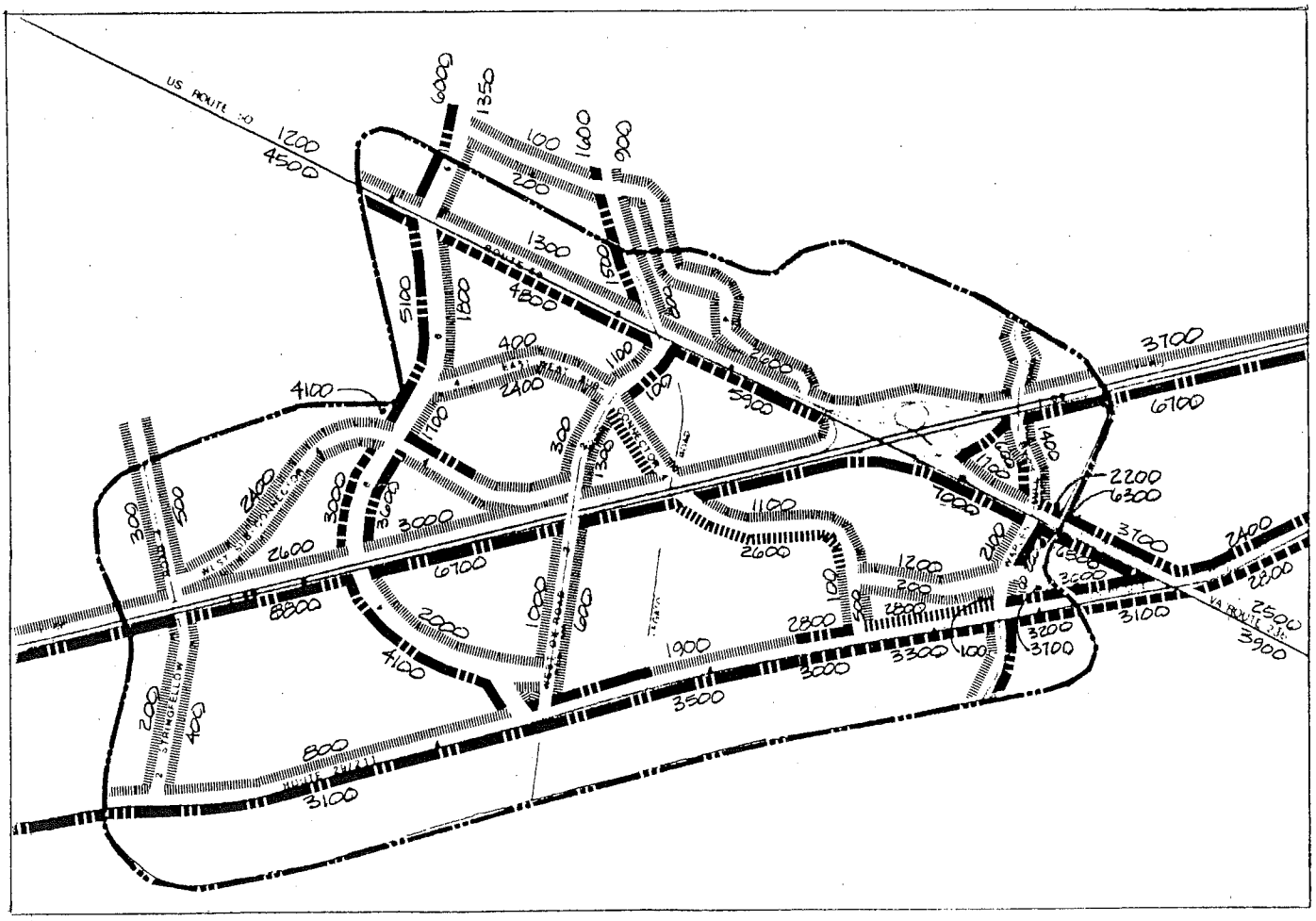
TRAFFIC ASSIGNMENT

Intermediate Level



TRAFFIC ASSIGNMENT

Overlay Plan



7.5.5 Roadway Deficiencies

7.5.5.1 Level of Service Description

The level-of-service on each roadway link is based on the volume per lane during a one hour period. As the volume increases, the level-of-service decreases and traffic conditions become more congested. At intersections and major driveway entries, the level-of-service may deteriorate as a result of variable traffic conditions; therefore, the level-of-service of the intersection and its adjacent links may vary. Figure 9 summarizes level-of-service characteristics for urban and suburban arterials and controlled access highways.

FIGURE 9

LEVEL OF SERVICE CHARACTERISTICS

LEVEL OF SERVICE	URBAN AND SUBURBAN ARTERIALS	CONTROLLED ACCESS HIGHWAYS
A	Average over-all travel speed of 30 mph or more. Free flowing with volume/capacity ratio of 0.60.	Free flow. Operating speeds at or greater than 60 mph.
B	Average over-all speeds drop due to intersection delay and inter-vehicular conflicts, but remain at 25 mph or above. Delay is not unreasonable. Volumes at 0.70 of capacity.	Higher speed range of stable flow. Operating speed at or greater than 55 mph.
C	Service volumes about 0.80 of capacity. Average over-all travel speeds of 20 mph. Traffic flow still stable with acceptable delays. This is the level typically associated with urban design practice.	Operation still stable, but becoming more critical. Operating speed of 50 mph and service flow on two-lanes in one direction at 75 percent of capacity.
D	Beginning to tax capabilities of street section. Approach unstable flow. Service volumes approach 0.90 of capacity. Average over-all speeds down to 15 mph. Delays at intersections may become extensive with some cars waiting two or more cycles. Level of Service D is considered a reasonable operating level for urban intersections.	Lower speed range of stable flow. Operation approaches instability and is susceptible to changing conditions. Operating speeds approximately 40 mph and service flow rates at 90 percent of capacity.
E	Service volumes at capacity. Average over-all traffic variable, but in area of 10 mph. Unstable flow. Continuous back-up on approaches to intersections.	Unstable flow. Over-all operating speeds of 30-35 mph. Volumes at capacity or about 2,000 vph lane under ideal conditions. Traffic flow metered by design constrictions and bottlenecks, but long back-ups do normally develop upstream.
F	Forced flow. Average over-all traffic speed below 15 mph. All intersections handling traffic in excess of capacity, with storage distributed throughout the section. Vehicular back-ups extend back from signalized intersections, through unsignalized intersections.	Forced flow. Freeway acts as a storage for vehicles backed-up from downstream bottleneck. Operating speeds range from near 20 mph to stop-and-go operation.

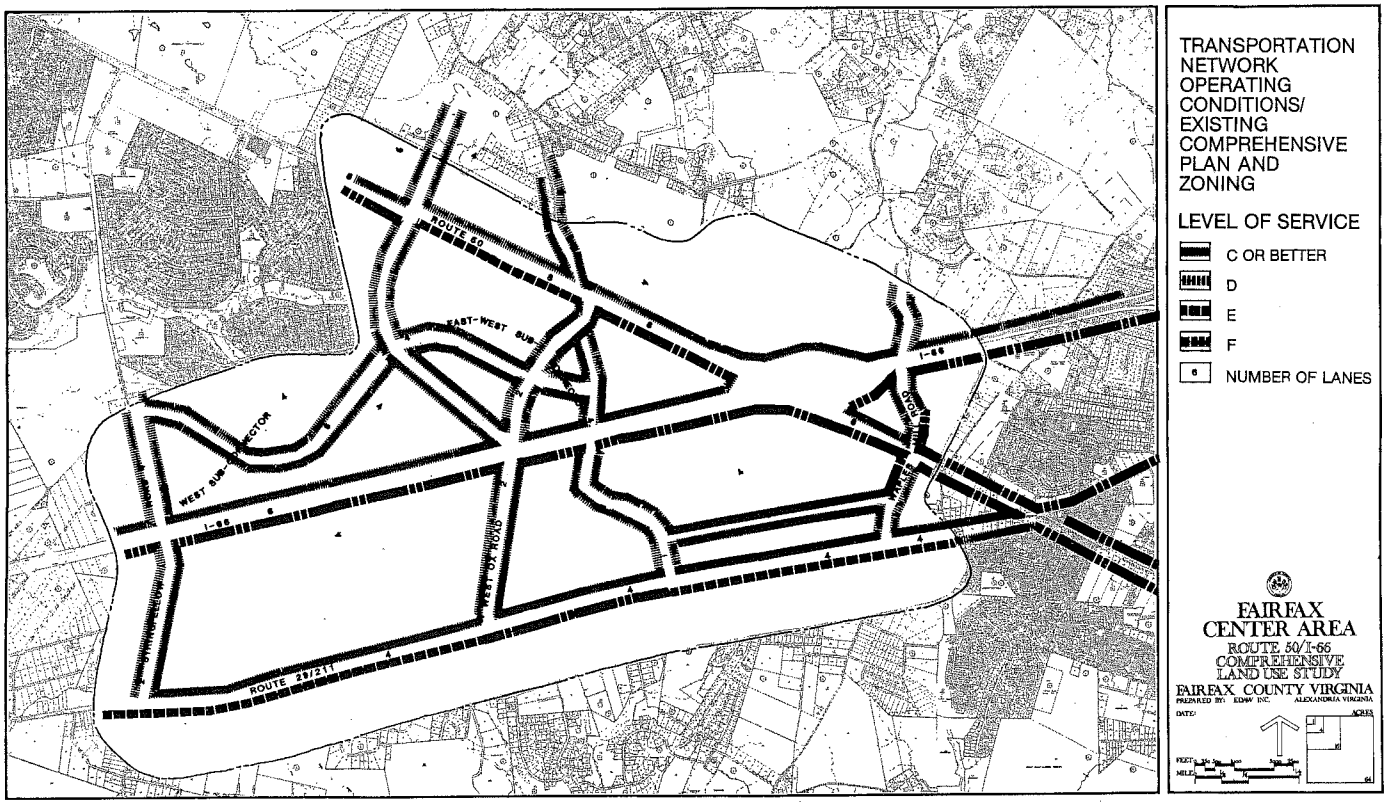
7.5.5.2 Deficiencies

The projected levels-of-service for the various Study Area roads under each Land Use Plan Level are shown on Figures 10 through 13. In general, all alternative developments as well as the comprehensive plan are expected to cause significant disruption in traffic flow, especially on the major routes: I-66, Route 50, and Route 29. On each of these roadways the travel demand is expected to approach or exceed the capacity of the planned roadway facility. Table 8 displays a contrast of a.m. peak hour volumes for selected sections on these principal arterial roadways. The most significant volume change would be experienced on I-66, just west of the North/South Connector. Between 700-1300 additional vehicles (a 9-17 percent increase) over the comprehensive plan/zoning interpretation level of development is expected with the proposed changes to the currently planned uses.

Other roadway sections expected to experience congested levels of service for all alternative developments but not the comprehensive plan include West Ox Road north of Route 50 and the North/South Connector between Route 29 and I-66.

The impacts or deficiencies of the roadway system due to the higher level of proposed development are minimized in part by the assumption that trips to work are expected to be reduced by 25 percent. With this assumption,

FIGURE 10



only the baseline plan will not generate vehicular traffic in excess of the current comprehensive plan. Table 9 depicts the contrast of the magnitudes of office space within the study area for each level of development and the comprehensive plan. This Table also shows how the "allowed development level" is reduced to the "actual development level" by a 25 percent reduction. This product/ plan relationship is discussed in section 7.1.3. The TSM related reductions are also shown in the Table. Hence, the magnitude of office space development utilized in the traffic impact analysis ranges from 5.3 million square feet for the baseline plan to 9.4 million square feet for the overlay plan. The level of development utilized for the comprehensive plan is 6.0 million square feet.

FIGURE 11

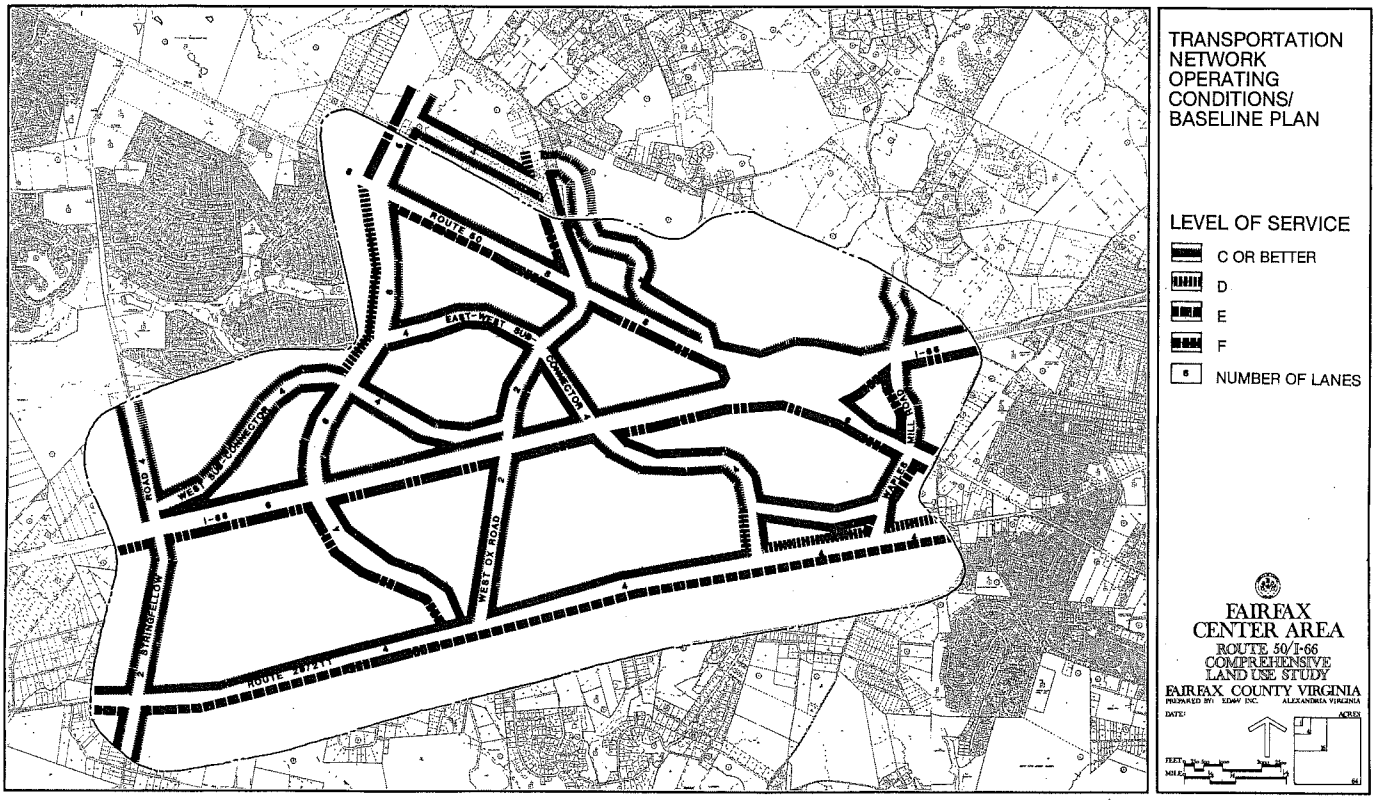


TABLE 8

Contrast of the A.M. Peak Hour Volumes on Selected Sections of the Principal Arterial Roadways Through the 50/66 Study Area

Location	Comprehensive Plan Zoning Interpretation	Development Alternatives
I-66 (west of the North/ South Connector)	7,500 vph	8,200 - 8,800 vph
I-66 (east of Route 50)	6,400 vph	6,200 - 6,700 vph
Route 29 (east of (the North/South Connector)	3,350 vph	3,200 - 3,500 vph

Note: Each of these sections is expected to experience traffic volumes which approach or exceed the roadway facility capacity (levels of service E or F).

FIGURE 12

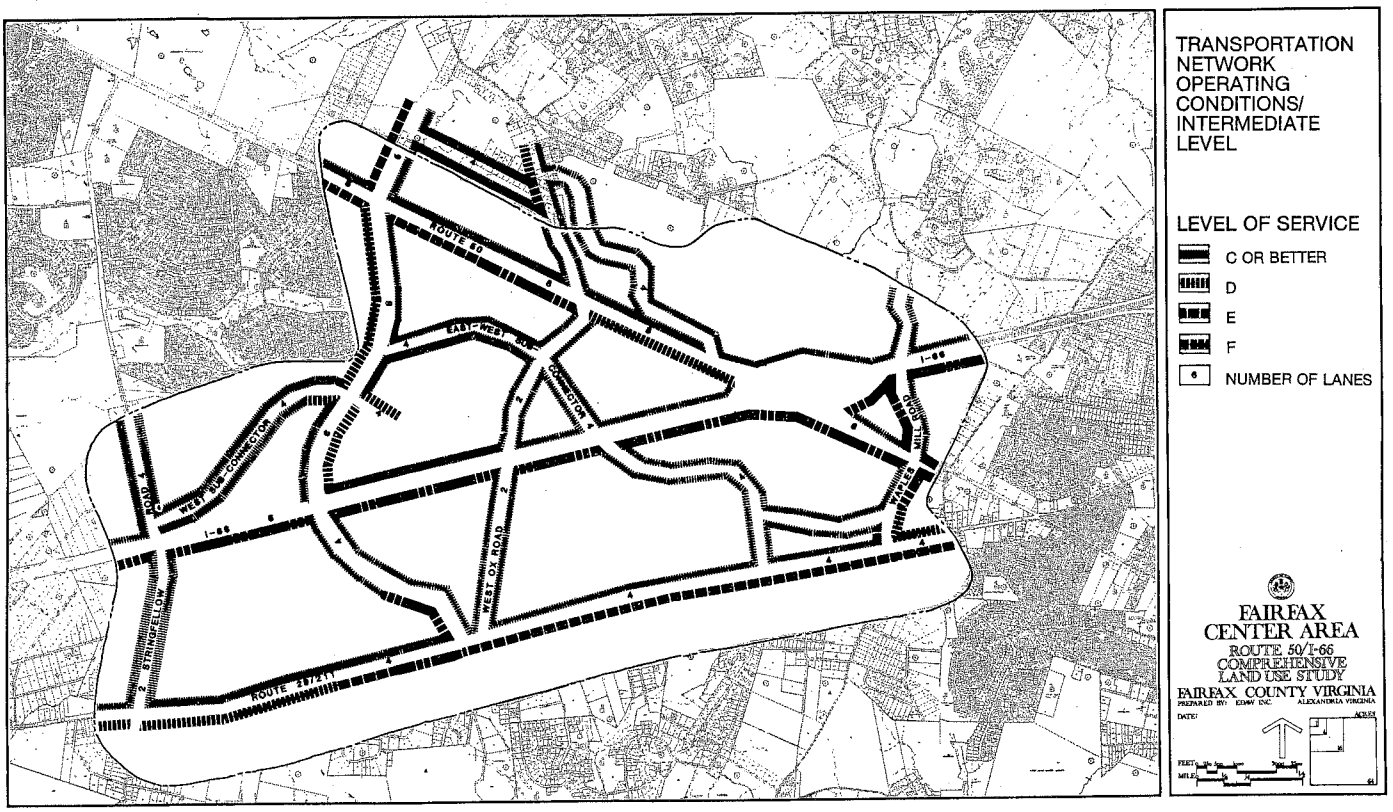


TABLE 9

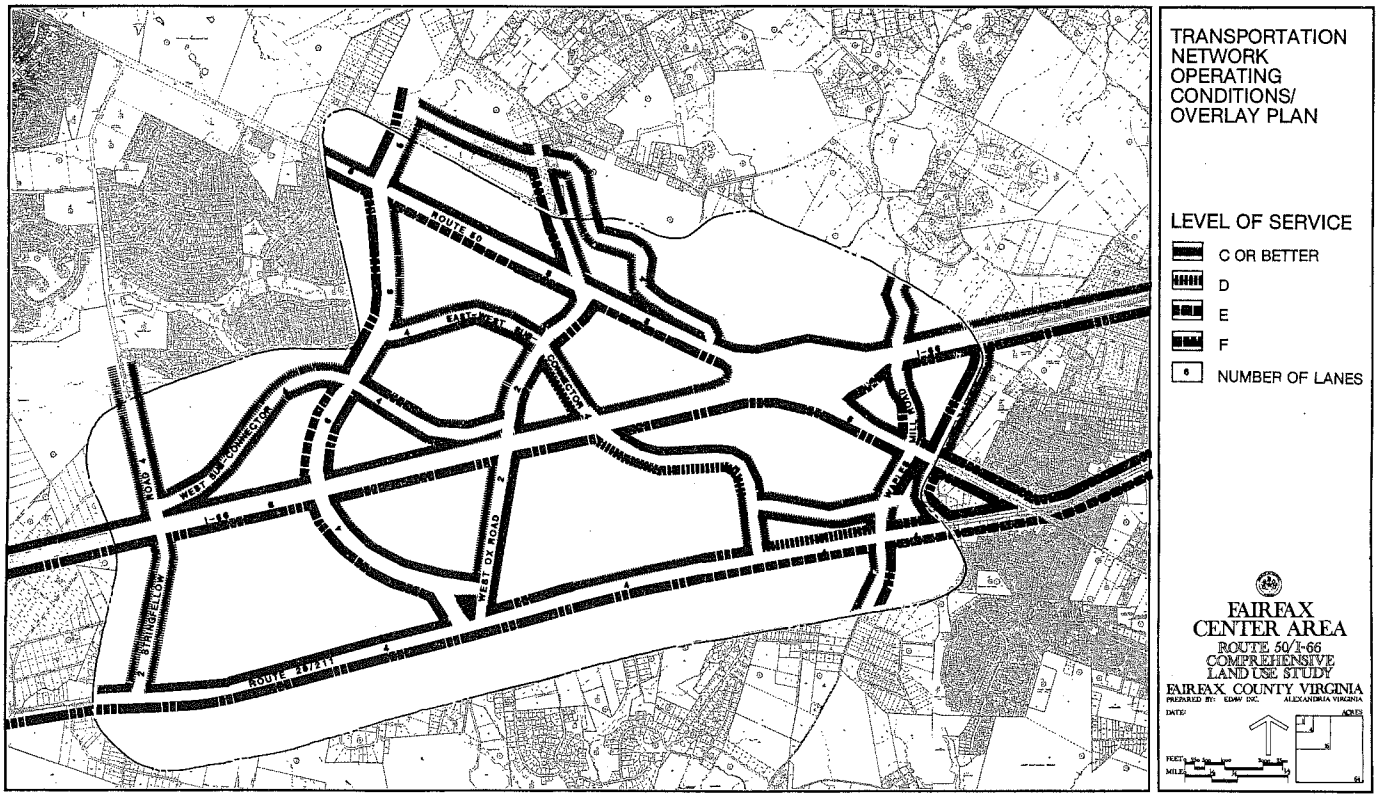
Contrast of Proposed Office Space Development

	Comprehensive Plan/Zoning Interpretation	Baseline Plan	Intermediate Plan	Overlay Plan
"allowed development level" (millions of square feet)	10.7	9.4-10-9	13.5-18.1	16.7-22.9
"actual development level" (millions of square feet)	8.0[1]	7.0[1]	10.1[1]	12.5[1]
development utilized for traffic impact analysis (millions of square feet)	6.0[2]	5.3[2]	7.6[2]	9.4[2]

[1] assumed at 75 percent of "allowed development level"

[2] assumed at 75 percent of "actual development level" due to TSM improvements

FIGURE 13



7.5.6 Improvements

The following improvements are recommended as part of the overall transportation network for the study area:

- a six lane North/South Connector Road, estimated at $13.5 million,
- four-lane East/West Sub-Connector Roads, estimated at $6.5 million, and
- new ramps at the Route 50/I-66 interchange, estimated at $1.8 million.

It is assumed that certain critical transportation infrastructure elements will require public "front-end" funding early in the development of the Study Area. The most important of these is the proposed interchange at the North/South Connector Road and I-66. The estimated total costs of this interchange is between $7 and $7.5 million. The initial phase of interchange construction is estimated to cost between $4.5 and $5.5 million, depending upon variable frontage road design needs.

These recommended improvements will not correct the congested links on the three principal arterials through the study area: Route 29, Route 50, and I-66. Regardless of the alternative development plan or the comprehensive plan, these roadways are expected to experience heavy traffic congestion (levels of service E or F).

In addition to the aforementioned improvements, $0.4 million is estimated to be needed for Metrobus system support facilities.

7.6 PLAN DESCRIPTION AND DEVELOPMENT CRITERIA

The Land Use Plan is described, and performance criteria applied, in three major categories - Study Area-Wide, Key Area and Site- and Use-Specific

7.6.1 Study Area-Wide Plan Description and Development Criteria

At the Study Area-Wide level, the Plan will be described in terms of systems - transportation, environmental, public service sites, buffer relationships and land use.

7.6.1.1 Transportation

7.6.1.1.1 New Transportation Infrastructure Improvements

The automobile circulation system is hierarchical. The character of service provided is related to the hierarchy of land use types and intensities. The road system hierarchy can be outlined generally as follows:

1. Interstate Highways/Expressways
2. Regional Parkways and Federal Routes
3. Area-Wide Connectors
4. Area-Wide Sub-connectors
5. Major Collector Streets
6. Minor (local) Streets

Rights-of-way widths, lane size and number, intersection/interchange treatment, traffic volume capacity, design speeds, access control and landscape architectural treatments vary from one level of roadway to the next. Visual and noise impacts related to automobile circulation must be considered in planning circulation systems. Service and emergency vehicle requirements must also be accommodated in street design and location. The roadway image and level of usage should be defined and reinforced through well designed landscaping, lighting and signing systems, with intersection/interchange transition areas receiving a high degree of design consideration. Existing traffic congestion and safety problems should be mitigated through quality land use and transportation planning.

The transportation infrastructure improvements required for the three levels of the Final Land Use Plan would be similar, with the exception of the increase in the width of North/South Connector Road north of I-66. (The extent to which additional lanes would be necessary beyond the northern Study Area boundary is subject to further analysis).

Increased traffic volumes from the Baseline to Overlay Plans will lead to some relative decline in the levels-of-service during peak travel hours.

Carpool, vanpool, flex-time and other programs aimed at increasing transportation efficiency are anticipated for all levels of the Plan. However, they will become more critical in the Overlay Plan and may ultimately require incentives to encourage user participation (e.g., fees for parking) and encourage mass transportation usage.

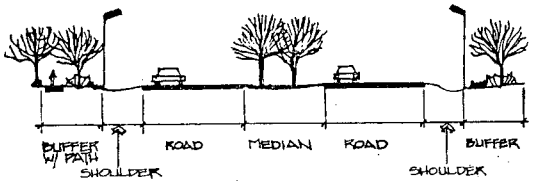
The major elements of the Task Force approved road system for the Route 50/I-66 Study Area are described more fully in the following categories.

Area-Wide Connectors: The proposed North/South Connector Road falls into this category. The North/South Connector is a vital component of the roadway network required to serve the Study Area. It will provide direct, high-capacity access to Routes 50 and 29 and I-66. The interconnection of these three east-west arterials provides the greatest potential for distribution of traffic. This North/South Connector also serves as an arterial connection to points north and south of the Study Area. To be fully effective, eventual construction of the entire length of the Connector from I-95 to Route 7 will be necessary.

The North/South Connector would have full grade separated interchanges with Route 50 and I-66, a partial interchange with the East/West Sub-Connector serving the proposed Fairfax County Center and at-grade intersections with the Sub-Connector to Stringfellow Road and with Route 29. Access to individual sites would occur from the Sub-Connector roads.

During daily peak hours, if constructed as a four land road, the North/South Connector will experience level-of-Service "E" and "F" conditions in the predominant direction of travel and "C" in the opposite direction, if maximum projected development occurs within the Study Area. As as principal arterial, this proposed road will be developed under the following guidelines:

ILLUSTRATIVE DESIGN SECTION



Design Characteristics

- o Major North/South Connector/principal arterial
- o Regional bus route
- o Controlled access - restricted to minimum major street intersections/no direct private drive access
- o Grade separation with Interstate and other regional highways
- o Coordinated landscape treatment:
  - Parkway image with landscaped shoulders and median
  - Pedestrian/bicycle path within R.O.W.
- o Coordinated systems for:
  - Signalization
  - Signing
  - Lighting
  - Mass Transportation System Interface (Park and Ride)

Implementation Aspects

Substantially all of the right-of-way needs for this road and its interchanges should be met through private developer land dedication to the County under existing standard policies. Minimum landscaping requirements should be funded by private developers with no density bonus credit.

Minor density bonus elements would include the provision of major Connector road signage systems. An equitable system should be developed to distribute infrastructure costs among developers who would benefit from the road service (even if they do not directly abut that road); a pro-rated cost allocation formula based on number of peak hour trips generated per site might be used. The Review Board should develop an acceptable method for pro-rating these roadway costs to all sites within the Study Area, as well as a process for overseeing private funding contributions and construction project prioritizing.

Major density bonus elements would include: construction of the major Connector road (including all phases as required to serve later private development project phases: roadways, interchanges, bridges, etc.) and provision of traffic signalization systems. Again, a shared developed funding system should be developed; public funds might also be required.

Area-Wide Sub-Connectors: The proposed East-West Sub-Connector Road and the Employment Center West Sub-Connector Road fall into this category. These roads link interior portions of the Study Area to the North/South Connector Road and to other major Study Area streets.

The alignment of all subconnectors is subject to site planning considerations at the time of development and is not considered to represent an exact location. The determination of the most appropriate alignment should occur when zoning proposals are presented, and should include the following considerations:

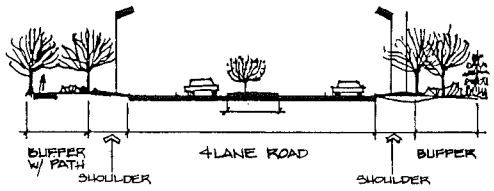
- o Equitable distribution of construction costs and right-of-way dedications
- o Provision of access from nearby properties to the proposed subconnector network and encouragement of mutual access for utilities and storm drainage
- o Environmental impacts
- o Impact on residential areas
- o Vertical alignment and sight distance characteristics

The proposed alignments of all Sub-Connector roadways are subject to site planning considerations at the time of development and are not considered to represent exact locations.

The East/West Sub-Connectors will operate at level-of-service "C" in both directions of travel during peak travel hours, assuming that these roads will be built with two lanes in each direction.

These proposed roads will be developed under the following guidelines:

ILLUSTRATIVE DESIGN SECTION



Design Characteristics

- o Major East/West Connector/principal arterial street - lower level
- o Local bus route
- o Controlled access - restricted to minimum number of major and minor street intersections/no direct private drive access
- o Signalized intersections with major streets
- o Coordinated landscape treatment:
  - Landscaped median with major street tree treatment along sides
  - Pedestrian/bicycle path within right-of-way
- o Coordinated systems for:
  - Signalization
  - Signing
  - Lighting
  - Mass transportation system nodes
  - Bus stop pull-off areas
  - Bus shelters

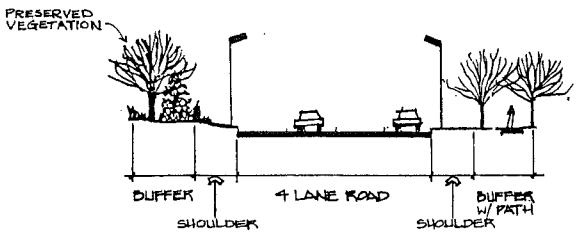
Implementation Aspects

The implementation aspects that apply to the North/South Connector Road (described earlier) apply to the Sub-Connectors as well. However, the nature and scale of the required improvements are substantially less. No grade separated interchanges will be required, but a bridge is proposed as a roadway improvement at the Legato Road crossing at I-66. The construction of this bridge would be considered a major density bonus element for private developers.

(Note: Fairfax County is currently requiring developers in the Route 50/66 Association area to contribute funds toward a public transportation general improvement fund at time of site plan submission. The formula used to assess these contributions, based on acres in a particular use, offers a precedent in the area for a pro-rated contribution system. The status of this fund and its transportation improvement priorities should be determined before a new assessment policy and priority list is developed for the Study Area.)

Major Collector Streets: Major collector streets serve individual land use areas by carrying locally generated traffic loads. They link the "neighborhoods" of various uses to the area-wide roadway system, and serve as partially limited access streets. These proposed streets will be developed under the following guidelines:

ILLUSTRATIVE DESIGN SECTION



Design Characteristics

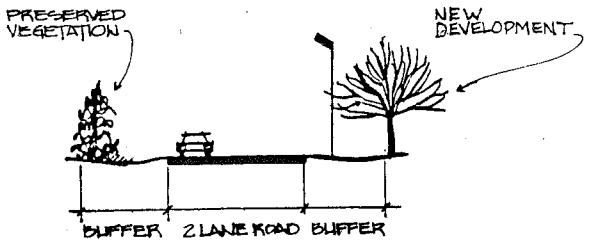
- o Major access streets to land use areas
- o Landscape character derived from adjacent uses and site conditions; rolled curb and gutter (optional)
- o Pedestrian system incorporated into right-of-way
- o Serves individual land use "neighborhoods"
- o Local or shuttle bus route
- o Landscaped median (optional)

Implementation Aspects

The same implementation aspects which apply to the East/West Sub-Connector Road are applicable; essentially, right-of-way dedication and the provision of street trees required at various construction phases are expected to be privately funded with no density bonus awarded. Minor density bonus elements would include provision of major street signage systems. Major bonus elements would include roadway and intersection construction, as well as signalization system funding.

