

DULLES SUBURBAN CENTER

BACKGROUND

Location

The Dulles Suburban Center is located in western Fairfax County, adjacent to the eastern and southern boundaries of the Washington Dulles International Airport (Dulles Airport). The Dulles Suburban Center extends from just north of the Dulles Airport Access and Toll Road (DAAR) on the north to I-66 on the south (see Figure 1). The Dulles Suburban Center small area boundary encompasses the future Innovation Center Metrorail station and includes the Innovation Center Transit Station Area (TSA) located north and south of the DAAR. The southwestern edge of the Suburban Center is contiguous with Loudoun County and Dulles Airport property. With the exception of a small part of the Reston Transit Station Areas, the Dulles Suburban Center is bordered to the north, south and east by residential neighborhoods. Route 28, Centreville and Walney Roads are three major highways that provide north and south access through, to and from the Dulles Suburban Center. Route 50 bisects the area from east to west.

For planning purposes, the Suburban Center has been divided into land units, found on Figure 2. (Note that Plan guidance in the Dulles Suburban Center Overview, Area-Wide, and Design Guidelines sections does not apply to Land Unit L.)

Character

The Dulles Suburban Center is approximately 6,644 acres in size and is one of Fairfax County's largest employment areas. Existing development includes mid-rise office development along Route 28 with larger concentrations of office near the future Innovation Center Metrorail Station and the Westfields Business Park. There are also large areas of industrial and industrial/flex development that serve both the local and regional communities and provide manufacturing, distribution and repair services. Residential development is located along some portions of Centreville Road and Walney Road and is also included in the mixed-use areas within Land Unit A and Land Unit J. Retail and hotel uses are located along major roadways. Public and private schools as well as other public facilities, governmental, and institutional uses are dispersed throughout the entire suburban center. Major public facilities include the county police training academy located in Land Unit F-3; Ellanor C. Lawrence Park, a Countywide Resource-based park located, in part, in Land Unit K; and the Sully historic site, located in Land Unit D-5.

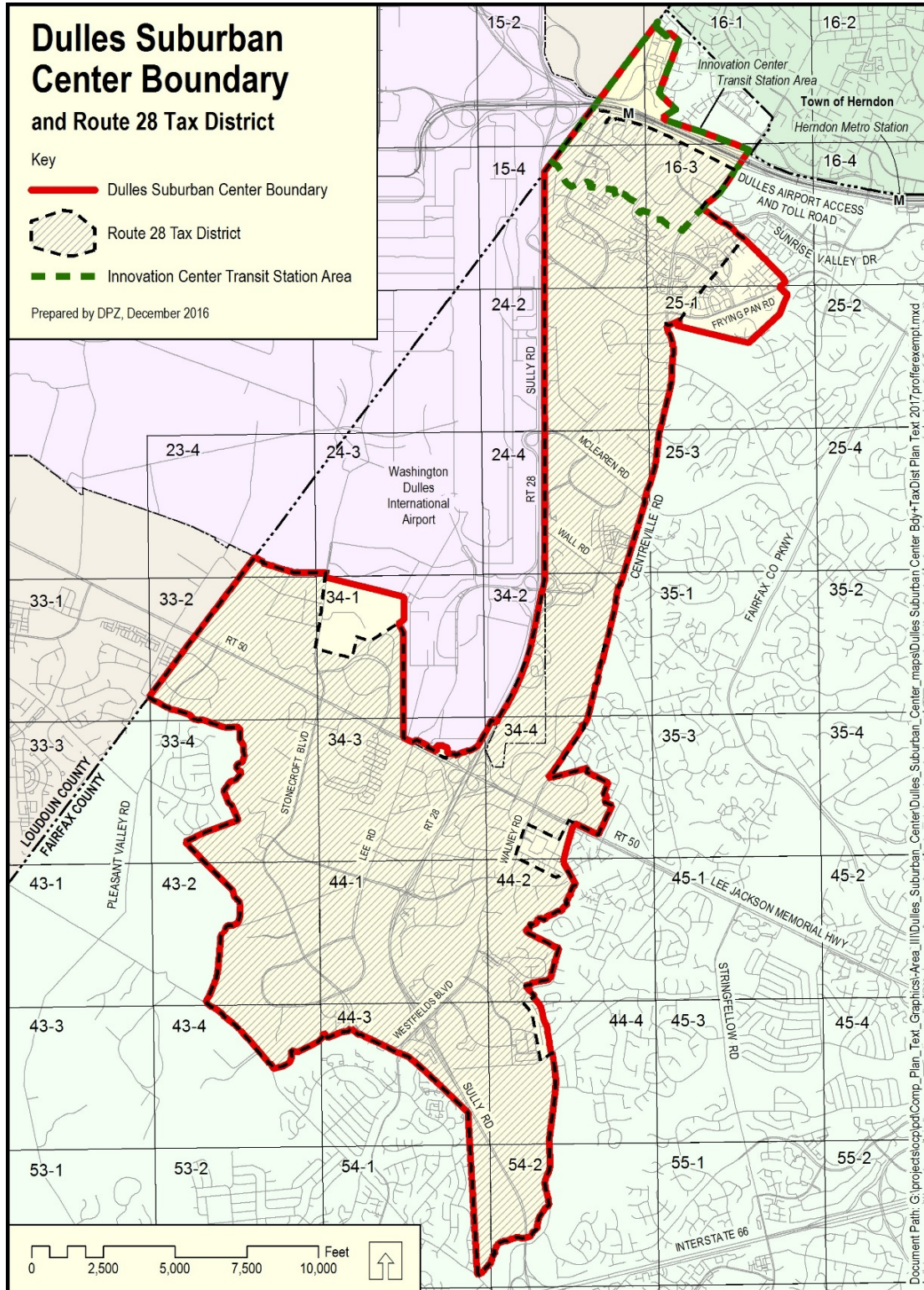


FIGURE 1

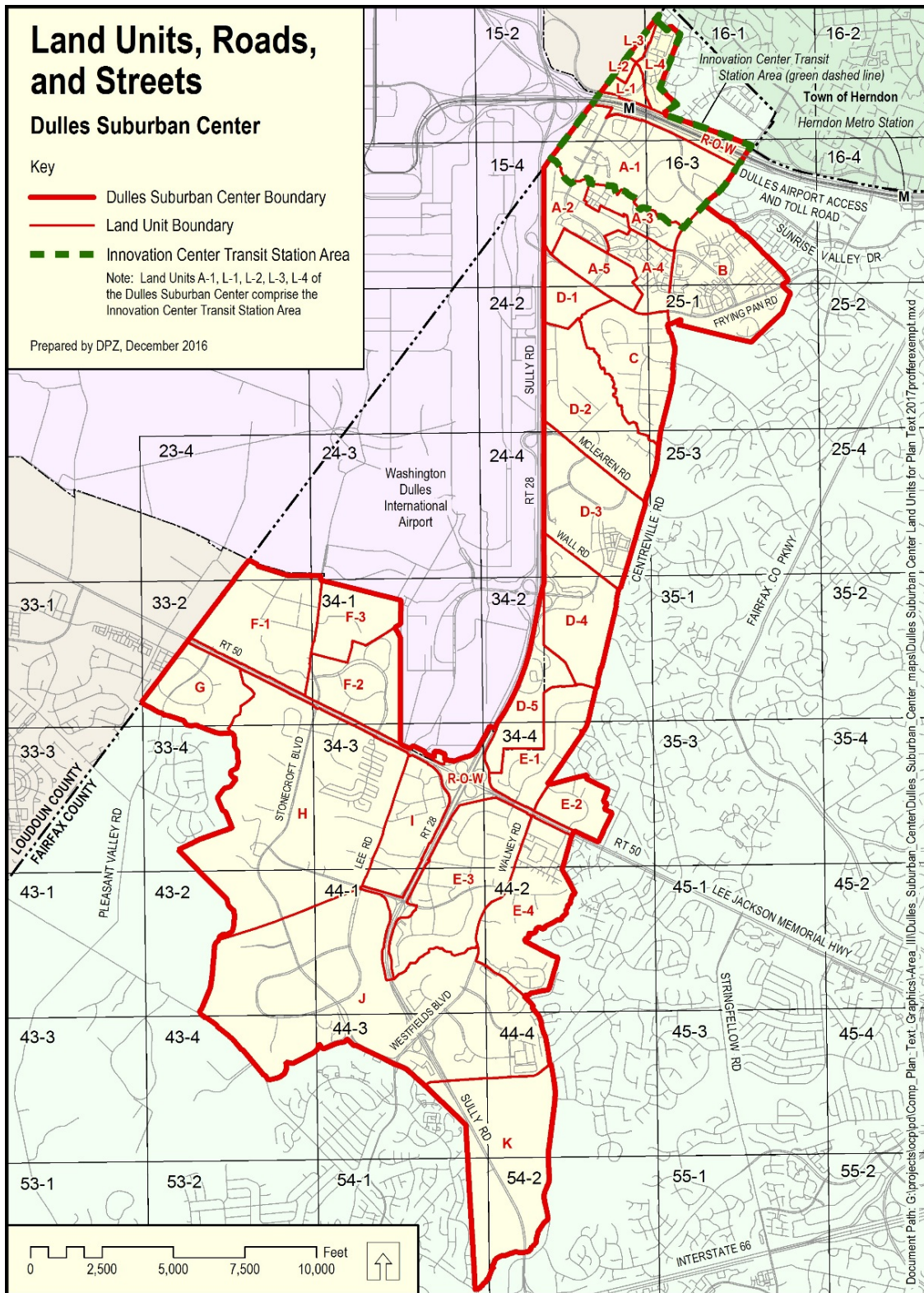


FIGURE 2

Route 28 Tax District

In 1987, the Boards of Supervisors of Fairfax and Loudoun Counties created the Route 28 Highway Transportation Improvement District to fund improvements to Route 28 that have included widening the roadway and constructing ten grade-separated interchanges. The district is governed by a commission comprised of four members each from the Loudoun and Fairfax Boards of Supervisors and the Commonwealth of Virginia's Secretary of Transportation. The Tax District was established in response to concern about the amount of anticipated development in the Route 28 corridor and the inadequacy of public funds to provide for the necessary major road improvements. Tax District funds have been used to widen Route 28 to eight lanes and provide multiple grade-separated interchanges, including at Route 50, Air & Space Museum Parkway and the DAAR. The boundary of the Dulles Suburban Center corresponds closely to that of the Route 28 Tax District; however, the northern portion of the Innovation Center Transit Station Area (Land Unit L), the Rockland Village subdivision (located in Land Unit E-4), the Police Training Center (Land Unit F-3), and the eastern part of McNair Farms (Land Unit B), all of which are within the Suburban Center, are outside the Tax District.

The legislation established a procedure whereby the state would borrow funds for specific transportation improvements in the Tax District and the landowners would pay a special tax to cover the majority of the costs associated with the construction and financing of these improvements. The special tax is levied on all commercial and industrial land in the district and is based on the land's assessed fair market value.

Planning History

Land in proximity to the Dulles Airport in Fairfax County has been planned for employment or industrial use since the airport was envisioned in the late 1950s. Planning for the land adjacent to the airport has been influenced primarily by the economic benefit of the direct relationship to the airport, the excellent regional access and by the concern that residential uses may not be appropriate in some areas impacted by aircraft noise. The configuration of the Dulles employment and industrial area shifted over the years in response to changing aircraft noise contour projections; major planning elements, such as the "outer beltway" planned in 1970 as a north-south facility between Route 28 and Route 123; and changing needs projections for the type and extent of employment uses related to the airport.

The late 1960s and early 1970s were a period of rapid development growth countywide. Up to 14,000 new residents were moving to the county each year and the western county was largely rural. In 1970, the first comprehensive plans for the Bull Run and Upper Potomac planning districts were adopted or adopted in principle. There was an emphasis in these plans to support the potential for major employment opportunities, partly to help offset the cost of public facilities for residential development and because of federal government master planning to expand the airport facility and operations. Expanded aircraft noise contours had recently been developed by the Federal Aviation Administration (FAA), which included future supersonic transport (SST) operations. The new contour extended to an "outer beltway", shown in the Comprehensive Plan in 1970 as a north-south cross-county highway following an alignment between Lees Corner Road and Stringfellow Road and joining the present Fairfax County Parkway alignment north of Franklin Farm. Residential use was determined to be not appropriate within noise impacted areas and expansion of what was then known as the Dulles employment area eastward into this area was deemed to be appropriate.

In 1975, as a result of the Planning Land Use System (PLUS) program, the airport-oriented industrial use pattern was modified once again. The extensive nonresidential area planned north of Route 50 was reduced to an area generally west of Centreville Road. In the 1975 Plan, the

nonresidential use planned south of Route 50, extended east of Route 28 to the Brookfield subdivision and south of Flatlick Run to Ellanor C. Lawrence Park. The “outer beltway” also was removed from the Plan at this time.

The 1975 PLUS Plan recommended showplace development, including corporate headquarters, hotels, motels, convention centers and office buildings for the area north of Horse Pen Run. In the area south of Horse Pen Run, more traditional industrial uses were planned, including light manufacturing, freight distribution facilities, warehousing, and office use. A variety of general policies were adopted in conjunction with these uses pertaining to: compatibility of industrial use with residential use; restriction of residential development in noise impacted areas; coordination among developments; circulation and access; addition of major public facilities, including use of the Dulles Airport Access Road (DAAR) for commuter traffic; and expansion of sewer capacity.

In 1982, in order to implement the Occoquan Basin Study recommendations, the county rezoned some land within the planned Dulles employment area from residential to an industrial zoning district where these uses were proposed in the Occoquan Basin study. This created a complete pattern of nonresidential zoning for the Dulles employment area in the Occoquan Basin (the area south of Horse Pen Run).

On February 25, 1991, the Board of Supervisors authorized a study of the Route 28 Tax District that resulted in recommended changes to the Comprehensive Plan. For the Route 28 Tax District Study, the Board of Supervisors appointed a 21-member task force composed of major landowners, representatives of businesses, the Town of Herndon, the Fairfax County Planning Commission, and citizen organizations. The Task Force and county staff worked together for over one year to identify planning issues and objectives and develop land use and transportation recommendations that would serve as the basis for a 20-year Plan for the area that was then newly designated as the Dulles Suburban Center.

Since the adoption of the Plan in 1991, there have been a number of amendments to reflect planning for the Silver Line Metro Station in the Dulles Suburban Center (Innovation Center); to add options for mixed-use and residential use in Land Unit D and Land Unit J; and to revise recommendations for retail use in Land Unit I.

Update of the Comprehensive Plan

An update of the Dulles Suburban Center was authorized by the Board of Supervisors as part of the 2013 Comprehensive Plan Work Program. Beginning in mid-2016 and concluding in early 2018, the Dulles Suburban Center Advisory Group, composed of landowners, business owners, and representatives of community organizations and area neighborhoods, reviewed the Dulles Suburban Center Plan guidance and recommended updates to this guidance. The following Plan text is largely a result of that effort.

CONCEPT FOR FUTURE DEVELOPMENT

The Dulles Suburban Center offers an opportunity and challenge to create a high quality, well-conceived, integrated, and balanced employment and residential sector. Vision, creativity, reason, and public-private cooperation can be rewarded by fashioning a model community characterized by an exemplary quality of life featuring an optimal mix of employment, housing, environmental protection, transportation service, and other services, all while significantly enhancing the tax base.

The Concept for Future Development identifies this area as a Suburban Center, which includes the Innovation Center Transit Station Area (TSA) at its northern extent. The vision for the Dulles

Suburban Center includes the development of a higher-intensity core area with mixed use development at the Innovation TSA to be served by Metrorail. Two smaller nodes of mixed-use development are planned for Land Unit E-2 on Route 50, and in the Westfields area to create focal points that have ample public spaces that serve residents and employees. The majority of the Dulles Suburban Center is planned to remain suburban in character with the areas at the edges providing transitions in intensity and scale to the surrounding low-density residential areas.

Dulles Airport, a major economic catalyst for the Northern Virginia area, is adjacent to the Dulles Suburban Center. Future development within the Suburban Center will benefit from the proximity of the airport and emphasize national and international business and commercial endeavors; tourism and visitor services; major recreation and entertainment features; mixed commercial and residential areas in urban settings with compatible facilities and amenities; and industrial service areas required to support the Dulles Airport and suburban area, and the metropolitan region. A variety of housing outside the airport noise contours in the Dulles Suburban Center and adjacent Planning Districts will serve this Center.

Travel within the Dulles Suburban Center is envisioned to be served by a multimodal transportation network of interconnecting roadways, high-quality transit, and enhanced pedestrian and bicycle facilities. Plans for high-quality transit service along Route 28 will link mixed-use nodes within the Center and provide connections to regional transit systems, including the Metrorail Silver Line, the planned extension of the Metrorail Orange Line to Centreville, and high-frequency bus service in the High Occupancy Toll (HOT) Lanes on I-66.

PLANNING ISSUES

To achieve the Concept for Future Development for the Dulles Suburban Center, a number of significant planning issues must be addressed. Identified issues include rectifying the imbalance between development potential and the capacity of the planned transportation network; preserving the potential for future transit and alternative transportation modes; integrating residential development into the Center; providing for a broader range of uses and for uses that are compatible with surrounding residential neighborhoods; and accommodating the future growth of Dulles Airport. These issues are outlined below.

Land Use and Transportation Capacity

A central issue affecting planning in the Dulles Suburban Center is the need to mitigate the impact of the planned and zoned development potential on the capacity of the planned transportation network. Of the roughly 6,600 acres that make up the Suburban Center, approximately 75 percent was zoned for commercial or industrial use (2015). Existing development totaled approximately 50 million square feet. The estimated maximum amount of development that could occur under existing zoning and proffered intensities is approximately 88 million square feet (2016). It is projected that at maximum levels of development, the associated vehicular trips will have a negative impact on the ability of the transportation network to effectively accommodate travel in the Dulles Suburban Center. This possible outcome makes it essential to evaluate and plan for a robust transportation system including high quality transit, transportation demand management systems, and enhanced pedestrian and bicycle systems.

Of the 96 million square feet of estimated development potential under the Comprehensive Plan, residential development potential is approximately 21 million square feet, and non-residential development potential is approximately 75 million square feet. Land use strategies should also be directed at balancing the different and growing demands that residential and non-residential uses have on the transportation network. Such strategies include planning for uses which generate fewer peak-

hour trips than office use, discouraging land use sprawl, and encouraging higher intensity multi-use nodes of development that are better served by transit.

Planning for Expanded Travel Options

The long-term imbalance between the planned roadway network and the transportation needs of the Dulles Suburban Center may require integration of a high quality transit system. If substantiated through further analysis, a critical planning element is the identification and reservation of rights-of-way to assure internal circulation, and connectivity with other systems. Other options include providing greater and more frequent bus service to and from the area; shuttle bus service between different nodes of development within and outside the Dulles Suburban Center; greater use of transportation demand management strategies; and rail.

The development of the mixed-use nodes must also take into account the need to provide public transportation transfer facilities and pedestrian and bicycle connections. Such facilities would provide locations for the transfer of passengers to and from various transportation modes, as for example, between automobiles and buses, carpools, or rail vehicles, or between pedestrians and multiple high-occupancy vehicle options. Specific locations of these points of transfer will also need to be identified as soon as possible in order that sufficient areas can be reserved and/or accommodated in the development process.

Integration of Residential Development

One of the principal goals outlined in the Policy Plan is to expand housing opportunities in or near employment centers as a way to minimize the impacts of commuters on county roads and to make public transit more feasible as a transportation alternative. Planning for a mixture of residential and nonresidential uses in the county's employment centers should also aid in expanding the opportunity for affordable housing and providing a variety of housing types, including higher density residential development in areas that can be served by transit and can offer access to retail and other services. In each of the Suburban Centers identified on the county's Concept for Future Development Map, including the Dulles Suburban Center, residential uses have been planned on land suitable for residential and mixed-use development and where there are services, amenities and public facilities, such as schools and parks, planned to serve the residential communities. In the Dulles Suburban Center, there are unusual constraints that may limit the ability to develop new residential use. These include the need to identify land for parks and school sites, the effect of the airport noise policy on residential uses in some areas, and retaining planned and existing industrial uses.

In planning for a variety of residential uses, consideration must also be given to creating a quality living environment in an area that will primarily be developed among nonresidential uses and where access may be limited. Residential developments will need to provide for recreational and other amenities on-site and be adequately screened and buffered to mitigate noise, light and other nuisances generated by nonresidential uses. Further, development will need to be designed so that traffic associated with nonresidential uses, including trucks, will not, in general, be traveling through residential neighborhoods. One exception may be where higher-intensity residential uses are planned as part of a mixed-use project.

Compatibility with Existing Neighborhoods

Given the scale and amount of development that could potentially occur in the Dulles Suburban Center, it is important that this development not negatively impact the surrounding residential communities. The majority of the communities adjacent to the Dulles Suburban Center are

of a low density residential nature comprised almost exclusively of single-family detached homes. In most cases, these communities are separated from the Dulles Suburban Center by major roadways, public parkland or environmental features such as stream valleys. However, it is important that adequate screening and buffering and access design measures be incorporated into new development to mitigate any adverse impacts from noise, headlight glare, and cut-through traffic on existing residential development.

Accommodating a Broader Range of Uses

The Dulles Suburban Center is of sufficient land area and diverse enough in character to accommodate a broad range of uses. An issue to be addressed in this Plan is the manner in which these different types of uses are integrated with existing and proposed development. The flexibility to accommodate a broad range of land uses must be implemented in such a way as to ensure high quality, compatible development in the area.

Future Growth of Dulles Airport

Growth of Washington Dulles International Airport is a major factor affecting planning for the Dulles Suburban Center and the quality of life in western Fairfax County. The airport serves as a regional economic focal point. It is one of the region's major employers. Passenger service and cargo operations are major contributors to the region's economic well being.

Planning should reflect and accommodate the potential increase in airport operations. The Airport Master Plan calls for five runways which, on completion will permit flight operations of up to 750,000 flights per year.

While airport employment may be expected to increase, and additional growth may be induced by the international character of the airport, fundamental estimates of future employment, commercial office facilities, and industrial services are uncertain. Factors that may influence the rate of growth within the next twenty to fifty years include changes in aviation technology, level of investment needed, and changes in land use in the region.

Airport operations present constraints to development in terms of allowable building heights within flight paths and noise impacts. Policies related to building heights may be found in the Area III Plan Overview in the section "Allowable Height of Structures in the Vicinity of Dulles Airport." To provide for a healthy living environment, Fairfax County has adopted a policy which states that new residential development is not recommended in areas with projected aircraft noise exceeding DNL 60 dBA. Fairfax County has also established an "Airport Noise Impact Overlay District" (ANIOD) around Dulles Airport. Location of noise contours around Dulles Airport is calculated by a computer model of airport operations.

History

The ANIOD boundaries shown on the 1986 and 1992 Comprehensive Plan map were adopted for planning purposes in 1983. These boundaries were based on data related to "Stage 2" aircraft, which generate relatively high noise levels, and on estimates of future flight operations that were developed in the late 1970s. Because of federal legislation requiring U.S. airlines to phase in a new generation of quieter aircraft ("Stage 3" aircraft), and because of changes in projected future aviation operations at Dulles Airport, in 1993 the Metropolitan Washington Airports Authority revised its noise contour projections for the area around Dulles Airport. The updated noise contour lines are substantially smaller in geographic extent than the corresponding contours shown on the 1986 and 1992 Comprehensive Plan map. Plan policy recommends a higher standard than indicated by the

FAA, recommending that new residential development not be located in areas with projected aircraft noise exposures exceeding DNL 60 dBA. Where new residential development does occur near Washington Dulles International Airport, disclosure measures should be provided.

Udvar-Hazy Center

The Udvar-Hazy Center of the Smithsonian National Air and Space Museum is located on Dulles Airport property, adjacent to the Dulles Suburban Center. The facility is a significant regional, as well as national, tourist attraction that could help to shape future land use and development in this area. This facility could provide the impetus for additional tourism, as well as other cultural uses that might be associated with the Museum. Such a facility may provide additional justification for public transit in the Route 28 Corridor. Therefore, this type of tourist use should be strongly encouraged in the Dulles Suburban Center in conjunction with tourist related facilities, including appropriate retail, transportation, and hotel facilities.

MAJOR OBJECTIVES

The following are the major objectives for planning in the Dulles Suburban Center.

1. Promote a high quality of life for those who work and reside in or proximate to the Dulles Suburban Center.
2. Support development that recognizes the Dulles Suburban Center as a gateway to the region by encouraging local, national and international business and commercial endeavors; tourism and visitor services; and major recreation and entertainment features; mixed commercial and residential areas in urban settings with compatible facilities and amenities; and industrial service areas required to support the Dulles Airport and the surrounding area.
3. Encourage infill development at major employment sites that incorporates a mix of land uses and recreational uses to create a multi-modal environment that provides services and amenities to support both employees and residents.
4. Assure that planned residential uses at the periphery of the Tax District are compatible in density with the established residential communities.
5. Provide flexibility for economic enterprises attracted to the Dulles Airport area by encouraging a mix of land uses compatible with and that bolster Dulles Airport operations and the existing industrial and office uses.
6. Encourage transit-oriented development where appropriate. The development of mixed-use nodes should consider the need to provide public transportation, transfer facilities and pedestrian and bicycle connections.
7. Encourage a variety of housing types and prices and provide affordable housing as part of residential or mixed-use development.
8. Encourage high-quality development in terms of site design, building design and materials and open space amenities throughout the Dulles Suburban Center. A more urban and pedestrian-oriented environment should be provided in mixed-use centers with higher intensity; and, a suburban character should be provided throughout the remainder of

the Dulles Suburban Center.

9. Develop a multi-modal transportation network that serves local travel needs within the Dulles Suburban Center and connects effectively with the regional metropolitan transportation network, including existing and planned transit facilities.
10. Plan for a future high-quality transit route, including preserving right-of-way for the alignment and future, station(s) and stops, into the design of development.
11. Employ advanced and evolving technologies to increase use of existing roadway capacity and to facilitate use of public transit. Increase the number of commuters in the Dulles Suburban Center using transportation modes other than the single occupant vehicle (e.g., various types of rail, buses, car pools, van pools and bicycling).
12. Achieve Level of Service D, if feasible, as a measure of roadway performance.
13. Locate parking facilities in areas that provide direct connections to the regional transportation network and transit facilities.
14. Promote economic stability and generate sufficient revenue to retire Tax District bonds over the short-term and long-term including any bonds issued to cover additional phases of transportation improvements.
15. Support Dulles Airport operations and future expansion by ensuring land use compatibility and retention of industrial land uses within the Dulles Suburban Center.
16. Provide opportunities for businesses, commercial operations, and government facilities in the Dulles Suburban Center to promote economic synergy.
17. Provide tourism and recreation opportunities located within the Center, with convenient access to regional sites to encourage visitors to travel to this area for business and/or pleasure.
18. Identify, study and protect heritage resources from degradation and/or destruction by public or private action.
19. Protect environmental resources, including Environmental Quality Corridors (EQCs) and Resource Protection Areas (RPAs) within stream valley parks and private open space to maintain the quality of streams and open space within the Dulles Suburban Center.
20. Ensure the provision of adequate parklands and recreational facilities to meet the needs of the Dulles Suburban Center workforce, residents and visitors. Incorporate active recreation facilities in conjunction with both nonresidential and residential development per the policy guidance and objectives of the Urban Parks Framework where applicable.
21. Provide for non-vehicular access to recreational facilities, transit areas, and major tourist attractions. Planned trails and multimodal corridors should afford passive recreation opportunities and provide linkages to the countywide and regional trails network.

IMPLEMENTATION

Based upon the identified issues and objectives for the Dulles Suburban Center, several implementation strategies are recommended. These strategies provide for a Plan that is responsive to short-term market conditions and long-term, countywide goals and maintains the viability of the Tax District financial structure. The components of this strategy include:

- An analysis of the Route 28 Enhanced Transportation Corridor in the near term to evaluate possible high-quality transit systems, the location of transit station(s) and stops; and land use refinements that could support these systems without increasing commercial and industrial intensities for the overall Dulles Suburban Center.
- Measures to increase housing to satisfy a variety of housing needs within the Center while demonstrating conformance with the airport noise policy and not reducing the tax base within the Tax District.
- Monitoring proposed changes in the airport noise contours and their impacts on land use planning.
- Evaluating development proposals and determine the necessary supporting transportation and infrastructure.
- A performance based strategy for assessing optional uses within a long-term program designed to phase necessary infrastructure and services through commitments of both the public and private sectors.
- Development of a system to permit transfer of density within the Tax District in order to meet planning objectives without an increase in the overall density.

Residential Development in the Tax District

Residential development in portions of the Dulles Suburban Center would help create a greater mix of uses, provide more housing close to employment centers, and provide for a use that generates less peak-hour traffic than might occur if land is developed by-right under the existing zoning. However, under the current structure of the Tax District, residentially zoned properties are not subject to the tax surcharge that has been established for owners of nonresidential property to fund roadway improvements. The Tax District legislation includes a mechanism by which contributions may be accepted to allow residential development without increasing the financial burden on other Tax District landowners or the county.

A factor which currently limits housing opportunities within the Tax District is the impact of airport noise. Much of the land within the Tax District located to the south of Dulles Airport is within the adopted DNL 60 dBA airport noise contour.

Plan Monitoring

Regular Plan monitoring will allow for periodic evaluation of the developing land use pattern given the land use options and flexibility built into the Plan. As optional and baseline land use recommendations are implemented, the character of some portions of the Suburban Center may change. The capacity of the roadway system could be effectively increased if new development results in a mix of uses that generate fewer peak-hour trips than the Plan baseline recommendations and if existing and future transportation demand strategies can increase the number of commuters

using non-motorized transportation and public transit. The Plan should be revisited periodically to ensure that the changes occurring meet the planning objectives for the Dulles Suburban Center.

Transfer of Development Rights

One of the key land use objectives for the Dulles Suburban Center is to limit land use sprawl and concentrate development in nodes that can be better served by public transportation. To achieve this, it is recommended that development intensity be permanently transferred from land located within the Tax District where lower intensity development is planned, to areas identified in the Plan as “core” areas or mixed-use focal points where higher intensity development is recommended. When evaluating areas proposed for a transfer of density, priority should be given to those sites in the Suburban Center that can be dedicated to Fairfax County to meet public needs.

Section 15.2-2316.2 of the Code of Virginia permits municipalities to create a transfer of development rights ordinance. A more detailed plan and program for implementing Transfer of Development Rights in the Dulles Suburban Center should be initiated by the Board of Supervisors. This plan should identify specific sending parcels and receiving areas.

Performance Based Strategy for Optional Uses

A performance based strategy for development in the Dulles Suburban Center is set forth below for Land Units A-K. This strategy provides the developer the opportunity for a broader range of uses if it can be clearly demonstrated that the uses will have lesser peak-hour impacts than would be generated if the site were developed at the baseline Plan recommendation and that the uses are compatible with adjacent development and of a high quality that will contribute to the image and economic vitality of the Dulles Suburban Center.

With this strategy, both the county and the landowner benefit through the effective extension of capacity of the planned roadway network and a broader mix of uses creating a more desirable environment. The performance based approach is predicated on the understanding that this approach creates a forum for flexibility, negotiation and mutually beneficial development solutions. Development proposals must demonstrate that the proposed use will contribute to objectives for the Dulles Suburban Center.

The Performance Criteria for Optional Uses section describes the elements for trip generation and compatibility which form the basis for the performance criteria as well as the performance criteria itself.

PERFORMANCE CRITERIA FOR OPTIONAL USES

Within each of the land units A-K of the Dulles Suburban Center, recommended land uses and intensities/densities are specified with a baseline Plan recommendation for development. These may be uses which primarily generate off-peak hour trips and these uses are planned to be retained. In some cases, other uses that may be appropriate under certain conditions are also specified. These are called optional uses. Where optional uses are specified, these uses generally generate fewer peak-hour trips, and can be developed compatibly with the surrounding area. Under the options, the overall intensity may generally vary as long as the identified performance criteria for traffic impacts, compatibility and site-specific conditions are met. Site-specific conditions may also apply to the baseline and optional use recommendations. In those instances where retail use is an option, a maximum intensity is specified to provide guidance as to the scale of retail development that is appropriate. Although not specifically referenced in each land unit, institutional uses and uses allowed by special permit and

special exception may be considered as optional uses throughout the Dulles Suburban Center. Once a land use option is exercised through site plan or construction, any future redevelopment should also result in lesser impacts on peak-hour road capacity when compared to the baseline Plan recommendation.

To develop property with an optional use, an applicant shall submit to the county a development proposal for a rezoning, special exception or special permit, as appropriate, with sufficient detail and information that fulfills the following items:

- Provides an analysis that demonstrates, to the satisfaction of the Fairfax County Department of Transportation, that the uses and intensities/densities proposed will result in lesser peak-hour traffic impacts than would be generated if the site were to develop at the maximum allowable intensity for the Plan baseline recommendation. In those land units where a range of intensities is specified (example: .50-1.0 FAR) the low end of the range should be used for calculating peak-hour trip equivalencies;
- Provides evidence that all compatibility elements are satisfied;
- Provides information that demonstrates that the proposed uses will contribute to the economic vitality of the area; and
- Provides excellence of design, as demonstrated by the development proposal's ability to respond to the Design Guidelines for the Dulles Suburban Center.

Development Elements: Transportation

Allowing for optional uses that will generate fewer peak-hour traffic trips than generated by baseline development, or that will have a lesser peak-hour transportation impact, will effectively increase the capacity of the road network by spreading the trips throughout the day or by providing more of a balance between inbound and outbound trips. Transportation Demand Management (TDM) programs that include innovative strategies to reduce single-occupancy vehicle use are appropriate and essential in the area.

In order for an optional use to be considered for approval, the applicant should meet the following applicable criteria for trip generation:

- For all options, the proposed use and intensity will have lesser peak-hour traffic impacts than would occur if the site were to be developed at the maximum intensity allowed in the baseline Plan recommendation. This should be demonstrated to the satisfaction of the Fairfax County Department of Transportation and the Department of Planning and Zoning.
- The uses should have fewer total peak hour trips compared to the base plan, when applying the trip generation rates in the current edition of the Institution of Transportation Engineers (ITE) Manual.

Compatibility Elements

Compatibility issues relate to land uses, parcel consolidation, buffers, access and circulation, the mitigation of noise and other nuisances, design and landscaping.

Land Use

Proposed uses in the Dulles Suburban Center should be compatible with adjacent existing and planned uses in terms of height and scale. If nonresidential development occurs adjacent to residential uses, substantial landscaped buffers, screening, other landscape features, and/or other buffer treatments must be provided to mitigate adverse visual and noise impacts. Where residential development or mixed-use development with a residential component is recommended as an optional use, projects should have sufficient acreage and number of units to create a high-quality living environment through the provision of well-designed projects with recreational and other amenities for residents. Projects must provide affordable dwelling units.

Parcel Consolidation

Proposals for both baseline and optional uses should provide sufficient parcel consolidation to ensure that a development can meet all standards for setbacks, buffering and screening, open space, parking and recreational amenities; function in a well-designed, efficient manner; and not preclude the development of unconsolidated parcels in conformance with the Comprehensive Plan.

Buffers

Buffers between potentially incompatible land uses can occur at various scales - area-wide and land unit specific. At the area-wide scale, buffers can be land use types and/or intensities planned in positive relationships to one another. It is expected that transitions and buffers will occur so that the peripheral land uses of the Suburban Center are compatible in type and intensity to the adjoining areas to protect existing residential neighborhoods. Within individual land units, land use buffering should be encouraged wherever possible. Setbacks, berms, and vegetative or structural (walls and fences) screens are recommended as buffer treatments. Where appropriate, environmental quality corridors can be incorporated as natural buffer areas.

Access and Circulation

As a part of the process to consider optional uses, the applicant should demonstrate that adequate vehicular access and circulation can be accomplished. Likewise, it should be demonstrated that the optional use or uses help provide a circulation pattern that can efficiently serve the area and will not result in adverse impacts to the surrounding area. If residential development is an optional use under consideration, the analysis of access and circulation should examine how the residential community will provide access to transit, schools, parks and recreation facilities, and other community services.

Pedestrian circulation is an important issue that should be addressed through the development process. While the degree of pedestrian circulation provided on-site may vary, all optional uses should demonstrate that they will contribute to the implementation of a comprehensive network of trails and sidewalks for pedestrian circulation related to the Dulles Suburban Center.

Mitigation of Noise and Other Nuisances

Noise and light produced by an optional use must be examined to determine that it does not negatively impact adjacent residential or nonresidential uses. Measures such as landscape buffers, berms, walls and fences, pedestrian - scaled light poles, and the directing of light away

from existing development should be used to mitigate any identified impacts.

Design and Landscaping Elements

Frequently in the land unit recommendations the term “high quality” is used to describe the character of development desired for the Dulles Suburban Center. For the purpose of evaluating development proposals in Land Units A-K, the quality of development for both baseline and optional uses will be defined in terms of the proposal's ability to achieve the Design Guidelines for the Dulles Suburban Center.

Residential

Where residential development is to be considered as an option, the proposed development should:

- Be compatible with adjacent existing and planned development in terms of building heights, scale and density.
- Assure that development of adjacent lands can occur in a fashion which is compatible through joint application and/or demonstration that the zoning for adjacent lands would be compatible with the proposed use.
- Minimize human exposure to unhealthful levels of noise in accordance with the guidance provided by the Policy Plan under Environment Objective 4.
- Affordable housing units should be provided in the Dulles Suburban Center at a minimum of 12 percent of any mixed-use project or residential development consistent with the Affordable Dwelling Unit (ADU) Ordinance and Workforce Housing Policy. If the ADU Ordinance is not applicable, a proffer of units or land or a contribution to the Housing Trust Fund consistent with the Workforce Housing Policy should be provided.
- Provide needed right-of-way for in the Dulles Suburban Center.
- If sites are identified, provide or participate in the provision of land, as may be practical, to achieve future school facility needs.

Nonresidential

Where nonresidential development is to be considered as an option, the proposed development should:

- Demonstrate that mitigation measures for noise, glare, lights and other nuisance aspects related to nonresidential development are adequate to ensure the proposed use will not adversely impact adjacent development. Mitigation measures may include the provision of berms and landscaping, limitation on hours of operation, limitation on the heights of light poles and other measures.
- Provide coordinated access.
- Provide for consolidation of appropriate parcels.

- Provide needed right-of-way for high quality transit in the Dulles Suburban Center.

Design Elements

Where residential and nonresidential development is to be considered as an optional use, the proposed development must demonstrate high quality design. Design will be evaluated in terms of the ability of a development proposal to meet the Design Guidelines for the Dulles Suburban Center.

DULLES SUBURBAN CENTER AREA-WIDE RECOMMENDATIONS

LAND USE

The Plan for the Dulles Suburban Center recommends baseline and optional land uses to guide development in the area. To obtain the development flexibility afforded by the optional uses, applicants must demonstrate that all applicable performance criteria, are met. All land uses should reinforce the overall goals and objectives of the Plan in both their type and arrangement and should relate positively to the transportation system, as well as to one another, in order to achieve the highest collective development quality for the area.

Development should be consistent with the need to maintain and enhance the economic viability of the Route 28 Tax District. New residential use is not recommended in areas that are impacted by noise from Dulles Airport as set forth in the environment recommendations for Area III. Existing stable neighborhoods within the Dulles Suburban Center that are planned for continued residential use should be preserved. Infill development in these areas should be of a compatible use, type and intensity in accordance with the guidance provided by the Policy Plan under Land Use Objectives 8 and 14.

Urban Design Objectives

The quality of the built and natural environment is an important consideration in planning for the Dulles Suburban Center. The intent of the following design objectives is to achieve the goal of promoting a high-quality built environment, protecting the natural environment, and ensuring the compatibility of future development. Specific guidelines to be used in implementing these objectives are found in the Design Guidelines for the Dulles Suburban Center.

Design Objectives

1. Provide high-quality development that is functionally integrated, orderly, identifiable and attractive.
2. Create a positive and easily recognizable identity for the Dulles Suburban Center as a whole, and also for individual development units. Establish a sense of place and assist in orienting people to find their way to the area's workplaces, stores, and other facilities.
3. Design development to allow for pedestrian access between buildings and amenities, thus reducing reliance on the car; provide publicly accessible open space for active and passive recreation, and visual relief; allow opportunities for shared parking; and generally make more efficient use of land, a valuable resource.
4. Create vehicular and pedestrian/non-motorized vehicle circulation systems that minimize conflicts between these different modes of travel, and that are clearly identified for easy use.
5. Protect adjacent residential neighborhoods from the impacts of new development by establishing landscaped buffers and other landscaping features, as well as maintaining high standards for architectural quality. Keep noise, glare and traffic intrusion at a minimum.
6. Protect and enhance environmental and heritage resources, integrating these features into

development to the greatest extent possible.

7. Encourage parcel consolidation in order to realize the benefit of comprehensive urban design and circulation/access principles.
8. Create highway corridors that are visually appealing.
9. Promote a positive image for the Dulles Suburban Center in keeping with the high architectural and design standards for development of the area as a whole.

DESIGN GUIDELINES FOR DULLES SUBURBAN CENTER (LAND UNITS A THROUGH K)

SITE PLANNING

Multimodal Access

- Provide pedestrians, including those with disabilities, with safe and convenient access between transit stops and building entrances, using the shortest route possible.
- Provide bus shelters to protect riders from the weather and that are safe and easy to maintain.
- Provide separate auto and pedestrian circulation systems for a safe environment that encourages walking rather than auto use for short trips.
- Pedestrian safety should be an important factor in designing sidewalks, crosswalks and trails. Adequate lighting is essential. Pedestrian linkages between buildings and parking areas should be well-lit and landscaped. Site development should ensure that the landscaping does not impede visibility or create unsafe conditions.
- Provide pedestrian links to adjacent development and to the regional and countywide trail systems, connecting local sites with the larger community and enhancing the continuity of the larger systems.
- Limit access to arterial roads by consolidating access points or providing access to arterials from secondary roads.
- Encourage bicycle use with bicycle routes and secure convenient bicycle storage.

Parking and Loading Areas

- Encourage parking in either structures, decks or well-screened, off-street parking areas on the sides or at the back of buildings. If it is not possible to accommodate parking behind or beside buildings, minimize parking in front of buildings.
- Locate priority parking spaces for carpools and vanpools close to the employee entrance of the building or parking structure, to encourage ride-sharing.
- Integrate the design of parking structures with that of the buildings served. Perimeter plantings and spandrel planters on the decks/structures are encouraged to soften the

effects of facades and to make the structure more attractive.

- Design Park and Ride Lots to be compatible with adjacent development and minimize disturbance to the surrounding natural environment. Trees and other vegetation should be preserved as screening.
- Segregate service, maintenance and loading zones from employee and visitor vehicle parking areas.
- Separate auto and truck traffic on site for light industrial development, providing separate truck parking, loading and vehicle maintenance areas. For uses with large truck traffic volumes, provide vehicle entrances and exits separate from those for visitors.
- Use plant materials, walls, fences or earth berms to screen parking lots and minimize their view from the street right-of-way, adjacent development, and buildings being served by the lot. Break up large parking lots by creating planting areas as dividers.
- Locate or screen the lights within parking lots to minimize glare on adjacent buildings or residential areas.

Open Space/Environmental and Heritage Resources Protection

- Plan development to ensure usable open space.
- Protect and enhance an integrated network of ecologically valuable land and surface waters. Connect open space that could become a part of a corridor to facilitate the movement of wildlife and/or conserve biodiversity.
- Provide for a continuous open space system linking activity nodes internally and externally. Use natural environmental areas as transitions between developments, as visual amenities, passive recreation corridors, and as wildlife corridors.
- Integrate stormwater management strategies into broader site design concepts, with a goal of designing stormwater management practices that are effective in achieving water quality and volume reduction goals while providing open space and/or visual/landscaping benefits; many low impact development practices (also known as green stormwater infrastructure) can provide both stormwater management and aesthetic benefits.
- Where feasible, minimize areas of impervious surface through shared parking, decked or structured parking; or increased building height; or other measures as appropriate.
- Support tree preservation, tree planting, and sensitive landscaping practices. Maximize tree preservation, remove invasive species and plant native species of trees, shrubs and other vegetation.
- Minimize the disturbance of environmental resources and topography by integrating existing vegetation, trees and topography into site design.
- Preserve or recover and record significant heritage resources, integrating them into site

design where feasible

Buffers and Screening

- Provide buffers and screening where necessary to protect adjacent neighborhoods or other less intense uses, recognizing that preservation of natural features in transitional areas enhances the visual quality of the development.
- Utilize architectural and landscape elements (such as walls, berms, trees, varying scales and building masses, etc.) as visual buffers between commercial and non-commercial uses, as well as to mitigate impacts of highway noise.
- Screen from public view rooftop mechanical equipment, materials storage, utility substations and similar facilities.
- Mitigate the impact of blank walls on the side and back of retail buildings with landscaping, screening and buffering.

Utility/Service Areas

- Place utilities underground to the extent possible. Keep utility corridors separate from landscaping corridors to avoid disturbing vegetation during utility maintenance.
- Provide for safe and well-screened on-site storage of refuse generated by commercial and industrial uses, including walled enclosures for dumpsters. Design recycling facilities to be accessible but well-screened.

ARCHITECTURAL DESIGN

Scale/Mass/Form/Facades

- When development is near existing residential areas, scale and mass should be consistent with existing residential development.
- Design retail shopping development in physically unified complexes, not as scattered free-standing structures.
- Establish an architectural theme for multi-building complexes, utilizing similar materials and relating building elements such as entries, windows, and roof lines.
- Incorporate plazas, courtyards or other open space amenities at major building entrances or in the center of a group of buildings that feature special paving, seating, planting, water features such as fountains, and public art.
- Orient buildings and site layout in a manner that contributes to connectivity, encourages walkability and creates a pedestrian-focused environment.

STREETSCAPE

Landscaping

- Provide color, texture and seasonal visual interest at major architectural and site focal points by using flowers and ornamental, deciduous and evergreen shrubs, trees, etc.
- Preserve existing high quality vegetation and integrate it with development to the greatest possible extent.
- Select low-maintenance landscape materials for areas not likely to receive consistent maintenance.

Signage/Street Furniture

- Create a signage style for a given development complex and carry it out consistently at major roads entering the complex and at building site entries. Comprehensive sign systems that establish a distinctive theme and identity and eliminate visual clutter are desirable. Building-mounted signs and ground-mounted shopping center signs incorporated within a planting strip are encouraged. Freestanding and pole-mounted signs are discouraged.
- Provide street furniture including items such as benches, trash receptacles, and planters. Street furniture should be durable, require low maintenance, and be easily repaired or replaced.
- Use benches or other seating in courtyards, along pathways, near building entries, or in any other public area.
- Place trash receptacles conveniently and strategically along major walkways, near building entrances, and in seating areas.
- Within the Sully Historic Overlay District all signs, fences, street furniture, outdoor graphics should be designed and installed to be compatible with the Sully Historic Site in terms of mass, scale, color and visual impact.

Lighting

- Develop a comprehensive lighting plan for development, in order to provide unity and a coordinated appearance, thus contributing to a positive sense of orientation and identity for motorists and pedestrians.
- Provide exterior lighting that enhances nighttime safety and circulation.
- Design lighting in a manner that minimizes glare onto adjacent sites.

