County of Fairfax, Virginia
Planning Commission Meeting
September 24, 2026
Planning Commission Action

PA 2024-II-1FC (PA-2024-00006) - FAIRFAX CENTER, LAND UNIT K
(Springfield District)

PLANNING COMMISSION RECOMMENDATIONS:
On September 24, 2026, the Planning Commission voted 10-0 (Commissioners Sargeant and Clarke were absent from the meeting) to recommend to the Board of Supervisors the adoption of Plan Amendment 2024-II-1FC, as shown in the Staff Report dated September 3, 2026.

ATTACHED DOCUMENTS:
Staff Report dated September 3, 2026

SL

PROPOSED COMPREHENSIVE PLAN AMENDMENT

ITEM: PA 2024-II-1FC
September 3, 2026

GENERAL LOCATION: Southeast of the I-66 and US – 50 interchange

SUPERVISOR DISTRICT: Springfield

PLANNING AREA: Area III

PLANNING DISTRICT:
Fairfax (F5 Legato Community Planning Sector)

SPECIAL PLANNING AREA:
Fairfax Center Area,
Land Unit K

PARCEL LOCATION: N/A

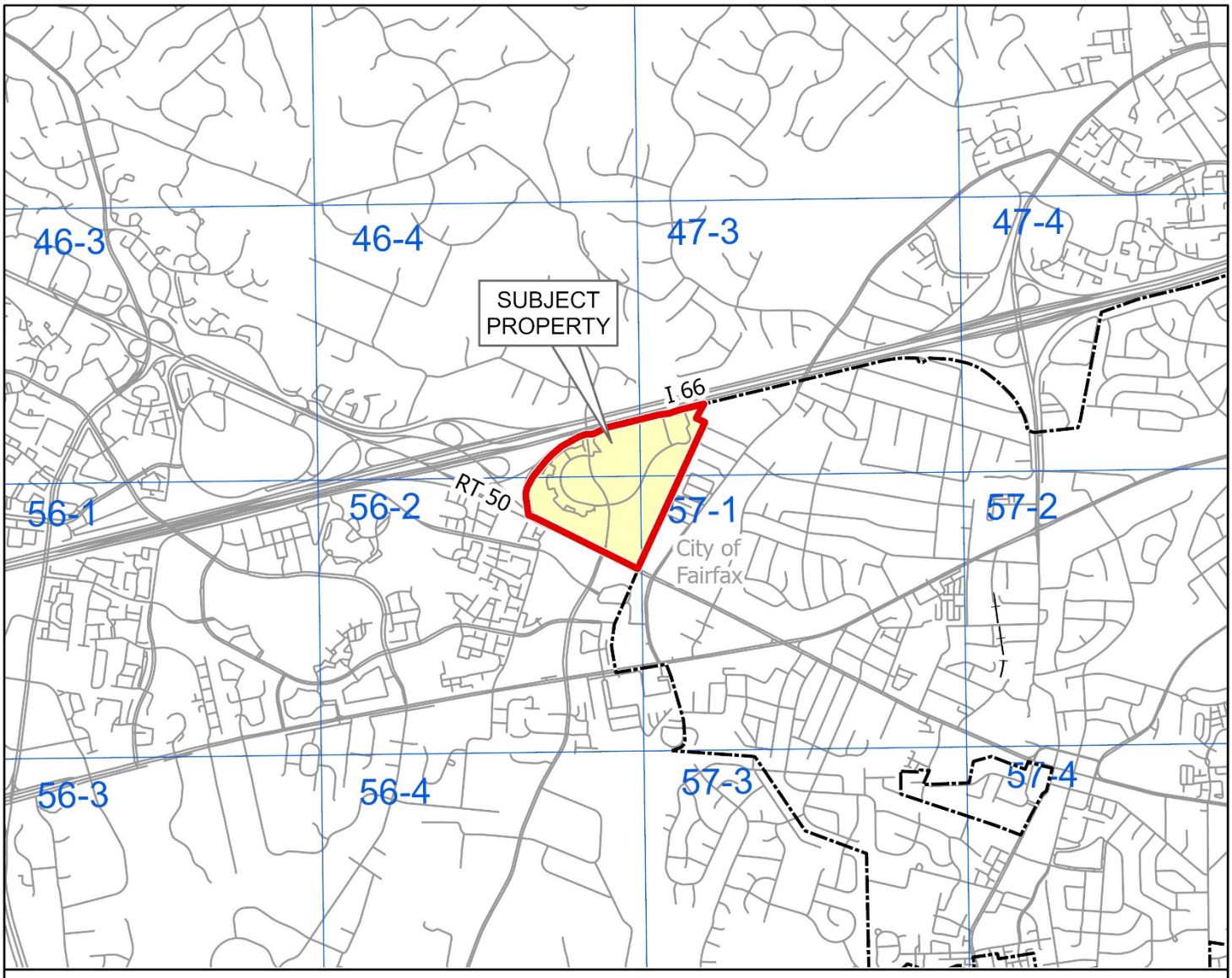
For additional information about this amendment call (703) 324-1380

PLANNING COMMISSION PUBLIC HEARING:
Thursday, September 24, 2026 @ 7:30 PM

BOARD OF SUPERVISORS PUBLIC HEARING:
Tuesday, October 13, 2026 @ 4:00 PM

PLANNING STAFF DOES RECOMMEND THIS ITEM FOR PLAN AMENDMENT

Reasonable accommodation is available upon 48 hours notice. For additional information about accommodation call the Planning Commission office at (703) 324-2865, or the Board of Supervisors office at (703) 324-3151.



PREPARED BY THE DEPARTMENT OF PLANNING AND DEVELOPMENT USING FAIRFAX COUNTY GIS
2024-II-1FC - Fairfax Center Area Land Unit K

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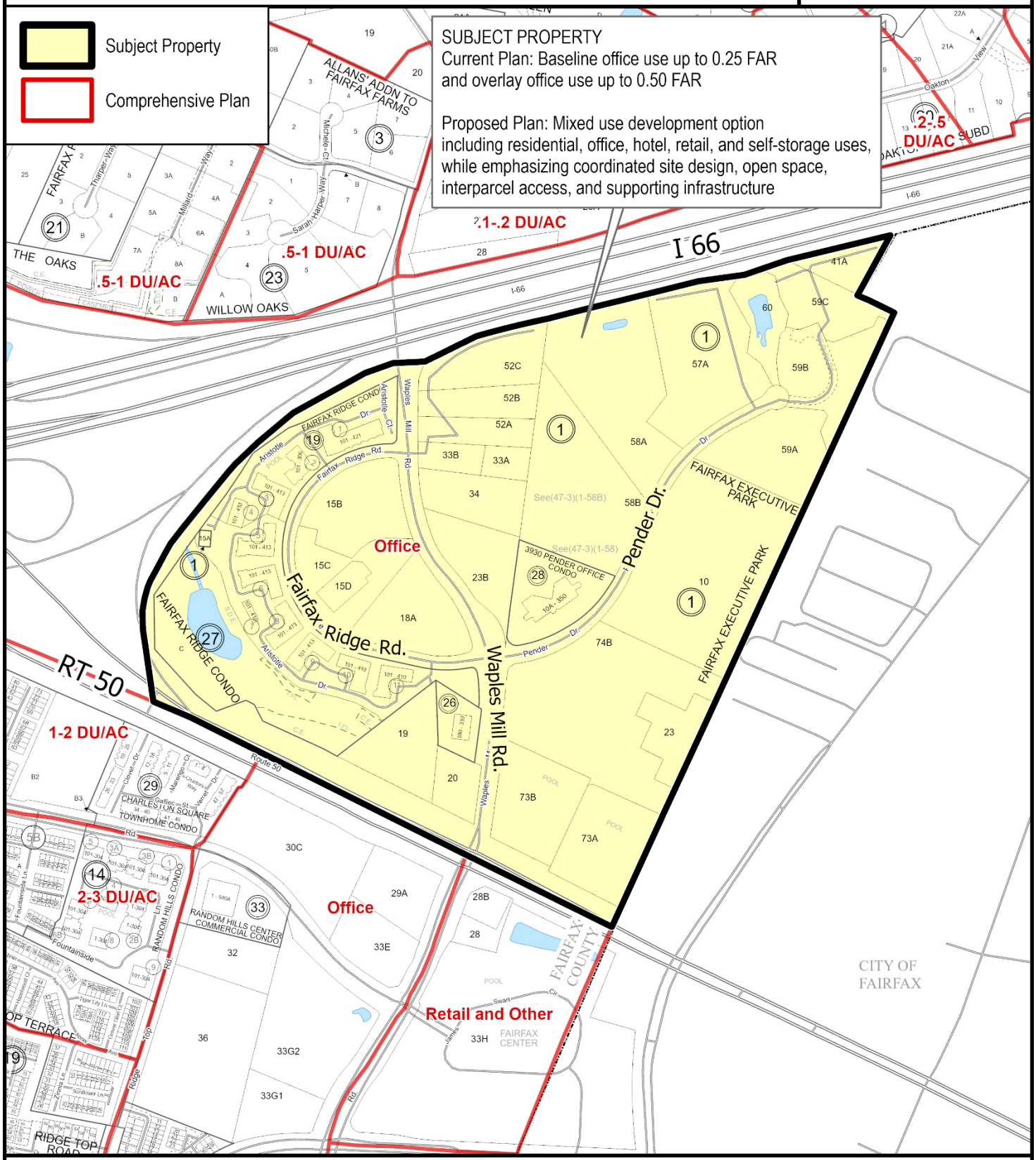
CURRENT PLAN AND PROPOSED CHANGE

PARCEL LOCATION MAP SHOWING CURRENT PLAN AND PROPOSED CHANGE FOR SUBJECT PROPERTIES AND CURRENT PLAN MAP FOR ADJACENT AREAS

ITEM:
PA 2024-II-1FC



600 FEET

PREPARED BY THE DEPARTMENT OF PLANNING AND DEVELOPMENT USING FAIRFAX COUNTY GIS
PARCEL INFORMATION CURRENT TO JANUARY 2026

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STAFF REPORT FOR PLAN AMENDMENT 2024-II-1FC

BACKGROUND

On April 11, 2023, the Board of Supervisors ("Board") authorized the consideration of site-specific Plan amendments (SSPAs) for Fair Oaks Business Park (SSPA 2023-III-2FC) and Fairfax Ridge Road (SSPA 2023-III-3FC), both of which are located within Land Unit K of the Fairfax Center Area in the Springfield Supervisor District. During the review of the two site-specific amendments, critical infrastructure needs for the sites and broader area were identified, including a sewer capacity issue given that the sites are in the Noman M. Cole, Jr, Pollution Control Plant (NMCPCP) sewershed and served by two pump stations that are currently operating at maximum capacity. Given this condition, the pump stations do not currently have sufficient capacity to accommodate flows from either of the proposals. At the same time, several other proposals for future redevelopment within the land unit were proposed by other nominators, indicating a comprehensive land use and infrastructure assessment for the broader area was warranted.

On June 25, 2024, the Board authorized the consideration of a Comprehensive Plan amendment study (2024-II-1FC) for the entirety of Land Unit K of the Fairfax Center Area to allow for a comprehensive planning analysis that would address sewer capacity enhancements for future redevelopment potential in the area. The study was phased to allow the original SSPAs to proceed pending commitments to upgrade the sewer pump stations to accommodate the full buildout of the land unit as envisioned in the broader study. Phase I of the study was adopted by the Board on November 18, 2025, which allowed residential mixed-use options on the two SSPA sites and updated land unit recommendations for sewer enhancements and transportation improvements.

Phase II of the study, which includes a comprehensive assessment of land use, transportation, and parks for the entirety of Land Unit K, is covered by this staff report and recommendations. This planning study introduces a new land use framework for the land unit which includes a mix of residential, office, hotel, retail and services, and self-storage uses, along with recommendations for parks, transportation, and placemaking.

CHARACTER OF THE AREA

Land Unit K is planned within the Suburban Center Non-Core portion of the Fairfax Center Area. Land Unit K contains approximately 128.92 acres, located south and east of Interstate 66, north of Route 50, and west of the City of Fairfax. Land Unit K is divided into eastern and western halves by Waples Mill Road, which provides connections to the rest of the Suburban Center to the south and the Difficult Run stream valley to the north. Land Unit K is developed with office, light industrial, and hotel uses east of Waples Mill Road, and multifamily residential and office uses west of Waples Mill Road. The westernmost portions of the land unit contain a Resource Protection Area (RPA) as shown in Figure 3. Area west of Waples Mill Road is zoned PRM (Planned Residential Mixed-Use), PDH 20 (Planned Development Housing District,

20 dwelling units per acre (du/ac)), PDH 30 (Planned Development Housing District, 30 du/ac), R-16 (Residential, 16 du/ac), and I-5 (General Industrial District); and area east of Waples Mill Road is zoned PDC (Planned Development Commercial), I-5 (General Industrial District), I-4 (Medium Intensity Industrial District), C-6 (Community Retail Commercial District), and R-1 (Residential, one du/ac) as shown in Figure 4.

The area is surrounded by residential single-family detached homes to the north across Interstate 66, the Fairfax Court shopping center, offices, and single-family attached residential uses to the south across Route 50, and multifamily and single-family attached residential uses and commercial uses to the east in the City of Fairfax.



Figure 3. Existing uses in Fairfax Center Area, Land Unit K, Source: Google Earth Aerial Map

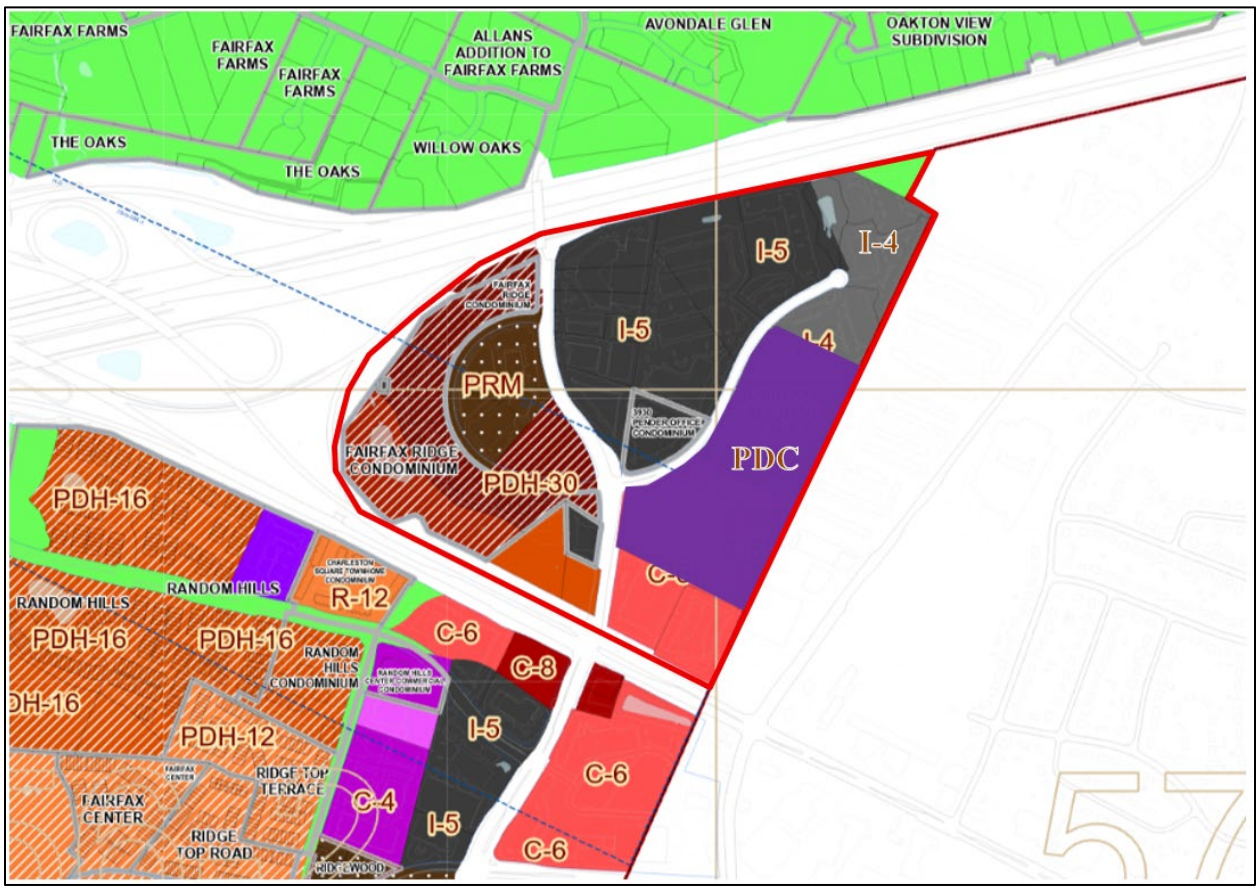

Figure 4. Fairfax Center Area, Land Unit K, Zoning Map, Source: Fairfax County GIS

PLANNING HISTORY

In 1982, the Board of Supervisors adopted a Comprehensive Plan amendment for the Fairfax Center Area which established the framework and initial recommendations for development of a mixed-use suburban center. The plan for Land Unit K was for office uses at intensities ranging from 0.5-1.0 Floor Area Ratio (FAR) along with a series of transportation improvements, such as the widening of Waples Mill Road and the circular Fairfax Ridge Road. The majority of Land Unit K has been developed with offices since the 1980s. Since the adoption of the initial plan in 1982, the broader Fairfax Center Area has transitioned from undeveloped greenfield land to a mixed-use area with a strong residential focus and several office nodes.