Minor (Local) Streets: These streets serve individual use areas at the lowest level of mobility and traffic volume. Bus service or non-local through traffic is discouraged on these streets. Access to adjoining parcels is by means of private drives.

ILLUSTRATIVE DESIGN SECTION



Design Characteristics

- o Local neighborhood access streets; frontage roads for low intensity land uses.
- o Landscape character derived from adjacent land uses; grass shoulder or rolled curb.
- o Access via private drives.
- o Sidewalks in rights-of-way.

Implementation Aspects

It is expected that both right-of-way dedication and roadway construction costs, including landscaping, will be provided by the developer with no density bonus awarded. Signage system provision is a minor density bonus, and traffic signalization system provision is a major density bonus element for the developer.

7.6.1.1.2 Estimated New Infrastructure Improvement Costs

INFRASTRUCTURE ITEM	OVERLAY LAND USE PLAN ($ MILLION)
North/South Connector Road	13.5*
East/West Sub-Connector Roads	6.5
Route 50/I-66 Interchange Ramps	1.8
Metro Bus System Support Facilities	.4
	$22.2

* Cost based upon 6-lane connector road, for example. It is likely that this North/South Connector road would need state-local financing under the existing Comprehensive Plan but the prospects of securing private sector donations (aside from right-of-way) for construction are remote under the Comprehensive Plan.

It is assumed that certain critical transportation infrastructure elements will require public "front-end" funding early in the development of the Study Area. The most important of these elements are the proposed interchange at the North/South Connector Road and I-66 and the proposed Legato Road bridge with the East/West Connector Road. The estimated total cost of this interchange is between $7 and $7.5 million. The initial phase of interchange construction is estimated to cost between $4.5 and $5.5 million, depending upon variable frontage road design needs.

7.6.1.1.3 Mass Transportation

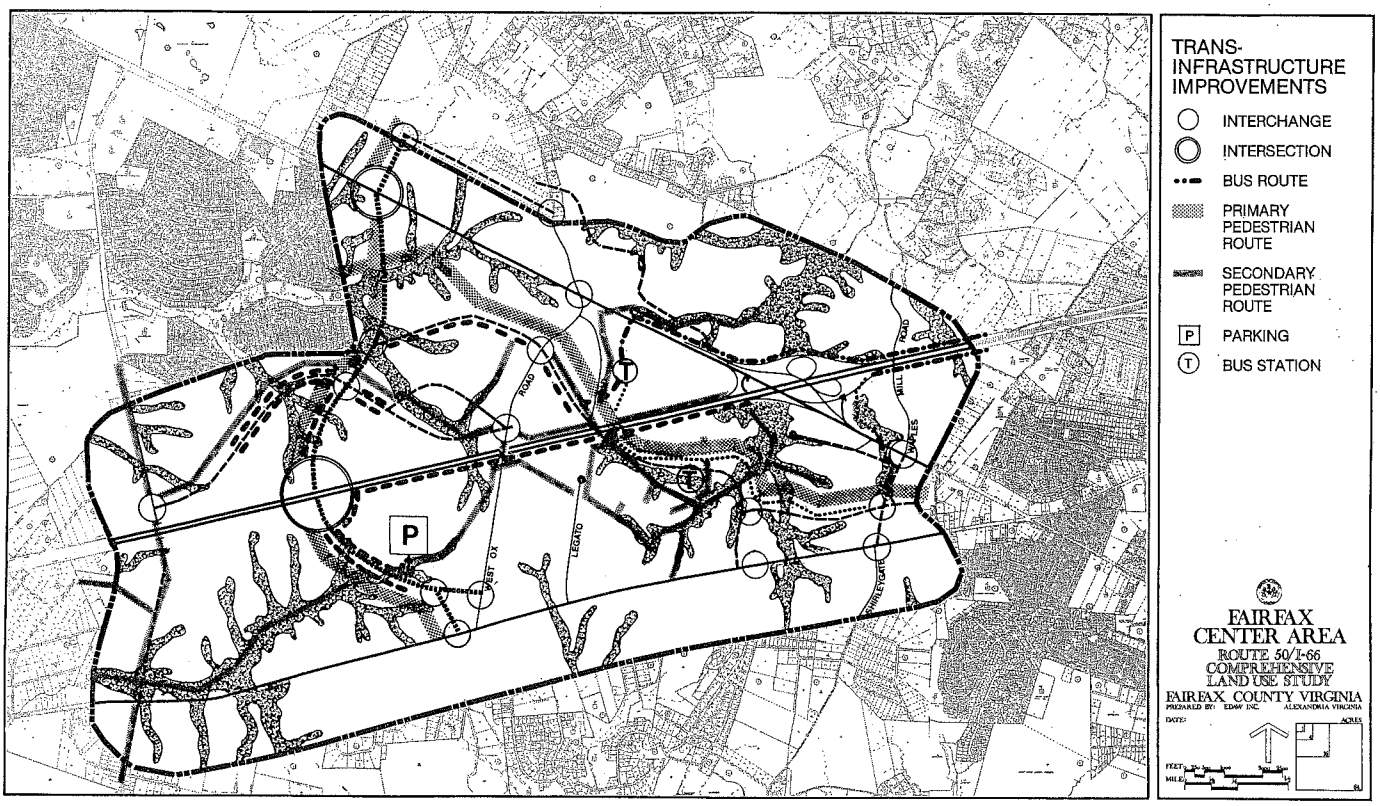
Basic to the Urban Village concept is the provision of various transportation alternatives. Although quality road and pedestrian systems are provided, public transit system development is necessary to complement these systems and to reduce the total volume of vehicular trips within and to/from the Study Area. Mixed land uses in densely clustered arrangements can "attract" the extension of mass transit systems from the east, along I-66. Metro bus and/or potentially rail systems could provide express transit modes to Washington, D.C. from the Study Area, while an internal shuttle bus system would provide Study Area-wide public transportation. Other, private transit modes should be developed in the form of corporate car/van pool programs, the increase of taxi service or the introduction of "dial-a-ride" or jitney services in the area.

A Metro-bus system would require commuter transfer areas featuring: parking lots, drop-off zones, bus loading zones, shelters benches, signage and lighting systems, pedestrian systems, landscaping and other amenities (e.g., telephones, restrooms, bike racks, information kiosks, drinking fountains). If Metro-rail were ever to become feasible within the Study Area, an air rights type station over I-66 at the proposed Legato Road bridge near the proposed Fair Oaks Mixed Use Core and the proposed Fairfax County Center Mixed Use Core would be appropriate.

(Refer to Recommended Transportation Infrastructure Improvements map for transit system element locations).

Implementation Aspects

It is expected that bus loading zones and pedestrian access systems to any future Metro-rail station be provided by the developer (if applicable) for no density bonus credit. Bus shelters and commuter parking lot provisions by developers are considered minor density bonus elements. Major density bonus elements are Metro-rail parking lots, special car/van pool programs, and local shuttle bus systems (could be shared funding).



7.6.1.1.4 Currently Planned Transportation Infrastructure Improvements for Existing Road Network

Route 50

Route 50 is shown on the Comprehensive Plan to be widened to eight lanes between the North/South Connector and I-66. It is impossible to widen this section without major reconstruction of the flyovers (designed for six lanes) and the interchange with I-66. An at-grade intersection with West Ox Road would be acceptable once the North/South Connector is available to divert current West Ox Road traffic to I-66 and Route 50. Potentially, use of the flyover (with some improvements) at Fair Oaks Mall for traffic destined to development in the West Ox-Legato Road area would also reduce the load on this intersection.

As currently exists, Route 50 will operate at level-of-service "F" conditions during peak periods in the dominant direction of traffic and level-of-service "C" in the opposite direction. Unrestricted access or additional signals would cause conditions to deteriorate.

Route 29

It is anticipated that Route 29 will remain in its current four lane configuration. However, its physical condition should be improved by upgraded pavement widths and surfaces, and improved sight distance and intersection conditions. Access should be controlled to the maximum extent possible, particularly where sight distances are poor. This can be accomplished through careful attention to site planning.

An at-grade intersection will be necessary where Route 29 crosses the North/South Connector. It must be carefully coordinated with the existing intersection at West Ox Road.

Route 29 serves traffic arriving from the south via Clifton Road. The level-of-service on Route 29 can be anticipated at "C" west of West Ox Road, deteriorating to level-of-service "F" at Waples Mill Road and Kamp Washington during peak hours.

West Ox Road

West Ox Road will generally operate at level-of-service "C" conditions. At the Route 50 intersection, conditions will reach level "E" during peak hours. These conditions are predicated on the development of the North/South Connector, use of the existing Fair Oaks Mall fly-over for adjacent site access and the relocation of Legato Road to eliminate its current intersection with West Ox Road close to Route 50. If these improvements are not implemented, West Ox Road may become even more congested.

Legato Road

It is recommended that, in order to maintain its residential character, Legato road terminate in a cul-de-sac south of I-66. It is also recommended that existing use of Legato Road as a major access to Fair Oaks Mall be terminated in favor of a direct link from the Mall Ring Road to the proposed East/West Sub-Connector when possible. The existing intersection of Legato and West Ox Roads would be closed.

Stringfellow Road

The proposed North/South Connector will accommodate most traffic currently occuring on Stringfellow Road. It will operate at level-of-service "C" within the Study Area.

7.6.1.1.5 Pedestrian/Bicycle Systems

Pedestrian and bicycle path systems will provide major transportation alternatives for access to employment, housing, recreational and entertainment nodes. These linear circulation systems will be incorporated internally into all development projects. Urban plazas should be developed at all major facilities where circulation paths intersect or converge (nodes). The scale and detail of each system or node development should relate in a hierarchical manner to the use and intensity of the area served (for example, more urban areas require larger linear circulation systems and plazas than do single family residential neighborhoods). Pedestrian/bicycle systems should be "grade-separated" from major auto or rail arteries for safety and convenience. Vertical and horizontal movement systems (e.g., escalators, elevators, people-movers, ramps, stairs, etc.) should be provided where needed. Handicapped-user access should be incorporated into all major pedestrian systems.

7.6.1.2 Environmental Systems

7.6.1.2.1 Study Area-Wide Environmental Quality Corridor (EQC) System

The EQC system not only provides an open space linkage and buffer system for the Study Area and its environs, but also provides substantial environmental protection. As defined by the Office of Comprehensive Planning guidelines, the EQC system primarily includes all areas within the 100 year floodplain, floodplain soils, adjacent steep slopes (greater than 15 percent) and a water quality filter strip along all streams.

Preservation of the EQCs is a high priority of the Land Use Plan. A comprehensive EQC network, augmented by additional parks and open space areas, provides an interconnecting system of preserved natural environments which should be maintained and protected for their recreational, environmental and scenic value.

A major amenity in the Study Area will be the linear park which forms a transition from the natural EQCs to the more urban areas of the site. This pedestrian greenway linkage will connect the Greenbriar open space system to that of the Study Area. It also serves as a linkage to, and buffer between, the residential, office, retail and commercial uses within the Study Area. In addition, this linear park functions as the pedestrian connection between the Study Area's major land use areas - Fair Oaks Core, Fair Oaks Mall, the proposed Fairfax County Center Core, the proposed Fairfax County Center site and the historic site alongside the East/West Sub-Connector. The park additionally provides a high quality image for the Study Area, accomplished by providing a landscaped entrance sequence to the key areas within the Study Area.

Implementation Aspects

It is expected that private preservation of the basic EQC (with continuity of public access assured) or public dedication of the basic EQC system will be provided by the developer for no density bonus credit. Minor bonuses can be obtained by provision of an expanded EQC (above OCP minimum) system as increased on-site open space. Major bonuses can be obtained by extraordinary sensitivity to the environment and environmental systems or extraordinary innovations in air, noise or water pollution mitigation techniques.

7.6.1.2.2 Drainage Control (BMP)

In an effort to achieve the federal environmental goals of fishable, swimmable waters in Fairfax County, the Board of Supervisors has adopted "Best Management Practices" (BMPs) criteria in the Occoquan Watershed for non-point source pollution control. These criteria prescribe land use-based management techniques to achieve water quality goals during the development process. Adherence to these guidelines in site development activities within the Route 50/I-66 Study Area will assist in the control of water pollution problems associated with increased development.

Implementation Aspects

It is expected that the following drainage control methods will be used (as applicable) by developers for no density bonus: sedimentation control, storm water detention, storm water retention, erosion control, cluster development and the provision of grassy swales (where appropriate) and vegetative filter strip areas. Use of especially innovative techniques in these areas will result in awarding the developer a major density bonus.

7.6.1.2.3 Preservation of Natural Resources

Basic environmental quality planning and design standards are applicable throughout the Study Area. Site design that minimizes the disturbance of existing natural features is desired. Road noise impacts should be minimized; road and building siting should maximize solar access potential. Open space should be preserved on-site to the highest degree possible, especially in aquifer recharge areas. Air and water quality pollution control and mitigation measures should be utilized whenever possible.

Implementation Aspects

No density bonus will be given the developer for the following basic environmentally sensitive activities: vegetation preservation, surface water preservation (streams, lakes, ponds, etc.), land form preservation, minimization of site disturbance, basic road-noise mitigation efforts, and siting roads and buildings for maximum solar access.

Substantial increases in on-site open space and the protection of aquifer recharge areas (through measures such as reduced impervious surface areas) would offer minor density bonuses to the developer.

The use of innovative techniques in the areas of air, noise and water pollution control and mitigation, and/or showing an extraordinary sensitivity to the environment and environmental systems (including vegetation, water and land form) would be considered major density bonus elements for the developer.

7.6.1.3 Public Service Site Dedications

Increased population requires an increase in public services. These can include parks and recreation facilities, schools, libraries and police and fire facilities. In the Route 50/I-66 Study Area, the proposed Fairfax County Center will include government offices and facilities, as well as a regional reference library. There is an additional reference library in Fairfax City. It is anticipated that no other regional libraries will be required. However, a community library (which would include meeting rooms) may become necessary if the area grows to such an extent as to accommodate 50,000 people.

Construction of additional schools will also be required. Elementary schools are built for either 600 or 900 students; intermediate schools for 1,200 and high schools for 2,400 pupils. It is likely that the Study Area could eventually require an additional intermediate and high school as well as four or five elementary schools.

With the construction of the Navy/Vale police and fire sub-station at Route 50, it is not anticipated that any such additional facilities would be required.

Dedication of additional parks would be required to serve the needs of the anticipated population. Community parks, at a rate of 8½ useable acres per 1,000 people would become necessary and should be provided. It is also expected that stream valley parks, as part of the EQC system, would be dedicated to the County. The historic site commemorating the Battle of Ox Hill should be expanded and dedicated to the County Park Authority as an historic park.

Implementation

It is expected that stream valley parks and public site dedications for schools and police and fire facilities (if needed) will be dedicated without bonus density credit to the developer.

Elements which qualify developers for minor bonus density credits for developers include dedication of natural/passive and neighborhood parks, as well as site dedications for libraries, community centers and government offices and facilities.

Elements which might qualify developers for major density bonuses include dedication of community, county, historic and mini-parks, as well as construction of public indoor activity spaces including recreation centers, meeting rooms, auditoriums and theatres.

7.6.1.4 Buffer/Relationships

Buffer needs between potentially incompatible land uses can occur at various scales: Study Area-wide, key area and land unit specific. At the Study Area scale, the buffer mechanism can be land use types and/or densities planned in positive relationships to one another. It is expected that transitions and buffers will occur so that the peripheral land uses of the Study Area would be compatible in type and intensity to the adjoining areas outside the study confines and so that existing residential neighborhoods will be protected. At a key area scale, both land use buffers and physical buffers can be used effectively. At an individual land unit scale, land use buffering may not be always applicable, but should be encouraged wherever possible. The use of setbacks, land forms (earth berms) and vegetative or structural (walls and fences) screens at this scale is recommended as a buffer treatment.

7.6.1.5 Land Use

In a Study Area-wide context, all land uses act to reinforce the overall goals and objectives of the plan in both their type and arrangement. All land uses should relate positively to the transportation and open space systems (existing and proposed), as well as to one another, in order to achieve the highest collective plan quality.

The key proposed land use elements in the Fairfax Center Area are the two mixed use cores, the proposed Fairfax County Center, the Employment Center West and the Golf Course Area. These areas exhibit the greatest development potential in the Study Area. When they are developed in concert with their related transportation and open space systems, they can provide the driving force of the Land Use Plan as well as create the setting for the proposed Fairfax County Center image area.

7.6.2 Key Area Recommendations

Due to their strategic locations, and substantial development potential, quality development of the key areas is essential to the success of the Land Use Plan.

The bonus density amenity/incentive relationships that pertain to these key areas can be found in the "Bonus Incentive Levels" section of this document. The pertinent performance criteria for specific components of the key areas can be found, by use, in the "Use Specific Performance Criteria" section.

Illustrative concept plans which illustrate the desired site relationships, both graphically and by written notation, complement the descriptive text recommendations of this report. It is important to note that these concept plans are schematic in nature, and are included for general planning guidance. These plans are not intended to be interpreted literally as site plan constraints on developers. The inclusion of these concept plans is not intended to preclude creativity in site planning and architectural design, but rather to encourage it. It is assumed that the major issues are noted, and that the relationships between existing and proposed development are shown on these plans, in the effort to assist the Fairfax Center Implementation Review Board in its decision-making process.

7.7 USE SPECIFIC AND SPECIAL CONDITION DEVELOPMENT CRITERIA

7.7.1 USE SPECIFIC CRITERIA

RESIDENTIAL/SINGLE FAMILY DETACHED HOUSING CRITERIA

SITE PLANNING CHECKLIST

General

__ Integrate new development with existing and future adjacent land uses.

__ Plan development in reasonably scaled "neighborhood" modules.

__ Provide appropriate level, scale and location of support services/facilities (e.g., convenience commerical).

__ Provide pedestrian linkages to community-wide amenity areas, services and facilities.

__ Consider potential highway noise impacts in community/neighborhood/dwelling unit design.

__ Utilize energy conservation criteria in planning and design.

Access/Roads/Parking

__ Provide adequate, safe auto access to neighborhoods from appropriate level roadways.

__ Utilize a hierarchial system of internal roadways; do not access homes directly onto major collector roads.

__ Minimize natural site amenity disturbance (e.g., quality trees, streams, etc.) through sensitive road design/construction.

__ Road alignments should reinforce neighborhood scale; avoid long, straight, monotonous residential streets.

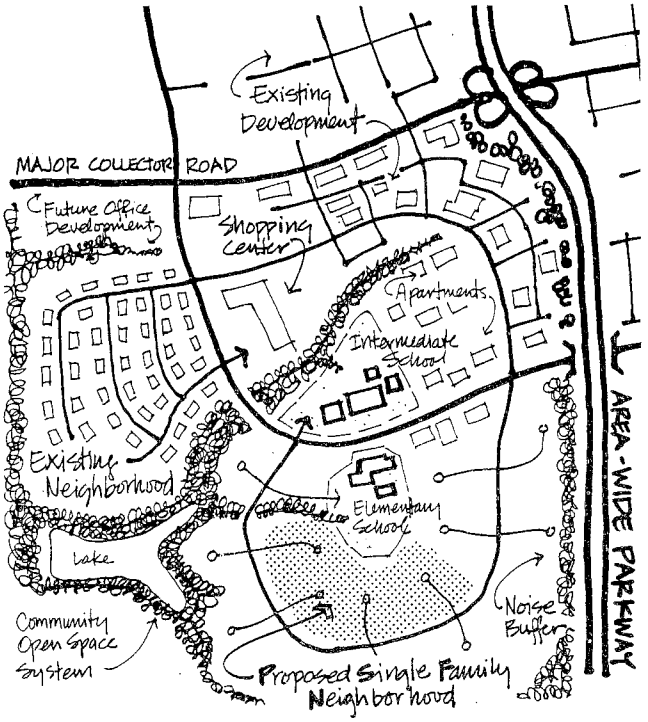
__ Avoid on-street parking in low-density neighborhoods; provide adequate off-street spaces.

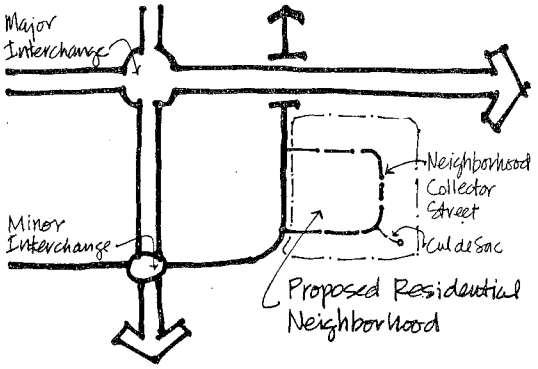
__ In dense developments, provide off-street, screened parking areas for special vehicle storage (e.g., "R.V.'s", boats, trailers, etc.).

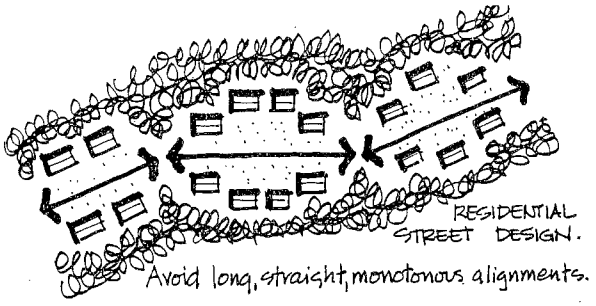
__ Establish distinct utility and landscaping corridors within street r.o.w.'s.

__ Orient roadways to maximize southern (solar) exposure for frontage residences, when possible.

__ Reduce amount of impervious surfaces (roads, parking, buildings, etc.) through use of cluster design techniques.







Open Space/Community Facilities

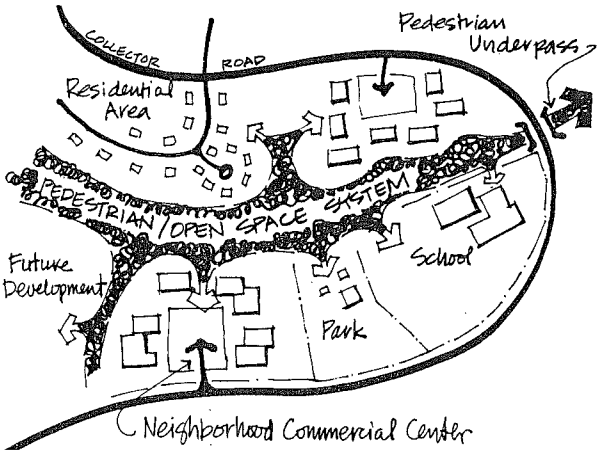
___ Integrate natural open space amenities into overall neighborhood design.

___ Provide continuous pedestrian/open space system linking neighborhood activity nodes internally and externally.

___ Provide public park and recreational areas/ facilities for residents' use; link to the open space system.

___ Design safe pedestrian system crossings at roads; provide grade-separated intersections when possible.

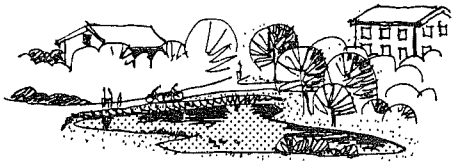
___ Utilize natural (especially wooded) open space corridors/areas as transition zones, visual amenities and buffers.



Buffers

___ Utilize varying types and density/intensity of development as buffers for incompatible uses.

___ Take advantage of natural landscape edges and elements in buffering and defining neighborhood units.

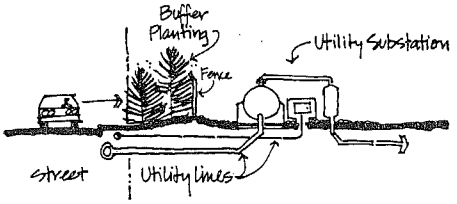


Utility/Service Areas

___ Utilize grass swales for surface drainage, when possible.

___ Provide stormwater detention/retention structures which can be retained as open space amenities.

___ Place all electrical utility lines underground; screen utility substations and service areas from public view.



ARCHITECTURAL DESIGN CHECKLIST

Scale/Mass/Form

___ Provide general consistency in residential dwelling scale within each neighborhood.

___ Create interest through sensitive detailing and use of basic geometric forms for dwelling units.

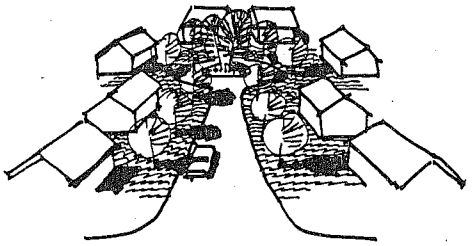
___ Utilize varied setbacks to create interesting architectural (mass) relationships to the street.

___ Cluster units around courtyard-like areas to reinforce neighborhood scale.

Functional Relationships/Facade Treatment

___ Select and site appropriate building types with respect to natural topography (e.g., split level vs. slab, etc.)

___ When units are in close proximity, locate windows/doors for maximum privacy between units.



__ Site units to maximize potential for shared or paired driveway entrances.

__ Segregate primary building entries from service type entries.

__ Utilize current energy conservation technology in architectural and heating/cooling systems design.

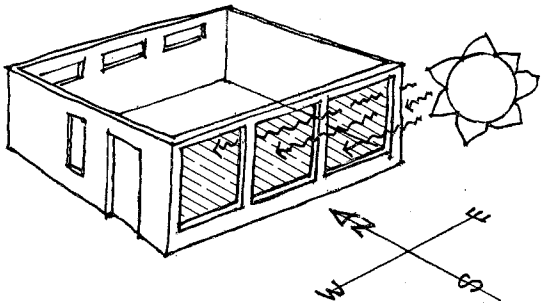
__ Minimize solar heat gain for cooling and maximize solar heat gain/retention for heating by sensitive design treatment.

__ Establish dwelling cluster architectural theme consistency, while avoiding literal facade repetition.

__ Utilize similar architectural materials within a given cluster of dwellings.

__ Keep architectural facade material types to a minimum on any single dwelling.

__ Carry all attached facade materials (such as wood siding) down to a finished grade elevation or paint to match adjoining facade.



LANDSCAPE ARCHITECTURAL CHECKLIST

Landscaping

__ Preserve existing quality vegetation to greatest extent possible, integrating it into new designs.

__ Restore disturbed areas to a visually appealing landscape character through landscape architectural treatment.

__ Provide street trees along all roadways; use consistent species groupings to reinforce neighborhood character.

__ Locate street trees along roadways in landscape corridors away from underground utilities.

__ Utilize special landscape treatments to identify and reinforce community and neighborhood entry areas.

__ Utilize special landscape treatments to define primary building entry zones.

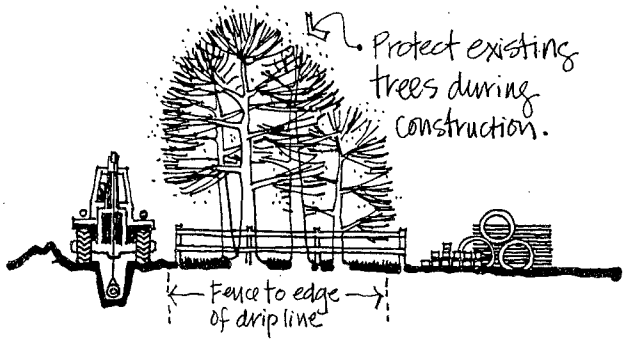
__ Use plant materials to define private outdoor social spaces for each unit, as needed.

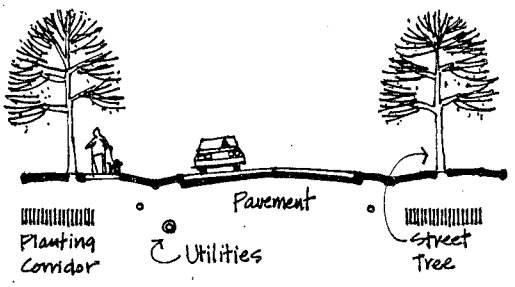
__ Buffer incompatible uses with land forms and/or landscape materials as needed.

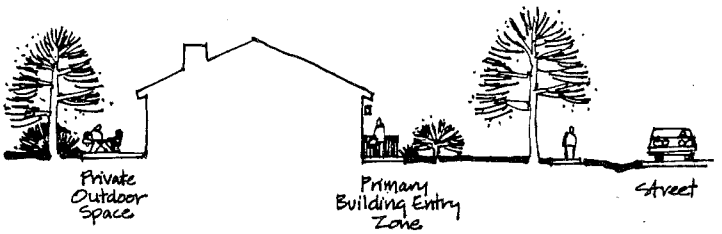
__ Use overhead canopy, intermediate focus and ground cover type plants to achieve functional goals.

__ Provide well landscaped special use areas for neighborhood residents (e.g., pool areas, parks, etc.).

__ Promote seasonal visual interest at major neighborhood focal points by using flowers and ornamental shrubs, trees, etc.







__ Select low maintenance landscape materials for large neighborhood common areas not likely to receive consistent maintenance.

__ Protect solar access to buildings when incorporating landscape materials.

Site Furnishings/Signing and Lighting

__ Provide a well-designed signage system to identify and direct safe movement throughout the community -- vehicular and pedestrian.

__ Provide well designed neighborhood entry signs at major auto/pedestrian entry areas.

__ Provide roadway and pedestrian lighting systems consistent in style/intensity with each system hierarchy.

__ Provide special neighborhood entry area and identification sign lighting.

__ Ensure neighborhood architectural theme and light fixture style consistency.

__ Provide individual dwelling unit entry zone and street number illumination lighting.

Site Furnishing/Fencing/Mailboxes

__ Avoid fencing along lot lines between homes; this practice reduces the visual depth and width of individual properties.

__ Utilize fencing materials which relate to the proposed function of the fence (e.g., solid for privacy).

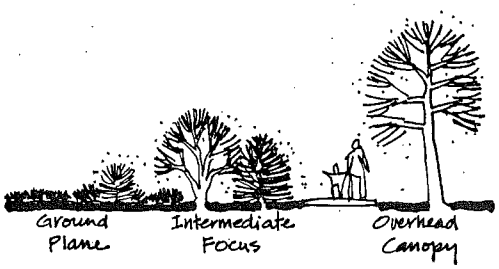
__ Utilize fencing materials and style consistent with dwelling architectural materials and style.

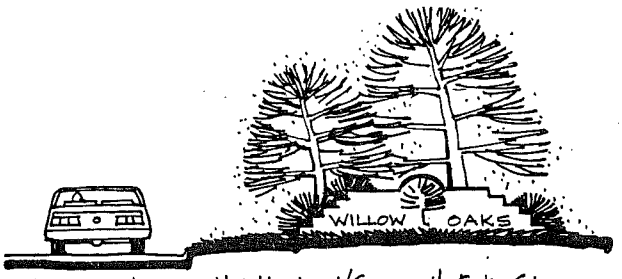
__ Avoid long, monotonous solid wall or fencelines by using jogs or setbacks for visual interest.

__ If roadside mailboxes are used, provide units consistent to neighborhood or cluster architecture/style.

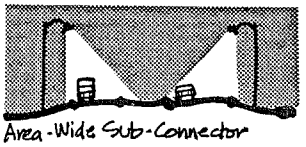
Site Furnishings/Minor Structures

__ Outdoor utility sheds/buildings should relate to dwelling architecture and style.





Entry Street — Neighborhood/Community Entry Sign and Landscaping



Area-Wide Sub-Connector

Major Collector Street

Minor (Local) Street — ROADWAY LIGHTING

RESIDENTIAL/SINGLE FAMILY ATTACHED/ MULTI-FAMILY LOW-RISE HOUSING CRITERIA

SITE PLANNING CHECKLIST

General

__ Integrate new development with existing and future adjacent land uses.

__ Plan development in reasonably scaled "neighborhood" modules.

__ Provide appropriate level, scale and location of support services/facilities (e.g., convenience commerical).

__ Provide pedestrian linkages to community-wide amenity areas, services and facilities.

__ Consider potential highway noise impacts in community/neighborhood/dwelling unit design.

__ Utilize energy conservation based criteria in planning and design.

__ Emphasize the placement of clusters of multi-family buildings sensitively in the existing landscape context.

__ Incorporate neighborhood "convenience" service structures into the development architecturally, spatially and functionally.

Access/Roads/Parking

__ Provide adequate, safe auto access to the neighborhoods from appropriate level roadways.

__ Utilize a hierarchial system of internal roadways and drives; do not access units directly onto major collector roads.

__ Minimize natural site amenity disturbance (e.g., quality trees, streams, etc.) through sensitive street/parking design/construction.