TRANSPORTATION

Transportation recommendations for the Dulles Suburban Center are shown on Figure 3. Travel within and through the Dulles Suburban Center is affected by land uses and transportation facilities in adjacent areas as well as throughout the Northern Virginia region. Therefore, the transportation

network for this area is comprised of many elements, extensive countywide facilities, services, and policies and is envisioned to be multi-modal in nature, employing an appropriate mix of high quality transit, bus service, bicycle and pedestrian infrastructure. Transportation planning must consider how state roads and other means of transit should provide for local needs while also considering how roads, transit and other modes can be integrated with similar facilities outside the Dulles Suburban Center. In all future transportation studies particular attention should be paid to the possibility of high quality transit and multi-modal transportation options.

Roadway Network and Circulation

Transportation improvements shown on Figure 3 represent several countywide elements as well as improvements specific to the Dulles Suburban Center. The following list provides additional detail on some of the planned transportation improvements in the Dulles Suburban Center.

Roadway Improvements

- Widen Route 28 to 10 lanes from I-66 to Route 267 (DTR) with HOV.
- Widen Centreville Road from four to six lanes between Walney Road and West Ox Road.
- Widen Frying Pan Road from two/four to six lanes between Route 28 and Centreville Road.
- Widen McLearen Road from four to six lanes between Route 28 and Centreville Road.
- Widen Walney Road from two to four lanes between Poplar Tree Road and Westfields Boulevard.
- Extend Poplar Tree Road to the west over Route 28 connecting to Stonecroft Boulevard.
- Construct Davis Drive Bridge as a new four-lane bridge over DAAR connecting Sunrise Valley Drive to Innovation Avenue in Loudoun County.

Interchanges

- Construct Route 50 and Centreville Road Interchange.

Multimodal Transportation

- Phase 2 of the Dulles Silver Line Metrorail Extension: Innovation Center Station is located at the north end of the Dulles Suburban Center. This station will have impacts on transit usage, the bus network and circulation in the northern section of the Dulles Suburban Center.
- High Occupancy Vehicle (HOV) lanes are proposed on Route 28 in the study area, increasing the capacity of the roadway.
- The extension of the Orange Line Metrorail to Centreville and high-frequency bus service are planned on I-66, just south of the Dulles Suburban Center.
- Express Bus on Route 28 is proposed to utilize the HOV lanes.

- Specific recommendations on bicycle facilities are included in the Bicycle Master Plan and Countywide Trails Master Plan.

Route 28 Enhanced Transit Corridor

- The development of transit facilities in the Dulles Suburban Center will help reduce the reliance of commuters on single occupant vehicle transportation. Route 28 is a designated “Enhanced Public Transportation Corridor” in the Comprehensive Plan. These corridors have been chosen due to their importance to the county transportation network and their ability to accommodate multiple modes of transportation.
- Subject to Board of Supervisors approval, the need to preserve options for rail and other transit modes has been identified in the Dulles Suburban Center to provide options for future alternative modes of transportation. There are varying routes that have been considered, as shown on Figure 4, bus routes would provide connectivity from activity nodes in the Dulles Suburban Center to the Innovation Center Metrorail Station on the Silver Line and to Centreville and the planned extension of the Orange Line.

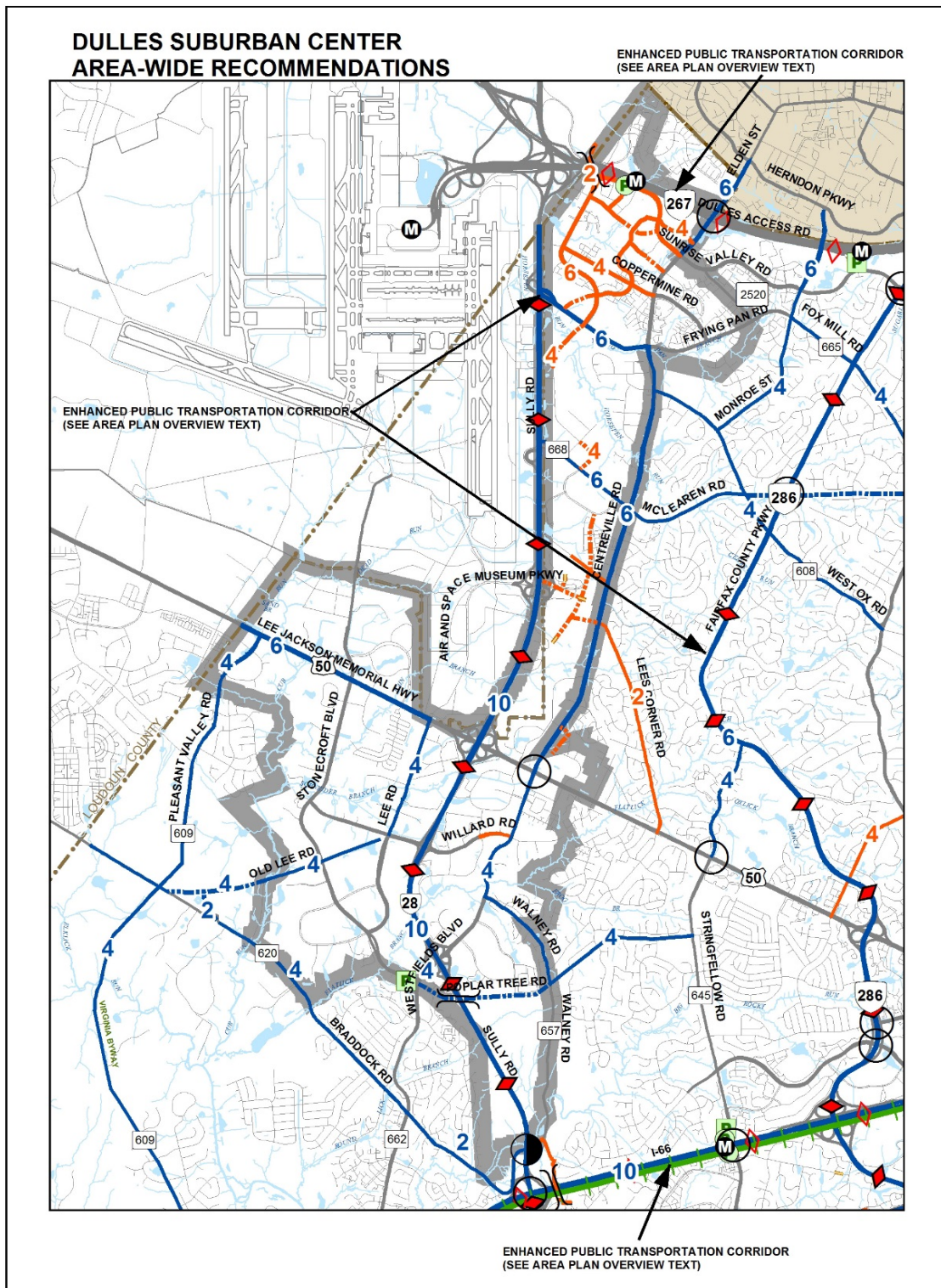
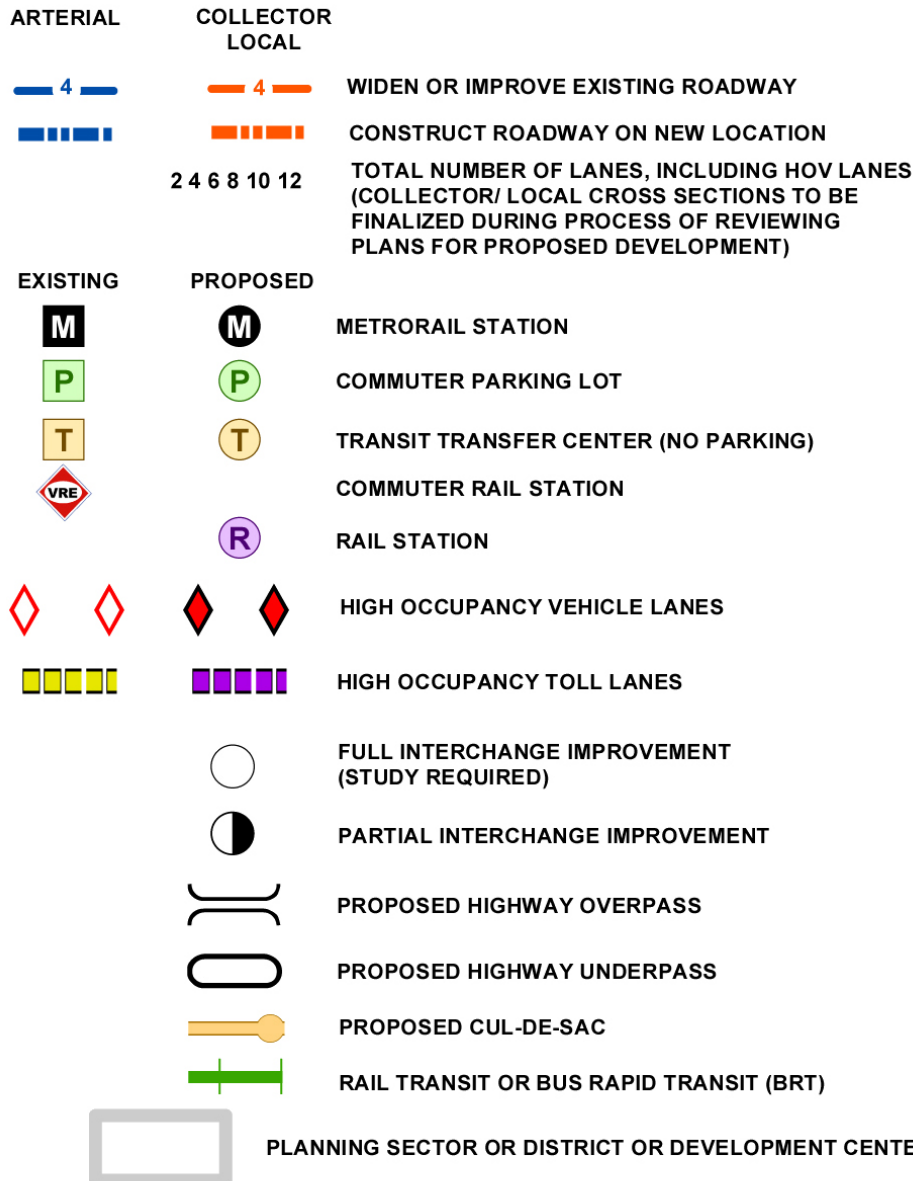


FIGURE 3

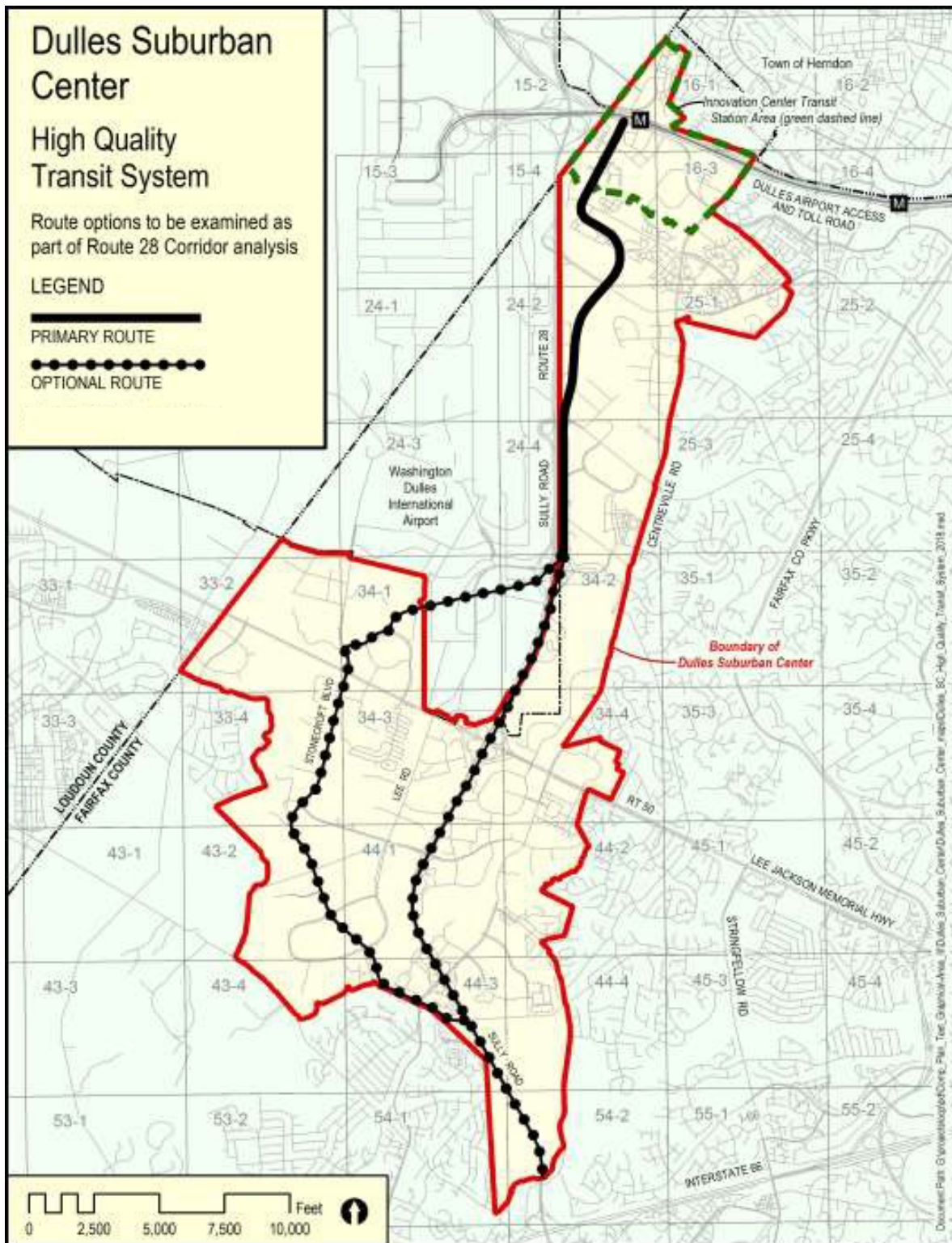
TRANSPORTATION RECOMMENDATIONS LEGEND



NOTE: IMPROVEMENTS TO ARTERIAL FACILITIES SUBJECT TO COMPLETION OF CORRIDOR STUDIES. SEE DISCUSSION IN AREA PLAN OVERVIEW TEXT. FINAL ALIGNMENTS SUBJECT TO COMPLETION OF APPROPRIATE ENGINEERING STUDIES.

HOV LANES TO BE CONSIDERED IN PROJECT DEVELOPMENT. HOV LANES TO BE PROVIDED IF WARRANTED BASED ON DEMAND FORECASTS AND CORRIDOR STUDY.

TRANSPORTATION RECOMMENDATIONS LEGEND **FIGURE 3**



High Quality Transit System

FIGURE 4

Pedestrian Mobility and Bicycle Systems

While vehicular travel will continue to be the predominant mode of transportation within the Dulles Suburban Center, efforts should be made to improve accessibility and circulation for all modes including transit, vehicles, pedestrians, and bicyclists. Consideration should be given to the achievement of a balance between traffic delay and a pedestrian friendly environment. It is the intent of these recommendations to maximize the future use of transit, bicycling and walking in the Dulles Suburban Area.

Pedestrian Mobility

Coordinated walkway networks are fundamental as well as essential and should be required of all development in the Dulles Suburban Center. Wherever possible, missing connections or substantial portions of the pedestrian network should be replaced with new sidewalks, trails or other improvements. Comprehensive, coordinated walkway networks shall be required for each site to provide full intra and inter parcel pedestrian circulation to and from all buildings, parking, recreational facilities, and to or through open space areas. New development should be oriented to the pedestrian realm, creating logical connections from the street to the main entrance of the building.

Special consideration should be given to intersections to enhance pedestrian safety and convenience. Intersection control and design should accommodate pedestrians through the use of signalized pedestrian crossings, walkway incorporation into roadway grade separations, pedestrian activated signals, crosswalks and pedestrian refuge medians as appropriate.

Clear and direct pedestrian connections from bus stops and future transit stops are necessary in the Dulles Suburban Center. The transportation network should facilitate non-motorized connections, including connections between neighborhoods and local amenities such as parks, shopping centers, jobs and schools. Consideration should be given to the implementation of wayfinding and signage for pedestrians in the Dulles Suburban Center as multimodal transportation options in the area increase. New developments should implement the recommendations in the Countywide Trails Master Plan, and create direct connections to existing trails to enhance pedestrian mobility in the Dulles Suburban Center.

Sidewalks and pedestrian facilities should be buffered from the roadway, to create a comfortable environment for the pedestrian. Walkway width and clearance should not be reduced or compromised by utility poles, roadway signs, mail boxes, etc. These features should be located on utility strips between curbs or road shoulders and walkways.

Bicycle Facilities

Bicycling is an important component of transportation and provides additional mobility options. Improving bike connectivity in the Dulles Suburban Center is crucial to making the bicycle a more viable mode of transportation. A robust bicycle network is planned for the area and can be seen in the County's Bicycle Master Plan. These connections will allow for the movement in and around the Dulles Suburban Center, connecting the residential neighborhoods with the more concentrated mixed use areas. Consideration should be given to the safety of bicyclists in new projects, including the separation of bike facilities from vehicular traffic where desirable.

Bicycle parking facilities should meet long-term and short-term parking needs. Bicycle parking, should be provided in development and redevelopment projects and at future transit

parking and transfer facilities. Lack of safe and secure bicycle parking can become a major obstacle in promoting bike mobility in the Dulles Suburban Center. With the installation of bicycle parking, careful attention should be given to providing the proper type and amount of parking, at the correct location within a site.

Long-term bicycle parking or storage should be provided at employment, school, commuter, and apartment uses. These facilities require weather protection and security devices; such as bike lockers or controlled access areas. Shopping, personal business, and recreation trips have shorter parking duration which is best served by open air parking devices that lock bicycle wheels and frame, and are close to and in view of building entrances.

Transportation Demand Management

Transportation Demand Management (TDM) refers to a variety of strategies aimed at reducing the demand on the transportation system, particularly reducing single occupant vehicles during peak periods, and expanding the mode choices available to residents, employees, and visitors. The result is a more efficient use of the existing transportation system. TDM is a critical component in achieving the Plan's goal of land use and transportation balance in the Dulles Suburban Center.

In addition to reducing peak period single occupancy trips, a broad, systematic, and integrated program of TDM strategies throughout the Dulles Suburban Center can increase the percentage of travelers using transit and non-vehicular modes of transportation. TDM programs should embrace the latest information technology techniques to encourage teleworking, provide sufficient information to enable commuters and other trip makers to choose travel modes and travel times, or decide if travel is necessary at that time.

Achieving the objective of a successful TDM program for Dulles Suburban Center to reduce the number of single occupant vehicle trips is measured by the Institute of Transportation Engineers' (ITE) peak hour trip generation rates. The vehicle trip reduction goals for office and residential development beyond ½ mile to Metrorail are 35 percent to 25 percent and 25 percent to 15 percent, respectively. For the Transit Station Area, see Land Unit A for more specific guidance.

Parking Management

To facilitate the achievement of TDM goals and encourage transit use, shared parking for uses which have different peak demand periods, instituting paid parking, or other parking reduction strategies are encouraged. Additionally, shared parking between similar uses should be explored. These parking strategies can serve to reduce vehicle trips and increase the cost-effectiveness of the provision of parking. A parking plan should be submitted along with a development application that demonstrates that the amount of parking that is provided is sized to support the development. Provisions for parking reductions and other incentives to lower parking should be used if it is supported by the parking plan. The use of higher parking rates in the first phases of a development followed by lower parking rates in subsequent phases can be considered.

Appropriate and strategically located parking is critical to the transformation of Dulles Suburban Center. On-street structured, and underground parking should be encouraged for most of the uses. Surface parking lots should be avoided especially in front of buildings and along Route 28, which is planned to carry high quality transit. The redesign and consolidation of existing, private, surface parking lots should be encouraged in the areas around transit

station locations to increase pedestrian accessibility.

As the Dulles Suburban Center is developed, and the land use and transportation infrastructure matures, parking requirements should be examined to determine if they are adequate for the changing conditions. Rather than supplying parking for each individual use, parking should be treated as a common resource for multiple uses. Implementing this practice will reap many benefits in creating a more walkable and less auto-dominated environment.

ENVIRONMENT

The western quarter of Fairfax County, including the entire Dulles Suburban Center, is located within a geologic feature known as the Culpeper Basin, one of several Triassic-age basins on the east coast. The area is characterized by relatively level terrain, meandering streams in broad floodplains, perched water table, shallow soils, and siltstone and sandstone bedrock located at or near the surface. The geomorphology of the Dulles Suburban Center area contributes to the area's environmental constraints, including low filtration, poor groundwater recharge, highly erodible soils, and flashy hydrology which means the area is prone to rapid increases in flow and velocity of stormwater soon after rainfall.

Within the Dulles Suburban Center, airport noise and environmental quality corridors (EQC) are the primary environmental constraints to development. The floodplain areas and areas of freshwater wetlands, which account for most of the environmental quality corridor areas in the Dulles Suburban Center, are the primary environmental resources which should be protected and incorporated into the development pattern. Stormwater management and riparian buffer protection and restoration plays an important role in protecting water quality and the health of the streams.

Environmental Quality Corridors

Most of the environmentally sensitive land within the Dulles Suburban Center is included within the Cub Run, Flatlick Branch, Frying Pan Branch, Cain Branch and Horse Pen Run Stream Valley Environmental Quality Corridors. Environmental Objective 9 contained in the Policy Plan is to "Identify, protect and enhance an integrated network of ecologically valuable land and surface waters for present and future residents of Fairfax County." Policy A under this objective reads "Identify, protect and restore an Environmental Quality Corridor system (EQC)."

Significant natural resources provide a network of biodiversity and habitat corridors in this area, including the 650-acre Ellanor C. Lawrence Park, Sully Historic Site, numerous stream valley parks, Environmental Quality Corridors (EQC's) and privately-owned property and open spaces. Environmentally-sensitive lands are especially susceptible to degradation and fragmentation from development, including the impact of new or expanded roadways. Efforts should be made to reconnect green spaces to protect and enhance habitat quality, separate potential pollution from streams and incorporate them into the EQC system if appropriate. To facilitate protection of these lands, acquisition by a public body, or open space conservation easements on private lands, should be pursued. Refer to the Environment section of the Policy Plan for additional guidance.

Because most of the land within the Dulles Suburban Center is characterized by low relief, the stream valleys have broad floodplains and poorly drained wetland areas. Areas of 15 percent slope are uncommon. In general, the boundary of the floodplain is also the boundary of the EQC. Much of the wetland area is also located within the floodplains. There are also areas of isolated wetlands which do not qualify as components of the EQC system because they are not directly connected to a stream valley. Nevertheless, these isolated wetland areas, which are common south of the Airport, constrain development because they are subject to the requirements of the Federal Clean Water Act.

Activities that result in destruction of these wetlands are regulated by the United States Army Corps of Engineers and the Environmental Protection Agency.

Stormwater Management

Goals

Stormwater management plays an important role in protecting water quality and the health of our streams. Both development and redevelopment offer opportunities to protect and support the restoration of water resources by correcting deficient situations in an effort to protect and restore local streams and to reduce the pollutant loads entering the Potomac River and Chesapeake Bay to the extent practicable. This may be accomplished by reducing the total runoff volume and/or significantly delaying its entry into the stream system and by reducing pollutant loads into our waterways. Stormwater quantity and quality controls should be optimized for all development projects consistent with the scale of the projects, with a goal of replicating natural hydrologic conditions and reducing runoff volumes in furtherance of stream protection and/or restoration.

Low Impact Development

Efforts to reduce stormwater runoff volumes and velocities through on-site practices are important in light of the degraded conditions of many of the streams in this area. Low impact development (LID) practices of stormwater management (also referred to as green stormwater infrastructure) can reduce runoff volumes entering local streams by evapotranspiring water, filtering water through vegetation and/or soil, returning water into the ground, or reusing water. LID practices can include, but are not limited to, bioretention or biofiltration facilities (commonly referred to as rain gardens), vegetated swales, porous pavement, vegetated roofs, tree box filters, and the collection, reuse of stormwater runoff through the use of cisterns, both above ground and below ground. Nonstructural approaches incorporated within site designs/layouts may also be appropriate, including the preservation and/or creation of forested areas with no soil compaction, and landscaping that provides for the infiltration of rainwater. Because of the geologic setting of the Dulles Suburban Center, hydrologic conditions (including water table and soil types) may, in places, limit available stormwater management options. LID measures should be carefully selected and designed, on a case-by-case basis, to address limitations that may be associated with site conditions and proposed uses.

Stormwater Design

All proposals should incorporate stormwater management measures that further the above stormwater management goals. Environmentally-friendly stormwater design, with an emphasis on the use of LID practices as applicable, should be integral to each project, starting at the conceptual stage, recognizing that stormwater management measures may be phased as development occurs. Stormwater and site designs should minimize the amount of impervious cover and incorporate runoff reduction strategies such as infiltration, stormwater reuse and retention to improve downstream waters. The use of appropriate native plant materials is encouraged to provide habitat benefits while reducing fertilization, improving the soil, and minimizing maintenance.

The incorporation of stormwater management strategies in parks and other open space areas may support this approach while providing recreational amenities, habitat benefits and educational opportunities (e.g., interpretive exhibits highlighting ways that the strategies benefit

water and ecological resources). Stormwater management and selected LID practices should also be incorporated into new and redesigned streets where allowed and practicable. As approaches to treating stormwater continue to evolve, technology is improved and new innovative practices are identified, these measures should be employed in support of stream protection and restoration.

In order to achieve the stormwater management goals as noted above, stormwater management controls typically should treat runoff close to its source. This may be accomplished through onsite controls or through coordination of SWM measures among neighboring development sites. Contributions to, or construction of, one or more projects identified in a Board of Supervisors-adopted watershed management plan or projects that would otherwise further county stormwater goals may also be considered.

In addition, at a minimum the following guidelines should be followed for larger development projects (e.g., one acre or more of disturbance); such development proposals should be reviewed on a case-by-case basis for the appropriate optimization of stormwater management and water quality controls, allowing for flexibility in specific approaches to achieve the following guidelines (any one of A, B, or C below):

A. Specific Performance Targets

1. Reduction in runoff volume leaving the site equivalent to at least three-quarters of an inch from impervious surfaces on the site.
2. Reduction in discharges leaving the site to levels that will minimize stream erosion through the use of the energy balance method (based of forested existing conditions or an improvement factor of 0.7) or any equivalent methodology.

If these levels of runoff volume or velocity reduction cannot be attained, a combination of runoff volume reduction and peak flow and velocity reduction should be provided to the extent practicable.

B. Linkage to Green Building Rating Systems

As an alternative to item A above, stormwater management measures may be provided that are sufficient to attain the Rainwater Management credit of the most current version of Leadership in Energy and Environmental Design-New Construction (LEED-NC) or Core & Shell (LEED-CS) rating system (or equivalent of this/these credit(s) that may be based on an alternate rating system). Stormwater management practices that are applied toward this outcome should provide runoff reduction/rainfall volume retention, rather than just stormwater treatment, to the maximum extent practicable.

C. Alternative Approaches

As an alternative to the guidelines above, stormwater management measures and/or downstream improvements may be pursued to optimize site-specific stormwater management and/or stream protection/restoration efforts, consistent with the adopted watershed management plan(s) that is/are applicable to the site. Such efforts should be designed to protect downstream receiving waters by reducing stormwater runoff volumes and peak flows from existing and proposed impervious surfaces to the maximum extent practicable, consistent with watershed plan goals. Consideration may be given to other stormwater runoff-related factors such as soil conditions, groundwater conditions, downstream flooding, drainage complaints, character and condition of downstream channels, and

identified stream impairments. One such management approach that may be considered is that of non-structural measures, which would further enhance environmental stewardship by land owners in the area.

Additional area-wide environmental recommendations are as follows:

1. Preserve the Horse Pen Run and Frying Pan Branch Stream Valleys through dedication to, or acquisition by, the Fairfax County Park Authority.
2. Water quality recommendations presented at the beginning of the Area III section of the Plan should be applied to those lands within the Occoquan Basin.
3. The clustering of development, where compatible, is strongly advised because it increases open space and has a beneficial effect on water quality in the Occoquan Basin.

Highway noise mitigation should be provided for noise-sensitive land uses to ensure a healthful living and working environment in which speech and activity interference is minimized in both interior and exterior areas.

Airport Noise

Much of the Dulles Suburban Center is included within the Airport Noise Impact Overlay District (ANIOD) of the Zoning Ordinance. The ANIOD was established to ensure the achievement of interior noise guidelines suggested within federal noise compatibility documents for residential and other uses that are constructed within ANIOD and to prohibit residential and certain other noise sensitive uses from areas subject to particularly severe impacts from aircraft noise. New residential development with appropriate acoustical treatment and other mitigation measures is permitted within the ANIOD. Nonetheless, Plan guidance does not recommend such development in areas with projected aircraft noise exposures exceeding DNL 60 dBA. Where new residential development does occur near Washington Dulles International Airport, disclosure measures should be provided. Figure 5 presents a map of the Dulles Airport noise contours as they relate to the boundaries of the Dulles Suburban Center. The DNL 65 dBA, DNL 70 dBA, and DNL 75 dBA contours reflect the greatest extent of these contours as displayed on several noise contour maps within the March, 1993 Addendum: FAR Part 150 Noise Compatibility Program, Washington Dulles International Airport prepared for the Metropolitan Washington Airports Authority (MWAA). The DNL 60 dBA contour was taken from the long-term potential DNL 60 dBA contour map provided to the county by MWAA.

A more extensive discussion of noise compatibility planning and Dulles Airport noise impacts is contained in the Area Plan Overview for Area III under the heading “Land Use Planning Within the Dulles Airport Noise Impact Area.”

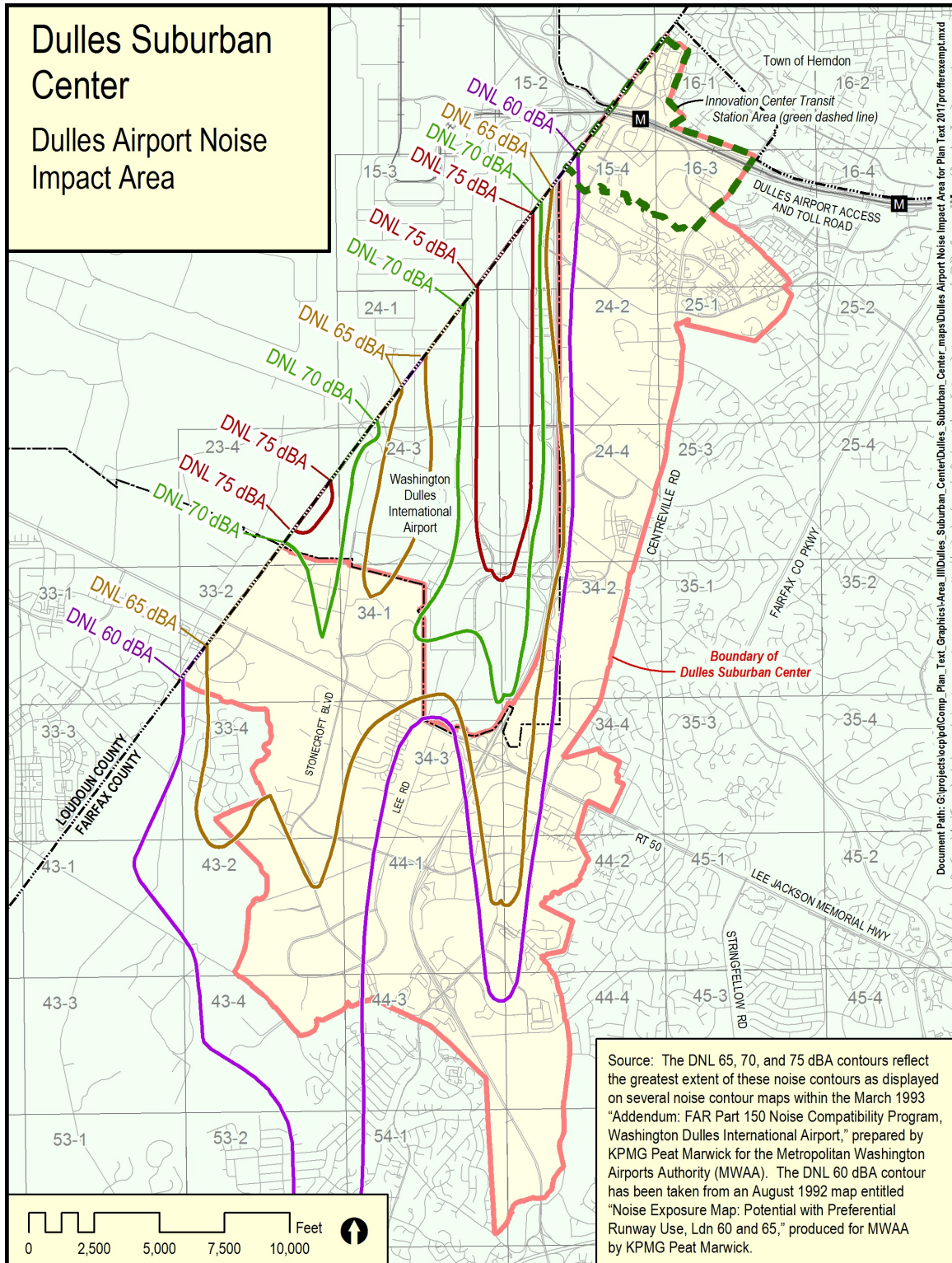


FIGURE 5

HERITAGE RESOURCES

The Dulles Suburban Center contains both known and potential heritage resources. A list of those heritage resources included in Fairfax County's Inventory of Historic Sites is listed on Figure 7. Maps of those resources are shown in the Bull Run Planning District on Figure 5 and the Upper Potomac Planning District on Figures 5 and 6. The Inventory is open-ended and continues to grow. For information about these and other historic sites, consult the Fairfax County Department of Planning and Zoning.

There are numerous heritage resources in this sector including standing structures as well as both prehistoric and historic archaeological sites. The Horse Pen Run drainage area has been occupied almost continuously since 8,000 B.C.

Basic countywide heritage resource preservation policies are applicable throughout the Dulles Suburban Center. Site designs that minimize the disturbance and avoid the destruction of significant heritage resources are desired. It is expected that property owners will consult and work with Fairfax County staff to determine the presence or absence of significant heritage resources and take appropriate preservation, recovery and recordation action in accordance with the countywide policies before development plans are approved.

In the fall of 2016 Heritage Resources staff in the Department of Planning and Zoning conducted a reconnaissance survey of the Dulles Suburban Center. Staff should be contacted regarding resource identification and ongoing survey efforts as directed by the 1988 Heritage Resource Management Plan and the Comprehensive Plan Policy on Heritage Resources. There is a potential for additional heritage resources to be identified.

Other heritage resources including those protected by Historic Overlay Districts, or listed in the National Register of Historic Places or the Virginia Landmarks Register, and may be identified in the text and recommendations section.

The Fairfax County Inventory of Historic Sites, the Virginia Landmarks Register, the National Register of Historic Places, and the county's Historic Overlay Districts promote the recognition of sites with historic, architectural and archaeological significance. Designation confers public recognition and can offer incentives for preservation to the property owner.

The county Inventory of Historic Sites includes properties which meet certain eligibility criteria and are officially designated by the county's History Commission. In addition to historic, architectural or archaeological significance, property that serves as a focus of community identity and pride may also be recognized. The benefits of designation include public recognition of the structure's significance and enhanced support for preservation. Owners of properties included in the Inventory may meet with the county's Architectural Review Board on a voluntary basis to review proposed changes to their properties. Project review and approval by the county's Architectural Review Board may be required in accordance with the guidance provided by the Policy Plan under Land Use Appendix 9 Residential Development Criteria 8 Heritage Resources.

The Virginia Landmarks Register and National Register of Historic Places also officially recognize properties meeting specific criteria. Like the county Inventory, benefits of designation include public recognition and enhanced support for preservation. In addition, projects that are funded or sanctioned by federal government agencies may require review to determine if they will have any effect on properties listed in or eligible for listing in the National Register of Historic Places. Alternatives must be explored to avoid or reduce harm to the historic properties.

The county's Historic Overlay District is a zoning tool used to regulate proposed new construction and changes to existing structures in areas containing heritage resources to ensure compatibility with the resources. Site design, facades, demolition, and building materials must be reviewed and approved by the county's Architectural Review Board.

In those areas where significant heritage resources have been recorded, an effort should be made to preserve them for the benefit of present and future generations. If preservation is not feasible then the threatened resources should be thoroughly recorded and, in the case of archaeological resources, the data recovered in accordance with countywide policies.

Prior to any zoning action, the Department of Planning and Zoning should be consulted as to what architectural surveys are necessary to document any on-site cultural resources. Archaeological staff from the Park Authority should be consulted to develop a scope of work for any on-site archaeological surveys prior to any development or ground disturbing activity. Should architectural or archaeological resources be discovered that are potentially eligible for inclusion in the National Register, further survey and testing should occur to evaluate these resources as to their eligibility. If such resources are found to be eligible, mitigation measures should be developed that may include avoidance, documentation, data recovery excavation and interpretation.

FIGURE 6
INVENTORY OF HISTORIC SITES
DULLES SUBURBAN CENTER
(Inventory as of February 7, 2018)

Name	Location	Planning Sector	Parcel Number	Date
Cabell's Mill	5235 Walney Road Centreville	BR3	54-2 ((1)) 2	c. 1800
Cabell's Mill Miller's House/Middlegate	5235 Walney Road Centreville	BR3	54-2 ((1)) 2	c. 1800
Floris Colored School, New *	2525 Squirrel Hill Road Herndon	UP4	15-4 ((1)) 32	1932
Floris Presbyterian Church	2472 Centreville Road Herndon	UP6	16-3 ((1)) 7	1906
Hutchison, John, House	4201 Pleasant Valley Road Chantilly	BR2	33-2 ((11)) 300	c. 1757-1785
Hutchison, John, Cemetery	4201 Pleasant Valley Road Chantilly	BR2	33-2 ((11))	c. 1757
Hutchison, Silas, Saw and Grist Mill Dam and Ruins	15012 Old Lee Road Chantilly	BR2	43-2 ((1)) 1	c. 1852-1862
Keyes House*	2516 Squirrel Hill Road Herndon	UP7	15-4 ((1)) 28	1884/1885
Manassas Gap Railroad Independent Line*	Western corner of county at Bull Run	BR3	52-3 ((1)) 3	1854-1862
Manassas Gap Railroad Loudoun Branch*	3650 Historic Sully Way Chantilly	UP6	34-2 ((1)) 14	1854-1862
Middleton, John, Farm*	13801 Frying Pan Road Herndon	UP6	24-2 ((1)) 1	1871

FIGURE 6
INVENTORY OF HISTORIC SITES
DULLES SUBURBAN CENTER
(Inventory as of February 7, 2018)
(continued)

Name	Location	Planning Sector	Parcel Number	Date
Mosby's Rock	2525 Squirrel Hill Road Herndon	UP6	15-4 ((1)) 32	Significant 1863-1865
Murphy, Hazel, Farm*	13900 Frying Pan Road Herndon	UP6	15-4 ((1)) 25	1852-1854
Old Ox Road Trace*	Near Squirrel Hill Road Herndon	UP6	15-4 ((1)) 32	1729
Peck House*	3106 Centreville Road Herndon	UP6	24-4 ((1)) 6C2	c. 1853
Ratcliffe-Hanna House N, V	2346 Centreville Road Herndon	UP6	16-3 ((1)) 39A4	c. 1820
Sully N, V, H	3601 Sully Road Chantilly	BR1	34-2 ((1)) 13	From 1794
Turley Hall*	3318 Centreville Road Chantilly	UP6	34-2 ((1)) 10A	c. 1821
Walney	5040 Walney Road Centreville	BR3	44-4 ((1)) 3	c. 1780

- * Indicates demolition of primary resource: potential intact archaeological components
- N National Register of Historic Places
- V Virginia Landmarks Register
- H Historic Overlay District

PUBLIC FACILITIES

Existing public facilities located within the Dulles Suburban Center and those for which a future need has already been identified and prior approval received are included on Figure 7. Major expansions of existing facilities (with the exception of federal or state facilities) or uses of land that are distinctly different than the use of the public facility must be considered by the county Planning Commission through provisions outlined in Section 15.2-2232 of the Code of Virginia. For these existing facilities minor expansions which are in keeping with the character of the facility may be considered in conformance with the Plan.

- An adequate water supply and water distribution system should be provided for fire protection services.
- The Regional Stormwater Management Plan should be implemented as identified by the Department of Public Works and Environmental Services.

Additional public facilities may be identified as future needs in the Suburban Center. Such facilities are included for informational purposes and in most cases will require a 2232 Review public hearing before the county Planning Commission prior to being established unless they are specifically identified in the Plan text. Those facilities for which a specific location for future construction has been identified are also listed in the land unit recommendations and are considered a feature of the Comprehensive Plan upon review of the Planning Director and concurrence by the Planning Commission. If a feature shown determination is made, these projects will not require a future 2232 Review public hearing.

**FIGURE 7
 DULLES SUBURBAN CENTER
 EXISTING PUBLIC FACILITIES**

Schools	Libraries	Public Safety	Human Services	Public Utilities	Other Public Facilities
Floris Elem., Carson Middle Coates Elem. McNair Elem. Westfield High		Chantilly Fire Station Co. 15 Frying Pan Fire Station Co. 36 Criminal Justice Academy Emergency Vehicles Operations Center	Cornerstone Rehabilitation Center	Henninger Court Fairfax Water Facility	Cub Run RECenter

*Federal and state facilities are not subject to the 2232 review process.

SCHOOLS

The following elementary schools serve the Dulles Suburban Center: Virginia Run, Cub Run, Lees Corner, Brookfield, Poplar Tree, Coates, Floris, Oak Hill, and McNair. The middle schools that serve the area are Carson, Franklin, Rocky Run, and Stone. The high schools that serve the area are Chantilly, South Lakes, and Westfield. In order to address projected enrollment increases within the service areas of these schools, some of these schools are planned for expansion. Many of these schools are outside of the Dulles Suburban Center with the exception of Coates, Floris and McNair Elementary Schools, Carson Middle School, and Westfield High School.

With the introduction of residential communities comes the need to provide for additional school capacity. Capacity needs can be addressed through new school construction, additions to existing facilities, interior architectural modifications, temporary/modular buildings and changes to programs and/or attendance areas. Additional school capacity could be addressed through co-location of school facilities within mixed-use, office or other commercial buildings, provided that all access, safety, security and space requirements are met; with parks and other public facilities; or through other creative approaches. Any option should follow the objectives and policies for public schools within the Public Facilities Element of the Policy Plan.

PARKS AND RECREATION

Existing parks are shown on Figure 8. Parklands located within, or close to, the Dulles Suburban Center currently provide over 1000 acres of public open space with diverse natural, cultural and recreational resources. Three large parks -- Ellanor C. Lawrence, Frying Pan Farm, and Richard W. Jones -- “anchor” the area on the southern, northeast and southwest corners. Two county-owned historic properties -- Sully Historic Site and Frying Pan Meeting House -- are both listed on the Virginia Landmarks Register and the National Register of Historic Places.

The Cub Run Stream Valley, on the western boundary of the Suburban Center, contains some of the most extensive and sensitive natural and cultural resources to be found in the county and is a major wildlife and recreational corridor to the Occoquan River shoreline. The extensive public parkland along this stream valley underscores its importance in the preservation of biological diversity, heritage resources and recreation opportunities. Significant archaeological resources are also known to exist within the Cain Branch tributary.

Environmental and Recreational Corridors

The location and distribution of existing open space resources within the Suburban Center provide the framework for a “Dulles Greenway” connected system of environmental and recreational corridors to conserve and connect valuable natural, cultural, historic and recreational resources at both the local and regional level and to facilitate non-vehicular access to these resources.

FIGURE 8
DULLES SUBURBAN CENTER
EXISTING PUBLIC PARKS

Local	District	Countywide	State/Federal
Floris School Site Dulles Corner Dulles Station	Sully Highlands	Ellanor C. Lawrence Sully Historic Site Cub Run S.V. Flatlick S.V. Frog Branch S.V. Cain Branch S.V. Frying Pan Branch S.V. Horsepen Run S.V. Schneider Branch S.V.	

Trails and connectivity are regional priorities in Northern Virginia under the Virginia Outdoors Plan, which is the basis for allocation of state and federal funding for parks and recreation projects.

Specific connectivity objectives within the Dulles Suburban Center, to be comprised of both public and private lands and waters, are to:

- a. Provide people with access to open spaces and recreational opportunities close to where they live and work;
- b. Protect and enhance ecological and heritage resources;
- c. Provide a continuous pedestrian and open space network linking the places where people live, work and play, both within and adjacent to the Suburban Center; in particular, provide local trails as part of countywide and regional trails and greenway plans; and
- d. Complete the trail connections between the major parks in the Sully Woodlands region of Fairfax County consistent with the Fairfax County Park Authority’s Sully Woodlands Regional Master Plan; and
- e. Incorporate urban design features where appropriate.

The creation of environmental and recreational corridors should consider the following components:

Major Public Parks within or adjacent to the Dulles Suburban Center include Frying Pan Park, Floris Community Park, Frying Pan Meeting House, Sully Historic Site, Richard W. Jones Park and Ellanor C. Lawrence Park. Stream Valley Park components are discussed below. Additional properties acquired by the Fairfax County Park Authority (FCPA) in the future may be incorporated into overall connectivity planning. Design and development of these properties will be in accordance with FCPA park planning policies and procedures.

Stream Valley Parks include designated Environmental Quality Corridors which, in accordance with county policies, are intended to serve several purposes. Management objectives are defined as follows:

Sensitive Area Corridors. Some or all of a stream valley component may constitute a “genetic corridor” which should be managed primarily to protect and enhance biological diversity and wildlife movement. Contiguous archeological sites should also be incorporated within this component. Disturbance of land should be limited to pedestrian trails located to minimize impacts on sensitive resources. Major portions of the Cub Run and Cain Branch Stream Valley Parks are designated as Sensitive Area Corridors.

Multiple Use Corridors. This component is intended to provide a buffer for designated Sensitive Area Corridors and to afford expanded passive recreation opportunities within the EQC or adjacent to it. Developed facilities may include walking and bicycle trails, seating areas, small picnic or open play areas, interpretive wayside exhibits and landscaping, provided there is no net degradation of water quality or loss of habitat value. Within the Suburban Center, portions of the Frying Pan, Horse Pen, Schneider Branch, Flatlick Stream Valley Parks and Cub Run Stream Valley Park outside the genetic corridor are included in this component.

Countywide Trails: Countywide trails include Stream Valley Park trails which primarily serve a recreational function and Bicycle Transportation/Pedestrian Walkways, which are the principal non-vehicular transportation corridors located adjacent to public roads. These two types of trails are more particularly described in the Trails section.