In the 1994 Area Plans Review (Figure 5), Land Unit K was revised to allow options for residential, hotel/motel, daycare and support retail uses at the overlay level for certain sites west of Waples Mill Road. Multifamily residential options were introduced, including 20-25 dwelling units per acre (du/ac) for the Modera Apartments on Aristotle Drive, and 16-20 du/ac for the Fairfax Ridge Community.

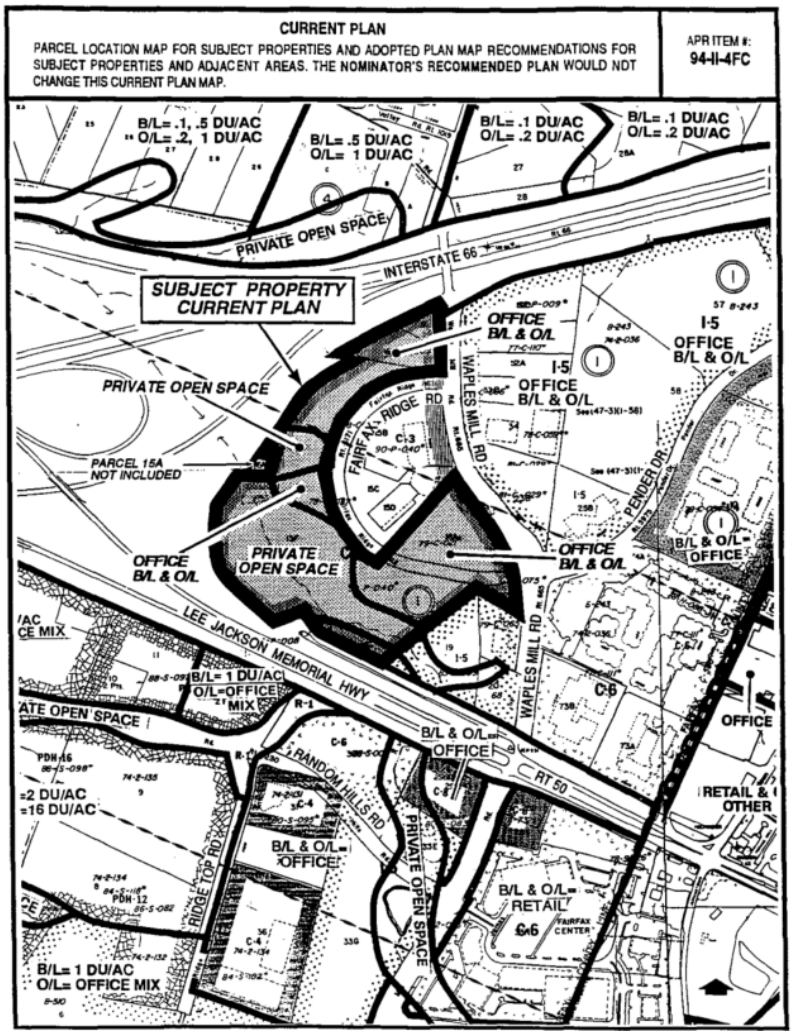

Figure 5. 1994 Area Plan Review Map, Source: Fairfax County

On July 9, 2001, RZ 2000-PR-056 was approved on Land Bay A at the western side of Fairfax Ridge Road to allow multifamily residential development with 420 dwelling units at an overall density of 17.51 du/ac. As part of that application an access point to the Fairfax Ridge SSPA site was provided.

In 2004, Area Plans Review (04-III-3FC) added a site-specific Plan option for Parcel 19 in Land Unit K, (Figure 6) to allow for residential use at 16-20 du/ac with conditions related to compatibility with surrounding uses, access for the adjacent residential community, and for no residential development to occur on Parcel 20 and others. On January 23, 2006, RZ 2005-PR-020 Land Bay C was approved by the Board on the EQR Fairfax Ridge site as a separate rezoning application to allow multifamily residential development with 63 dwelling units at an overall density of 16.3 du/ac.

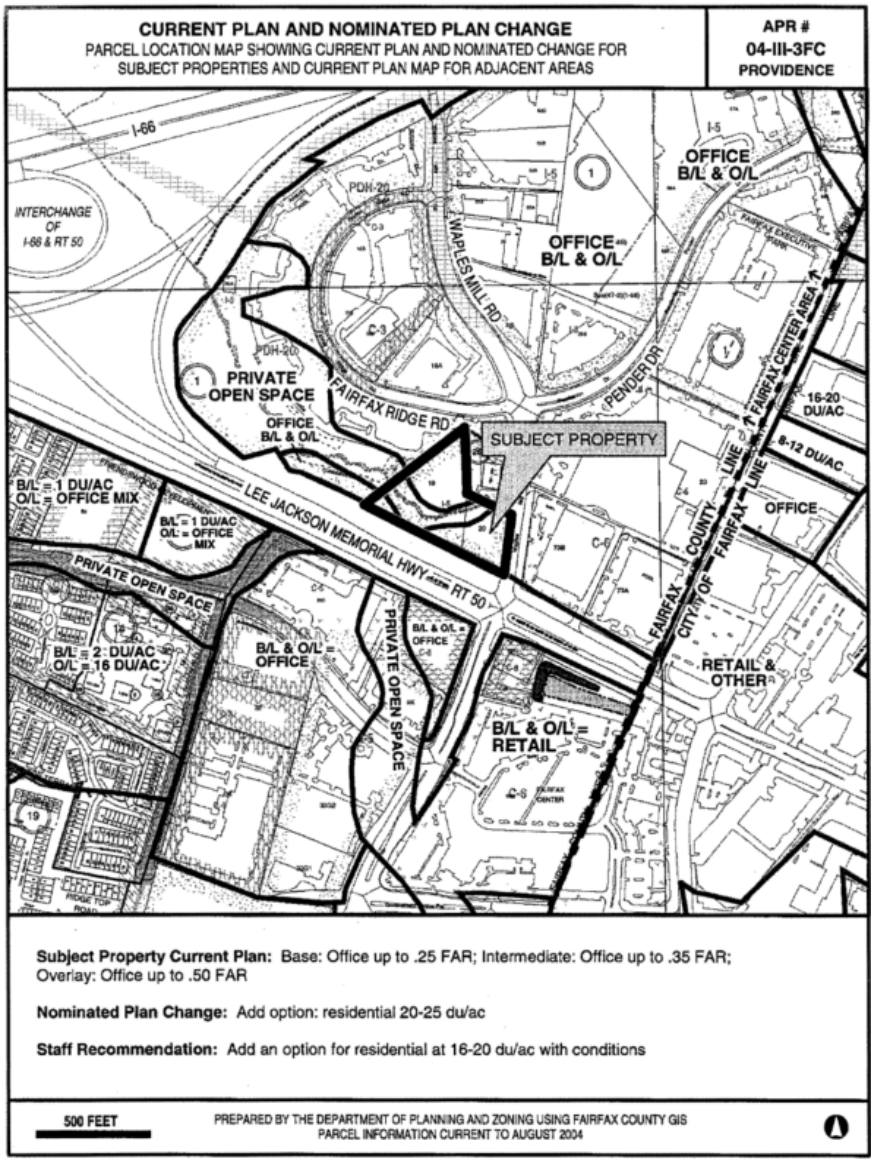

Figure 6. 2004 Area Plans Review Map, Source: Fairfax County

On November 1, 2011, the Board approved RZ 2006-PR-027 to rezone 15.51 acres from the PDH-20 District to PDH-30 District and permit the Radiant at Fairfax (Land Bay B) multifamily residential development with 150 dwelling units at an overall density of 9.67 du/ac, resulting in the overall Fairfax Ridge density not exceeding the 20-25 du/ac range specified in the Plan. At the time development occurred the options for residential were parcel-specific to those properties, which are Land Bays A, B and C shown in Figure 7. All residential developments have since developed.

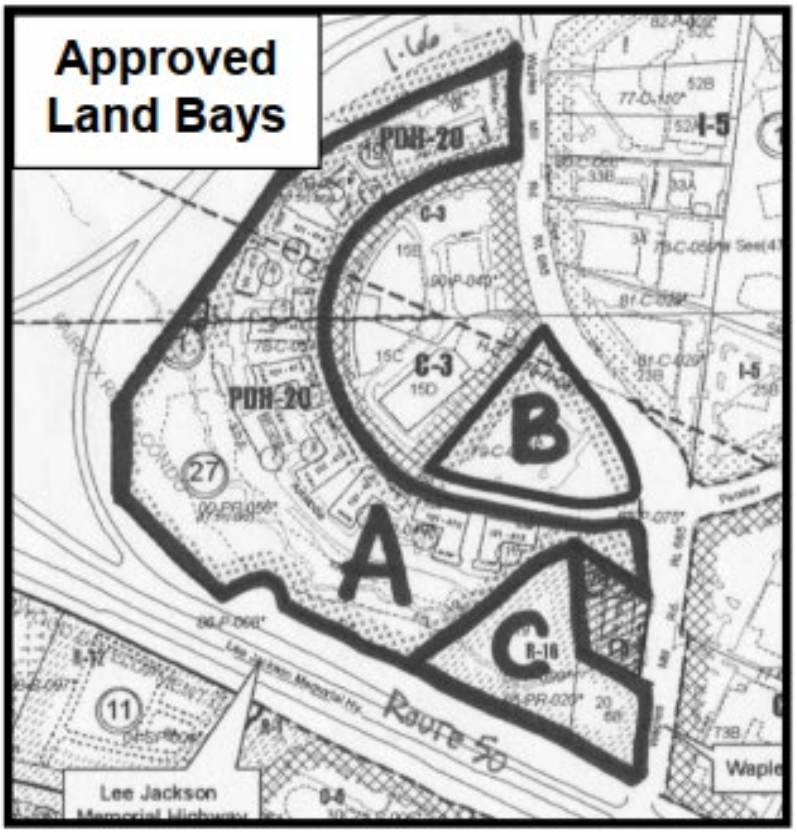

Figure 7. Fairfax Ridge Land Bay Map, Source: Fairfax County

On November 18, 2025, the Board adopted Phase I of the Fairfax Center Area Land Unit K Study (as shown in Figure 8), which included residential mixed-use redevelopment options for the Fair Oaks Business Park and Fairfax Ridge Road and areawide recommendation regarding the sewer enhancement and improvement of the transportation network within the area.

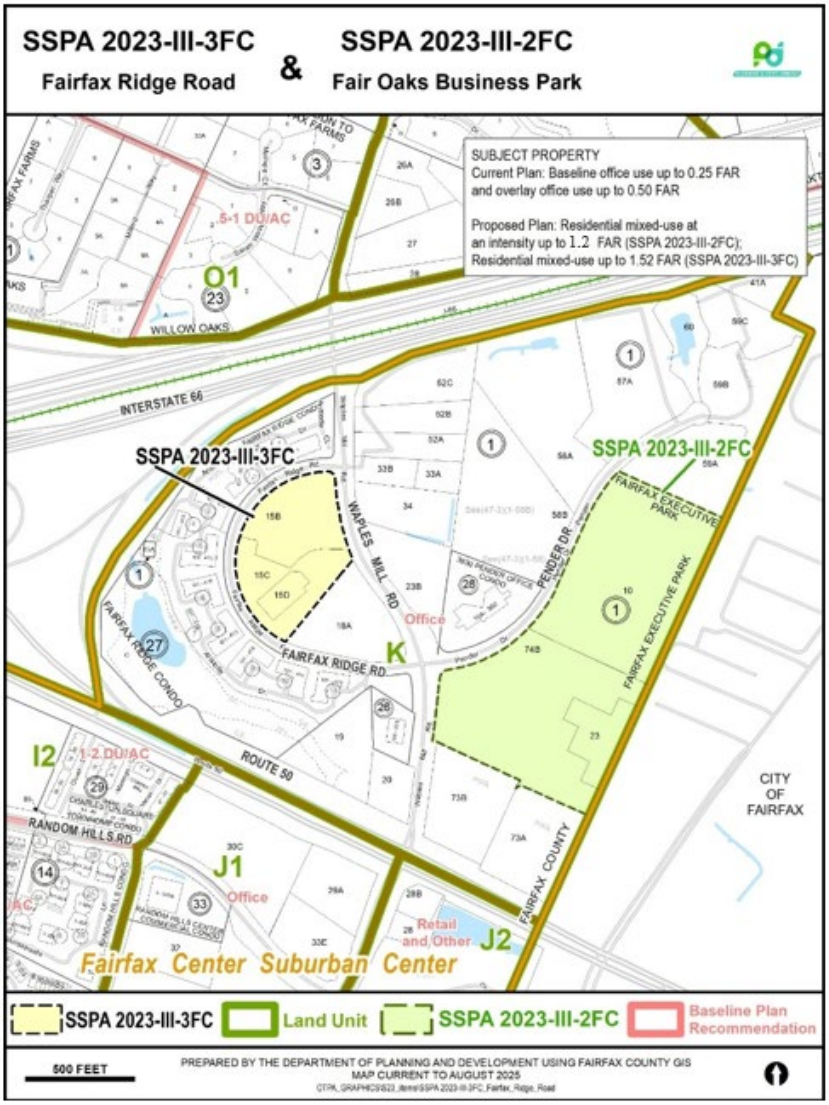

Figure 8. Phase I Study Sites (Fairfax Ridge Road and Fair Oaks Business Park) Map, Source: Fairfax County

On April 11, 2023, the Board authorized the consideration of a small planning study (SSPA 2023-II-2F) for Sub-units J1 and J2 of the Fairfax Center Area located south of Route 50 in the Braddock Supervisor District. On April 14, 2026, the Board re-authorized the study into a two-phase approach to evaluate the mix of uses and allowable densities/intensities with specific consideration for future land uses, open spaces, transportation network, and supporting infrastructure for the Fairfax Center Suburban Center Sub-units J1 and J2. This allows consideration of the two near-term proposals (4035 Ridge Top Road and 11301 Route 50), while keeping the larger study on the Work Program should circumstances warrant reconsideration in the future. The Phase I study of Fairfax Center Sub-unit J1 and J2 is currently under review as part of a separate staff report and scheduled for public hearings with the Planning Commission on September 24, 2026 and the Board of Supervisor's on October 13, 2026.

An additional Fairfax Center Area Phase III study (PA 2013-III-FC1(C)) is authorized for the Fairfax Center Area Core Area which is currently under review as part of a separate staff report

and scheduled for Planning Commission Public Hearing on September 30, 2026, and Board of Supervisor Public Hearing on October 27, 2026.

ADOPTED COMPREHENSIVE PLAN TEXT

Fairfax County Comprehensive Plan, 2026 Edition, Area III, Fairfax Center Area, as amended through May 5, 2026, Suburban Center Non-Core Areas and can be viewed online at (https://online.encodeplus.com/regs/fairfaxcounty-va-ap/doc-viewer.aspx?secid=1773#secid-2254). The Plan organizes recommendations by land unit and provides guidance on land use, density and intensity, transportation recommendations, sewer enhancement, environmental considerations, and compatibility with surrounding development.

"**Land Unit K**

Character

This land unit is located in the area north of Route 50, west of the City of Fairfax, south of I-66, and east of the Route 50/I-66 interchange. The area is predominately developed with office uses and the Fairfax Ridge and Radiant at Fairfax multifamily residential developments.

Recommendations

Land Use

Baseline: Office use up to .25 FAR

Overlay: Office use up to .50 FAR

This area contains office uses, multifamily residential uses and a hotel. This land unit is planned for medium intensity office use at .50 FAR at the overlay level. Particular attention should be given to the presentation of a high-quality image from I-66 and Route 50. The planned roadway improvements for this area are shown on Figure 3.