__ Road alignments should reinforce neighborhood scale; avoid long, straight, monotonous residential streets.

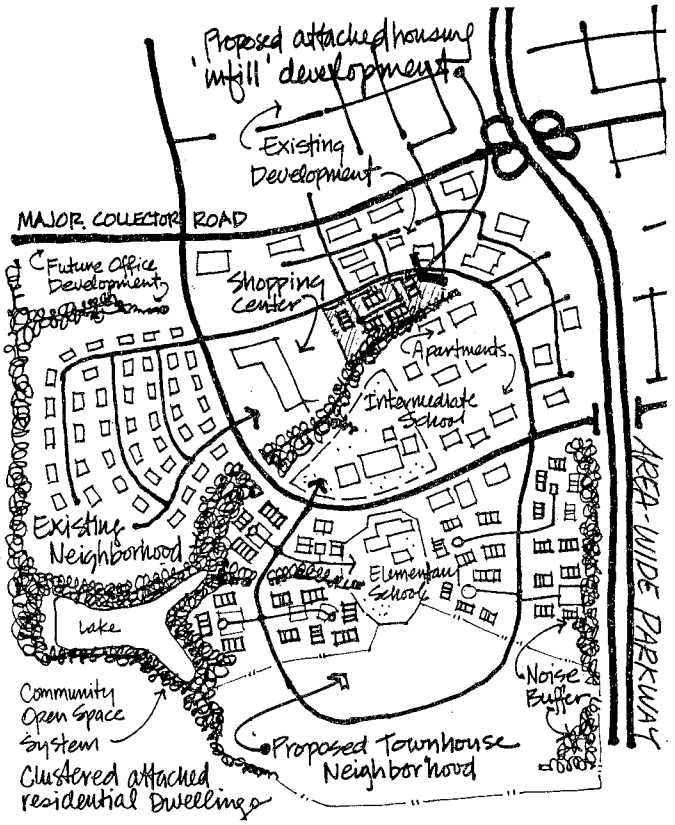
__ Avoid on-street parking; provide adequate off-street parking areas in scale with architectural masses.

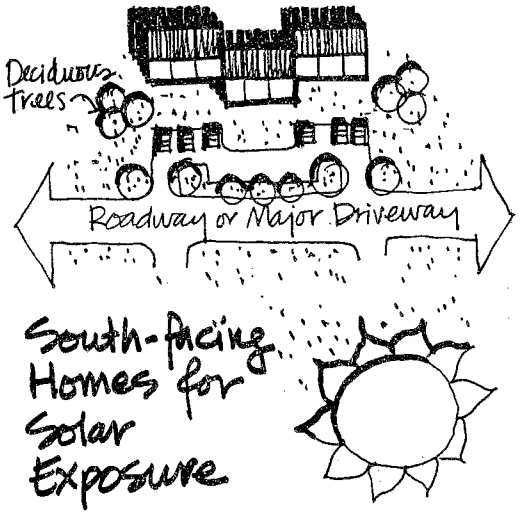
__ Provide off-street, screened parking areas for special vehicle storage (e.g., R.V.'s, boats, trailers, etc.).

__ Establish distinct utility and landscaping corridors within street rights-of-way.

__ Orient roadways to maximize southern (solar) exposure for frontage residences, where possible.

__ Reduce impervious surfaces (roads, parking, buildings, etc.) through use of cluster design techniques.





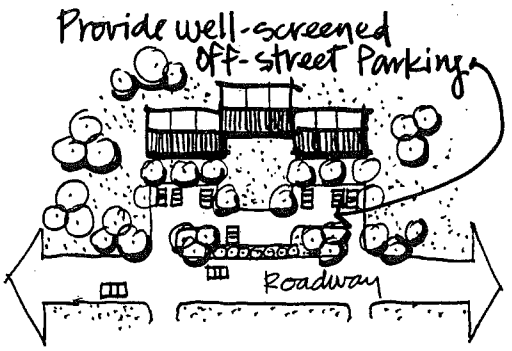
__ Provide adequate, convenient parking, buffered from primary views from streets and dwelling units by setbacks, landscaping, fencing or other architectural elements.

__ Provide adequate emergency vehicle turn-around space in close proximity to dwelling units; incorprate into parking/dive/street layout.

__ Adhere to existing Fairfax County development standards for parking space and driveway minimum dimensions, etc.

__ Consider use of special paving materials for small-scale parking areas in harmony with site and architectural design materials.

__ Consider use of covered parking for primary car spaces in front of units (carports and garages).



Open Space/Community Facilities

__ Integrate natural open space amenities into overall neighborhood design.

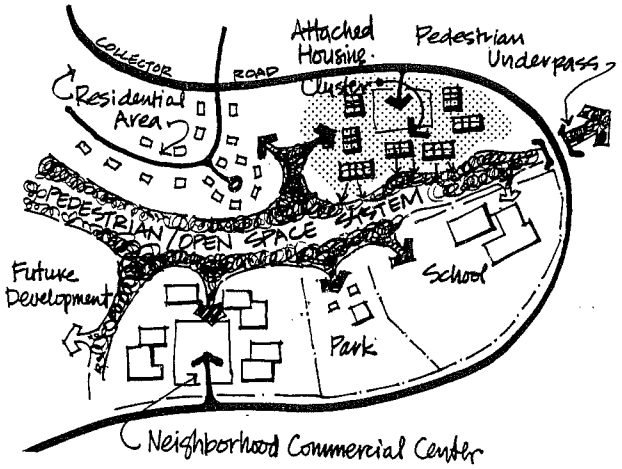
__ Provide a continuous pedestrian/open space system linking neighborhood activity nodes internally and externally.

__ Provide courtyard, park and recreational areas/ facilities (e.g., swimming pools, tennis courts, tot lots, etc.) for resident's use; link to the open space system.

__ Design safe pedestrian system crossings at roads; provide grade-separated intersections when possible.

__ Utilize natural (especially wooded) open space corridors/areas as transition areas, visual amenities and buffers.

__ Relate community and neighborhood-wide facilities functionally (access, proximity, etc.) to other uses within the development.

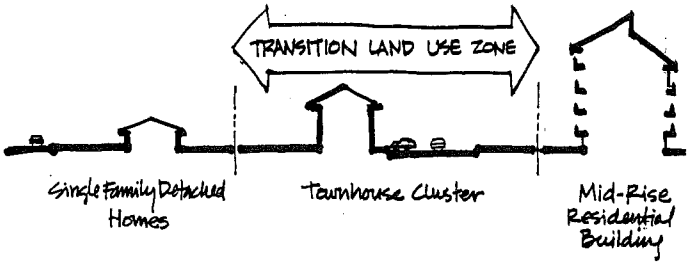


Buffers

__ Utilize varying types and density/intensity of development as buffers for incompatible uses.

__ Take advantage of natural landscape edges and elements in buffering and defining neighborhood units.

__ Promote privacy between units with setbacks, plant materials, fences and grade changes.



Utility/Service Areas

__ Utilize grass swales for surface drainage whenever possible.

__ Provide stormwater detention/retention structures which can be retained as open space amenities.

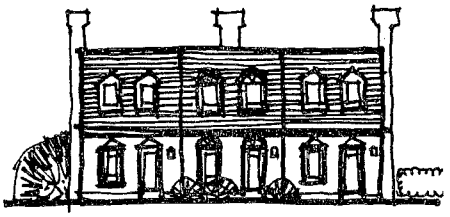
__ Place all electrical utility lines underground; screen utility substations, service areas and heating/ventilation equipment from public view.

__ Screen refuse container ('dumpster') areas from view, but maintain good service vehicle access.

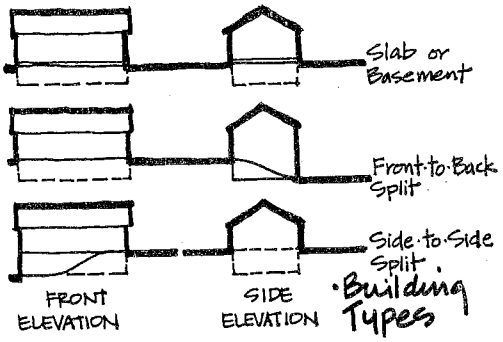
ARCHITECTURAL DESIGN CHECKLIST

Scale/Mass/Form

- ___ Provide general consistency in residential dwelling scale within each neighborhood.
- ___ Create interest through sensitive detailing and use of basic geometric forms for dwelling units.
- ___ Utilize varied setbacks to create interesting architectural (mass) relationships to the street.
- ___ Cluster units around courtyard-like areas (landscaped parking or plaza) to reinforce neighborhood scale.
- ___ Create generally low-scaled masses for buildings; do not make buildings excessively long.

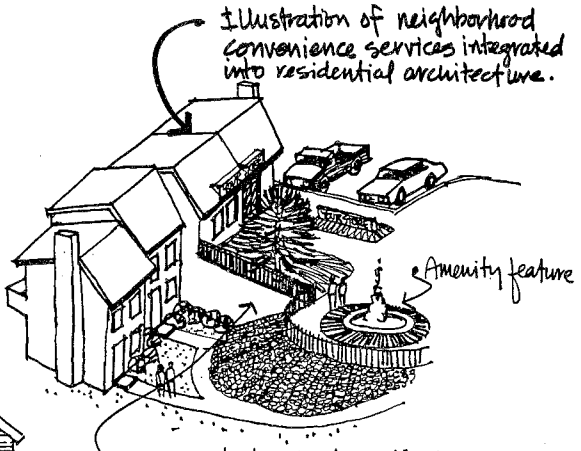


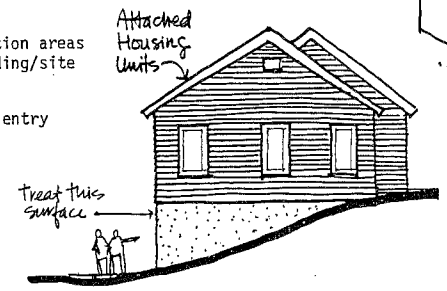
Consistency of unit scale with varied detailing in Attached Unit design.



Functional Relationships/Facade Treatment

- ___ Select and site appropriate building types with respect to natural topography (e.g., split level vs. slab, etc.)
- ___ When end units are in close proximity, locate windows/doors for maximum privacy between units.
- ___ Segregate primary building entries from service type entries.
- ___ Utilize current energy conservation technology in architectural and heating/cooling systems design.
- ___ Minimize solar heat gain for cooling and maximize solar heat gain/retention for heating by sensitive design treatment.
- ___ Establish dwelling cluster architectural theme consistency while avoiding literal facade repetition among units.
- ___ Utilize similar architectural materials within a given cluster of dwellings.
- ___ Keep architectural facade material types to a minimum on any single dwelling.
- ___ Carry all attached facade materials (such as wood siding) down to a finished grade elevation, or paint to match adjoining facade.
- ___ Incorporate special, landscaped transition areas at dwelling unit entry areas into building/site design.
- ___ Consider the inclusion of covered unit entry areas in architectural design.





LANDSCAPE ARCHITECTURAL CHECKLIST

Landscaping

__ Preserve existing quality vegetation to greatest extent possible, integrating it into new designs.

__ Restore disturbed areas to a visually appealing landscape character through landscape architectural treatment.

__ Provide street trees along all roadways, use consistent species selection per street to reinforce neighborhood character.

__ Locate street trees along roadways in landscape corridors away from underground utilities.

__ Utilize special landscape treatments to identify and reinforce community, neighborhood and building cluster entry areas.

__ Utilize special landscape treatments to define primary building entry zones.

__ Use plant materials to define private outdoor social spaces for each unit, as needed.

__ Buffer incompatible uses with land forms and/or landscape materials as needed.

__ Use overhead canopy, intermediate focus and ground cover type plants to achieve functional goals.

__ Provide well landscaped special use areas for neighborhood residents (e.g., pool areas, parks, etc.).

__ Promote seasonal visual interest at major neighborhood focal points by using flowers and ornamental shrubs, trees, etc.

__ Select low maintenance landscape materials for large neighborhood common areas not likely to receive consistent maintenance.

__ Shade and visually "break up" large parking areas by planting canopy shade trees in planting islands.

__ Protect solar access to buildings when incorporating landscape materials.

Site Furnishings/Signing and Lighting

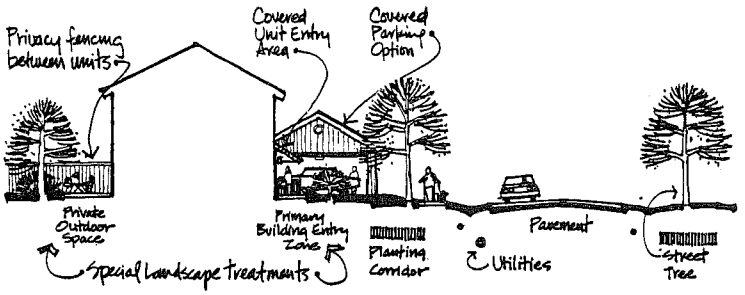
__ Provide a well-designed signage system to identify and direct safe movement throughout the community -- vehicular and pedestrian.

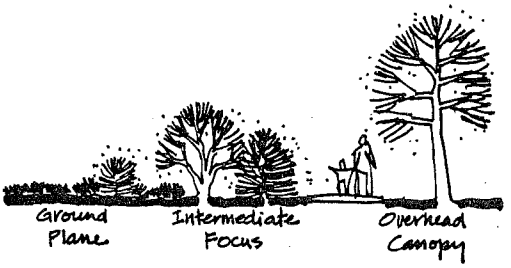
__ Provide well designed neighborhood entry signs at major auto/pedestrian entry areas.

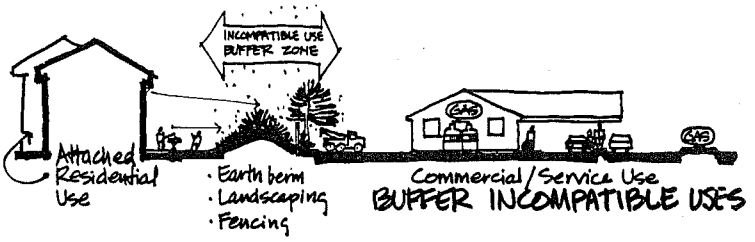
__ Provide roadway and pedestrian lighting systems consistent in style/intensity with each system hierarchy.

__ Provide special neighborhood entry area and identification sign lighting.

__ Ensure neighborhood architectural theme and light fixture style consistency.







__ Provide individual dwelling unit entry zone and street number illumination lighting.

Site Furnishing/Fencing/Mailboxes

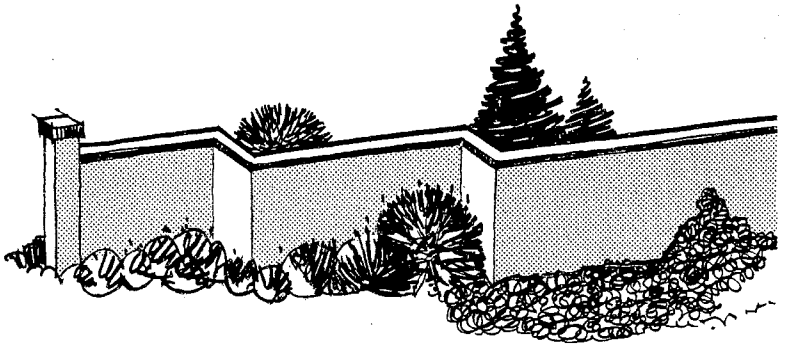
__ Utilize walls and fencing along lot lines between units to provide privacy for outdoor activity areas in front and rear of units when possible.

__ Utilize fencing materials which relate to the proposed function of the fence (e.g., solid for privacy).

__ Utilize wall or fencing materials and style consistent with dwelling architectural materials and style.

__ Avoid long, monotonous solid fencelines by using jogs or setbacks for visual interest.

__ If curbside mailboxes are used, provide multi-box units consistent to the building cluster architecture/style.



Site Furnishings/Minor Structures/Seating

__ Outdoor utility sheds/buildings should relate to dwelling architectural materials and style.

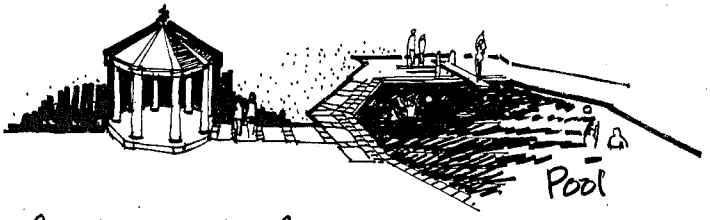
__ Provide bus shelters at major roadway entries as needed to serve residents utilizing existing or proposed transit services.

__ Consider the provision of gazebos or other outdoor shelters with architectural design compatible to residential building design.

__ Consider provision of other outdoor architectural elements, such as trellis' or kiosks.

__ Provide outdoor seating at appropriate activity areas (e.g., tot lots, pool area, etc.).

__ Provide hard-surfaced landscaped recreational areas, especially around swimming pool/clubhouse areas.



Consider provision of special outdoor shelters with recreational/open space development.

Provide Outdoor Seating at Activity Areas

RESIDENTIAL/MULTI-FAMILY-ELEVATOR HOUSING CRITERIA

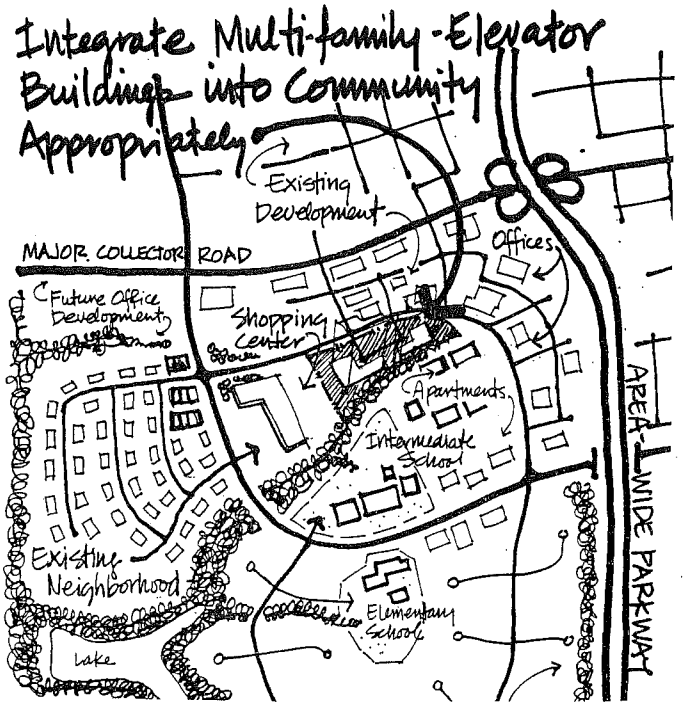
SITE PLANNING CHECKLIST

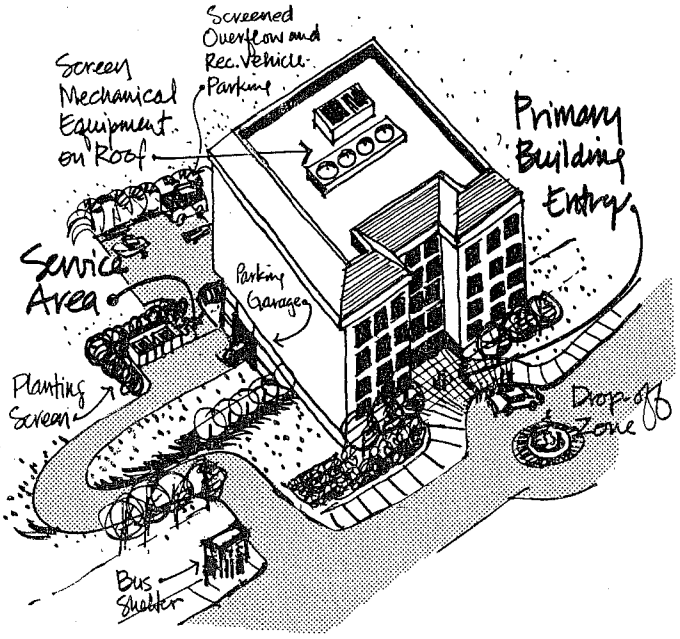
General

- ___ Integrate new development with existing and future adjacent land uses appropriately; locating it near employment/shopping cores and mass transit access points.
- ___ Plan development using reasonably scaled architectural masses, which relate positively to site and adjacent use conditions through siting, setbacks and landscaping.
- ___ Provide appropriate level, scale and location of support services/facilities (e.g., convenience commerical), integrated into overall architectural design.
- ___ Provide pedestrian linkages to community-wide amenity areas, services and facilities.
- ___ Consider potential highway noise impacts in community/neighborhood/dwelling unit design.
- ___ Utilize energy conservation based criteria in planning and design.
- ___ Provide a quality visual image to all (off-site) public views, as the structure will be considered an area-wide visual amenity.
- ___ Take care in siting tall structures to avoid (sun) shading of structures on adjacent lots.

Access/Roads/Parking

- ___ Provide adequate, safe auto access into the site from appropriate level roadways.
- ___ Utilize a hierarchial system of internal streets and drives; do not access buildings directly onto major roads.
- ___ Minimize natural site amenity disturbance (e.g., quality trees, streams, etc.) through sensitive street/parking lot design/construction.
- ___ Segregate resident and service entry areas, provide adequate area for service/emergency vehicle access and operation.
- ___ Avoid on-street parking; provide high image off-street parking areas in scale with pedestrians.
- ___ In dense developments, provide off-street, screened parking areas for special vehicle storage (e.g., "R.V.'s", boats, trailers, etc.).
- ___ Utilize structured parking whenever possible; integrate parking decks into overall building architecture.
- ___ Provide a well-landscaped, high image auto passenger 'drop-off' zone at major residential building entry.





__ Reduce impervious surfaces (roads, parking, buildings, etc.) through use of cluster design techniques and deck parking provision.

__ Establish distinct utility and landscaping corridors within street rights-of-way and parking areas.

__ Adhere to existing Fairfax County development standards for parking space and drive minimum dimensions, etc.

Open Space/Community Facilities

__ Integrate natural open space amenities into overall site plan development.

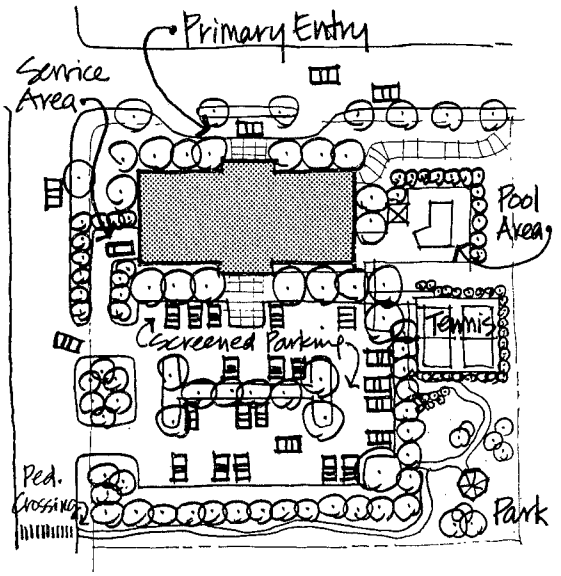
__ Provide a continuous pedestrian/open space system linking on- and off-site activity nodes.

__ Provide courtyard, park and recreational areas/ facilities (e.g., pools, tennis courts, tot lots, etc.) for residents' use; link to the open space system.

__ Design safe pedestrian system crossings at roads; provide grade-separated intersections when possible.

__ Utilize natural (especially wooded) open space corridors/areas as transition zones, visual amenities and buffers.

__ Integrate on-site service and amenity features into overall functional and design scheme.



Buffers

__ Utilize varying scale and arrangements of structures on-site to act as buffers for incompatible use relationships.

__ Take advantage of natural landscape edges and elements in buffering and defining architectural elements.

__ Utilize architectural elements (walls, buildings, etc.) as visual and roadway noise buffers.

Utility/Service Areas

__ Utilize curb and gutter systems within the primary building and parking zone for auto and drainage control.

__ Away from the major architectural/parking core, utilize grass swales for surface drainage whenever possible.

__ Provide stormwater detention/retention structures which can be retained as open space amenities.

__ Place all electrical utility lines underground; screen utility substations and service areas from public view.

ARCHITECTURAL DESIGN CHECKLIST

Scale/Mass/Form

__ Maintain relatively simple massing in tall structures, with openings and entries clearly articulated through building offsets and texture/material changes.

__ Adhere to established Fairfax County building bulk and setback requirements.

__ Utilize varied setbacks to create interesting architectural (mass) relationships to the street.

__ Cluster buildings around courtyard-like areas to reinforce neighborhood scale.

__ Integrate architectural masses/forms into natural topography of site.

Functional Relationships/Facade Treatment

__ Select and site appropriate building types with respect to natural topography.

__ When buildings are adjacent, orient primary facades for maximum privacy between buildings.

__ Segregate primary building entries from service type entries.

__ Utilize current energy conservation technology in architectural and heating/cooling systems design.

__ Minimize solar heat gain for cooling and maximize solar heat gain/retention for heating by sensitive design treatment.

__ Dwelling unit number and arrangement for each building should reinforce feeling of security and "neighborhood" among residents.

__ Avoid "false facade" treatments which are unrelated to building form/function.

__ Carefully select and restrict the variety of architectural facade materials for each building, but avoid "monolithic" facade treatments.

__ Integrate community and resident service uses into building architecture.

__ Incorporate major landscaped plazas at major building entrances, featuring special paving, seating, plantings and water features such as fountains

LANDSCAPE ARCHITECTURAL CHECKLIST

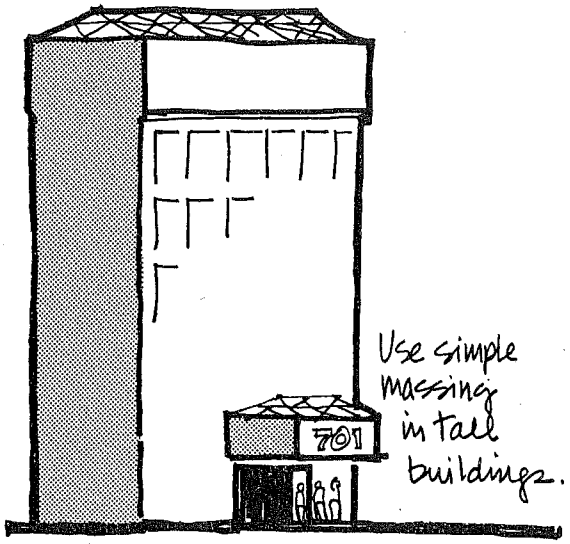
Landscaping

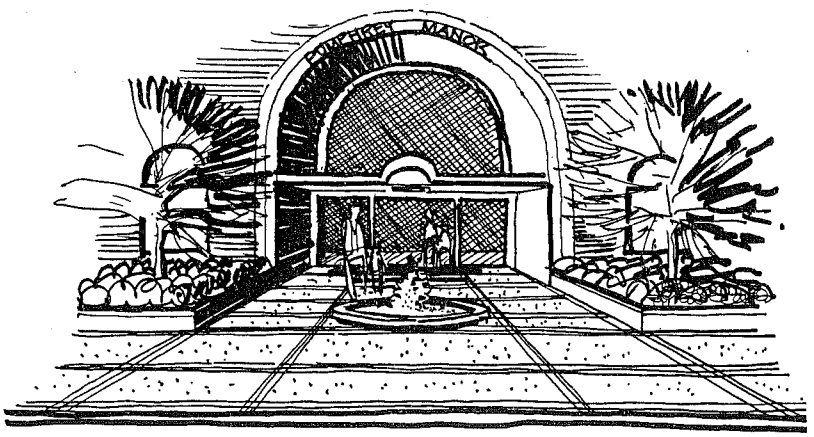
__ Preserve existing quality vegetation to greatest extent possible, integrating it into new designs.

__ Restore disturbed areas to a visually appealing landscape character through landscape architectural treatment.

__ Provide street trees along all roadways and shade trees in parking areas; use consistent species groupings to reinforce the residential development character and identity.

__ Provide well landscaped special use areas for neighborhood residents (e.g., pool areas, parks, etc.).





__ Utilize special landscape treatments to define primary building entry zones.

__ Buffer incompatible uses with land forms and/or landscape materials as needed.

__ Use overhead canopy, intermediate focus and ground cover type plants to achieve functional goals.

__ Locate street trees along roadways and parking areas in landscape corridors away from underground utilities.

__ Utilize special landscape treatments to identify and reinforce community and neighborhood entry areas.

__ Promote seasonal visual interest at major neighborhood focal points by using flowers and ornamental shrubs, trees, etc.

__ Select low maintenance landscape materials for common areas not likely to receive consistent maintenance.

__ Protect solar access to buildings when incorporating landscape materials.

Site Furnishings/Signing and Lighting

__ Provide a well-designed signage system to identify and direct safe vehicular and pedestrian movement throughout the site.

__ Provide well designed site entry signs at major auto/pedestrian entry areas.

__ Provide street, parking and pedestrian lighting systems consistent in style/intensity with each system's needs.

__ Ensure site-wide architectural theme and light fixture style consistency.

__ Utilize special lighting techniques, such as up-lighting, to accentuate primary entry plazas and high-image architecutral elements.

Site Furnishings/Walls and Minor Structures

__ Utilize concrete or masonary walls in conjunction with building style and materials for screening and grade-change accommodation.

__ Avoid long, monotonous walls by incorporating jogs or setbacks for visual interest.

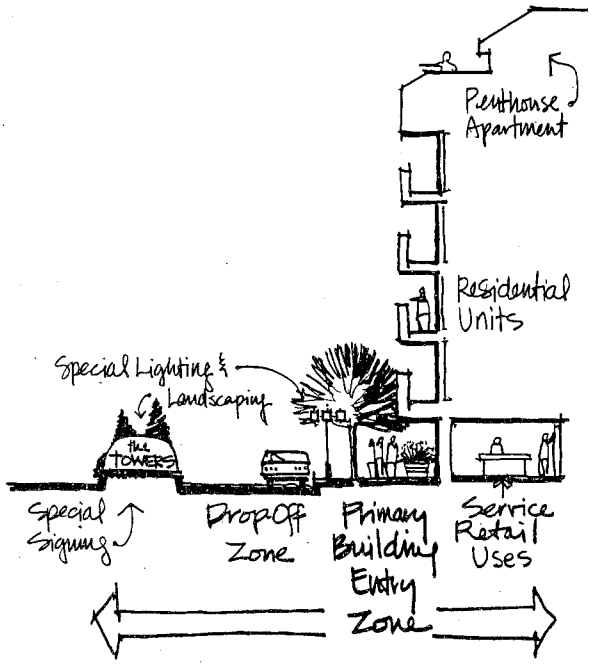
__ If entry gates are used, ensure that design is high quality and integrated into adjacent wall architecture.

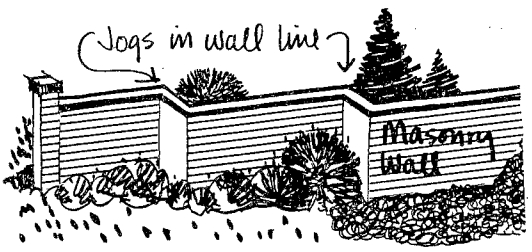
__ Provide bus shelters at major site entries as needed to serve residents utilizing existing or proposed transit services; integrate structure design into project architectural theme, if possible.

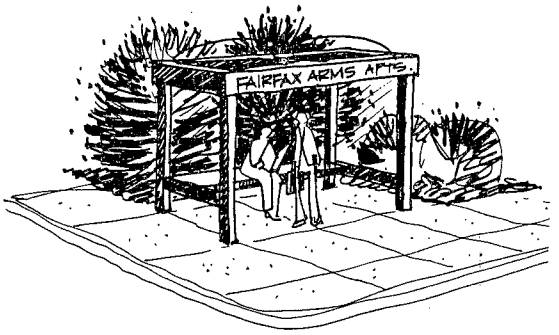
__ Consider the provision of gazebos, information kiosks or other outdoor structures for resident's use.

__ Provide outdoor seating, some covered, at major on-site activity areas.

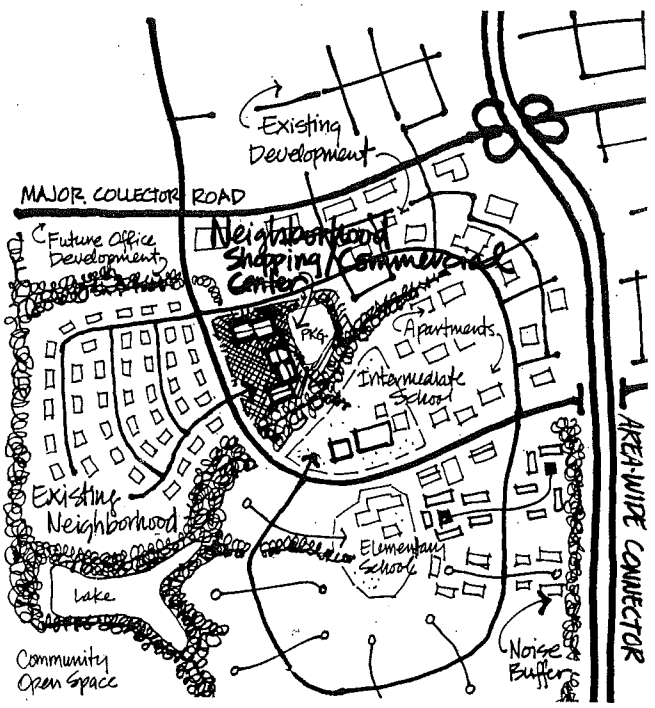
__ Provide hard surfaced recreational areas on-site (e.g., tennis courts, play courts, pool-side areas, etc.).