Urban Parks: Plazas and mini-parks oriented to use by Suburban Center residents, workforce and visitors. Informal activities and programmed events in these areas are intended to enhance leisure opportunities and social interaction. The design and multimodal access of such parks are guided by the Urban Parks Framework.

Environmental and recreational corridors, comprehensively integrated with other land uses, can return significant benefits to both the public and private sector in the Dulles Suburban Center. The positive impacts of carefully and imaginatively planned open space on real estate values, public health, resource preservation, and energy and infrastructure investments make development of the proposed Greenway system an important element in the total environment of this Suburban Center.

Active Recreation

Despite the relatively extensive amount of parkland within and near the Dulles Suburban Center, there are currently major deficiencies in active recreation opportunities in this area of the county. Athletic fields are available at the following locations within the Suburban Center: the active recreation area at Ellanor C. Lawrence Park, the baseball diamond at Dulles Corner Park, the fields at Sully Highlands Park, and two fields at Floris Elementary School. These facilities are already scheduled to maximum capacity and there remains a large unmet demand from the surrounding residential communities. The capacity for expanding active recreation at Ellanor C. Lawrence Park, in particular, is limited by surrounding transportation infrastructure, stable residential neighborhoods, and the presence of significant natural and cultural resources.

The type and intensity of development envisioned for the Suburban Center will generate a strong demand for facilities to serve the adult workforce. Research indicates that:

- Walking and jogging consistently rate as the most popular outdoor adult recreation

activity.

- Employees will participate in organized sports activities such as adult softball, football/soccer, and volleyball; and on a daily basis will utilize a diversified range of indoor and outdoor active and passive recreation facilities. Therefore, it is appropriate to locate recreation facilities in proximity to the workplace.

The advantages of integrating outdoor recreation facilities into employment centers are numerous:

- Increased employee satisfaction and productivity as a result of easy access to facilities;
- Potential reduction in peak hour traffic congestion/transportation demand, as employees stay after work hours to play;
- Reduction of impacts from evening active recreation on adjacent residential areas by siting lighted facilities within areas planned for commercial and industrial development;
- Reduced public land acquisition and development costs through cooperative use of parking facilities and interim use of vacant land held for future development; and
- A “critical mass” of users is present to support public and private revenue generating recreation facilities.

The projected levels of growth and development for the Dulles Suburban Center require additional public parkland and facilities to serve this population. In accordance with Policy Plan recommendations, properties are identified within some land units as "pooled sites". These are defined as community serving recreation sites created through public-private land dedication and acquisition to serve residents and workers and to protect significant natural and heritage resources.

The private sector has made a substantial commitment to providing corporate recreation facilities within the Dulles Suburban Center. If additional residential land uses are introduced into the Dulles Suburban Center, there will be a need to develop more residentially-oriented Neighborhood and Community Park facilities as well as the Urban Park plazas and other public open spaces prescribed by the Urban Parks Framework.

Recommendations

In view of the current and projected constraints on public funding for the acquisition and development of park lands, an expanded “toolkit” of joint public and private sector mechanisms for the provision of recreation opportunities and resource protection and enhancement should be explored. These include, but are not limited to, purchase of development rights, wetlands mitigation funds, purchase of land with leaseback arrangements, development of negotiated bidding arrangements and other appropriate mechanisms.

Site specific recommendations for parks and recreation are contained in the Land Unit Recommendations section. Area-wide recommendations for parks and recreation are summarized as follows:

1. Public, private and corporate interests within the designated Dulles Suburban Center and adjacent Fairfax and Loudoun Counties and the Town of Herndon should cooperate in

- providing a connected system that serves recreation, environmental and historic preservation, transportation and tourism, and economic vitality in the Dulles area.
2. To insure that long term recreation and resource protection needs will be met, the Fairfax County Park Authority should seek acquisition of additional properties located in Land Units A, D1, D2, D4 and H. A variety of acquisition mechanisms should be utilized to optimize the use of public funding and provide appropriate incentives to property owners to negotiate the transfer of identified properties.
 3. The potential for joint public/private sector development of recreation facilities should be explored wherever feasible. These projects could include golf courses, interim and/or permanent athletic fields, and indoor recreation and leisure services facilities in leased space within commercial or industrial structures.
 4. Private sector development and operation of athletic fields and other active outdoor recreation facilities for employee use should be encouraged in cooperation with the Park Authority and county's Neighborhood and Community Services.
 5. Master planning and detailed site design for outdoor recreation facilities (public and private) should be coordinated with appropriate transportation officials in order to mitigate the impacts of traffic, infrastructure development, and external noise to the extent possible.
 6. Phase I archeological surveys should be required for all new development in the vicinity of identified and/or likely heritage resource areas.
 7. Appropriate archaeological survey and treatment, in coordination with County archaeologists, should be required for all new development in the vicinity of identified and/or likely heritage resource areas.

TRAILS

Trails planned for the Dulles Suburban Center are delineated on the Countywide Trails Plan Map. While some of the segments have already been constructed, the map portrays the ultimate generalized system for the area. The map classifies trails into seven different trail types as shown on the map legend and defined in Appendix 3 of the Transportation Section in the Policy Plan Element of the Comprehensive Plan. Other specific trail recommendations are found in the Trails/Connectivity recommendations for each land unit. It is expected that development within each land unit will incorporate pedestrian and bicycle access to these main trail routes consistent with urban design guidelines. For new trails, specific construction requirements are detailed in the Public Facilities Manual.

To the greatest extent possible, urban design features, consistent with the Urban Parks Framework, should be incorporated into the development of trail connections to provide high quality, visually attractive and functional transportation routes.

An implementation program is included for specific land units, where appropriate, to encourage employees and employers to consider the benefits of short range commuting by cycling or walking to promote such programs. There is an opportunity to provide a definitive character and identity for the Dulles Suburban Center by incorporating a variety of urban design features into the development of this trail classification, provided that mechanisms for their maintenance can be devised.

DULLES SUBURBAN CENTER LAND UNIT RECOMMENDATIONS

The following recommendations provide site-specific guidance for development of the Dulles Suburban Center. For the purpose of organizing land use and other site-specific recommendations, the Dulles Suburban Center has been divided into a series of land units. These land units are lettered A through L and are shown on Figure 9. Individual land unit maps are included with the text for each land unit. Within each land unit, the Plan provides specific recommendations that establish a planned use and intensity defined as the base Plan. For some land units, development options may be provided that encourage an alternative use or intensity above the base Plan as well as guidance under which the option can be implemented.

In order to achieve the planning objectives for the Dulles Suburban Center it is necessary that new development and redevelopment be responsive to general criteria found in the area-wide guidance and site-specific conditions which focus on mitigating potential impacts.

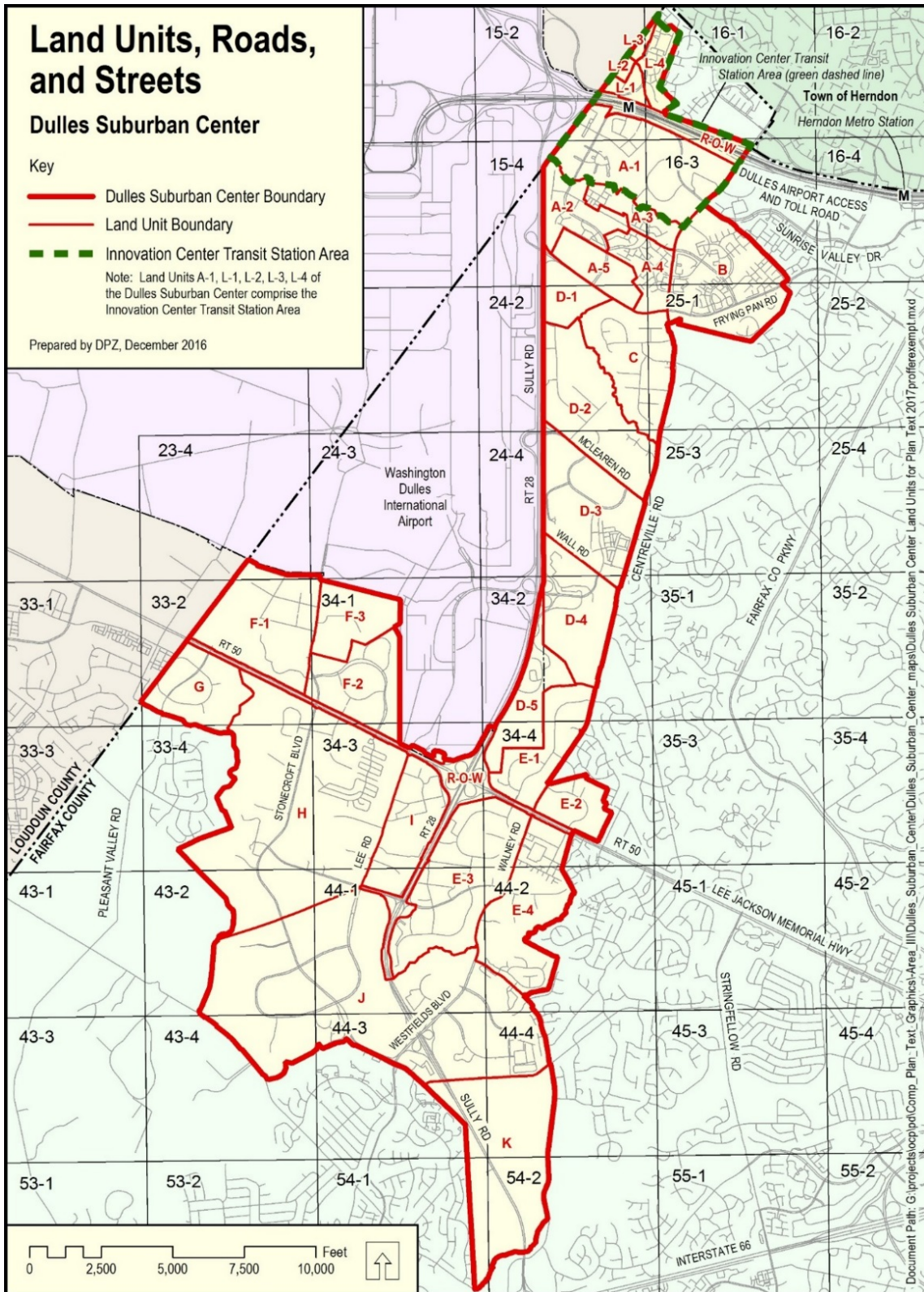


FIGURE 9

LAND UNIT A

CHARACTER

Land Unit A consists of approximately 696 acres located south of the Innovation Center Metrorail station as shown on Figure 10. It is bounded on the north by the Dulles Airport Access Road and Toll Road (DAAR, Route 267), on the east by Centreville Road, on the south by Frying Pan Road, and on the west by Route 28, Washington Dulles International Airport and the Loudoun County boundary. The majority of the land unit is located in the Route 28 Highway Transportation Improvements and Phase 2 Dulles Rail Transportation Improvements Tax Districts. Figure 10 illustrates the relationship of Land Unit A with the planned Innovation Center Station platform, including $\frac{1}{4}$ and $\frac{1}{2}$ mile distances from the station platform.

Existing development includes a mix of office, multi-family and townhouse residential, hotel and retail uses. Institutional uses include several churches and the Lutie Lewis Coates Elementary School. There remain areas of vacant land, some of which are located near the Metrorail station and over 75 acres located along Frying Pan Road. The Merrybrook Run Stream Valley traverses the land unit and is a natural open space and park amenity for the area.

RECOMMENDATIONS

Consistent with the Concept for Future Development and County Transit Oriented Development policies, Land Unit A and Land Unit L encompass the highest planned intensities in the Dulles Suburban Center. The land unit recommendations are organized by the land units as shown in Figure 10. Within each land unit, the Plan provides recommendations for planned use and intensity. Land Unit A-1 is the area north of the Merrybrook Run Stream Valley and makes up the southern portion of the Innovation Center Transit Station Area (TSA) while the northern portion of the TSA is located in land Unit L, as shown in Figure 11. The TSA is where a mix of uses in an urban form is encouraged within walking distance from the station. South of the Merrybrook Run Stream Valley (Land Units A-2, A-3, and A-4) is an area generally planned for a mix of uses at lower intensity levels. Land Unit A-5 is located north of Frying Pan Road and is planned for a mix of uses.

Land Use

The planned land use pattern in Land Unit A focuses most future growth within walking distance of the future Innovation Center Metrorail station which is generally considered to be within $\frac{1}{4}$ and $\frac{1}{2}$ mile from the station. Intensities will be highest in areas with the closest proximity to the station, tapering down to lower density areas in the rest of the land unit. The land units south of the Merrybrook Run Stream Valley, A-2, A-3 and A-4, have been developed with a mix of office, hotel and residential uses in accordance with the plan and it is anticipated that these land units will maintain their existing character, uses and intensities.

This land unit is planned for a complementary mix of land uses including office, residential, hotel and support retail. Development in this land unit should provide for the incorporation of future transit related facilities and pedestrian and vehicular access to transit. The following table compares 2012 existing land use levels to the planned development potential.

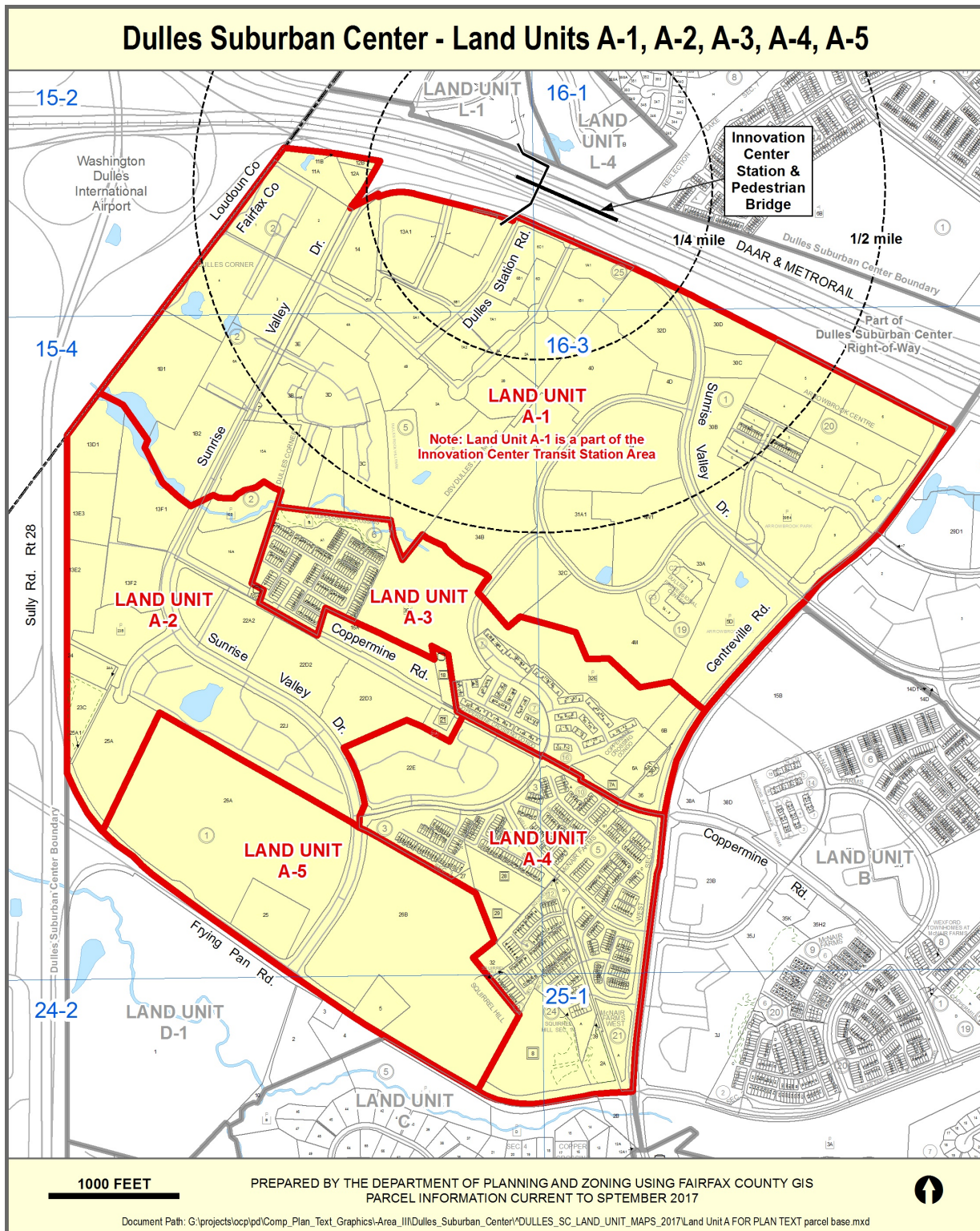


FIGURE 10

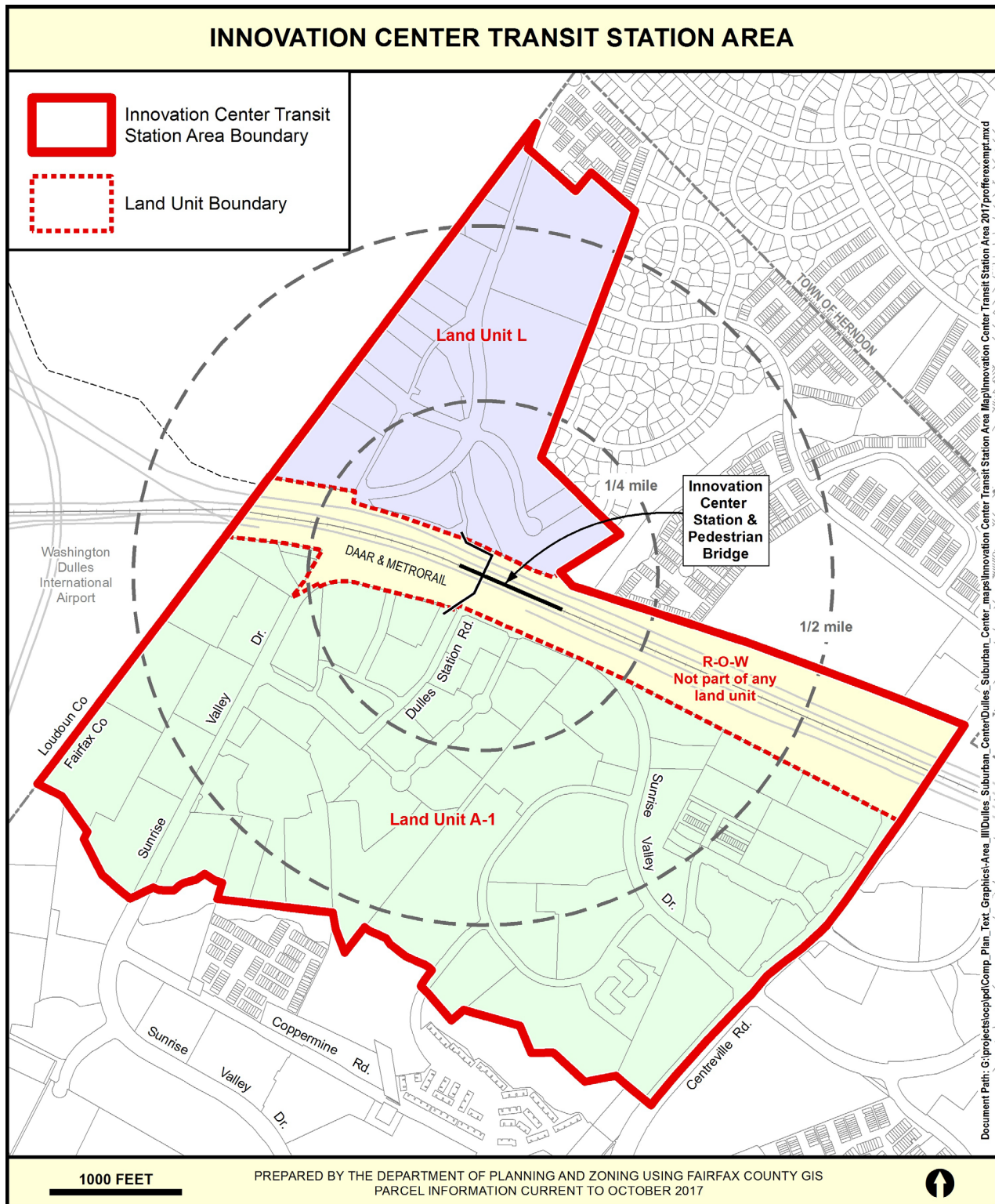


FIGURE 11

Figure 12: Land Unit A Planned Development Potential

Land Use	2012 Existing Land Use	Comprehensive Plan Development Potential
Residential	3,971,000 sq.ft. (3,309 units)	11,160,000 sq.ft. (9,300 units)
Office	4,755,000 sq.ft.	8,380,000 sq.ft.
Retail	4,000 sq.ft.	465,424 sq.ft.
Industrial	35,000 sq.ft.	0
Institutional	150,000 sq.ft.	150,000 sq.ft.
Hotel	858,000 sq.ft.	1,181,000 sq.ft.
Total	10,089,000 sq.ft.	21,675,000 sq.ft.

The development potential shown in the table above is based on quantification of the land use recommendations. These land use recommendations provide flexibility for a change of uses within certain parameters. For example, some areas are encouraged to include more housing when there is a corresponding reduction in office use. Additional retail uses are encouraged when they contribute to the area’s vibrancy and convenience. Ground floor retail uses result in fewer peak hour trips than office uses. Land Unit A is home to several churches. Additional institutional uses or expansions of existing facilities could be considered through the Special Exception and Special Permit processes. Land Unit A is home to Coates Elementary School. Additional public facilities or expansion of Coates would be evaluated based upon guidance from the Public Facilities section. Additional hotel uses are encouraged and also result in fewer peak hour trips than office uses. Generally the Plan seeks to encourage a vibrant mix of uses that is balanced with the infrastructure.

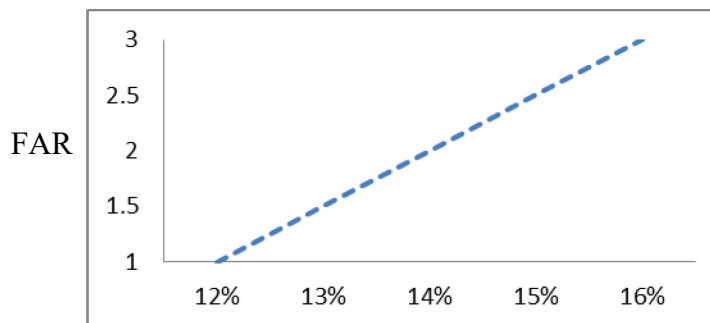
In reviewing development proposals, the following land use guidelines should also be considered:

- Parcel Consolidation - Parcel consolidation should be encouraged when it results in a logical assemblage of parcels of sufficient size to allow projects to function in a compatible, well-designed, efficient manner. Parcel consolidation should not preclude the development of any unconsolidated parcels in conformance with the Plan.
- Coordinated Development Plans - Coordinated development plans may be an alternative to parcel consolidation. Coordinated development plans refer to two or more concurrent and contiguous development applications that demonstrate coordination of site design, building locations, urban design, open space amenities and signage, inter-parcel access where appropriate, roadway realignment or improvements, and parking facilities.
- Compatible Development - All development proposals will need to ensure that projects function in a compatible, well-designed, efficient manner; are consistent with the land use guidance and development potential of the individual subunits; are compatible with the development on adjacent properties; reflect coordinated phasing of improvements as needed (for example, frontage improvements); are consistent with the overall intent of the land use concept to achieve a desired urban form and mix of uses; and do not preclude adjacent parcels from developing in conformance with the Plan.
- Existing Uses and Buildings - New uses and the replacement or expansion of existing buildings that achieve the long-term recommendations of the Plan are encouraged. In some instances, existing development may not be consistent with the long-term vision for this area.

This Plan is not intended to interfere with the continuation of existing land uses or buildings. If improvements to the open space or pedestrian systems that are identified in the Plan are not feasible due to an existing building's location on the site, alternative streetscape and other design improvements intended to implement the Plan's vision may be considered.

- Affordable and Workforce Housing - Future development should conform to county policies on affordable housing which includes conformance to the Affordable Dwelling Unit Ordinance (ADU) and the Policy Plan's Workforce Housing (WDU) Policy and Guidelines. Proposals seeking up to a 1.0 FAR should meet the current policy objective of approximately 12 percent of total units as Workforce Dwelling Units (WDU). The exception is proposed intensity higher than 1.0 FAR which should provide a greater contribution. Proposals for development between a 1.0 and a 3.0 FAR should provide at a minimum proportionally 12 percent to 16 percent of total units as WDUs as shown in Figure 15. The residential use should integrate a variety of housing types, consistent with WDU guidelines, such as units for families, senior housing and residential studio units. In addition, bonus units or bonus square footage, as provided for in the WDU policy, is excluded from the planned intensity.

Figure 13: Percentage of WDU



Non-residential development in the TSA should contribute \$3.00 (in 2013 dollars) per non-residential square foot unless superseded by Board of Supervisors action on a countywide policy. This amount is to be adjusted annually based on the Consumer Price Index and may be contributed to a housing trust fund that will be used to create affordable and workforce housing opportunities near Metrorail stations. The contribution may be made over a period of time to be determined at the time of rezoning but not less than 25 cents per non-residential square foot each year. Such developments may provide an equivalent contribution of land or affordable units in lieu of a cash contribution. Non-residential contributions could also be used to fund affordable housing opportunities in the TSA through a partnership. If non-residential floor area is achieved through a bonus for providing WDUs, the bonus floor area should not be included when calculating the contribution amount. Ground level retail located in office, hotel, and residential buildings should also not be included when calculating the contribution amount. In addition, educational as well as other institutional and governmental uses should not be included.

Land Unit A-1: Innovation Center Transit Station-South

Land Unit A-1 is the southern portion of the Innovation Center Transit Station Area, is 332 acres and is developed with a mix of office, hotel, residential and support retail uses. This area is planned for transit-oriented development (TOD) which focuses growth within walking distance of

the Metrorail station. Intensities should be highest in areas with the closest proximity to the station, recognizing that relatively new existing development is approved for intensities significantly below the plan and may not redevelop in the future. To provide guidance on how intensity should gradually decrease with distance, the land unit is divided into three areas as shown on the table below. For purposes of tiered planned intensity, the ¼ mile and ½ mile radius is measured from the center of the platform where it meets the bridge.

Figure 14: Land Unit A-1 Tiered Planned Intensity	
Distance From Metrorail Station	Range of Intensity (FAR)
Tier 1: Within ¼ Mile	2 to 3 FAR
Tier 2: ¼ to ½ Mile	1 to 2 FAR
Beyond ½ Mile	0.75 to 1.5 FAR

The mixed-use recommendations that follow seek to establish parameters for future development by providing percentages for residential and non-residential uses. These percentages are meant to be guides and may need to be adjusted on a case by case basis in order to further other planning objectives such as implementing the grid of streets and securing land for parks and public facilities. If a property is split between two Tiers, intensity should be based on the proportion of property in each area. Furthermore, this balance among uses may not always be achievable, at least on an interim basis, due to market demand or other economic factors. In such cases, appropriate commitments should insure that interim development does not alter the character of the Transit Station Area and that ultimately a mix of uses will be in place consistent with Plan guidance.

Tier 1: Within a ¼ Mile of Metrorail

The Tier 1 area is within a ¼ mile of the Metrorail station and is planned for intensity within a 2.0 to 3.0 FAR range. The area is planned for a balanced mix of residential, office, hotel and retail uses. The percentage of office uses can be up to 45 percent of development in Tier 1. Individual developments may have flexibility to build more than 45 percent of office if other developments are built or rezoned with a use mix that contains proportionally less office. The residential component in Tier 1 should be on the order of 50 percent or more of total development. Hotel, ground level retail and support service uses add to the vibrancy and enhance the mixed use environment and are encouraged in the broader mix of uses. Support retail uses should be located in office, hotel or residential buildings and be complementary to other uses with the object of allowing residents and employees to minimize daily reliance on the automobile.

Tier 2: ¼ to ½ Mile of Metrorail

The Tier 2 area includes property within a ½ mile from the Metrorail station and is planned for intensity within 1.0 to 2.0 FAR. The area is planned predominantly for residential uses with a mix of other uses including office, hotel and supporting retail. In Tier 2, the residential component should be on the order of 50 percent or more of total development. The percentage of office uses can be up to 40 percent of development in Tier 2. Individual developments may have flexibility to build more than the stated percentages if other developments are built or rezoned with a use mix that maintains these proportions for the entire Tier 2 Area. Hotel, ground level retail and support service uses add to the vibrancy and enhance the mixed use environment and are encouraged in the broader mix of uses. Support retail uses should be located in office, hotel or residential buildings and be complementary to other uses with the object of allowing residents and employees to minimize daily reliance on the automobile.

Tier 3: Beyond ½ Mile

Tier 3 includes the area north of the Merrybrook Run Stream Valley that is beyond a ½ mile radius from the Metrorail station. The area is planned for an intensity within .75 to 1.5 FAR range for residential uses with a mix of other uses including office, hotel and supporting retail. In Tier 3, the residential component should be on the order of 45 percent or more of total development. The percentage of office uses can be up to 50 percent of development within Tier 3. Individual developments may have flexibility to build more than the stated percentages if other developments are built or rezoned with a use mix that maintains these proportions for the Tier 3 Area. Hotel, ground level retail and support service uses add to the vibrancy and enhance the mixed use environment and are encouraged in the broader mix of uses. Support retail uses should be located in office, hotel or residential buildings and be complementary to other uses with the object of allowing residents and employees to minimize daily reliance on the automobile.

Land Unit A-2

Land Unit A-2 is approximately 110 acres and is planned for and developed with a mix of land uses including office, hotel, support retail and residential uses at an intensity of .50 to 1.0 FAR. Other uses include a churches and Norton Family cemeteries and park uses such as a baseball diamond and stream valley park land. This area is planned to maintain the existing character, uses and intensities and provide an appropriate transition to the adjacent existing and planned residential communities.

Land Unit A-3

Land Unit A-3 is approximately 68 acres and is developed with townhouses and multifamily residential. Other uses include Lutie Lewis Coates Elementary School and a church. The northern part of the sub-unit consists of the Merrybrook Run Stream Valley. This land unit is planned for residential uses at a density of 8-12 du/ac and is planned to maintain the existing character, uses and intensities. Opportunities to provide multi-purpose trails to the north should be sought to improve accessibility to the Metrorail station.

As an option, almost 5 acres (parcels 16-3((1)) 6A, 6B and 36) located at the intersection of Centreville Road and Coppermine Road may be appropriate for a mix of uses at .50 to 1.0 FAR including a combination of office or hotel and retail uses to include eating establishments, financial institutions and other service uses, excluding automobile intensive uses and drive through uses except as may be associated with financial institutions.

Land Unit A-4

Land Unit A-4 is approximately 92 acres and is developed with garden apartments west of River Birch Road, townhouses and two churches to the east of River Birch Road. This land unit is planned for residential uses at a density of 12-16 du/ac. This area is planned to maintain the existing character, uses and intensities and provide an appropriate transition to the adjacent existing and planned residential communities.

Land Unit A-5

The approximately 90 acres of vacant land (Parcels 15-4((1))25, 26A, 26B and 24-2((1))5) which are located northeast and northwest of the intersection of Sunrise Valley Drive and Frying Pan Road, are planned for mixed use, which may include residential, office, hotel, and community serving retail, at .50 to 1.0 FAR. The residential component should be on the order of 55 percent or

more of total development. The percentage of office uses should be up to 40 percent of development. Individual developments may have flexibility to build more than the stated percentages if other developments are built or rezoned with a use mix that maintains these proportions for Land Unit A-5. Hotel, support retail and services uses are encouraged in the broader mix of uses. A maximum of 300,000 square feet of retail use may be appropriate. However, no more than 150,000 square feet of retail use should be located in either quadrant. The retail use should be an integrated component of a mixed use development. In addition, mixed use proposals should include commitments to provide land and/or facilities that are sufficient for local-serving park facilities to support a variety of park experiences consistent with the Urban Parks Framework. Building heights and mass should be carefully designed to be compatible with the adjacent single-family residential neighborhoods. The extension of River Birch Road is a critical connection in this subunit. The road may be designed and configured differently from that shown on the Conceptual Street Network in Figure 15. Local road connections or inter-parcel access from this subunit to the surrounding road network or parcels should occur. This is illustrated by the local road connection, which can be configured differently, shown in Figure 15 for subunit A5.

Transportation

The vision for Land Unit A promotes a mix of land uses served by a multi-modal transportation system. Various planned transportation improvements will facilitate this vision, while accommodating current and future travel needs within and around the transit station. The improvements should balance future land uses with supporting transportation infrastructure and services, address the long term needs of the area, include a road network that can accommodate all modes of transportation, and provide infrastructure and facilities that will support intermodal connectivity along the network.

The following recommendations are intended to help improve circulation within, around, and through this area. While the transportation recommendations support the development near the transit station, these recommendations also will facilitate regional travel through the area. The transportation recommendations are divided into eight sections: Land Use/Transportation Balance, Monitoring System, Public Transportation, Road Network and Circulation, Bicycle Facilities, Transportation Demand Management, Parking Management, and Funding of Transportation Improvements and Services.

Land Use/Transportation Balance

Maintaining a balance between the land uses in Land Unit A and the transportation system is essential in order to preserve an acceptable level of accessibility in and around this area as development occurs over time. To maintain a balance, the increase in development should coordinate the provision of transportation infrastructure with programs to reduce vehicle trips.

Within the area, preference should be given to the maintenance of a high level of service for all modes including transit, vehicles, pedestrians and bicyclists. To achieve this, consideration should be given to safety and security, direct pathways, topography, and the achievement of a balance between traffic delay and a pedestrian friendly environment. Impact studies should quantify the Level-of-Service (LOS) for all applicable modes by applying up-to-date standard techniques. It is the intent to maximize the use of non-vehicular modes of transportation in Land Unit A in the future.

Monitoring System

Maintaining a balance between land use and transportation is dependent on a number of factors. The transportation infrastructure, modal split levels, and vehicle trip reduction levels needed to maintain this balance have been analyzed extensively based on known conditions at the time of

developing this Plan guidance. However, these conditions might change in the future which could result in changes in the number, frequency or direction of vehicle trips. For this reason, it is considered essential to monitor built and approved development and vehicle trips in the area over time and determine if the balance of development over time, vehicle trips and delay and the provision of transportation infrastructure have been maintained. This review should occur at least every five years or based on changes in circumstances and should be the primary responsibility of the county with survey input and assistance from landowners and tenants where available.

Public Transportation

Metrorail - The introduction of Metrorail service along the Dulles Airport Access Road and Toll Road is an integral factor to providing increased mobility and reducing vehicle dependency for employees and residents in this area. Focusing the densest development around the Innovation Center Metrorail station is vital to promote the use of public transportation and achieving the vision for Land Unit A.

Local Bus Service - There is existing Fairfax Connector bus service that serves both local riders and people commuting through Land Unit A. These routes will be modified to provide convenient and reliable feeder service to the surrounding area from the Innovation Center Station.

Road Network and Circulation

The road network and circulation recommendations provide additional transportation guidance and recommendations for development within Land Unit A. For new streets not built to their full cross-section, right-of-way should be provided for the ultimate cross-section including pedestrian and bicycle facilities as identified in the Plan. The streets should provide a level of connectivity and accommodate all modes of transportation to the fullest extent possible. Road planning should balance the efficiency of through movements with the need for reasonable access to existing and planned uses. Existing property access points should be retained to the greatest extent possible.

In the planning and design of transportation projects, it will be necessary to balance the competing needs of many stakeholders starting in the earliest stages of project development. The design of a facility should be safe and function for all users regardless of the mode of travel they choose. Flexibility in design may be considered to achieve plan objectives.

Network Level of Service

An overall LOS E is the goal for the intersections within the street network in the Innovation Center TSA. In instances where a LOS E standard cannot be attained or maintained with planned development, remedies should be proposed to offset impacts (using approaches described below) with the purpose of improving mobility for all users within the TSA.

As a first approach, the network should be evaluated to determine if increased operational efficiency is possible to achieve without decreasing pedestrian walkability and safety. The widening of roads by adding exclusive turn lanes and/or through lanes will not be desirable in, some cases, since it will increase street widths at intersections and therefore work against creating an attractive environment for pedestrians. In lieu of additional lanes, it is preferable to add links to the street grid where applicable and possible to promote the build out of the grid of streets and to create additional diversionary paths for vehicles; doing so is intended to decrease the traffic at problem locations in the vicinity of a proposed development. If this approach does not attain the recommended LOS, or is not feasible, other approaches should be considered, such as:

- Decrease future site-generated traffic by changing the mix of land use within the parameters of the applicable land use guidelines (e.g., replacing a higher peak hour trip generating land use with a lower one).
- Increase transit use through the provision of additional and improved services.
- Optimize the application of TDM measures which might include greater transit use, walking, and bicycling.
- Condition development on the completion of offsetting improvements.
- Consider financial contributions of significant value dedicated to addressing deficiencies in the TSA as an offsetting improvement. These should not be used as a credit against other contributions toward off-site transportation improvements.

Road Transportation Improvements

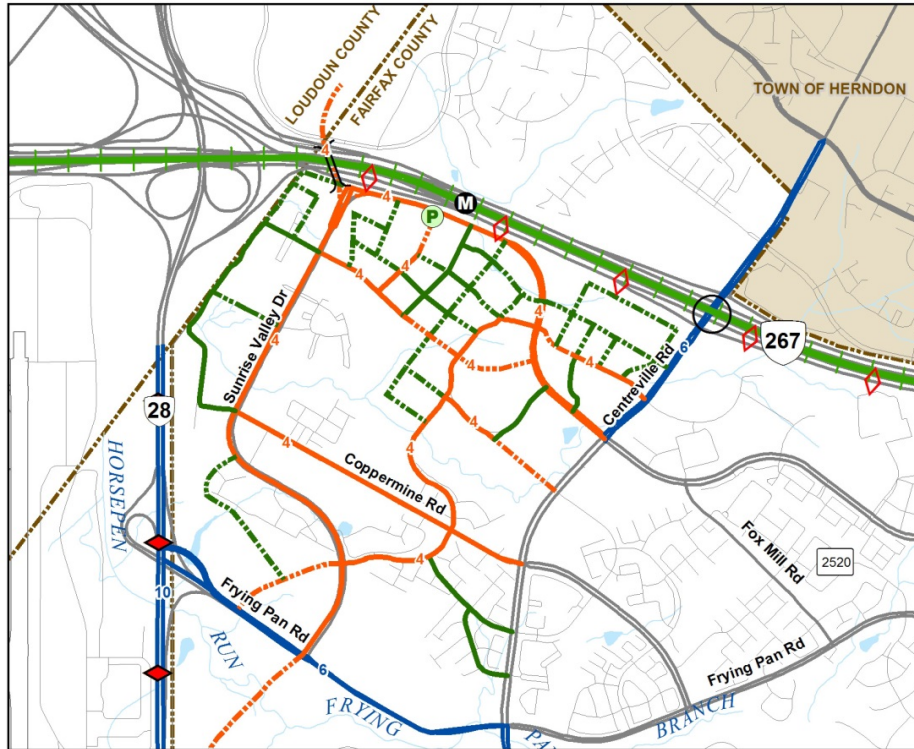
The following list of roadway network improvements are recommended to achieve the vision for Land Unit A and enhance connectivity through the area by creating multiple and enhanced connections.

- River Birch Road extension to Frying Pan Road
- Additional Centreville Road crossing at McNair Farms Drive
- New bridge over Dulles Toll Road to Loudoun County
- A grid of streets in the Transit Station Area
- Widen or improve Coppermine Road (4 lanes, Sunrise Valley Drive to Centreville Rd)
- Widen or improve Frying Pan Road (6 lanes)
- Widen or improve Sunrise Valley Drive (4 lanes, Centreville Road to Innovation Center Station)
- Widen or improve Centreville Road (6 lanes, Sunrise Valley Drive to Town of Herndon) and maintain and improve pedestrian and bike crossing in proximity to or along Centerville Road.

A fundamental purpose of this conceptual grid of streets is to provide alternative paths for vehicles, pedestrians, and bicyclists and, therefore, reduce congestion and increase connectivity in this area. A conceptual illustration of the enhanced street network is shown on Figure 17. In planning the grid of streets, consideration should be given to avoiding intersections with acute or awkward angles; minimizing exclusive turn lanes; and designing block sizes generally within a 400 foot to 600 foot range. Any block longer than 600 feet should contain a mid-block pedestrian connection where possible.

In addition to the list of road transportation improvements above, other intersection improvements may be required within the land unit in order to ensure acceptable traffic operations. Each roadway improvement should be independently evaluated not only for its transportation utility from a cost-benefit perspective, but also for its environmental implications such as effects on storm water management, water quality, noise or parks and its integration into the area's urban context.

**DULLES SUBURBAN CENTER, LAND UNIT A
 CONCEPTUAL STREET NETWORK**



NOTE: THERE SHOULD BE REASONABLE FLEXIBILITY IN THE FINAL LOCATION AND CONFIGURATION OF NEW STREET CONNECTIONS SO AS TO ACCOMMODATE PROPERTY SPECIFIC LAND PLANNING THAT OTHERWISE IMPLEMENTS AND REFLECTS THE COLLECTIVE GOALS AND OBJECTIVES OF THE PLAN.

NOTE: WHERE THE OVERPASS CONNECTS WITH THE STREET NETWORK WITHIN THE SUNRISE VALLEY DRIVE RIGHT-OF-WAY, SUNRISE VALLEY DRIVE SHOULD REMAIN CONNECTED.

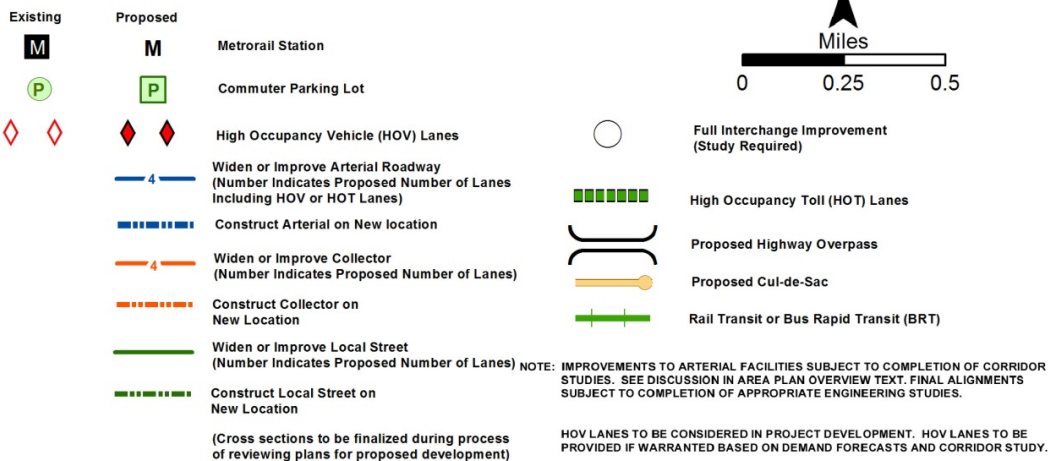


FIGURE 15

Street Types - Street types respond to the need to accommodate transit, pedestrians, bicycles, and vehicles. Street types in Land Unit A have been identified, with a conceptual overview from curb to curb by each type's functionality. The cross-section for each street type contains flexibility to be able to respond to particular needs in different locations. Streetscape diagrams are located in the Urban Design section.

The design guidelines for street types should be followed in the instance of providing new private or public roadway connections or when proposing improvements to the existing roadway network. Minor arterials primarily function as through traffic carriers. The collector streets collect traffic from the local streets and route them to principle and minor arterials, while the local streets allow internal circulation and connectivity within the area.

The existing and planned roadways in Land Unit A are categorized as follows according to the Fairfax County Guidelines for Functional Classification of Roadways. The Urban Design section includes the streetscape recommendations.

1. *Arterials on the Periphery* –Some arterials are through corridors and occur on the periphery of Land Unit A. These are Centreville Road and Frying Pan Road which provide for through traffic and are planned to be improved according to the Transportation Plan Map and the Countywide Bicycle Master Plan. Improvements should incorporate appropriate pedestrian facilities and streetscape including improved pedestrian crossings across Centreville and Frying Pan Roads and across the Dulles Toll Road.
2. *Minor Arterials– Type B* –These types of roadways carry shorter-distance through traffic, and carry less traffic volume than roads with higher classification. Some roads may carry higher vehicular traffic in the land unit that is more typical of a minor arterial.

Curb to Curb Area:

- Median width of approximately 8 to 22 feet if necessary to allow for safe pedestrian refuge. (May be wider for areas with frequent and/or heavy pedestrian crossings.)
- 2-3 travel lanes per direction (11 feet for each lane)
- 5-6 feet for on-road bike lane per direction, as shown on bicycle facilities map
 - o If an on-road bike lane is not provided, then 1 extra wide travel lane per direction may be desirable, adjacent to the curb, to accommodate bikes (14 feet wide). The lane should be marked or signs posted indicating that bicyclists may use the outside lane.
- 8 feet for on-street parallel parking if found desirable
- A target posted speed of 30-35 miles per hour is desirable.

3. *Collector Streets* – Sayward Boulevard is an example of a collector in Land Unit A that routes traffic to major and minor arterials from the local streets.

Curb to Curb Area:

- A median is not preferred; however, if provided, the width should be approximately 8 to 22 feet
- 1 to 2 travel lanes per direction (11 feet for each lane)
- 5-6 feet for on-road bike lane per direction, as shown on bicycle facilities map
 - o If an on-road bike lane is not provided, then 1 extra wide travel lane per direction may be desirable, adjacent to the curb, to accommodate bikes (14 feet wide). The lane should be marked or signs posted indicating that bicyclists may use the outside lane.
- 8 feet for on-street parallel parking per direction

- A target posted speed of 30-35 miles per hour is desirable, with the lower end of the target speed for collectors where high pedestrian and bicycle traffic is expected to occur. In some cases 25 miles per hour may be desirable.

4. *Local Streets*– Local streets in this area include the internal circulation roads and the new planned streets which connect the land uses to collector roads and allow internal circulation.

Curb to Curb Area:

- Medians are not desirable and should only be required when they are part of the urban design concept and the landscape or open space plan
- 1-2 travel lanes per direction (10-11 feet for each lane)
 - o The outside lane is a shared travel lane between bicyclists and vehicles. Local streets are low speed facilities that normally may not require bike lanes.
- 7-8 feet for on-street parking per direction when provided (7 feet for residential areas; 8 feet for mixed-used commercial areas)
- A target posted speed of 25 miles per hour is desirable.

The above guidance is for roads associated with redevelopment or new development. Flexibility should be provided for roads that transition to existing roads. In addition, if new roads cross environmentally sensitive land there should be flexibility in road design.

Bicycle Facilities

Bicycle and pedestrian facilities should be provided on roads consistent with Figure 16. Bicycle facilities are described in the text located in the Street Types guidelines under the Road Transportation Improvements section above. In an effort to encourage bicycling in Land Unit A, safe, secure, and convenient bicycle parking should be provided. The number of bicycle parking spaces should be determined based on the planned land uses.