Development in this area is constrained by an Environmental Quality Corridor (EQC) associated with the stream valley that traverses the western portion of the land unit. The EQC encompasses the floodplain, associated alluvial soils, and steep slopes. This EQC area should be retained in open space.

The existing two pump stations, Pender and High Ridge, serving Land Unit K and portions of the City of Fairfax lack adequate capacity to accommodate increased demand from new development. New development should include engineering studies that evaluate the existing sewer infrastructure capacity and commit to providing any necessary improvements to offset the increased sewer flow demand for the full planned build out of the service area of the two pump stations.

A logical street grid with a cohesive network of internal and external streets and active transportation improvements should be provided that prioritize safe and convenient connections for pedestrians, cyclists, and vehicles to adjacent uses, transit facilities, and other destinations.

In order to provide a street appropriate for a residential neighborhood Waples Mill Road should be evaluated for two travel lanes (one in each direction) between I-66 and Fairfax Ridge Road/Pender Drive. The remaining space should be repurposed for planted medians and/or enhanced streetscapes. Turn lanes should be provided only where necessary in order to slow vehicle speeds and minimize pedestrian crossing distances at the intersections of Waples Mill Road, Pender Drive and Fairfax Ridge Road; and Waples Mill Road and Fairfax Ridge Road. Intersection improvements could also include roundabouts. Active transportation modes should be emphasized within the Waples Mill Road corridor that improve bicycle and pedestrian facilities, including wide pathways, buffers and street trees, and enhanced street crossing treatments, and could include a 10-foot shared use path and an adequate landscaped buffer, or equally comfortable, low-stress facility.

Redevelopment Options

The following residential and mixed-use options represent additional redevelopment potential in excess of the overlay recommendation. Given the existing and planned mix of employment and residential uses, Land Unit K is an activity node where new infill development should be integrated with a network of public parks, pedestrian facilities, and natural open spaces. Development under the options described below should provide commensurate facilities to contribute to such an open space network. Residential and mixed-use redevelopment should create a vibrant and sustainable living environment that prioritizes high-quality architecture and site design, access to multimodal transportation facilities, and other amenities for residents of all ages, incomes, and ability levels. Retail uses provided under the options should be community-serving in nature.

As an option to office use at the overlay level, the Fairfax Ridge Community is developed with multifamily residential uses at 20 to 25 dwelling units per acre subject to the following recommendations. Low-rise multifamily use and/or mid-rise multifamily use may be appropriate if the proposal results in a quality living environment. Less intensive uses or other unit types are generally not appropriate because they would not be compatible with existing office use. A quality living environment would include usable open space for recreation, buffers, screening and noise mitigation measures. Residential development should be designed in a manner compatible with the adjacent office buildings in terms of scale and height. Any development application for this option should also be evaluated in terms of adequately addressing the following conditions:

- Preservation of the Environmental Quality Corridor and the Resource Protection Area.
- Provide usable open space and on-site active recreation facilities sufficient to serve the residents of this complex.

- Provide pedestrian walkways connecting all portions of the development and linkages to adjacent properties.

- Provide noise attenuation measures, which may include noise barriers and/or a substantial vegetative buffer adjacent to I-66 and/or the I-66/Route 50 interchange; in addition, the site design should orient buildings in a manner that will further shield active recreational areas and open space areas from highway noise.

- At the time of zoning, provide an evaluation of the existing sewer system capacity and commit to providing any improvements necessary to offset the increased sewer flow demand of the residential development to the satisfaction of the City of Fairfax and Fairfax County.

As an option to office at the overlay level, Tax Map Parcels 56-2((1))19 and 20 are developed with the Radiant at Fairfax multifamily residential community at a density of 16-20 dwelling units per acre with the following conditions. Development should be designed in a manner that is compatible with the adjacent residential development in terms of height, scale, materials and massing of buildings and meets the conditions above for residential development in Land Unit K. Access should be through the adjacent residential community to Fairfax Ridge Road. No residential development should occur on Parcel 20. Density associated with these two parcels should be used to the extent possible on Parcel 19 and some or all of Parcel 20 should be considered for dedication to the county for park and transportation purposes.

As an option at the overlay level, portions of the Fair Oaks Business Park (Tax Map Parcels 56-2 ((1)) 74B; 57-1 ((1)) 10 and 23) may be redeveloped with residential mixed use at an intensity up to 1.2 FAR provided the following criteria are met:

- The primary residential form under this option, as measured by the number of housing units, should be multifamily units to capitalize on compact building forms that can create a pedestrian-oriented open space network. Stacked townhomes may supplement these units to provide a diversity of housing types and compatible transitions to lower density residential uses to the east of the site in the City of Fairfax.

- Site design should prioritize the development of high-quality, and publicly accessible urban parks within an open space network. Urban parks should include a mix of active and passive spaces that are integrated in locations that serve the development and the overall community.

- If townhouses are proposed along Pender Drive or Waples Mill Road, they should be oriented along these streets to activate the streetscape, enhance visibility, and establish a welcoming neighborhood-level streetscape.

- Development should provide compatible transitions in height to any adjacent residential uses through the use of setbacks, building form/type, landscaping/buffering, or through architectural elements.

- The parking structures, loading, and service areas should be located and designed to minimize visual impacts through the use of landscaping/buffering or architectural elements.

- Transportation improvements should include the following:

    - Streetscapes with pedestrian-scaled lighting, on-street parking, landscaping, and street trees.

    - Pedestrian facilities should be considered to facilitate connections to adjacent residential areas within the City of Fairfax.

    - Safe, protected pedestrian crossings should be provided along Waples Mill Road at Pender Drive / Fairfax Ridge Road.

    - A two-lane, multimodal, inter-parcel and interjurisdictional connection to the east from either Waples Mills Road or Pender Drive designed for connection to Jermantown Road, in the City of Fairfax.

As an option at the overlay level, Tax Map Parcels 46-4 ((1)) 15B; and 56-2 ((1)) 15C and 15D may be redeveloped with residential mixed use at an intensity up to 1.52 FAR (at up to 65 dwelling units per acre) provided the following criteria are met:

- The primary residential form should be multifamily units to optimize a pedestrian-oriented open space network.

- Site design should prioritize the development of high-quality, and publicly accessible urban parks within an open space network. Urban parks should include a mix of active and passive spaces that are integrated in locations that serve the development and the overall community.
- Development should provide compatible transitions in height to the surrounding residential uses through the use of step backs, setbacks, landscaping/buffering, or through architecture elements. Building heights should range from 50 feet - 75 feet.

- The parking structures, and loading and service areas should be located and designed to minimize visual impacts through the use of landscaping/buffering or architectural elements.

- Transportation improvements should include the following:

    - Streetscapes with enhanced lighting, on-street parking, landscaping, and street trees.

    - Safe, protected pedestrian crossings should be provided along Waples Mill Road and Fairfax Ridge Road.

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PROPOSED PLAN AMENDMENT

The proposed amendment considers a mixed-use scenario for the study area, including multifamily, single-family attached and stacked townhouse residential use, office, retail and services, hotel, and self-storage. Table 1 quantifies the mixed-use scenario; the scenario was developed based on the age, dimensions, and current usage of existing buildings, their potential for repurposing or redevelopment, and the sewer capacity, transportation, and other infrastructure necessary to support future development. The mixed-use scenario increases the land unit's residential potential and decreases its non-residential potential, while retaining existing residential uses west of Waples Mill Road and the land uses and densities/intensities approved in Phase I.

Figure 9 depicts the mixed-use scenario proposed with this amendment in yellow. Areas shown in green consist of 633 existing residential units and dedicated open space which are proposed to remain. Areas shown in teal were the subject of the Phase I SSPAs and are not proposed for further land use changes.

As described in the quantification table (Table 1) the mixed-use scenario envisions up to 1,341 net new multifamily mid-rise residential units, with future non-residential potential reduced to 404,867 square feet (SF) of office use and 20,139 SF of retail use. These 1,341 units and 425,006 SF commercial uses are not assigned to any specific parcel, but are envisioned as a floating pool of intensity which can be implemented through future zoning changes as appropriate.

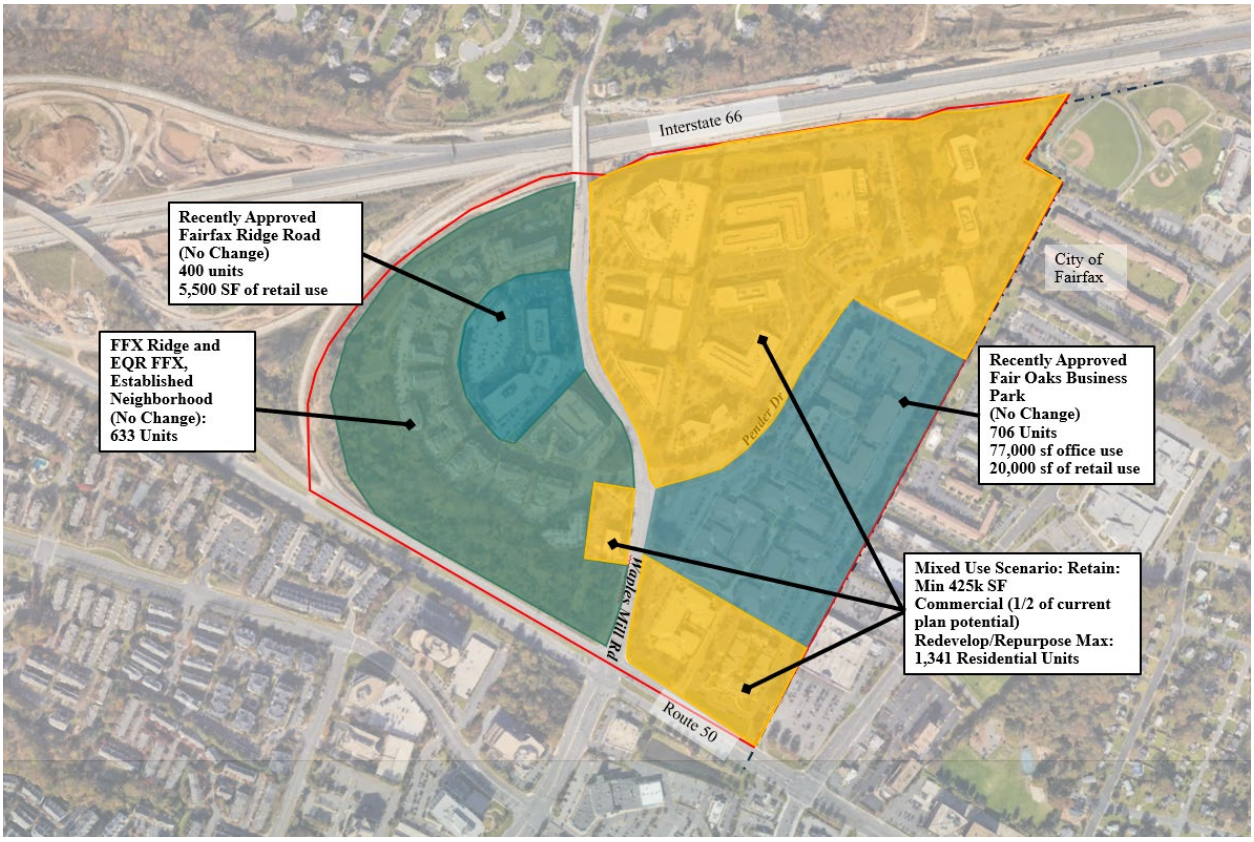

Figure 9. Fairfax Center Area Land Unit K Mixed-Use Scenario, Source: Fairfax County

Table 1. Fairfax Center Area Land Unit K Quantification Table

	Name	Tax Map Parcel and Site Size (SF & Acres)	Existing Use			Adopted Plan Potential				Mixed-Use Scenario			
			Residential Use (Units)	Office (SF)	Hotel Use (SF)	Residential Use (Units)	Office (SF)	Retail Use (SF)	Hotel Use (SF)	Residential Use (Units)	Office Use (SF)	Retail Use (SF)	Hotel Use (SF)
Approved SSPAs (Phase I study)	Fairfax Ridge Road SSPA-2023-III-3FC	46-4 ((1)) 15B; 56-2 ((1)) 15 C and 15 D 6.2 acres (270,072 SF) See blue area on map	-	219,705 SF	-	400 multi-family units		5,500 SF	-		-		-
	Fair Oaks Business Park SSPA-2023-III_2FC	56-2 ((1)) 74B; 57-1 ((1)) 10 and 23 22.64 acres (986,210 SF) See blue area on map	-	331,197 SF	-	420 multi-family units and 286 townhouses	77,000 SF medical office /education	20,000 SF	-				-
Balance of Land Unit K	**All other areas – (Excluding roads)**	See yellow and green areas on map 89.36 Acres	652	1,107,641 SF	92,691 SF	633	1,085,121 SF		92,691 SF	1,341 Multifamily mid-rise units	404,867 SF	20,139 SF	-
Total			**652**	**1,658,543 SF**	**92,691 SF**	**1,739**	**1,162,121 SF**	**25,500 SF**	**92,691 SF**	**1,341 multifamily units**	**404.867 SF**	**20,139 SF**	**-**
Total Land Unit K – Mixed Use Scenario Plus Adopted Plan										**Gross: 3,080 Residential units** **Net: 1,341 multifamily units**	**Gross: 481,867 SF*** **Net: - 680,254 SF**	**Gross: 45,639 SF****	

* 481,867 SF of office use includes 77,000 SF adopted as part of the Fair Oaks Business Park site, as well as 404,867 SF proposed with the mixed-use scenario in this amendment.
** 45,639 SF retail use includes 5,500 SF adopted for Fairfax Ridge Road, 20,000 SF adopted for Fair Oaks Business Park, as well as 20,139 SF proposed with the mixed-use scenario in this amendment.

In total, accounting for the two approved SSPAs, established residential neighborhoods, and the mixed-use scenario, Land Unit K would include a gross total of 481,867 SF of office uses, 45,639 SF of retail uses, and 3,080 residential units. Compared to the adopted Plan, this represents a net reduction of approximately 680,254 SF of office use and a net increase of 2,428 residential units. Hotel and self-storage uses are not assumed for the purpose of the mixed-use scenario quantification, but are allowed as a potential uses in the Plan text with a commensurate office use reduction. (As shown in quantification Table 1.)

ANALYSIS

Land Use

Policy Plan Land Use Element

Objectives 1, 2, and 6 of the Land Use element of the Comprehensive Plan Policy Plan

recommend that new development be compatible with and appropriately integrated into surrounding development in terms of use, intensity, and scale. In addition, the Criteria for Development and Redevelopment emphasize that new residential and non-residential development should enhance the community by integrating with the surrounding context, respect environmental and neighborhood conditions, address impacts on infrastructure and public facilities, acknowledge heritage resources, support affordable housing and respond to site-specific considerations. New development should be designed to mitigate potential impacts on existing uses and ensure that proposed redevelopment is compatible and appropriately scaled in relation to surrounding uses. The application of urban design principles, including buffering, screening, landscaping, and the integration of open space, is encouraged to minimize the impacts of potentially incompatible land uses.

Additionally, the Placemaking, Urban Design and Arts Objectives and Policies promote placemaking through the use of high-quality urban design principles that emphasize accessible, safe, and inclusive public spaces, as well as complete streets and interconnected open space systems that enhance the built environment. The design criteria outline the need to provide logical, functional, and appropriate relationships among the various lots; convenient access to transit; and usable, accessible and well-integrated open space among other criteria. Development should also include appropriate landscaping, recreational amenities, streetscape improvements, pedestrian-oriented design features, play areas where applicable, and site lighting designed to support safety and usability. All future development applications should be characterized by high quality site design and address consolidation, layout, open space, landscaping, amenities and neighborhood context.

Fairfax Center Area Wide Considerations

The Fairfax Center Area was envisioned as an employment-focused mixed-use center with housing as a predominant secondary use, and has developed with office space, housing of various types, public facilities, and regional, community, and neighborhood-serving retail uses. High quality, mixed-use developments have been built throughout the area. The Concept for Future Development notes that the Fairfax Center Area is planned as a Suburban Center surrounded by Suburban Neighborhoods and Low Density Residential Areas and is envisioned as a premiere place to live, work, and play.