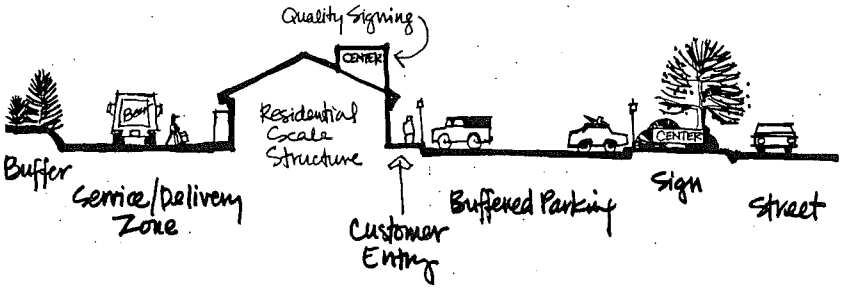


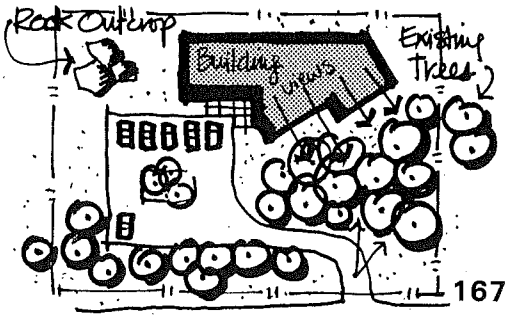




COMMERCIAL/LOW DENSITY OFFICE AND NEIGHBORHOOD CENTER CRITERIA







SITE PLANNING CHECKLIST

General

- ___ Integrate new development with existing and future adjacent land uses appropriately; locate new centers with quality vehicular and pedestrian access.
- ___ Select type and scale of commercial office uses within each development which will serve local area needs.
- ___ Utilize criteria for shared parking and open space between uses in site development, if feasible.
- ___ Provide pedestrian linkages to residential neighborhoods and community-wide amenity areas, services and facilities.
- ___ Utilize energy conservation based criteria in planning and design.

Access/Roads/Parking

- ___ Provide adequate, safe auto access into the center from appropriate level roadways.
- ___ Provide well screened off-street parking areas for customers; keep these parking lots in scale with the development and neighborhood.
- ___ Minimize natural site amenity disturbance (e.g., quality trees, streams, etc.) through sensitive parking and building design/construction.
- ___ Establish distinct utility and landscaping corridors within street rights-of-way and parking areas.
- ___ Segregate service and maintenance drives and parking areas from customer entry and parking zones.
- ___ Reduce impervious surfaces (drives, parking, buildings, etc.) through use of cluster design techniques.
- ___ Provide a well-landscaped, high quality image toward the street, and buffer service areas from public view.
- ___ Adhere to existing Fairfax County development standards for minimum parking space and driveway dimensions.

Open Space/Community Facilities

- ___ Integrate natural open space amenities into overall site design.
- ___ Provide on-site pedestrian system links to neighborhood and community-wide pedestrian systems.

— Consider inclusion of neighborhood-level facilities as part of a mixed use program for neighborhood centers (e.g., recreation uses and small commercial, office and service uses, etc.)

— Design safe pedestrian systems on-site; incorporate handicapped-access elements, such as ramps, into system design.

— Utilize natural (especially wooded) open space corridors/areas as transition areas, visual amenities and buffers.

Buffers

— Utilize varying scales and arrangment of buildings on-site as buffers for incompatible use relationships.

— Take advantage of natural landscape edges and elements in buffering and defining neighborhood center components.

— Utilize architectural elements (walls, buildings, etc.) as visual and roadway noise buffers.

Utility/Service Areas

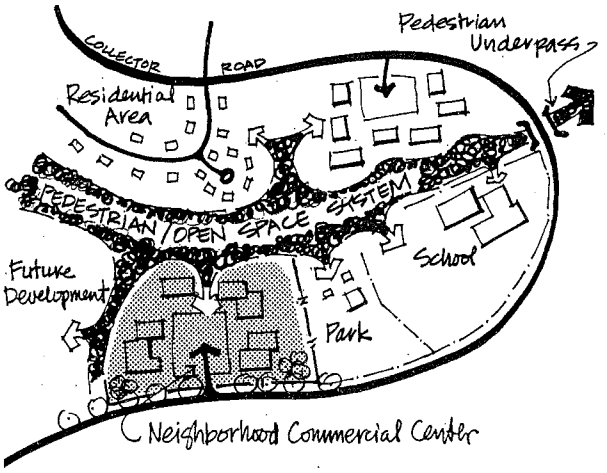
— Utilize curb and gutter drainage systems adjacent to buildings and main parking areas, but use grass swales, when possible, in other areas on-site.

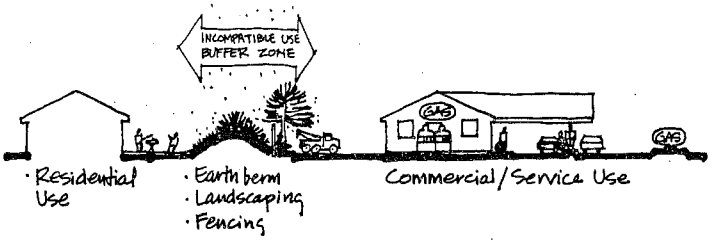
— Provide stormwater detention/retention structures, as needed, which can be retained as open space amenities.

— Place all electrical utility lines underground; screen utility substations and service areas from public view.

— Screen all service/maintenance areas from public view.

— Provide for safe on-site storage and off-site disposal of refuse and wastes generated by commercial/service uses.





ARCHITECTURAL DESIGN CHECKLIST

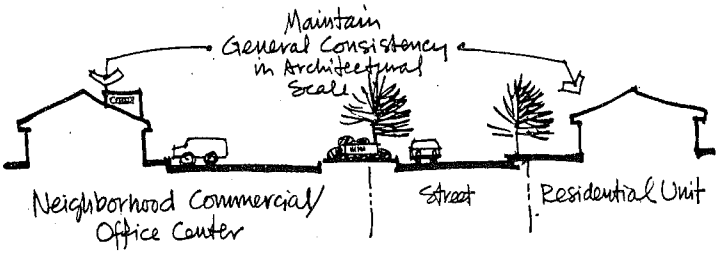
Scale/Mass/Form

— Provide general consistency between neighborhood residential unit scale and proposed neighborhood/commercial/office complex scale.

— Create interest through sensitive detailing and use of basic geometric forms for commercial structures.

— Utilize varied building facade setbacks to create interesting architectural (mass) relationships to the street.

— Cluster buildings around courtyard-like areas to reinforce neighborhood scale.



Functional Relationships/Facade Treatment

__ Select and site appropriate building types with respect to natural topography.

__ Utilize current energy conservation technology in architectural and heating/cooling systems design.

__ Minimize solar heat gain for cooling and maximize solar heat gain/retention for heating by sensitive design treatment.

__ Establish center-wide architectural theme consistency.

__ Utilize similar architectural materials within the center development.

LANDSCAPE ARCHITECTURAL CHECKLIST

Landscaping

__ Preserve existing quality vegetation to greatest extent possible, integrating it into new designs.

__ Restore disturned areas to a visually appealing landscape character through landscape architectural treatment.

__ Provide shade trees in all parking lots; use consistent species groupings to reinforce development character.

__ Locate street trees along roadways and parking areas in landscape corridors away from underground utilities.

__ Utilize special landscape treatments to identify and reinforce the center's entry areas.

__ Utilize special landscape treatments to define primary building entry zones.

__ Buffer incompatible uses with land forms and/or landscape materials as needed.

__ Use overhead canopy, intermediate focus and ground cover type plants to achieve functional goals.

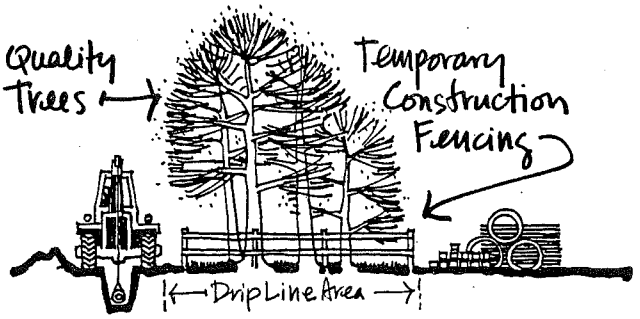
__ Promote seasonal visual interest at major neighborhood focal points by using flowers and ornamental shrubs, trees, etc.

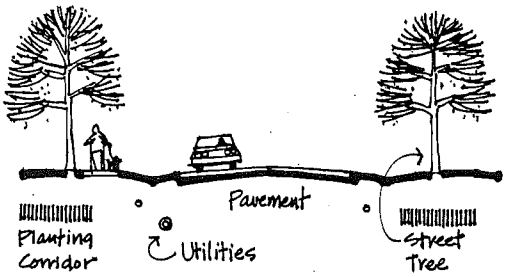
__ Select low maintenance landscape materials for areas not likely to receive consistent maintenance.

__ Protect solar access to buildings when incorporating landscape materials.

Site Furnishings/Signing and Lighting

__ Provide a well-designed signage system to identify buildings and direct safe movement for ingress and egress (vehicular and pedestrian).





__ Provide well designed project entry signs at major auto/pedestrian entry areas.

__ Ensure quality design for commercial signs on-site and on building facades; all buildings (within the same development) should portray consistency in signing criteria adherence.

__ Control the use of temporary commercial advertising signs; do not use movable signs with flashing lights along street edges.

__ Ensure neighborhood architectural theme and light fixture style consistency.

Site Furnishing/Fencing/Walls/Minor Structures

__ Utilize materials which relate to the proposed function of the fence or wall (e.g., solid for privacy).

__ Utilize wall and fence materials and style consistent with the center's architectural materials and style.

__ Avoid long, monotonous solid wall or fencelines by using jogs or setbacks for visual interest.

__ Outdoor utility sheds/buildings should relate to major building architecture and style.

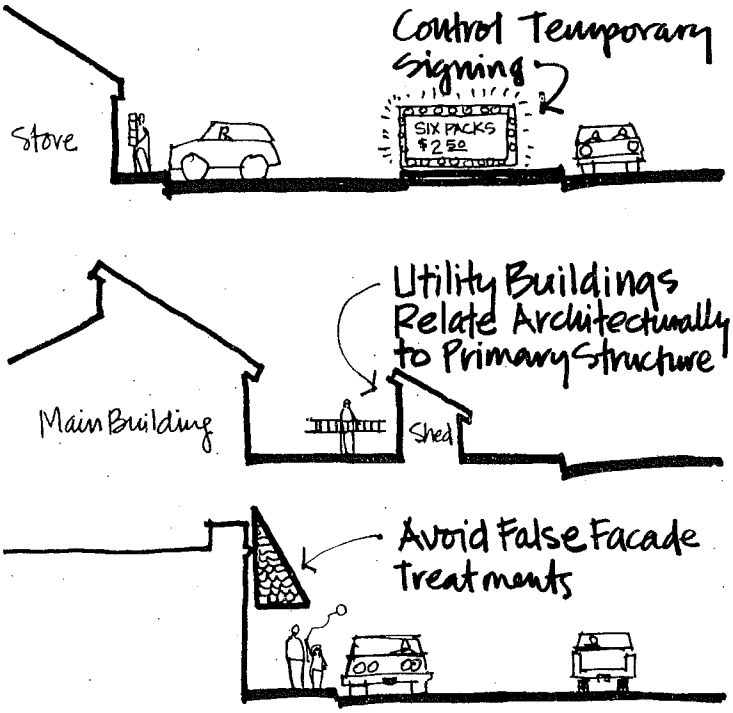
__ Provide walled enclosures to screen outdoor storage and refuse (dumpster) areas.

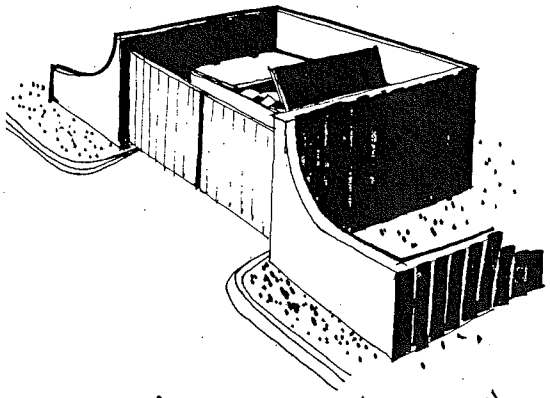
__ Keep architectural facade material types to a minimum on any single building facade.

__ Carry all attached facade materials (such as wood siding) down to a finished grade elevation, or paint exposed walls to match such facades.

__ Avoid "false facade" treatments which are unrelated to building form/function.

__ Carefully select and restrict the variety architectural facade materials for each building.





Screen refuse container ('dumpster') areas.

COMMERCIAL/CAMPUS STYLE OFFICE PARK CRITERIA

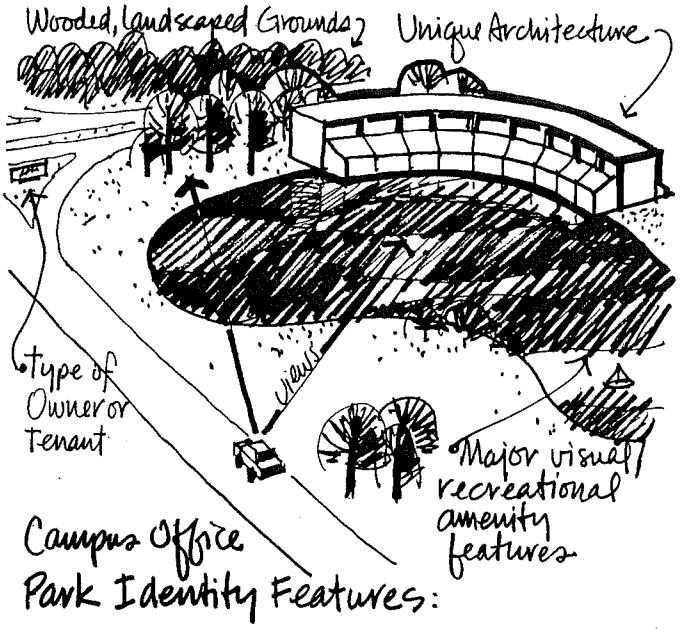
SITE PLANNING CHECKLIST

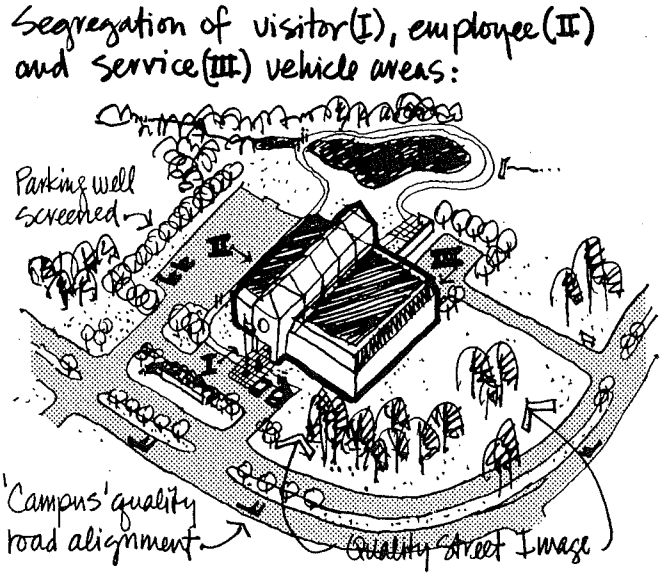
General

- ___ Integrate new development with existing and future adjacent land uses appropriately.
- ___ Plan development in relatively large-scaled tracts to assure substantial open space provision.
- ___ Establish a strong sense of identity for each particular office "campus or park".
- ___ Provide appropriate level, scale and location of support services/facilities (e.g., eating, establishments, business support and convenience commerical) to serve employees/ businesses locally.
- ___ Provide pedestrian linkages to community-wide amenity areas, neighborhoods, services and facilities.
- ___ Utilize energy conservation based criteria in planning and design.

Access/Roads/Parking

- ___ Provide adequate, safe auto access into the development from appropriate level roadways.
- ___ Utilize a hierarchial system of internal drives and roadways; do not access parking directly onto major collector roads.
- ___ Minimize natural site amenity disturbance (e.g., quality trees, streams, etc.) through sensitive road, building and parking design/ construction.
- ___ Provide well screened off-street parking areas for employees/visitors.
- ___ Road alignments should reinforce "campus" quality and scale; avoid long, straight, monotonous street layouts.
- ___ Provide some parking areas for compact cars in order to reduce the area of impervious site cover.
- ___ Provide screened parking areas for special vehicle parking/storage (e.g., maintenance vehicles, trailers, equipment, etc.).
- ___ Establish distinct utility and landscaping corridors within street rights-of-way and parking areas.
- ___ Segregate service, maintenance and loading zones from employee/visitor vehicle areas.
- ___ Orient roadways to maximize southern (solar) exposure for office buildings, when possible.
- ___ Provide a well-landscaped high quality image toward the street.





__ Reduce impervious surfaces (roads, parking, buildings, etc.) through use of cluster design techniques.

__ Adhere to existing Fairfax County development standards for minimum parking space and driveway dimensions.

Open Space/Community Facilities

__ Integrate natural open space amenities into overall site design.

__ Provide a continuous pedestrian/open space system linking activity nodes internally and externally.

__ Design safe pedestrian system crossings at roads; provide grade-separated intersections at these points when possible; incorporate handicapped access elements, such as ramps, into system design.

__ Utilize natural (especially wooded) open space corridors/areas as transition zones, visual amenities and buffers.

Buffers

__ Utilize varying scales and arrangements of building masses as buffers for incompatible use relationships.

__ Take advantage of natural landscape edges and elements in buffering and defining building and parking zones.

__ Utilize existing vegetation masses along with earth berms and architectural walls as visual and roadway noise buffers.

Utility/Service Areas

__ Utilize grass swales for surface drainage whenever possible.

__ Provide stormwater detention/retention structures which can be retained as open space amenities.

__ Place all electrical utility lines underground; screen utility substations and service areas from public view.

__ Provide for safe on-site storage and off-site disposal of refuse and wastes generated by commercial/service uses.

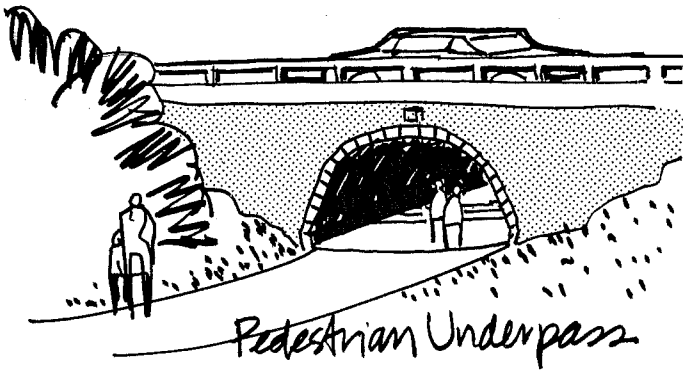
__ Consider "common" solar energy systems serving entire office park developments, when feasible.

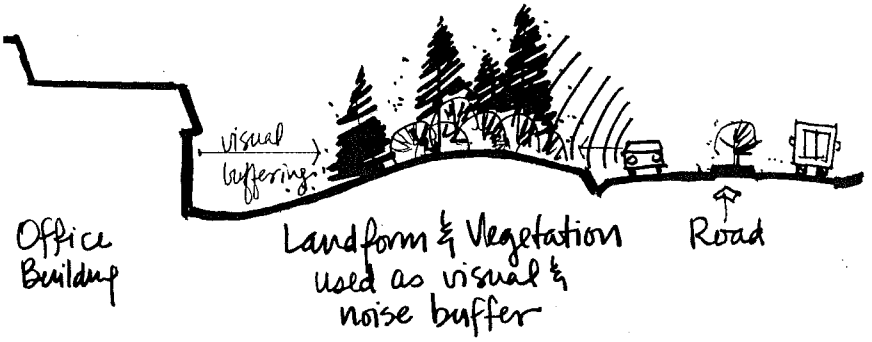
ARCHITECTURAL DESIGN CHECKLIST

Scale/Mass/Form

__ Provide general consistency in architectural scale within each development cluster.

__ Create interest through sensitive detailing and use of basic geometric forms reflecting building function.





__ Utilize varied building/facade setbacks to create interesting architectural (mass) relationships to the street.

__ Cluster buildings around courtyard-like amenity areas to create a strong sense of "arrival" for pedestrians.

__ Buildings with large-area structural modules should be located on flat or gently sloping sites only.

Functional Relationships/Facade Treatment

__ Select and site appropriate building types with respect to natural topography.

__ Segregate primary building entries from service type entries.

__ Utilize current energy conservation technology in architectural and heating/cooling systems design.

__ Minimize solar heat gain for cooling and maximize solar heat gain/retention for heating by sensitive design treatment.

__ Establish architectural theme consistency throughout each office complex.

__ Utilize similar architectural materials within a given cluster of office buildings.

__ Keep architectural facade material types to a minimum on any single building facade.

__ Carry all attached facade materials down to a finished grade elevation, or paint exposed walls to match such facade materials.

__ Avoid "false facade" treatments which are unrelated to building form/function.

__ Carefully select and restrict the variety of architectural facade materials for each building or building cluster.

LANDSCAPE ARCHITECTURAL CHECKLIST

Landscaping

__ Preserve existing quality vegetation to greatest extent possible, integrating it into new designs.

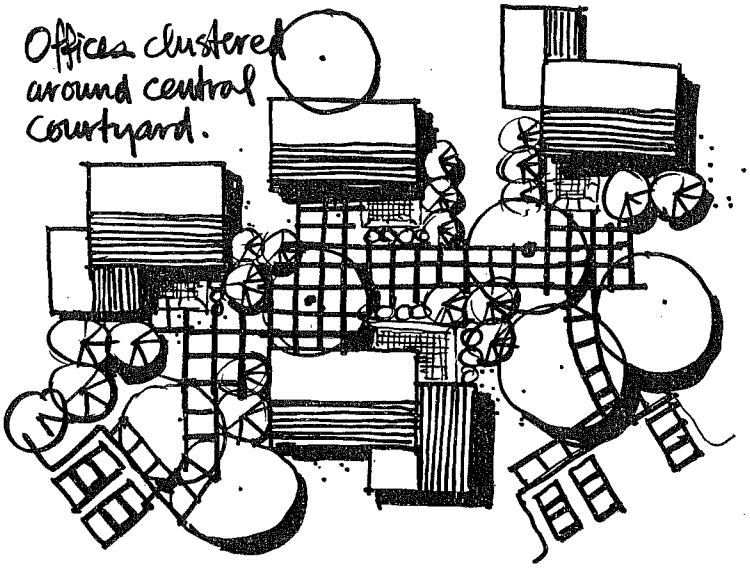
__ Restore disturbed areas to a visually appealing landscape character through landscape architectural treatment.

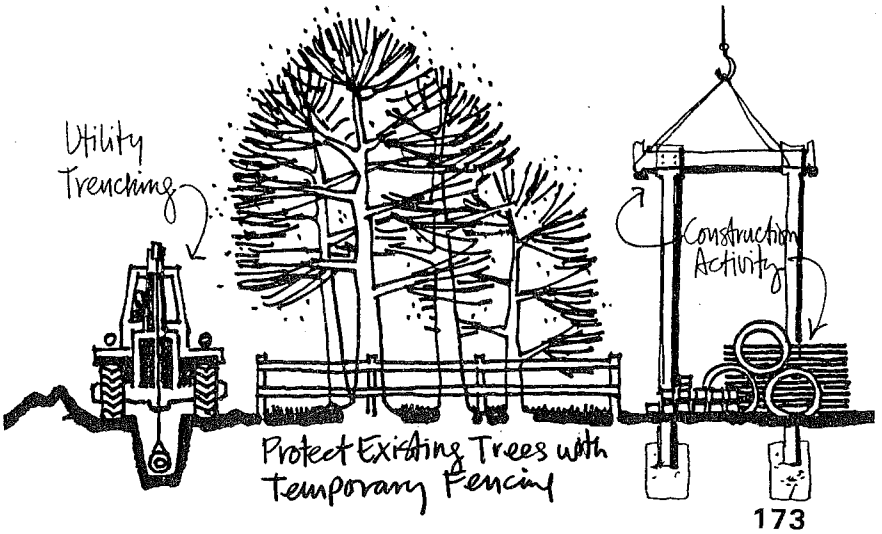
__ Provide shade trees in all parking lots; use consistent species groupings to reinforce development character.

__ Locate street trees along roadways in landscape corridors away from underground utilities.

__ Utilize special landscape treatments to identify and reinforce major office park and site entry areas.

__ Utilize special landscape treatments to define primary building entry zones.





— Buffer incompatible uses with land forms and/or landscape materials as needed.

— Use overhead canopy, intermediate focus and ground cover type plants to achieve functional goals.

— Promote seasonal visual interest at major architectural and site focal points by using flowers and ornamental shrubs, trees, etc.

— Select low maintenance landscape materials for areas not likely to receive consistent maintenance; maintain landscape materials in all entry and streetscape areas.

— Protect solar access to buildings when incorporating landscape materials.

Site Furnishings/Signing and Lighting

— Provide a well-designed signage system to identify buildings and direct safe vehicular and pedestrian movement throughout office development.

— Provide well designed office park and site entry signs at major auto/pedestrian entry areas.

— Provide roadway and pedestrian lighting systems consistent in style/intensity with each system hierarchy.

— Ensure quality design for commerical office signs on-site and on building facades; all buildings within a development should reflect consistent signing criteria adherence.

— Provide design guidelines for all commercial signing within the office campus development, including temporary advertising, construction and informational signing.

— Provide special site entry area and identification sign lighting.

— Ensure development-wide architectural theme and light fixture style consistency.

— Provide individual building entry zone and corporate name/logo illumination lighting.

Site Furnishing/Fencing/Walls/Minor Structures

— Utilize walls as architectural linkage elements between related but separate buildings, when possible.

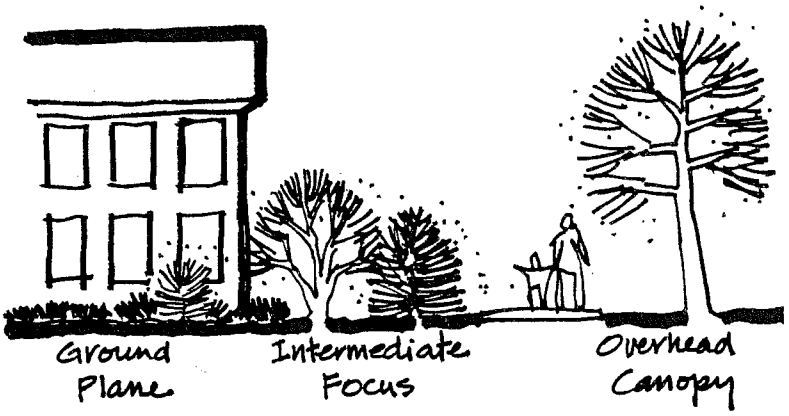
— Utilize materials which relate to the proposed function of the fence or wall (e.g., solid for privacy).

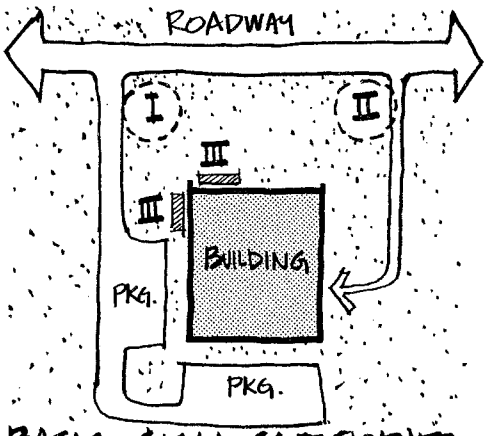
— Utilize wall and fence materials and style consistent with each development's architectural materials and style.

— Avoid long, monotonous solid walls or fencelines by using jogs or setbacks for visual interest.

— Outdoor utility sheds/buildings should relate to building architecture and style.

— Provide walled enclosures to screen outdoor storage/service/refuse (dumpster) areas.





BASIC SIGN CATEGORIES:

I Entrance Identification

II Service Entrance

III Building/Corporate Logo

RESEARCH AND DEVELOPMENT/UTILITY AND LIGHT INDUSTRIAL CRITERIA

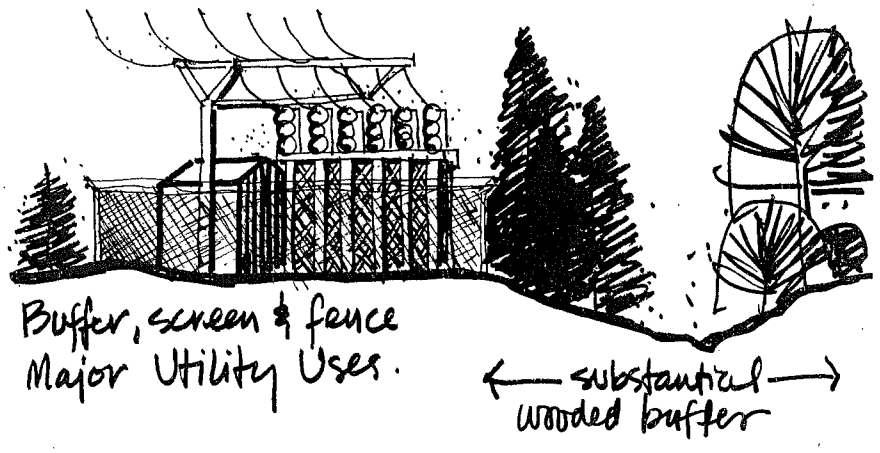
SITE PLANNING CHECKLIST

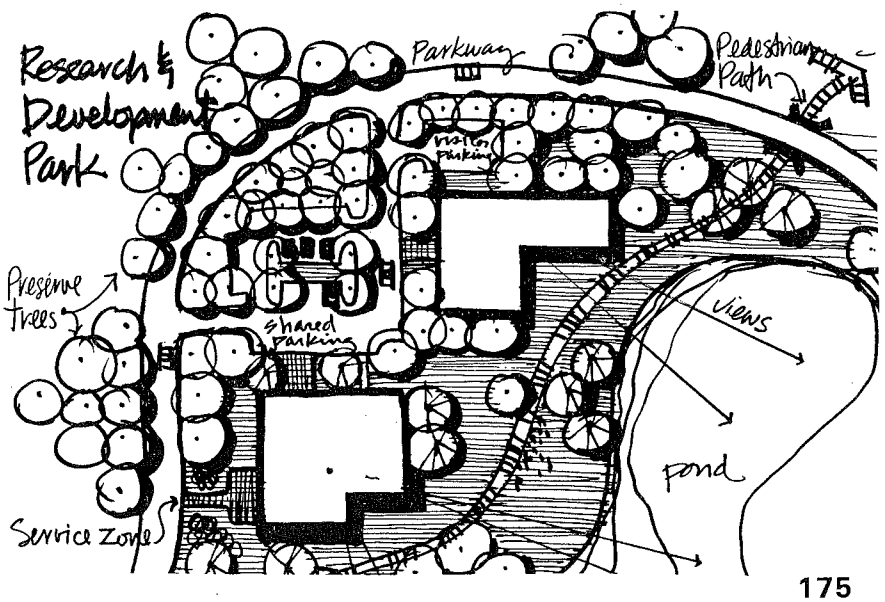
General

- ___ Consider appropriateness of each particular use to the image/environment of the Fairfax Center Area.
- ___ Integrate new development with existing and future adjacent land uses appropriately.
- ___ Plan development in relatively large-scaled tracts to assure substantial open space provision, especially for buffering.
- ___ Establish a strong sense of identity for each development.
- ___ Locate utility uses (such as power sub-stations, water pump stations and waste water treatment plants) away from conflicting land uses, if feasible.
- ___ Provide pedestrian linkages to community-wide amenity areas, neighborhood services and facilities, as needed.
- ___ Utilize energy conservation based criteria in planning and design.

Access/Roads/Parking

- ___ Provide adequate, safe auto and truck access into the development from appropriate level roadways.
- ___ Utilize a hierarchical system of internal roadways; do not access parking/service areas directly from major collector roads.
- ___ Minimize natural site amenity disturbance (e.g., quality trees, streams, etc.) through sensitive utility right-of-way, road, building and parking design/construction.
- ___ Road alignments should reinforce development quality and scale; avoid long, straight, monotonous street layouts.
- ___ Provide off-street, screened parking areas for special vehicle parking/storage (e.g., maintenance vehicles, trailers, utility equipment, etc.).
- ___ Establish distinct utility and landscaping corridors within street rights-of-way and parking areas.
- ___ Segregate service, utility equipment, maintenance and loading zones from employee/visitor vehicle areas.
- ___ Orient roadways to maximize southern (solar) exposure for office/industrial buildings, when possible.
- ___ Reduce impervious surfaces (roads, parking, buildings, etc.) through use of cluster design techniques.





__ Adhere to existing Fairfax County development standards for minimum parking, loading and driveway space requirements.

Open Space/Community Facilities

__ Integrate natural open space amenities into overall site design.

__ Provide a continuous pedestrian/open space system linking activity nodes internally and externally.

__ Design safe pedestrian system crossings at roads; provide grade-separated intersections when possible; utilize handicapped access design criteria.