Transportation Demand Management

Transportation Demand Management (TDM) refers to a variety of strategies aimed at reducing the demand on the transportation system, particularly at reducing single occupant vehicles during peak periods, and expanding the choices available to residents, employees, and visitors. Examples can be found in the county’s Policy Plan. The result is a more efficient use of the existing transportation system. TDM is a critical component in achieving the Plan’s goal of land use and transportation balance.

The objective of a successful TDM Program for Land Unit A will be to reduce the number of single occupant vehicle trips and promote the use of alternative modes of transportation or other programs to reduce the impact on the transportation network. These reductions are based on Institute Transportation Engineers’ (ITE) trip generation rates and fall within the ranges shown in Figure 17, the TDM Trip Reduction Goals. In the TSA, recommendations are for reductions of at least 35 percent within one-quarter mile of the Innovation Center Station and at least 30 percent for the area between one-quarter and one-half mile from the station. TDM goals lower than those shown in Figure 17 may be considered, on an interim basis, prior to the opening of the Innovation Center Metrorail Station.

Figure 17: TDM Vehicle Trip Reduction Goals for Office and Residential Development

Development	TDM Vehicle Trip Reduction Goals		
	0-1/4 Mile	¼ to ½ Mile	Beyond ½ Mile
Office	45%-35%	40%-30%	35%-25%
Residential	45%-35%	40%-30%	25%-15%

Note: The percent reduction is from the latest ITE peak hour trip generation rates

A large component of TDM will be the implementation of formal TDM programs by the various stakeholders within Land Unit A. Property owners wishing to develop under the plan, through the rezoning process, should consider joining a local Transportation Management Association (TMA) prior to establishing a TDM program. At a minimum, development proposals should include the following elements associated with their TDM program in addition to the minimum goals stated above:

1. Indication of the trip reduction goals to be achieved at each phase of development and the measures to be used in the program.
2. TDM implementation plans with monitoring provisions.
3. Provision of remedies if a TDM fails to achieve its objective within a reasonable period of time.

Parking Management

To facilitate the achievement of TDM goals and encourage transit use, shared parking for uses which have different peak demand periods, instituting paid parking, or other parking reduction strategies are encouraged. Additionally, shared parking between similar uses with both existing and new buildings should be explored, especially if the existing use is over parked. These parking strategies can serve to reduce vehicle trips and increase the cost-effectiveness of the provision of parking. For development within a half mile of the Metrorail station, a parking plan should be submitted along with a development application that demonstrates that the amount of parking that is provided is sized to support the development. Provisions for parking reductions and other incentives to lower parking should be utilized if it is supported by the parking plan. The use of higher parking rates in the first phases of a development followed by lower parking rates in subsequent phases can be considered. Parking agreements with neighboring sites can be considered on an interim basis. Residential uses should take into account the number of bedrooms per unit when establishing the amount of parking to supply. All non-residential uses should reduce their parking supply below the countywide minimum.

For office space, a maximum parking rate should be:

- 2.1 spaces per 1,000 square feet within one quarter mile of a Metrorail station
- 2.4 spaces per 1,000 square feet between one quarter and one half mile of a Metrorail station.

In instances where a higher office parking rate exists or is desired, a parking study or other appropriate justification can be submitted in order to consider a different rate for office use

Funding of Transportation Improvements and Services

Funding these transportation improvements through federal, state and county sources should be pursued; however, some combination of public and private sector funding will be necessary to cover the costs associated with these improvements and to expedite implementation. Additionally, these improvements may be implemented in stages by the private sector as development occurs. Further detailed examination of these funding options for each improvement identified and those that have not been identified is needed before a preferred funding approach is selected.

Environmental Stewardship

Promoting environmental stewardship in Land Unit A includes innovative stormwater management, the provision of green buildings and addressing noise sensitive uses. These practices will ensure that this area develops as a sustainable community, creating a healthy and environmentally responsible place.

Stormwater Management

Future development offers considerable opportunities to improve upon past stormwater management practices in furtherance of efforts to protect and restore local streams and to reduce pollutant loads entering the Potomac River and Chesapeake Bay. Low impact development (LID) techniques of stormwater management can serve to reduce runoff volumes entering local streams and can more easily be incorporated within densely developed areas than more traditional detention and retention ponds. These LID practices can include, but are not limited to, bioretention or biofiltration facilities (commonly known as rain gardens), vegetated swales, porous pavement, vegetated roofs, tree box filters and the collection and reuse of stormwater runoff.

Environmentally-friendly stormwater design should be an integral design principle that will be part of the conceptual stage of site development for all future development, recognizing that stormwater management measures may be phased with development. The stormwater design should first seek to minimize the effect of impervious cover, followed by the application of stormwater reuse, retention, detention, extended filtration and, where soils and infrastructure allow, infiltration to improve downstream waters. The incorporation of stormwater management strategies in parks and other open space areas within Land Unit A may support this approach while providing recreational amenities and there may be opportunities to incorporate LID practices within other open space areas.

Coordination of stormwater management controls among multiple development sites may also be effective in achieving stormwater management goals in an efficient manner. Stormwater management and water quality controls should be optimized for all future development projects consistent with the scale of such projects.

Any development proposals in the area should be reviewed on a case-by-case basis for the appropriate optimization of stormwater management and water quality controls allowing for flexibility in specific approaches taken to achieve these guidelines.

- Stormwater quantity and quality control measures should be provided with the goal of reducing the total runoff volume or significantly delaying its entry into the stream system. In furtherance of stream protection and/or restoration through replication of natural hydraulic conditions, the emphasis should be on LID techniques that evapotranspire water, filter water through vegetation and/or soil, return water into the ground or reuse it.

- LID techniques of stormwater management should also be incorporated into new and redesigned streets where allowed and practicable.

In addition, at a minimum, the following guidelines should be followed for any application for which a floor area ratio (FAR) of 1.0 or more is proposed:

1. For sites that have greater than 50 percent impervious cover in the existing condition, the total volume of runoff released from the site in the post-developed condition for the 2-year, 24-hour storm should be at least 25 percent less than the total volume of runoff released in the existing condition for the same storm. Furthermore, the peak runoff rate for the 2-year, 24-hour storm in the post-developed condition should be at least 25 percent less than the existing condition peak runoff rate for the same storm.
2. For sites that have 50 percent or less impervious cover in the existing condition, the total volume of runoff released as well as the peak release rate for the 1- and 2-year, 24-hour storm in the post-developed condition should be equal to or less than the total runoff volume and peak release rate in the existing condition for the same storm.
3. In addition to item 1 or 2 above, stormwater runoff associated with the development should be controlled such that either: (a) the total phosphorus load for the property is no greater than what would be required for new development pursuant to Virginia's Stormwater Regulations/the county's Stormwater Management Ordinance; or (b) an equivalent level of water quality control is provided.

As an alternative to items 1, 2 and 3 above, stormwater management measures may be provided that are sufficient to attain the Rainwater Management credit of the most current version of LEED-NC or LEED-CS rating system (or equivalent of this/these credit(s)).

As an alternative to the minimum guidelines above, stormwater management measures and/or downstream improvements may be pursued to optimize site-specific stormwater management and stream protection/restoration needs, consistent with the adopted watershed management plan(s) that is/are applicable to the site. Such efforts should be designed to protect downstream receiving waters by reducing stormwater runoff volumes and peak flows from existing and proposed impervious surfaces to the maximum extent practicable, consistent with watershed plan goals.

Green Building

The Policy Plan's Environment section provides guidance for green building practices and standards applicable to Suburban Centers and Transit Station Areas. Future development throughout Land Unit A should follow this guidance, with the exception of non-residential development within the Innovation Center TSA which should go beyond this guidance by achieving, at a minimum, LEED Silver certification or the equivalent. Achievement of higher levels of LEED certification, both within and outside of the TSA is also encouraged. A broad range of practices can be pursued in support of or in addition to green building certification. These include, but are not limited to: the provision of green roofs (also referred to as vegetated roofs), the incorporation of solar orientation and landscaping strategies for energy conservation, on-site renewable energy production, the use of low energy lighting fixtures, the use of recycled materials during construction, and the reuse of grey water where allowed. The application of these practices should be encouraged.

Noise

Proposed residential uses, outdoor activity areas and other noise sensitive uses may be affected by proximity to the Dulles Toll Road and Metrorail. In addition, a small portion of the Land Unit near Route 28 is located within an area where projected aircraft noise exposures exceed DNL 60 dBA and

where current and/or projected future highway noise levels exceed DNL 75 dBA (a day-night weighted average noise level).

Broader planning goals for the Innovation Center TSA may suggest that sites near the Dulles Toll Road and Metrorail would be appropriate for residential development and/or other noise-sensitive uses, even where projected noise impacts may exceed DNL 75 dBA. However, design approaches may be available that would shield noise-sensitive areas from these impacts. Efforts should be taken to design noise-sensitive uses to minimize, if not avoid, the exposure of facades of noise-sensitive interior spaces to noise levels above DNL 75 dBA.

Where residential or other noise sensitive uses are proposed near rail and major highways, such proposals should only be considered with the provision of a noise study during the review of the development, appropriate commitments to noise mitigation measures and potentially commitments to the provision of disclosure statements and may necessitate a post-development noise study if feasible. The noise study during development review should clearly define the noise levels impacting the proposed uses as a measure of dBA DNL. The noise study should include noise contours and/or noise impacts at each façade of each affected building with current noise levels and future noise levels based on a minimum 20-year traffic volume projection for the roadway and other transportation noise sources. In addition, the noise study should identify differing noise levels that may affect building facades at different elevations.

For those studies that indicate noise levels in excess of DNL 65 dBA on proposed noise sensitive uses, appropriate mitigation measures should be provided with the goal of achieving DNL 45 dBA for interior space and DNL 65 dBA for outdoor recreation areas. Attenuation may include siting and orientation of the noise sensitive use, as well as the use of appropriate building materials and noise barriers.

In areas where projected noise impacts at affected building facades will exceed DNL 75 dBA, and for dwelling units where outdoor spaces including balconies will be projected to be exposed to noise levels that exceed DNL 65 dBA, disclosure statements should be provided to potentially affected residents and users within the impacted uses or units, which clearly identify the mitigated and unmitigated noise levels for interior space and the noise levels for any affected balconies in addition to noise mitigation for interior space and outdoor recreational areas. Post-development noise studies should be conducted in order to help staff evaluate the effectiveness of noise mitigation measures.

Urban Parks and Recreation

Growth and development increase the need for parks, recreation and open space that are essential amenities in Land Unit A and the Innovation Center TSA and are currently deficient. Parks provide visual breaks in the urban landscape and places for people to enjoy the outdoors, recreation and leisure pursuits. Public open space is especially important for residents of higher density housing who may lack access to private yards or recreation facilities. A diverse park system contributes economic, social and health benefits by providing a high quality of life for residents.

New parks should be planned and integrated in Land Unit A that range from places that support and foster social interaction to those that support individual sports and recreation activities. While many developments will include urban parks as amenities, contributions of recreational facilities will also be needed to ensure a park system that serves a wide range of needs. The provision of athletic facilities is especially important and challenging. Creative approaches to providing for sports needs will be necessary, including use of technology and scheduling to increase facility capacities and integrating facilities within development areas, on rooftops, over stormwater detention facilities, in utility corridors and other alternative locations.

Urban Park Service Level Standards and Typology

The Urban Parks Framework is in the Parks and Recreation section of the Policy Plan as Appendix 2. It was established to guide the creation of park systems in Fairfax County's urbanizing and redevelopment areas and is to be used to guide park development. This framework provides service level standards, design guidelines and a typology of urban park types to guide the creation of urban park systems in Fairfax County.

Ideally, urban areas contain a complement of urban park types in order to serve local leisure needs; support environmental and sustainability goals; and contribute to the area's sense of culture, liveliness, and identity. Urban park design elements may be combined in various ways to create a range of urban park types. While park types may be adjusted to fit an area's specific needs and concept, five distinct types of urban parks include pocket parks, common greens, civic plazas, recreation-focused urban parks and linear parks as described in the Urban Parks Framework. The urban park typology strives to provide a comprehensive range of amenities and uses, such as pedestrian-oriented by-ways, large open spaces for civic gatherings, and other recreation-oriented opportunities for organized sports and informal play.

Park service level standards guide the provision of parkland and facilities relative to specific county needs and land use context. For urban areas, the parkland service level standard is based on population and employees. In urban areas, park size is typically less than five acres and often under ½ acre. Service area is generally within a 5-10 minute walking distance (or ¼ - ½ mile) from nearby offices, retail and residences. New developments should provide 1.5 acres of urban park space per 1,000 residents and 1.0 acre of urban park space per 10,000 employees that is well integrated into the development and distinguished from site and public realm landscaping and streetscape features. A range of recreation facilities and park amenities should be incorporated into the urban park spaces to serve the recreation and leisure needs of nearby residents, workers and visitors.

Urban Park Implementation

Creation of an urban park network is essential, to successful redevelopment efforts and the vision for Land Unit A and the Innovation Center TSA. As a result of ownership patterns, urban park development will likely occur in a piecemeal pattern over time. Therefore, coordination and collaboration among landowners to create a connected system of needed park spaces is desirable. A comprehensive system of urban parks, if properly implemented, can contribute to a sense of place and help distinguish the area as a quality place to live, work, shop and visit. The Urban Parks Framework should be used to guide the design and location of the urban open space system. To accommodate the shift in development patterns, lifestyles and urban design, urban parkland should be provided in accordance with the urban park typology, framework and urban park land service level standards. Recreation facilities should be provided in accordance with adopted countywide facility service level standards to address recreation needs to the extent feasible.

It is important to pursue creative solutions to providing open space and recreation facilities in Land Unit A. Parkland can be publicly owned, privately owned, or provided through public-private partnerships. Creative urban park initiatives may include the use of building rooftops for park facilities; unique programming areas; recreation facilities and dedicated program space provided within commercial buildings, redevelopment at nearby parks, and forging new park-provider partnerships. With any of these creative approaches, visual and physical accessibility to the public is essential.

Public Facilities

Some existing public facilities located in and around Land Unit A may have adequate capacity to accommodate planned growth; however, certain facilities will need expansions or modifications to continue providing adequate service. These facilities should be located within reasonable proximity of the land unit, in accordance with county policy. Providing adequate public facilities in some cases will require innovative urban solutions such as locating public facilities within buildings serving other uses. The provision of future facilities will need to be coordinated with the rate that planned development occurs.

Schools

Land Unit A is currently served by four public schools. These include Lutie Lewis Coates and McNair Farms Elementary Schools, Rachel Carson Middle School and Westfield High School. Coates Elementary is located within the Land Unit A.

Under the envisioned growth for the Innovation Center Transit Station Area, there will be a need for at least one new elementary school site to serve the area.

In addition, the Innovation Center Station Area and Reston/Herndon areas have student enrollments that are projected to significantly exceed the available capacity at the elementary, middle and high school levels. New elementary, middle and high school facilities, as well as capacity enhancements at existing facilities, will be required to accommodate the anticipated enrollment in these two areas. A high school located in or in the vicinity of Land Unit A would be well located to relieve overcrowding in existing schools as well as serve planned future growth in Land Unit A and the surrounding areas.

During the development review process, developers should provide for additional capacity to mitigate the impacts of new development. These contributions could be more traditional in nature, such as dedication of a school site, or might include more innovative urban solutions such as locating schools facilities with parks or within buildings serving other uses. Additionally, facilities such as vocational training, academy programs and/or adult learning centers that are currently provided at existing schools could be located in this area.

Telecommunications

It is anticipated that telecommunications services will be able to accommodate the planned growth in Land Unit A through continuous improvements in technology, funded by user fees. New buildings should be designed to accommodate telecommunications antennas and equipment cabinets on rooftops. Such design should be compatible with the building's architecture and should conceal antennas and equipment from surrounding properties and roadways by flush mounting, screening antennas, and/or concealing related equipment behind screen walls or building features.

URBAN DESIGN

Urban design is the discipline that guides the appearance, arrangement and functional elements of the physical environment, with particular emphasis on public spaces. An urban environment is comprised of many elements including; streets, blocks, open spaces, pedestrian areas and buildings. The following recommendations provide guidance for each of these elements, with a particular emphasis on creating a high-quality urban environment that is walkable and pedestrian-friendly. The goal of these recommendations is to support the transition of portions of Land Unit A from an auto-oriented suburban place into a cohesive, functional, pedestrian-oriented and memorable urban destination. The primary areas likely to transition are within roughly half a mile of the Innovation

Center Metro station. The other areas are generally envisioned to largely remain the same, with the exception of the vacant land, which is envisioned to develop.

Urban Design Recommendations

The urban design recommendations provide direction for creating urban places within the area. These are organized into two sections, the Pedestrian Realm Recommendations and the Building and Site Design Recommendations.

Pedestrian Realm Recommendations

The pedestrian realm consists of publicly accessible places where people circulate on foot. Sidewalks connect pedestrians to their homes, places of employment, retail establishments, restaurants, parks, plazas, trails, and other public places. The pedestrian realm is the most visible space within the urban environment. It should be continuous but can vary in its character depending upon adjacent uses and the scale of the street. The design of the pedestrian realm should be integrated with and complimentary to adjacent land uses. The following recommendations address the Street Grid and Block Pattern as well as Streetscape Design.

Street Grid and Block Pattern

The street grid will be the primary organizing element of the area. In contrast to the existing pattern of large, suburban blocks, planned development should create smaller blocks through an interconnected system of streets. This street system will be more walkable, provide travel choices for pedestrians and motorists, and have breaks in building massing to help create a built environment that is appropriately scaled for pedestrian activity. See the Transportation section for more information on the planned street grid.

Streetscape Design

Attractive streetscapes include a well-designed road edge that contributes to area identity and provides a safe, high-quality pedestrian experience. The streetscape design should vary by the type of street and the adjacent land use, and should create a unifying theme along each of the roads to visually and physically link the various developments within the area. Elements of streetscapes include sidewalks, street furniture, streetlights, trees and other plantings, paving, crosswalks, bus shelters, bicycle racks, public art, and seating areas. The purpose of these elements is to enhance the quality of the pedestrian environment.

Below are general recommendations for all streetscapes, which are followed by design recommendations for each streetscape type (Through Corridors, Avenues, Collectors, and Local Streets). See the Transportation section for information on street types associated with each streetscape type.

Definition of Streetscape Zones: The streetscape is composed of three zones (see illustrated streetscape cross-sections). The landscape amenity panel is located next to the curb and includes trees, lighting, bus stops, bicycle racks, parking meters, traffic signs, refuge strips, and other urban living infrastructure. The sidewalk is reserved for pedestrian movement and should not contain any street furniture. The building zone is located between the sidewalk and the building facade. The character of the building zone is determined by the adjacent land use.

Underground Utilities and Stormwater Infrastructure: Utilities and stormwater infrastructure should be placed underground and should be coordinated with future roadway improvements and sidewalks to foster a pedestrian-friendly environment. Such infrastructure should be located under sidewalks, parking lanes, or the building zone; it should not be located under street trees.

Street Lighting: Street lighting should maintain the overall character and quality of the area, provide adequate lighting levels that ensure public safety without creating glare or light spillage, and conform to LEED light pollution requirements and county ordinances.

Streetscape Maintenance: Streetscape improvements may be provided on a combination of publicly owned right-of-way and private property. When the public right-of-way is utilized to provide streetscape improvements, commitments should be made by the property owner to maintain the entire streetscape area. In addition, when the streetscape is not entirely within the right-of-way, additional right-of-way or a public access easement may need to be provided for the portion of the streetscape located on private property.

Pedestrian Crossings: At pedestrian crossings, special pavement or striping should be designed to create a well-delineated, ADA accessible and safe area for pedestrians to cross the street.

Median Landscape Strip: New streets in Land Unit A are not expected to include medians except where they would facilitate pedestrian crossings. Where medians are provided, they should be planted with attractive landscaping. Safety and sight distance should be taken into consideration.

On-Street Parking: Streetscapes with on-street parallel parking should have a small paved area adjacent to the curb known as a refuge strip. The refuge strip will allow passengers to exit parked cars without having to step into planted areas.

Planting in the Pedestrian Realm: Street trees should be planted in an environment that promotes healthy root growth, and should be spaced no more than 40 feet apart. Only those varieties that require little maintenance, are resistant to disease, and are adapted to extreme urban conditions such as pollution, should be used. In addition to trees, vegetation within planting strips should include supplemental plantings, such as ornamental shrubs, ground cover, flowering plants, and grasses. Supplemental plantings should occur in areas that are clear of vehicles parked on the street, and they should incorporate hardscaped pedestrian access points.

Low Impact Development Techniques: Streetscape design should include innovative stormwater remediation design elements such as bioretention, permeable pavements, and incorporation of water collection and storage.

Streetscape Design Flexibility: Flexibility will be needed where site constraints are present and where infill or expansion of buildings or other existing features limit the ability of a development to satisfy all streetscape recommendations, variation from the streetscape guidance may be permitted when the variation results in acceptable minimum sidewalk, landscape amenity panel and building zone widths and amounts of trees and landscaping.

Through Corridors

Through corridors include Centreville and Frying Pan Roads which will carry the largest volume of automobile traffic and will also accommodate buses, bicycles and pedestrians. If these roads are improved, pedestrian and bicycle facilities should be provided, along with streetscape improvements. These improvements should include improved pedestrian crossings across Centreville and Frying Pan Roads and across the Dulles Toll Road. In addition, the Countywide Bicycle Master Plan identifies further improvements.

Avenue, Collector, and Local Street Streetscapes

While avenues, collectors, and local streets serve different functions from a traffic perspective, their

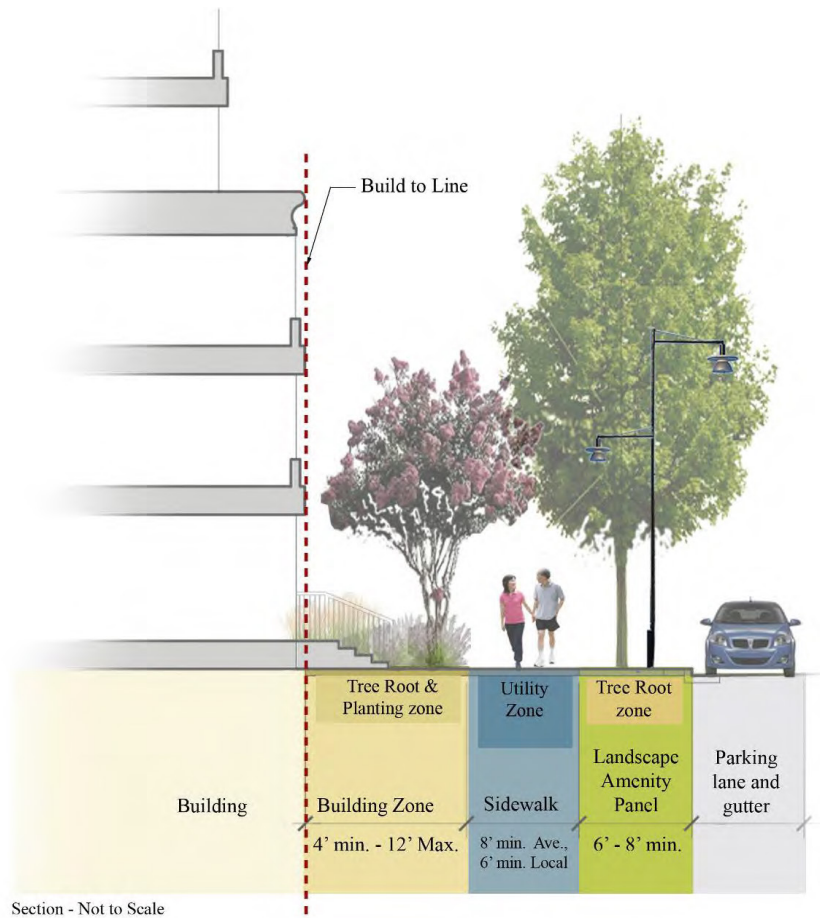
streetscapes are similar. The character of the streetscapes should generally be determined by the pedestrian activities generated by the adjacent land uses rather than the classification of the street. This category of streetscapes includes, among others, Sunrise Valley Drive, and Sayward Boulevard. See Figure 20. The following recommendations are provided for achieving the streetscape character for avenues, collectors, and local streets:

Landscape amenity panel: This zone should be a minimum of 8 feet wide along avenues and collectors and a minimum of 6 feet wide along local streets. Street trees should be evenly spaced in ordered plantings. Vegetation may also include shrubs and ground cover. Amenities such as bicycle racks and bus shelters should be provided as needed to serve the adjacent land uses.

Sidewalk: Sidewalks along avenues and collectors should be a minimum of 8 feet wide. Sidewalks along local streets should be a minimum of 6 feet wide.

Building Zone: The width of this zone should range from 4 to 12 feet. In commercial development the building zone should be 4-8 feet and should range from 8-12 feet when it is a residential building zone. When ground-level retail is provided in a building, a portion of this building zone should be used for retail browsing or outdoor dining. Supplemental plantings (to include shade and flowering trees, shrubs, flowering plants, ground cover, and grasses) may be provided for buildings without retail uses.

Figure 18: Avenue/Collector/Local Street Streetscape with Residential Building, Section



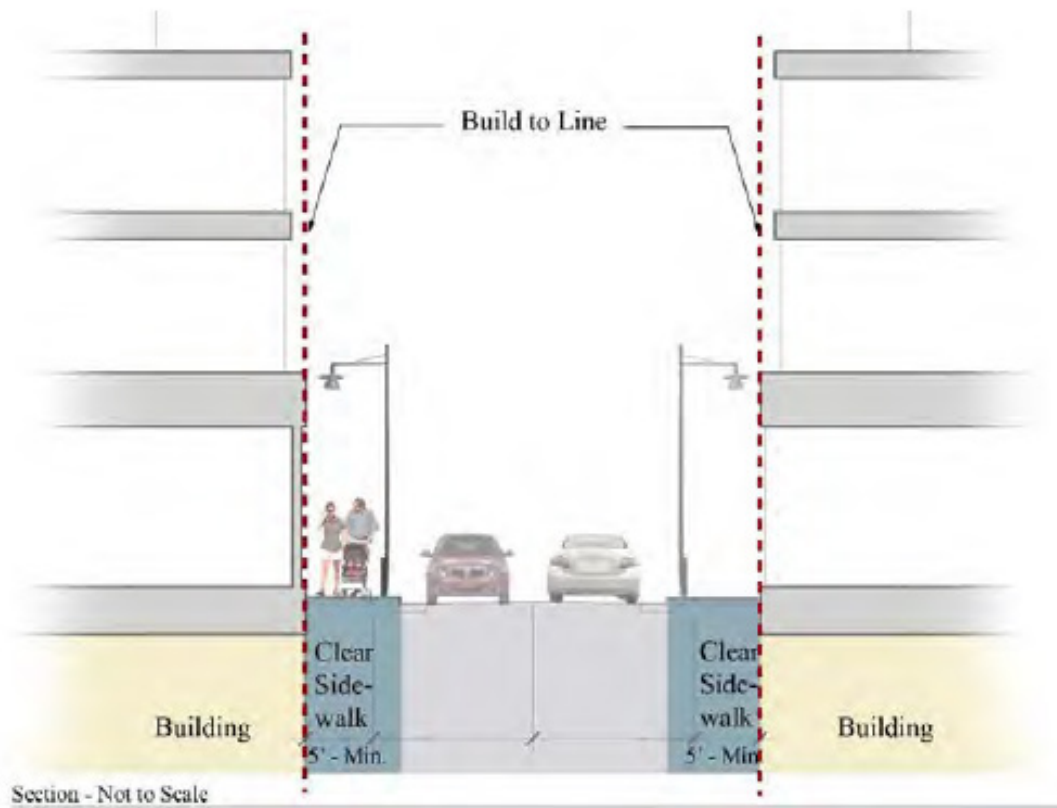
Note: This graphic depicts a residential building zone (8-12'). In commercial developments, the building zone will be smaller (4-8')

Service Street Streetscapes

Service streets are expected to provide access to parking, loading docks, waste management, utilities, and other back-of-house operations. While they do not primarily serve pedestrians, they should provide a minimum level of accessibility and safety for pedestrians where applicable. See Figure 19.

Sidewalk: A minimum 5-foot wide clear sidewalk should be provided adjacent to buildings. No poles, utilities, or other appurtenances should be located in the sidewalk clear area. Attractive street lighting should be provided to illuminate both the street and the sidewalk. In lieu of pole lights, attractive safety and wayfinding lighting may also be attached to the building face.

Figure 19: Service Street Streetscape, Section



Building and Site Design

Building and site design must support the pedestrian realm to create a vibrant urban environment. The location of a building on a site should not create a barrier to pedestrians by interrupting the pedestrian circulation system. Typically, buildings should be located close to the sidewalk to allow for active storefronts and other uses that engage pedestrians. Non-active uses like loading docks, mechanical rooms, utility vaults, and exposed parking decks, should be oriented away from through corridors, avenues, and local streets. These uses, which detract from the pedestrian

experience, should be located facing service streets or placed internally to the building envelope to minimize their negative impacts. The following recommendations address Build-to Lines and Building Frontages, Bulk and Massing and Step Backs, Blank Walls, Parking Design, Public Art, and Building Height.

Build-to Lines and Building Frontages

The build-to line is a theoretical line on the ground indicating where the facades of buildings should be located. The line ensures that the ground floors of all buildings on a block are in line with each other at the edge of the streetscape. Exceptions to the build-to line may occur where plazas, pocket parks, or spaces for public art are located. The build-to line generally applies to the podium (or base) of the building structure and excludes building towers, which may be set back further to allow for light and air to reach the street.

The building frontage is the portion of the building that serves to define and enclose the pedestrian realm. It aligns with the build-to line, and generally serves as a physical and visual boundary to the pedestrian realm. The building frontage typically separates exterior public space from interior semi-public or private space. The building frontage only applies to the floors of the building podium.

Existing uses and buildings that do not conform to the build-to line established by new development should investigate opportunities to create visual and physical linkages to conforming new buildings that address the pedestrian realm. These buildings may use walls, landscaping, or other architectural features to align with other buildings at the build-to line. Articulation along these walls can result in sculptural elements and maintain visual interest along the sidewalk.

Bulk and Massing and Step Backs

Planned development in Land Unit A will be urban in nature, and new buildings will generally occupy a majority of the block and be multiple stories in height. Sites should be designed with care to achieve the desired density goals, while remaining sensitive to the impact of development on the surrounding context. Guidance regarding building massing includes:

- Buildings should be designed with height variations to protect access to light and views and to allow for privacy.
- Buildings should be sited and spaced from one another in a manner that allows for light at the street level and minimizes long periods of shadow on the street, adjacent buildings, or public open space.
- Generally, buildings should be located towards the wider rights-of-way, where the street section can absorb the additional building height better than narrower streets.
- In general, ground-floor commercial uses should be accessed directly from the adjacent public sidewalk or building zone.
- Ground-floor residential uses, however, should be grade-separated from the public sidewalk to distinguish the units and to provide some privacy. This creates the opportunity for stoops, bays, porches or entries that establish a distinct transition between private residential developments and the pedestrian realm.

- Another related design feature affecting the pedestrian experience is the height of the building along the sidewalk. As a result, great care must be taken to preserve the proportion and scale of the street section so that it does not result in an overwhelming, dark, and windy pedestrian corridor.
- Step-backs are one tool that can be used to create an appropriate proportion of street width to building height. Step-backs result in building towers which are set back from the building frontage. As a result, pedestrians only perceive the first few floors of the building podium, and not the full height of the tower.

Blank Walls

Blank walls are solid walls without fenestration, entries or portals. When located at the ground floor, they are detrimental to the pedestrian experience and may disrupt pedestrian flow. Such conditions should not be permitted on any public street-facing facade. Active uses should be provided at the ground floor as much as possible. If blank facades cannot be avoided, strategies should be employed to mitigate their impacts. These may include the provision of applied architectural elements, material changes, or other similar features to provide additional building detail and visual interest.

Parking Design

The following recommendations address parking design. Parking access should be designed in such a manner as to minimize conflicts between vehicles pedestrians, and bicyclists and to take into account pedestrian and bicyclist safety. This may include reducing the number of parking access points and minimizing the widths of ramps and curb cuts where they intersect with the sidewalk.

- Vehicular access to parking lots and parking garages should be limited to local streets or service streets when feasible.
- Parking access should be designed to be attractive and coordinated with the site plan and architecture.
- Certain uses, such as retail, civic or entertainment, may require highly visible parking. In these cases, the design of the parking and its access should be reflective of the activity that will occur within the building.
- Underground parking is the least intrusive form of parking on the built environment. However, due to the area's geology, above-grade structured parking, or podium parking, may also be appropriate and will likely be the predominant type. Above-grade parking structures should be "wrapped" with active uses on all sides except along a service street.
- Exposed parking structures that are not wrapped with other uses may be unavoidable. In such cases, careful architectural detailing, lighting, and landscaping should be employed along the building frontage to mitigate the negative impacts of exposed parking levels.
- It is the long term vision to avoid surface parking. Surface parking should be avoided in most parts of Land Unit A, but may be considered in the interim or for short term parking or for passenger drop-off and pick-up areas.
- When provided, surface parking lots should be located to the side or rear of the primary use and should contain pedestrian connections that lead to the front door of the associated building.

- On-street parking makes sidewalks safer and provides necessary and sometimes more accessible residential and retail parking. Certain avenues, collectors, and local streets within Land Unit A should provide an opportunity for on-street parking. See Transportation section for additional guidance.

Building Height

Typically, building heights in Land Unit A will reflect the proposed intensity pattern. The tallest buildings may be located within 1/4 mile of the Metro station, with heights stepping down gradually as the distance from the stations increases. In addition, building heights in proximity to the Dulles Airport Access Road and Route 28 may be taller however building heights will be lowest in locations adjacent to existing townhouse and those single-family residential neighborhoods outside of Land Unit A. Careful design will protect view corridors and maintain access to sunlight at these sensitive locations. During the development review process, solar shading analyses (also called shadow studies) for all buildings should be provided to ensure that adjacent buildings and public spaces will have adequate access to light and air.

Public Art

Public Art should be a component of the effort to achieve quality urban design within Land Unit A. As one of the key urban design principles, the provision of public art will serve to create a unique identity for Land Unit A, and provide a gateway into the county from Dulles International Airport.

Interim Conditions

In many cases developments will be phased over time. Phased developments should prepare plans and supporting graphics that demonstrate how all interim conditions will meet Plan objectives, including those related to urban design.

LAND UNIT B

CHARACTER

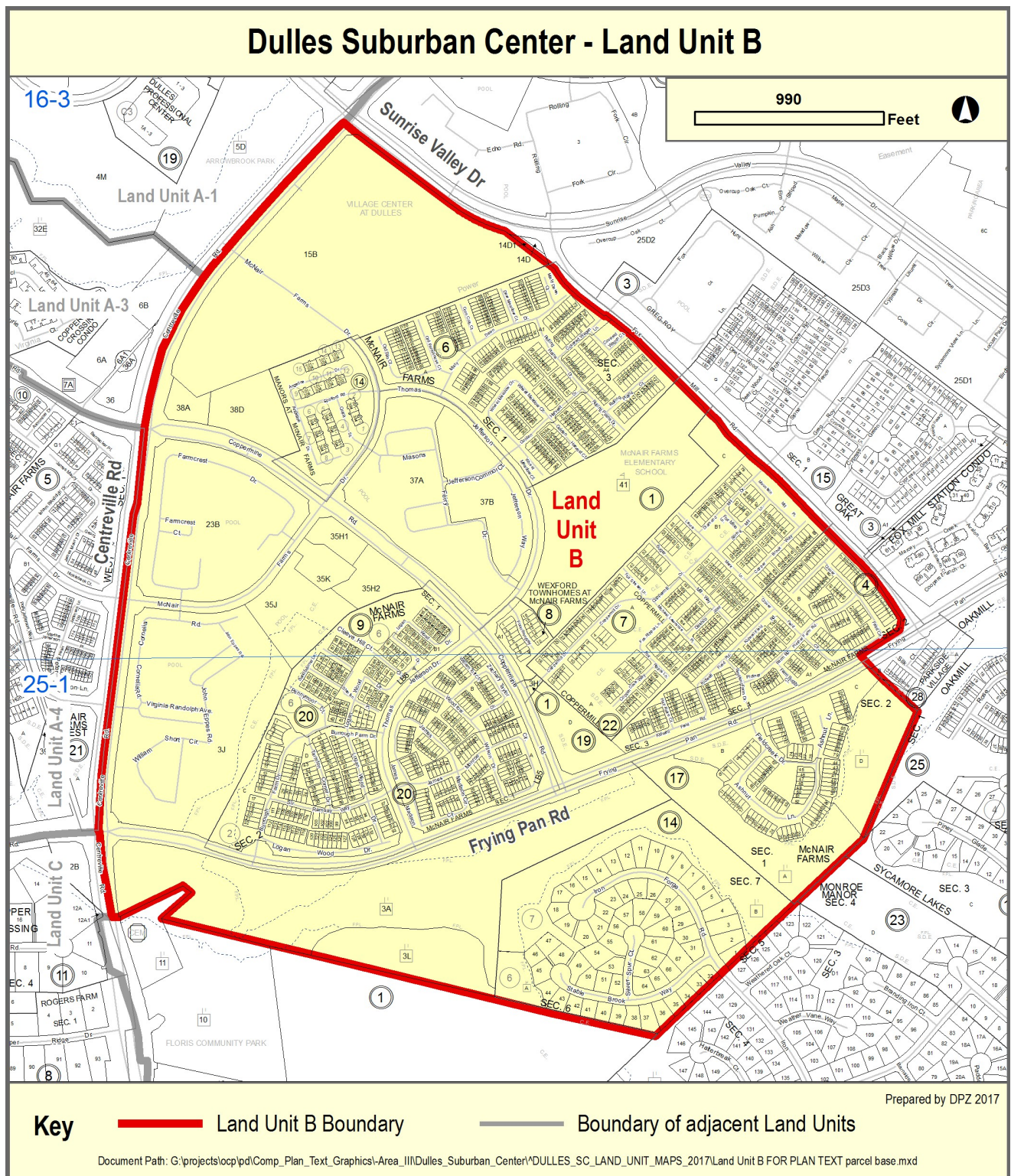
Land Unit B consists of approximately 312 acres and is bounded on the west by Centreville Road, on the north by Sunrise Valley Drive and Fox Mill Road, on the south by Frying Pan Stream Valley Park and Frying Pan Farm Park, and on the east by the Sycamore Ridge single-family residential communities (Figure 20).

This land unit contains the McNair Farms multifamily, garden apartments as well as townhouses. In addition, local and community serving commercial uses at the Village Center at Dulles are located at the intersection of Sunrise Valley Drive and Centreville Road. Both the apartments and the Village Center are part of a planned mixed-use development to include residential, office and retail uses.

RECOMMENDATIONS

Land Use

1. The McNair Farms portion of Land Unit B located north and west of Frying Pan Branch (except Tax Map 16-3((7))) is planned for a mix of residential, commercial retail, office and public park uses. The recommended development is a mix of residential uses up to 14 dwelling units per acre and a maximum of 327,000 square feet of commercial retail and office use. This mixed-use development is conditioned upon the following:
 - Substantial land consolidation is achieved. The area should be master planned and developed as a contiguous unit;
 - Good urban design principles should be used for development. This includes coordinated vehicular and pedestrian access and circulation; attractive living, working and activity spaces; a variety of housing types; architectural compatibility; landscaping; usable open space, and good visual and functional relationships among the various land uses;
 - A mix of housing styles and types including single and multifamily units, prices and ownership forms is provided. A reasonable number of units must be marketed as rental units and incorporated into the overall design of the project; and
 - Provision is made for sites for day care facilities and an elementary school.
2. The Coppermill Subdivision located south of Fox Mill Road (Tax Map 16-3((7))) is planned for development at 2-3 dwelling units per acre. As an option, residential use at 5-8 dwelling units per acre may be appropriate if the following conditions are met:
 - Full consolidation of all three parcels to achieve high quality development;
 - Dedication of adequate land to augment the school site and recreational facilities in conjunction with land planned as part of McNair Farms; and



LAND UNIT B
LOCATION AND COMPREHENSIVE PLAN MAP DESIGNATION **FIGURE 20**

- Provision of housing unit types which are compatible with existing and/or planned residential development in the immediate area.
3. Parcels 25-1((14))(6)33-67 and (7)1-32 and B are planned and developed for public park and single-family, detached residential use at 2-3 dwelling units per acre. This will provide for development on this parcel that is compatible with the existing Sycamore Ridge community located to the east.

Parks and Recreation

Land Unit B is bordered on the south by Floris Community Park and Frying Pan Farm Park. Frying Pan Meeting House, listed on the Virginia Landmarks Register and the National Register of Historic Places, is located in the northwest corner of Floris Community Park and Frying Pan Farm Park at Centreville Road. Adjacent land uses should be planned to be compatible with the historic and agricultural character of these parks. Given the known heritage resources in Land Unit B, future development and/or rezoning applications should undertake heritage resource survey work and identify and preserve any significant resources.

Trails/Connectivity

Trails planned for this land unit are delineated on the Countywide Trails Plan Map and are an integral part of the overall county system. Specific land unit recommendations may be found below.

The Frying Pan Run Stream Valley trail should be extended eastward from Land Units A and C to connect with Fox Mill Road Countywide Trail and then connect to the Monroe Street transit area. The Countywide Trail should extend south on both sides of Centreville Road between Fox Mill Road and West Ox Road to connect with a planned trail along West Ox Road and to the Monroe Street transit area site.

LAND UNIT C

CHARACTER

Land Unit C consists of approximately 229 acres and is bounded on the east by Centreville Road; on the south and west by Horse Pen Run Stream Valley; and on the north and northwest by Frying Pan Branch Stream Valley (Figure 21). The area has historically been a part of a community known as Floris. This land unit contains the stable, single-family, detached residential developments of Copper Crossing, Kings Grant, Mountain View and Rogers Farm. These residential developments are buffered by the Horse Pen Run Stream Valley which provides a natural transition to the nonresidential uses to the north and west in Land Units A and D. Additional development along Centreville Road in Floris includes an early-education facility, a fire and rescue station, a church and the Floris Elementary School.

RECOMMENDATIONS

Land Use

1. This land unit is planned for single-family, detached residential use at 1-2 dwelling units per acre and public park except for Parcels 25-1((1))18E pt. and 26, which are planned for Public Facilities as shown on the Comprehensive Plan Map. Infill development in this stable residential area should be of a compatible use and type and at a density of .5-1 dwelling unit per acre, in accordance with the guidance provided by the Policy Plan under Land Use Objectives 8 and 12.
2. Any enhancement of retail uses in Floris should demonstrate that these changes will be beneficial to the community, accommodate the planned widening of Centreville Road and not adversely impact adjacent, stable residential communities. In general, new retail uses, are not recommended.

Heritage Resources

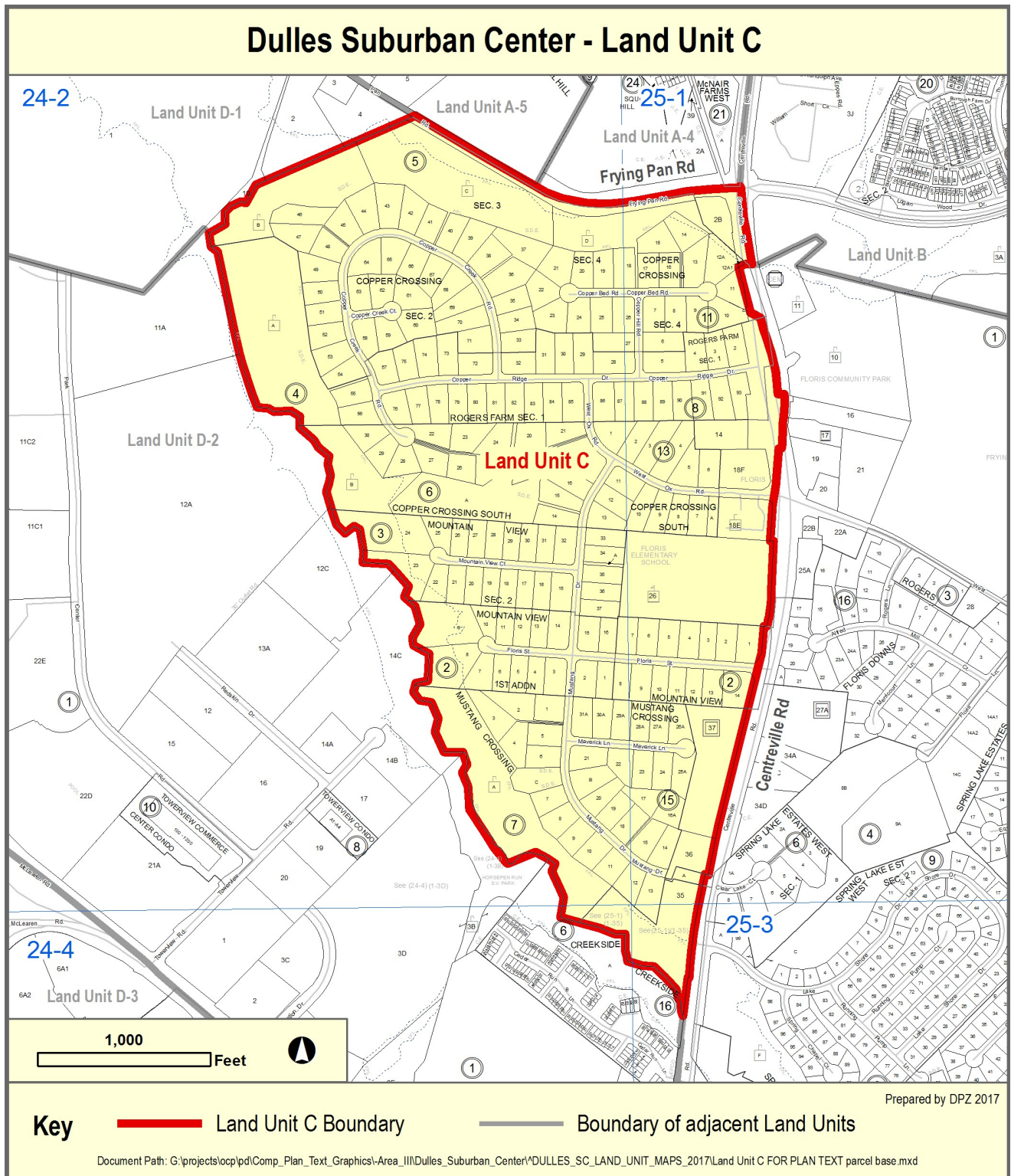
Development should be sensitive to the numerous recorded and unrecorded heritage resources associated with the community of Floris.

Parks and Recreation

1. Most of the Frying Pan Branch and Horse Pen Run Stream Valleys have been dedicated to the Fairfax County Park Authority in accordance with the stream valley policies in the Policy Plan and to further the county's connectivity goals.
2. The athletic fields at Floris Elementary School should be upgraded to serve community needs.

Trails/Connectivity

1. Trails planned for this land unit are delineated on the Countywide Trails Plan Map and are an integral part of the overall county system. Specific land unit recommendations may be found next.