As illustrated on the Fairfax Center Area Concept Map (Figure 10), the area is organized into four planning areas including the Suburban Center Core, Suburban Center Non-Core, Suburban Neighborhood and Low-Density Residential Areas. The Suburban Center Core Area, which is planned for the highest intensities, consists of an employment center, commercial, and residential uses in the areas closest to the Metrorail/transit station planned in the median of Interstate 66 near the Fair Oaks Mall, Fairfax Corner, and the county's Government Center complex. Suburban Center Non-Core areas, such as Land Unit K, generally surround the Suburban Center Core Area and are envisioned for mixed-uses and residential uses, with some of the nodes for office uses and retail uses at relatively lower intensities due to their location outside of the ½ mile radius from the planned transit station. Transitional land uses and established neighborhoods are planned around the edges of the Suburban Center to provide compatibility with surrounding communities.

The Fairfax Center Area Plan includes specific Guiding Planning Principles that provide the framework for achieving the long-term vision for the area. These principles include concentrating the highest intensity of redevelopment near the planned transit station, promoting high-quality urban design, providing opportunities for infill development, improving the multimodal connectivity of the area, ensuring that the transportation network supports current and future travel demands, and phasing development with the provision of infrastructure. Additional principles emphasize expanding recreational opportunities, supporting housing choices for residents of all ages, protecting stream valleys and other environmentally sensitive resources, providing appropriate transitions through buffering, screening, and tapering development from existing residential neighborhoods, and establishing a clear implementation strategy. These principles are evaluated in greater detail in the Land Use, Transportation, Parks, and Housing sections of this report.

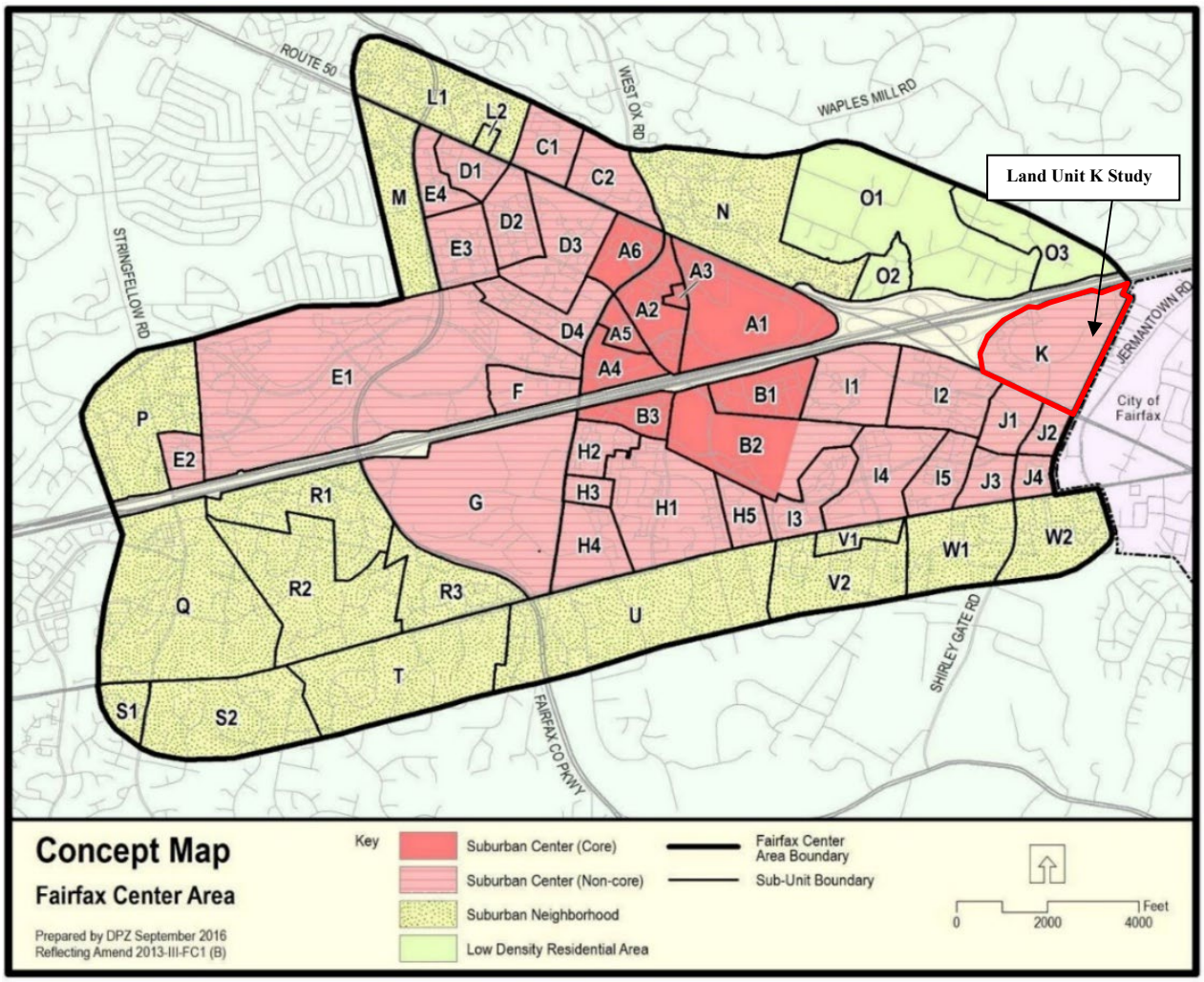

Figure 10. Concept Map of the Fairfax Center Area, Land Unit K, Source: Fairfax County Comprehensive Plan

While the highest development intensities are planned within the Suburban Center Core, the Guiding Planning Principles also recognize the importance of establishing additional activity

nodes that incorporate residential, retail, office, hotel, and civic uses. Also, the Guiding Planning Principles for the Fairfax Center Area emphasizes the creation of a well-integrated network, providing attractive land use patterns and perceivable land use order, incorporating open spaces and parks through development, protecting the environment, and realizing achievable development potential and others. Consistent with this vision, the Fairfax Center Area Plan includes Use-Specific Performance Criteria to ensure a consistent standard of design excellence throughout the area. Furthermore, the Fairfax Center Area Plan recommends a range of development levels to guide development. To obtain the more intense uses and greater densities, any new infill redevelopment must provide commensurate facilities and amenities. The surrounding transportation network supports convenient access to community-serving retail, public facilities, schools, parks, and other civic destinations, ensuring the area's character as an established mixed-use activity center. In alignment with these principles, and as initially introduced with the Phase I study, Land Unit K could create an opportunity to introduce a mix of uses while strengthening the area's function as an activity node through enhanced pedestrian connectivity and an expanded open space network. Existing open space and pedestrian networks exist in a protected stream valley in the western portion of the land unit, and the site is immediately adjacent to the I-66 Trail, which provides a key multimodal connection to the Core Area and other parts of the county as shown in Figure 11. The Land Unit K study presents opportunities to link, enhance, and expand upon this open space and pedestrian network.

This area has largely developed according to the adopted Plan’s land use recommendations for office use, residential uses and hotel use. The adopted Plan for the study area recommends office use at 0.25 Floor Area Ratio (FAR) at the baseline and 0.50 FAR at the overlay level. The Plan also recommends some site-specific options for residential use at 65 dwelling units per acre (du/ac) implemented with the Fairfax Ridge Road site; 16-20 du/ac, implemented with the Modera apartment building off Aristotle Drive; 20-25 du/ac, implemented with the Fairfax Ridge community to the west of Waples Mill Road; and 1.20 FAR, which has been approved for the Fair Oaks Business Park site to the east of Waples Mill Road. As noted, the Guiding Planning Principles encourage infill development that supports the creation of additional mixed-use activity nodes incorporating residential, retail, office, hotel, and civic uses. The appropriate level of additional density and intensity for these activity nodes should be determined based on the context of each site, the quality of the proposed site design, and the ability of the development to adequately address potential impacts on the transportation network, public facilities, and other supporting infrastructure. As described above, the net change compared to the adopted Plan for the area includes a reduction of approximately 680,254 SF of office use and an increase of 1,341 multifamily residential units, and 20,139 SF of retail use. (See Table 1). Staff evaluated the need for adequate supporting infrastructure and potential impact in terms of use and intensity for the study area.

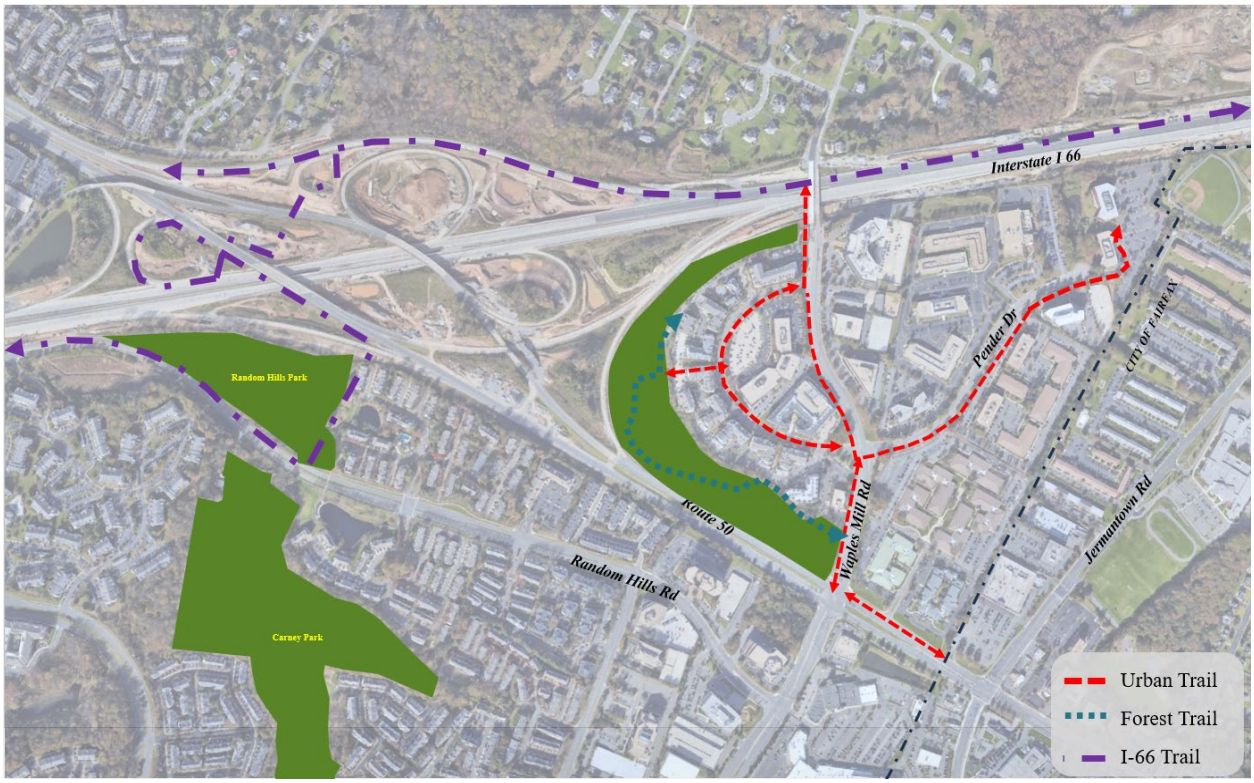

Figure 11. Trail and Pedestrian Connectivity, Source: Google Earth Aerial Map

Land Use Framework

The proposed Comprehensive Plan amendment establishes a land use framework (Figure 12) for Land Unit K to guide future development in the area as an activity node, respond to evolving market trends, and advance long-term community objectives. The recommended changes identify where future redevelopment is envisioned to occur, retain Plan recommendations for existing residential communities, and establish expectations for development form and open spaces. The conceptual land use framework is generally organized around the major roadways of Waples Mill Road and Route 50.

The proposed Plan introduces a new option within Land Unit K to support redevelopment into a mixed-use environment, supported by a new street grid and publicly accessible open space and urban parks for future residents. At the same time, the Plan recognizes the relationship between Land Unit K and its surrounding uses and introduces conditions intended to strengthen pedestrian and vehicular connections, improve transitions, and ensure compatibility.

The Suburban Center Non-Core Area is generally characterized by lower density and intensity relative to the Suburban Center Core, and Land Unit K is located at the eastern edge of this area. Given its location and the higher level of development interest it has attracted, Land Unit K presents an opportunity to be designed as a mixed-use node in harmony with surrounding uses. A mixed-use development within Land Unit K would also provide new residents with walkable access to community retail services, supporting a more livable and connected environment consistent with the character of the Suburban Center Non-Core Area.

Overall, the conceptual land use framework (Figure 12) identifies additional infill redevelopment opportunities sites at appropriate locations, shown in pink, while establishing a network of signature park, open space and urban park, linear parks, and green connections. The framework also introduces potential community serving retail use and enhances the street grid and pedestrian connectivity to create a more walkable environment. At the same time, it preserves the established residential neighborhood west of Waples Mill Road shown in beige and incorporates the recently approved plan amendments (Fair Oaks Business Park and Fairfax Ridge Road sites) shown in orange.



Figure 12. Fairfax Center Area Land Unit K Conceptual Land Use Framework, Source: Fairfax County

Compared to the existing Comprehensive Plan, the conceptual framework increases residential development potential and introduces community-serving retail uses as part of mixed-use redevelopment. The Plan's base planned office development potential is maintained; however, where new residential options are implemented, corresponding office development potential would be reduced. The most significant change in Plan guidance is the recommended development pattern, which emphasizes higher-density residential mixed-use activity nodes within a connected, walkable environment. Non-residential uses are generally concentrated along major transportation corridors, including Route 50 and Waples Mill Road, where they are supported by transit access, employment opportunities, and can contribute to placemaking and active streetscapes.

The recommended land use framework for Land Unit K provides that hotel and self-storage use may be considered in lieu of office use intensity, subject to logical consolidation of parcels to ensure planned elements such as grid streets, streetscapes, and open spaces can be implemented with development, and with appropriate mitigation of impacts on surrounding uses. While self-storage is not a use generally preferred in a mixed-use area such as the Fairfax Center Area, it does have some synergy with residential uses and other self-storage uses in the vicinity. Given Land Unit K's location near the entrance to the Fairfax Center Area and the surrounding residential, office and retail context, the architectural style and design of any self-storage use should be representative of the surrounding office buildings and less industrial in design. This includes the use of high-quality building materials, articulated façades, and variation in roof form. Exterior materials should consist primarily of neutral color palettes. The use of bright colors or overt corporate branding elements should be minimized. Loading and unloading areas should be screened or fully enclosed, ensuring that no storage bay doors or lighted hallways are visible from the outside the structure, thereby minimizing the visual and operational impacts typically associated with self-storage facilities. To be compatible with the larger development pattern, any self-storage use should provide a level of landscaping and streetscape improvements similar to that expected of office or mixed-use development within the Fairfax Center Area and should conform to applicable areawide guidance and Use-Specific Performance Criteria. Substantial landscaping should be provided along major roadway frontages to reinforce the gateway condition and enhance visual appearance along building facades. Draft text is included to provide design guidance for self-storage proposals to ensure the use is compatible with the character and function of the surrounding area.

Compatibility, Site Design, and Building Heights

The recommended building heights within Land Unit K, ranging from 50 feet to 85 feet, are intended to provide an appropriate transition between the more intense development anticipated within the Fairfax Center Area and the adjacent, established, lower density residential neighborhoods. Lower heights are generally recommended along the eastern edges of the land unit, particularly adjacent to existing residential development in the City of Fairfax, and taller heights toward the interior or along arterial roadways such as Waples Mill Road and Route 50. This is intended to minimize potential impacts related to shadows, privacy, and massing on adjacent neighborhoods, while continuing to accommodate the level of development intensity envisioned for this area.

Development within Land Unit K should incorporate high-quality architecture, design, and building materials, along with consistent streetscape, lighting, and other design elements. An attractive and unifying character should be established throughout the area, complementing the character of the broader Fairfax Center Area. Any development should demonstrate consistency with Use-Specific Performance Criteria and show how the proposed development integrates into the surrounding community fabric. While conformance with these policies is evaluated in detail during development review, the applicability of these design guidelines, and their potential implications for the feasibility of accommodating the proposed use and intensity, have also be considered as part of this plan amendment.

Based on the Comprehensive Plan's land use recommendations and an evaluation of existing conditions surrounding area of the Land Unit K, the proposed mixed-use scenario is generally compatible with the intensity/density and character of the surrounding neighborhood and uses. However, because the proposed intensity is not assigned to any specific site, its ultimate compatibility within Land Unit K and with adjacent uses will depend on the design of each individual redevelopment site. Site design criteria and maximum building heights are addressed in the Area Wide Recommendations and the redevelopment conditions for Land Unit K.