__ Utilize natural (especially wooded) open space corridors/areas as transition zones, visual amenities and buffers.

__ Utilize utility right-of-way corridors as potential pedestrian systems.

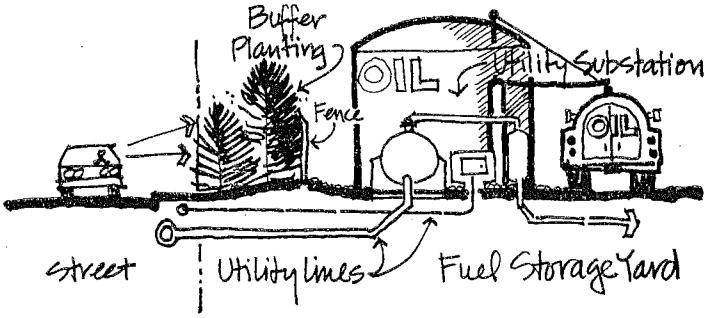
Buffers

__ Provide safety fencing or walls around potentially dangerous service, industrial or utility uses.

__ Utilize varying scales and arrangements of building masses as buffers for incompatible use relationships.

__ Take advantage of natural landscape edges and elements in buffering and defining building, utility equipment and parking zones.

__ Make special efforts to screen utility complexes from public view; consider off-site visual impact of tall utility structures in design and siting of such elements.



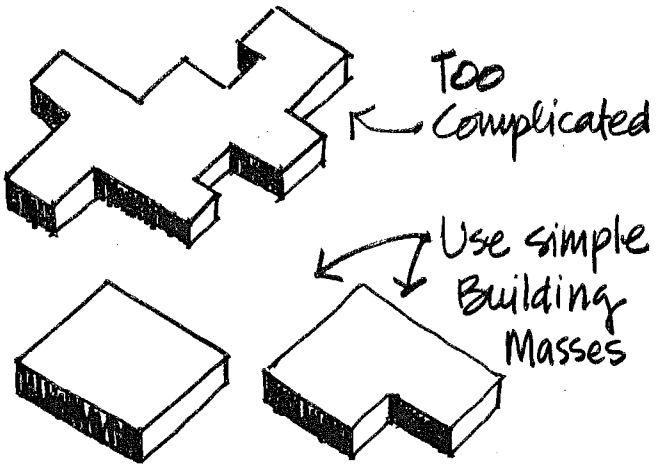
Utility/Service Areas

__ Utilize grass swales for surface drainage whenever possible.

__ Provide stormwater detention/retention structures which can be retained as open space amenities.

__ Place all electrical utility lines underground; screen utility substations and service areas from public view.

__ Provide for safe on-site storage and off-site disposal of refuse or wastes generated by research and development, industrial or utility uses.



ARCHITECTURAL DESIGN CHECKLIST

Scale/Mass/Form

__ Provide general consistency in architectural scale within each development cluster.

__ Create quality architectural statements through the use of basic geometric forms reflecting each building's function.

__ Utilize varied building setbacks to create interesting architectural (mass) relationships to the street.

__ Cluster buildings around courtyard-like areas to reduce overall visual impact of large scale architectural masses.

__ Buildings with large floor module needs should be located on flat or gently sloping sites.

Functional Relationships/Facade Treatment

__ Select and site appropriate building types with respect to natural topography.

__ Segregate primary building entries from service type entries, when applicable.

__ Utilize current energy conservation technology in architectural and heating/cooling systems design and for industrial process power sources.

__ Minimize solar heat gain for cooling and maximize solar heat gain/retention for heating by sensitive design treatment.

__ Utilize similar architectural materials within a given cluster of buildings.

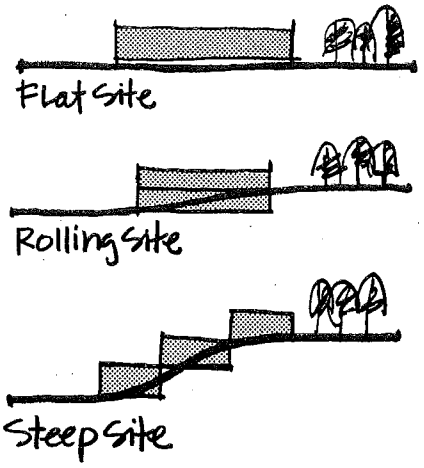
__ Keep architectural facade material types to a minimum on any single structure.

__ Carry all attached facade materials down to a finished grade elevation or paint exposed walls to match such facade materials.

__ Avoid "false facade" treatments which are unrelated to building form/function.

__ Consider the use of special paint and graphic treatment to industrial and utility structures and elements (e.g., "supergraphics" or color-coded utility tanks, pipes and structures).

__ Carefully select and restrict the variety of architectural facade materials for each building or structure.



LANDSCAPE ARCHITECTURAL CHECKLIST

Landscaping

__ Preserve existing quality vegetation to greatest extent possible, integrating it into new designs.

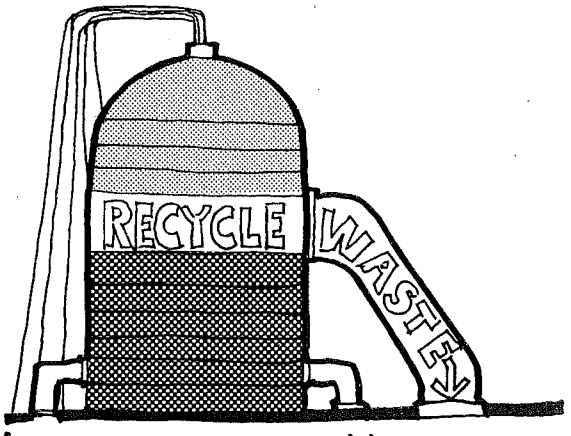
__ Restore disturbed areas to a visually appealing landscape character through landscape architectural treatment.

Site Furnishing/Fencing/Walls/Minor Structures

__ Utilize walls and fences as unifying architectural elements between related, but separate, buildings when possible.

__ Utilize materials which relate to the proposed function of the fence or wall.

__ Provide adequate safety fencing or walls around industrial or utility uses, as needed.



'Super-graphics' utilized on Utility Structures

__ Utilize wall or fence materials and style consistent with building architectural materials and style.

__ Avoid long, monotonous solid walls or fencelines by using jogs or setbacks for visual interest.

__ Outdoor utility sheds/buildings should relate to major building architecture and style.

__ Provide walled enclosures to screen outdoor utility/storage/service areas.

__ Provide shade trees in parking lots; use consistent species groupings to reinforce development character.

__ Locate street trees along roadways in landscape corridors away from underground utilities.

__ Utilize special landscape treatments to identify and reinforce major development entry areas.

__ Utilize special landscape treatments to define primary building entry zones.

__ Buffer incompatible uses with land forms and/or landscape materials, as needed.

__ Use overhead canopy, intermediate focus and ground cover type plants to achieve functional goals.

__ Promote seasonal visual interest at major neighborhood focal points by using flowers and ornamental shrubs, trees, etc.

__ Select low maintenance landscape materials for areas not likely to receive consistent maintenance.

__ Protect solar access to buildings when incorporating landscape materials.

Site Furnishings/Signing and Lighting

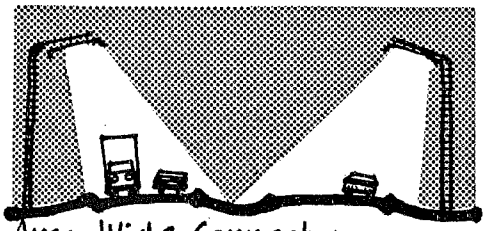
__ Provide a well-designed signage system to identify buildings and direct safe vehicular and pedestrian movement throughout the development.

__ Provide well designed entry signs at major auto/pedestrian entry areas.

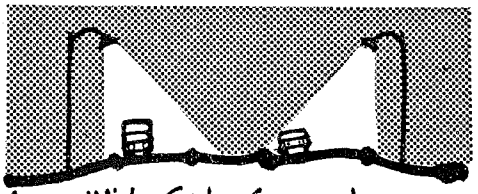
__ Provide design guidelines for all commercial/industrial signing within the development, including temporary, advertising, construction and information signing.

__ Provide roadway and pedestrian lighting systems consistent in style/intensity with each system hierarchy.

__ Ensure on-site architectural theme and light fixture style consistency; utilize simple, functional lighting design.

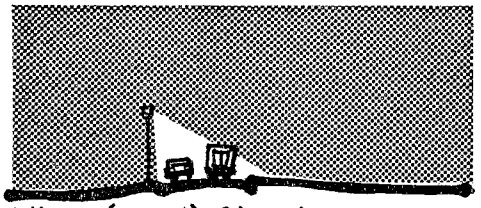


Area-Wide Connector

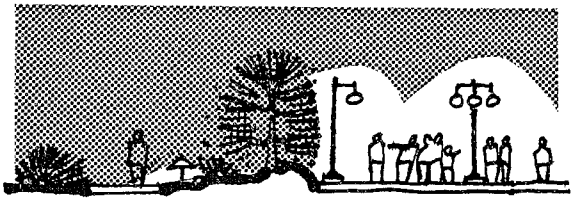


Area-Wide Sub-Connector

Major Collector Street



Minor (Local) Street



Intimate Space

Plaza Space

7.7.2 Special Conditions Criteria

Energy Efficient Planning and Design

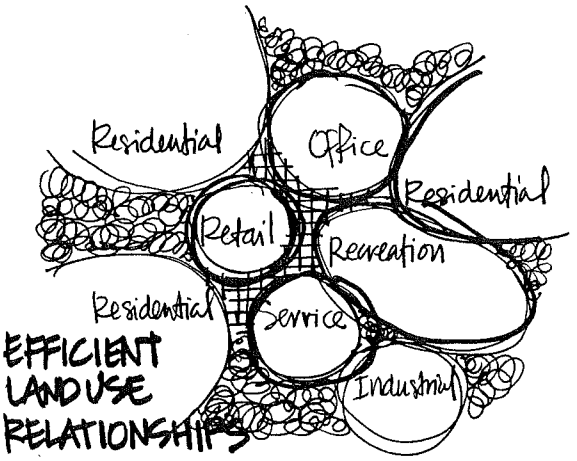
Planning with energy efficiency as a priority is no longer a luxury. Energy considerations should be incorporated in all land use decisions in an effort to reduce dependency upon purchased energy. Energy conservation can be achieved in two major ways - through land use mixes that minimize the need for transportation between uses, and through the siting and construction of buildings and street to provide solar access and energy conservation.[1]

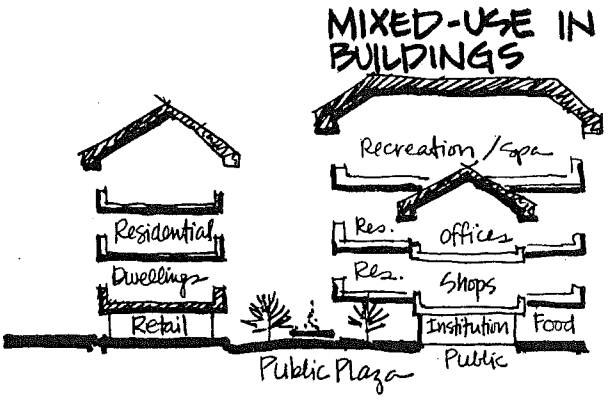
Encouraging mixed-use development saves energy. Locating employment, commercial, residential and recreational uses within close proximity to one another is highly energy efficient, especially with densities sufficiently high as to support mass transportation. Consequently, mixed use and concentrated developments are encouraged within the Study Area for their energy saving potential.

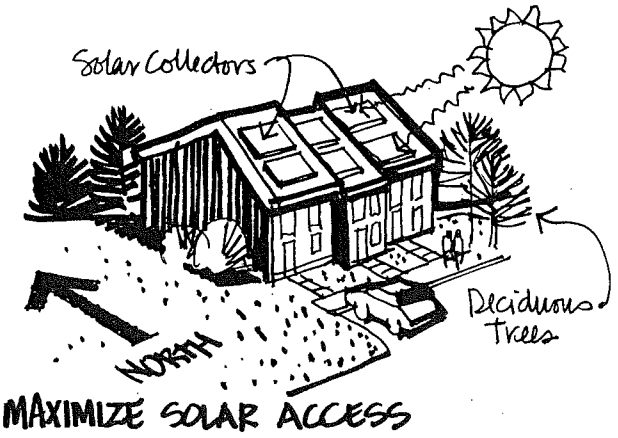
Careful site planning is not only cost efficient in regard to energy consumption, but also cost effective for developers in regard to site work. This cost benefit results from working with existing land forms, minimizing the need for extensive earthwork. Retention of natural features and flexible site planning should be encouraged for their energy saving potentials. Heating and cooling needs of residential and commercial structures can be greatly reduced through the employment of various siting and construction techniques. A well insulated and sited house can reduce energy needs by as much as 70 percent.

Various siting considerations should be considered when locating structures to use most efficiently alternative energy sources and systems. Solar energy can be used in both active and passive systems. Technqiues that should be encouraged include the following:

- Buildings should be clustered. This reduces the amount of roads required as well as length of power and sewer lines needed to serve the development. Cluster development should be encouraged not only for these potentials, but also for its ability to preserve the natural environment by reducing land requirements.







1 See Appendix 12, Energy Conserving Development

- Streets should be designed so that building lots can be placed in a north-south direction. This enables buildings to be oriented to the south for maximum solar access. Long axes of buildings should run east-west.

- South facing slopes allow greatest potential for solar access. Development of these slopes first should be encouraged.

- The right of buildings to receive solar access must be assured and protected.

- Use of active and passive solar heating and cooling systems should be permitted and encouraged.

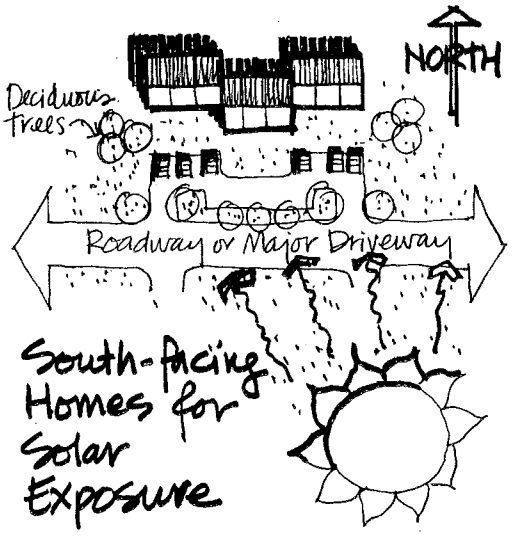
- Standardized set-back and orientation requirements are not always energy efficient. Flexibility in siting and building orientation is strongly encouraged.

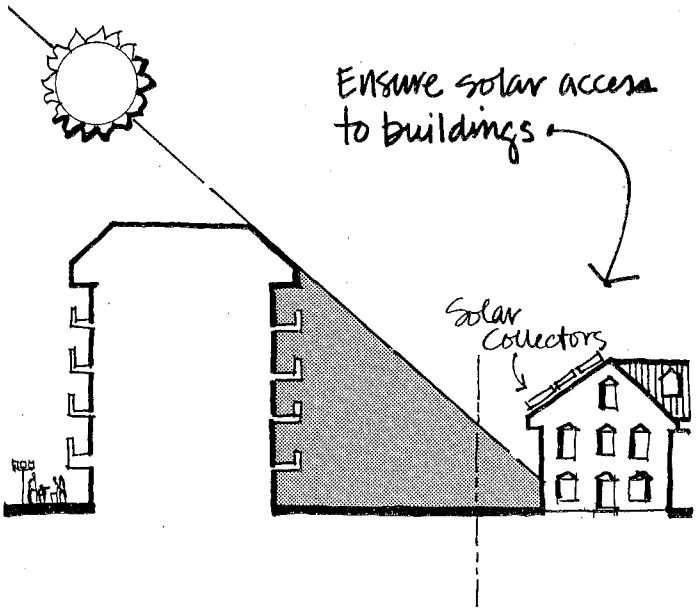
- Arrangement of buildings should take advantage of access to natural cooling breezes in the summer.

- Vegetation, landforms and structures should be used to channel summer breezes and to buffer structures from winter winds.

- Parking lots, paved areas, streets and buildings should be shaded by trees or structures to reduce temperatures in the summer.

- Cold air drains toward low topographic spots. Buildings should be discouraged in these areas as they would require excess energy for winter heating.





In addition, employment of various construction techniques can greatly reduce energy consumption. Included in these are the following:

- Certain building types are inately more energy efficient than others. These include multi-family housing, structures which share a common wall, and earth-integrated structures. Energy efficient building types should be encouraged.

- Window placement and the extent of exterior wall surface can also affect energy consumption. These issues should be considered in building design.

- The reaction of different colors and materials to heat and light varies. Use of those materials and colors which are most energy efficient should be encouraged.

- Sufficient insulation, weather-stripping and thermal glazing must be encouraged.

Currently in Fairfax County, the overwhelming majority of travel is done via automobile. This is particularly wasteful of energy. To provide for more efficient travel certain energy saving options should be encouraged. These include:

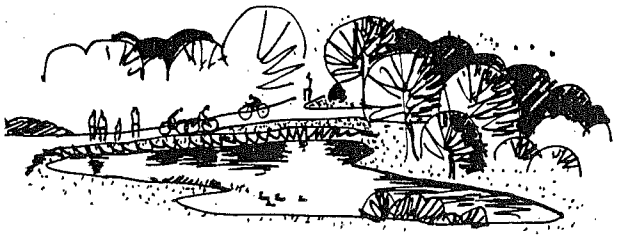
- A mass transportation system should be introduced into the Study Area. A bus system connecting the Study Area to the Nutley Road Metro-rail station should be an integral part of the overall plan. plan.

- "Park and Ride" commuter parking lots including one at the Landfill Site should be provided. Parking availability in other locations should be kept at a minimum, encouraging the use of mass transit or car or van pooling.

- This system should be served by and coordinated with a local bus service connecting various residential neighborhoods and commercial developments within the Study Area. Sheltered waiting areas are also necessary.

- The road network should provide service at such a level as to promote efficient traffic flow, yet not be overdesigned so as to encourage usage.

- A network of pedestrian and bicycle trails should be incorporated as an integral part of the transportation system.



Considering Noise Impact in Planning and Design

Excessive noise has been recognized as detrimental to the public health and welfare by the federal government in the Noise Control Act of 1972. Through research and scientific consensus, the Environmental Protection Agency has determined the levels of noise requisite to protect the public health and welfare with an adequate margin of safety. Considering these findings, as well as the costs and technical feasibility of achieving reductions in community noise levels, the Federal Interagency Committee on Noise has published Guidelines for Considering Noise in Land Use Planning and Control (June, 1980) for use by state and local governments.

Presently the Fairfax County staff is preparing for the Board of Supervisors a policy paper on noise pollution and the ways in which land use planning and development controls can be used to protect County residents from excessive levels of noise. The federal interagency guidelines will form the basis for the recommended noise standards to be presented in this policy paper. The paper will address highway, railroad, and airport noise.

Neither railroad nor airport noise significantly impact the Route 50/I-66 Study Area. There are no rail lines which cross through or pass near the area. According to the adopted Comprehensive Plan, the ultimate noise exposure forecast (NEF) zones for Dulles Airport, where noise levels are expected to be high enough to require mitigation measures, do not affect the Study Area.

In the 50/I-66 Study Area, highway traffic is the major noise generator. A preliminary analysis of the present traffic noise level contours was prepared by the County staff to determine the signifiance of noise impacts*. This was a case analysis which took into account the effects of topography and other physical barriers on a site specific basis. Through this analysis it was determined that a significant portion of the Study Area is presently affected by excessive levels of noise, par-

*Federal Highway Administration RD-77-108 Highway Traffic Noise Protection Model (FHWA Technical Advisory T 5040.5)

ticularly for noise sensitive uses such as residential use. The roads which presently generate significant levels of highway noise include Routes 50, I-66, 29 and West Ox Road.

The recommended interagency noise standards guidelines indicate that exterior noise levels greater than 65 dBA Ldn and interior noise levels greater than 45 dBA Ldn are not recommended for residential use. However, reasonable and acceptable mitigation measures are available for residential structures exposed to exterior noise levels of between 65 and 75 dBA Ldn so that as interior noise level of less than 45 dBA Ldn can be achieved. Exposure of residential uses to greater than 75 dBA Ldn is unacceptable according to the guidelines.

The preliminary staff noise analysis indiciates that present 75 dBA Ldn contours generally are located very close to the roads. Route I-66 between Route 50 and Route 123 represents the worst case where the 75 dBA Ldn noise contour extends approximately 210 feet from the centerline of the roadway. The distance from the road centerline affected by noise levels greater than 75 dBA Ldn is quite narrow. In addition, residential uses along Route 50, I-66, 29 and 608 can be developed so as to not be located within the present 75 dBA Ldn contour. Mitigation measures to achieve a 45 dBA Ldn interior noise level include setbacks with plantings, acoustical treatment of buildings, berms and other acoustic barriers. Similar mitigation measures can also be applied to other land uses,though the recommended maximum noise exposure levels are not as stringent as those for residential uses.

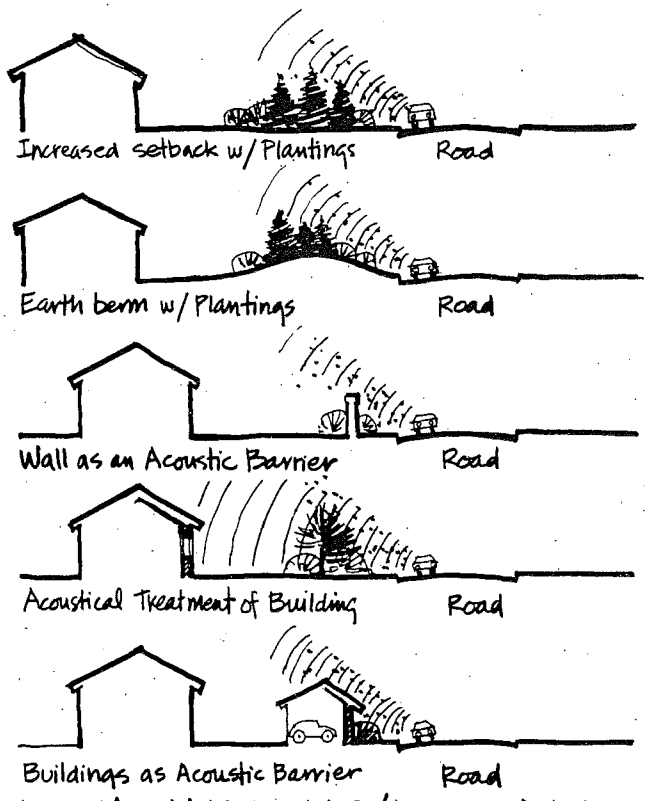
This discussion has centered on present noise levels. Predictions of future noise levels resulting from the proposed plan, when developed, are not available. It is expected, however, that any excessive noise level problems can be mitigated, though measures may need to be more stringent than those currently required since traffic levels (and their accompanying noise levels) are expected to increase. Wider setbacks along roads, in addition to the other mitigation measures listed, may be required for residential uses. This may require the consolidation of some small parcels along the roads to create a more easily developed project.

GENERAL EXTERIOR NOISE LEVEL GUIDELINES
FOR RESIDENTIAL DEVELOPMENT

Less than 65 dBA - Acceptable

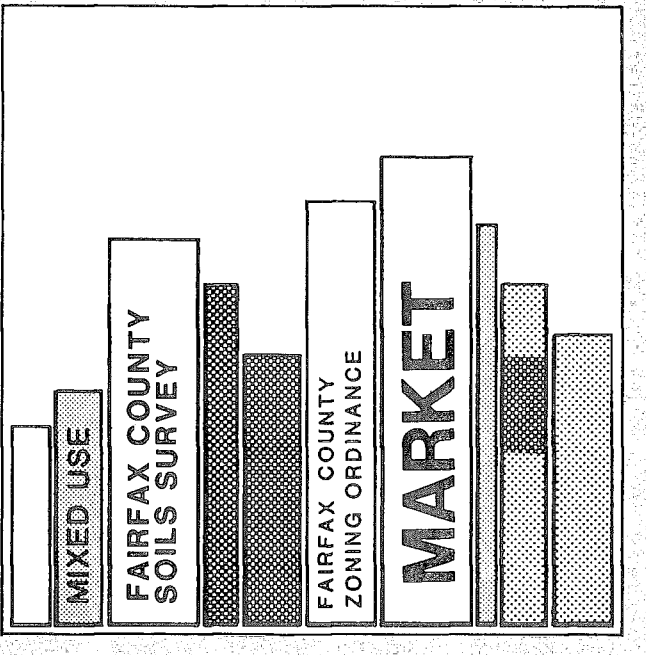
From 65 dBA to 75 dBA - Acceptable with mitigation

Greater than 75 dBA - Not recommended



MITIGATION MEASURES/RESIDENTIAL
(to achieve 45 dBA Ldn INTERIOR NOISE LEVEL)

8.0
APPENDIX


MIXED USE
FAIRFAX COUNTY
SOILS SURVEY
FAIRFAX COUNTY
ZONING ORDINANCE
MARKET

8.0 APPENDIX

LIST OF APPENDICES

GLOSSARY

ADT: Average Daily Traffic - An average of the number of motor vehicles which travel a road segment in both directions over a 24 hour time period.

AQUIFER: A permeable underground geologic formation through which groundwater moves, yielding significant quantities of water to wells or springs.

BASELINE PLAN: The "lowest" level of the Land Use Plan in terms of overall development density/ intensity. The Baseline Plan is based on the adopted Comprehensive Plan for the Study Area with certain modifications in transportation infrastructure, open space and other key land use assignments.

BEST MANAGEMENT PRACTICES: Design standards and management strategies which can reduce water pollution problems associated with increased urbanization. They are mainly source controls which attempt to prohibit pollutants from reaching the hydrologic systems and reduce the quantity of stormwater runoff. These practices range from oil regulatory programs at the regional scale to the use of detention structures, porous pavements, infiltration systems and grassy swales on specific sites.

CAMPUS-LIKE: Displaying the visual qualities of a college campus; that is, having buildings of relatively low FARs, surrounded by ample landscaped open space with surface parking lots and structured parking well screened from view.

COMMUNITY COMMERCIAL CENTER: A commercial retail center averaging approximately 160,000 square feet in gross floor area, anchored by a variety or junior department store, and developed to serve Study Area employees and residents, and residents within a 15 minute drive of the area.

DAY-NIGHT SOUND LEVEL (Ldn): The Ldn is the A-weighted equivalent sound level for a 24 hour period with an additional 10dB weighting imposed on the equivalent sound levels occurring during nightime hours (10 p.m. to 7 a.m.)

DECIBEL (dB): A measure of sound intensity, the decibel is a logarithmic unit representing the volume and frequency of a sound.

DECIBEL, A-WEIGHTED (dBA): The dBA sound provides a measure of the volume and frequency spectrum of sounds that correlates with subjective human response to sounds.

DIRECT RUN-OFF (SURFACE RUN-OFF): The run-off entering stream channels promptly after rainfall or snowfall.

ENVIRONMENTAL QUALITY CORRIDORS (EQC): EQCs provide the basic open space system for the County as defined in the Fairfax County Plan. The following lands are included in EQCs: all 100 year floodplains, all floodplain soils adjacent to streams which exhibit a high water table and poor bearing strength or other severe development constraint, wetlands, steep slopes greater than 15% 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 designed to prevent sedimentation. This filter strip is calculated from the following formula:

Buffer width=50 + (4x %slope) in feet

FAR: Floor Area Ratio - a measure of building bulk based on the relationship of the area of a building floor space to the area of the lot on which the building is situated, as indicated by the following equation:

$$FAR = \frac{\text{Total building floor area}}{\text{Total site area}}$$

FLOODPLAIN: Land adjacent to streams or other surface water which may be submerged by flooding; usually the comparatively flat plain within which a stream or riverbed meanders.

IMPERVIOUS SURFACE: A natural or man-made surface (road, parking lot, roof, patio) which forces rainfall to run off rather than filter through the surface material.

INTERMEDIATE RANGE: An "intermediate" range of the Land Use Plan in terms of overall density/intensity for the Study Area. This offers a level of guidance for performance in terms of controls/ incentives above the Baseline Plan yet less than the maximum level permitted.

LEVEL-OF-SERVICE: A measure of the quality of service provided to motorists by a roadway. It is based on the volume of traffic per lane during a one hour period and reflects operating speed and flow characteristics of traffic.

MAJOR BONUS: The maximum level of density/intensity for a particular site, as specified in the Land Unit Summary Chart.

MINOR BONUS: The intermediate density/intensity range level for a particular site, as specified in the Land Unit Summary Chart.

NEIGHBORHOOD COMMERCIAL CENTER: A commercial retail center averaging about 80,000 square feet in gross floor area, anchored by a supermarket and/or drug store and developed to serve Study Area residents primarily.

NON-POINT SOURCE POLLUTION: Water pollution which comes from any non-confirmed source, such as a diffuse land area, as opposed to pollution from a confirmed source such as a pipe. For example, stormwater runoff from agricultural land, urban parking lots, highways or construction sites picks up sediment, oil and various other pollutants and carries them into natural waterways.

OCP: (Fairfax County) Office of Comprehensive Planning.

100 YEAR FLOODPLAIN: The floodplain or area bordering a stream which will be inundated by the 100 year flood - i.e., the flood intensity that is predicted to strike once in 100 years.

OVERLAY PLAN: The "highest" level of the Land Use Plan in terms of overall development density/intensity This plan offers the maximum guideline performance capability in terms of controls/incentives, and thereby offers the highest program with commensurate highest level of amenity/quality.

PDC: Planned Development Commercial - This concept for commercial development allows flexibility in design in such aspects as lot size, width and yard requirements, building height limitations and FAR, as well as uses allowed (as much as 50% of the gross floor area may be devoted to residential dwellings) in return for a well designed development which does not adversely affect neighboring properties, incorporates high standards for layout, design and construction, includes unique design features and amenities, and is aesthetically pleasing.

PDH: Planned Developmet Housing - This concept for residential development allows flexibility in housing type and use mix as long as the overall residential density for the development site, as specified in the adopted Plan, is not exceeded, and as long as

any commercial uses allowed in the PDH development are secondary to, compatible with, and supportive of the primary residential uses. In return for this flexibility, the developer must produce a well designed plan which protects neighboring properties from adverse impacts, and which provides ample open space designed to protect site amenities, well located recreation areas and facilities, efficient and sensitively designed circulation systems for both vehicles and pedestrians, high quality lot, building and parking layouts and ample landscaping.

PEAK HOUR: The hour over a given 24 hour period during which the highest number of motor vehicles per hour travel over a particular road segment.

PHYSIOGRAPHIC PROVINCE: A natural region comprised of a distinctive structural framework which gives rise to distinctive landforms, whose structure is expressed in terms of specific climate, soil, vegetation, water and other resource conditions.

POINT SOURCE POLLUTION: Water pollution which comes from a confined source, including any pipe, ditch, tunnel, conduit, well, water craft, treatment plant discharge or sewer overflow.

RETENTION/DETENTION PONDS: Small ponds with a permanent water surface which mitigate potential negative water quality impacts caused by increased runoff. Stormwater enters the pond, temporarily raising the pond surface level; water gradually discharges at a specified release rate until the water level returns to pre-storm conditions.

SLOPE: The inclination of a landform surface from the horizontal plane. Slope proportion can be expressed as a ratio, in percentage or as an angle. (A 3:1 slope is equivilant to a 33 1/3% slope). To determine the percentage of any given slope, the vertical distance is divided by the horizontal distance.

STREAM VALLEY: Any stream and the land extending from each side of it to a line established by the high point of the concave/convex topography. Frequently, the two primary criteria used in determining stream valleys include the land within the 100 year floodplain and the area along the floodplain with slopes of 15% or more.

SUPPORT COMMERCIAL USES: Commercial uses located in a PDH development which must be designed to serve primarily the needs of the residents of that development. These must maintain and protect the residential character of the PDH development and adjacent residential neighborhoods as well.