LAND UNIT C **FIGURE 21**
LOCATION AND COMPREHENSIVE PLAN MAP DESIGNATION

2. Stream Valley Trails through the Frying Pan Branch and Horse Pen Run Environmental Quality Corridors along the northern and western boundaries of the land unit should be developed according to the Countywide Trails Plan.
3. A Countywide Trail should be developed on the west side of Centreville Road.

LAND UNIT D-1

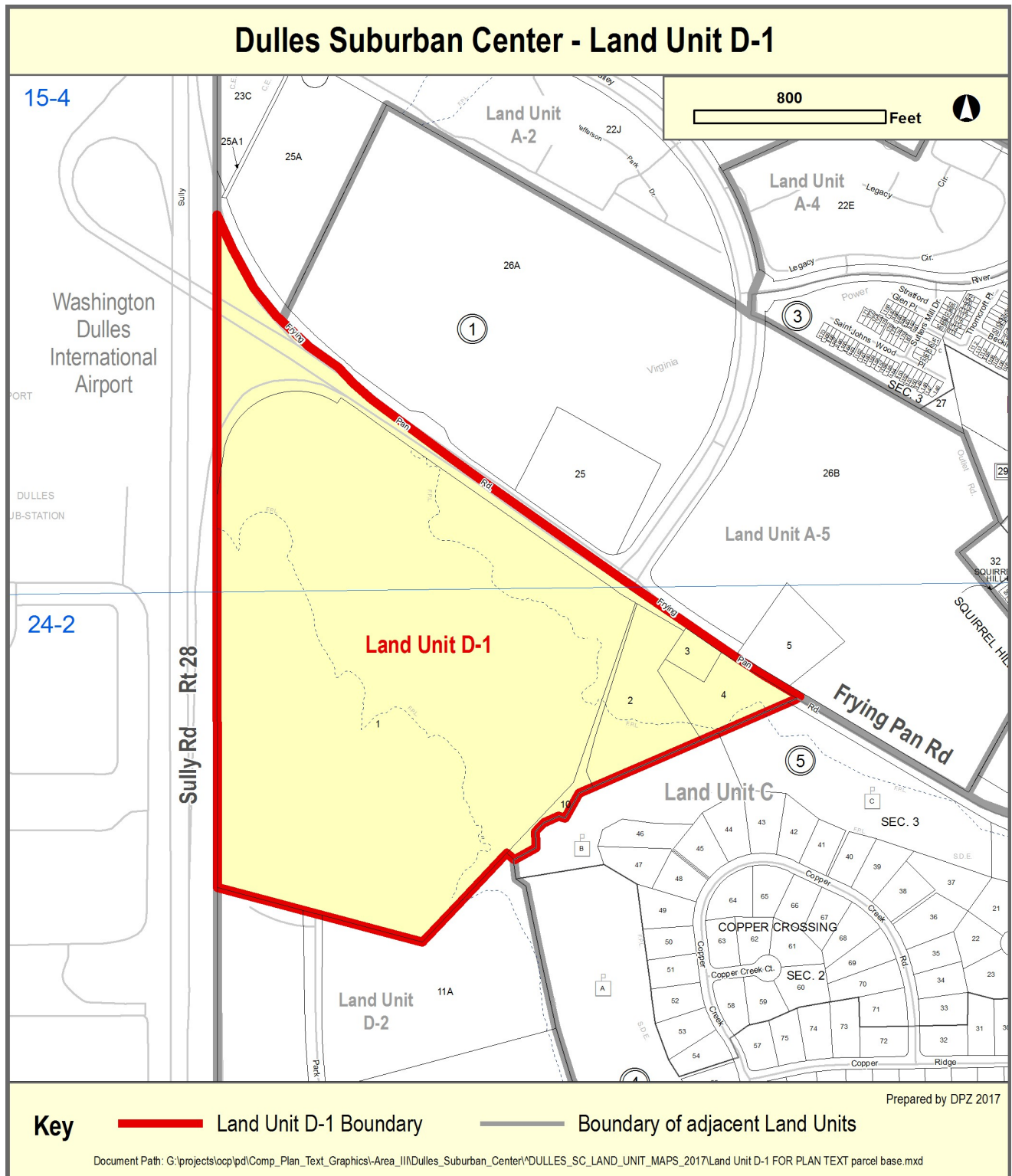
CHARACTER

Land Unit D-1 consists of approximately 81 acres and is bounded on the north by Frying Pan Road, the east by Frying Pan Branch Stream Valley Park, on the west by Route 28 and on the south by Land Unit D-2 (Figure 22). Horse Pen Run traverses the land unit, with approximately 50 percent of the land unit within the floodplain of the stream valley. The land unit contains the Middleton Farm and a few other structures and otherwise is not developed. Land Unit D-1 consists of the western portion of the land unit, which is approximately 68 acres and consists of parcels 24- 2((1))1 and 10; and the eastern portion of this land unit which is 7.35 acres and consists of parcels 24-2((1))2, 3 and 4.

RECOMMENDATIONS

Western Portion of Land Unit – Tax Map 24-2((1))1 and 10

1. Tax Map 24-2((1))1 and 10 contain a considerable amount of Environmental Quality Corridor (EQC). Horse Pen Run Stream Valley traverses the northern portion of the area and is planned for public park use. The western portion of the land unit is planned for office use up to .15 FAR to provide development that is compatible with existing and planned adjacent land uses within this entire land unit, Land Unit D-2 and C. Dedication of the right-of-way for the planned roadway extension between Park Center Road and Sunrise Valley Drive to the county and of the EQC lands to the Fairfax County Park Authority should be provided. Stream restoration and revegetation of the Horse Pen Run EQC should be provided in consultation with county staff. In addition, all trails shown on the Trails Plan Map should be constructed in consultation with county staff.
2. Two options for the western and central portion of the land unit, may be appropriate and include (1) office, hotel, recreational facilities and support service retail uses up to .40 FAR and/or (2) residential use up to 5 du/ac. Implementation of these options may be appropriate if all the following conditions are met:
 - Full consolidation between Tax Map Parcels 24-2((1))1 and 10 is achieved;
 - With the exception of necessary road crossings and park improvements, all development should be south of the Horse Pen Run EQC;
 - The planned roadway extension between Park Center Road and Sunrise Valley Drive is constructed as a four lane divided roadway prior to any development under either of these options;
 - Provide for access from Tax Map Parcels 24-2((1))2, 3 and 4 to the extension of Sunrise Valley Drive;
 - Any development under these options should be phased to transportation improvements and trip reduction measures identified at the time of rezoning;



**LAND UNIT D-1
 LOCATION AND COMPREHENSIVE PLAN MAP DESIGNATION**

FIGURE 22

- Parks and recreation facilities to meet the needs of new development are provided. All EQCs and the area north of the Horse Pen Run Stream Valley should be dedicated to the Fairfax County Park Authority and the land generally north of Horse Pen Run Stream Valley should be developed for active recreational uses. Buildable recreational areas should be developed as a destination park to address recreation deficiencies in this area. Built facilities may include, but are not limited to: ball fields, tot lots, destination playground, skate park, picnic pavilions, parking and other amenities. Lighting for recreational uses should minimize light emissions that create sources of glare which may interfere with residents' and travelers' visual acuity. A continuous trail loop should be provided to connect this area with the development within the remainder of Land Unit D-1 and to Land Unit C, and be designed in consultation with county staff;
- Appropriate screening is provided between any office development in this land unit and the existing residential development in Land Unit C to protect these stable residential communities;
- The architecture, design and location of both principal and secondary structures and uses should ensure optimal views and overall appearance from Route 28 and further ensure a proper and reasonable transition to the existing residential uses in Land Unit C. In furtherance of these objectives, building heights should not generally exceed ten (10) stories, or approximately 150 feet for areas west of the Park Center Road/Sunrise Valley Drive extension and eight (8) stories, or approximately 120 feet for areas generally east of the same;
- A study of heritage resources is conducted and appropriate preservation or avoidance measures taken. Recordation of significant heritage resources should occur.
- Any support retail uses should be of a use and scale logically related to and supportive of the office, hotel and residential uses and be physically or functionally integrated with other uses. Auto-oriented uses or stand-alone retail uses should not be permitted; however, eating establishments may be free standing. Such support retail should not be planned independently of the other planned uses, however phased development of commercial and retail uses is permitted;
- Development should incorporate TDMs of a scope and level appropriate to the mix of uses and the available transit;
- The planned road extension between Park Center Road and Sunrise Valley Drive should be designed to accommodate reasonably projected or anticipated transit needs; as first envisioned, bus stop locations should be provided along the planned extension, and be provided in a manner that has flexibility to support other forms of transit;
- Transit stop(s) should be included along the planned road extension; and
- Trail connections should be provided connecting stream valley trails within this land unit and to stream valley trails within Land Unit C.

Eastern Portion of the Land Unit – Tax Map Parcels 24-2((1))2, 3 and 4

3. The eastern portion of this land unit which includes Tax Map Parcels 24-2((1))2, 3 and 4 contains a significant amount of EQC. Horse Pen Run Stream Valley traverses the southern

portion of the Tax Map Parcels 24-2((1))2, 3 and 4 and is planned for public park use. The remainder of the sub-unit is planned for office use up to .15 FAR to provide development that is compatible with existing and planned adjacent land uses within this land unit and Land Units D-2 and C. In addition, all trails shown on the Countywide Trails Plan Map should be constructed in consultation with county staff.

4. As an option, the land within Tax Map Parcels 24-2((1))2, 3 and 4 may be consolidated with Tax Map Parcels 24-2((1))1 and 10 and used to support the development referred in Option 2 for the western portion of the land unit – Tax Map Parcels 24-2((1))1 and 10 above. Exercising such option requires that the area of all of the parcels within Land Unit D-1 be fully consolidated, and the entirety of Tax Map Parcels 24-2((1))2, 3, and 4 be dedicated and developed with park and open space uses. The intensity associated with parcels dedicated for park and open space can be transferred to the area located south of the EQC. Any recommended use with lighting should minimize light emissions that create sources of glare which may interfere with residents' and travelers' visual acuity.

Parks and Recreation

The EQC comprised of the confluence of the Horse Pen Run Stream Valley and Frying Pan Branch should be dedicated to the Fairfax County Park Authority in accordance with the Stream Valley Policy and to facilitate development of regional trail linkages and trailhead support facilities. Additional land should be set aside for development of park facilities to serve residents in the area. The amount of land required to meet this additional need will depend on the extent and intensity of development which may be introduced into this area, but sufficient land suitable for development of active recreation facilities should be included within new developments and be designed per the Urban Parks Framework.

Trails/Connectivity

1. The stream valley trail along Frying Pan Branch should be developed. This trail is planned to connect with the Herndon Transit Station Area site and north to the Sugarland Run Stream Valley and the Town of Herndon's planned trail system.
2. The stream valley trail along Horse Pen Run should be developed and connect to Land Units C and D-2.
3. Trails planned for this land unit are delineated on the Countywide Trails Plan Map and are an integral part of the overall county system.

LAND UNIT D-2

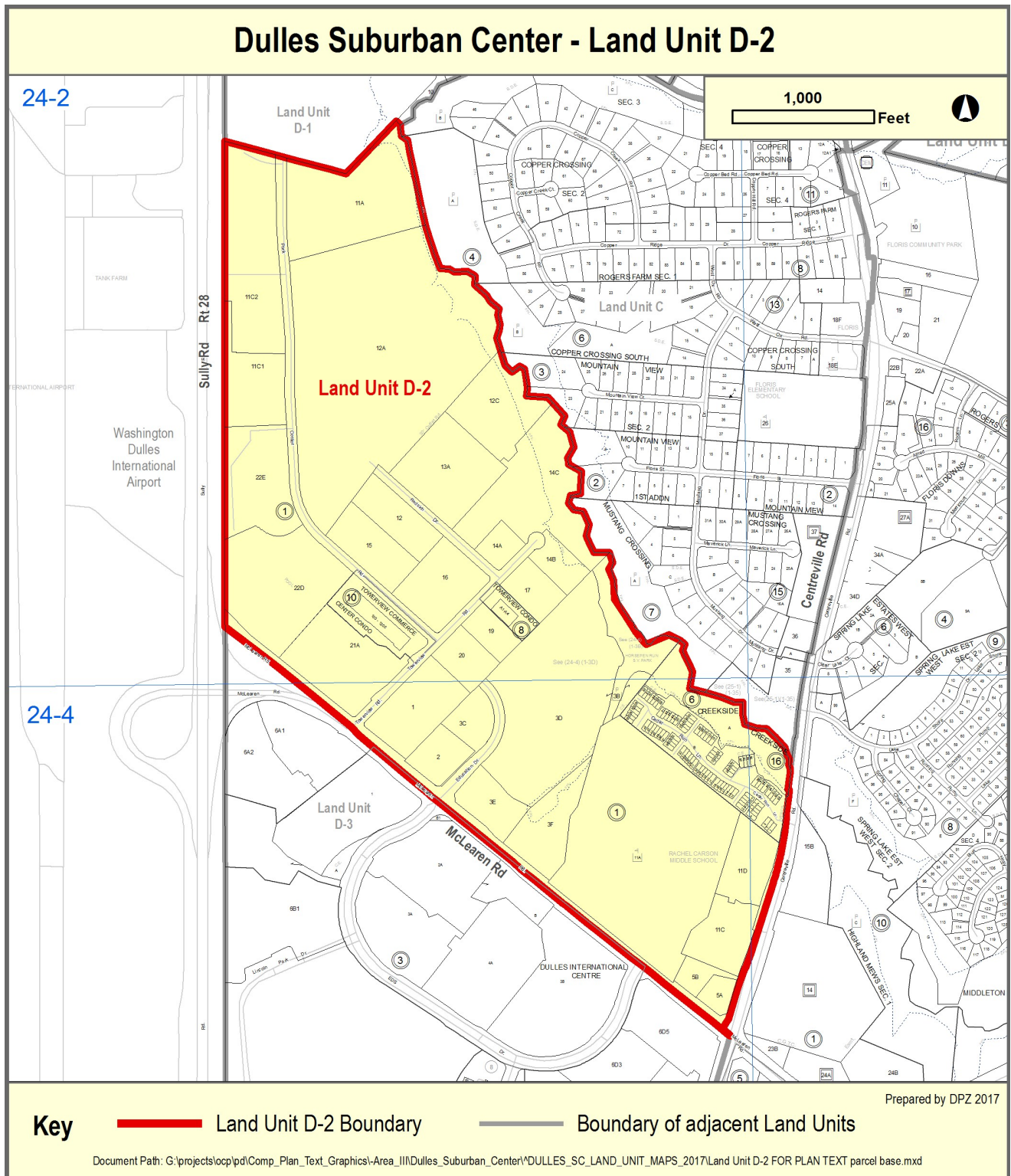
CHARACTER

Land Unit D-2 consists of 289 acres and is bounded on the north by Land Unit D-1, on the west by Route 28, on the east by the Horse Pen Run Stream Valley and Land Unit C, and on the south by McLearen Road (Figure 23). The western part of the land unit is generally developed with office, hotel, and industrial uses. The eastern portion includes a public and private school, an assisted living facility, townhouses and commercial uses.

RECOMMENDATIONS

Land Use

1. The area that is east of Park Center Road, Parcel 24-2((1)) 21A and Parcel 24-2 ((10)) (Towerview Commercial Condominiums), and the area that is west of Rachel Carson Middle School is planned for light industrial and industrial/flex uses up to a maximum intensity of .35 FAR to be compatible with existing development. Ancillary retail establishments to the primary industrial and industrial/flex uses may also be appropriate. East of Rachel Carson Middle School is planned for low intensity office use with a maximum intensity of .50 FAR, except for Parcels 24-4((1))5A and 5B, which are planned for retail use. Pedestrian connectivity from the school to the residential neighborhoods along Centreville Road should be addressed when developing this area. This will include safe and convenient walking paths from Centreville Road to the school property to foster a more healthy and active environment for the student population. Careful attention should be given when addressing any future development and related impacts around Rachel Carson Middle School.
2. 24-2((1))22D is planned for hotel use at an intensity up to .75 FAR and contains a hotel. Parcel 24-2((1))22E contains an office building and is planned for office use. Parcels 24-2((1))11C1 and C2 are planned for office use at an intensity up to .50 FAR as a transition between the office use to the south and the planned uses to the north. High quality design is essential for this highly visible location on Route 28.
3. As an option, a mixed-use development to include hotel, conference center, trade or cultural facilities, may be appropriate for the land west of Park Center Road. Major business, service, trade and cultural facilities oriented toward international corporate firms should be encouraged. This mixed-use option may be appropriate if the following conditions are met:
 - Uses should be oriented to Route 28 in such a way as to provide an attractive appearance along the corridor in this area;
 - Intensity, scale and height should be compatible with the existing hotel located within this land unit;
 - Retail uses may be incorporated into the development but only as an integral element. No strip commercial uses are recommended, because these would be incompatible with high-quality hotel or conference center uses;
 - Provisions for transit, including rights-of-way, should be incorporated into the design of the development; and



**LAND UNIT D-2
 LOCATION AND COMPREHENSIVE PLAN MAP DESIGNATION**

FIGURE 23

- The Environmental Quality Corridor (EQC) portion of Horse Pen Run Stream Valley should be dedicated to the Fairfax County Park Authority.
4. For parcels 24-4((1))5A, and 5B, a service station and related uses may be appropriate if in keeping with the following:
 - A coordinated development plan should be presented at the time of development for the entire site;
 - Interparcel access should be provided between parcels 24-4((1))3A and 5A and 5B; and
 - Access to the service station is provided in a safe, convenient and efficient manner, and ultimately is restricted to right-turn only movements to and from Centreville Road and McLearen Road at such time as a median has been constructed on these respective roads.
 5. Horse Pen Run provides a natural transition between the predominantly nonresidential uses within this land unit and the single-family detached subdivisions to the east in Land Unit C. This buffer area should be preserved and, where feasible, enhanced.

Transportation

To improve the area road network by alleviating traffic congestion and enhancing traffic safety along McLearen Road between Towerview Road and the interchange of McLearen Road and Route 28, the planned four lane, undivided collector street, Park Center Road, should be extended eastward from its intersection with Towerview Road through Tax Map Parcel 24-2((1))20, to Education Drive to intersect McLearen Road opposite its westernmost intersection with EDS Drive.

Trails/Connectivity

Trails planned for this land unit are delineated on the Countywide Trails Plan Map and are an integral part of the overall county system. Specific land unit recommendations may be found below. Countywide trails should be developed on the south side of McLearen Road and west side of Centreville Road. Sufficient bike racks should be provided to support non-vehicular access to transit facilities on McLearen Road. A connection should be developed from the McLearen Road Trail, with safe crossing at Centreville Road, to the countywide trail on south side of Lawyers Road extended. The Stream Valley trail along Horse Pen Run should be developed to connect, with safe crossing at Centreville Road, with the planned stream valley trail outside the Dulles Suburban Center.

LAND UNIT D-3

CHARACTER

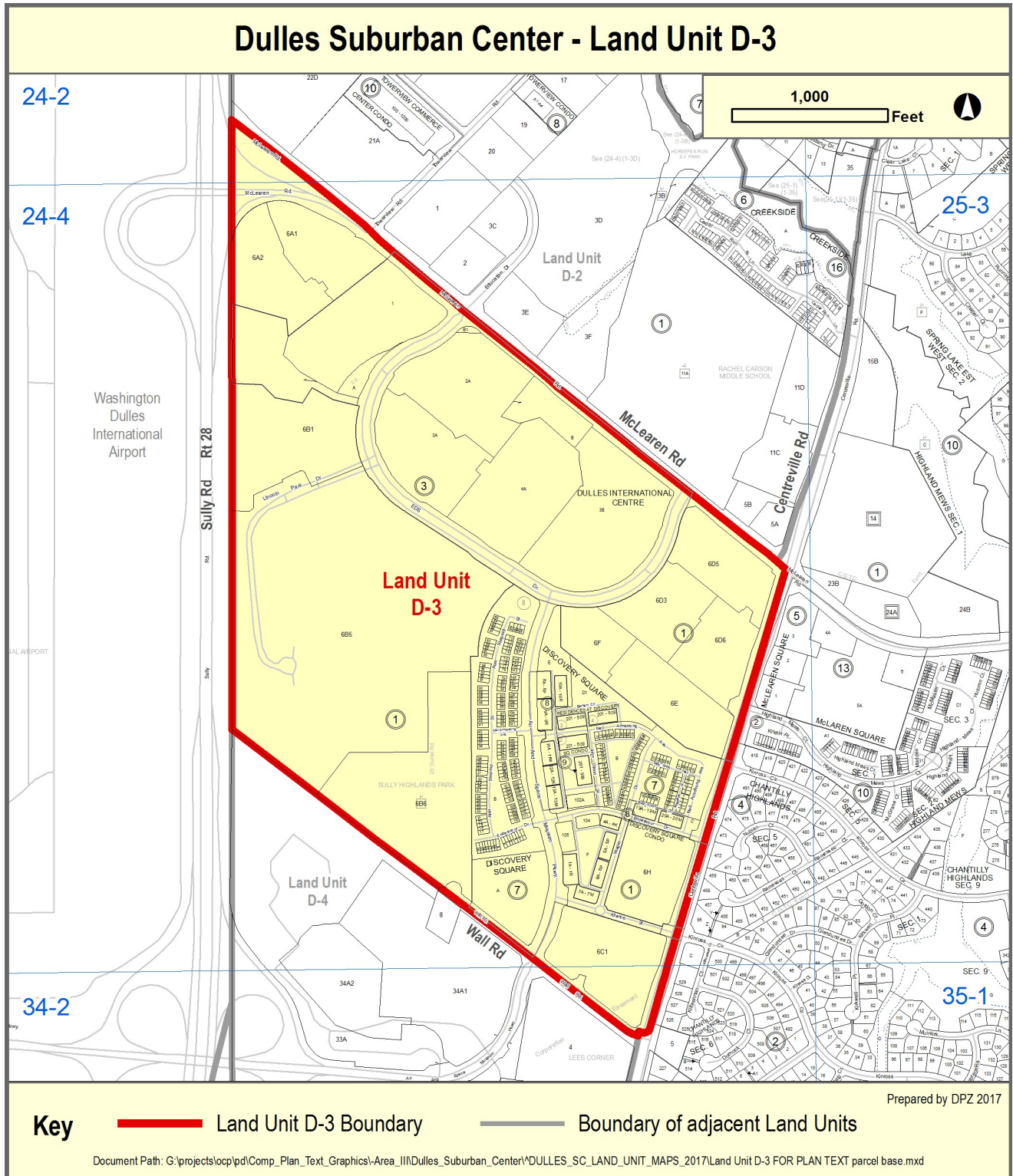
Land Unit D-3 consists of 273 acres and is bounded on the north by McLearen Road, on the west by Route 28, on the east by Centreville Road and on the south by Wall Road (Figure 24). This area is developed with campus-style office development, industrial/flex and institutional uses (a private school) as well as townhouses and multifamily residential uses.

RECOMMENDATIONS

Land Use

1. This land unit is planned and approved for high-quality, campus-style office uses in the range of an intensity of .50 to 1.0 FAR to promote development that is compatible with similar existing and approved development in this area. Consistent with the higher intensity recommended, the area near the intersection of McLearen Road and Route 28 should be considered as a future transit stop, given its central location and potential as a focal point along the Route 28 corridor. The higher intensity planned for Parcel 24-4 ((3))1 and the area within the EDS Drive loop road is contingent upon the provision of transit.
2. As an option, a training facility or hotel/conference center may be appropriate if integrated with existing office uses. These optional uses should be oriented away from Centreville Road.
3. As an option, mixed use up to .70 FAR may be considered within Land Unit D-3 to create a high quality mixed use node where office, retail, recreation and residential uses are provided. In addition to areawide guidance, this option should address the following site-specific conditions:
 - The development application should encompass the approximately 67-acre portion of the land unit south of EDS Drive, east of the EDS corporate complex, and bounded by Wall Road and Centreville Road.
 - The mixed use development should include one of the two following mix of uses (the percentages are approximate):
 - A) - Retail use, 5-10%
 - Office use, 20-30%
 - Residential units, 50-70%
 - B) - Retail/office use, 5-10%
 - Residential units, 90-95% [to include a maximum of up to 150 residential units, inclusive of affordable units and associated bonus densities, on Tax Map Parcel 24-4((1))6B4]

In addition, other uses, such as institutional, may also be appropriate.



LAND UNIT D-3 **FIGURE 24**
LOCATION AND COMPREHENSIVE PLAN MAP DESIGNATION

- If land use mix option B is chosen, no less than five acres of Tax Map Parcel 24-4((1)) 6B4 should be dedicated to the Fairfax County Board of Supervisors for a use such as a community center.
- If land use mix option B is chosen, “in-kind” contributions may be appropriate to mitigate the impacts of development on the school system. Examples of “in-kind” contributions include land dedication; opportunities for shared space in private buildings for activities such as community use, adult education, vocational training, academy programs; or other alternative arrangements that provide Fairfax County Public Schools with additional resources to accommodate its growing student population.
- The trip generation of the mixed use development should meet the *Performance Criteria for Optional Uses* found in the Dulles Suburban Center Overview, and result in significantly fewer peak-hour trips than the office use planned at the baseline.
- Retail use should be integrated with other uses. Restaurants are encouraged to serve both residents and visitors to the area. A grocery store and drug store are also desirable uses.
- Residential use should provide a mix of unit types, including live/work units, for a total of approximately 900-1000 units. Live/work units are defined as the combination of a private residence with a professional office, retail or other nonresidential use.
- An active recreation area with at least five athletic fields and provision of parking on or adjacent to the site or in a shared parking arrangement with adjacent uses. Facilities should be developed according to Fairfax County Park Authority standards in consultation with FCPA staff. This park should be dedicated to the Fairfax County Park Authority.
- A plaza in the village center should provide usable open space for public events and casual recreation use.
- Office use is integrated into the both the village center and elsewhere in the development.
- To ensure needed access and circulation for this development option, a public road connection between Wall Road and EDS Drive should be provided.
- Pedestrian links should provide a safe and pleasant walking environment.
- Parking should be mostly in structured garages. However, surface lots and on-street parking should be used to promote street activity and convenience to retail uses.
- Development along Centreville Road should be set back 50-100 feet, depending on the applicant’s proposed land use, design and height of buildings, and the amount and quality of the landscaping provided.
- There may be a need for an additional high school in the western portion of the county served by Westfield, Chantilly and Centreville High Schools because of existing and projected overcrowding at this level. If a high school site has not been acquired by the time a rezoning application is under review, then the applicant must demonstrate that the school impacts of the residential development can be mitigated by other means that meet the approval of Fairfax County. Mitigation measures may include, but are not limited to:

1. Provision of land for additional facilities, such as vocational training, academy programs and adult learning centers, examples of programs that are currently provided at existing schools which could be relocated to the site that is the subject of the rezoning application;
2. Financial contributions that would facilitate the acceleration and/or construction of new facilities or the expansion of existing facilities;
3. Financial contributions for, or donations of, equipment and other items that increase the utilization or efficiency of existing facilities; and
4. Measures that facilitate the better utilization of existing school facilities from an operational standpoint or other solutions to increase utilization of under-capacity schools.

Trails/Connectivity

Trails planned for this land unit are delineated on the Countywide Trails Plan Map and are an integral part of the overall county system.

LAND UNIT D-4

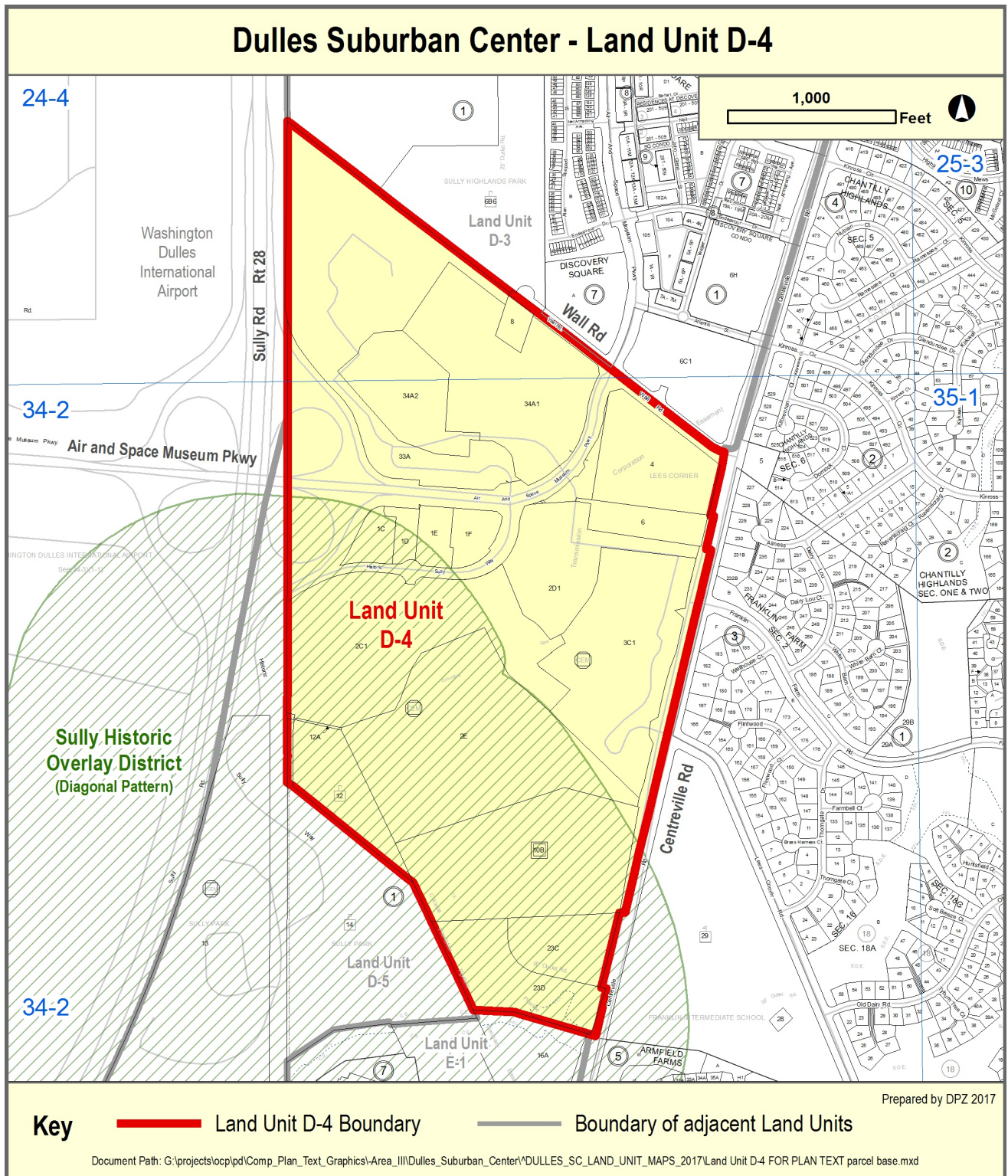
CHARACTER

Land Unit D-4 consists of 210 acres and is bounded on the north by Wall Road, on the west by Route 28 and Dulles Airport, on the southwest and south by the Sully Historic Site Park and Cain Branch on the east by Centreville Road (Figure 25). This land unit is developed with office, institutional uses (church and early education school), retail and self-storage warehouse facilities. The land unit also contains a portion of the Sully Historic Overlay District.

RECOMMENDATIONS

Land Use

1. The southern portion of this land unit lies within the Sully Historic Overlay District. Within this overlay district, certain regulations and restrictions apply to protect the Sully landmark and to control development and uses that would have visual and operational impacts on the Sully complex and its environs. These restrictions and regulations include limitations on commercial and industrial uses. Other regulations apply and are discussed in Land Unit D-5 with the complete provisions listed in Appendix 1, A1-300 of the Zoning Ordinance.
2. As regulated by the Zoning Ordinance provisions for the Sully Historic Overlay District, the portion of this land unit located south and east of the extension of Air and Space Museum Parkway is planned for high-quality, campus-style office and high-quality industrial/flex uses up to .35 FAR as its base Plan recommendation. Retail uses and support services may be appropriate only as secondary or ancillary uses to the office and industrial/flex primary uses. These ancillary service uses should not exceed 20 percent of the primary uses and should be designed to serve the employees and residents of Land Unit D-4. These ancillary and retail uses should not constitute a retail shopping center.



**LAND UNIT D-4
 LOCATION AND COMPREHENSIVE PLAN MAP DESIGNATION**

FIGURE 25

3. The portion of this land unit located north and west of Air and Space Museum Parkway, Parcels 34-2((1))33A, 34A1 and 34A2 and Parcel 24-4((1))8 is planned for office use up to .50 FAR. Hotel and support retail use may also be considered.
4. Development of public or private recreation uses in this land unit are appropriate to serve employees and nearby residents. Such recreational uses would greatly enhance the attractiveness of this area for private industry and nearby residents as well as complement the Sully Historic Site and district.

Transportation

Access to the current use on Parcel 34-2((1))23C within the overlay district is to be reoriented to the interparcel access road when the roadway is built.

Access should be provided from Centreville and Wall Roads to this land unit. Access to Centreville Road should continue to discourage business and commuter traffic from using residential streets of proximate communities located east of Centreville Road.

Heritage Resources

Part of the Sully Historic Overlay District lies within this land unit. The provisions of the Sully Historic Overlay District are found at Appendix A, A1-300 of the Zoning Ordinance. The provisions have been adopted to protect Sully structures and grounds and to control development and uses that would have visual and operational impacts on the Sully complex and its environs. If there appears to be a conflict between Plan text and the provisions of the Sully Historic Overlay District, the overlay district regulations take precedence for the development of land within the historic overlay district.

Any development or ground disturbance in this sector, both on private and public land, should be preceded by heritage resource studies, and alternatives should be explored for the avoidance, preservation or recovery of significant heritage resources that are found. In those areas where significant heritage resources have been recorded, an effort should be made to preserve them. If preservation is not feasible, then, in accordance with countywide objectives and policies as cited in the Heritage Resources section of the Policy Plan, the threatened resource should be thoroughly recorded and in the case of archaeological resources, the artifacts recovered.

Trails/Connectivity

Trails planned for this land unit are delineated on the Countywide Trails Plan Map and are an integral part of the overall county system. Specific land unit recommendations may be found below.

The countywide trail should continue south as an 8 ft. asphalt trail on the east side of Centreville Rd. and a 5 ft. concrete sidewalk on the west side of Centreville Road. It may be desirable to provide a pedestrian trail parallel to the Cain Branch Stream Valley eastward to the Benjamin Franklin Intermediate School to provide controlled access for student groups going to Sully.

LAND UNIT D-5

CHARACTER

Land Unit D-5 consists of approximately 142 acres and is bounded on the west by Route 28, on the northeast by Land Unit D-4, and on the south and southeast by Land Unit E-1 (Figure 26). This land unit contains the Sully Historic Site on land owned by the Fairfax County Park Authority and is located entirely within the Sully Historic Overlay District. The remaining area within this land unit is part of the Dulles Airport property. The Park Authority has a formal agreement with the Metropolitan Washington Airports Authority to conduct archeological exploration on approximately 60 acres of airport property located within this land unit south of the Park Authority property.

RECOMMENDATIONS

Land Use

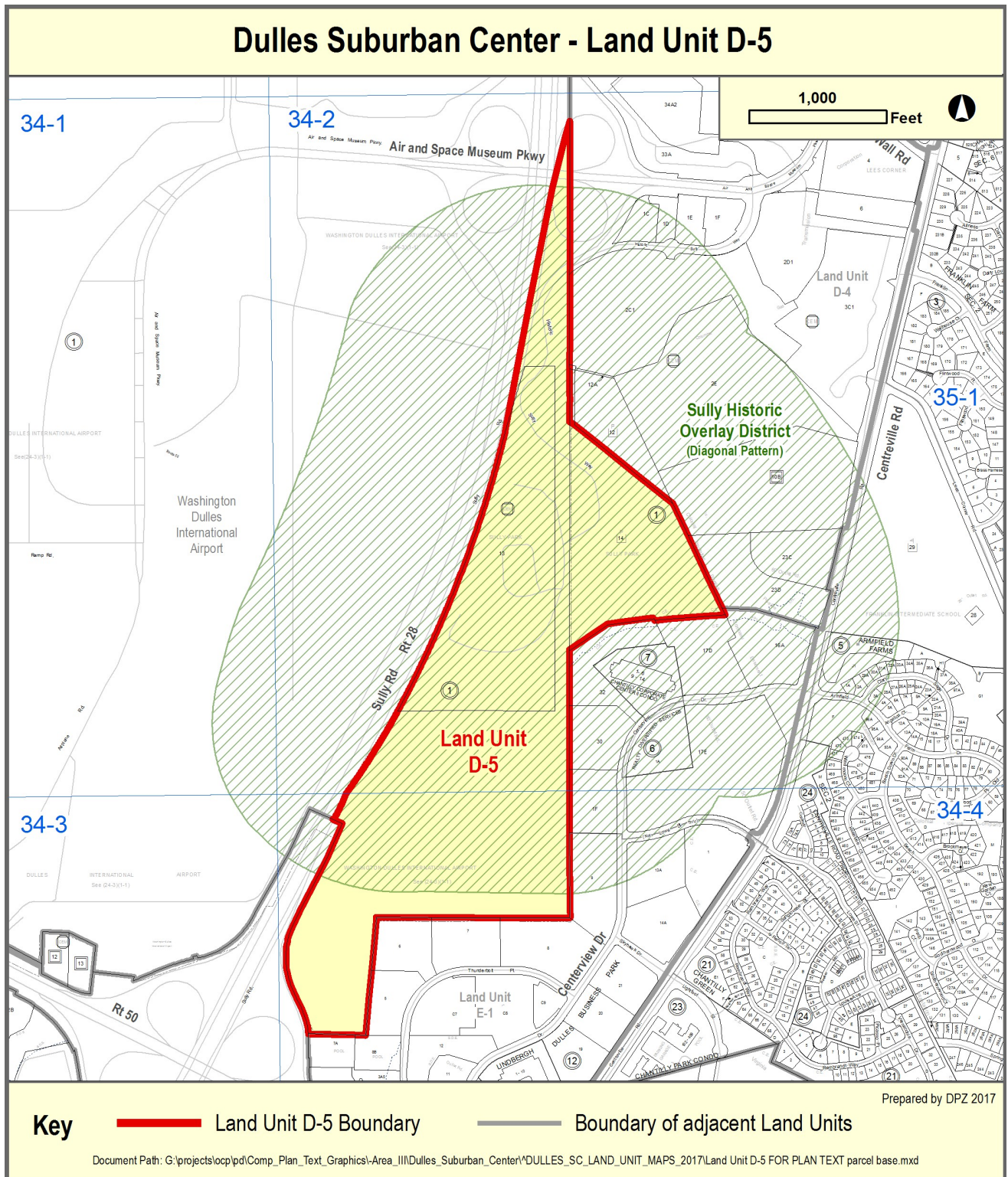
1. This land unit contains the Sully Historic Site and Resource-based Park which is listed in both the National Register of Historic Places and the Virginia Landmarks Register. Parcels 34-2((1))13 and 14 are planned for public park uses as shown on the Comprehensive Plan Map. This property is administered by the Fairfax County Park Authority, which operates it as a public Countywide Resource-based Park. The land adjacent to Cain Branch south of the park is planned for private open space. The remaining land in this land unit is planned for public facilities, governmental and institutional uses and is part of the Dulles Airport property.
2. This land unit is almost entirely located within the Sully Historic Overlay District and is subject to the provisions of the Sully Historic Overlay District. The provisions of the Sully Historic Overlay District are found in Appendix 1, A1-300, Part 3 of the Zoning Ordinance.
3. Land uses which support southern Dulles Airport sector development such as the Udvar-Hazy Center of the Smithsonian National Air and Space Museum and a future Dulles Airport southern terminal should be encouraged.

Transportation

Transit should serve the Sully Historic Site and a transit stop is desirable. Any transit facility in the area should be developed in such a way as to mitigate any negative visual impacts on the Sully Historic Overlay District.

Heritage Resources

Land Unit D-5 and portions of Land Units D-4 and E-1 are located within the Sully Historic Overlay District. The provisions of the Sully Historic Overlay District are found in Appendix 1, A1-300, Part 3 of the Zoning Ordinance. The provisions have been adopted to protect Sully structures and grounds and to control development and uses that would have visual and operational impacts on the Sully complex and its environs. All improvements shall be designed to be compatible with the scale and appearance of Sully. All development proposals must be reviewed by the Architectural Review Board. In addition, the ordinance further provides, if there appears to be a conflict between Plan text and the provisions of the Sully Historic Overlay District, the overlay district regulations take precedence for the development of land within the historic overlay district.



LAND UNIT D-5
LOCATION AND COMPREHENSIVE PLAN MAP DESIGNATION

FIGURE 26

Parks and Recreation

Future development of the Sully Historic Site should include the planned visitor information and conference center. Conveyance to the Fairfax County Park Authority of all federal land currently administered by the Park Authority under agreement with the Metropolitan Washington Airports Authority should be pursued.

Archeological and historical studies to determine the relationship of Sully and Turley Hall should be conducted. If significant Sully-related relationships or artifacts are discovered, seek expansion of Sully Historic Site Park to include appropriate parts of the Turley Hall property.

Trails/Connectivity

Trails planned for this land unit are delineated on the Countywide Trails Plan Map and are an integral part of the overall county system. Specific land unit recommendations may be found below.

As a critical multi-modal connection, non-vehicular access should be provided via the countywide trail planned between Sully and the Udvar-Hazy Center of the Smithsonian National Air and Space Museum across Route 28.

LAND UNIT E-1

CHARACTER

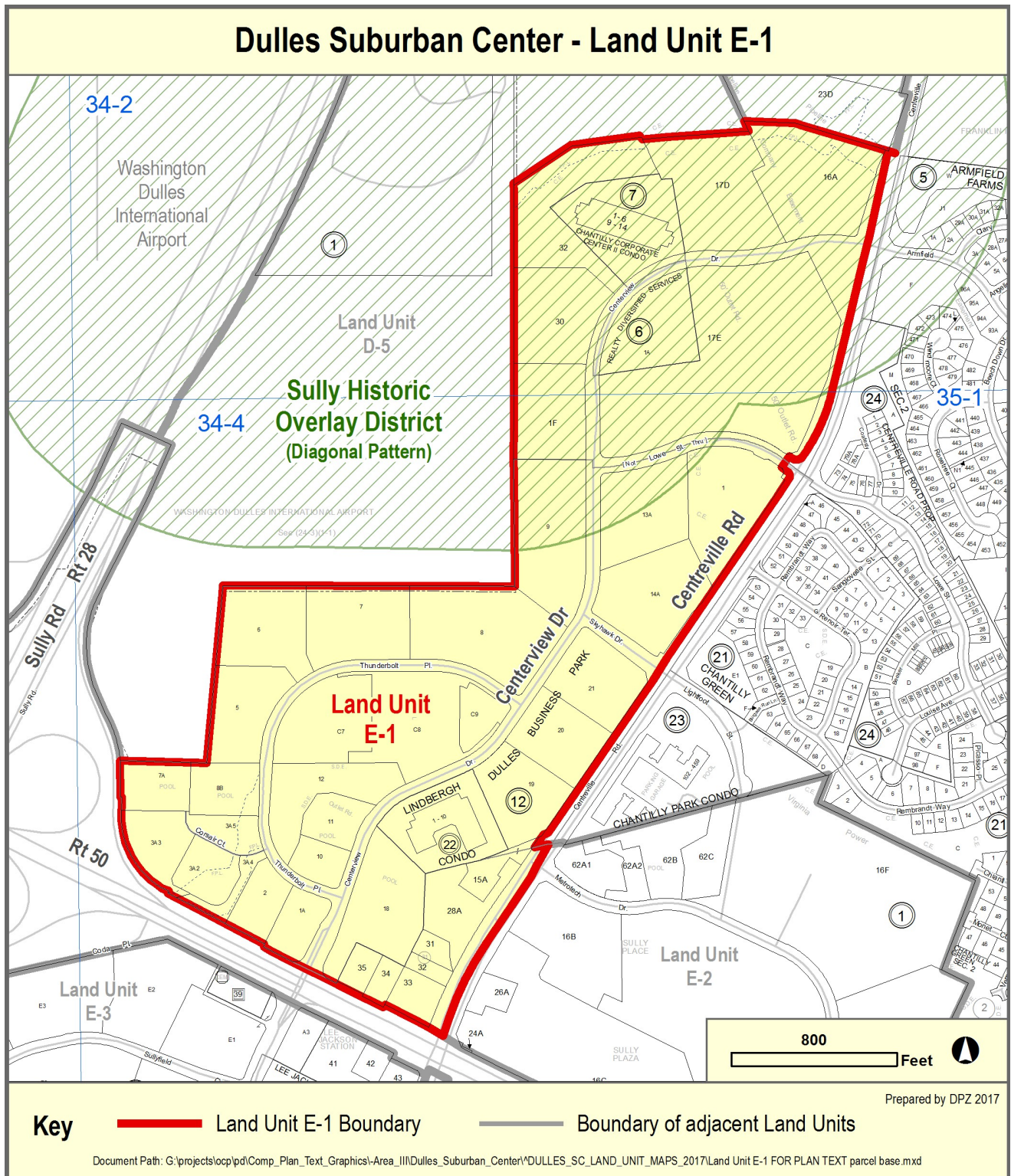
Land Unit E-1 consists of approximately 159 acres and is located in the northwest quadrant of the intersection of Route 50 and Centreville Road. It is bounded on the east by Centreville Road, Sully Historic Site on the north, Dulles Airport property and Route 28 on the west, and Route 50 on the south. The northern portion of the land unit is within the Sully Historic Overlay District (Figure 27).

The northern portion of the land unit is developed with office and industrial/flex uses as well as retail uses located primarily along Route 50. Most of the retail uses adjacent to the intersection of Centreville Road and Route 50 will be impacted when planned interchange improvements are made.

RECOMMENDATIONS

Land Use

1. This land unit, except for parcels 34-4((1))15A, 28A, 29, 31, 32, 33, 34 and 35 is planned for campus-style office, and industrial/flex use up to a maximum FAR of .35 to be compatible with existing development. Ancillary retail use up to 20 percent of the total development may be appropriate within office or industrial/flex buildings. In no event, however, should retail uses be developed as free-standing uses or as a shopping center.
2. Parcels (Tax Map 34-4((1))15A, 28A, 31 and 32), fronting on Centreville Road are planned for low intensity office use, including medical office, up to a maximum FAR of .25 if 1) all the parcels are consolidated, 2) circulation and access are coordinated, and 3) land is dedicated for the planned interchange, as appropriate. As an option, community-serving retail use may be appropriate if the same conditions are met.
3. Parcels in the northwestern quadrant of the intersection of Route 50 and Centreville Road (Tax Map 34-4((1))33, 34 and 35), fronting on Route 50, are planned for and generally developed with low intensity retail uses at an average FAR of .15. Development on parcel 35 should be contingent on consolidation with at least parcel 34 and access should be via Centerview Drive.
4. Several hotels have been developed in this land unit. Hotel use is appropriate as an option to the office and industrial/flex uses under the following conditions:
 - The hotel use does not have direct access to Route 50 or Centreville Road; and
 - The hotel use will result in fewer peak hour trips than the planned office and industrial/flex uses at .35 FAR, in accordance with the “Performance Criteria for Optional Uses” found in the Dulles Suburban Center Overview.
5. Much of the land in the vicinity of the intersection of Route 50 and Centreville Road may be used to accommodate the planned interchange; therefore, any development of this area should dedicate land for the interchange as appropriate.