Each new redevelopment proposal should include appropriate landscaping and amenities and demonstrate how the site design fits within its context and addresses compatibility with surrounding uses, consistent with the specific criteria established for the Fairfax Center Area and Land Unit K. The design criteria outline the need to provide logical, functional, and appropriate relationships among the various parts between lots; convenient access to transit; and usable, accessible and well-integrated open space and other considerations. The mixed-use scenario for Land Unit K is expected to provide community serving retail uses such as coffee shops, restaurants, personal services, and similar uses along with employment and community gathering opportunities. In order to provide the expected density of residential development proposed for Land Unit K, mid-rise multifamily development is the preferred housing form, supplemented by single-family attached houses, stacked townhouses and triplexes to provide housing diversity that reflects the character of the Suburban Center Non-Core Area.

Illustrative Redevelopment Concepts

Figures 13 - 19 conceptually illustrate the redevelopment scenario for Land Unit K and how the proposed level of intensity could fit within the area. These are 'proof of concept' designs, and the actual design of each individual site within Land Unit K will be developed as part of a future development application and subsequent review. Building heights, architectural design, site design, and amenities, including community-serving retail, urban parks, and the open space network, should be further reviewed against the Plan's land use recommendations and the specific context of each zoning application. The illustrative renderings below for Scenario A, Mixed-Use/Multifamily; and Scenario B, Mixed-Use/Townhouse; and signature park were developed for the redevelopment scenario which is described below:

Mixed-Use/Multifamily: Figures 13, and 14 depict illustrative renderings for the Land Unit K scenario discussed above, showing potential mixed-use and multifamily residential redevelopment options. The illustrative rendering demonstrates how the proposed use and intensity could be integrated into the fabric of the surrounding neighborhood, and how the building layout of a mixed-use development, including multifamily components, could be accommodated within the area. The concept represents a planned intensity in line with the full build-out of the mixed-use recommendation.

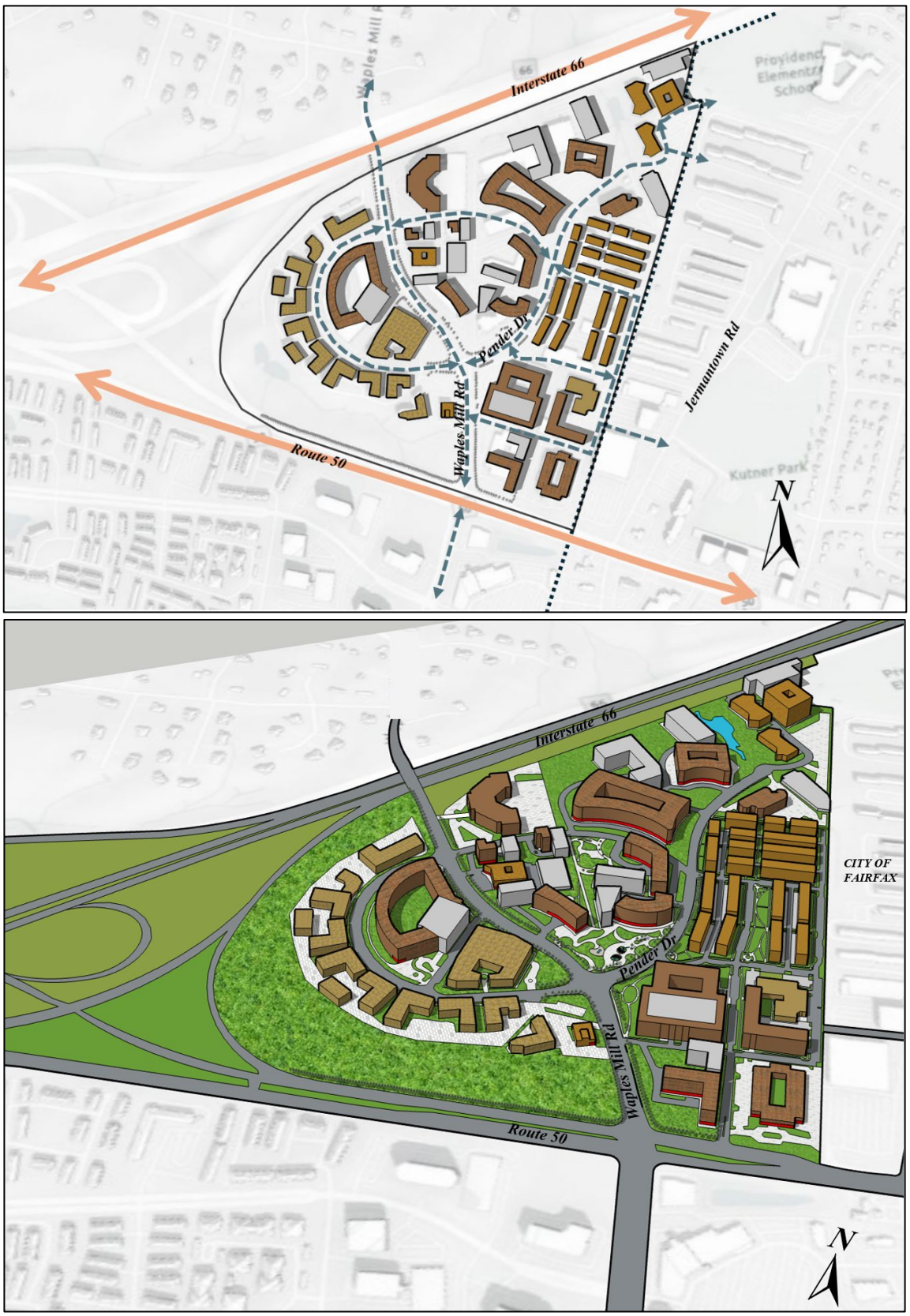

Figure 13. Conceptual Mixed-Use and Multifamily Option, Source: Fairfax County



Figure 14. Conceptual Mixed-Use and Multifamily Option, Source: Fairfax County

Mixed-Use/Townhouse: Figures 15, 16 and 17 depict illustrative renderings for the Land Unit K scenario discussed above, reflecting a mixed-use that includes multifamily residential and single family attached townhouses uses. The illustrative renderings demonstrate how the proposed uses and intensity could be integrated into the fabric of the surrounding neighborhood, and how the building layout of the proposed mixed-use development, including multifamily and single family attached townhouses components, could be accommodated within the area. The concept represents a planned intensity that is lower than the full build-out of the mixed-use recommendation.



Figure 15. Conceptual Mixed-Use, Multifamily and Single-Family Attached Option, Source: Fairfax County



Figure 16. Land Unit K Mixed-Use, Multifamily and Single-Family Attached Option, Source: Fairfax County



Figure 17. Land Unit K Mixed-Use, Multifamily and Single-Family Attached Option, Source: Fairfax County

Signature Park Option: Figures 18 and 19 depict the signature park concept. Site design should prioritize the development of high-quality, centrally located, and consolidated publicly accessible parks and open space as defining features of the character and sense of place for the redeveloped area. Key elements of the redevelopment include a signature park at the intersection of Waples Mill Road, Pender Drive, and Fairfax Ridge Road, as well as a linear park connecting Land Unit K to surrounding uses.



Figure 18. Land Unit K Signature Park Option, Source: Fairfax County



Figure 19. Land Unit K Signature Park Option, Source: Fairfax County

Transportation

The Fairfax County Department of Transportation (FCDOT) conducted a multimodal comprehensive transportation analysis (CTA), evaluating existing and projected roadway conditions, and identified transportation strategies to mitigate the impacts of anticipated redevelopment.

The primary objective of this analysis is to identify the impacts to the transportation network due to the proposed land use changes. The analysis evaluates the following scenarios:

- Existing (2024) traffic conditions
- Future (2045) under the Adopted Comprehensive Plan
- Future (2045) under the Proposed Comprehensive Plan amendment
- Future (2045) under the Proposed Comprehensive Plan amendment with Mitigations
- Future (2045) under Proposed Plan with Mitigations and Jermantown Road Connector

The evaluations include:

- Multimodal analysis
    - Pedestrian Level of Comfort (PLOC)
    - Bicycle Level of Traffic Stress (BLTS)
    - Active Transportation and Trails Plan
- Transit service assessment
- Vehicular Analysis
    - Intersection capacity analysis (HCM 6th Edition / HCM 2000 where applicable)
    - Level of Service (LOS) and delay assessment
    - Queue length analysis

Study Area

FCDOT began the Existing Conditions analysis by assembling traffic counts, pedestrian and bicyclist data and facilities, and the county's Travel Demand Model data that would be utilized throughout the study. The seven key intersections selected for the detailed analysis were deemed to be indicative of overall roadway conditions in the study area. The intersections included in the analysis are listed, as follows, and shown in Figure 20:

1. Waples Mill Road and Random Hills Road
2. Waples Mill Road and Route 50
3. Route 50 and Fair Oaks Corporate Center II Access
4. Route 50 and Jermantown Road
5. Waples Mill Road and Fairfax Oaks Entrance I
6. Waples Mill Road and Pender Drive/ Fairfax Ridge Road
7. Fairfax Ridge Road/Driveway 2 and Waples Mill Road

A Level of Service (LOS) D, or better, was identified as the target standard for individual lane groups.



Figure 20. Land Unit K Study Area Intersections, Source FCDOT

Multimodal Analyses

Pedestrian Level of Comfort

The pedestrian network was evaluated using the Pedestrian Level of Comfort (PLOC) methodology found in the county's Comprehensive Transportation Analysis (CTA) User's Manual. This methodology assesses how comfortable pedestrians feel walking under various conditions, considering factors related to pathways and crossings to assign a comfort score to each segment or crossing. PLOC was evaluated for the study area and surrounding uses, within approximately a half-mile radius. The primary scores (shown in Figure 17) range from very comfortable (score = 1) to uncomfortable (score = 4). A score of 5 indicates the absence of sidewalks, pathways or crossings. For sidewalk segments, the PLOC assessment considers pathway width, posted speed limit, buffer width, presence of a parking lane, and street trees. For crossings, the assessment evaluates control type, number of lanes, posted speed limit, median

type, and crosswalk type. Wider pathways, landscaped buffers and lower speed limits improve pedestrian comfort and safety.

The Land Unit K PLOC assessment map, as shown in Figure 21 depicts a range of conditions and comfort level for pedestrians on existing walkways and crossings, across the network.



Figure 21. (PLOC) Assessment of the Study Area, Source: FCDOT

The existing pedestrian network in the area consists of four-foot-wide sidewalks with grass buffers less than five feet wide along both the east and west sides of Fairfax Ridge Road, Pender Drive, and part of the east side of Waples Mill Road. On the east side of Waples Mill Road, a sidewalk begins at the frontage of the NRA National Firearms Museum and ends at the Fair Center Building, with a missing link of approximately 300 feet leading up to the intersection of Waples Mill Road, Pender Drive and Fairfax Ridge Road. South of this intersection, the sidewalk resumes and continues along Waples Mill Road towards Route 50.

On the west side of Waples Mills Road, there is an existing shared use path with a greater than eight foot-wide green buffer. However, this path is not continuous along the frontage of the 11211 Waples Mill Road office building, where a five-foot-wide sidewalk with a three-foot-wide grass buffer is currently in place, creating a gap in the consistency of the shared use path. The shared use path resumes at the southern edge of the property.

At Route 50, the west side of the roadway includes a four-foot-wide sidewalk facility with a one-foot-wide grass buffer. On the east side, an eight-foot-wide shared use path with a grass buffer greater than eight-feet-wide is in place; however, the path ends before the intersection. At the corner of Route 50 and Jermantown Road, a four-foot-wide sidewalk with a one-foot-wide grass buffer runs along the frontage of the Shell Gas Station.

Pedestrian crosswalks are represented as dashed lines on Figure 21 following the same color-coded comfort levels depicted above. At the Waples Mill Road, Pender Drive, and Fairfax Ridge Road intersection, the north and west legs have signalized standard crosswalks. However, the south and east legs lack any controlled crosswalks for pedestrians or bicyclists, limiting safe crossing options. Also, north of Waples Mill Road intersection, on the west side of Fairfax Ridge Road, there is an access point, but no crosswalk facility exists, representing another gap in pedestrian infrastructure. At the intersections of Route 50 at Waples Mill Road all legs have controlled signalized crosswalks. In contrast, the intersection of Route 50 at Jermantown Road has controlled signalized crosswalks at the north, east, and west legs, and no presence of a controlled crosswalk facility to be utilized by pedestrian at the south leg.

Plan text recommendations for pedestrian facilities address closing gaps in sidewalks, pathways and trails, incorporating and implementing shared use paths, promoting comfort and safety, and accessibility for pedestrians of all ages and abilities. As development and redevelopment occur, the goal is to enhance pedestrian paths and features according to recommendation of the Active Transportation and Trail Plan Map (ATTP) which are also reflected in the Conceptual Parks, Open Space, and Pedestrian Network map

Bicycle Level of Traffic Stress
The bicycle facility network was assessed using the Bicycle Level of Travel Stress (BLTS) methodology. BLTS quantifies the level of discomfort experienced by cyclists when riding near traffic and classifies street networks into four stress levels, ranging from low (1) to high (4). BLTS evaluates the stress level of a bicycle facility based on three primary factors: annual average daily traffic (AADT), posted speed limits, and five types of bicycle facilities. The BLTS Assessment for Land Unit K, including Route 50, Pender Drive, Waples Mill Road, and Fairfax Ridge Road Map, is shown on Figure 22. The assessment shows the BLTS ratings for bicycle facilities within the site study area.

The BLTS Figure 22 explains that:

- Roads highlighted in blue indicate either a “low or somewhat low speed/traffic volume roadway” bicycle facility, which indicates a level of stress acceptable for those classified as “suitable for children and interested but concerned”.

- Roads highlighted in yellow indicate a "moderate speed/traffic volume roadway" bicycle facility, which indicates a level of stress acceptable for those classified as "enthused and confident".
- Roads highlighted in red indicate an "high speed/ traffic volume roadway" bicycle facility, which indicates a level of stress acceptable only for those classified as "strong and fearless".

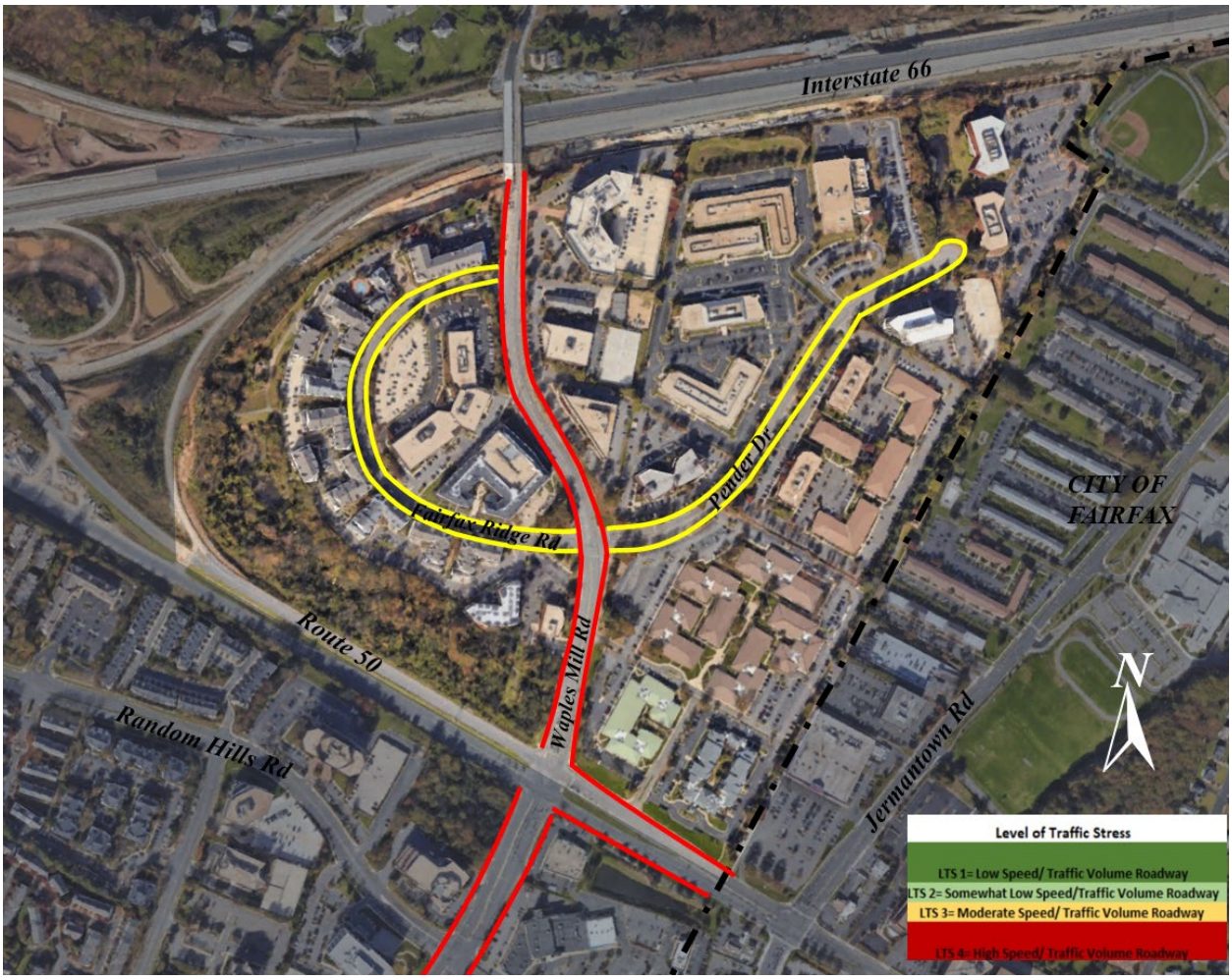

Figure 22. (BLTS) Assessment of the Study Area, Source: FCDOT

Based on the Fairfax County Bike Fairfax Map, the existing bicycle network in the area is limited, and lacks dedicated on-street bike lanes with only one designated bike facility. A shared-use path along the west side of Waples Mill Road is classified as a secondary bicycle route, providing the only dedicated route suitable for bicyclists in the immediate area. On the east side of Waples Mill Road, conditions are more constrained, and the road is identified as "Use Caution" route due to the limited width and discontinuity. Both Fairfax Ridge Road and Pender Drive are not identified as bicycle routes on Bike Fairfax Map and are unmarked on the map, which indicates the absence of designated bicycle facilities on either the east or west sides of these roads. While not formally designated for bicycle use, cyclists may cautiously navigate

segments of these roadways by utilizing roadside shoulder or parking lanes where available, though these do not offer protected or marked bike infrastructure.