APPENDIX 1
SOILS ANALYSIS MATRIX
FAIRFAX CO. SOIL SURVEY OFFICE, FAIRFAX, VA.
MAY, 1963

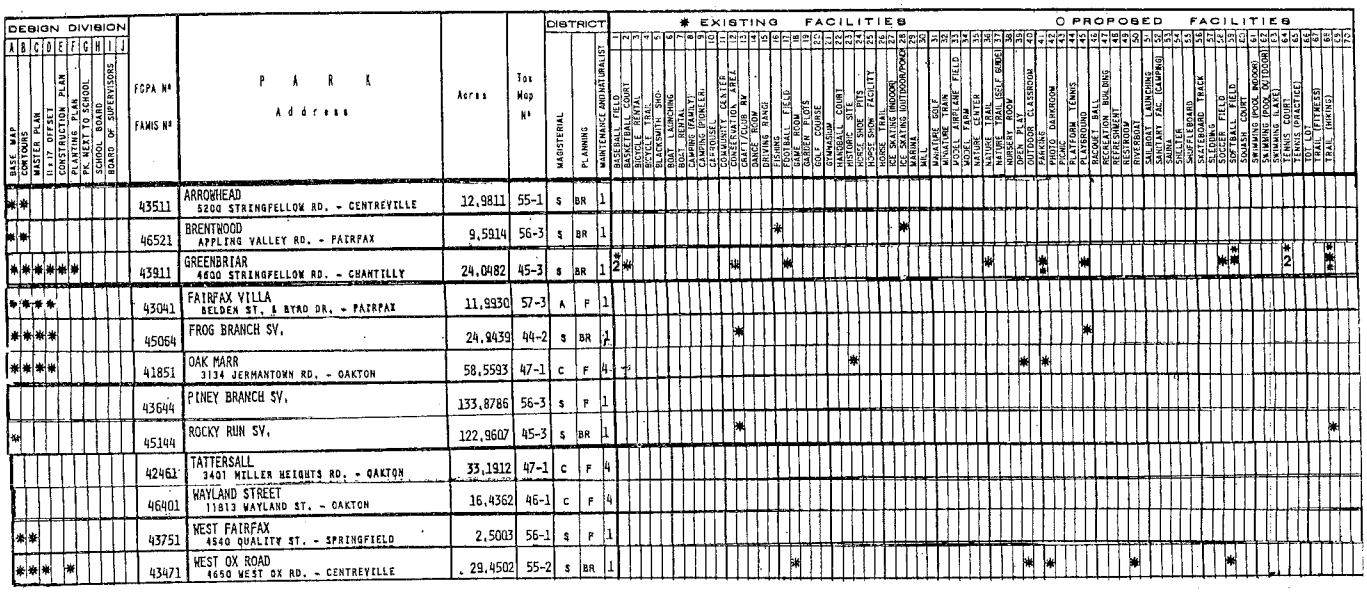
SOILS ANALYSIS MATRIX Soil Type	Slope Range	Erodability	Septic Suitability	Hwy. Loc. Suitability	Bearing Capability	Drainage	Determination	Remarks
1. Augusta very fine sand loam 90BK	B/C	2	3	2	3	2	1	
1. Bowmansville Silt Loam 13B1	B	1	3	3	3	3	4	Floodplain-high water table
2. Brem-Orange silt loam 59B1	B/C	2	3	3	3	2	3	High shrink/swell plastic clay pan
3. Bucks loam 72C2	C	1	1	3	1	1	1	Shallow to bedrock
3A. Bucks silt loam 71B	B	2	2	1	1	1	1	
4. Calverton-undulating silt loam 76B2	B	1	3	3	3	2	4	Poor, fragipan & high water table
4A. Calverton loam - level phase 78B	B	1	3	3	3	2	2	
5. Chewacla silt loam 24+	A	1	3	3	3	2	4	Poor, floodplain
6. Enon silt loam 69 B2 C2 D2	B/D	2	3	3	2	2	2	High swelling clay
6A. Elbert silt loam 52B	B	3	3	3	3	3	2	Sticky, plastic high water table
7. Elloak silt loam 24 B2 C2	B/C	3	1	2	1	1	1	Highly erodible in cut slopes
7A. Crotori silt loam 80B	B	2	3	3	3	3	3	High water table
8. Fairfax silt loam 32	B/C	2	2	2	1	1	1	Marginal - has floodplain
9. Glenville silt loam 10B+	B	1	3	3	3	2	2	poor, high water table
10. Glenelg silt loam 55 B2 C2	B/C	3	1	2	1	1	1	good, all purpose soil, erodible in cut slopes
11. Iredell Mecklenberg silt loam 148 B2 50B	B	2	3	3	2	2	2	Footings to be placed on rock below soft clay
12. Lloyd loam 66 C2 D2	C/D	2	1	2	1	1	1	Shallow to bedrock
13. Manassas silt loam 14B+	B	1	3	3	3		2	Poor, high water table
14. Manor silt loam 21 C1 D2	C/D	3	1	2	1	1	3	Highly erodible in cut slopes
15. Mayodan silt loam 132 B2 C2	B/C	2	2	2	1	1	1	Wide range from sandy gravel to clay
16. Meadowsville silt loam 20 B+	B	1	3	3	3	2	2	Poor, high water table
17. Mixed alluvial lands 1A	A	1	3	3	3	3	4	Floodplain
18. Orange silt loam B1 B2 C2	B/C	2	3	3	3	2		Plastic Clay shall soil
19. Penn fine sandy loam 67 C2	C	2	1	2	1	2	1	Steep slopes, somewhat excessively drained
20. (Basic) rocky land 41 B1 C1	B/C	1	3	3	3	3	3	Poor, rock outcroppings - swelling
20A. Rocky land - acidic rock 18D	D	1	3	1	1	1	3	Rock outcropping loose stone
20B. Wehaakee silt loam 5A	A	1	3	3	3	3	4	Poorly drained,
21. Worsham silt loam 8B+	B	1	3	3	3	3	3	Poor high water table
	*	(		**		)	***	

* A 0-2%
B 2-7%
C 7-14%
D 14-25%
E +25%

** 1 - good/no constraints
2 - marginal/some constraints
3 - poor/severe/unsuitable

*** 1 - few
2 - moderate
3 - severe
4 - unbuildable

APPENDIX 2
PARK INVENTORY FOR STUDY AREA & VICINITY
FAIRFAX CO. PARK AUTHORITY, MAY, 1980



DESIGN DIVISION A	B	C	D	E	F	G	H	I	J	FCPA N° / FAMIS N°	PARK Address	Acres	Tax Map N°	DISTRICT MAGISTERIAL	DISTRICT PLANNING	MAINTENANCE AND NATURALIST
BASE MAP										43511	ARROWHEAD 5200 STRINGFELLOW RD. - CENTREVILLE	12.9811	55-1	S	BR	1
CONTOURS										46521	BRENTWOOD APPLING VALLEY RD. - FAIRFAX	9.5914	56-3	S	BR	1
MASTER PLAN										43911	GREENBRIAR 4600 STRINGFELLOW RD. - CHANTILLY	24.0482	45-3	S	BR	1
11 x 17 OFFSET										43041	FAIRFAX VILLA BELDEN ST. & BYRD DR. - FAIRFAX	11.9830	57-3	A	F	1
CONSTRUCTION PLAN										45064	FROG BRANCH SV.	24.9439	44-2	S	BR	1
PLANTING PLAN										41851	OAK MARR 3134 JERMANTOWN RD. - OAKTON	58.5593	47-1	C	F	4
PK. NEXT TO SCHOOL										43644	PINEY BRANCH SV.	133.8786	56-3	S	P	1
SCHOOL BOARD										45144	ROCKY RUN SV.	122.9607	45-3	S	BR	1
BOARD OF SUPERVISORS										42461	TATTERSALL 3401 MILLER HEIGHTS RD. - OAKTON	33.1912	47-1	C	F	4
										46401	WAYLAND STREET 11813 WAYLAND ST. - OAKTON	16.4362	46-1	C	F	4
										43751	WEST FAIRFAX 4540 QUALITY ST. - SPRINGFIELD	2.5003	56-1	S	P	1
										43471	WEST OX ROAD 4650 WEST OX RD. - CENTREVILLE	29.4502	55-2	S	BR	1

* EXISTING FACILITIES O PROPOSED FACILITIES

1 BASEBALL FIELD; 2 BASKETBALL COURT; 3 BIKE TRAIL; 4 BICYCLE RENTAL; 5 BICYCLE TRAIL; 6 BLACKSMITH SHOP; 7 BOAT LAUNCHING; 8 BOAT RENTAL; 9 CAMPING (FAMILY); 10 CAMPING (PIONEER); 11 CANOEING; 12 COMMUNITY CENTER; 13 CONSERVATION AREA; 14 CRAFT/CLUB RM; 15 HANDICAP FACILITY; 16 DRIVING RANGE; 17 FISHING; 18 FOOTBALL FIELD; 19 GARDEN PLOTS; 20 GARDEN PLOTS; 21 GOLF COURSE; 22 GYMNASIUM COURT; 23 HISTORIC SITE; 24 HORSE SHOE PITS; 25 HORSE SHOW FACILITY; 26 HORSEBACK TRAIL; 27 ICE SKATING INDOOR; 28 ICE SKATING OUTDOOR/POND; 29 MARINA; 30 MARINA; 31 MINIATURE GOLF; 32 MINIATURE TRAIN; 33 MODEL AIRPLANE FIELD; 34 MOTOR TRAINER; 35 NATURE CENTER; 36 NATURE TRAIL; 37 NATURE TRAIL (GOLF RANGE); 38 NURSERY ROOM; 39 OPEN PLAY; 40 OUTDOOR CLASSROOM; 41 PARKING; 42 PHOTO DARKROOM; 43 PICNIC; 44 PLATFORM TENNIS; 45 PLAYGROUND; 46 RACQUET BALL; 47 RECREATION BUILDING; 48 REFRESHMENT; 49 RESTROOM; 50 RIVERBOAT; 51 SAILING/CANOEING; 52 SANITARY FAC. (CAMPING); 53 SAUNA; 54 SHELTER; 55 SKATEBOARD; 56 SKATEBOARD TRACK; 57 SLEDDING; 58 SOCCER FIELD; 59 SOFTBALL FIELD; 60 SWIMMING CREEK; 61 SWIMMING (POOL INDOOR); 62 SWIMMING (POOL OUTDOOR); 63 SWIMMING (LAKE); 64 TENNIS (COURT); 65 TENNIS (PRACTICE); 66 TOT LOT; 67 TRAIL (FITNESS); 68 TRAIL (HIKING); 175

APPENDIX 3
ARCHEOLOGICAL AND HISTORIC SURVEY INFORMATION
FAIRFAX CO. DIVISION OF PLANNING, 1971

A preliminary archeological survey of the proposed Fairfax County Center site was conducted by Edward R. Chatelain and Michael F. Johnson for Fairfax County. A review of historic maps and files was conducted along with tests and field reconnaissance.

One positive and one possible prehistoric site were located in the proposed Fairfax County Center area. The positive site was located on three sides of a large springhead. The possible site, located nearby, was not considered significant. The positive site appears to be a butchering station associated with spring kills. A "chopper" tool, unearthed at the site, is both unusual and uncommon. The spring, full of decaying vegetation, may be a source of paleo-ecological data including preserved pollen, flora and fauna and cultural deposits. The site should be considered for additional advance testing and possible salvage, although it is not considered significant enough to hamper construction of the proposed Fairfax County Center.

The only historic site in the proposed Fairfax County Center site was a cemetery demarcated on County property maps. This contained one tombstone, dated 1858. No further evidence of historically significant sites was uncovered.

The rest of the Route 50/I-66 Study Area was more cursorily surveyed. Certain areas of potential significance were pinpointed. The Difficult Run floodplain has a high potential for site occurrences and a moderate potential for significant sites. The Piney Branch headwaters is given a moderate potential for site occurrence, with a low potential for significant sites.

The headwaters of the Little Rocky Run watershed was given a high degree of probability for sites, due to the attractiveness of its many springs and marshes to prehistoric hunters. However, only moderate potential for significant sites is predicted, as little is known about the prehistory of this area.

Two branches of Big Rocky Run have a moderate potential for site occurrence and low potential for significance.

Post glacial (6,000 - 12,000 year old) sites, burial mounds, stratified sites and large multi-component sites could occur in the site.

Euro-american farmers effectively settled the area in c.1730, although the area remained relatively isolated until the early 19th century when Little River Turnpike (Route 50 and 236) and the Warrenton Road (Route 29) provided access. No communities of any particular size or historical significance developed in the area.

There are two houses of historical significance in the area. The Ayre House, dating from the early 1800's was both a post office and a tavern (Flatlick Tavern - named after the run behind the house). This stone and clapboard structure, at 13110 Lee Jackson Highway, is presently owned by the International Town and Country Club.

Squirrel Hill (11822 Waples Mill Road) dates from approximately 1706, with additions from 1720 and 1790. This log and clapboard house has been examined and documented by architectural historian Worth Bailey. The house is presently being refurbished and restored by its owners.

The Battle of Ox Hill was one of the largest and most important actions of the Civil War to take place in Fairfax County. The Battle marked the point when General Lee decided to enter Maryland to meet the Union forces in Antietem, instead of attacking Washington. Two Union Generals - Issac I. Stephens and Philip Kearny - were killed in the battle. Presently, memorial marker stones with bronze plaques are surrounded by an iron railing about ten feet long by five feet wide. There is also a wooden marker describing the battle. The memorial is located adjacent to 4126 West Ox Road - and the property maintained by neighborhood residents.

STATE Virginia
COUNTY Fairfax
TOWN VICINITY Fairfax
STREET NO. 11822 Waples Mill Road
Fairfax, Virginia
ORIGINAL OWNER William Moore
ORIGINAL USE Residence
PRESENT OWNER Charles J. Reeder, II
PRESENT USE Residence
WALL CONSTRUCTION Log & clapboard
NO. OF STORIES 2

HISTORIC AMERICAN BUILDINGS SURVEY
INVENTORY

2. NAME Squirrel Hill

DATE OR PERIOD Possibly 1706; additions,
STYLE --- c. 1770, c. 1790
ARCHITECT Unknown
BUILDER Unknown

3. FOR LIBRARY OF CONGRESS USE

4. NOTABLE FEATURES, HISTORICAL SIGNIFICANCE AND DESCRIPTION OPEN TO PUBLIC No

Portions of the clapboarded log house at Squirrel Hill may predate the grant of the property from the proprietor of the Northern Neck to William Moore, 1728. Charles Kitchen, who owned the property in the early part of the twentieth century, recalls having found a wooden sill under one of the windows, during remodeling, marked with the date 1706 or 1712.

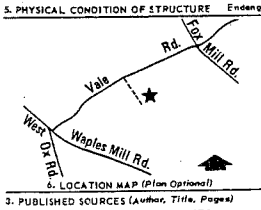
Architectural historian Worth Bailey has examined the house carefully and theorizes that two one-story log structures connected by a breezeway were stacked on top of one another in the 1770's when the structure was enlarged by tenant Turner Crump, a carpenter bonded to George Washington. A small frame portion was added at this time and the floor joists were pieced. An outside cooking fireplace shielded by a lean-to was built. the beaded siding was added to the log exterior, and an addition was built in the 1790's as evidenced by an abrupt increase in the tax assessments on the property. These last changes occurred during the owner ship of James Wrenn, Sr., architect of Pohick, Christ and Falls Churches and of the 1800 Fairfax County Courthouse.

Most of the doors had wooden hardware as recently as 50 years ago, and the batten window shutters were fastened by a wooden bolt. In 1900, the buildings included the house, barn, sheep shed, corn crib, small log shed, smokehouse and privy. The present log corn crib was moved from Ossian Hall in the 1950's.

For many years during the nineteenth century, the property belonged to the families of Fox and Barnes, both involved in the operation of Fairfax County mills.

The history of the property, and to some extent, the structures, is well documented in the deeds and wills of Stafford, Prince William and Fairfax Counties. The house, put together in a craftsmanlike manner is being carefully refurbished and restored by the owner and tenants.

5. PHYSICAL CONDITION OF STRUCTURE Endangered No Interior Fair Exterior Fair



6. LOCATION MAP (Plan Optional)

7. PHOTOGRAPH

8. PUBLISHED SOURCES (Author, Title, Pages)
INTERVIEWS, RECORDS, PHOTOS, ETC.
See Virginiana Collection files, Fairfax County Public Library.
Charles Reeder Collection of Papers pertaining to Squirrel Hill.

9. NAME, ADDRESS AND TITLE OF RECORDER
Mrs. Ross D. Netherton
Fairfax County Division of Planning
4100 Chain Bridge Road
Fairfax, Virginia 22030
DATE OF RECORD 12/15/71

COMMONWEALTH OF VIRGINIA

COUNTY OF FAIRFAX
HISTORIC LANDMARKS SURVEY

Name of Property:	Squirrel Hill
Owner:	Charles J. Reeder, II
Location (Street Address):	11822 Waples Mill Road
Mailing Address:	116 South Lee Street, Alexandria, Virginia 22314
Other Locational Data:	Can be reached by a private drive from Vale Road.
Acreage:	23
Property Identification Number:	46-1-001-13
Deed Book Reference:	Deed Book 1554, page 575.
Location of Title:	Fairfax County Courthouse
Assessed Value:	$24,840 (no building valuation) January 1971 listing.
Zoning Status:	RE-1
Present Use:	Residence
Restrictions:	---
Magisterial District:	Centreville
Planning District:	Fairfax
Open to Public:	No
Setting:	In open fields, near a pond, surrounded by old trees and domesticated and wild flowering plants.
Additional Material Available:	See Virginiana Collection files, Fairfax County Public Library: HABSI form 1971; notes; photographs. Charles J. Reeder files: citation of relevant deeds and wills and other papers pertaining to Squirrel Hill.

Date: 12/15/71

Recorder: Mrs. Ross D. Netherton
Division of Planning

1. STATE Virginia
COUNTY Fairfax
TOWN VICINITY Pender
STREET NO. Adjacent to 4126 West Ox Road
Fairfax, Virginia
ORIGINAL OWNER Reid Family
ORIGINAL USE Farm land
PRESENT OWNER Robert R. Smith, et al
PRESENT USE Memorial site
WALL CONSTRUCTION ---
NO. OF STORIES ---

HISTORIC AMERICAN BUILDINGS SURVEY
INVENTORY

2. NAME Ox Hill Memorial Markers

DATE OR PERIOD c. 1915
STYLE ---
ARCHITECT ---
BUILDER ---

3. FOR LIBRARY OF CONGRESS USE

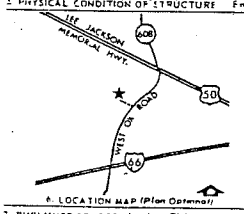
4. NOTABLE FEATURES, HISTORICAL SIGNIFICANCE AND DESCRIPTION OPEN TO PUBLIC Yes

The Ox Hill memorial marker stones commemorate the deaths of the two Union Generals (General Isaac I. Stephens and General Philip Kearny) who were killed near that spot during the Civil War Battle of Ox Hill. The stones were erected by Kearny's First New Jersey Brigade and friends, on land donated to the New Jersey group in 1915 by John Ballard and Mary Reid Ballard, his wife. The Reid family acquired the land before the Civil War, and maintained the site as a memorial following the war. The deed conveyed the land to six trustees for the express purpose of commemorating the death of any soldier, Federal or Confederate, who fell in that battle. The markers are stone with bronze plaques, surrounded by an iron railing about 10 feet long by five feet wide.

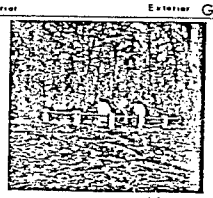
The Battle of Ox Hill, according to military historian Robert Ross Smith, was the largest and most important action of the Civil War to take place in Fairfax County. More significantly, it led to major changes in the strategy of both sides. The battle convinced General Lee that he could not cut off General Pope's troops and attack the city of Washington. Instead Lee entered Maryland and met the Union forces at Antietam. The loss of Generals Stevens and Kearny wa a serious one. Mr. Smith indicates that Kearny, had he lived, might well have become Commander of the Army of the Potomac.

The Kearny Society of New Jersey was active until 1925. In 1961, in connection with the celebration of the Civil War Centennial, the question of ownership of the property was raised and six new trustees were appointed by the Fairfax County Court, three from New Jersey and three from Virginia. As part of the centennial celebration a wooden marker sign describing the battle was erected on neighboring property. It is now in need of repair or replacement. There are at present no provisions made for individual or group responsibility for the maintenance of the property.

5. PHYSICAL CONDITION OF STRUCTURE Endangered No Interior Exterior Good



8. LOCATION MAP (Plan Optional)



7. PHOTOGRAPH N. Netherton, 1970

9. PUBLISHED SOURCES (Author, Title, Page)
INTERVIEWS, RECORDS, PHOTOS, ETC.
See Virginiana Collection files, Fairfax County Public Library.
Lt. Col. R.R. Smith, "Ox Hill", Fairfax County and the War Between the States, Vienna, Virginia, 1961.

10. NAME, ADDRESS AND TITLE OF RECORDER
Mrs. William R. David
Fairfax County Division of Planning
4100 Chain Bridge Road
Fairfax, Virginia 22030
DATE OF RECORD 11/16/70

COMMONWEALTH OF VIRGINIA

COUNTY OF FAIRFAX
HISTORIC LANDMARKS SURVEY

Name of Property:	Ox Hill Memorial Markers
Owner:	Robert R. Smith, Trustee, et al
Location (Street Address):	Adjacent to 4126 West Ox Road, Fairfax, Virginia
Mailing Address:	103 Ross Drive, S.W., Vienna, Virginia 22180
Other Locational Data:	West of West Ox Road, south of its intersection with Lee Jackson Highway (Route #50).
Acreage:	10,123 square feet
Property Identification Number:	46-3-001-32
Deed Book Reference:	Deed Book X 7, page 570
Location of Title:	Fairfax County Courthouse
Assessed Value:	No valuation listed. January 1970 listing.
Zoning Status:	RE-1
Present Use:	Civil War Memorial
Restrictions:	---
Magisterial District:	Centreville
Planning District:	Bull Run
Open to Public:	Yes
Setting:	The marker stones are set in a field and surrounded by an iron pipe fence. The property is maintained by neighborhood residents.
Additional Material Available:	See Virginiana Collection files, Fairfax County Public Library: HABSI form 1970; letters; clippings; copy of unlisted deed; photographs. Lt. Col. Robert Ross Smith, "Ox Hill," Fairfax County and the War Between the States, Fairfax County Civil War Centennial Commission, Vienna, Virginia, 1961.

Date: 1/20/71

Recorder: Mrs. William R. David
Division of Planning

1. STATE Virginia
COUNTY Fairfax
TOWN VICINITY Chantilly
STREET NO. 13110 Lee Jackson Highway
Chantilly, Virginia
ORIGINAL OWNER Unknown
ORIGINAL USE Residence
PRESENT OWNER International Town and
PRESENT USE Residence Country Club
WALL CONSTRUCTION Stone and clapboard
NO. OF STORIES 2

HISTORIC AMERICAN BUILDINGS SURVEY
INVENTORY #91

2. NAME Ayre House
DATE OR PERIOD Early 1800's
STYLE —
ARCHITECT Unknown
BUILDER Unknown

3. FOR LIBRARY OF CONGRESS USE

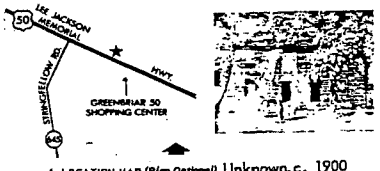
4. NOTABLE FEATURES, HISTORICAL SIGNIFICANCE AND DESCRIPTION OPEN TO PUBLIC No

Estimates of the age of this structure vary. A former owner, Mrs. C. E. Hutcheson, was told that the worn inscription on a stone over the front entrance once read "Jan. 4, 1771" but other estimates put the date of construction as late as 1820. It is said that this was originally the overseer's house for the 1700 acre Chantilly estate which gave its name to this area of the county. An 1842 postal map indicates that Thomas Ayre, then the owner, was Postmaster for Chantilly. Longtime local residents say that it was not only a post office but a tavern which housed peddlers travelling between Winchester and Alexandria. The name "Flatlick Tavern" has been recalled by these residents (Flatlick Run is approximately three-tenths of a mile behind the house).

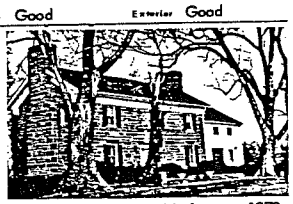
The original stone portion of the house had two exterior end chimneys, two front doors, and two-foot-thick walls. The stone came from a quarry on the property. Mr. and Mrs. Hutcheson, who purchased the property in 1943, made several alterations. They covered over one of the doors, building a china cupboard in the dining room out of the recess; built a two-story, clapboard extension, opening one of the fireplaces into its first floor den; and added a kitchen wing. They also raised the ceilings of the upper floor rooms, but according to Mrs. Hutcheson, the roofline had been raised by a previous owner.

Near the house is a garage built in 1952 of stone from the same quarry that provided the stone for the house. An old stone mounting block stands near the front of the house.

5. PHYSICAL CONDITION OF STRUCTURE Endangered No Interior Good Exterior Good



6. LOCATION MAP (Plan Optional) Unknown, c. 1900



7. PHOTOGRAPH N. Netherton, 1970

8. PUBLISHED SOURCES (Author, Title, Pages)
INTERVIEWS, RECORDS, PHOTOS, ETC.
See Virginiana Collection, Fairfax County Public Library.
Eleanor Lee Templeman and Nan Netherton, Northern Virginia Heritage, Templeman, Arlington, Virginia, 1966.

9. NAME, ADDRESS AND TITLE OF RECORDER
Mrs. William R. David
Fairfax County Division of Planning
4100 Chain Bridge Road
Fairfax, Virginia 22030
DATE OF RECORD 1/19/71

APPENDIX 4
LAND USE PLAN EVALUATION CRITERIA
EDAW, INC., 1980

LAND USE PLAN EVALUATION CRITERIA LIST (TASK 2.62) — EDAW, INC. 9/30/80

Land Use Plan Evaluation Criteria will be used in the 50/66 planning process as a common basis for evaluation of alternative land use plans. The initial criteria list generated is of two dimensions: first are goals and objectives stated by the Task Force in their philosophy/goal statements and second are the criteria developed by the EDAW Project Team derived from the Task Force goal statements and other materials. Both goals and criteria are presented separately (by major issue areas) here as the basis for Task Force participation in the criteria development process.

Once the criteria lists have been combined into a single list, each criteria on that list will be given a value (or weight) regarding its relative importance as a planning guide. This "weighting" activity will occur in future meetings. Included in this package are the following products:

1. Methodology for Inventorying Task Force Input into the Land Use Plan Evaluation Criteria.
2. Inventory of Task Force Philosophy/Goal Statements.
3. Outline of Land Use Plan Evaluation Criteria by Major Issue Areas (by EDAW Team).

It should be noted that we have continued to listen for and collect Task Force verbal statements on goals and objectives, since the initial submittal of goal statements. We have incorporated these newer statements made by both the whole committee and the subcommittee into this inventory and analysis package.

1. METHODOLOGY FOR INVENTORYING TASK FORCE INPUT INTO THE LAND USE PLAN EVALUATION CRITERIA

I. STEP ONE

A. Intent: To obtain an accurate current inventory of Task Force Member's Philosophies/Goals as they relate to the 50/66 Land Use Study.

B. Process: Solicit Task Force Statements and Inventory all comments made. Record number of times each comment appeared.

C. Product: An inventory of Philosophy/Goal Statements and the frequency of each concern.

II. STEP TWO

A. Intent: To organize the inventory of Task Force Statements into general issue areas.

B. Process: All of the recorded statements generally related to one of four issues areas: Transportation/Circulation; Land Use/Environmental Quality; Public Sector Benefit-Cost/Private Sector Market-Economics; Implementation/Adoption. Each issue area was then further broken into general statements (those appearing 3 or more times), and more specific comments (those appearing less than three times).

C. Product: An outline summary of Task Force Philosophy/Goal Statements categorized by major issue areas.

III. STEP THREE

A. Intent: To continue to gather and update goals and objectives.

B. Process: Record recent goals and objectives statements by Task Force members voiced after initial submission of Philosophy/Goal Statements of 9/16.

C. Product: Record of recent additional goals and objectives statements by Task Force members.

2. INVENTORY OF TASK FORCE PHILOSOPHY GOAL STATEMENTS

PART I

WRITTEN AND VERBAL STATEMENTS
(9/9 to 9/16)

STATEMENT	Frequency of Inventory: Transportation/ Circulation	Land Use/Environmental Quality	Public Benefit-Cost/Private Market	Implementation/ Adoption	Other
1. PROMOTE MIXED LAND USE		5	2		
2. PROTECT ENVIRONMENTAL QUALITY SENSITIVE AREAS		7			
3. BUFFER EXISTING USE FROM PROPOSED NON-CONFORMING USES		7			
4. MAINTAIN OPEN SPACE		7			
5. PROMOTE COMPATIBILITY BETWEEN DEVELOPMENTS - COORDINATION		6			
6. ALLEVIATE TRAFFIC CONGESTION	8				
7. DEVELOP A TRANSPORTATION NETWORK/MASS TRANSIT, ETC.	10				
8. PROTECT/PROMOTE WATER QUALITY		5			
9. PHASE DEVELOPMENT IN INCREMENTS		3	2		
10. DEVELOP A COST-BENEFIT PLAN			3		
11. ENCOURAGE COMMERCIAL INDUSTRIAL GROWTH (TO INCREASE TAX BASE)			4		
12. ENCOURAGE ORDERLY GROWTH	3*	3*	3*		
13. PROVIDE ACCESS FROM NORTH	3				
14. DEVELOP GOVERNMENT CENTER AS FOCAL POINT		3			
15. REDUCE DEPENDENCE ON AUTO	3*	3*			
(SUB) TOTAL OF GENERAL ISSUES	27	49	14		
16. ENERGY CONSERVATION		2			
17. MINIMIZE IMPACT ON PUBLIC FACILITIES			2		
18. USE ARTERIAL ROADS TO GOVERNMENT CENTER	2				
19. COORDINATE LAND USE & TRANSIT PLANNING	2*	2*			
20. CLUSTER RESIDENTIAL, COMMERCIAL AND OFFICE		2			
21. PROTECT OCCOQUAN & DIFFICULT RUN RIVER BASINS		2			
22. PLAN FOR METRO RAIL	2				
23. ENCOURAGE ALL FREESTANDING COMMERCIAL DEVELOPMENT TO SE QUAD		1*	1*		
24. ENCOURAGE ALL INDUSTRIAL DEVELOPMENT TO NE & 29/211		1*	1*		
25. NEW DEVELOPMENT SHOULD BE INFILL IN CHARACTER WITH LOW FAR		1*	1*		
26. DEVELOP CENTRAL CORE AROUND FAIR OAKS		1			
27. DEVELOPER SHOULD PAY FOR NEEDED BUFFER			1		
28. ENCOURAGE LANDOWNERS TO WORK TOGETHER				1	
29. RESTRICT FURTHER STRIP DEVELOPMENT ALONG RT. 50		1			
30. FOCUS TRAFFIC CORE TO I-66	1*		1*		
31. IMPROVE ROADS	1				
32. DEVELOP INTERNAL BUS CIRCUL.	1				
33. DEVELOP CRITERIA TO JUDGE LAND USE PLANS					1
34. PROMOTE SENSE OF HUMAN SCALE		1			
35. IF NEEDED ON I-66 DEVELOP AN INTERCHANGE/BRIDGE @ WEIGH STATION - NOT AT STRINGFELLOW ROAD	1				
36. DEVELOP PLAN TO OBTAIN FUNDS FOR ROADS	1*		1*		
37. PLAN FOR LOW/MODERATE INCOME HOUSING		1*	1*		
38. DEVELOP REQUIREMENTS TO BE TAKEN DURING CONSTRUCTION PHASES		1			
39. STUDY URBAN WATER MANAGEMENT, FLOOD PLAIN, ZONING RUNOFF, EROSION, ETC.		1			
40. MAINTAIN OPEN QUALITY EVEN WITHIN LARGE DEVELOPMENT CENTERS		1			
41. PROVIDE MINI-PARKS		1			
42. ESTABLISH WATER NEEDS/ CAPACITY		1			
43. ELIMINATE POINT & NON-POINT SOURCE POLLUTION		1			
44. DEVELOP CONSERVATION PLAN FOR STREAM VALLEYS		1			
45. PROTECT DIFFICULT RUN NATURAL TROUT - WILDLIFE		1			
46. ANALYZE SPRINGFIELD BYPASS	1				
47. SOLVE 50 & W. OX RD. PROBLEM	1				
48. BRIDGE ON LEGATO ROAD OVER I-66	1				
49. DEVELOP DIRECT ACCESS TO NON-RESIDENTIAL AREAS	1				