**LAND UNIT E-1
 LOCATION AND COMPREHENSIVE PLAN MAP DESIGNATION**

FIGURE 27

Transportation

If future studies determine that right-of-way is needed in Land Unit E-1 to facilitate development of an integrated transit system for the Dulles Suburban Center, then the needed right-of-way should be provided through dedication, easements or other mechanisms, as appropriate.

Heritage Resources

Part of the Sully Historic Overlay District lies within this land unit. The provisions of the Sully Historic Overlay District are found at Appendix A, A1-300 of the Zoning Ordinance. The provisions have been adopted to protect Sully structures and grounds and to control development and uses that would have visual and operational impacts on the Sully complex and its environs. All improvements shall be designed to be compatible with the scale and appearance of Sully. All development proposals must be reviewed by the Architectural Review Board. (Part 7-200 of the Zoning Ordinance). If there appears to be a conflict between Plan text and the provisions of the Sully Historic Overlay District, the overlay district regulations should be used for development of land within the historic overlay district.

Any development or ground disturbance in this sector, both on private and public land, should be preceded by heritage resource studies, and alternatives should be explored for the avoidance, preservation or recovery of significant heritage resources that are found. In those areas where significant heritage resources have been recorded, an effort should be made to preserve them. If preservation is not feasible, then, in accordance with countywide objectives and policies as cited in the Heritage Resources section of the Policy Plan, the threatened resource should be thoroughly recorded and in the case of archaeological resources, the artifacts recovered.

Trails/Connectivity

Trails planned for this land unit are delineated on the Countywide Trails Plan Map and are an integral part of the overall county system. Specific land unit recommendations may be found below.

The countywide trail should be developed along the west side of Centreville Road and along the north side of Route 50. Connections should be provided across Route 28 to enhance the continuity of non-vehicular circulation across Route 28 and along Route 50.

As a critical component of the trails system, non-vehicular access should be provided via the countywide trail across Route 50 to Sully and the Udvar-Hazy Center of the Smithsonian National Air and Space Museum.

LAND UNIT E-2

CHARACTER

Land Unit E-2 consists of approximately 88 acres and is located in the northeast quadrant of the intersection of Centreville Road and Route 50. It is developed with retail use and includes the Sully Plaza and Sully Place Shopping Centers (Figure 28).

RECOMMENDATIONS

Land Use

1. This land unit is planned for retail use with ancillary office use not to exceed 20 percent up to a maximum intensity of .25 FAR. This will provide a transition in intensity to the residential areas located to the north and east.

As an option, this land unit is planned for a mix of uses to include residential, retail, hotel and office uses up to an intensity of .50 FAR. However, additional drive through uses are not appropriate. In addition, the following conditions should be met to implement this option:

- a. Full parcel consolidation of the properties within Land Unit E-2; or at a minimum, demonstration that coordinated development could result in an integrated site design for the entire land unit;
- b. Residential use is in the range of 40 to 50 percent of Land Unit development, includes a variety of housing types, and is generally located along the area north and east of Metrotech Drive;
- c. Office use does not exceed 10 percent of the total development;
- d. The development area is large enough to provide a pedestrian oriented environment with a network of well-connected public spaces. These include plazas and open spaces that function as public places for people to gather and linger and help to integrate residential uses with the existing retail uses;
- e. Appropriate and compatible transitions to the surrounding residential neighborhoods as well as between retail uses and new residential development;
- f. Pedestrian connections to surrounding areas and to the existing pedestrian network;
- g. An internal grid of streets;
- h. Drive aisles and curb cuts are consolidated to improve the pedestrian environment and vehicular circulation; and
- i. Additional drive through uses are not appropriate.

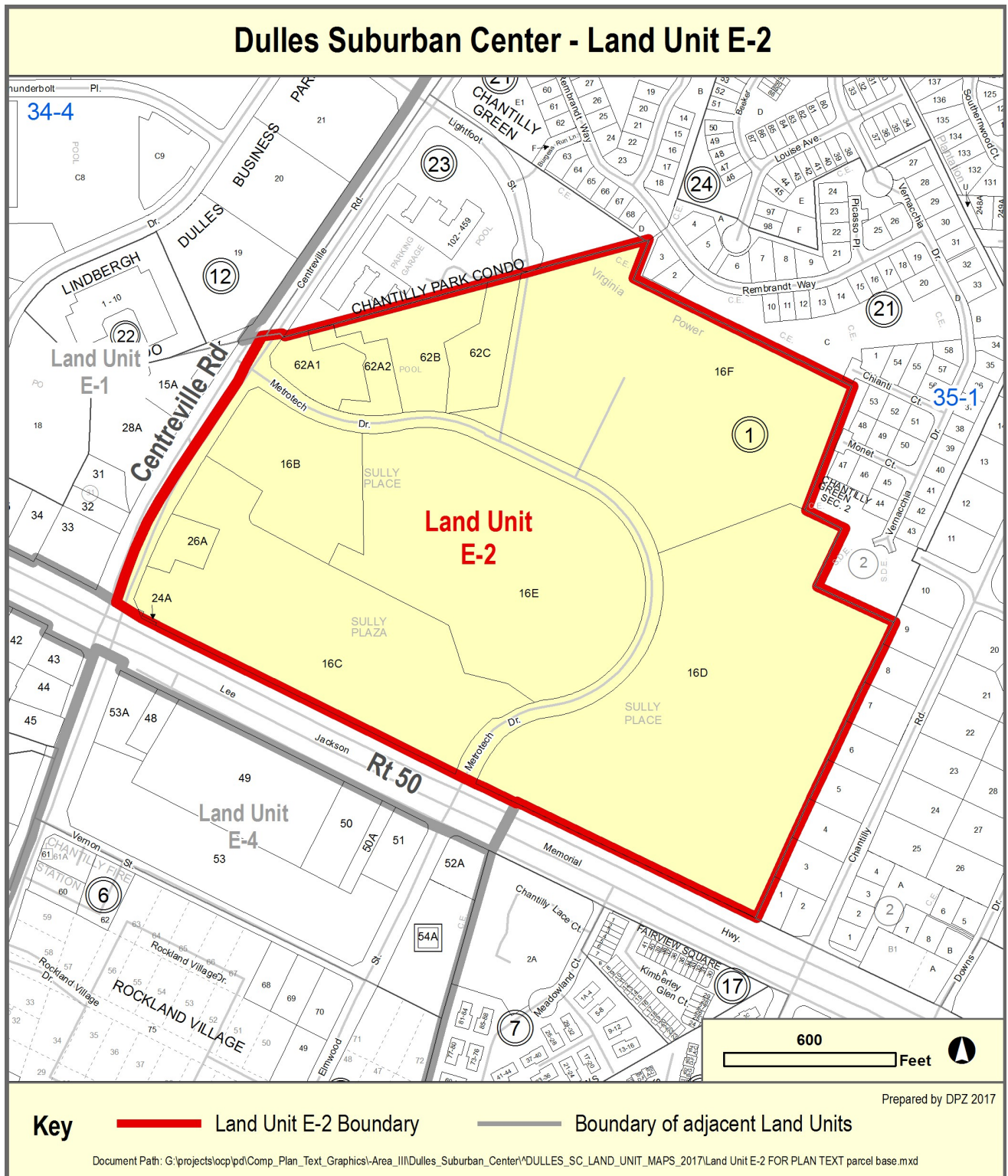
2. Free-standing, auto-oriented retail, commercial and financial uses should be discouraged because of the potentially adverse visual impacts and because traffic related to free-standing uses can interfere with efficient auto and pedestrian circulation in the land unit as well as traffic movement on the two major highways.
3. Development in this land unit should be designed to facilitate on and off-site pedestrian access and circulation and enhance the pedestrian environment thereby reducing dependence on the automobile.
4. Much of the land in the vicinity of the intersection of Centreville Road and Route 50 may be used to accommodate the planned interchange; therefore, any development of this area should dedicate land for the interchange as appropriate.
5. Development in this land unit should incorporate substantial landscaped open space to screen and buffer retail use from adjacent residential use to the north and east and to provide a visual amenity.

Environment

Wetlands in this land unit should be preserved as open space.

Transportation

1. Land that will be needed for the future interchange at the intersection of Centreville Road and Route 50 should be dedicated.
2. Direct access, that is, the exit and entrance to the Sully Place Shopping Center, should be improved on Route 50 and Centreville Road.



LAND UNIT E-2 **FIGURE 28**
LOCATION AND COMPREHENSIVE PLAN MAP DESIGNATION

Greenways/Trails

Trails planned for this land unit are delineated on the Countywide Trails Plan Map and are an integral part of the overall county system. Specific land unit recommendations may be found below.

The countywide trail should be developed on the west side of Centreville Road and north side of Route 50.

Connections should be provided across Route 28 to enhance the continuity of non-vehicular circulation across Route 28 and along Route 50.

LAND UNIT E-3

CHARACTER

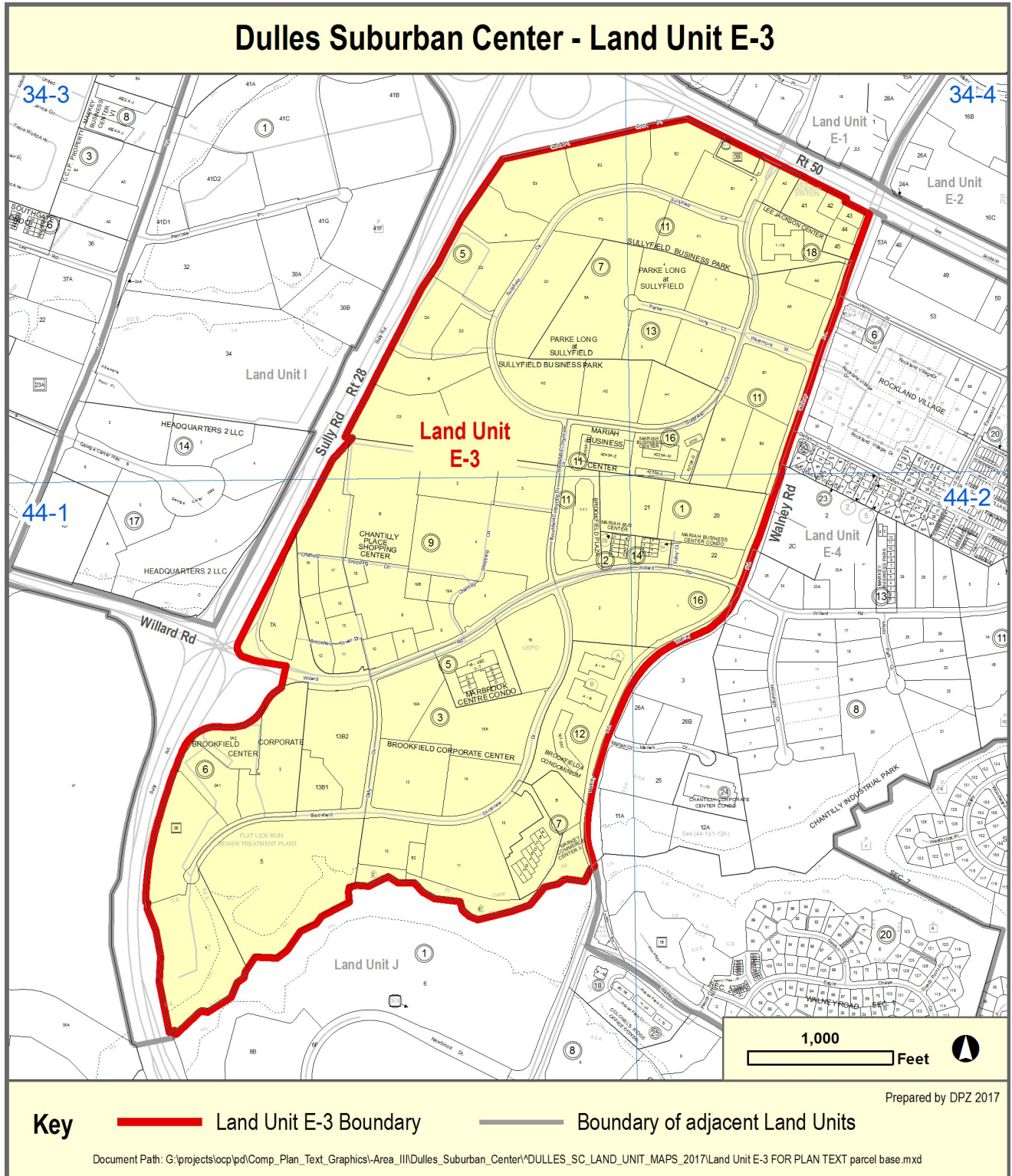
Land Unit E-3 consists of approximately 361 acres in the southeast quadrant of the intersection of Route 28 and Route 50. Flatlick Branch of Cub Run forms the southern boundary and Walney Road forms the eastern boundary (Figure 29).

The land unit is developed with retail, industrial, industrial/flex, hotel, and office uses as well as an exhibition center located east of Route 28 and north of Willard Road. The industrial and industrial/flex uses are primarily located in the northern portion of the land unit, which includes the Sullyfield Business Park. Office uses are located in the southern portion of the land unit south of Willard Road and includes the Brookfield Corporate Center. Retail uses are located at the northeast quadrant of the intersection of Route 28 and Willard Road and at the intersection of Route 50 and Walney Road. The Chantilly Post Office and a Fairfax County Park Authority maintenance facility are also located in this land unit.

RECOMMENDATIONS

Land Use

1. Except for Parcels 44-1 ((9))1-6,8-18,B, and Parcels 34-4((1))41-45, the area north of Willard Road is primarily developed as the Sullyfield Business Park. Sullyfield is planned and developed as a mix of office, retail, hotel and industrial uses at an intensity up to .35 FAR.
 - A mixed use center including office, retail, exhibition center and hotel uses, is planned for the northeast quadrant of the intersection of Route 28 and Willard Road (Parcels 44-1((9)) 1-6,8-18, B). Recognizing the synergy of the unique mix of uses approved for these parcels, an increase up to a maximum FAR of .70 could be appropriate for said parcels provided: 1) traffic impacts on the surrounding road network, must be evaluated for any increase of development intensity above .35 FAR; addressed in conjunction with the any rezoning, proffer condition amendment and/or special exception application(s) seeking such an increase; 2) the redevelopment should contain a mix of office, retail, and hotel; and the exhibition center of no more than 310,000 square feet; 3) the site should redevelop in a manner that provides a grid of streets that promotes safe and improved on-site vehicular and pedestrian circulation and a coordinated, high quality, urban style of architecture; 4) plans for redevelopment should include additional safe and convenient site access from abutting streets that is appropriate to the type and intensity of the ultimate uses and pattern of development. As an alternative to the requirement to provide additional access point(s) referenced above, reconfiguration of existing access points, with the demonstration that such reconfiguration will adequately mitigate the proposed additional traffic, may be permitted; and 5) a portion of the site should be designed to incorporate access to the site for enhanced public transportation, which is anticipated to be provided in the corridor.



LAND UNIT E-3 **FIGURE 29**
LOCATION AND COMPREHENSIVE PLAN MAP DESIGNATION

- Parcels in the southwestern quadrant of Route 50 and Centreville Road (Parcel 34-4((1))41, 42, 43, 44 and 45) are planned for retail use up to a maximum FAR of .25 if 1) all the parcels are consolidated, 2) circulation and access are coordinated, and 3) land is dedicated for the planned interchange, as appropriate.
2. The area south of Willard Road contains the majority of the Brookfield Corporate Center and is planned for campus-style office and industrial/flex development up to a maximum of .35 FAR to be compatible with existing uses and intensities. Ancillary retail use up to 20 percent of the total development, to serve employees, may also be appropriate and should be incorporated within the first floor of the office and industrial/flex buildings.

Transportation

If future studies determine that right-of-way is needed in Land Unit E-3 to facilitate development of an integrated future transit system for the Dulles Suburban Center area, then the needed right-of-way should be provided through dedication, easements or other mechanisms, as appropriate.

Trails/Connectivity

Trails planned for this land unit are delineated on the Countywide Trails Plan Map and are an integral part of the overall county system. Specific land unit recommendations may be found below.

The Flatlick Branch Environmental Quality Corridor (EQC) is a major east-west trail connector, providing access between the Cub Run Stream Valley Parks, eastern land units, and, by extension, the Fairfax Center area. Dedication of land or open space easements to the Fairfax County Park Authority and construction of the remaining sections of the stream valley trail is recommended as a condition of development or redevelopment of adjacent parcels.

The countywide trail should be developed along the Route 50 frontage. Connections shall be provided across Route 28 to enhance the continuity of non-vehicular circulation across Route 28 and along Route 50.

A multimodal connection, for non-vehicular access should be provided via the countywide trail across Route 50 to Sully and The Udvar-Hazy Center of the Smithsonian National Air and Space Museum.

LAND UNIT E-4

CHARACTER

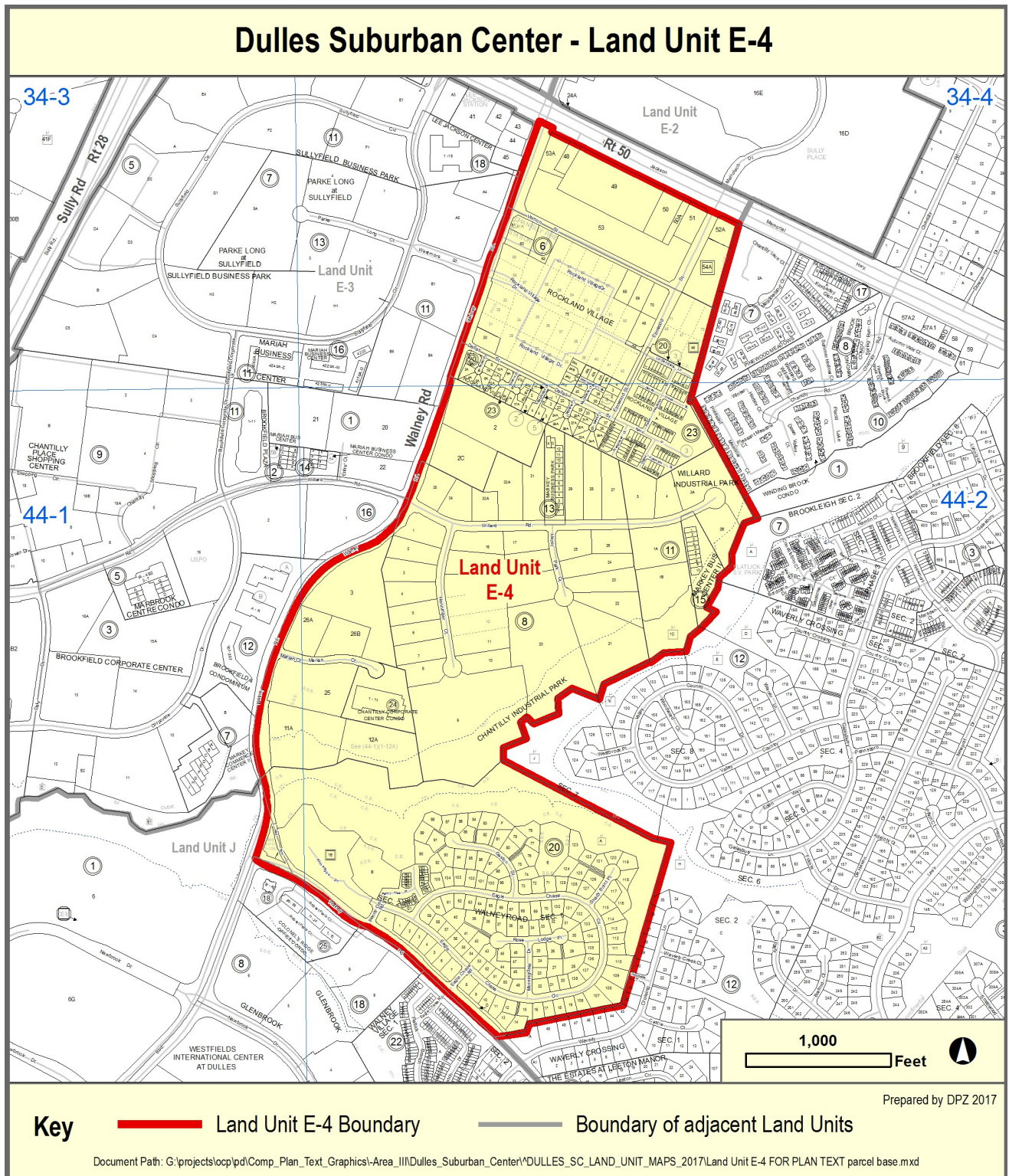
Land Unit E-4 consists of approximately 274 acres and is located south of Route 50 with Walney Road as its western boundary. The Chantilly Mews, Pinewood Meadows and Winding Brook subdivisions form part of the eastern boundary. Flatlick Run and Waverly Crossing single-family detached residential subdivisions form the eastern and southern boundaries (Figure 30).

The land unit is developed with a mix of uses including industrial and industrial/flex, retail, office, residential and public facility uses. Retail uses are located along Route 50 and include an auto dealership. Industrial and office uses are concentrated along Willard Road north of Flatlick Branch. The remainder of the land unit is developed with residential uses with the exception of a few public facilities, including a rehabilitation facility, a fire and rescue facility and a Fairfax County Water Authority facility.

RECOMMENDATIONS

Land Use

1. Parcels in the southeastern quadrant of the intersection of Route 50 and Centreville Road (Tax Map 34-4((1))48 and 53A), are developed with low intensity retail uses at an average intensity of .15 FAR. Redevelopment for retail use up to a maximum of .25 FAR may be appropriate if these parcels are consolidated into a single development, access is coordinated and land is dedicated for the planned interchange.
2. Community-serving retail use is planned for most of the land fronting on Route 50 between Walney Road and Elmwood Street (Parcels 34-4((1)) 49, 50, 50A, 51) at a maximum overall intensity of .25 FAR. Tax Map 34-4((1))52A is planned for retail use and developed as a bank. The parcel is planned to retain its existing intensity of .08 FAR. Landscaping should be provided on all perimeters of the site to enhance the visual attractiveness of development.
3. Tax Map Parcel 34-4((1))53 is planned for retail use up to a maximum intensity of .20 FAR. Building height should not exceed 35 feet. In addition, effective screening should be provided on Parcel 53 along Vernon Street to provide an appropriate transition to the residential neighborhood to the south.
4. As an option, the auto dealerships located on Parcels 34-4((1)) 49, 50, 50A, 51, and 53 may be appropriate for expansion up to a maximum overall intensity of .30 FAR, provided the following conditions are met:
 - a. Massing and architectural treatments for buildings and parking structures should be designed to minimize visual impacts on the adjacent residential uses to the south. The design of parking structures should be integrated with that of the buildings they serve. Landscaping should be provided around the parking structures and/or adjacent to them to soften their appearance.



LAND UNIT E-4 **FIGURE 30**
LOCATION AND COMPREHENSIVE PLAN MAP DESIGNATION

- b. Lighting should be designed to avoid adverse impacts on the residential uses to the south.
 - c. Effective screening and buffering to the adjacent residential uses should be provided at a minimum to meet Zoning Ordinance requirements, including supplemental landscaping to allow for an appropriate transition.
 - d. Any redevelopment of the site should enhance pedestrian and bicycle connectivity.
5. Additional retail or auto-oriented uses are not planned for and are not appropriate along Route 50 or Walney Road in this land unit, except as described above in recommendations #1, #2, #3, and #4.
 6. Existing institutional and governmental uses include two churches and a fire station (Tax Map Parcels 34-4((6))46, 60-62 and 49, 68-70 and A2) that are a part of the community. If redeveloped, residential use up to 16-20 du/ac should occur if the following conditions are met:
 - Substantial consolidation should occur in a manner that will provide for the development of any unconsolidated parcels in conformance with the planned use and intensity;
 - Infill development is compatible with adjacent residential uses;
 - Substantial buffers are provided to screen and protect adjacent residential areas against noise and lighting impacts;
 - Building heights do not exceed 35 feet adjacent to existing residential development on the eastern perimeter; and
 - Efficient access and coordinated circulation is provided.
 7. The area generally extending south of Vernon Street to the south of Dallas Street, east of Walney Road, is planned for and developed with residential use. This area is not within the Route 28 Tax District and residential development will not affect the viability of the Tax District. Residential use may be appropriate at a density of 16-20 dwelling units per acre, if the following conditions are met:
 - Infill development is compatible with adjacent residential uses;
 - Development is designed in such a way that adverse impacts from adjacent nonresidential uses are ameliorated, incorporating such techniques as screening;
 - Building heights do not exceed 35 feet adjacent to existing residential development on the eastern perimeter;
 - Residential development is consistent with the county's adopted policies regarding residential development in areas impacted by noise from Dulles Airport; and
 - Access and circulation should be coordinated, particularly to prevent cut-through traffic between Walney Road and Route 50.

8. Land between the former Rockland Village subdivision and Flatlick Branch is planned for and largely developed with light industrial and industrial/flex use up to a maximum intensity of .35 FAR to be compatible with existing development. Ancillary retail uses up to 20 percent to serve employees may be appropriate if they are integrated into buildings with other primary uses.
9. The land south of Flatlick Branch is planned for residential use at 2-3 dwelling units per acre and is developed with single family neighborhoods and a mosque.

Transportation

Access for Route 50 frontage development should be only via Elmwood Street.

Trails/Connectivity

Trails planned for this land unit are delineated on the Countywide Trails Plan Map and are an integral part of the overall county system. Specific land unit recommendations may be found below.

The Flatlick Branch Environmental Quality Corridor (EQC) is a major east-west trail connector, providing access between the Cub Run Stream Valley Parks, eastern land units, and, by extension, the Fairfax Center Area. Dedication of land or open space easements to the Fairfax County Park Authority and construction of the remaining sections of the stream valley trail are recommended as a condition of development or redevelopment of adjacent parcels.

The countywide trail should be developed along the Route 50 frontage. Recognizing that providing continuous trails adjacent to the existing Route 50 right-of-way may not always be possible because of present interchange design, every effort should be made to provide other connections to enhance the continuity of the non-vehicular circulation along the corridor.

LAND UNIT F-1

CHARACTER

Land Unit F-1 is bounded on the north by Washington Dulles International Airport, on the east by Stonecroft Boulevard, on the south by Route 50 and on the west by the Loudoun County line (Figure 31). The land unit consists of approximately 292 acres that are developed primarily with industrial uses with some retail uses along Route 50. A large portion of the land unit is in the Cub Run floodplain and associated Environmental Quality Corridor (EQC).

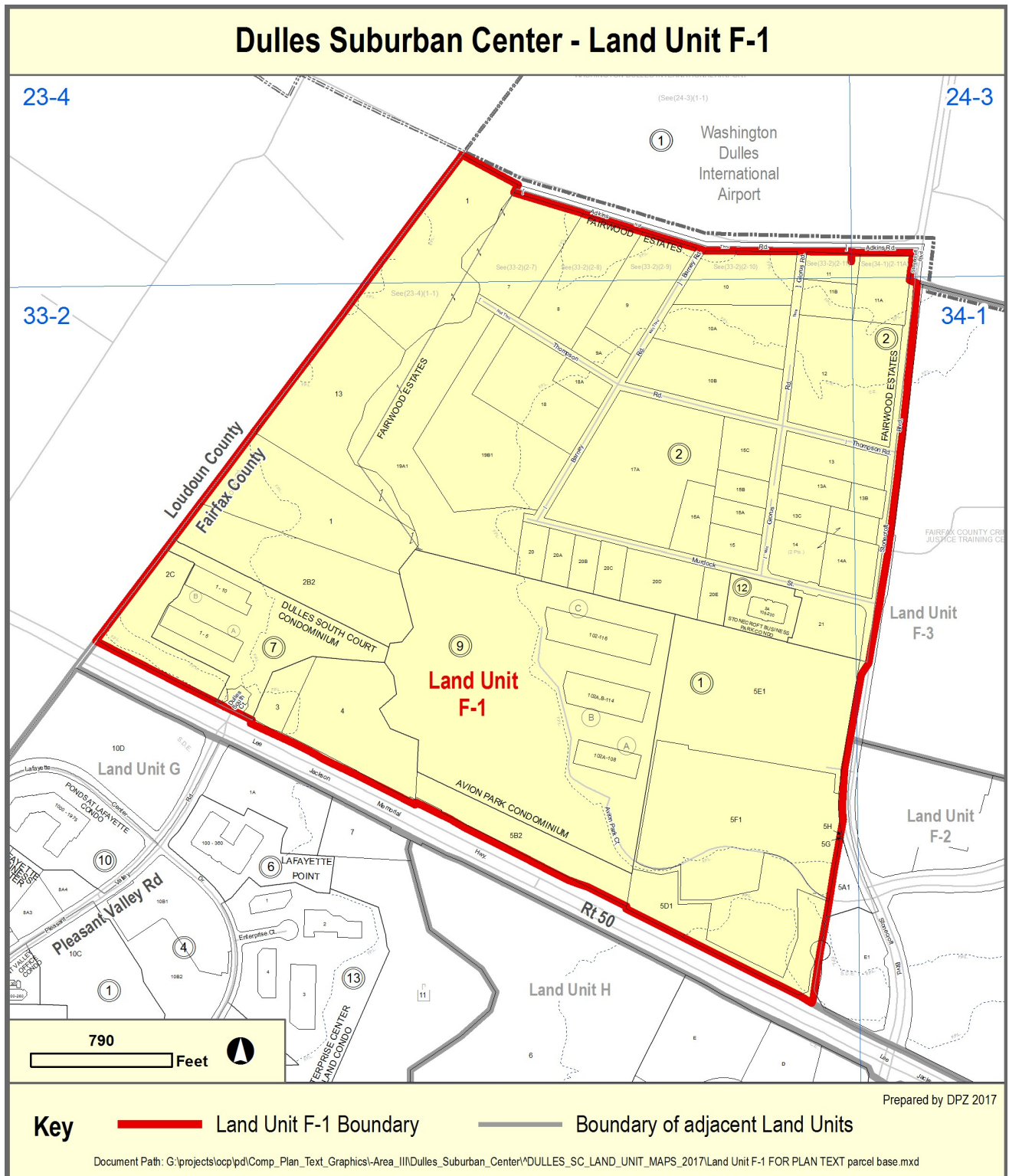
RECOMMENDATIONS

Land Use

1. Land Unit F-1 is planned for office and industrial/flex uses along Route 50 and industrial uses on the northern portion adjacent to the Dulles Airport, with the exception of the Cub Run EQC which is planned for public park use as shown on the Plan Map.
 - a. The southern portion (along Route 50) is planned for high-quality campus-style office and industrial/flex use up to a maximum intensity of .35 FAR, consistent with the type and character of development established in adjoining land units. Substantial setbacks, landscaping and screening should be provided along Route 50 and along Stonecroft Boulevard for an attractive appearance. Substantial consolidation of small parcels is recommended and should be carried out in a manner that ensures that unconsolidated parcels have adequate access and can be developed in accord with the Comprehensive Plan. Architecture should also function as an element of design integration and architectural sketches should be made available for the public review process.
 - b. The northern portion, which is east of the EQC and includes properties fronting Murdock Street and areas to the north, are planned for industrial uses at an intensity up to .35 FAR. Outdoor storage should be screened from public view. Development applications for new and expansion of existing uses should perform an environmental assessment to mitigate any prior industrial contamination.
2. As optional uses, a hotel and/or conference facilities, restaurants, or cultural facilities may be appropriate. Given the extensive EQC in this land unit, public and/or private recreational uses, and public facilities should be considered if developed in an environmentally sensitive manner.

Transportation

1. A commuter parking lot served by transit may be appropriate for this area.
2. If future studies determine that right-of-way is needed in Land Unit F-1 to facilitate development of a future transit system for the Dulles Suburban Center area, then the needed right-of-way should be provided through dedication, easements or other mechanisms, as appropriate.



LAND UNIT F-1
LOCATION AND COMPREHENSIVE PLAN MAP DESIGNATION **FIGURE 31**

Trails/Connectivity

Trails planned for this land unit are delineated on the Countywide Trails Plan Map and are an integral part of the overall county system. Specific land unit recommendations may be found below.

Stream Valley Recreational Trails: A trail connection should be provided to link the Cub Run Stream Valley Trail with the Sand Branch Greenway in Loudoun County.

Countywide Trail: Develop the countywide trail along Stonecroft Boulevard south from Dulles Airport and west along the north side of Route 50. If a commuter park and ride lot and/or transit service is located in the land unit, adequate support facilities for bicyclists and pedestrians should be provided.

LAND UNIT F-2

CHARACTER

Land Unit F-2 is bordered on the north by Land Unit F-3 which is planned and developed with a county public safety facility. To the east is Dulles Airport, including the Smithsonian Air and Space Museum. Land Unit F-2 is bounded on the south by Route 50 and on the west by Stonecroft Boulevard. This land unit contains approximately 193 acres (Figure 32).

Existing development consists of one- to three-story buildings in a well-landscaped office park that preserves large amounts of existing vegetation and enhances the site with water features. Both low-rise office and industrial/flex uses are present. A clearly defined identity exists, due to a unified design for architecture, landscaping, signage, lighting, pathways and bridges. A small church and its cemetery are located near the Route 28/Route 50 interchange.

Dulles Airport is the location of the Udvar-Hazy Center of the Smithsonian National Air and Space Museum, immediately east of Land Unit F-2. The approved 2016 Washington Dulles International Airport Layout Plan identifies a specific site for a future southern terminal. There will be two public access options available in combination with a future dedicated terminal access road: 1) from the north using the Dulles Airport Access Road; and 2) from the east using Air and Space Museum Parkway. Alternatively, if this area is developed for purposes other than a terminal, the same two public access road routes will be used.

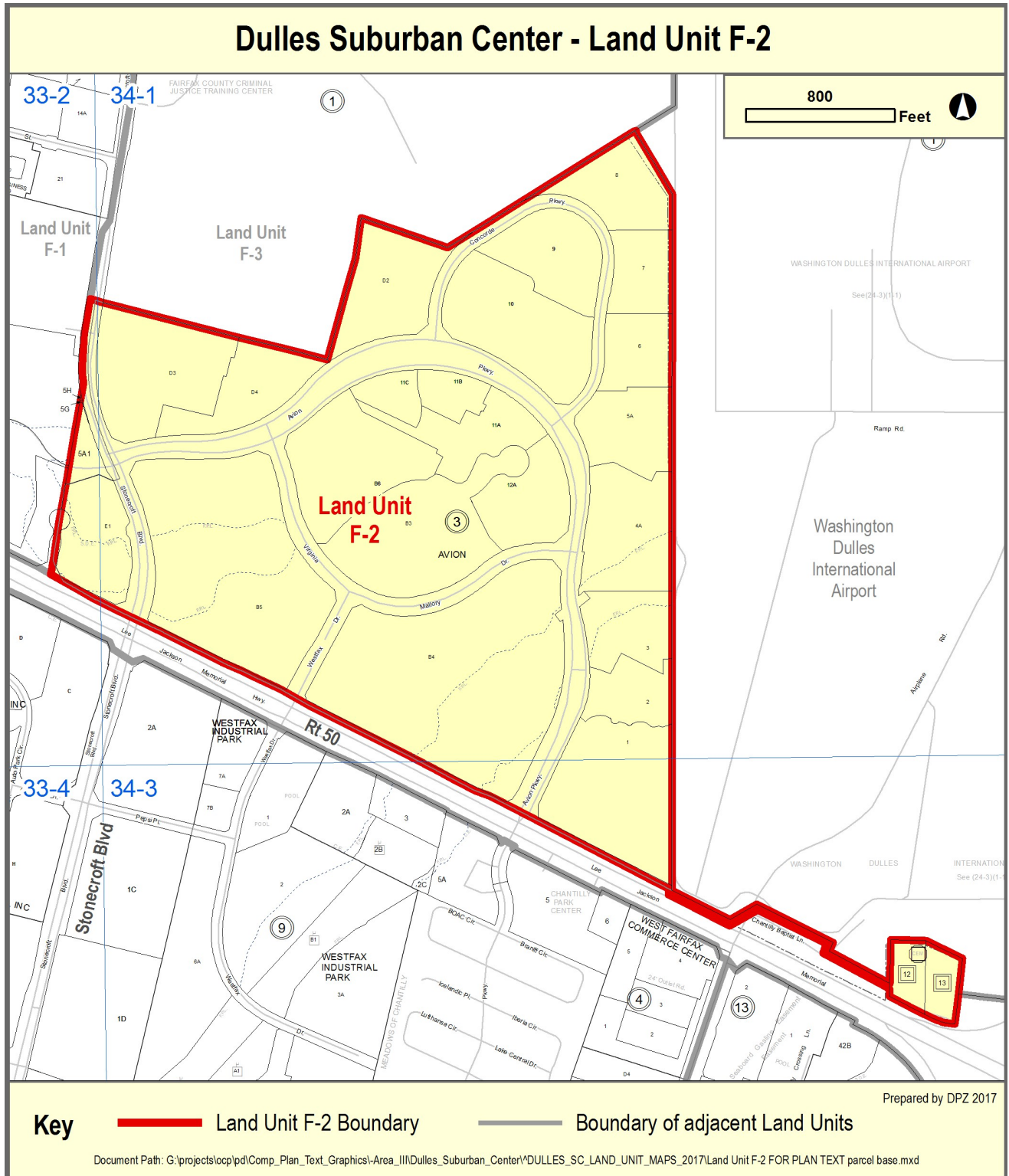
RECOMMENDATIONS

Land Use

1. This land unit is planned for office and industrial/flex uses up to a maximum .50 FAR, continuing the existing character and type of uses. Support retail uses, not to exceed 20 percent of total development, may be appropriate. Hotel, restaurants, and/or cultural uses should be considered as optional uses. Any new development should maintain and enhance the high-quality design of the existing development.
2. Conventional strip or freestanding commercial development is not planned and is not appropriate along Route 50 and Stonecroft Boulevard, except as specifically noted above in Land Use Recommendation #1.

Transportation

If future studies determine that right-of-way is needed in Land Unit F-2 to facilitate development of an integrated transit system for the Dulles Suburban Center, then the needed right-of-way should be provided through dedication, easements or other mechanisms, as appropriate.



LAND UNIT F-2
LOCATION AND COMPREHENSIVE PLAN MAP DESIGNATION **FIGURE 32**

Trails/Connectivity

Trails planned for this land unit are delineated on the Countywide Trails Plan Map and are an integral part of the overall county system. Specific land unit recommendations may be found below.

The countywide trail should be continued west along the north side of Route 50. Connections should be provided across Route 28 to enhance the continuity of non-vehicular circulation across Route 28 and along Route 50. Trail connections to the Udvar-Hazy Center of the Smithsonian National Air and Space Museum and to the stream valley parks south of Route 50 should be via Stonecroft Boulevard.

LAND UNIT F-3

CHARACTER

This land unit contains approximately 130 acres, is owned by Fairfax County and is developed with the Fairfax County Police Driver Training Facility (Figure 33).

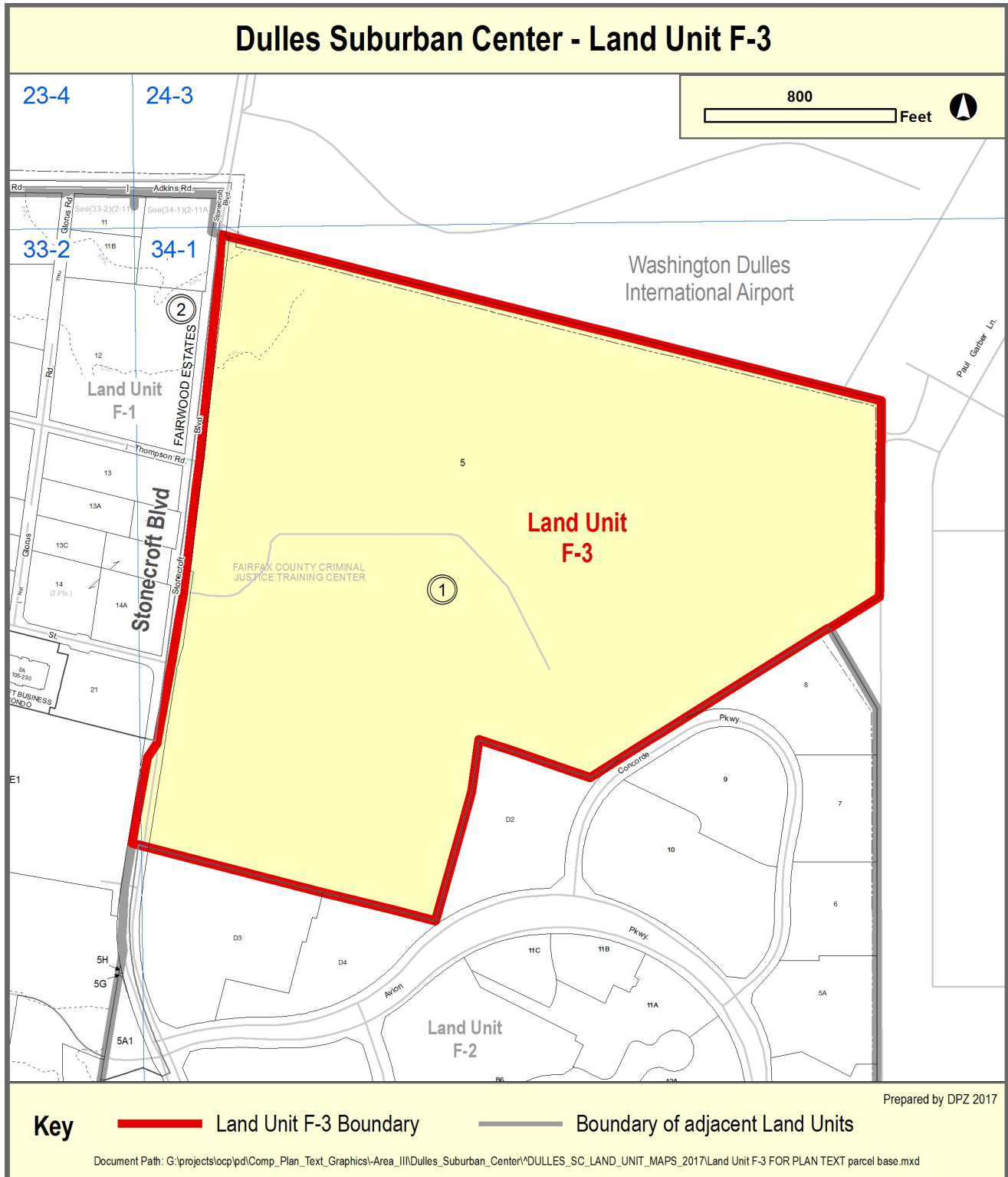
RECOMMENDATIONS

Land Use

1. This land unit is planned for public facility use, and is developed with a police training academy.

Transportation

If future studies determine that right-of-way is needed in Land Unit F-3 to facilitate development of an integrated transit system for the Dulles Suburban Center area, the needed right-of-way should be provided through dedication, easements or other mechanisms, as appropriate.



LAND UNIT F-3
LOCATION AND COMPREHENSIVE PLAN MAP DESIGNATION

FIGURE 33

LAND UNIT G

CHARACTER

This land unit is bounded on the west by Loudoun County, on the north by Route 50, on the east by Cub Run and on the south by the Pleasant Valley subdivision (Figure 34). The entire 166-acre land unit is developed as a business park and includes industrial/flex and low-rise office uses. Coordinated urban design elements such as ornamental fencing and landscaping, signage, and lighting unify the appearance of the business park.

Pleasant Valley Road bisects the land unit, connecting the residential areas to the south with Route 50. South of the land unit, Pleasant Valley Road is a two-lane road with a four lane section within the business park. Adjacent residential areas are separated from the business park by the Cub Run Stream Valley Park.

This land unit contains prehistoric sites as old as 11,500 years, as well as historic period sites and structures. The John Hutchison House is listed in the Inventory of Historic Sites and has been preserved and integrated into the business park.

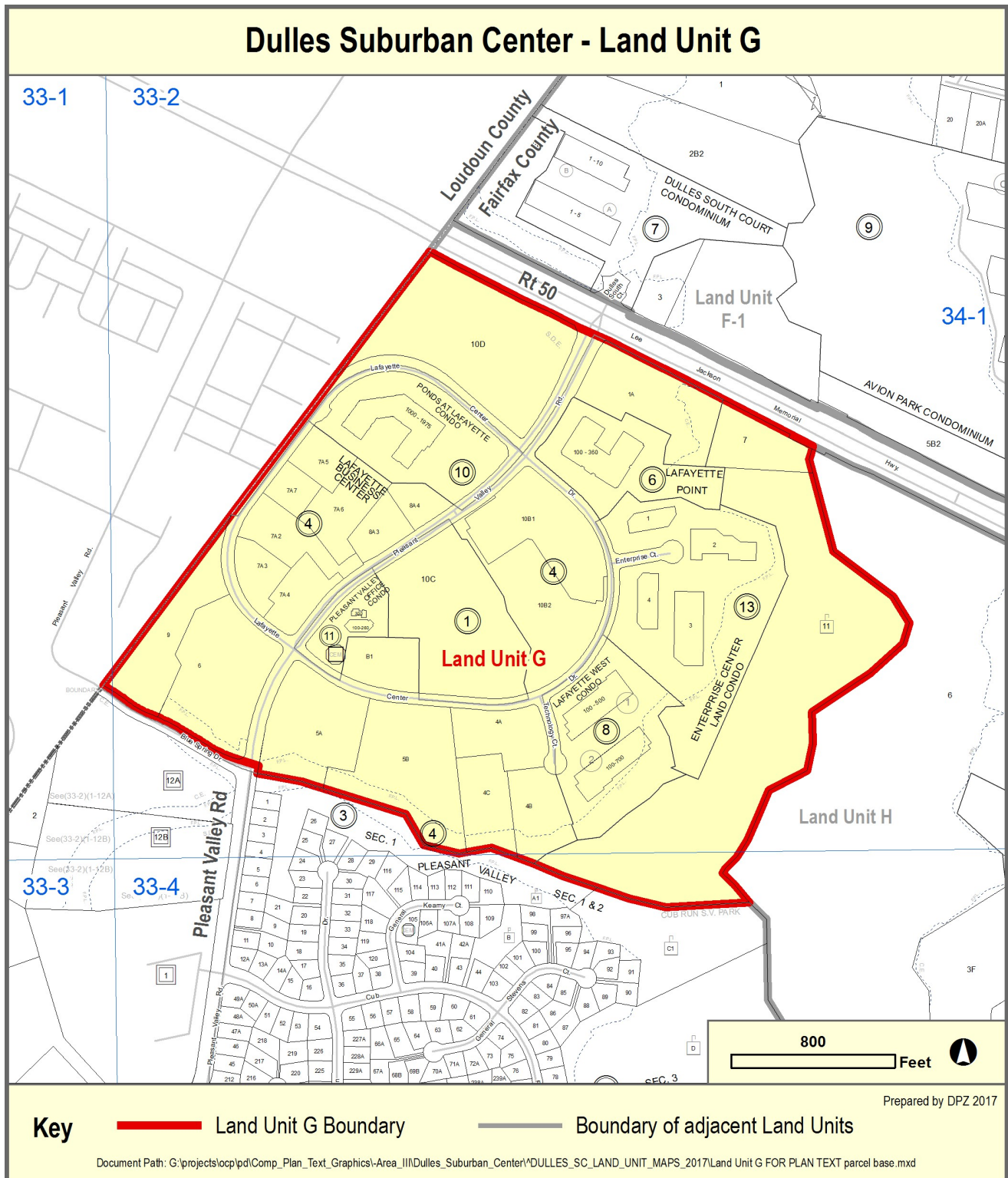
RECOMMENDATIONS

Land Use

1. Land Unit G is planned for low-rise office, light industrial, research and development, and industrial/flex use to be compatible with the existing uses, up to a maximum intensity of .35 FAR. Development should occur in a manner that provides high quality design on well-landscaped sites and continues to protect adjacent residential neighborhoods from negative impacts. Mitigation measures should include landscape buffering, screening, and protection from lighting glare. Substantial setbacks, landscaping and screening should be provided along Route 50 for an attractive appearance.
2. Commercial retail uses are not planned and are not appropriate along Route 50.
3. Public and/or private recreational uses may be appropriate optional uses in this land unit.
4. Coordinated urban design elements between developments should be encouraged, including elements such as landscaping, signage, and lighting.