The results of the BLTS assessment show that the existing bicycle facilities in the study area are lacking, with scores of BLTS 3 and 4. As with the pedestrian network, the bicycle network is in need of enhancement.

The Fairfax County Comprehensive Plan identifies several recommended bicycle improvements in the area, including:

- A shared roadway with safety treatments on Waples Mill Road north of I-66
- Sharrows on Random Hills Road and Government Center Parkway
- A shared use path along the north side of I-66

Active Transportation & Trails Plan
The Active Transportation and Trail Plan Map (ATTP) (adopted May 5, 2026) and toolkit have formalized active transportation recommendations throughout the county and identify several recommended pedestrian and bicycle improvements in the area, including regional trails along Route 50, Waples Mill Road and Random Hills Road, and local trails along Fairfax Ridge Road and Pender Drive. These facility recommendations are mostly consistent with those mentioned earlier, and are envisioned to include paved trails, approximately 10 feet in width, with 8-foot-wide planted buffers. As noted above, portions of these facilities may already be in place, particularly along the west side of Waples Mill Road.

As described on the ATTP Map and Toolkit, alternative active transportation improvements for enhanced neighborhood routes may include cycle tracks with enhanced sidewalks, which would be a widened concrete or brick paver pedestrian facility that incorporates comfort amenities, landscaping and formal streetscaping.

Transit Service Assessment

Land Unit K is served by two transit providers: the Washington Metropolitan Area Transit Authority (WMATA) Metrobus Route F61, which operates along Waples Mill Road and Route 50 (Fairfax Boulevard), and Fairfax Connector Route 625. These transit services provide residents of Land Unit K with convenient access to destinations and essential services throughout Fairfax County and the City of Fairfax.

Metrobus Route F61 provides direct transit service along the perimeter of Land Unit K, connecting residents to major destinations, including Fair Oaks Mall, Vienna Metrorail Station, the Inova Fairfax Medical Campus, and Ballston Metrorail Station. In addition, Fairfax Connector Route 625, introduced as part of the Fairfax County Transit Strategic Plan, provides service along Monument Drive Park-and-Ride, Random Hills Road, and Pender Drive. Operating on weekdays with all-day service at 30-minute intervals, Route 625 enhances local mobility by connecting residents to key destinations, including the offices for the Fairfax County Housing and Redevelopment Authority and Fairfax Corner. The locations of the existing transit services within Land Unit K are shown in Figure 23.

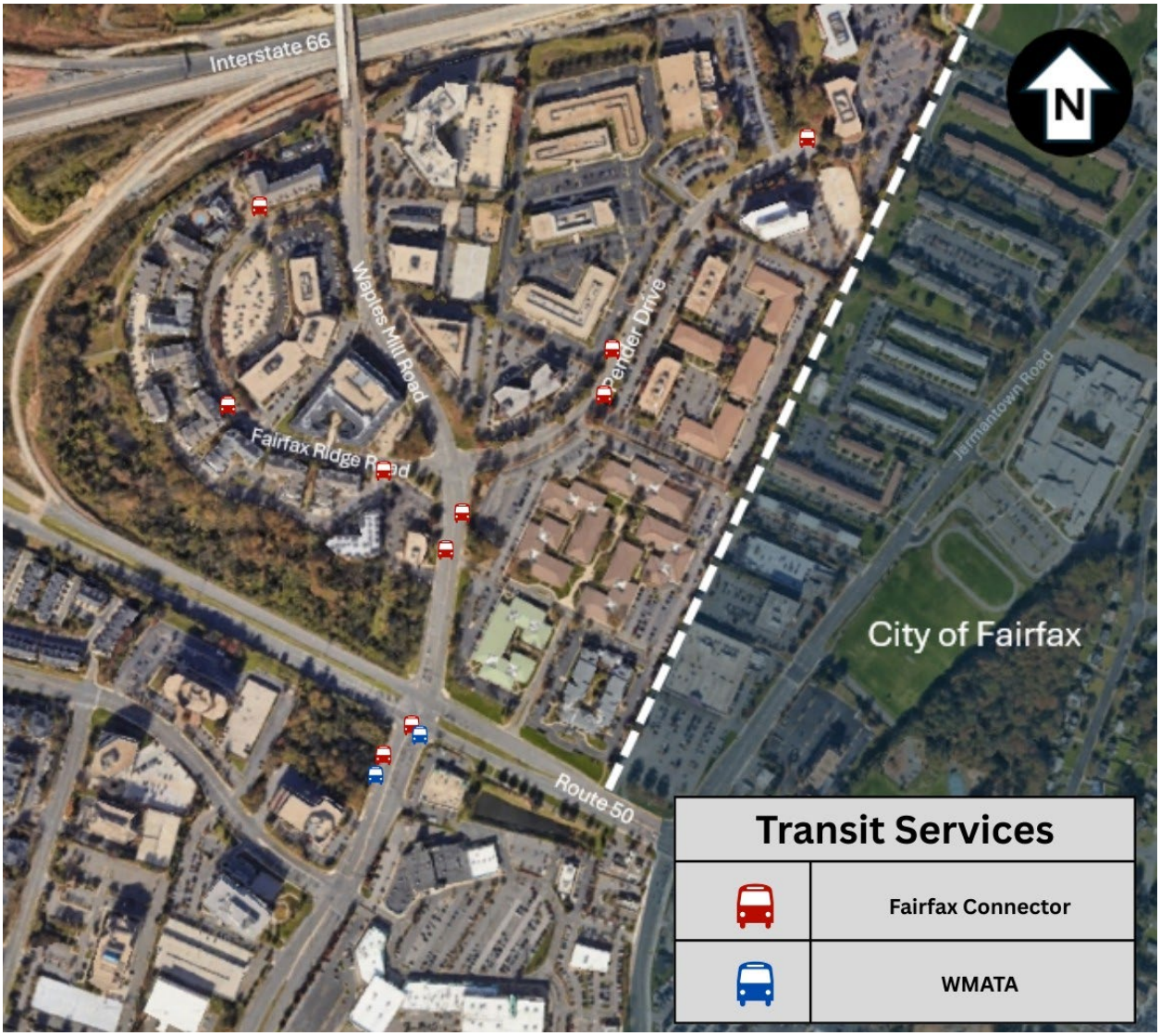

Figure 23. Existing 2024 Transit and Bus Routes Services, Source: FCDOT

Transportation Needs Assessment

The Comprehensive Plan's Transportation Plan Map recommends several improvements and roadway widening within the area which include:

- Planned widening of Route 50 to eight lanes between I-66 and Waples Mill Road.
- Planned widening Waples Mill Road to six lanes, between Route 29 and Route 50.
- Planned widening Waples Mill Road to four lanes, between Route 50 and Fairfax Ridge Road/Pender Drive.
- Planned/improved two-lane cross section for Waples Mill Road (one travel lane in each direction), between I-66 and Fairfax Ridge Road/Pender Drive, with right-turn lanes discouraged.
- Planned interchange at the intersection of Route 50 and Waples Mill Road.

- Planned two-lane multimodal inter-parcel and interjurisdictional connection extending east from either Waples Mill Road or Pender Drive, designed to accommodate a future connection to Jermantown Road within the City of Fairfax.

Several transportation improvements are planned within the City of Fairfax to enhance roadway connectivity and multimodal access. These include the Jermantown Road Corridor Improvements, which will add turn lanes and new pedestrian crossings; the Government Center Parkway Extension which recently opened will improve connectivity between Fairfax County and the City of Fairfax while adding sidewalks, bicycle lanes, lighting, and pedestrian crossings; and the proposed Jermantown Roadway Connection associated with the Kamp Washington Small Area Plan, which is intended to further improve local connectivity.

Vehicular Analysis

A major part of the transportation analysis is accounting for vehicle traffic on the roadways resulting from the proposed land use scenario. FCDOT studied and analyzed vehicle volumes, measured as Annual Average Daily Traffic (AADT) and forecasted AADT, delay, and queues at each of the intersections.

The CTA evaluated five scenarios using Synchro 11 and Highway Capacity Manual (6th Edition, with HCM 2000 applied where 6th Edition methodology was not applicable) at seven study intersections as shown in Figure 20 along Waples Mill Road, Route 50, Pender Drive/Fairfax Ridge Road, and Jermantown Road:

1. Existing (2024) Conditions
2. Future (2045) – Adopted Comprehensive Plan
3. Future (2045) – Proposed Mixed-Use Plan amendment
4. Future (2045) – Proposed Plan with Mitigations
5. Future (2045) – Proposed Plan with Mitigations + Jermantown Road Connector

The analysis included intersection Level of Service (LOS) and delay, queue lengths (50th/95th percentile), and volume-to-capacity (V/C) ratios. LOS D or better was the target standard for individual lane groups. Background traffic growth rates of 0.25%/yr (Route 50), 1.0%/yr (Jermantown Rd. and Waples Mill Rd. south of Route 50), and 0.75%/yr (Waples Mill Rd. north of Route 50) were applied per the Fairfax County Travel Demand Model.

Trip Generation
Based on the ITE Trip Generation Manual, 11th Edition, the existing development within Land Unit K is estimated to generate approximately 19,713 weekday daily vehicle trips at full occupancy. During the AM and PM peak hours, the site is expected to generate approximately 2,542 and 2,417 trips, respectively, with travel patterns reflecting typical commuter activity. The general office use accounts for the majority of site-generated trips, while the multifamily residential and hotel uses contribute a smaller share of the overall travel demand. (Shown in Table 2).

Table 2. Trip Generation, Source: FCDOT

Land Uses	Existing	Comp Plan	Proposal
Residential	652 DUs	652 DUs	3,080 DUs
Office	1,657,403 SF	1,796,791 SF	481.298 SF
Hotel	144 RMs	144 RMs	-
Retail	-	-	45,639 SF

Trips Generated	Existing	Comp Plan	Proposal
Daily	19,713	20,611	18,338
AM Peak Hour	2,542	2,665	1,794
PM Peak Hour	2,417	2,523	1,826

Existing 2024 Conditions
An assessment of existing transportation conditions was conducted within the Land Unit K Area to establish a baseline understanding of current mobility, operations, and safety. These existing conditions provide the context for identifying transportation needs and informing the evaluation of potential improvements within the study area.

The analysis indicated that most study intersections operate at LOS D, or better, during the peak and shoulder hours. Analyses were conducted for both the peak hour and the subsequent shoulder hour of each peak period to evaluate the duration of oversaturated conditions and support the development of cost-effective mitigation strategies.

The analyses incorporated signal timing data provided by VDOT and the City of Fairfax, along with observed peak hour factors, heavy vehicle percentages, and pedestrian and bicycle volumes. Results, including LOS, average delay, and queue lengths, are summarized in Table 3, with Existing (2024) LOS conditions illustrated in Figure 24.

In general, the roadway network currently operates with acceptable delays north of Route 50, while select movements on Route 50 and south of Route 50 experience higher delays and queue lengths that may approach or exceed available storage. As described in Table 3 and summarized below, a few intersections were identified as having operating deficiencies. Intersections 5, 6, 7 (Pender Drive, Fairfax Ridge Road/ Site driveways) had no deficiencies:

- **Intersection 1:Random Hills Rd/James Swart Circle** – LOS C/D: EB left/thru, WB left/thru
- **Intersection 2:Route 50/Waples Mill Rd** - LOS D/E; nearly all movements deficient
- **Intersection 4: Route 50/Jermantown Rd** - PM LOS D/E; most movements deficient.

Due to limitations within Synchro, results were not produced for Intersection 3 (Route 50 and Fair Oaks II Access Road). Volume to capacity (V/C) ratios were generally under 1.0 except at

Intersection 2 NB left, Intersection 4 SB thru/right, and SB right, which were the most constrained movements.

Overall, the network operates acceptably north of Route 50, while Route 50 itself and areas south experience higher delays/queues, a pattern expected to persist across all future scenarios.