PART II

VERBAL STATEMENTS TAKEN FROM
MINUTES PRIOR TO AUGUST 1
BY WAYNE PUMPHREY

	Frequency of Inventory				
	Transportation/ Circulation	Land Use/Envir- onmental Quality	Public Benefit- Cost/Private Market	Implementation/ Adoption	Other
50. CREATE A FOCAL POINT FOR IDENTITY FOR THE ENTIRE COUNTY		1			
51. PROVIDE FOR A MIX OF HIGH-RISE APARTMENTS WITH OFFICE AND PARKS		1			
52. PRESERVE EXISTING NEIGHBORHOODS WHILE ALLOWING FOR THE POSSIBILITY OF LAND USE CHANGE		1			
53. RECOGNIZE EXISTING RIGHTS OF LANDOWNERS AND EXISTING RIGHTS OF SURROUNDING COMMUNITIES		1*		1*	
54. CONSIDER MASS TRANSIT NEEDS	1				
55. UTILIZE LANDSCAPING, BERMS AND PLEASING USE OF WATER AND OTHER AESTHETIC EFFECTS		1			
56 PLAN MODEST DENSITY OFFICE AND RESIDENTIAL AREAS THAT DO NOT DEMAND ORIENTATION TO TRAVEL CORRIDORS THAT RETAIL DOES--THEN INTERIOR PARCELS ARE JUST AS ATTRACTIVE AS CORRIDOR PARCELS		1*	1*		
57. FOSTER SMALL AND LARGE PROPERTY OWNERS CAN WORK TOGETHER WHEN IT IS IN THEIR ECONOMIC INTEREST (E.G., 50/66 ASSOCIATES)	1*	1*			
58. PROVIDE FOR PEDESTRIAN CIRCULATION	1*	1*			
59. RECOMMEND A PLAN THAT IS PREDICTABLE TO AVOID CONSTANT CHANGES FOR HIGHEST AND BEST USE				1	
60. PROVIDE FOR DEVELOPMENT THAT WILL ENHANCE THE PROPOSED GOVERNMENT CENTER		1			
61. MAINTAIN LIAISON WITH OTHER STUDY GROUPS SUCH AS THE SPRINGFIELD BYPASS COMMITTEE, THE MASTER PLAN COMMITTEE AND THE OCCOQUAN BASIN STUDY COMMITTEE					1
62. LARGE TRACT OWNERS HAVE INCENTIVE FOR INNOVATIVE ARCHITECTURE		1			
63. LARGE VACANT AREA IS THE KEY ELEMENT				1	
64. LARGE TRACTS HAVE SIGNIFICANT BENEFITS AND OFFER INNOVATIONS TO LAND USE DEVELOPMENT (WATER RETENTION AND DETENTION AREAS, ROAD DEDICATIONS).				1	
65. DUE TO THE VACANT CHARACTER AND CONFIGURATION OF PROPERTIES WITH RESPECT TO EXISTING ROADS, THE AREA WILL NOT BE FORCED TO DEAL WITH THE PRESSURES FOR COMMERCIAL STRIP DEVELOPMENT			1		

	Frequency of Inventory				
	Transportation/ Circulation	Land Use/Envir- onmental Quality	Public Benefit- Cost/Private Market	Implementation/ Adoption	
66. STUDY PRESENTED AN OPPORTUNITY FOR HIGH QUALITY INDUSTRIAL OFFICES		1			
67. THE RT. 50/I-66 AREA IS ONE OF THE LAST LARGE AREAS OF ACCESSIBLE LAND AVAILABLE IN THE WASHINGTON METROPOLITAN AREA			1		
68. USE OF PLANNED DEVELOPMENT ZONES				1	
69. USE OF TRANSFERRABLE DEVELOPMENT RIGHTS				1	
70. USE OF COVENANTS: -TO PREVENT PREMATURE DEVELOPMENT -TO PREVENT LAND FROM BEING DEVELOPED FOR NUMBER OF YEARS OR EXCLUDE CERTAIN AREAS FROM DEVELOPMENT				1	
71. NEED FOR EFFECTIVE IMPLEMENTATION TECHNIQUES				1	
72. EFFECTIVE USE OF PROFFERS				1	
73. PRIOR ACQUISITION OF EASEMENTS				1	
74. EMPLOYMENT OF COUNTY PROJECT MANAGER TO PROVIDE COORDINATION FOR THE NECESSARY COUNTY GOVERNMENT PROCESSING RELATED TO DEVELOPMENT WITHIN THE STUDY AREA				1	
75. LANGUAGE WITHIN THE COMPREHENSIVE PLAN RELATED TO DEVELOPMENT CONTROLS				1	
76. POSSIBILITY OF NEW ENABLING LEGISLATION FOR IMPLEMENTATION TECHNIQUES				1	
77. CONSIDERATION OF A SPECIAL OVERLAY DISTRICT FOR THIS AREA				1	
78. PROVISION OF AN AGGREGATION INCENTIVE USING FAR. IF YOU WANT MORE SQUARE FEET OF COMMERCIAL, YOU HAVE TO AGGREGATE MORE LAND				1	
79. USE OF COVENANT ON A YEAR-BY-YEAR BASIS OR SEVERAL YEAR BASIS WITH RECOVERY OF PROPERTY TAXES IF VIOLATION OF COVENANT				1	
80. CREATION OF A GOVERNMENT OVERLAY DISTRICT TO FOSTER AND PROMOTE DEVELOPMENT THAT WOULD BE COMPATIBLE WITH THE GOVERNMENT CENTER				1	
81. NEED FOR AN INCENTIVE TO PHASE DEVELOPMENT				1	
82. USE OF TAX INCENTIVES--ESPECIALLY OPEN SPACE TYPE OF TAX SYSTEM				1	
83. TAX RELIEF TO HOLD PROPERTY OFF MARKET AND NOT DEVELOP PREMATURELY				1	

	Frequency of Inventory			
	Transportation/ Circulation	Land Use/Envir- onmental Quality	Public Benefit- Cost/Private Market	Implementation/ Adoption
84. IN ORDER TO ACHIEVE THE KIND OF VISION THAT WE ASPIRE TO, WE MUST HAVE CONSENSUS OF ALL PARTIES. IF THERE IS NOT ULTIMATELY A CONSENSUS REACHED AMONG ALL THE RELEVANT INTERESTS, THIS EXERCISE WILL BE IN VAIN				1
85. IF WE RECOMMEND A PLAN THAT IS TOO MODEST IN THE SENSE OF TIMING AND DENSITIES AND IT IS ADOPTED, THE BOARD WILL BE UNDER PRESSURE TO START AMENDING THE PLAN				1
86. DEVELOPMENT SHOULD BE ECONOMICALLY SOUND IN TERMS OF PROTECTING THE TAX BASE			1	
87. DEVELOPMENT OPTIONS MUST CONSIDER PUBLIC EXPENDITURES FOR INFRASTRUCTURE IN TERMS OF COST/BENEFITS TO COUNTY			1	
88. OPTIONS FOR CHANGES WITHIN THE PLAN MUST CONSIDER ECONOMICS OF RETENTION OF PRIVATE PROPERTY AND ECONOMICS OF GOVERNMENT RETURN FOR PARTICULAR LAND USES			1	
89. CONSIDER URBAN DESIGN TO ACHIEVE ENERGY CONSERVATION		1		
90. CONSIDER ARCHITECTURAL CONTROLS THAT WILL ASSURE COMPATIBLE DEVELOPMENT AND MAY ENCOURAGE ENERGY CONSERVATION		1*		1*
91. PROVIDE AN ORIENTATION OF THE LAND USES WHICH WILL ENCOURAGE ENERGY CONSERVATION		1		
92. TREES SHOULD BE PRESERVED FOR PARKS AND OPEN SPACES		1		
93. DEVELOPMENT SHOULD BE IN HARMONY WITH THE ENVIRONMENT		1		
94. NONPOINT POLLUTION PROBLEMS SHOULD BE MINIMIZED AND HELD TO CURRENT LEVELS		1		
95. A MAJOR EMPHASIS OF THE STUDY SHOULD BE PRESERVATION OF THE QUALITY OF THE OCCOQUAN RESERVOIR		1		
96. BUILDINGS SHOULD BE DESIGNED TO SOFTEN ANY IMPACT OF DEVELOPMENT ON ADJACENT PROPERTIES		1		
97. PROTECTION OF AQUIFER RECHARGE AREAS		1		
98. THE PROBLEMS OF MULTIPLE OWNERSHIP AND MARKET PRESSURES MUST BE ADDRESSED			1*	1*
99. THE UTILITY COORDINATION PROBLEM OF MULTIPLE OWNERSHIP CAN BE SOLVED BY EMINENT DOMAIN				1
100. SEWER IMPLICATIONS OF DEVELOPMENT IS A KEY FACTOR			1	
SUBTOTAL	18	43	17	26
TOTAL	45	92	31	26

PART III

RECENT GOALS AND OBJECTIVES STATEMENTS BY TASK FORCE MEMBERS SINCE (9/16) OR SUBCOMMITTEE MEMBERS

	Frequency of Inventory			
	Transportation/ Circulation	Land Use/Envir- onmental Quality	Public Benefit- Cost/Private Market	Implementation/ Adoption
101. PROVIDE MORE TAX REVENUE VS. SERVICE BURDEN COSTS (SELF-PAYING) WITH A NEW PLAN OVER WHAT EXISTING PLANNING AND ZONING WOULD ACHIEVE				
102. UTILIZE EXISTING IMPLEMENTATION TOOLS & AUTHORITY TO THE MAXIMUM EXTENT POSSIBLE				
103. DEVELOP NEW TOOLS AND AUTHORITY FOR THE FEW CRITICAL ISSUES NOT SOLVED WITHIN EXISTING AUTHORITY				
104. PROVIDE INCENTIVES TO AGGREGATE SMALL LOTS TO LARGER PARCELS				
105. USE INCENTIVES RATHER THAN NEW CONTROLS TO INSURE THE PLAN IS ACHIEVED. E.G.: HEIGHT BONUS F.A.R. BONUS SHARED USE PARKING BONUS				
106. ACHIEVE MIXED LAND USE IN LARGE AND SMALL PARCELS (5 ACRES) IN EACH DEVELOPMENT SERVED BY SUCH IMPROVEMENTS				
107. INSURE TRANSPORTATION IMPROVEMENTS NEITHER LEAD TOO MUCH NOR LAG TOO FAR IN RELATION TO LAND USE DEVELOPMENT SERVED BY SUCH IMPROVEMENTS				
108. PROVIDE A HIGH QUALITY COMMUNITY DESIGN CHARACTER				

PRELIMINARY DRAFT

3. EVALUATION CRITERIA OUTLINE
(as developed from goals and objectives statements)

I. TRANSPORTATION/CIRCULATION

A. Pedestrian/Bicycle
1. Circulation Systems - linkages
2. Urban Plazas/Spaces - nodes
3. Grade Separation of Systems with Auto/Rail/ Bus Systems
4. People movers: escalators, elevators, moving walks, etc.

B. Mass Transit
1. Feasibility of alternative modes
2. "Magnets" developed as Metro rail extension incentives
3. Incorporation of transit systems in all planning efforts
4. Bus or rail transit system for study area
5. Parking facilities
6. Air transportation relationships (Dulles, heliports, etc.)
7. Allow for innovative transit modes (paratransit, etc.)
8. Consider Urban Design Aspects of Mass Transit (i.e., multi-modal services incorporated into architectural structures, mixed-use ramifications; parking structure needs; multi-level aspects, etc.)

C. Automobile
1. Hierarchial Roadway System related to Land Use
2. Safety Aspects: design speed, intersection/ interchange location and design, access controls, etc.)
3. Noise Impacts
4. Visual Impacts
5. Roles of I-66, Rt. 50, Rt. 29/211, Springfield By-Pass, and major internal collectors in overall Land Use Plan
6. Mitigation of Existing Traffic Congestion Problems
7. Pace all road improvements with related land use development activity
8. Service Vehicle access, road usage, etc.
9. Reduce number of vehicular trips and site related VMT

D. Costs - See Category III

II. LAND USE/ENVIRONMENTAL QUALITY

A. Land Use
1. Conceptual order: cluster, mixed use, buffer uses, core(s), corridor, dispersed
2. Specific Land Use selection
3. Private sector/public sector use designations - mix potential
4. Specific land use categories and development densities (commercial, institutional, industrial, open space, etc.)

B. Community Design Character (Urban Design)
1. Design/density concept
2. Mixed-use structures
3. Architectural/landscape architectural continuity/ Quality
4. Circulation System Interface
5. Major public spaces focus
6. Site development guidelines (lighting, parking, landscaping, etc.)

C. Environmentally Sensitive Areas
1. Difficult Run Watershed (flora/fauna/water quality)
2. Occoquan Watershed (water quality, etc.)
3. Stream Valley Protection/Preservation
. Open Space/Parkland
. Sedimentation/Erosion Control
4. Wildlife Protection (general;potential corridors)
5. Vegetation Protection (general)

D. Water Quality
1. Non-Point Source Pollution Control
. Storm water retention/Best Mgmt. Practices (BMPs)
2. Point source pollution control
3. Sedimentation/Erosion Control
4. Subsurface Water Supply Protections
. Aquifers
. Wells
5. Septic System Controls or Subsurface Water

E. Air Quality
1. Cluster Uses to reduce auto emission impact
2. COntrol point source polluting land uses
3. Set future air quality improvement goals based on accepted quantifying models
4. Control odor-producing land uses (i.e. land fill; recycle to recreation/scenic use)

III. PUBLIC SECTOR BENEFIT COST/PRIVATE SECTOR MARKET ECONOMICS

A. Public Sector Benefit Costs
1. Transportation costs
2. Sewer, water, utilities, schools, other services costs
3. Tax base revenues generated
4. Benefit-cost of new plan vs existing planning/ zoning
5. Staging increments
6. "Do not lead/do not lag"

B. Private Sector Market Economics
1. Market parameters and general expectations:
a. 5 years
b. 10 years
c. 15 years
d. 20 years
2. Market mix, density, and quality

IV. IMPLEMENTATION/ADOPTION

A. Existing tools

B. Existing law and authority

C. Consensus and Agreements
1. 50/66 Task Force
2. Board of Supervisors
3. County-wide - citizens

D. Minimum use of new tools for special purposes

E. Timing and Funding for public sector improvements

F. Emphasis on incentives vs new controls

APPENDIX 5
DEVELOPMENT CHOICES FOR THE 80'S
NEWSLETTER NO. 25, DECEMBER, 1981

Council's Recommendations for Physical Development

The Council's statement discusses forms of physical development most suitable to the demands of the '80s, which are to:

- Increase compactness of metropolitan fringe and nonmetropolitan areas. Development forms which achieve compactness but retain the character of single-family areas, says the Council, will be most successful. Design can play a key role in retaining the benefits of privacy and security under conditions of increased compactness of residential and commercial development.
- Accelerate the process of infill and redevelopment in existing communities. This objective, the Council believes, is readily achievable for older areas, both suburban and central city, in the 1980s. In looking at redevelopment opportunities, priority consideration should be given to obsolete manufacturing, warehouse, and rail areas that offer sites of significant size for conversion to new uses.
- Increase the mix of land uses in development projects and neighborhoods. In the '80s, we could benefit from selective changes in policies that currently segregate the activities of daily life--home, work, recreation, and shopping--and in policies that separate housing types. Mixed use can be applied to existing development and to new development projects. Whatever form it may take at the project or neighborhood level, mixed-use development requires sensitive planning and design.
- Increase transportation choices. More compactness in development, infill, redevelopment, and mixed use will help broaden transportation options, allowing Americans who care to do so to reduce overall transportation costs and/or travel time.
- Provide an adequate supply of housing. The Council recommends that communities adopt a goal of encouraging housing supply adequate to meet the needs of new and changing households and diverse income groups. The Council believes that action will be taken on this front only if there is a better understanding of why the supply issue is important, the reason being that an expanding supply of housing helps hold housing price increases down, enhances social and economic mobility options, and can be critical to success in meeting economic development objectives. Supply requirements can be met by building new housing (including a more extensive use of manufactured housing), making better use of the existing housing stock, for example, through conversion of larger single-family residences to accommodate two or more smaller households, and limiting excess losses from existing stock through conservation and maintenance measures.
- Establish a model for the '80s--the urban village. The Council members believe that their recommendations regarding community building and housing will be most effective when they are implemented to reinforce one another. The ideas of planned transportation systems, compact and mixed-use centers, and residential diversity are embraced in the urban village concept. The goal of urban villages is to form communities at the scale of several neighborhoods, a scale at which public facility and service efficiencies can be achieved through careful planning and a scale at which balance between jobs and housing can become a reasonable objective. Conditions favor the revival of an old idea--the jobs/housing balance concept--as a major feature of development in the '80s. The Council sees ample prospects for achieving this development form in a variety of settings--low density growth areas, bare land situations, and, perhaps most importantly, existing built-up areas.

APPENDIX 6
F.A.R. PRIMER
EDAW,INC., 1981

FLOOR AREA RATIO — January 10, 1981
ROUTE 50/I-66 AREA STUDY TASK FORCE — EDAW, Inc.

Over the years, urban planners and zoning officials with citizen input, have developed regulations that control lot and yard size, and height and bulk of buildings to insure quality "livability" in urban areas. These regulations attempt to control the density in various areas; to insure adequate light, air, and privacy; to afford public plazas and amenities; safe play space for children and recreation space for older persons; to reduce fire hazards; and in general to maintain a healthful and safe environment.

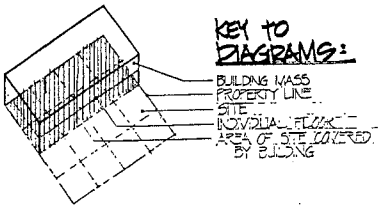
The trend in dimensional regulations has been towards greater flexibility. At one time, dimensional regulations were almost universally expressed in terms of fixed requirements. Any structure erected in a given district could not exceed a specified height, and it was required to have front, side, and rear yards of certain dimensions. When all of these specifications were considered together, they constituted an invisible envelope over each lot through which the building could not protrude, but which it might fill completely. The limited design possibilities of these nonvariable requirements resulted in ordinance revisions that gave greater leeway to the designs without sacrificing control objectives.

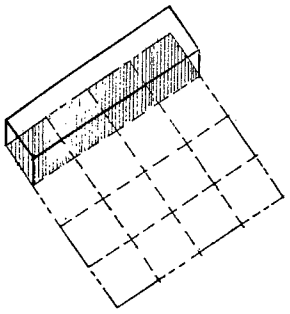
A frequently used control device by planners and developers is the "floor-area ratio", referred to as "F.A.R." in this project and following information. An ordinance using this control specifies the relationship between: (1) the area of permitted floor space in a structure, and (2) the area of the lot on which it is situated. The relationship can be displayed in the following equation:

$$F.A.R. = \frac{\text{total building floor area}}{\text{total site area}}$$

This relationship can be maintained in a number of different forms. For instance, a floor-area ratio of 2.0 permits the builder to erect a two-story building covering the entire lot, a four-story building covering one-half of the lot, an eight-story building covering one-fourth of the lot, and so on.

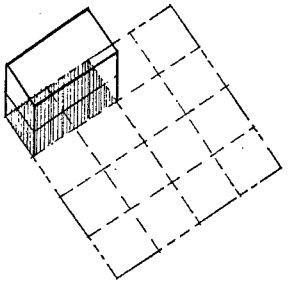
Following are a number of examples illustrating the F.A.R.'s most relevant to the Fairfax Center Area Study:





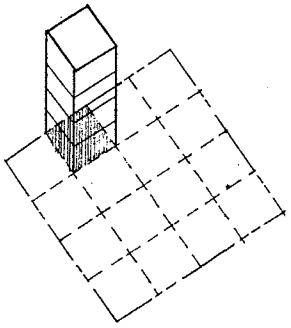
1 FULL FLOOR

25% SITE COVERAGE



2 FULL FLOORS

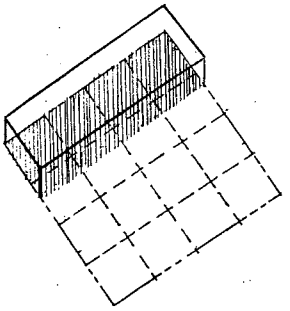
12.5% SITE COVERAGE



4 FULL FLOORS

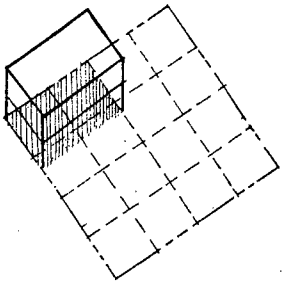
6.25% SITE COVERAGE

.25 F.A.R.



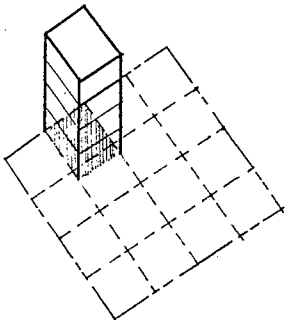
1 FULL FLOOR

35% SITE COVERAGE



2 FULL FLOORS

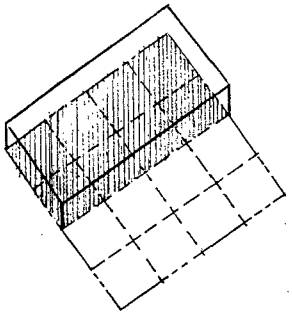
17.5% SITE COVERAGE



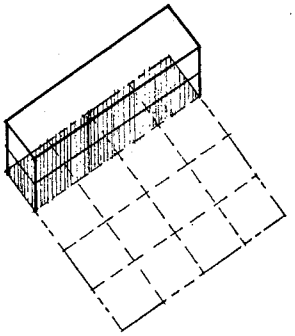
4 FULL FLOORS

8.75% SITE COVERAGE

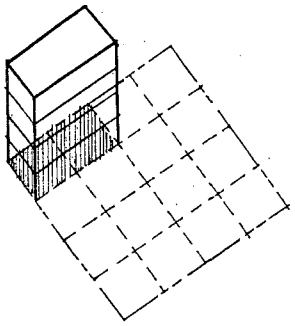
.35 F.A.R.



1 FULL FLOOR
50% SITE COVERAGE

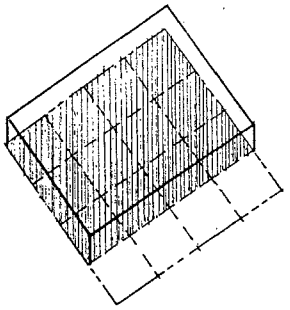


2 FULL FLOORS
25% SITE COVERAGE

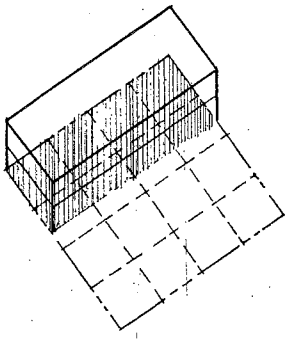


4 FULL FLOORS
12.5% SITE COVERAGE

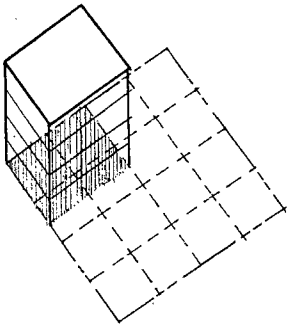
.5 F.A.R.



1 FULL FLOOR
75% SITE COVERAGE

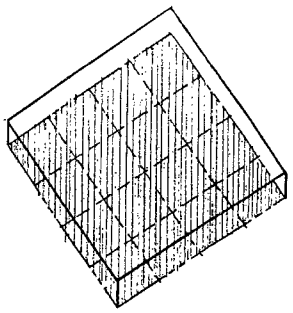


2 FULL FLOORS
37.5% SITE COVERAGE



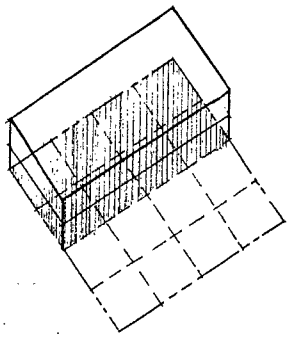
4 FULL FLOORS
18.75% SITE COVERAGE

.75 F.A.R.



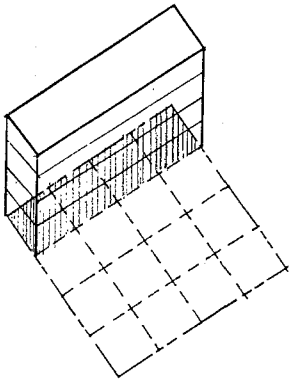
1 FULL FLOOR

100% SITE COVERAGE



2 FULL FLOORS

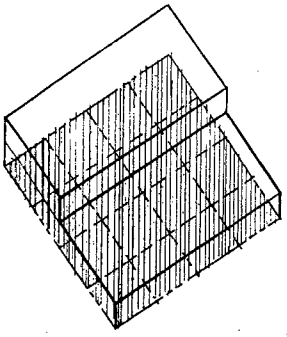
50% SITE COVERAGE



4 FULL FLOORS

25% SITE COVERAGE

1.0 F.A.R.



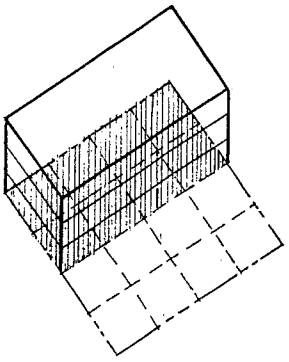
1 FULL FLOOR

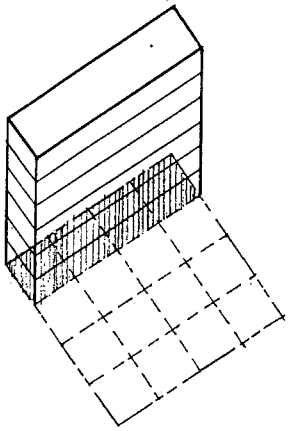
1 PARTIAL FLOOR

100% SITE COVERAGE

3 FULL FLOORS

50% SITE COVERAGE

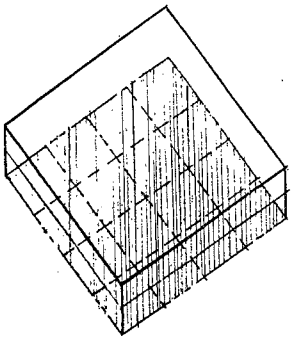




6 FULL FLOORS

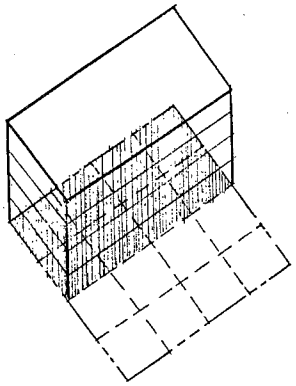
25% SITE COVERAGE

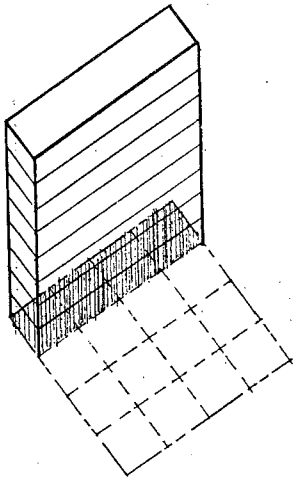
1.5 F.A.R.



2 FULL FLOORS

100% SITE COVERAGE





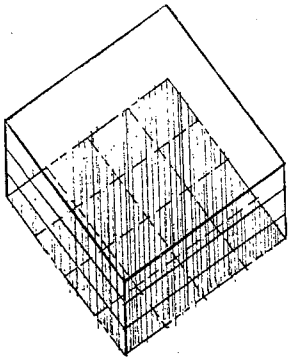
4 FULL FLOORS

50% SITE COVERAGE

8 FULL FLOORS

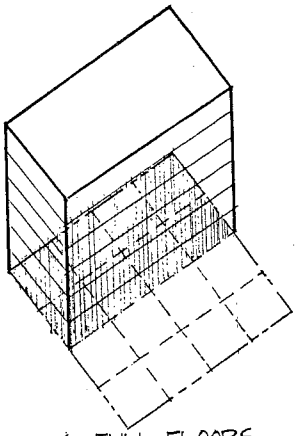
25% SITE COVERAGE

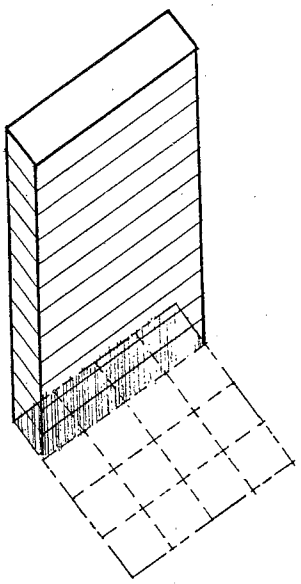
2.0 F.A.R.



3 FULL FLOORS

100% SITE COVERAGE





6 FULL FLOORS

50% SITE COVERAGE

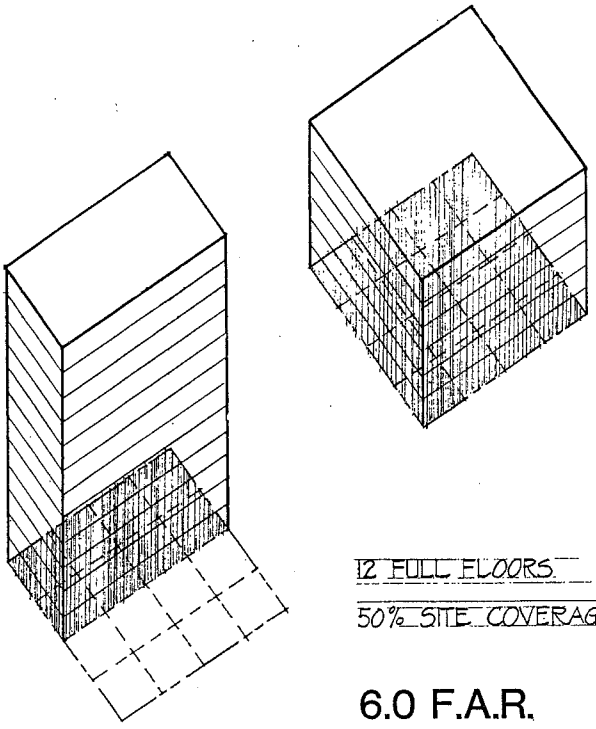
12 FULL FLOORS

25% SITE COVERAGE

3.0 F.A.R.

6 FULL FLOORS

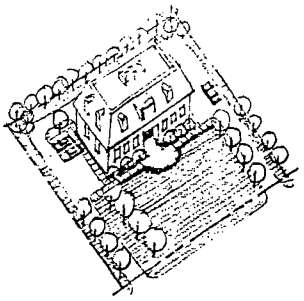
100% SITE COVERAGE



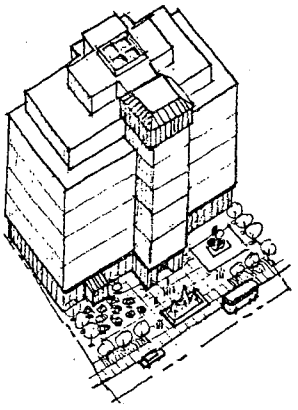
12 FULL FLOORS

50% SITE COVERAGE

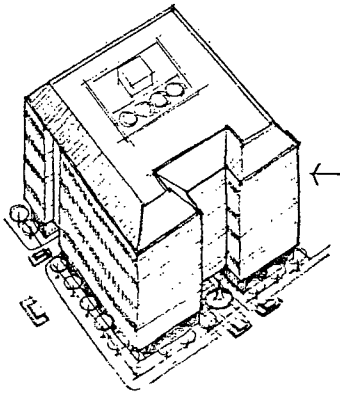
6.0 F.A.R.



← 3.5 F.A.R.
2 FLOORS
17.5% COVERAGE



3.0 F.A.R. →
6 FLOORS
50% SITE COVERAGE



← 6.0 FAR
5 FLOORS
100% COVERAGE

ILLUSTRATIVE
SITE DEVELOPMENT

APPENDIX 7
DEVELOPMENT POTENTIALS
FAIRFAX CENTER AREA 1980- 2000
GLADSTONE ASSOCIATES, 1981

EMPLOYMENT PROJECTIONS BY SECTOR[1/]
FAIRFAX COUNTY, VIRGINIA[2/]
1980-2000

Sector	1980		1985		1990		1995		2000	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Agriculture	650	3/	650	3/	650	3/	650	3/	650	3/
Contract Construction	9,800	6.0%	9,800	4.0%	13,600	5.0%	11,200	3.0%	10,500	2.5%
Transportation and Public Utilities	8,200	5.0%	10,700	5.0%	12,400	6.0%	13,000	3.8%	15,000	3.6%
Manufacturing	6,600	4.0%	9,100	6.0%	11,200	3.5%	13,700	4.0%	16,600	4.0%
Trade										
Retail	34,400	20.0%	42,800	20.0%	53,900	19.0%	64,500	19.0%	70,300	17.0%
Wholesale	5,800	3.0%	7,300	3.0%	9,200	3.0%	11,000	3.0%	12,000	3.0%
Finance, Insurance and Real Estate	12,600	7.0%	19,200	8.0%	27,800	10.0%	32,100	9.0%	36,000	8.0%
Services										
Personal	2,300	1.5%	2,900	1.0%	3,600	1.0%	4,400	1.0%	5,000	1.0%
Hotel/Motel	1,800	1.0%	2,300	1.0%	2,700	1.0%	3,000	0.8%	3,200	0.8%
Auto and Miscellaneous Repair	1,500	1.0%	1,600	0.7%	1,900	0.7%	2,100	0.6%	2,300	0.6%
Recreation	1,700	1.0%	2,100	1.0%	2,400	0.8%	2,800	0.8%	3,000	0.7%
Business and Professional Services	34,200	19.0%	52,900	23.0%	77,200	26.0%	110,300	32.0%	155,000	37.0%
Government										
Federal	17,500	10.0%	22,100	10.0%	25,300	9.0%	28,500	8.0%	32,000	7.5%
State	3,800	2.0%	4,300	2.0%	5,000	2.0%	5,500	2.0%	6,000	1.0%
Local	21,300	12.0%	22,200	10.0%	25,500	9.0%	28,900	8.0%	32,100	7.0%
Other	14,100	7.5%	14,100	7.3%	14,100	6.0%	14,100	5.0%	14,100	6.3%
Total	176,250	100.0%	224,050	100.0%	286,450	100.0%	345,750	100.0%	414,350	100.0%

1/ The high range of employment projections is shown. Assumptions are that (1) Fairfax would attract larger shares of basic activities such as manufacturing; finance, insurance, and real estate; business consulting services and federal government employment and (2) current expanded efforts to attract more business and industry to Fairfax County will continue.