Transportation

A commuter parking lot served by transit may be appropriate for this area.



LAND UNIT G
LOCATION AND COMPREHENSIVE PLAN MAP DESIGNATION

FIGURE 34

Trails/Connectivity

Trails planned for this land unit are delineated on the Countywide Trails Plan Map and are an integral part of the overall county system. Specific land unit recommendations may be found below.

A portion of the Cub Run Stream Valley Park and Environmental Quality Corridor is located in this land unit. Internal trails should be developed to connect with the Cub Run Stream Valley trail through existing parkland in Land Unit G and to the countywide trail route planned along the south side of Route 50. The stream valley trail should be located to avoid adverse impacts on sensitive resource areas. It is desirable for Fairfax County trails to connect with Loudoun County trails.

LAND UNIT H

CHARACTER

Land Unit H contains approximately 935 acres and is bounded by Cub Run to the west, Route 50 to the north, Lee Road to the east and Old Lee Road to the south. The land unit is characterized by a mix of uses such as auto dealerships, warehousing and storage facilities, industrial/flex space, low-rise office and public facilities. A small amount of strip commercial development exists along Route 50 as well as a mid-rise hotel accessed from Westfax Drive (Figure 35).

Land Unit H also contains the Meadows of Chantilly Mobile Home Park. The mobile home park provides important affordable housing; however, the majority of this community is located inside the DNL 60 dBA noise contour associated with projected operations at Dulles Airport.

Public uses include the Cub Run Stream Valley Park, which forms the western border of Land Unit H and its tributaries traverse the land unit east to west. The Cub Run RECenter and Westfield High School are located in the southern portion of the land unit along with a county materials storage yard on the site of the former Upper Cub Run Sewage Treatment Plant.

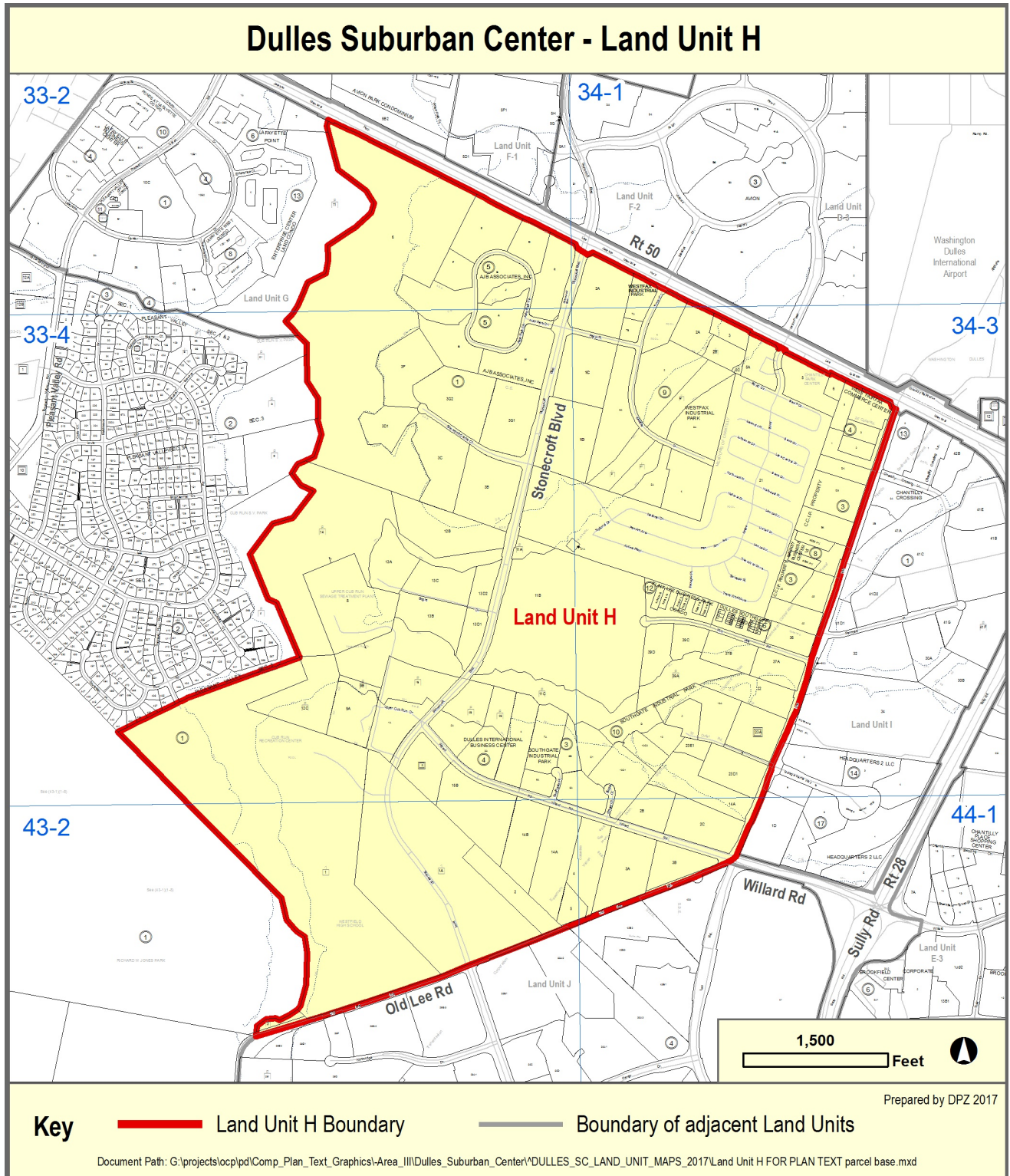
RECOMMENDATIONS

Land Use

1. Land Unit H is planned for industrial, research and development, and industrial/flex uses at an intensity up to a maximum of .35 FAR.
2. An auto park may be appropriate as an optional use on Parcels 33-2((1))6, 33-2((5)) B,C,D,E,F,J and 33-4((5))A,G,H if the conditions listed below are met. An auto park is defined as a large tract of land that accommodates two or more dealers engaged in automobile sales and service, as well as related ancillary services.

Conditions:

- The primary uses in the auto sales park are all related to vehicle sales and service. Ancillary uses to serve customers may also be considered;
- Substantial setbacks and a landscaped berm should be provided along Route 50 to screen view of the use from the road. A single freestanding sign to identify the auto park may be visible from Route 50; and



LAND UNIT H **FIGURE 35**
LOCATION AND COMPREHENSIVE PLAN MAP DESIGNATION

- Development should be oriented to Stonecroft Boulevard, preferably with building placement designed to screen outside display and storage facilities from Route 50. Substantial setbacks, screening and landscaping should be provided along Stonecroft Boulevard to establish a campus-style setting. Signage at the auto park entrance(s) may be appropriate.
3. Public and/or private recreational uses to serve the local community and employees may be appropriate optional uses in this land unit.
 4. The Meadows of Chantilly Mobile Home Park is a viable residential area. This residential neighborhood should be protected; transitional screening requirements on adjacent industrially planned parcels should neither be waived nor modified. The Meadows of Chantilly Mobile Home Park should not be expanded because it is largely within the airport noise impact area. If the Mobile Home Park is redeveloped to other uses, then relocation assistance to the tenants of the park should be provided in accord with the guidelines of the Policy Plan.
 5. Strip or freestanding commercial development is not planned for and is not appropriate along Route 50. Landscaping and facade improvements, including consistent signage, should be encouraged to enhance the appearance of existing retail uses.
 6. As an option for Parcel 34-3((1))1D, auto dealership use (vehicle sales, rental and ancillary use) at an intensity up to .35 FAR may be appropriate, if access is limited to the two existing points of ingress/egress; and streetscaping, signage and site design are similar to the auto park uses west of Stonecroft Boulevard.
 7. As an option for Parcel 34-1((1))2A, auto dealership use (vehicle sales, rental and ancillary use) up to an intensity of .35 FAR may be appropriate on the western portion of the property with the following conditions:
 - Vehicular access to the site is limited to ingress/egress along Pepsi Place.
 - Substantial setbacks and a landscaped berm should be provided along Route 50; and.
 - Streetscaping, signage and site design should be consistent with the auto park uses west of Stonecroft Boulevard.

Transportation

1. If future studies determine that right-of-way is needed in Land Unit H to facilitate development of a future transit system for the Dulles Suburban Center area, the needed right-of-way should be provided through dedication, easements or other mechanisms, as appropriate. Land Unit H may be an appropriate location for maintenance facilities for an integrated transit system. Such facilities should be designed to be compatible with existing and planned land use in the vicinity, by using such techniques as buffering and screening.
2. A commuter parking lot served by transit may be appropriate for this area.

Parks and Recreation

The Cub Run, Cain Branch and Schneider Branch Environmental Quality Corridors (EQCs) are planned as public parkland. Portions of these stream valleys contain sensitive resource areas which should be protected.

Trails/Connectivity

Trails planned for this land unit are delineated on the Countywide Trails Plan Map and are an integral part of the overall county system.

LAND UNIT I

CHARACTER

Land Unit I consists of approximately 176 acres and is located in the southwest quadrant of the intersection of Route 28 and Route 50 (Figure 36). Lee Road forms the western boundary. Existing uses include a retail center along Chantilly Crossing Lane, several office and industrial buildings and the Fairfax County Criminal Justice Academy. Vehicular access to this land unit is via Lee Road.

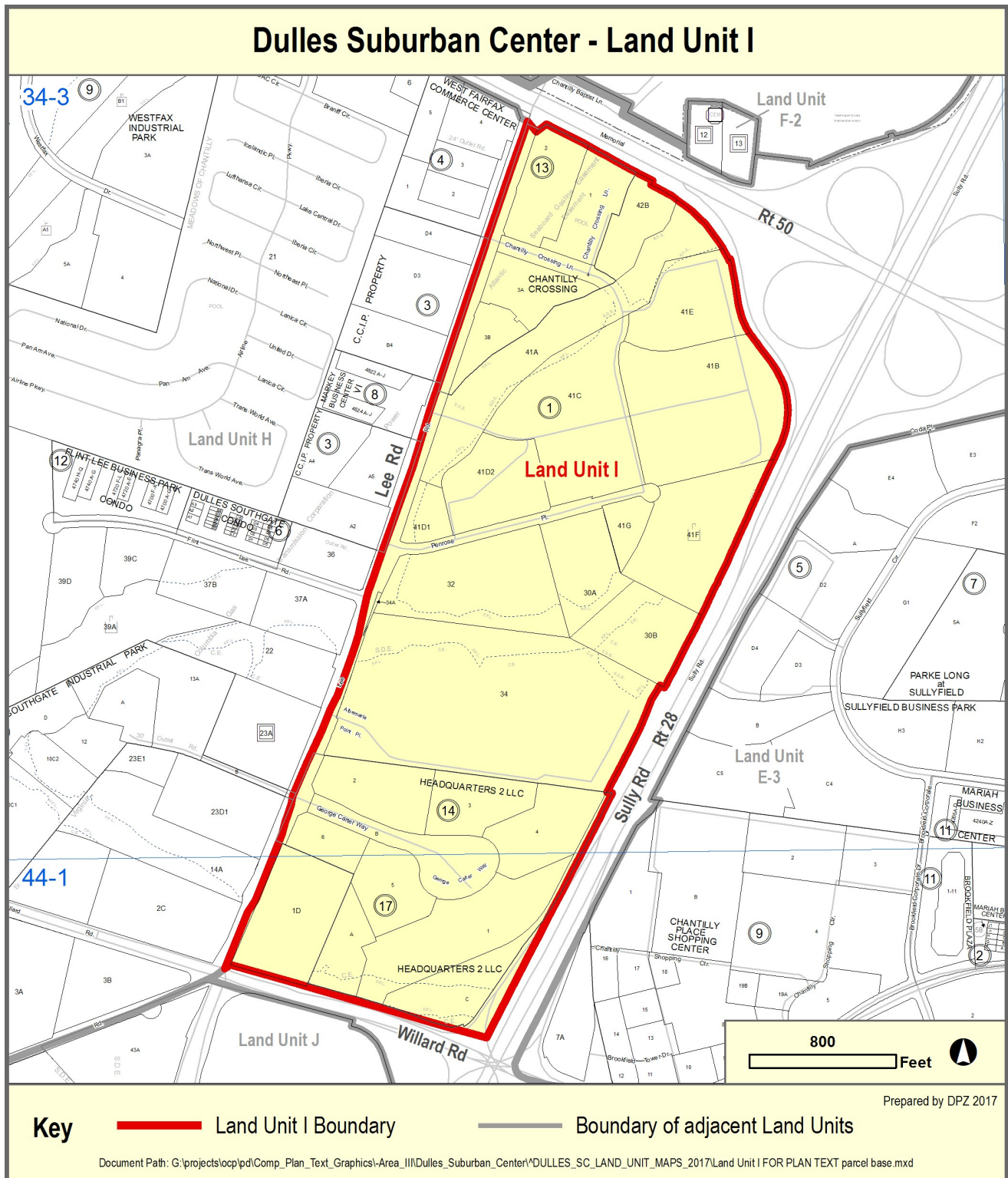
RECOMMENDATIONS

Land Use

1. This land unit is planned for light industrial and industrial/flex uses up to a maximum intensity of .35 FAR. Development should be of high quality and attractive, particularly along the frontage of Route 28. Light industrial use should be oriented to Lee Road to be compatible with existing development on the west side of Lee Road in Land Unit H and industrial/flex use should be oriented to Route 28 opposite similar use in Land Unit E-3. As an option, high quality hotel and/or a mix of office and industrial/flex uses are also appropriate in this land unit because of its high visibility. These uses should support the Udvar- Hazy Center of the National Air and Space Museum through providing a balanced mix of tourist and employment uses. The area north of the Environmental Quality Corridor (EQC) is most visible to Route 50 and offers the greatest potential to provide high- quality tourist oriented uses to support the Udvar-Hazy Center of the National Air and Space Museum property.

Subject to meeting the elements listed under “Performance Criteria for Optional Uses,” the land area north of Penrose Place and south of the EQC, as well as Tax Map 34- 3((1)) 41G, may be appropriate for a mix of uses including retail, restaurant and/or recreational facilities. Restaurant uses may be appropriate north of the EQC only if the use is limited to high-quality eating establishments that incorporate excellence in design, sitting, style and materials. Drive through and/or fast food restaurants are not appropriate. Private recreational uses may also be appropriate north of the EQC. With the exception of Tax Map Parcel 34-3((13)) 3A and 3B, for retail, restaurant and/or recreational uses, the following conditions should also be met:

- A maximum intensity of .25 FAR;
- Preservation of the EQCs which may be augmented by open space to preserve a minimum of 33 percent of the site;
- Access is limited to Lee Road and Penrose Place;
- Any development of the site must demonstrate to the satisfaction of the Fairfax County Department of Transportation that it does not impede traffic flow on Route 50 or the Route 50/Route 28 interchange and the interchange at Willard Road/Route 28; and
- No additional freestanding pad sites on the site.



LAND UNIT I **FIGURE 36**
LOCATION AND COMPREHENSIVE PLAN MAP DESIGNATION

Retail use is not planned north of the EQC; however, retail uses may be appropriate as an alternative to the hotel and private recreation uses that are planned for Tax Map Parcel 34-3((13))3A and 3B if the following conditions are met:

- Limit development to a maximum of 67,500 square feet;
 - Demonstrate that traffic generated by this use will not adversely impact nearby intersections;
 - Provide high quality landscape and architectural design;
 - Drive through and/or fast food restaurants are not appropriate;
 - Provide signage that avoids the appearance of strip retail use; and
 - Provide a commitment to active recreation (land or funding) to offset the loss of the planned private recreation use on this site.
2. Properties located along George Carter Way (Tax Map 34-3((14))B, 2, 3, 4, 6 and 44-1((17))A, C, 1 and 5) may be appropriate for development with a mix of hotel (and/or accessory restaurant uses) and office uses up to an overall combined intensity of 0.70 FAR because of its visibility at the intersection of Route 28 and Willard Road and its proximity to Dulles International Airport, retail opportunities, and employment centers. This option's development level is contingent upon meeting the following conditions:
- Limit overall development up to a combined intensity of 0.70 FAR. No more than two (2) hotels may be constructed within this land area; however individual hotel use(s) may develop up to a 1.0 FAR;
 - Provide pedestrian connections to adjoining trails/walkways and transit stops;
 - Provide a unified and coordinated development plan and orient some of the development towards Lee Road;
 - Provide a comprehensive transportation demand management program in conjunction with any new development on the land area. The goal of such a program will be to reduce peak hour vehicle trips associated with the new office and hotel uses; and
 - Access to/from the properties will be provided via George Carter Way. No additional access will be provided to/from Lee Road. No direct access will be provided to/from Willard Road.

As another option, a mix of uses to include residential and office uses with community-serving retail, up to an intensity of .70 FAR, may be appropriate with full consolidation of the following Tax Map Parcels: 34-3((14))B, 2, 3, 4, 6; 44-1((17))A, C, 1, 5; and 34-3((1))34. This option may be appropriate if the following conditions are met:

- Provide a minimum of 400 and a maximum of 700 residential units which should include a diversity of housing types and sizes. Multi-family housing and higher density single-family attached units are strongly encouraged to provide this diversity in housing type, and to ensure compatibility with existing development and to allow for on-site open space.

- A minimum of 12% of the residential units should be affordable to meet county goals for affordable and workforce housing. These units should be distributed throughout any new development and should also include a diversity of housing types and sizes to reflect that of the development;
- Development of this site should be phased in such a manner as to avoid creating isolated pockets of uses, and to balance the infrastructure and public amenities needed to support the project;
- Achieve compatibility of both site and building design with existing development;
- Provide adequate access and circulation to accommodate all uses, improve the existing north-south vehicular connection between Tax Map Parcel 34-3 ((1)) 34 and Tax Map Parcels 34-3 ((14)) B, 2 and incorporate it into the design of the development;
- Provide pedestrian connections to adjoining trails/walkways and transit stops;
- Provide a unified and coordinated development plan that provides internal and external transitions to and between existing and proposed uses and that achieves a logical and balanced orientation of development, to include orienting uses toward Lee Road as appropriate;
- Provide access via George Carter Way and Albemarle Point Place. No additional access should be provided to/from Lee Road. No direct access should be provided to/from Route 28 or Willard Road;
- Mitigate any additional transportation impacts to Lee Road and nearby intersections that are specific to this option, which may include improvements to the intersections of Lee Road/George Carter Way and Lee Road/Willard Road. Development should be phased with transportation improvements;
- Develop an onsite, publicly accessible parks network per the guidance of the Urban Parks Framework. Active and passive recreational facilities should be provided to meet the needs of residents, employees and visitors; and
- Mitigate any impact on schools resulting from increased intensity.

Transportation

1. Access to this land unit should be via Lee Road, and entrances along Lee Road should be consolidated. There should be no access to Willard Road or Route 50 from this land unit.
2. The intersection of Willard Road with Lee Road or Route 28 should be considered as a location for a future transit stop.
3. If future studies determine that right-of-way is needed in Land Unit I to facilitate development of an integrated transit system for the Dulles Suburban Center, the needed right-of-way should be provided through dedication, easements or other mechanisms, as appropriate. Land Unit I may be an appropriate location for maintenance facilities for an integrated transit system. Such facilities should be designed to be compatible with existing and planned land use in the vicinity, by using such techniques as buffering and screening.

Trails/Connectivity

Trails planned for this land unit are delineated on the Countywide Trails Plan Map and are an integral part of the overall county system. Specific land unit recommendations may be found below.

The countywide trail should be developed along the east side of Lee Road from Route 50 south to Willard Road and along the Route 50 frontage. Connections should be provided across Route 50 to enhance the continuity of non-vehicular circulation across Route 28 and along Route 50.

LAND UNIT J

CHARACTER

Land Unit J is 1,156 acres comprised almost entirely of the Westfields International Center, a corporate office park with, conference center/hotel, industrial and industrial/flex space uses (Figure 37). The land unit is bounded on the north by Old Lee Road, on the northwest by Route 28 (Sully Road), Flatlick Branch and Walney Road, on the south by Poplar Tree Road, Stonecroft Boulevard and Flatlick Branch, and on the east by Braddock Road and Cub Run. Westfields has a network of landscaped sidewalk and trails and enhanced stormwater detention facilities that serve as ornamental ponds. Large natural buffers exist between Westfield's nonresidential development and adjacent residential areas. The Cub Run and Flatlick Branch Environmental Quality Corridors (EQCs) form some of the boundaries of the land unit and create a prominent natural features that traverse the land unit. A commuter parking lot is located on Stonecroft Boulevard, near its intersection with Westfields Boulevard.

RECOMMENDATIONS

Land Use

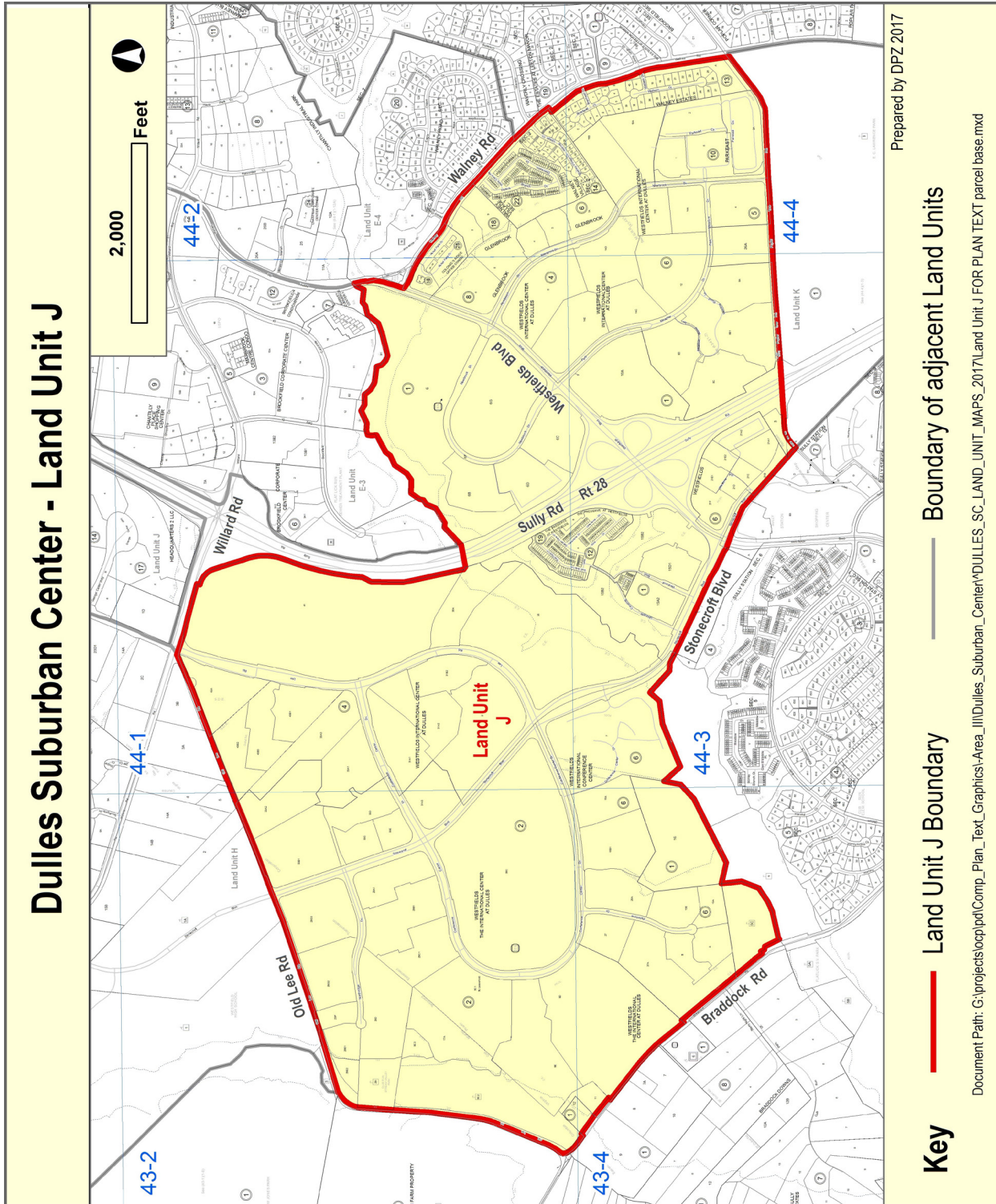
1. Land Unit J is planned at the baseline and approved for office, conference center/hotel, industrial/flex and industrial use at an average of .50 FAR except as noted in Land Use Recommendation #6 below. Future development should be consistent with the character of the existing development. High quality site, building and landscape design should be maintained throughout the land unit.

It is desirable that development in this land unit be designed to enhance transit serviceability. This can be achieved by placing buildings closer together or to the road; designing them around plazas; utilizing approaches to bring employees within walking distance of transit facilities or otherwise facilitating transit-oriented development.

2. Mixed Use Focal Point

Described below are two options under which higher intensity mixed-use development may be appropriate for portions of Land Unit J in the vicinity of the intersection of Stonecroft Boulevard and Westfields Boulevard. The intent of this higher intensity mixed use development is to create a focal point to serve Westfield's employees, visitors, and nearby residents. Focal point development should be unified on one site, not split by a major arterial such as Route 28. Under either of these options the following applies:

- Access to this development should not be oriented to Route 28.
- A parking maximum for commercial development in the focal point should be established at the number of spaces required for office use at 1.0 FAR in conventional development without public transportation. To offset the decreased supply of parking, employers should be encouraged to participate in a transportation demand management program (TDM) including such alternatives as carpools and vanpools.



**LAND UNIT J
 LOCATION AND COMPREHENSIVE PLAN MAP DESIGNATION**

FIGURE 37

- The quality of development should reinforce the showplace standards established by Westfields.
- A network of quality, publicly accessible urban parks should be provided per the Urban Parks Framework. There is an opportunity to connect the park spaces with Ellanor C. Lawrence Park, south of Westfields, and the planned trail along Poplar Tree Road. These connections to the county park system are encouraged and should be provided such that access to the park is enhanced while safeguarding its abundant natural and cultural resources.

A limited amount of high-density residential development may be appropriate for incorporation within this mixed use focal point under either option under the following conditions:

- Residential development should be consistent with the county's adopted policies regarding residential development in areas impacted by noise from Dulles Airport.
- Residential development should be limited to mid-rise or high-rise buildings with a sufficient number of units to ensure a high-quality living environment with active recreation and other site amenities provided so as to avoid the creation of an isolated pocket of residential use within this area that is planned predominantly for nonresidential uses.

Option A

A higher-intensity mixed use focal point may be appropriate within Land Unit J, including such uses as office, retail, and a hotel up to a maximum 1.0 FAR. The development should be designed to be transit friendly and to be served by public transit. This mixed use development should complement the higher intensity mixed use development planned in Centreville and in the Dulles Suburban Center Core (Land Unit A). The focal point development should be located between Route 28 and Stonecroft Boulevard astride Westfields Boulevard and limited to up to 50 acres in area and should not exceed 1 million square feet in gross floor area. The additional intensity (above .50 FAR) should be permanently transferred from within Land Unit J.

Option B

Should a transit stop/station be programmed and located within the vicinity of the intersection of Westfields and Stonecroft Boulevards, but not in the median of Route 28, then higher intensity may be appropriate as follows:

- Additional intensity over .50 FAR should be permanently transferred from within Land Unit J or from land already zoned for commercial or industrial development and located in areas between transit nodes in the Route 28 Tax District where decreased intensity is planned.
 - Within a radius of approximately one-quarter mile of the transit stop/station site and within the Tax District boundary, a baseline intensity of 1.5 FAR is appropriate. Transition to lower intensities should commence within this area to ensure compatibility with adjacent uses.
 - Residential uses should be permitted and encouraged as part of the mix of uses as added intensity at an overall FAR of 2.25.
3. The property located north of the intersection of Stonecroft Boulevard and Westfields Boulevard is approximately 50 acres in size. A prominent feature of the property is the EQC that

traverses the center of the property covering approximately 40% of the site. Like other property in Land Unit J, the property is planned for office, conference center/hotel, industrial/flex and industrial use up to an intensity of .50 FAR.

As an option, a predominantly multi-family residential development may be appropriate up to an intensity of .50 FAR if it creates a high-quality living environment within the context of a larger area that is planned for nonresidential uses. Office and limited retail uses may be integrated into the development. The following conditions should be met to implement this option:

- The majority of the development is residential and at least 80% of the units are in mid-rise multifamily structures with appropriate transitions provided between different uses and unit types.
 - The south side of the EQC is developed with an urban character with predominantly mid-rise residential development, with limited retail and restaurant uses encouraged to serve both residents and visitors.
 - Drive-through uses are discouraged.
 - The north side of the EQC is appropriate for multifamily residential, townhouse or office uses.
 - Site layout and building design create a pedestrian friendly environment oriented towards Stonecroft Boulevard that enhances and connects to the existing pedestrian network.
 - Phasing of the development should not lead to an interim condition where there is an isolated pocket of residential development on the north side of the EQC.
 - Development is sequenced such that infrastructure and public amenities to support the project, such as roads and parks, is completed with the first phase.
 - A buffer from Route 28 provides noise attenuation and visual screening with measures that include high quality landscaping that has a balanced mix of deciduous and evergreen trees and shrubs that are native species.
 - The development mitigates negative transportation impacts to Stonecroft Boulevard and nearby intersections.
4. A substantial undeveloped buffer of not less than 250 feet in width should be maintained between Braddock Road and Westfields. This buffer is intended to provide the transition between residential development south of Braddock Road and Westfields nonresidential development north of Braddock Road. The following conditions should be maintained:
- This buffer should consist of existing and supplemental vegetation and land forms;
 - No development or parking is appropriate in this buffer area;
 - The areas adjacent to trails and ponds should be considered to allow amenities for use by employees and residents;
 - No road access to the nonresidential development should be cut through this buffer to Braddock Road; and

- The siting and height of nonresidential development should not create a negative visual impact on existing or future residential communities. However, height increases should be considered in order to preserve green space when there will be no adverse visual impact on existing communities.
5. Like other property in Land Unit J, the area east of the Stonecroft and Westfields intersection (Parcels 44-3((6))21A1, 21A2, 21C, 21D, 21E1, 21E2, 21F) is planned for office, conference center/hotel, industrial/flex and industrial use up to an intensity of .50 FAR. As an option, this area may be developed with neighborhood-serving retail and service uses, under the following conditions:
- The parcel is planned and designed comprehensively to function as an integrated development that is compatible with both the hotel and Sully Station Shopping Center;
 - The development has pedestrian access to the hotel; and
 - Access is from Stonecroft Boulevard or the planned extension of Poplar Tree Road.
6. The Walney Village subdivision is planned and developed with residential use at 5-8 dwelling units per acre. Residential development should be consistent with the county's adopted policies regarding residential development in areas impacted by airport noise.
7. Commonwealth Centre is located east of Route 28 and north of Westfields Boulevard. Like other property in Land Unit J, this property is planned for office, conference center/hotel, industrial/flex and industrial use up to an intensity of .50 FAR.

As an option, retail uses may be appropriate up to an intensity of .20 FAR on 21 acres located north of Westfields Boulevard, within the loop road of Newbrook Drive. The following conditions should be met to implement this option:

- In order to create a sense of place, a network of well-connected public spaces should be provided. Plazas and open spaces should be designed to function as public places for people to gather and linger and help to integrate the proposed retail with the existing and planned office uses at Commonwealth Centre.
- The option will either result in fewer peak hour trips than the planned base level uses consistent with the Performance Criteria for Optional Uses or the development will mitigate negative transportation impacts to Westfields Boulevard and nearby intersections and not degrade the LOS below what it would be with implementation of the base level Plan. If such improvements and proposed mitigations are not possible, intensity should be reduced accordingly.
- The site layout and building design should link the open space to the EQC and stormwater management pond, located to the north of Newbrook Drive, to create a shared amenity area.
- The site layout should provide for connectivity with adjoining properties and connect to the existing pedestrian sidewalk and trail network.
- Drive through uses are discouraged.

As another option, multi-family and single-family attached residential and retail uses may be

appropriate up to an intensity of .50 FAR on approximately 39 acres located north of the planned Newbrook Drive loop road. Any development under this option is deemed to be inclusive of the density bonus applicable to the dwelling unit type for affordable housing. In addition to the conditions listed above, the following conditions should be met to implement this option:

- New residential and retail uses should be oriented to be functionally integrated with the approved retail uses inside of the Newbrook Drive loop road so as to create a vibrant mixed use environment.
- Adequate access and circulation should be provided.

Transportation

1. Dedicated transit should be considered along Route 28 and other alternative routes in the land unit.
2. If future studies determine that right-of-way is needed in Land Unit J to facilitate development of an integrated transit system for the Dulles Suburban Center, then the needed right-of-way should be provided through dedication, easements or other mechanisms, as appropriate.
3. If any future improvements to Poplar Tree Road on the east side of Route 28 are required, every effort should be made to protect E.C. Lawrence Park by obtaining any additional right-of-way (if needed) from the north side of Poplar Tree Road and minimizing impact on the parkland, to the extent possible.

Parks and Recreation

1. The Fairfax County Park Authority should collaborate with property owners in Land Unit J to provide active recreation facilities, especially athletic fields, to serve employee and local community needs. As appropriate, access to Ellanor C. Lawrence Park should be enhanced via trail connections in the area of Poplar Tree Road.
2. Cub Run Stream Valley Park is located on the western boundary of this land unit. Portions of this EQC contain sensitive resource areas; however, development of the stream valley trail and other amenities such as wildlife observation, seating and open play areas within the outer perimeter of the EQC will enhance the passive recreation value of this natural resource.
3. Flatlick Stream Valley Park borders this land unit on the south. Rock Hill District Park is a 10-acre site located adjacent to Braddock Road outside the floodplain. The Park Authority has planned the park for active recreation uses, athletic fields, and natural resource protection and management.

Greenways/Trails

Stream Valley Recreational Trails: Complete the Cub Run Stream Valley Trail through this land unit to connect with Flatlick Stream Valley Park. Completion of the Flatlick Stream Valley Trail through Westfields by means of a public access trail easement is desirable to connect with the recommended trail through Land Unit E-4.

Countywide Greenways/Trails: Trails planned for this land unit are delineated on the Countywide Trails Plan Map and are an integral part of the overall county system. Internal trails within Westfields are an integral part of the Dulles Greenway and should provide continuity of

access between the Cub Run, Flatlick Branch EQCs, and Ellanor C. Lawrence Park. A pedestrian/bicycle access across Route 28 to Ellanor C. Lawrence Park should be considered as part of the Phase II transportation improvements.

LAND UNIT K

CHARACTER

Land Unit K is comprised in its entirety of Ellanor C. Lawrence Park, a 650 acre site owned and managed by the Fairfax County Park Authority and classified as a Countywide Resource-based Park. The park was created in 1971 through a private donation of 585 acres to the Park Authority. Additional developer dedications and land transfers to the Park Authority since 1997 have expanded the park to its present size (Figure 38).

Under the terms of the Lawrence agreement, the property is irrevocably designated to the Fairfax County Park Authority. This agreement further stipulates the FCPA is bound to contest any eminent domain taking proceeding “in every fashion reasonably possible” and, under threat of forfeiture, constrains the FCPA in relinquishing any portion of the park property for any purpose other than as a public park.

The park contains a rich diversity of natural and heritage resources as well as active recreation facilities. Varied habitats including the Big Rocky Run stream valley, ponds, meadows, pine and oak forests support a large wildlife population. Deer, turkey, hawks, owls and songbirds inhabit the park and the spring wildflowers along Big Rocky Run are an annual attraction.

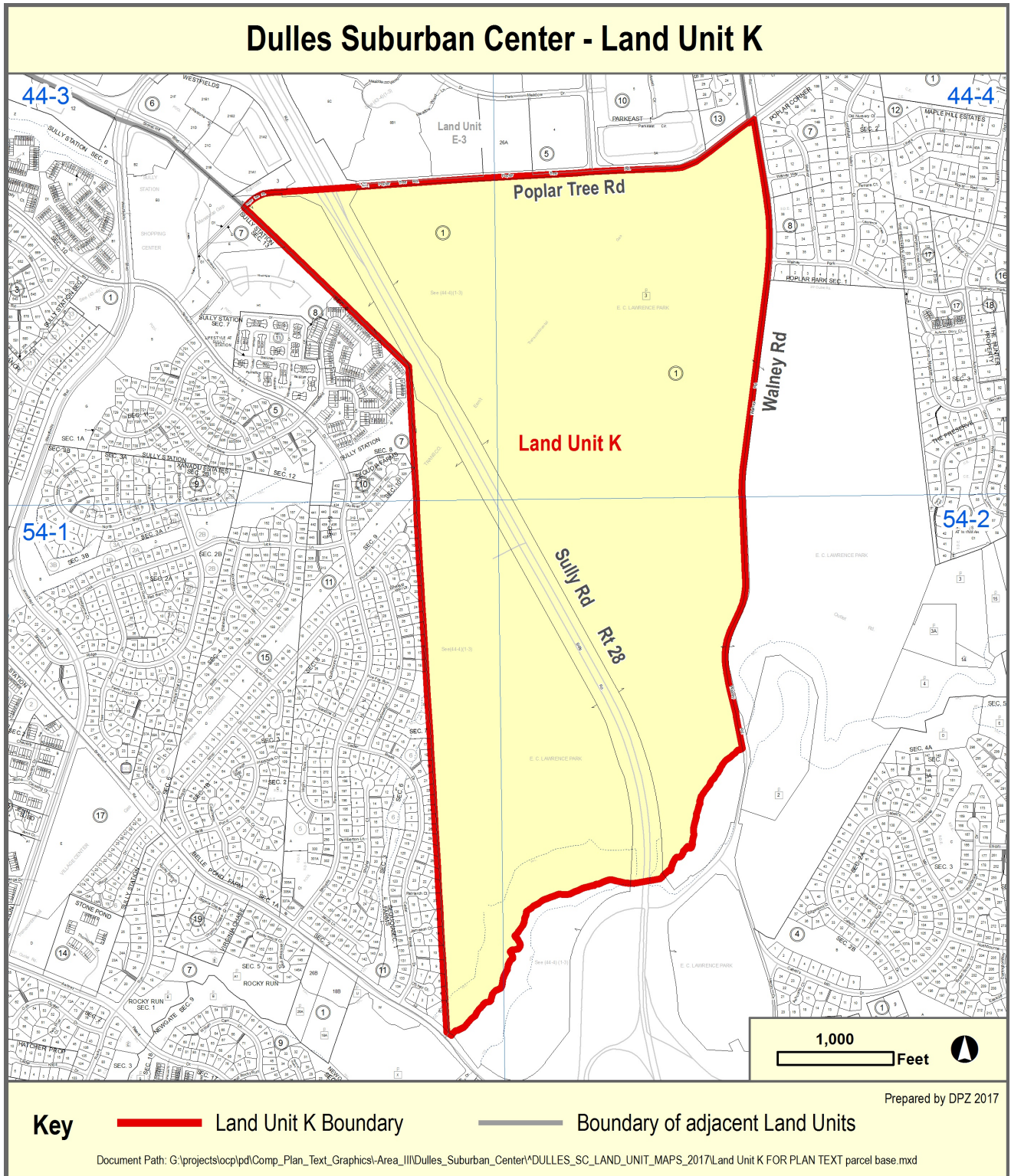
Nearly 70 archaeological sites have been recorded, documenting over 8,000 years of human habitation on this site. Major historic resources include the Walney Visitor Center, a renovated 200-year-old farmhouse which serves as the primary point of visitor contact; Cabell's Mill, a renovated 19th century gristmill; and Middlegate, the Lawrence home, which currently houses administrative offices.

Over 90 percent of the property is administered as Park Authority designated Resource Protection Zones to protect and enhance significant ecological and cultural resources. The portion of the park located west of Route 28 has been developed with a complex of six athletic fields and sports courts.

RECOMMENDATIONS

Parks and Recreation

1. The overall management of Ellanor C. Lawrence Park, its proposed facilities, and natural and cultural resources are guided by the Ellanor C. Lawrence Park Master Plan.
2. Ensure that sensitive ecological and heritage resource areas of the park are buffered by compatible adjacent land uses.
3. Maintain Resource Management Plans to protect and enhance significant ecological and heritage resources.
4. Provide trail linkages to the Sully Woodlands region and adjacent residential communities; consideration should be given to providing multimodal access across Route 28 as part of Phase II transportation improvements.



LAND UNIT K **FIGURE 38**
LOCATION AND COMPREHENSIVE PLAN MAP DESIGNATION

Transportation

Planned transportation improvements on Walney Road and Cabell's Mill Drive should be designed to minimize impacts to Ellanor C. Lawrence Park.

Trails/Connectivity

Trails planned for this land unit are delineated on the Countywide Trails Plan Map and are an integral part of the overall county system.

LAND UNIT L

Land Unit L consists of approximately 103 acres and is located east of the Loudoun County boundary, bounded on the south by the Dulles Airport Access Road (DAAR), on the east by the Reflection Lake community and on the north by the Town of Herndon (see Figure 39). Land Unit L makes up the northern portion of the Innovation Center Transit Station Area (TSA) while the southern portion is located in Land Unit A-1. A portion of the area is planned for transit oriented development (TOD) focused on the planned Innovation Center Metrorail Station. Land use options in support of TOD follow the baseline recommendations.

Note that other Plan guidance in the Dulles Suburban Center Overview, Area-Wide, Land Unit, and Design Guidelines does not apply to Land Unit L. For area-wide guidance for Land Unit L, please refer to the Upper Potomac Planning District.

Baseline Recommendations for Land Units L-1, L-2 and L-3

Land Unit L-1 is developed as the Center for Innovative Technology (CIT), a state-supported research and development consortium of state universities and colleges. Land Unit L-1 at the baseline is planned for this existing institutional use.

Land Units L-2 and L-3 are located west of Rock Hill Road and are planned at the baseline for office and research and development uses. Tax map parcels 15-2((1))3, 4, 5 and 16-1((1)) 4A contain extensive Resource Protection Areas, Environmental Quality Corridors (EQCs) and floodplain. The development potential of these parcels is severely constrained. The restoration, as may be needed, and dedication of these properties to the Fairfax County Park Authority or other land conservation entity as part of a zoning action would address several goals, including preservation of environmentally fragile and valuable land and habitat, and providing open space amenities.

Land Unit L-2 (Parcels 15-2((1))4, 5, 16) is planned for a maximum intensity of .50 FAR. A hotel or conference center use up to .50 FAR which would appropriately complement the CIT is also appropriate in Land Unit L-2. Community-serving retail use incorporated on the ground level of buildings is desirable and appropriate.

Land Unit L-3 (Parcels 15-2((1))1, 2, 3 and 16-1((1))4, 4A) is planned for office and research and development use at a maximum intensity of .25 FAR at the baseline. Community-serving retail use on the ground level of office structures may be appropriate to serve employees.

Only a portion of the parcels that make up Land Units L-2 and L-3 are located in Fairfax County. Consolidation of land or parcels should occur such that the development results in well-designed, high-quality uses that are functionally and visually integrated into the larger mixed use area planned in Loudoun County. Proposed development should be part of a project that incorporates a substantial and contiguous area in Loudoun County and is compatible with the uses and intensities planned by Loudoun County. All development proposals should demonstrate that any unconsolidated parcels within a land unit can be developed in a manner that complements the proposed development and is consistent with the recommendations of the Plan and at a minimum includes environmentally constrained land.

Public facilities analyses, including fire, police, schools, recreation, and transportation are performed in conjunction with any development application. The results of these analyses should identify necessary improvements, the phasing of these improvements with new development, and appropriate measures to mitigate other impacts. In addition, development of these land units should

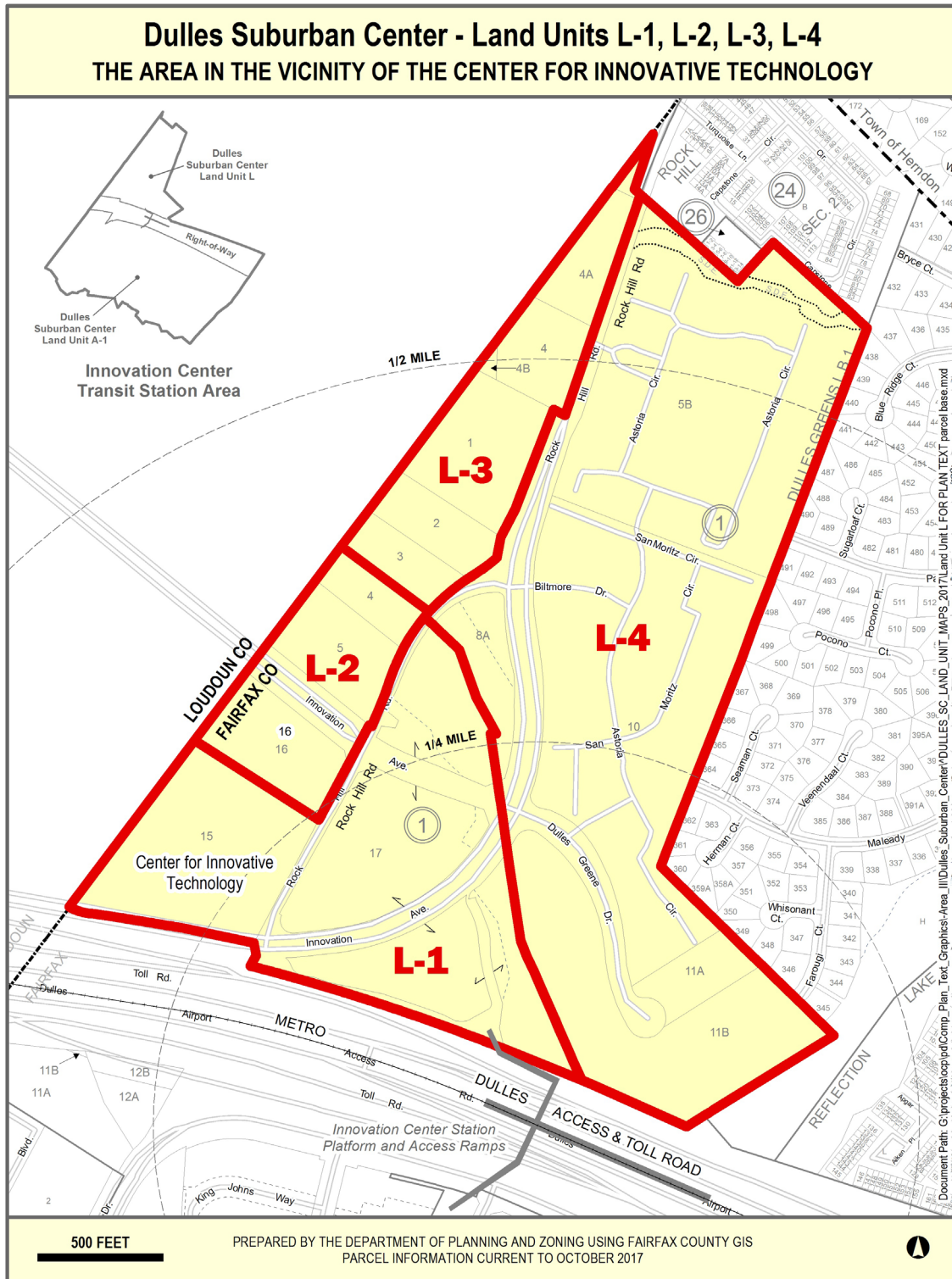


FIGURE 39

result in uses that are designed to be visually compatible with the residentially developed area of Land Unit L-4. Finally, active recreation areas for employees and residents should be provided.