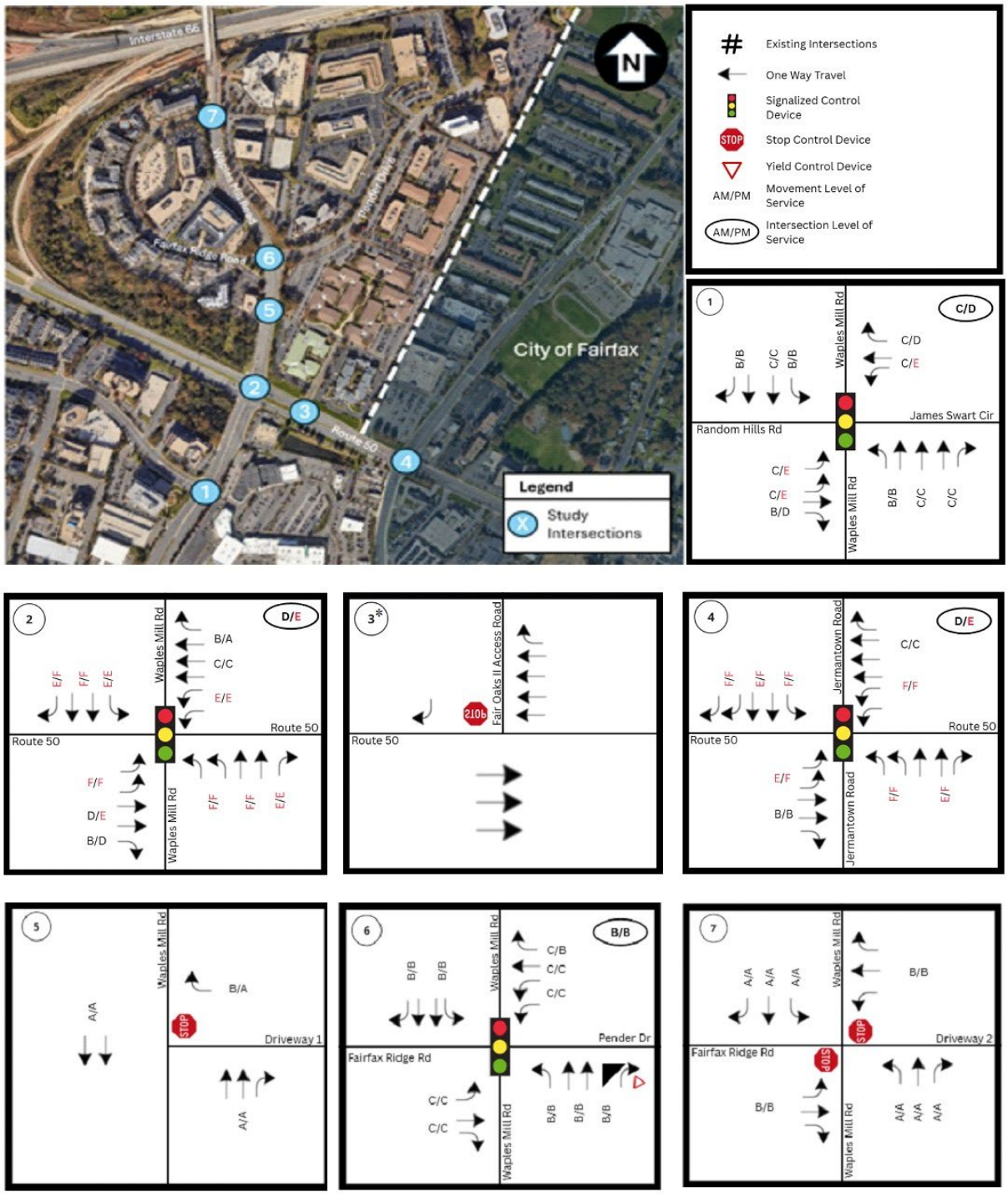

Figure 24. Existing 2024 – Level of Service, Source: FCDOT

Table 3. Existing 2024 Intersection Capacity Analysis Results, Source: FCDOT

No.	Intersection (Movement)	Full Width Storage Length (ft.)	AM Peak Hour				PM Peak Hour			
			LOS	Delay	50th % Queue (ft.)	95th % Queue (ft.)	LOS	Delay	50th % Queue (ft.)	95th % Queue (ft.)
			Synchro				Synchro			
1	**Random Hills Road/ James Swart Circle (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Signalized)		**C**	**25.9**			**D**	**36.1**		
	Eastbound Left	245	C	33	60	163	E	78.1	201	295
	Eastbound Thru		C	30.4	12	55	E	63.1	45	97
	Eastbound Right	28	B	17.1	0	19	D	48.9	0	56
	Westbound Left/Thru		C	32.3	29	86	E	77.8	153	250
	Westbound Right		C	24.1	0	18	D	54.9	0	34
	Northbound Left		B	18.8	28	91	B	18.8	33	77
	Northbound Thru		C	27.6	89	190	C	23.3	80	138
	Northbound Right	285	C	24.3	0	0	C	22	0	2
	Southbound Left	135	B	19.5	28	91	B	15.7	75	151
	Southbound Thru		C	27.9	76	177	C	25.7	260	413
	Southbound Right		B	16.8	0	29	B	B	0	25
2	**Route 50 (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Signalized)		**D**	**51.8**			**E**	**68.5**		
	Eastbound Left	800	F	91.8	275	#396	F	119.4	174	#240
	Eastbound Thru		D	47.8	862	#1152	E	58.5	878	975
	Eastbound Right		B	14.6	44	84	D	52.6	745	#1090
	Westbound Left	300	E	63.9	89	131	E	77.1	174	m218
	Westbound Thru		C	22.6	424	388	C	32.4	836	m878
	Westbound Right		B	13.8	51	35	A	6.7	10	m19
	Northbound Left	400	F	92	308	370	F	184.2	~437	#567
	Northbound Thru		F	91.4	190	240	F	98	109	146
	Northbound Right	300	E	63.2	68	143	E	75.8	208	297
	Southbound Left	295	E	76.5	149	219	E	76.7	202	311
	Southbound Thru		F	82	60	91	F	88.9	253	316
	Southbound Right	430	E	61.2	116	199	F	96.3	407	#621
3	**Route 50 (E/W) and Fair Oaks II Access Road (N/S)**	***HCM 2000 two-way stop control intersections are limited to 4 lanes per approach; therefore, Synchro cannot produce results for Intersection 3 due to the number of lanes on westbound Route 50.***								
4	**Route 50 (E/W) AND Jermantown Road (N/S)**									
	Overall Intersection (Signalized)		**D**	**42.4**			**E**	**63.5**		
	Eastbound Left	520	E	70.2	226	m269	F	120.8	257	m#357
	Eastbound Thru/Right		B	17.8	804	1056	B	18	807	815
	Westbound Left	165	F	91.5	18	37	F	105	71	107
	Westbound Thru/Right		C	32.6	286	400	C	33.4	542	584
	Northbound Left	435	F	89.8	72	108	F	112.9	153	207
	Northbound Thru/Right		E	79.8	186	223	F	88.3	203	261
	Southbound Left	290	F	93.9	101	163	F	104.1	136	#240
	Southbound Thru/Right		E	78.6	185	220	F	142.8	~465	#605
	Southbound Right	305	F	83	168	234	F	165.6	~412	#636
5	**Driveway 1 (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Unsignalized)									
	Westbound Right		B	10.2		1	A	9.7		2
	Northbound Thru		A	0.0		0	A	0.0		0
	Northbound Right		A	0.0		0	A	0.0		0
	Southbound Thru		A	0.0		0	A	0.0		0
6	**Fairfax Ridge Road/ Pender Drive (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Signalized)		**B**	**13.5**			**B**	**18.7**		
	Eastbound Left		C	27.3	3	17	C	28.4	0	5
	Eastbound Thru/Right		C	27.2	0	40	C	28.7	0	34
	Westbound Left	215	C	25.2	20	48	C	24.6	90	148
	Westbound Left/Thru		C	25.2	20	48	C	24.7	91	150
	Westbound Right	215	C	23.5	0	0	B	19.4	0	0
	Northbound Left	215	B	10.5	15	59	B	17.3	35	94
	Northbound Thru		B	10.5	33	94	B	14.7	52	103
	Northbound Right	110	B	11.7	0	65	B	13.3	0	19
	Southbound Left	455	B	10.1	8	39	B	13.3	5	21
	Southbound Thru/Right		B	10.3	28	80	B	15.3	65	126
7	**Fairfax Ridge Road/ Driveway 2 (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Unsignalized)									
	Eastbound		B	10.5		3	B	12.2		4
	Westbound		B	12.2		0	B	14.6		3
	Northbound Left		A	7.9		1	A	8.4		3
	Northbound Thru		A	0.0		0	A	0.0		0
	Northbound Right		A	0.0		0	A	0.0		0
	Southbound Left		A	0.0		0	A	0.0		0
	Southbound Thru		A	0.0		0	A	0.0		0
	Southbound Right		A	0.0		0	A	0.0		0

Future (2045) – Adopted Comprehensive Plan
A 2045 baseline travel demand forecasting model was developed to estimate future traffic volumes and evaluate the operational performance and accessibility of the transportation network. The analysis assessed the ability of the existing roadway system to accommodate projected traffic demand while identifying potential operational deficiencies related to intersection capacity and critical turning movement performance.

The Fairfax County Travel Demand Model was used to establish regional background growth rates for the study area roadways. These growth rates were applied to existing (2024) traffic volumes to develop the 2045 background traffic forecasts.

The intersection capacity analysis results indicate that all movements operate at acceptable LOS under Future with Current Comprehensive Plan Development (2045) conditions except for the following intersections/movements:

- **Intersection 1: Random Hills Road/James Swart Circle and Waples Mill Road**
  - Overall intersection operates acceptably and similar to Existing (2024) conditions.
  - Several PM peak-hour movements operate below LOS D, including eastbound left, eastbound through, westbound left/through, and westbound right movements.

- **Intersection 2: Route 50 and Waples Mill Road**
  - The intersection is projected to operate at LOS F during the PM peak hour.
  - Several movements operate at LOS E or F during AM and PM peak periods, with increased delays and queues.

- **Intersection 4: Route 50 and Jermantown Road**
  - The intersection is projected to operate below LOS D during the PM peak hour.
  - The northbound left-turn movement is expected to operate at LOS F, indicating future capacity constraints.

- **Intersection 6: Fairfax Ridge Road/Pender Drive and Waples Mill Road**
  - The intersection is projected to operate below LOS D during the PM peak hour.
  - The northbound left-turn movement is expected to operate at LOS F, indicating future capacity constraints.

Overall, the greatest operational impacts under Future (2045) conditions occur at the Route 50 intersections with Waples Mill Road and Jermantown Road, where increased traffic demand results in reduced LOS and increased queueing. Other intersections experience localized deficiencies while maintaining generally acceptable overall operations. Results, including level of service (LOS), average delay, and queue lengths, are summarized in Table 4, with Existing (2024) LOS conditions illustrated in Figure 25.

V/C ratios for intersections 2, 4 and 6, in particular, worsen with the 2045 baseline scenario, with anticipated local and regional growth. Side streets and main street lefts and rights, in particular, are expected to worsen in the future.

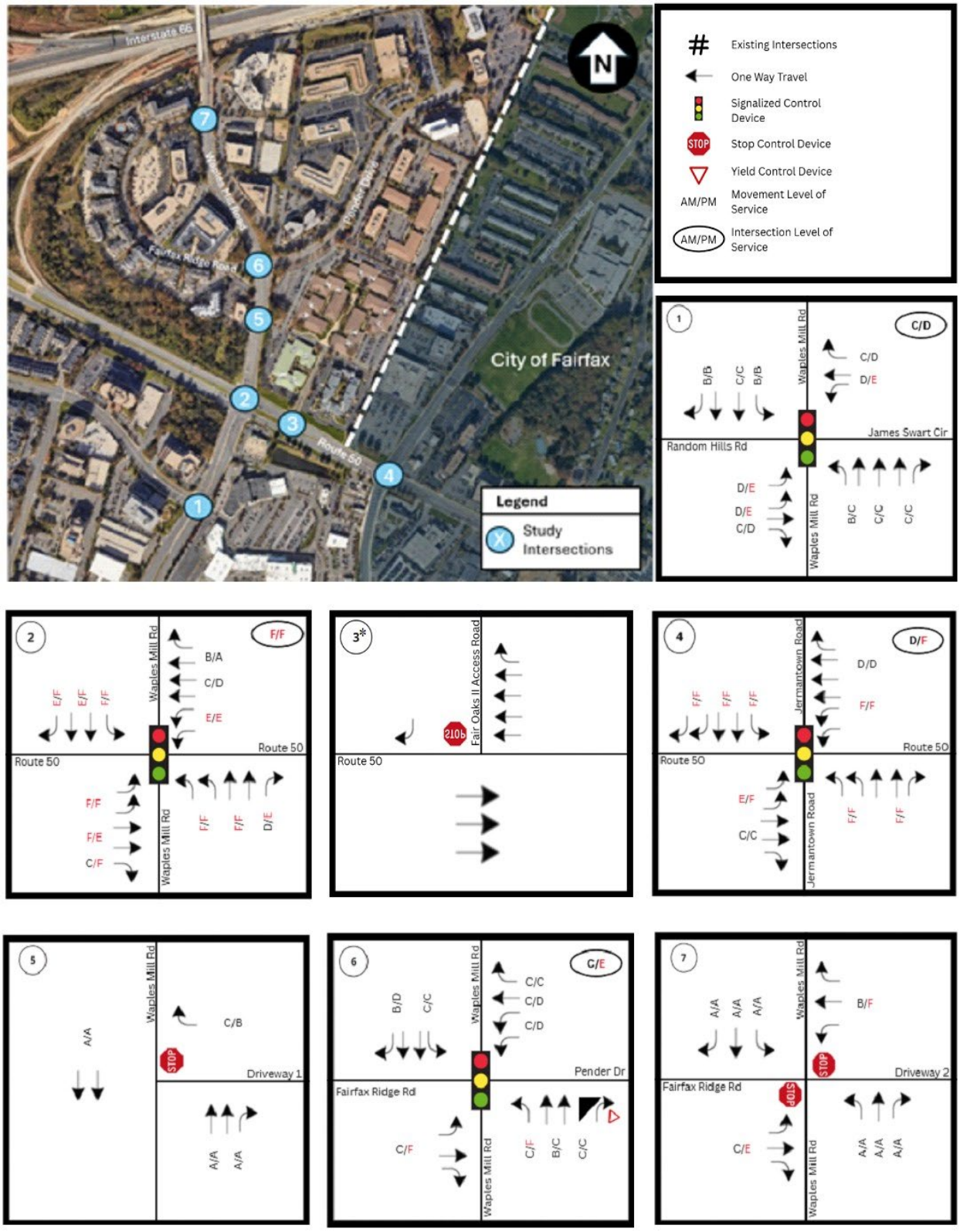

Figure 25. Adopted Comprehensive Plan (2045) – Level of Service, Source: FCDOT

Table 4. Adopted Comprehensive Plan (2045) Intersection Capacity Analysis Results, Source: FCDOT

No.	Intersection (Movement)	Full Width Storage Length (ft.)	AM Peak Hour				PM Peak Hour			
			LOS	Delay	50th % Queue (ft.)	95th % Queue (ft.)	LOS	Delay	50th % Queue (ft.)	95th % Queue (ft.)
			Synchro				Synchro			
1	**Random Hills Road/ James Swart Circle (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Signalized)		**C**	**28.1**			**D**	**37.3**		
	Eastbound Left	245	D	39	85	189	E	78.4	204	299
	Eastbound Thru		D	35	15	57	E	63.1	45	97
	Eastbound Right	285	C	21.9	0	20	D	48.4	0	55
	Westbound Left/Thru		D	38.5	36	94	E	78	153	250
	Westbound Right		C	29.9	0	20	D	54.9	0	34
	Northbound Left	290	B	18.2	31	94	C	23	33	77
	Northbound Thru		C	29.8	193	371	C	24.2	116	190
	Northbound Right	285	C	22.8	0	0	C	22.1	0	2
	Southbound Left	135	B	19.2	31	93	B	16.2	76	151
	Southbound Thru		C	26.9	118	252	C	33.7	529	831
	Southbound Right		B	14.8	0	28	B	12.4	21	62
2	**Route 50 (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Signalized)		**F**	**169.1**			**F**	**173.7**		
	Eastbound Left	800	F	662.6	~1151	#1289	F	246.1	~348	#469
	Eastbound Thru		F	111.9	~1270	#1401	E	70.1	1067	1176
	Eastbound Right		C	20.7	137	190	F	83.9	~818	#1436
	Westbound Left	300	E	57.3	100	141	E	77.1	195	m231
	Westbound Thru		C	26.4	517	296	D	41.6	1116	m1094
	Westbound Right		B	19.6	152	88	A	8.6	32	m41
	Northbound Left	400	F	98.2	360	#458	F	261.1	~567	#700
	Northbound Thru		F	165.1	~553	#691	F	103.5	181	231
	Northbound Right	300	D	54.1	93	176	E	75.5	264	371
	Southbound Left	295	F	120.1	266	#428	F	303.9	~948	#1282
	Southbound Thru		E	76	115	162	F	297.9	~819	#961
	Southbound Right	430	E	62.5	263	386	F	598.2	~1682	#2135
3	**Route 50 (E/W) and Fair Oaks II Access Road (N/S)**	HCM 2000 two-way stop control intersections are limited to four lanes per approach; therefore, Synchro cannot produce results for Intersection 3 due to the number of lanes on westbound Route 50.								
4	**Route 50 (E/W) AND Jermantown Road (N/S)**									
	Overall Intersection (Signalized)		**D**	**47**			**F**	**95.9**		
	Eastbound Left	520	E	64.8	265	m255	F	227.8	~423	m#423
	Eastbound Thru/Right		C	21.3	1133	m1093	C	32.3	1285	m1265
	Westbound Left	165	F	91.6	20	42	F	105.4	80	118
	Westbound Thru/Right		D	40.8	465	593	D	35.8	654	698
	Northbound Left	435	F	90.3	88	127	F	128.3	191	#278
	Northbound Thru/Right		F	81.7	231	275	F	92	256	321
	Southbound Left	290	F	87.9	121	190	F	122.1	168	#318
	Southbound Thru/Right		F	81.2	257	304	F	249.9	~665	#808
	Southbound Right	305	F	90.5	236	324	F	272.2	~593	#834
5	**Driveway 1 (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Unsignalized)									
	Westbound Right		C	16.8		3	B	10.8		9
	Northbound Through		A	0		0	A	0		0
	Northbound Right		A	0		0	A	0		0
	Southbound		A	0		0	A	0		0
6	**Fairfax Ridge Road/ Pender Drive (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Signalized)		**C**	**21.6**			**E**	**78.8**		
	Eastbound Left									
	Eastbound Thru/Right		C	25	0	62	F	110	~243	#422
	Westbound Left	215	C	25	27	64	D	53.2	291	#491
	Westbound Left/Thru		C	25	27	65	D	53.5	292	#492
	Westbound Right	215	C	22.9	0	0	C	22.8	0	39
	Northbound Left	215	C	31.6	106	#387	F	487.4	~187	#326
	Northbound Thru		B	14.6	79	204	C	30.9	120	168
	Northbound Right	110	C	21.8	23	#347	C	26.7	0	49
	Southbound Left	455	C	30.4	65	#267	C	29.6	22	54
	Southbound Thru/Right		B	12.6	36	102	D	37.1	202	268
7	**Fairfax Ridge Road/ Driveway 2 (E/W) and Waples Mill Road (N/S)**									
	Eastbound		C	23.2		14	E	39.1		39
	Westbound		B	15		9	F	51.7		194
	Northbound Left		A	0		0	A	0		0
	Nortbound Through		A	0		0	A	0		0
	Northbound Right		A	0		0	A	0		0
	Southbound Left		A	2.3		4	A	0.5		1
	Souhtbound Through		A	0		0	A	0		0
	Southbound Right		A	0		0	A	0		0

Future 2045 - Proposed Mixed-Use Plan Amendment
The Future with Proposed Mixed-Use Plan amendment (2045) analysis evaluated projected traffic operations resulting from the proposed mixed-use redevelopment scenario compared to the adopted Comprehensive Plan land use. The analysis incorporates regional traffic growth, revised site-generated trips, and anticipated changes in travel patterns associated with a transition from an office-focused development program to a mixed-use environment.