2/ Does not include Fairfax City or Falls Church.

3/ Less than 0.5 percent.

Source: Fairfax County Office of Comprehensive Planning; Gladstone Associates.

POPULATION PROJECTIONS
FAIRFAX COUNTY[1/] AND WASHINGTON, D.C. SMSA
1980-2000

	1980		1985		1990		1995		2000	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Fairfax County	627,000	20%	708,000	21%	781,000	21%	865,000	22%	950,000	23%
Washington, D.C. SMSA	3,175,000	100%	3,443,000	100%	3,717,000	100%	3,967,000	100%	4,202,000	100%

1/ The intermediate range forecasts are shown. These show a slightly lower growth rate than actually experienced in the County in the 1970's. Population forecasts are derived by applying average household size factors to household forecasts. The overall average household size for Fairfax County is projected to continue to decline.

Source: Metropolitan Washington Council of Governments Cooperative Forecasting; Gladstone Associates.

EMPLOYMENT PROJECTIONS[1/]
FAIRFAX COUNTY AND WASHINGTON, D.C. SMSA
1980-2000

	1980		1985		1990		1995		2000	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Fairfax County	176,250	11%	224,050	12%	286,450	14%	345,750	15%	414,350	16%
Washington, D.C. SMSA	1,654,500	100%	1,876,000	100%	2,107,000	100%	2,316,000	100%	2,552,000	100%

1/ The high range of employment projections is shown. Assumptions are that (1) Fairfax would attract larger shares of basic activities such as manufacturing, finance, insurance and real estate, business consulting services and federal government employment, and (2) current expanded efforts to attract more business and industry to Fairfax County will continue.

Source: Metropolitan Washington Council of Governments; Gladstone Associates.

HOUSEHOLD PROJECTIONS
FAIRFAX COUNTY[1/] AND WASHINGTON, D.C. SMSA
1980-2000

	1980		1985		1990		1995		2000	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Fairfax County	206,000	18%	237,000	19%	265,000	20%	296,000	20%	331,000	21%
Washington, D.C. SMSA	1,126,000	100%	1,241,000	100%	1,355,000	100%	1,457,000	100%	1,556,000	100%

1/ The intermediate range forecasts are shown. These forecasts were extrapolated by the Council of Governments based on past trends and short-range projections of residential development activity in the pipeline. The extrapolations indicate that the County's share of households within the region will continue to increase.

Source: Metropolitan Washington Council of Governments, Cooperative Forecasting; Gladstone Associates.

AVERAGE ANNUAL ABSORPTION
SELECTED OFFICE NODES
FAIRFAX COUNTY, VIRGINIA
1965-1980

Name	Average Annual Absorption, Square Feet			
	1965-1970	1970-1975	1975-1980	1965-1980
Tyson's Corner	114,200	290,000	594,000	333,000
Merrifield	90,000[1/]	102,000	194,000	135,000
Reston	60,000[2/]	228,000	150,000	140,000
Springfield	34,000	83,600	50,000	56,000
Average	75,000	177,000	247,000	166,000
Median	75,000	165,000	172,000	138,000

Note: These four office nodes together account for 65 percent of the existing office stock in Fairfax County.

1/ 1967-1970.

2/ 1964-1970.

Source: Fairfax County Office of Economic Development; Gladstone Associates.

COMPARATIVE EVALUATION
OF SITES FOR COMMERCIAL DEVELOPMENT
FAIRFAX COUNTY, VIRGINIA

Location	Evaluation Criteria (Numbers Refer to Highest Possible Score)											
	Proximity To Beltway	Auto Access To Site	Visibility/ Identity	Access to Total Labor Market	Activity (Shopping Restaurants Other Offices)	Housing Availability	Availability of Fee Ownership	Image	Availability of Large Tract	Public Transportation	Total	Rank
	20	10	5	10	10	5	5	10	5	5	85	
Tyson's Corner	20	8	4	10	10	3	0	10	4	3	72	1
50 & Beltway	18	8	4	10	10	4	0	8	4	3	68	2
Nutley Road (Marriott Deluca)	15	10	3	8	10	4	0	8	4	5	67	3
Route 123 (Flint Hill)	15	10	2	8	7	4	0	6	4	3	59	4
Prosperity	15	5	4	8	9	3	0	4	3	4	55	5
Study Area (along Routes 66-50, Shell, Rouse, Coldwell Banker)	10	5	4	6	5	4	2	4	3	3	46	
Reston	0	0	4	5	5	5	5	8	5	2	39	
Centreville (with Ramp B)	5	10	3	5	0	3	5	1	5	1	38	
Dulles	5	2	0	3	2	4	5	0	5	0	26	

Note: Utilities and zoning were equal in almost every instance and therefore not rated. Access to Dulles was not rates as it was not perceived to be of significant value.

Source: ULI-The Urban Land Institute, Panel Advisory Service Report (1980); Gladstone Associates.

HOUSING DEMAND
FAIRFAX COUNTY AND
WASHINGTON SMSA
1980-2000

	1980-1985	1985-1990	1990-1995	1995-2000
Fairfax County				
New Households	30,800	28,400	30,800	34,600
Net Replacement Demand[1]	10,295	11,835	13,255	14,795
Subtotal	41,095	40,235	44,055	49,395
Vacancy Adjustment[2]	1,233	1,207	1,322	1,482
Total Housing Demand	42,328	41,442	45,377	50,877
Average Annual Housing Demand	8,466	8,288	9,075	10,175
Remainder of Metropolitan Area[3]				
New Households	70,500	83,000	66,000	63,000
Net Replacement Demand	32,415	35,940	40,090	43,390
Subtotal	102,915	118,940	106,090	106,390
Vacancy Adjustment	3,087	3,568	3,183	3,192
Total Housing Demand	106,002	122,508	109,273	109,582
Average Annual Housing Demand	21,200	24,502	21,854	21,916
Washington Metropolitan Area				
Average Annual Housing Demand	29,666	32,790	30,929	32,091

1/ Estimated at 1.0 percent of the existing housing stock.

2/ Estimated at 3.0 percent of the subtotal, new households and net replacement demand.

3/ Includes the jurisdictions of Alexandria, Arlington, Fairfax City, Falls Church, Loudon County, Prince William Couty, Montgomery County and Prince George's County. The District of Columbia has been excluded due to the special nature of its housing market.

Source:

SCENARIO I DEVELOPMENT POTENTIALS
AND IMPLIED MARKET SHARE
FAIRFAX CENTER AREA
1980-2000

	1980-1985	1985-1990	1990-1995	1995-2000
Average Annual Market Potentials				
Fairfax County				
Office (s.f.)	947,000	1,193,000	1,147,000	1,423,000
Industrial (s.f.)	1,281,000	1,529,000	1,581,000	1,895,000
Residential (units)	8,466	8,288	9,075	10,175
Average Annual Development Potentials				
Study Area				
Office (s.f.)	165,000	250,000	300,000	350,000
Industrial (s.f.)	135,000	200,000	240,000	380,000
Residential (units)	370	370	370	370
Implied Market Share				
Office	17%	21%	26%	25%
Industrial	11%	13%	15%	15%
Residential	4%	4%	4%	4%
Cumulative Study Area Development				
Office (s.f.)	825,000	2,075,000	3,575,000	5,325,000
Industrial (s.f.)	675,000	1,675,000	2,875,000	4,275,000
Residential (units)	1,850	3,700	5,550	7,400

urce: Gladstone Associates.

SCENARIO I
ILLUSTRATIVE DEVELOPMENT PROGRAM
FAIRFAX CENTER AREA
1980-2000

	Residential 1/				Commercial					
5-Year Period	Single Family Detached and Attached	Multi-Family Gardens and Elevator	Total Residential Units	Total Residential Acres	Office	Industrial	Neighborhood Retail	Community Retail	Hotel (Rooms)	Total Commercial Acres
1980-1985	1,480	370	1,850	473	825,000	675,000	--	--	--	--
1985-1990	1,480	370	1,850	473	1,250,000	1,000,000	80,000	--	300	--
1990-1995	1,480	370	1,850	473	1,500,000	1,200,000	--	--	300	--
1995-2000	1,480	370	1,850	473	1,750,000	1,400,000	80,000	160,000	300	--
Total 1980-2000										
S.F./Units	5,920	1,480	7,400	--	5,325,000	4,275,000	160,000	160,000	900	--
Acres	1,798A	92A	--	1,890A	349A	327A	15A	15A	27A	733A

1/ Single family detached represents about 50 percent of the total; attached, 30 percent; and multi-family, 20 percent.

Source: Gladstone Associates.

SCENARIO II DEVELOPMENT POTENTIALS AND IMPLIED MARKET SHARE FAIRFAX CENTER AREA 1980-2000

	1980-1985	1985-1990	1990-1995	1995-2000
Average Annual Market Potentials				
Fairfax County				
Office (s.f.)	947,000	1,193,000	1,147,000	1,423,000
Industrial (s.f.)	1,281,000	1,529,000	1,581,000	1,895,000
Residential (units)	8,406	8,288	9,076	10,175
Average Annual Development Potentials				
Study Area				
Office (s.f.)	165,000	290,000	415,000	540,000
Industrial (s.f.)	135,000	200,000	240,000	280,000
Residential (units)	420	420	420	420
Implied Market Share				
Office	17%	24%	36%	38%
Industrial	11%	13%	15%	15%
Residential	5%	5%	5%	4%
Cumulative Study Area Development				
Office (s.f.)	825,000	2,275,000	4,350,000	7,050,000
Industrial (s.f.)	675,000	1,675,000	2,875,000	4,275,000
Residential (units)	2,100	4,200	6,300	8,400

Source: Gladstone Associates.

SCENARIO II ILLUSTRATIVE DEVELOPMENT PROGRAM FAIRFAX CENTER AREA 1980-2000

	Residential[1/]				Commercial					
5-Year Period	Single Family Detached and Attached	Multi-Family Gardens and Elevator	Units	Acres	Office	Industrial	Neighborhood Retail	Community Retail	Hotel (Rooms)	Total Commercial Acres
1980-1985	1,310	790	2,100	--	825,000	675,000	--	--	300	--
1985-1990	1,310	790	2,100	--	1,450,000	1,000,000	80,000	160,000	300	--
1990-1995	1,310	790	2,100	--	2,075,000	1,200,000	80,000	--	300	--
1995-2000	1,310	790	2,100	--	2,700,000	1,400,000	40,000	160,000	300	--
Total 1980-2000										
S.F./Units	5,240	3,160	8,400	--	7,050,000	4,275,000	200,000	320,000	1,200	--
Acres	1,481A	210A	--	1,691A	360A	327A	18A	30A	36A	770A

1/ Single-family detached units represent about 36 percent of the total; attached units, 27 percent; and multi-family units about 37 percent.

Source: Gladstone Associates.

SCENARIO III DEVELOPMENT POTENTIALS AND IMPLIED MARKET SHARE FAIRFAX COUNTY AREA 1980-2000

	1980-1985	1985-1990	1990-1995	1995-2000
Average Annual Market Potentials				
Fairfax County				
Office (s.f.)	947,000	1,193,000	1,147,000	1,423,000
Industrial (s.f.)	1,281,000	1,529,000	1,581,000	1,895,000
Residential (units)	8,466	8,288	9,075	10,175
Average Annual Development Potentials				
Study Area				
Office (s.f.)	75,000	165,000	215,000	265,000
Industrial (s.f.)	54,000	135,000	175,000	215,000
Residential (units)	370	370	370	370
Implied Market Share				
Office	8%	14%	19%	19%
Industrial	4%	9%	11%	11%
Residential	4%	4%	4%	4%
Cumulative Study Area Development				
Office (s.f.)	375,000	1,200,000	2,275,000	3,600,000
Industrial (s.f.)	270,000	945,000	1,820,000	2,895,000
Residential (units)	1,850	3,700	5,550	7,400

Source: Gladstone Associates.

SCENARIO III ILLUSTRATIVE DEVELOPMENT PROGRAM FAIRFAX CENTER AREA 1980-2000

	Residential[1/]				Commercial					
5-Year Period	Single Family Detached and Attached	Multi-Family Gardens and Elevator	Units	Acres	Office	Industrial	Neighborhood Retail	Community Retail	Hotel (Rooms)	Total Commercial Acres
1980-1985	1,750	100	1,850	--	375,000	270,000	--	--	--	--
1985-1990	1,750	100	1,850	--	825,000	675,000	80,000	--	--	--
1990-1995	1,750	100	1,850	--	1,075,000	875,000	--	--	300	--
1995-2000	1,750	100	1,850	--	1,325,000	1,075,000	80,000	160,000	300	--
Total 1980-2000										
S.F./Units	7,000	400	7,400	--	3,600,000	2,895,000	160,000	160,000	600	--
Acres	2,100A	31A	--	2,131A	236A	221A	15A	15A	18A	505A

1/ Single family detached represents about 60 percent of the total; attached, 35 percent; and multi-family, 5 percent.

Source: Gladstone Associates.

APPENDIX 8
OFFICE DENSITY BONUSES
AN ILLUSTRATIVE PRO FORMA ANALYSIS
GLADSTONE ASSOCIATES, 1981

TABLE OF CONTENTS

MAXIMUM ACHIEVABLE DEVELOPMENT DENSITIES[1/]
ASSUMING NO STRUCTURED PARKING

	Case 1	Case 2	Case 3
Parking Ratio	1 space/250 GSF	1 space/333 GSF	1 space/500 GSF
Number of Space Per 1,000 GSF of Office	4	3	2
Maximum Achievable Floor Area Ratio			
Single Level of Office	0.42	0.49	0.59
2 Levels	0.53	0.65	0.83
3 Levels	0.58	0.73	0.97
4 Levels	0.61	0.77	1.05
5 Levels	0.63	0.80	1.11
6 Levels	0.64	0.82	1.15
7 Levels	0.65	0.84	1.19
8 Levels	0.66	0.85	1.21
9 Levels	0.66	0.86	1.23
10 Levels	0.67	0.87	1.25
Range	0.42-0.67	0.49-0.87	0.59-1.25

1/ Maximum achievable density refers to the ceiling on FAR dictated by physical considerations. Practical ceilings would be lower, due to setbacks, roadway, etc.

Source: Gladstone Associates.

ESTIMATED VALUE INCREMENTS
ATTRIBUTABLE TO DENSITY BONUSES ON OFFICE LAND
AN ILLUSTRATIVE ANALYSIS
(Assumption: Parking Revenues Defray All Parking Costs)

Site Acreage	10 acres
Office Development - GSF	
At 0.25 FAR ("Baseline")	110,000 SF
At 0.625 FAR ("Minor Bonus Level")	270,000 SF
At 1.0 FAR ("Major Bonus Level")	440,000 SF
Estimated Residual Values[1] @ $10/GSF	
At 0.25 FAR	$1.1 million
At 0.625 FAR	$2.7 million
At 1.0 FAR	$4.4 million
Net Value Increment Attributable to Density Increase from 0.25 to 0.625 FAR	$1.6 million
Net Value Increment Attributable to Density Increase from 0.25 to 1.0 FAR	$3.3 million

1/ Residual values include developer's profit. Indicated values assume an all surface parking solution.

KEY ASSUMPTIONS
DENSITY BONUS PRO FORMA ANALYSIS

Office Construction Costs	$35/GSF
Parking Construction Costs	$7,000/space for structured parking $ 500/space for surface parking
Tenant Finish	$5/NSF
Soft Costs	30% of hard costs
Office Rent	$17.00/NSF
Operating Costs (including Real Estate)	$5.25/NSF
Mortgage Financing	Terms of 13%/25 years (13.54% debt service constant)

ILLUSTRATIVE PRO FORMA ANALYSIS
A SUMMARY[1]

	A Prototypical 10-Acre Office Site Analyzed		
Development Units	FAR of 0.25	FAR of 0.625	FAR of 1.0
Office - GSF	110,000 SF	270,000 SF	440,000 SF
Parking - Structured (spaces)	--	400	1,200
Surface (spaces)	396	590	420
Parking Ratio	1 space/275 GSF	1 space/275 GSF	1 space/275 GSF
Residual Values			
Per GSF of Office - No Pay Parking	$10.05	($2.36)	($9.91)
Per GSF of Office - Assuming Parking Revenues Defray All Parking Costs (Rounded)	$10	$10	$10

1/ The analysis is presented in detail on Exhibit 4.

Source: Gladstone Associates.

ILLUSTRATIVE PRO FORMA ANALYSIS

RESIDUAL LAND VALUES AT VARIOUS FLOOR AREA RATIOS

OFFICE

(Based on 1981 Capital and Financing Costs)

	Baseline Density 0.25 FAR 1/		FAR of 0.625		FAR of 1.0	
	Per GSF	Per NSF	Per GSF	Per NSF	Per GSF	Per NSF
I. Improvement Costs						
A. Office Hard Costs @ $35/GSF	$35.00		$35.00		$35.00	
B. Tenant Finish @ $5/GSF	$ 4.00		$ 4.00		$ 4.00	
C. Parking	$ 1.82		$11.37		$19.77	
D. Soft Costs @ 30% of Above	$12.25		$15.11		$17.42	
E. Total Improvement Costs	$53.07		$65.48		$76.19	
II. Net Operating Income						
A. Gross Rental Income @ $17.00/NSF		$17.00		$17.00		$17.00
B. Less: Vacancy and Collection Allowance @ 5%		($ 0.85)		($ 0.85)		($ 0.85)
C. Less: Real Estate Taxes @ $1.25/NSF		($ 1.25)		($ 1.25)		($ 1.25)
D. Less: Operating Costs @ $4.00/NSF		($ 4.00)		($ 4.00)		($ 4.00)
E. Equals Net Operating Income	$ 8.72	$10.90	$ 8.72	$10.90	$ 8.72	$10.90
III. Mortgage Proceeds and Debt Service						
A. Economic Value @ 13.54% (13%/25 years)	$64.40		$64.40		$64.40	
B. Mortgage Proceeds @ 80% Loan to Value Ratio	$51.52		$51.52		$51.52	
C. Debt Service @ 13.54% Constant	$ 6.98		$ 6.98		$ 6.98	
IV. Net Cash Flow						
A. Net Operating Income	$ 8.72		$ 8.72		$ 8.72	
B. Less: Debt Service @ 13.54%	($ 6.98)		($ 6.98)		($ 6.98)	
C. Equals: Net Cash Flow	$ 1.74		$ 1.74		$ 1.74	
V. Total Supportable Costs						
A. Supportable Equity @ 15% ROE	$11.60		$11.60		$11.60	
B. Mortgage Proceeds	$51.52		$51.52		$51.52	
C. Total Supportable Costs	$63.12		$63.12		$63.12	
D. Less: Improvement Costs	$53.07		$65.48		$73.03	
E. Equals: Residual Value - No Pay Parking	$10.05		($ 2.36)		($ 9.91)	
F. Residual Value Assuming Parking Revenues Defray All Parking Costs (Rounded)	$10		$10		$10	

1/ FAR stands for Floor Area Ratio, and relates the Gross Floor Area of the development to the site area. Illustratively, a 100,000 square foot office building on a 50,000 square foot site would lead to a 2.0 FAR.

2/ Parking construction costs are as follows: Structured Parking - $7,000/space
Surface Parking - $ 500/space

Source: Gladstone Associates.

APPENDIX 9
F.A.R. BUILT VS. ALLOWED
FAIRFAX CO. OFFICE OF COMPREHENSIVE PLANNING
FAIRFAX, VA., 1981

COMPARISON OF FLOOR AREA RATIO BUILT WITH FLOOR AREA RATIO ALLOWED IN OFFICE/INDUSTRIAL DEVELOPMENT OF TYSONS CORNER AND RESTON IN FAIRFAX COUNTY AND ROSSLYN IN ARLINGTON COUNTY

Tables 1 through 3 show the allowed floor area ratios under specific zoning categories (not including allowed bonuses) compared with actual development experience in the Tysons Corner area, Reston, and Rosslyn, respectively.

The Tysons data presented in Table 1 represents 50 buildings totalling some 4,475,000 square feet of gross floor area. The data clearly shows that actual development has occurred at floor area ratios which are significantly lower than those allowed under the various zoning ordinances.

The Reston area data represents 23 buildings and 1 45 unit townhouse office condominium development. These structures total some 2,880,000 square feet of gross floor area with the developed floor area ratios tending to be even lower than those at Tysons.

Such characteristics are likely to change as the supply of land gets smaller and related development pressures (markets) increase in both of these areas of Fairfax County.

For example, as Table 3 shows, in Rosslyn where land has been in short supply at a location just one step out from the urban core of Washington, D. C., development has occurred at 98% of the overall allowed FAR for Arlington County's C-O Zone. The 21 buildings represented in Table 3 comprise 5,390,000 square feet of gross floor area. The actual developed floor area ratios range from a low of 3.0 to a high of 6.01 compared to the standard 3.5 allowed under the C-O zoning category. Buildings which exceed 3.5 floor area ratio represent bonuses and waivers of regulations which can be legally made by the Arlington County Board of Supervisors.

TABLE 1

Comparison of Floor Area Ratio Built With Floor Area Ratio Allowed in Office/Industrial Developments of the Tysons Corner Area of Fairfax, County, Virginia

Zone	No. of Buildings	Allowed F.A.R.	Average Developed F.A.R.	Developed F.A.R. Range Low	High	F.A.R. Ratio Developed/Allowed
I-4 (1960's)	16	0.70	0.34	0.24	0.55	0.48
I-4 (1970's)	6	0.70	0.48	0.31	0.57	0.68
I-P (Pre 1978)	10	0.65	0.42	0.14	0.62	0.64
I-3	5	0.50	0.41	0.37	0.47	0.82
C-2	2	0.50	0.13	0.07	0.19	0.26
C-3	6	1.00	0.70	0.49	0.97	0.70
C-4	5	1.65	0.74	0.68	0.85	0.45

TABLE 2

COMPARISON OF FLOOR AREA RATIO BUILT WITH FLOOR AREA RATIO ALLOWED IN OFFICE/INDUSTRIAL DEVELOPMENTS OF THE RESTON AREA OF FAIRFAX, COUNTY, VIRGINIA

Zone	No. of Buildings	Allowed F.A.R.	Average Developed FAR	Developed F.A.R. Range Low	High	F.A.R. Ratio Developed Allowed
I-3	9	0.5	0.21	0.11	0.38	0.42
I-4	8	0.7	0.21	0.07	0.37	0.30
I-5	4	1.0	0.20	0.09	0.38	0.20
RPC (Conf. Center)	1	1.0	0.40	--	--	0.40
RPC (Reston Tower)	1	1.65	0.63	--	--	0.38
U.S.G.S.	1	1.0	0.30	--	--	0.30

TABLE 3

Comparison of Floor Area Ratio Built With Floor Area Ratio Allowed in Office Development of the Rosslyn Area of Arlington County, Virginia

No. of Buildings	Allowed F.A.R.	Average Developed F.A.R.	Developed F.A.R. Range Low	High	.A.R. Ratio eloped/Allowed
21	3.50	3.41	3.00	6.01	0.98

Source: Fairfax County Office of Comprehensive Planning. Tables 1 and 2 are based on data in the Real Estate parcel file and the Urban Development Information System. Table 3 is from data provided by the Arlington County Department of Planning.

APPENDIX 10
RELATIONSHIP BETWEEN TAX RATE
AND ASSESSED VALUE OF
COMMERCIAL & INDUSTRIAL REAL ESTATE
FAIRFAX CO. ECONOMIC DEVELOPMENT AUTHORITY, 1981

RELATIONSHIP BETWEEN TAX RATE AND ASSESSED VALUE
OF COMMERCIAL & INDUSTRIAL REAL ESTATE
1981

Jurisdiction	1980-81 Tax Rate per $100 Assessed Value	1980 Commercial & Industrial % of Real Estate Assessed Value
Falls Church	$1.11	27.3
Arlington County	1.12	26.1*
Loudoun County	1.25	16.0
Fairfax City	1.30	32.8
Manassas	1.30	26.9**
Alexandria	1.39	22.1
Prince Willliam County	1.40	24.0***
Fairfax County	1.54	14.5

* Percentage based on actual/planned land use rather than by zoning category

** 1978 data most current available according to Commission of Revenue, City of Manassas

*** Data not available. Estimated by Prince William County Department of Assessments.

NOTE: It is important to realize that types of public service and the quality of public service may vary among the various jurisdictions.

APPENDIX 11
ILLUSTRATIVE RULES OF OPERATION OF THE REVIEW BOARD (F.C.I.R.B.)

FAIRFAX COUNTY

The Task Force recommends that the operating rules should be deferred pending acceptance of the concept by the Board of Supervisors. However, the Task Force did indicate that if the Review Board is established, it should formulate its own procedures and should at least review those of Reston. The later recommendation is based upon the apparent success of Reston in achieving coordination in development and its relative ease in working with applicants.

Although the Review Board would determine its own operating rules, the following information is illustrative of that which might be required by the Review Board in its evaluation of zoning petitions for plan conformity.

I.

A. General Requirements

All plans must be identified with name of property owner, name of project, person or firm preparing plans, date of plans, including latest revision date, subdivision name and section on which property is located.

Plan shall contain a legend which includes gross acreage, net acreage, square footage and percentage of building coverage proposed and amount permitted, square footage, percentage of parking area and number of parking spaces provided and number required, square footage and percentage of roads, square footage and percentage of recreational area, square footage and percentage allocated for public parks and playgrounds, public schools and other public uses, facilities and services, such as police stations, fire stations and public libraries.

1. A description of the characteristics of the proposed project in terms of the relationship of the various plan elements to one another and to the surrounding area. The land use plan map shall demonstrate how coordination and compatibility of the functions and purposes of the plan have been achieved, both internally and with the surrounding community.
2. A description of how the design process, both in terms of site planning and landscape architecture, will relate to the natural characteristics of the site and surrounding areas. Such relationships should be identified in terms of scale, orientation, clustering concepts, natural amenity preservation, preservation of any historic or unique areas, harmony with surrounding areas, etc.

B. Specific Requirements

In addition, the location and size of the following items shall be shown and identified on the plans:

1. Public roads on perimeter and within interior of the property; proposed width to be shown. Indicate whether presently dedicated and/or improved;
2. Public roads adjacent to tract that connect to such perimeter roads. Indicate whether dedicated and/or improved;
3. Location and width of all drives from the proposed development that connect to perimeter roads;
4. Location and width of all proposed private roads and proposed improvements within the development;
5. Location of all existing and proposed impoundments;
6. Location and width of all existing and proposed easements, including utility easements, access easements, etc.;
7. Location of garbage and trash pick-up points and proposed method of screening them;
8. Location, type and size of signs;
9. Height of all buildings and structures, number of stories, size (dimensions) and spacing between building and structures and distance to property lines;
10. Location and arrangement of parking facilities shall be shown in detail. Include an enlarged detail of a typical parking area with dimensions;

11. Proposed public parks, public schools, and other public facilities and service areas, such as police and fire stations, libraries, etc., if any;

12. Recreational area(s). Type of use and type of recreational facilities, if any, with dimensions, indicated;

13. Landscaping shall be shown in detail and shall, among other things, meet the requirements of the Ordinance. In addition, other landscaping shall be shown, including required open area landscaping. The plan shall indicate how it complies with the basic standard outlined in the Tree Preservation Ordinance (i.e., all steps reasonably necessary to preserve existing trees and to otherwise enhance the aesthetic appearance of the development by the incorporation of trees into the design process);

14. Fences and walls shall be shown and identified as to type of material and height;

15. Rendered plan of complete development; perspective sketches of primary plan elements, as needed to present image of final development product;

16. Typical building elevation drawings;

17. Discuss any design concepts intended to minimize energy consumption (e.g., orientation of structures, shading schemes, etc.);

18. Additional general information required where applicable:

    a. Where it is intended to divide the development into separate ownerships or multiple condominium or cooperative developments, the plan shall show such division as self-sustaining units.

    b. Special features, such as golf courses, excavations, entrance features, etc., must be shown in sufficient detail to evaluate such proposals.

II.

A. Residential Apartment Developments

Total number of dwelling units per net acre (distinguish between apartments and hotel and motel units);

Total number of bedrooms;

Number of parking spaces required;

Number of parking spaces furnished;

Floor area ratio and method of computation;

Total number of units in each building;

Number of one, two, three or more bedroom apartment units;

Estimated total population in project;

Type of occupancy proposed:

Family	( )	Single	( )
Elderly	( )	Retirees	( )

B. Planned Developments and Cluster Developments

All of the details required on all plans (#1 hereof), shall be required on plans for planned developments, cluster developments and planned community developments as would be applicable to the particular type of use involved.

Special details required on plans for specific uses (#1 hereof), shall be required for planned developments and cluster developments where applicable to the type or types of development being proposed.

C. Business Uses

All of the details required on all plans (#1 hereof), shall be required, where applicable, on the plans for business and shopping developments. In addition, wherever possible, the uses proposed in such commercial development shall be identified in the plans, and especially uses such as restaurants, auditoriums, theaters, etc., which generate additional traffic and

require a greater percentage of off-street parking. Show why and where and to what degree, 'shared' parking between two or more proposed uses can occur; if possible (such as between movie theatres and office buildings).

D. Townhouse Developments

All of the details required on all plans (#1 hereof), which are applicable shall be required on the plans for townhouse development.

In addition, legend on plan to include maximum length of group units; dwelling unit size - minimum and average; lot area for each unit - minimum and average; total number of units; total number of bedrooms; total number of parking spaces proposed on plan; number of parking spaces required; number of units per gross acre; square footage and percentage of landscaped open space; square footage and percentage of open space proposed for recreational uses, structures or buildings, entrance features and maintenance building for common areas; estimated total population.

E. Office Building or Office Complexes

All of the details required on all plans (#1 hereof), which are applicable shall be required for research and development firms.

APPENDIX 12

ENERGY CONSERVING DEVELOPMENT

County staff recently completed a study of the energy use impacts of County land use and development policies as part of a grant program sponsored by the U.S. Department of Energy. The project team, composed of County staff and two consulting firms, studied a total of 84 energy-conserving options which were refined and consolidated into a practical program to promote energy conservation through changes in County land use and development regulations. Specific actions required to implement each of the fifteen options contained in the final report are outlined. The recommended actions contained in the final report should be incorporated, where appropriate, into the development guidelines for the Route 50/I-66 report. The following is a list of the 15 options included in the final report:

Policy Issues:

A. Land Use

- o Revise Comprehensive Plan to encourage more energy-efficient compact mixed-use development
- o Encourage increased local employment
- o Promote greater use on on-site generation
- o Encourage more attached housing

B. Transportation

- o Develop convenient, efficient local bus service
- o Develop additional, convenient park and ride lots to promote increased use of public transportation
- o Promote increased bicycle use through better facilities and improved safety

C. Legal

- o Promote guaranteed solar access rights

Development and Site Planning Practices:

- o Promote maximum use of east-west street alignments
- o Promote optimal solar orientation of lots and buildings
- o Permit more flexible building siting for energy conservation
- o Remove barriers to greater use of active and passive solar energy
- o Permit more effective use of awnings, roof overhangs and other shading devices
- o Promote energy conserving landscape planting
- o Require greater shading of parking lots and large paved areas

APPENDIX 13

METHODOLOGY FOR IDENTIFYING AND ESTIMATING LAND USE ACTIVITIES IN DEVELOPED AND COMMITTED PORTIONS OF THE STUDY AREA.

In section VI of this report, the data in the table entitled SUMMARY OF LAND USE ACTIVITIES ON DEVELOPED AND COMMITTED LAND USES was developed as follows:

- Using tax and zoning maps in conjunction with land use charts A through V (pages 66 through 117), land units which are developed or committed within this study area were identified.

- Parcels were then identified as to their developed or committed use in the residential, institutional (church), commercial, industrial or County facilities categories described in the table.

- All residential parcels are single family detached and were counted (as were parcels occupied by churches).

- Industrial square footage was obtained from the County's non-residential structure file at the Office of Research and Statistics, as were the data for County and state facilities.

- Square footage ranges for the proposed Fairfax County Center was obtained from the Fairfax County Center study.

- The Commercial square footage (2,600,000 sq. ft.) includes existing and estimated future development on the Fair Oaks Mall site (land units "J," 2,5, and 7); the K-Mart Center which lies in Fairfax City, and estimates of square footage of a few small commercial uses on Route 29

  The Fair Oaks Mall site consists of 136 acres. Existing and committed improvements include 1,400,000 sq.ft., another of some 56,000 sq.ft. In the near future, a restaurant and theatre are to be added. All of these facilities would result in an overall FAR of less than 0.27 on the 136 acre site. For the purpose of this study, however, it is assumed that ultimate development will reach a FAR of 0.4. This is slightly higher than that generally achieved at similar super-regional shopping and commercial centers. Therefore, 2,370,000 sq. ft. of development was assumed for these land units. For the K-Mart Center and other scattered small commercial facilities in the Study Area, the total commercial estimate was increased by 230,000 sq. ft. to 2,600,000. This "high" estimate of developed commercial space is believed to be more than enough to account for the K-Mart Center (about 120,000 sq. ft.), Fair Oaks and any other existing or committed commercial facilities in the area.