Rail Transit Option for Land Units L-1, L-2 and L-3

Consistent with TOD policy, this plan provides an option for a mix of uses ranging from .50 to 2.8 FAR, based on distance from the Metrorail station. The Innovation Center Transit Station Area (TSA) includes Land units L-1, L-2 and L-3. The TSA is planned for a mixture of interrelated residential and nonresidential uses. The rail transit option may be considered once the provisions pertaining to Phase 2 rail improvements contained in the “Agreement to Fund the Capital Cost of Construction of Metrorail in Fairfax County” are accepted by the Fairfax County Board of Supervisors. Specifically, the terms and conditions of the 100% preliminary engineering cost estimate for Phase 2 must be approved by the Fairfax County Board of Supervisors, and the affirmative decision to participate in financing must be transmitted to MWA.

This option is transit-supportive and includes multifamily residential, office, hotel, as well as retail uses designed to serve the TOD community. This mix of uses will allow the creation of a center of activity that is focused toward the planned Innovation Center Station. In addition the recommendations take advantage of the proximity of the CIT complex, Dulles Airport, the Dulles Access and Toll Road, to provide future employment opportunities and housing in the vicinity of Sully Road.

Within the Innovation Center Transit Station Area, the highest concentration of development should be closest to the planned Metro station. The mix of uses should create a critical mass of pedestrian activity as people live, work and recreate in this area. Existing residential communities in Fairfax County and the Town of Herndon create a transition to the planned higher intensity transit oriented development centered around the planned Metro station.

The goals for this area include the following:

- Achieve a compact, high-quality transit and pedestrian-oriented, mixed use community with the highest land use intensity focused within ¼ mile of the planned Innovation Center Station.
- Create a safe pedestrian environment that is visually diverse and stimulating. Provide for public pedestrian access between the transit station and employment and residential destinations within and adjacent to the area. Any potential conflicts between non-pedestrian and pedestrian circulation are to be resolved in favor of the pedestrian right of way.
- Create functional, well coordinated, visually appealing roads, paths and trails that provide linkages within the TSA and to adjacent residential areas within Fairfax County, Loudoun County, and the Town of Herndon.
- Link future development to the provision of appropriate multi-modal transportation improvements for all land units in this area and as indicated in the Plan text and as shown on Figures 22 through 25 in the Upper Potomac Planning District section of the Comprehensive Plan.
- Provide open space for active recreation (including athletic fields), passive recreation and visual relief.
- Protect and enhance environmental resources.

- Encourage parcel consolidation to realize the benefit of comprehensive urban design and circulation/access principles and environmental protection.
- Link development to the provision of needed public facilities.
- Protect adjacent residential neighborhoods from the visual impact of development through use of building tapering, and/or landscaping features, maintaining a high standard for architectural quality, and minimizing noise, glare and traffic intrusion.
- Establish a mechanism for interjurisdictional collaboration to monitor and assure that a TOD land use, transportation, and public facilities balance is achieved and maintained in all development phases.

General TOD Guidance

The vision of the Innovation Center Transit Station Area is to create an inter-connected multi-modal place that benefits surrounding areas. The proximity of a mix of uses to one another should be combined with easy access to multiple modes of transportation, particularly transit (including bus), walking and bicycling that is part of a larger area wide network.

The following urban design, transportation, noise, stormwater, and affordable and workforce housing recommendations apply to all development proposals.

Urban Design

The TSA guidance establishes an environment that thrives around mass transit, minimizes the need for the single-occupant automobile, and fosters a vibrant pedestrian atmosphere. Compact, mixed-use development with the highest densities/intensities closest to transit station platforms, as well as opportunities to move safely, conveniently and enjoyably about the community by foot or bicycle are defining elements.

The protection of environmentally valuable areas is essential. Consolidation with parcels containing environmentally sensitive areas such as streams and wetlands should be supported in order to achieve dedication and ultimate preservation. These areas can provide needed passive open space and contribute to creating a pleasing mix of hardscape elements and natural landscapes.

Creating high-quality, built environments that result in a uniquely identifiable place is strongly encouraged. With respect to the CIT building, harmonious architectural and other design features to celebrate this iconic structure are encouraged throughout the TSA.

Buildings

Buildings should be designed at a scale that encourages pedestrian and street activity. The buildings should create an enjoyable, attractive, and safe environment to walk, bike, dine, relax and ride public transit. In order to accomplish these goals, building design placement and orientation should encourage activity both at the street level and in above-ground plazas. Architectural design features such as façade variations of window or building details are encouraged.

Ground-floor retail uses are encouraged in office, hotel and residential buildings, as well as parking structures to activate the street. These uses should be designed to complement the surrounding style. Free-standing or drive-through retail establishments are discouraged. Faux windows or storefronts should be used only when necessary, and long expanses of blank walls or

façades should be avoided. If retail uses cannot be integrated into the first-floor façades, these façades should be decorated with store-front windows, awnings, and/or vegetated walls.

Buildings should be oriented to and frame the street or the plaza on which the building is located. Buildings should have minimal setbacks. Any building setback should be used for features that contribute to the pedestrian environment, such as plazas, or entrance features. High-rise buildings are envisioned to maximize open space and take maximum advantage of proximity to transit. However, given the proximity of Dulles International Airport, review by the Federal Aviation Administration may be required for high-rise buildings.

Urban Parks and Open Space

Urban parks in the form of plazas, courtyard or mini-parks should be incorporated into the designs of buildings and/or building complexes to serve the daily needs of residents, local employees, and visitors. These parks should be highly visible and easy to access from areas with most of the pedestrian traffic. Features may include trail connections, water features and short-term informal activities and programmed events intended to foster social interactions among users. These open spaces should be appealing places to gather with seating, lighting, landscaping and other amenities. These spaces should be integrated purposefully into the overall design of the development, and not merely be residual areas left over after buildings and parking lots are sited. Public art/sculpture should be incorporated into all open spaces. Opportunities for passive open space are present adjacent to streams and wetlands located throughout the area.

Streetscape, Sidewalk, Trail and Road Features

A coordinated streetscape design should be developed to contribute to the identity of the CIT area. In addition to the roadway elements of on-street parking, bike lanes, travel lanes, and medians, the streetscape design should provide frontage of sufficient width to create a pedestrian zone to safely separate pedestrian activity from the roadway. Within the pedestrian zone, the space between the sidewalk and the building façade should be determined by the use of the adjacent building and should be used for outdoor cafés, seating, or browsing store windows. Wide sidewalks are encouraged to support the anticipated increase in pedestrian traffic and street furniture throughout the development area. The use of texture, pattern, and materials should be encouraged to make the setting interesting. Finally, a landscape amenity panel should be located next to the curb and may include streetlights, tree grates, planting beds, planters, paving, bus shelters, bicycle racks, public art, and benches.

This safe and attractive pedestrian and bicycle circulation system should unify the area, provide for well integrated connections to the Metro Station, adjacent residential neighborhoods, Fairfax County, the Town of Herndon, and adjacent Loudoun County. These sidewalks and trails should be integrated with active and passive open space and promote pedestrian access to all uses.

Streetscape improvements may be provided on a combination of publicly owned right-of-way and private property. When the public right-of-way is utilized to provide streetscape improvements, commitments should be made by the property owner or business organization to maintain the streetscape area. In addition, when the sidewalk is not entirely within the right-of-way, a public access easement will need to be provided for the portion of the sidewalk located on private property.

Existing vegetation, especially the large specimen trees should be preserved and incorporated into the site as much as possible. Landscaping should be provided that is attractive in all seasons, and provides shade to seating areas and pedestrian paths/sidewalks during summer months.

Roads should include features that create a high quality, attractive, functional and safe environment for the pedestrian, bicyclist, transit rider, or other non-motorized vehicle user. Pedestrians, bicyclists, motorists and bus riders of all ages and abilities should be able to safely move along and across streets. Safe and convenient pedestrian crossings such as raised crosswalks, mid-block crossings and sidewalks should be provided to enhance pedestrian movement, reduce pedestrian and vehicular conflicts and improve accessibility. The design should be employed continuously and contain uniform or similar elements to make a cohesive circulation network.

Parking

Parking should be consolidated into structures and integrated into the streetscape. Except for on-street parking, surface parking should be avoided other than as allowed and needed on an interim basis to support occurring development.

Parking structures should be designed as integrated building features. The treatment of the structures, which can include retail as a ground floor use, should contribute to the visual appeal and vitality of the streetscape. Façades should be attractive and inviting from both pedestrian and vehicular perspectives and should incorporate features such as architectural elements or trees and other landscaping to provide visual interest.

To encourage transit use, shared parking for uses which have different peak demand periods, instituting paid parking, or other parking reduction techniques and commitment to parking maximums are recommended. This will reduce trips and more efficiently organize and utilize the area.

Street Furniture, Bicycle Facilities, Lighting and Other Elements

Street furniture selections, such as benches, water fountains, bus shelters, covered trash receptacles and bike racks, should be included in a streetscape plan and be consistent with the area. This may include details such as the model, size, and finish of the street furniture. Bicycle features should be covered and security should be provided. Bus shelters should be provided at transit stops that protect patrons from the weather, are safe, easy to maintain, and relatively vandal-proof. A coordinated signage plan is essential to emphasize identity and provide a harmonious appearance.

Street lighting should maintain the overall character and quality of the area, providing adequate lighting levels that ensure public safety without creating glare or light spillage. Light fixtures should be full cutoff and use energy-saving technology in order to minimize the occurrence of glare, light trespass, and urban sky glow. Street lights should be located so as to not conflict with street trees at their projected maturity.

Street and Median Planting

Street trees and other landscaping in the planting strips should be planted in an environment that promotes healthy root growth. Vegetation within the planting strips could include ornamental shrubs, ground cover, flowering plants, and grasses. These plantings should occur in areas that are clear of vehicles parked on the street, and they should incorporate hardscaped pedestrian access points.

Where medians are provided, they should be planted with attractive landscaping. Consideration should be given to the use of Low Impact Development techniques, and using native plants that are drought tolerant, low in maintenance, and resistant to disease, pollution and heat.

Transportation

The strategy to accomplish and maintain a transportation and land use balance is based on six components:

- Partnering with other jurisdictions to identify and implement regional solutions to multi-modal transportation issues.
- Cooperating with other jurisdictions to identify and implement a coherent pattern or grid of “walkable” streets and safe, attractive bicycle facilities throughout the areas.
- Phasing transportation infrastructure, including a grid pattern of streets in the TSA in addition to major road links to the west and north. Development should be phased in such a way that effective transportation measures will be in place or substantially completed before proceeding to future development phases.
- Providing a realistic transportation demand management (TDM) plan to reduce single occupant vehicle trips.
- Achieving vehicle trip reduction goals contained in the TDM plan.
- Monitoring the TDM plan outcome to ensure an adequate multi-modal transportation system.

Transportation solutions for the area are based on the timely provision of transit (including bus), pedestrian and bicycle ways, road improvements and TDM measures. Collaboration among Fairfax County, Loudoun County, the Town of Herndon, and the Metropolitan Washington Airport Authority (MWAA) can bring about the implementation of a regionally-oriented approach that will benefit residents, employees and through-travelers. This cooperative effort should involve representatives of Fairfax County, the Town of Herndon, Loudoun County, and MWAA that can share information on a timely basis and devise approaches and strategies to meet transportation needs.

The recommendations contained in the Area Plan text and maps, the Policy Plan and Transportation Plan map, policies and requirements in the Public Facilities Manual, the Zoning Ordinance, and other standards will be used in the evaluation of development proposals.

Specific transportation recommendations are contained in the District-Wide Recommendations for the Upper Potomac Planning District, and in the Transportation Recommendations for the Greater Herndon Community Planning Sector (UP4). In addition, the following transportation recommendations should be addressed for any development proposal:

Innovation Center Station Access

Direct pedestrian access from the Innovation Center Station to any proposed development is encouraged. If public facilities (fire, police, recreation) are constructed on parcel 16-1((1))11B, then separate direct pedestrian and bicycle access to them is also encouraged.

Planned Roadway Improvements

The planned roadway improvements in and around the Innovation Center Transit Station Area must be phased as needed to support development. Within the Innovation Center Transit Station Area, it is critical to provide a grid system of streets that achieves internal connectivity and, if feasible, links to areas beyond.

Roadways in this area are congested and, in some cases, under severe strain. Increased vehicle trips to and from the TSA will compound traffic congestion within the 1/2 mile ring radius and, potentially, on vicinity roadways in Western Fairfax County and the Town of Herndon. At least four cumulative lanes will be needed from the station area north to Route 606 and at least six cumulative lanes will be needed west toward the Route 28/Innovation Avenue interchange to accommodate vehicle traffic attributable to the TSA.

As addressed under the Phasing and Monitoring section, these improvements are essential to ensure continued functioning of road networks in the TSA. Studies should be performed to identify the breadth of impact on vicinity roads.

Road improvements required to mitigate traffic impact on transportation facilities will extend beyond the Fairfax County Border. These improvements will be necessary to support each phase of development. To construct these roads will require multi-jurisdictional cooperation, and authorization as well as VDOT approval. The width, alignment and location of roads constructed to fulfill this requirement should complement the planned non-SOV-oriented character. Additional guidance about these major improvements is detailed next:

- North-South Road(s) – Four cumulative lanes are needed from the transit station area north to Route 606. They will serve as a major entrance to the area. A new four lane road should be constructed to the west of the existing Rock Hill Road. In addition, existing Rock Hill Road should be improved to a standard two-lane local access road. In its current alignment, Rock Hill Road should not serve as a primary access road to the TSA. The new four lanes to the west of Rock Hill Road should be the primary north-south access to the Innovation Center Transit Station Area.

If only two lanes can be constructed at this western access point, improved Rock Hill Road could serve as a second two lane north-south access to the transit station area.

It is the intent of this Plan that the existing Rock Hill Road should not be improved to four lanes. However, in the event that Loudoun County does not authorize other alternatives for north south access and these alternatives are determined to be infeasible, then as a last resort, existing Rock Hill Road could be improved to four lanes as a north-south access. This last alternative should only be considered provided that the neighborhood character of the existing communities along Rock Hill Road is protected. All manner of providing new access lanes to the west of Rock Hill Road should be pursued to avoid this alternative.

- East-West Road(s) – This road(s) will serve as a primary route for traffic arriving from and going to Sully Road. Six lanes are needed to support the transit station area. The lanes should be configured to create a non-SOV-oriented environment, and divided into smaller roads, with at least two connection points on the west side of the transit station area. A feature to be considered is signalization to balance vehicular and pedestrian flows. In addition, pedestrian and bicycle safety and connectivity enhancements should be addressed through applying urban design guidelines such as narrowed travel lanes, the addition of bike lanes and providing at-grade pedestrian crossings.
- Grid of Streets – A grid of streets should be implemented in the area that connects future and existing development in Fairfax County and if feasible, to adjacent future development in Loudoun County. The grid should create multiple points of access to Innovation Avenue to lead traffic to the west to Sully Road or north along the new north-south road(s) to Route 606. A hierarchy of streets should be delineated to lead traffic exiting and entering the transit station area to higher capacity roads intended to handle the traffic. To the extent that Innovation

Avenue establishes a grid of streets across the County line, the road should be realigned.

- East-West Connector Parallel Road to the Dulles Toll Road – A road within the existing Dulles Toll Road right-of-way that would connect Centreville Road to the transit station area should be studied for feasibility and implementation. If the road cannot be accommodated within the existing Dulles Toll Road right-of-way, other connections could be examined that would also contain other modes of transportation. Regardless, multi-modal connections should be implemented from the developments to the east of the transit station area and the Centreville Road/ Elden Street corridor to the TOD area.
- North-South Connector Bridge – Land for right-of-way should be reserved and contributions for construction should be apportioned until a new alignment is adopted. The right-of-way that is reserved north of the Dulles Toll Road should be to the west and outside the core TOD area and could cross the county line. The bridge should be coordinated with adjacent development areas so that all multi-modal connections are maintained within the TOD. Other transportation improvements should be re-evaluated if this bridge is implemented as it may impact transportation studies.

Traffic Level of Service

Applicants requesting consideration of the rail-oriented options, which allow the highest intensities of the optional recommendations, shall demonstrate that the transportation system is kept in balance throughout the phasing of development. Consistent with adopted policy on Transit Oriented Development (TOD), a lower level of service may be acceptable within this TOD area. This performance-based approach requires applicants to provide improvements or other guarantees to maintain certain performance levels. These levels would be measured by levels of service or critical movement volumes or other measures as deemed appropriate by the Fairfax County Department of Transportation. Projects may be phased to coincide with the achievement of specific non-SOV (single occupancy vehicle) mode split or trip reduction objectives.

Remedies should be considered at locations where an acceptable level of service cannot be attained or maintained, as described below.

Circulation and Access

As stated in the urban design section, an interconnected network of local streets with wide sidewalks on both sides of streets, delineated pedestrian pathways, and pedestrian crossings should be provided. Logical pathways should connect to external crossing points. Pedestrian movement and safety should be facilitated, in association with implementation of a wayfinding signage plan.

A coordinated pedestrian circulation system plan should be developed that demonstrates how interior portions of the transit station area will be connected to destinations and places within and surrounding the property.

Transit, Pedestrian, and Bicycle Connectivity

Transit, pedestrian, and bicycle connectivity improvements are major elements of the transportation guidance supporting this Plan option. Transportation modes, other than single-occupancy vehicles, are preferred to support the increased density and mix of uses at the optional level of development. Transit, pedestrian, and bicycle connectivity will achieve the objectives of increasing transit usage, and creating a walkable and bike-able area. Pedestrian and bicycle enhancements relating to streets might include delineated crosswalks, bicycle lanes, signal re-timings, intersection sidewalk extensions (bulb-outs), mid-block crossings, street medians, reduced

turning radii and other features designed into the street section with the goal of reducing conflicts with vehicles and improving safety, as allowed by VDOT.

Transportation Demand Management (TDM)

The establishment of a Transportation Demand Management (TDM) program to encourage the use of transit (including bus), and non single occupancy vehicle transportation, will be needed. This program should utilize a variety of measures (see below) to achieve essential reductions in automobile trips to the TSA. TDM measure originating from commitments at rezoning will be components of the overall TDM program for this TDA. TDM recommendations adopted by the interjurisdictional program will be given favorable consideration as possible components.

The goal of the TDM program will be to achieve specified trip reduction targets attached to various phases of development. It should ultimately be maintained and funded by residents and business owners once development is completed. The TDM program should be designed to work in conjunction with, and enhance, the transit, pedestrian and bicycle connectivity improvements. TDM measures employed should facilitate and complement these physical improvements and urban design features.

The TDM program adopted should identify a full set of measures that could be implemented including alternative transportation services, support facilities and/or programs, and pricing measures. It should include enforcement, evaluation and penalty provisions in the event trip reduction thresholds are not achieved.

Transit ridership, in combinations with the TDM program should result in specified trip reduction levels identified for phases of development. The following minimum levels of trip reductions should be achieved:

- Within ¼ mile – minimum 30 percent trip reduction for residential and office
- Within ½ mile – minimum 25 percent trip reduction for residential, 20 percent for office
- Beyond ½ mile – to be determined with a TDM study

These reductions should occur in the peak hour at site build out, with lower levels of trip reduction expected in the interim phases of development. In addition to the goal of achieving the minimum trip reductions stated above, a TDM study and a parking study should be done at the time of rezoning. The intent of the parking study is to determine if parking reductions can be applied to help achieve the overall TDM trip reduction goal.

Further, the county should review parking requirements of the Zoning Ordinance to consider the full range of parking management strategies and other TDM strategies. The implementation of a successful comprehensive interjurisdictional TDM program will require cooperation so that property owners in the greater RT28/CIT area also participate, not just those within the transit station area. Precautions should be taken to ensure that inappropriate use of residential parking areas, including neighborhood street parking, in the adjacent areas does not occur. An interjurisdictional program may include paid parking, transit subsidies, ridesharing matching services, preferential treatment of carpool/vanpools, shuttle bus services to nearby transit stations, guaranteed ride home programs, marketing of commuter assistance programs, and other related measures designed to lessen use of single-occupant vehicles and boost HOV usage during peak commuting periods. A fuller list of TDM measures that could be considered are shown next.

EXAMPLES OF TRANSPORTATION DEMAND MANAGEMENT (TDM) MEASURES

Individual Employer TDM Measures

Alternative Transportation Services

- Shuttle Bus(es)
- Company Vanpools
- Telecommuting

Support Facilities/Programs

- On-Site Transportation Coordinator
- Employer Ridematching Services
- Preferred HOV Parking Locations
- Flexible Work Hours
- Guaranteed Ride Home Program

Pricing Programs

- Parking Management/Pricing Programs
- Subsidies for Use of HOV Modes

Implementation

- CEO and Board of Directors Commitment
- Proffers/Negotiated Agreements
- Participation in Transportation Management Association

Areawide TDM Measures

Alternative Transportation Options/Services

- Expand Transit Services (peak hours)
- Expand Transit Services (off peak & midday)
- Carpools
- Vanpools
- Shuttle Bus(es)

Support Facilities/Programs

- Transit Center
- Park & Ride Lots
- HOV Lanes
- Preferred Parking Locations
- Multi-Employer Ridematching Services
- Guaranteed Ride Home Program

Mixed-Use Development

- Mixed-use developments to include residential, commercial, support retail, hotel and institutional uses
- Development design should maximize pedestrian convenience and accessibility to on-site services

Pricing Programs

- Road/Congestion Pricing Programs
- Parking Management/Pricing Programs
- Transportation Allowances

Implementation

- Employer Trip Reduction Ordinance
- Parking Management Ordinance
- Site Design Controls
- Proffers/Negotiated Agreements
- TMA Coordination

Phasing and Monitoring

As stated in the Transportation Strategy section, “Development should be phased in such a way that effective transportation measures will be in place or substantially completed before proceeding to future development phases.” Although phasing of the ultimate development should be flexible, a grid of local streets should be established in the initial phase of each development. The design should create a dynamic streetscape and promote pedestrian safety and activity. The initial phase should begin to substantially create multi-modal and pedestrian connections to the metro station landing. Establishing this grid pattern in the early phases of redevelopment should establish the identity of the place as a walkable, pedestrian-scaled, mixed-use area. In addition to establishing a grid of local streets, major road improvements should be phased to mitigate the impacts of each level of development

To ensure the transportation impacts of proposed development are fully addressed, the satisfactory preparation of an overall transportation study by the developer as part of a rezoning application is required. The study should demonstrate that impacts to traffic could be mitigated by phasing development in such a way that effective transportation improvements will be approved and funded including TDM measures, bus, Metro rail service and road improvements before proceeding with proposed development. The study should include alignment and phasing of an internal circulation system and submission of detailed transportation studies. The transportation study should evaluate existing transportation conditions and analyze the impacts of the traffic associated with the overall development. The recommendations of this study should include a TDM program to reduce trips. The results will be taken into consideration by the county in determining the timing of construction of improvements, initiation of TDM measures and/or contributions for off-site improvements. Additional roadway improvements in Fairfax County, Loudoun County or the Town of Herndon may be required based on the findings of the development’s traffic study. These improvements may be in addition to the transportation improvements currently cited in the adopted county transportation plans for Loudoun County, Town of Herndon or Fairfax County.

If the development is phased, detailed studies of development proposed for each subsequent phase should be provided at specified intervals (for example with each Final Development Plan) and follow the methodology described above. In any event, assurances will be expected that the transportation facilities and services assumed to be operational in the study will in fact be provided as stated. The transportation monitoring and evaluation program will be conducted at specified intervals acceptable to the Fairfax County Department of Transportation. The monitoring and evaluation program will include an analysis of the success of the transportation demand management program. Items will include evaluation of trip reduction and mode split; and secondly, an assessment of the performance of site entrances and signalized intersections, as determined by the Fairfax County Department of Transportation in cooperation with Loudoun County and the Town of Herndon.

If it is determined by the county during interim review that adverse impacts have not or cannot be successfully mitigated, the amount of development should be reduced to a level that can be adequately supported by transportation infrastructure. Should development phases be delayed or halted because the impacts have not been mitigated based on the TDM program targets, the developer will be responsible for providing other necessary transportation improvements. Failing

that, appropriate contributions to a fund for eventual mitigation may be requested. The total level of development may be restored upon demonstrating that adequate infrastructure capacity is available.

Noise

Proposed residential uses, outdoor activity areas and other noise sensitive areas may be affected by proximity to the Dulles Toll Road. Portions of the area are also located within one-half mile of the DNL 60 noise contour for Washington Dulles International Airport. Furthermore some of the area may be affected by noise from the quarry located to the northwest in Loudoun County.

Noise studies may be required to demonstrate that these impacts will be addressed. Provision should be made to notify future residents of the area that they may be impacted by quarry operations. The use of planted terraces, maintenance of tree canopy through the areas under consideration, the use of planted roof gardens and planted sound absorption walls have been found effective management techniques for developments near airports.

Stormwater Design

Environmentally-friendly stormwater design should be an integral design principle that should be part of the conceptual stage of site development for all projects, recognizing that stormwater management measures may be phased with development. The stormwater design should first seek to minimize the effect of impervious cover, followed by the application of stormwater reuse, retention, detention, extended filtration and, where soils and infrastructure allow, infiltration to improve downstream waters. Coordination of stormwater management controls among multiple development sites may also be effective in achieving stormwater management goals in an efficient manner.

Stormwater management and water quality controls for development and redevelopment should be designed to return water into the ground where soils are suitable or reuse it, where allowed, to the extent practicable. Reduction of stormwater runoff volume is an important stormwater design objective. Reduction could occur through techniques that use plants and soils via landscaping measures, through techniques that reuse harvested rainwater in a variety of ways, and/or through approaches that infiltrate water into the ground to replenish aquifers and provide summer base flows to local streams, where soils and infrastructure allow.

The following are recommended for all new development and redevelopment:

- Stormwater quantity and quality control measures should be optimized with the goal of reducing the total runoff volume and/or significantly delaying its entry into the stream system. The emphasis should be on Low Impact Development (LID) techniques that evapotranspire water, filter water through vegetation and/or soil, return water into the ground or reuse it.
- LID techniques of stormwater management should also be incorporated into new and redesigned streets, as well as parking lots, where allowed and practicable.
- At a minimum, stormwater management measures should be provided that are sufficient to attain both the stormwater design-quantity control and

- Stormwater design-quality control credits[1] of the most current version of the LEED-NC or LEED-CS rating system (or the equivalent of these credits should be provided). If, on a given site, the attainment of the stormwater design LEED credits (or equivalent) is demonstrated to not be achievable, all available measures should be implemented to the extent possible in support of this goal.

Green Buildings

All new buildings should receive green building certification under an established rating system such as the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program. The green building rating system used should be based on individual building certification, such as LEED-NC (New Construction) or LEED-CS (Core and Shell). LEED Silver certification, or the equivalent, is the minimum expectation for nonresidential development. Residential development should be guided by the Policy Plan objectives on Resource Conservation and Green Building Practices.

Affordable Housing and Universal Design

All development should conform to county policies on affordable and workforce housing to encourage a diverse population of residents. Per county policy, any residential use should provide at least 12 percent of new units as affordable housing. The residential components should accommodate a variety of age groups, interests, and needs. The units should be accessible for those without cars, meet ADA requirements, and accommodate universal design.

Parks and Recreation

A more compact, urban style of development is planned within ½ mile of the planned Innovation Center Station. As such, the urban parkland service level standards adopted by the Fairfax County Park Authority Board apply a service level standard of 1.5 acres of land per 1,000 new residents and 1 acre per 10,000 employees. The maximum level of redevelopment will generate the need for approximately 6 acres of publicly accessible urban parkland which should be integrated with development on this site.

1. These credits, as set forth in LEED 2009 for New Construction and Major Renovations, are as follows:

SS Credit 6.1: Stormwater Design-Quantity Control:

- For sites that have greater than 50% impervious cover in the existing condition, the total volume of runoff released from the site in the post-developed condition for the 2-year, 24-hour storm should be at least 25% less than the total volume of runoff released in the existing condition for the same storm. Furthermore, the peak runoff rate for the 2-year, 24-hour storm in the post-developed condition should be at least 25% less than the existing condition peak runoff rate for the same storm.
- For sites that have 50% or less impervious cover in the existing condition, the total volume of runoff released as well as the peak release rate for the 1- and 2-year, 24-hour storm in the post-developed condition should be equal to or less than the total runoff volume and peak release rate in the existing condition for the same storm. Alternately, a stormwater management plan that protects receiving stream channels from excessive erosion, including stream channel protection and quantity control strategies, may be pursued.

SS Credit 6.2: Stormwater Design-Quality Control:

- Stormwater runoff associated with the development should be controlled such that the first one (1) inch of rainfall is reused, infiltrated or treated in a manner through which 80% of the average annual post-development total suspended solids (TSS) are removed.
- Equivalent approaches may incorporate coordinated stormwater management on multiple development sites and/or off-site controls. Additional stormwater management efforts should be encouraged.

Urban parks within the Transit Station area support the goals of creating a critical mass of pedestrian activity centered around the planned Metro station. Urban park facilities such as pocket parks could include gathering areas, outdoor cafes, fountains or other focal points of interest and small performance spaces. The inclusion of other urban parks, such as off-leash dog areas, community garden plots, water features, tot lots, fitness courses and trails and plazas would allow a greater range of recreational facilities and amenities. Urban park sites should be publicly accessible and within walkable distance of most residential and mixed use areas.

The Upper Potomac Planning District is highly deficient in active recreation facilities, especially athletic fields. Little public parkland is available to support active recreation facility development. To offset the impacts of development on park and recreation service levels, land development projects should contribute land, facilities and/or funds to provide active recreation facilities, preferably on-site or near the development.

The area includes large sections of RPA and other natural resources, whose preservation and protection are Fairfax County goals. Dedication of these areas to the Fairfax County Park Authority or other conservation entity as part of a zoning action would address the goals of preserving environmentally valuable land and providing open space amenities.

Information and Communications Technology (ICT)

The Innovation Center TSA should include ICT infrastructure. Strategies and programs should be developed to ensure that all residential, commercial and public use structures in the TSA are designed and equipped to enable such information and communications networking.

Land Use

Development should be guided by the TOD guidance set forth in the Policy Plan volume of the Comprehensive Plan. Consistent with that guidance, appropriate intensity should be governed by the distance from the rail transit platform based on concentric rings:

- ¼ mile: mixed use including office, research and development, hotel, retail and residential uses at an intensity up to 2.8 FAR
- ¼ to ½ mile: mixed use including office, hotel, retail and residential uses at an intensity up to 1.6 FAR
- beyond ½ mile: 16-20 dwelling units per acre, at an overall intensity of approximately .50 FAR.

Maximum intensity within each ring will be evaluated based on the considerations that development proposals give to TOD principles, road improvements, recreational facilities, and public service facilities, such as fire and police. Intensities apply to residential and nonresidential (retail commercial, office, institutional) uses. Projects that include areas of different intensity recommendations should have an overall intensity that is based on the proportion of land area associated with each intensity recommendation. The resulting development pattern should generally conform to the goal of locating the highest intensities closest to transit. Proposed intensities should be consistent with the urban scale and character that is envisioned for the area.

Tax map parcels 15-2((1))3, 4, 5 and 16-1((1))4A contain extensive Resource Protection Areas, Environmental Quality Corridors and floodplain. The development potential of these parcels is severely constrained. As an incentive to preserve open space, the planned development potential associated with these parcels may be applied as bonus intensity to a developable parcel within the

TOD area as part of a zoning action, provided the entire encumbered parcel is dedicated to the Fairfax County Park Authority or another conservation entity. For example, assuming a parcel has a planned development potential of 10,000 square feet, this amount of development would be the bonus to be added to the receiving parcel provided that the resulting development demonstrates that building scaling, massing and open space are in accord with underlying site specific plan guidance and TOD principles and respect Resource Protection Areas, Environmental Quality Corridors and floodplain.

Ring 1: Within ¼ mile: Mixed residential and nonresidential uses at an intensity up to up to 2.8 FAR

The Center for Innovative Technology, a state-supported research and development consortium of state universities and colleges, constitutes this area. The mixed-use recommendations that follow seek to establish parameters for future development by suggesting a minimum, a maximum, or a range of percentages for residential and nonresidential uses. These percentages are meant to be guides and they may need to be adjusted on a case by case basis in order to further other planning objectives. For example, a mixed-use project that contains an institutional use recommended in the Plan may not be able to achieve the minimum percentage of office use or may exceed the maximum for nonresidential use. Development under this option is subject to the following conditions:

- Bus bays, the Kiss and Ride and pedestrian bridge pavilion associated with the northern portion of the Metro station should be implemented and integrated into the development
- Public facilities analyses, including fire, police, schools, recreation, and transportation are performed in conjunction with any development application. The results of these analyses should identify necessary improvements, the phasing of these improvements with new development, and appropriate measures to mitigate other impacts.
- Although phasing of the ultimate development should be flexible, establishment of the pedestrian-scaled, mixed use character of the area should be established in the initial phase of development. This phase should include a grid street pattern, plazas and usable open space vertically-integrated land uses with ground-floor retail and other activity generating uses located along the street.
- A high quality living environment should be created through the provision of well-designed mixed-use projects that provide active recreation, entertainment and other site amenities. The mixed-use development should have a residential component that is at least 35 percent but no more than 45 percent of the total gross floor area of the development Each residential development should include on-site affordable housing that is well integrated and dispersed throughout the development.
- The nonresidential component of the area within the ring should include office, hotel, and support retail uses. The current institutional use (CIT) is planned to remain and serves as a focal point for future development. The office component, which may include space for research and development activities should be at least 40 percent of the development, but not exceed 50 percent of the total gross floor area. Support retail uses, to be located in office, hotel or residential buildings, should be at least 2 percent, but not exceed 5 percent of the total gross floor area. Retail should support the residents' daily needs so as to minimize trips to neighboring communities. Hotel uses are encouraged and should be at least 5 percent but not exceed 15 percent of the total gross floor area.
- Consistent with the Transportation recommendations for the Rail Option, vehicular access is provided through Loudoun County.

- Environmental Quality Corridors should be dedicated to the Fairfax County Park Authority or other land conservation entity.
- Total parcel consolidation should be achieved.

Ring 2: Within ¼ -½ mile: Mixed residential and nonresidential uses at an intensity up to 1.6 FAR

Ring 3: Beyond ½ mile: Residential use at 16-20 dwelling units per acre, at an overall intensity up to .50 FAR

The proposed development in Ring 2 and Ring 3 should be oriented toward the transit station area. In addition, appropriate transitions should be made to residential development in Fairfax County through tapering of building heights, substantial landscaping and other techniques as necessary.

Tax map parcels 15-2((1))3, 4, 5 and 16-1((1))4A contain extensive Resource Protection Areas, Environmental Quality Corridors and floodplain. The development potential of these parcels is severely constrained. The restoration, as may be needed, and dedication of these properties to the Fairfax County Park Authority or other land conservation entity as part of a zoning action would address several goals, including preservation of environmentally fragile and valuable land and habitat, and providing open space amenities.

Only a portion of the parcels in these areas are located in Fairfax County. Consolidation of land or parcels should occur such that the development results in well-designed, high-quality uses that are functionally and visually integrated into the larger mixed use area planned in Loudoun County.

Proposed developments should be part of a project that incorporates a contiguous area in Loudoun County and is compatible with the uses and intensities planned by Loudoun County. All development proposals should demonstrate that any unconsolidated parcels within a land unit can be developed in a manner that complements the proposed development in Loudoun County, is consistent with the recommendations of the Plan, and at a minimum includes environmentally constrained land.

The mixed-use recommendations that follow seek to establish parameters for future development by suggesting a minimum, a maximum, or a range of percentages for residential and nonresidential uses. These percentages are meant to be guides and they may need to be adjusted on a case by case basis in order to further other planning objectives. For example, a mixed-use project that contains an institutional use recommended in the Plan may not be able to achieve the minimum percentage of office use or may exceed the maximum for nonresidential use. Development under these options is subject to the following conditions:

- Although phasing of the ultimate development should be flexible, establishment of the pedestrian-scaled, mixed use character of the area should be established in the initial phase of development. This phase should include a grid street pattern, plazas and usable open space vertically-integrated land uses with ground-floor retail or other activity generating uses located along the street.
- A high quality living environment should be created through the provision of well-designed mixed-use projects that provide active recreation, entertainment and other site amenities. The mixed-use development should have a residential component that is at least 50 percent but no more than 60 percent of the total gross floor area in total, with residential becoming the primary use as distance from the platform increases. Each residential development should

include on-site affordable housing that is well integrated and dispersed.

- The nonresidential component of the area within the ring should include office, hotel, and support retail uses. The office component should be at least 40 percent of the development, but not exceed 50 percent of the total gross floor area. Support retail uses, to be located in office, hotel or residential buildings, should not exceed 2 percent of the total gross floor area. Retail should support the residents' and employees daily needs so as to minimize trips to neighboring communities. Hotel uses are encouraged and may comprise between 5 to 15 percent of the total gross floor area.
- Consistent with the Transportation recommendations for the Rail Options, vehicular access is provided through Loudoun County.
- Environmental Quality Corridors should be dedicated to the Fairfax County Park Authority or other land conservation entity
- Development should result in uses that are designed to be visually compatible with the residentially developed area east of Rock Hill Road.
- Active recreation areas should be provided for employees and residents.

In addition, public facilities analyses, including fire, police, schools, recreation, and transportation are performed in conjunction with any development application. The results of these analyses should identify necessary improvements, the phasing of these improvements with new development, and appropriate measures to mitigate other impacts.

Area East of Rock Hill Road (Land Unit L-4)

The portion of the Dulles Transition Area located east of Rock Hill Road, Land Unit L-4, is planned for multifamily residential use. In order to meet the planning objectives of the Dulles Transition Area it is necessary that new development be responsive to site-specific conditions that are outlined below for the land unit.

Land Unit L-4

Land Unit L-4 is planned for residential use at 16-20 dwelling units per acre. Office, retail and other uses, such as a daycare center, designed to serve the residential community are also appropriate. These nonresidential uses should total a minimum of 5,000 square feet including a daycare center. Office and retail uses should be incorporated into the ground floor of residential structures, while a daycare center may be in a free-standing structure. A mix of building types to include low-rise garden style and mid-rise structures is encouraged as a way to facilitate a visual transition. A safe, attractive pedestrian circulation system should be provided. This system of sidewalks and trails should be integrated with passive and active open space and promote pedestrian access to all uses, elements and land units of the area and provide for connections to the existing residential community and to the planned countywide trails system.

The southern portion of Land Unit L-4 has been identified as the location for commuter facilities that would support Metrorail in the Dulles corridor. A development plan should be submitted that shows the area planned for residential use but noting that a portion of the site may be used for commuter facilities. In order to preserve the option for transit facilities in this location, development of Land Unit L-4 should be phased to progress from north to south so that the southern portion of the land unit remains vacant for as long as possible. In no case should units proposed for the southern portion of the site be transferred to the northern portion.

Once a site for a park-and-ride facility has been dedicated to the county, opportunities for joint public-private development of the site for transit parking and support retail uses should be explored. Pedestrian walkways should be provided to facilitate circulation from the transit station area and parking facility to adjacent uses and should connect to existing or planned walkways in adjacent land units and existing sidewalks or trails along major streets in or around the land unit. The development should be in conformance with the Urban Design and Placemaking section for the Transit Station Areas in the Dulles Corridor, located in the Reston Transit Station Areas section of the Plan.

Site-specific development conditions for Land Unit L-4 include the following:

- All parcels within the land unit are consolidated and developed as part of a unified development plan. However, it is recognized that the development of a possible transit facility is consistent with this condition;
- Development of this land unit should result in well-designed, high quality uses and should be integrated with the adjacent land units;
- Visual impacts on existing low-density residential neighborhoods are minimized through height control, building setback, and transitional screening. Garden apartment structures should be located adjacent to the Reflection Lakes community and heights of these structures should not exceed 40 feet. Any mid-rise structures should not exceed 65 feet in height and should be located to front on Rock Hill Road and will not be adjacent to the Reflection Lake community. Any structure should be controlled by a fifty (50) degree angle of bulk plane as determined from the rear lot line of the adjacent single-family homes;
- A substantial buffer, 75 feet wide as far as practicable but 50 feet wide at a minimum, is provided next to the Reflection Lake community. This buffer should incorporate existing vegetation and be supplemented with additional landscaping as appropriate to screen the higher density residential areas from the existing single-family detached houses. If a commuter parking facility is developed on the southern portion of the site, a 75-foot buffer to the Reflection Lake community must be provided and the height of the structure should not exceed the height of any adjacent residence. Noise barrier measures should be incorporated into the garage design;
- Provision is made for affordable housing either through compliance with the Affordable Dwelling Unit ordinance, if applicable, or an appropriate proffer of units or land for affordable housing as defined by the ordinance;
- Active recreation uses should be provided to adequately serve the residents of the development;
- Preservation and protection of the Environmental Quality Corridors;
- All residential structures should incorporate noise attenuation measures as appropriate to meet the Interior Noise Level Standard P3, to achieve an interior noise level not to exceed 45 dBA Ldn; and
- To prevent cut-through traffic, vehicle access to the area should be via existing and realigned Rock Hill Road and Innovative Avenue only, as shown on Figure 25 of the Upper Potomac Planning District. No connection from Rock Hill Road shall be made to Farougi Court, Maleady Drive or Parcher Avenue. A vehicle turn-around should be

provided at the terminus of Parcher Avenue and elsewhere as appropriate.

Upon completion of the extension of Rock Hill Road across the Dulles Airport Access and Toll Road, mixed-use development up to a 1.0 FAR may be appropriate for the area within ¼ mile of the transit station platform, subject to the following conditions:

- This option may be considered at such time as a funding agreement for Bus Rapid Transit (BRT) or rail, as described in the Land Use section in the Suburban Center Areawide Recommendations, is reached.
- A high quality living environment can be created through the provision of well-designed residential and mixed-use projects which provide active recreation, entertainment and other site amenities. Each residential development should include on-site affordable housing that is well integrated and dispersed throughout the development.
- The mixed-use development should have a residential component that is at least 35% but no more than 50% of the total gross floor area of the development.
- In the nonresidential component of the development, office uses should not exceed 50% of the total gross floor area and support retail uses, to be located in office, hotel or residential buildings, should not exceed 15% of the total gross floor area. Hotel uses are encouraged.
- Retail uses located on the ground floor should have direct public access and display windows oriented to pedestrian walkways and where appropriate, vehicular drives and/or streets.
- Pedestrian walkways should be provided to facilitate circulation throughout the land unit and should connect to walkways in adjacent land units and existing sidewalks or trails along major streets in or around the land unit.
- The development should be in conformance with the Urban Design and Placemaking section located in the Reston Transit Station Areas section of the Plan.

I. DESIGN GUIDELINES FOR THE SUBURBAN CENTER CORE IN LAND UNIT A

In addition to the design guidelines that are applicable to the entire Dulles Suburban Center, the following objectives and guidelines are specifically applicable in the core in Land Unit A. This core area ultimately will have the highest development intensities in the Suburban Center, as well as a future transit focus.

DESIGN OBJECTIVES FOR THE CORE:

1. Create a clearly recognizable identity that relates to Land Unit A's function as the urban core for the Dulles Suburban Center; define the area as a whole, as well as areas of special character.
2. Reinforce the order and legibility of the Core's circulation systems, to create a sense of place and allow people to move around easily within it.
3. Create a visually appealing environment where people can conduct their business efficiently and safely, so that the Core attracts a high level of activity, preferably both day and night.

GENERAL SITE PLANNING

- Create an urban development pattern by bringing buildings close to each other and to the road.
- Create a street-level mix of support service and retail uses that is visually attractive, and which will focus services for pedestrian convenience. The concept should encourage pedestrian activities and contribute to the vitality of the area.
- Create a comprehensive and well-marked system of safe and attractive sidewalks/trails that link adjoining buildings, plazas, shops, urban parks, greenways and recreation facilities.
- Incorporate parking into structures, either above- or underground, limiting surface parking only to small visitor lots, if necessary.
- Develop the area adjacent to any future transit station to take maximum advantage of the pedestrian access directly from the station to the workplace. The area adjacent to the transit station should be attractive and inviting to commuters, with clear signage to make movement easy and convenient between the station, the workplace and the retail facilities.
- Integrate support services in retail establishments, on the routes commonly taken by transit users, in order to capture those shopping trips on the way to and from the office.
- Incorporate urban parks, large or small, within convenient walking distance of office buildings, in order to provide open space as a readily accessible amenity.
- Encourage shared parking between uses with different parking needs such as hotels and offices, to use valuable land more efficiently and to reduce the amount of impervious surface.

- Build public spaces such as pavilions, plazas, and terraces for seasonal celebrations, fairs and other community events, thus adding important vitality and evening activity.
- Integrate parking decks and structures into the overall landscape to create a pleasing visual image. Perimeter plantings and spandrel planters on the decks/structures are encouraged to lend a softening effect to facades and add visual variety.

IDENTITY: CREATING A SENSE OF PLACE

- Reinforce the identity of the Core by developing a streetscape plan to be used on all public roads within the core. This could include consistent use of street trees species and styles of street furniture such as light fixtures, as well as special paving treatments at crosswalks.
- Enhance the identity and legibility of the Core by developing a comprehensive signage plan that identifies both entries to the Core from major roads, as well as street entries to building complexes, parks, trails, etc. This signage should include consistent sign colors, lettering and shapes, and perhaps a logo for the Core, to alert users that they are in a special area.
- Define the special character of smaller areas within the Core by using landmarks such as distinctive public art or focal points such as a public plaza.
- Define the Core at its major entry points, using landscaping, walls, berms, and other methods create gateways and edges to the Core.