The proposed land use change is expected to reduce concentrated commuter traffic, particularly during the AM peak period, and create a more balanced distribution of trips throughout the day. The inclusion of neighborhood-serving retail uses also provides opportunities for internal capture, reducing external vehicle trips on the surrounding roadway network and supporting a more walkable, multimodal development pattern.

Intersection capacity analysis indicates that the proposed amendment scenario improves overall traffic operations compared to the adopted Plan, although some existing and future capacity constraints remain, which include:

- **Intersection 1: Random Hills Road/James Swart Circle and Waples Mill Road**
    - Operations remain similar to existing conditions, with minor delay reductions compared to the adopted Plan.
    - Some PM peak-hour turning movements continue to experience congestion, with select queues exceeding available storage.

- **Intersection 2: Route 50 and Waples Mill Road-**
    - Scenario improves overall delays and operations compared to the adopted Plan but remains the study area's most constrained intersection, with several movements continuing to operate below LOS D during peak periods.

- **Intersection 4: Route 50 and Jermantown Road –**
    - Operations show modest improvement compared to the adopted scenario, with reduced delays and similar overall intersection performance.
    - Several turning movements remain constrained during peak periods.

- **Intersection 6: Fairfax Ridge Road/Pender Drive and Waples Mill Road-**
    - Overall operations improve slightly; however, the northbound left-turn movement continues to experience capacity limitations during the PM peak period.

The results of the intersection capacity analysis, expressed in LOS, delay (seconds per vehicle) per lane group, and 50th percentile and 95th percentile queues (feet), are presented in Table 5. Level of service results and proposed lane configurations for the Future with Proposed Comprehensive Plan Amendment (2045) conditions are presented in Figure 26.

V/C ratios under the proposed mixed-use scenario are similar to those under the adopted Comprehensive Plan scenario, with some turning movements showing improvement, including several movements on Waples Mill Road at Route 50 (Intersection 2) and Pender Drive (Intersection 6).

Overall, the Proposed conditions enhance operational efficiency and reduce queue lengths for several movements relative to the Existing and Adopted Comprehensive Plan scenarios. However, the results indicate that while these improvements provide meaningful benefits, additional strategies such as transportation demand management, multimodal enhancements, or targeted geometric modifications may be considered to further support long-term operational performance during peak periods.

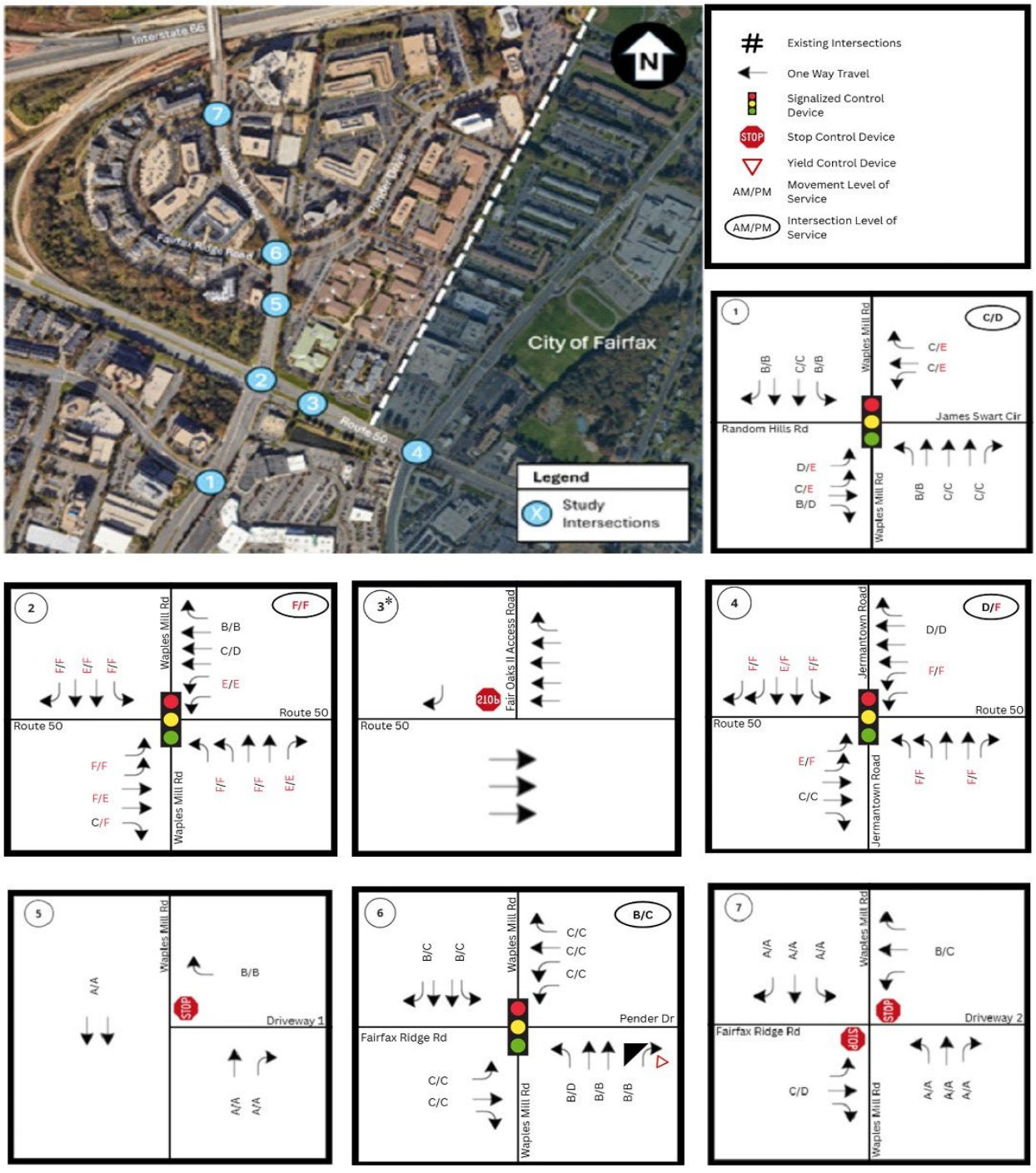

Figure 26. Proposed Plan (2045) – Level of Service, Source: FCDOT

Table 5. Proposed Plan (2045) – Intersection Capacity Analysis Result, Source: FCDOT

No.	Intersection (Movement)	Full Width Storage Length (ft.)	AM Peak Hour				PM Peak Hour			
			LOS	Delay	50th % Queue (ft.)	95th % Queue (ft.)	LOS	Delay	50th % Queue (ft.)	95th % Queue (ft.)
			Synchro				Synchro			
1	**Random Hills Road/ James Swart Circle (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Signalized)		**C**	**27.3**			**D**	**36.1**		
	Eastbound Left	245	D	35.3	70	165	E	78.8	207	303
	Eastbound Thru		C	32.3	14	54	E	63	45	97
	Eastbound Right	285	B	19.2	0	19	D	48.8	0	56
	Westbound Left/Thru		C	34.7	33	86	E	78.3	154	250
	Westbound Right		C	26.3	0	18	E	55	0	34
	Northbound Left	290	B	18.9	29	92	B	19.6	33	77
	Northbound Thru		C	28.3	126	256	C	24.6	128	209
	Northbound Right	285	C	23.6	0	0	C	22.1	0	2
	Southbound Left	135	B	18.9	29	92	B	17.7	76	151
	Southbound Thru		C	30.1	137	295	C	29.5	401	615
	Southbound Right		B	15.9	0	30	B	11.9	11	44
2	**Route 50 (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Signalized)		**F**	**90.3**			**F**	**107.7**		
	Eastbound Left	800	F	223.9	~478	#608	F	303.6	~482	#610
	Eastbound Thru		F	116.9	~1262	#1392	E	68.4	1045	1152
	Eastbound Right		C	21.9	161	216	F	83.9	~818	#1436
	Westbound Left	300	E	60.8	100	144	E	75.6	196	m230
	Westbound Thru		C	30.5	532	415	D	41.3	1080	m1058
	Westbound Right		B	15.6	37	35	B	11.2	45	m77
	Northbound Left	400	F	98.2	360	#458	F	261.1	~567	#700
	Northbound Thru		F	90.1	259	313	F	106.8	225	278
	Northbound Right	300	E	59.8	99	178	E	73.1	258	363
	Southbound Left	295	F	115.2	366	#641	F	132.5	459	#755
	Southbound Thru		E	78.5	177	234	F	128.7	428	#566
	Southbound Right	430	F	89	442	#734	F	195.8	~636	#896
3	**Route 50 (E/W) and Fair Oaks II Access Road (N/S)**	HCM 2000 two-way stop control intersections are limited to four lanes per approach; therefore, Synchro cannot produce results for intersection 3 due to the number of lanes on westbound Route 50.								
4	**Route 50 (E/W) AND Jermantown Road (N/S)**									
	Overall Intersection (Signalized)		**D**	**46.2**			**F**	**92.8**		
	Eastbound Left	520	E	67.1	278	m264	F	174.8	~348	m#403
	Eastbound Thru/Right		C	22.8	1168	m1128	C	27.4	1165	m1253
	Westbound Left	165	F	91.6	20	42	F	105.4	80	118
	Westbound Thru/Right		D	37	368	484	D	36.3	674	717
	Northbound Left	435	F	90.3	88	127	F	128.3	191	#278
	Northbound Thru/Right		F	81.7	231	275	F	92	256	321
	Southbound Left	290	F	94.5	123	191	F	122.1	168	#318
	Southbound Thru/Right		E	79.8	228	270	F	258	~679	#822
	Southbound Right	305	F	87.5	209	290	F	279.8	~606	#850
5	**Driveway 1 (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Unsignalized)									
	Westbound Right		B	11		4	B	11.2		7
	Northbound Through		A	0		0	A	0		0
	Northbound Right		A	0		0	A	0		0
	Southbound		A	0		0	A	0		0
6	**Fairfax Ridge Road/ Pender Drive (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Signalized)		**B**	**19.8**			**C**	**24.8**		
	Eastbound Left						C	28.3	0	5
	Eastbound Thru/Right		C	28.2	12	84	C	31.2	30	93
	Westbound Left	215	C	25.8	70	143	C	27.8	124	225
	Westbound Left/Thru		C	25.8	70	143	C	27.9	125	226
	Westbound Right	215	C	21.2	0	0	C	20.3	0	15
	Northbound Left	215	B	17.3	26	90	D	47.2	83	#255
	Northbound Thru		B	16.9	63	152	B	19.7	80	156
	Northbound Right	110	B	16.7	0	70	B	18.7	0	62
	Southbound Left	455	B	18.3	29	99	C	20.4	27	80
	Southbound Thru/Right		B	16.1	49	122	C	20.7	101	192
7	**Fairfax Ridge Road/ Driveway 2 (E/W) and Waples Mill Road (N/S)**									
	Eastbound		C	19		12	D	26.3		11
	Westbound		B	14.5		21	C	19.6		42
	Northbound Left		A	0		0	A	0		0
	Nortbound Through		A	0		0	A	0		0
	Northbound Right		A	0		0	A	0		0
	Southbound Left		A	1.2		1	A	0.7		1
	Souhtbound Through		A	0		0	A	0		0
	Southbound Right		A	0		0	A	0		0

Future (2045) – Proposed Plan with Mitigations
To address projected operational deficiencies under the proposed Comprehensive Plan (2045) scenario, targeted intersection improvements were evaluated at key locations identified through the traffic analysis. The recommended mitigations focus on improving intersection capacity, reducing delays, and addressing critical turning movement constraints. The following improvements were analyzed:

- **Intersection 1: Waples Mill Road and Random Hills Road/James Swart Circle**
  - Change to an eight-phase operation
  - Extension of the EBL turn lane

- **Intersection 2: Route 50 and Waples Mill Road**
  - Add southbound right (SBR) turn lane and shift all lanes over to provide a second SBL turn lane resulting in two left turn lanes, two through lanes, and one right turn lane

- **Intersection 6: Waples Mill Road and Pender Drive/Fairfax Ridge Road –**
  - Add northbound left (NBL) and southbound left (SBL) protected phases
  - Change to NBR turn lane and remove the sweeping right with a yield condition
  - Change to 8-phase operation

Capacity analysis was conducted with these improvements incorporated into the 2045 Proposed Comprehensive Plan amendment scenario. The mitigated results, including level of service (LOS), delay, queue lengths, and volume-to-capacity (V/C) ratios, are summarized in Tables 6 and 13, with operational conditions illustrated in Figure 27.

The mitigation analysis demonstrates that the proposed improvements provide additional intersection capacity and improve traffic operations at key constrained locations. These improvements reduce delays, improve critical turning movements, and better accommodate projected future traffic demand associated with the proposed mixed-use development scenario.



Figure 27. Proposed Plan (2045) – Level of Service with Mitigations, Source: FCDOT

Table 6. Proposed Plan (2045) Intersection Capacity Results with Mitigations, Source: FCDOT

No.	Intersection (Movement)	Full Width Storage Length (ft.)	AM Peak Hour				PM Peak Hour			
			LOS	Delay	50th % Queue (ft.)	95th % Queue (ft.)	LOS	Delay	50th % Queue (ft.)	95th % Queue (ft.)
			Synchro				Synchro			
1	**Random Hills Road/ James Swart Circle (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Signalized)		**C**	**26.4**			**D**	**31.2**		
	Eastbound Left	245	B	20	52	105	D	46	153	209
	Eastbound Thru		C	24.5	10	42	D	51.3	38	81
	Eastbound Right	285	B	13.2	0	12	D	38.4	0	46
	Westbound Left/Thru		C	30.3	7	27	D	52.1	52	96
	Westbound Right		C	33.9	37	102	E	69.5	126	213
	Northbound Left	290	B	18.5	30	87	B	18.3	31	69
	Northbound Thru		C	28	126	241	C	23	119	189
	Northbound Right	285	C	23.3	0	0	C	20.7	0	0
	Southbound Left	135	B	19.2	29	86	B	16.6	70	135
	Southbound Thru		C	30.7	138	281	C	28.1	372	557
	Southbound Right		C	24.8	0	64	C	22.5	54	151
2	**Route 50 (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Signalized)		**F**	**75.7**			**F**	**93.9**		
	Eastbound Left	800	F	91.1	375	442	F	136.7	~369	#502
	Eastbound Thru		F	116.2	~1262	#1392	E	68.4	1045	1152
	Eastbound Right		C	21.8	161	216	F	83.9	~818	#1436
	Westbound Left	300	E	56.9	100	135	E	73.1	196	m230
	Westbound Thru		D	38.4	567	548	D	52.6	1131	m1108
	Westbound Right		B	16.8	22	40	B	15.6	73	m93
	Northbound Left	400	F	98.2	360	#458	F	261.1	~567	#700
	Northbound Thru		F	90.1	259	313	F	106.8	225	278
	Northbound Right	300	E	59.8	99	178	E	73.1	258	363
	Southbound Left	295	E	70.5	171	235	F	81.4	213	281
	Southbound Thru		E	78.6	177	234	F	128.7	428	#566
	Southbound Right	430	E	63.2	402	536	F	131.4	~793	#710
3	**Route 50 (E/W) and Fair Oaks II Access Road (N/S)**	HCM 2000 two-way stop control intersections are limited to four lanes per approach; therefore, Synchro cannot produce results for Intersection 3 due to the number of lanes on westbound Route 50.								
4	**Route 50 (E/W) AND Jermantown Road (N/S)**									
	Overall Intersection (Signalized)		**D**	**52.3**			**F**	**95.7**		
	Eastbound Left	520	F	81.1	278	m272	F	185.5	~347	m#415
	Eastbound Thru/Right		D	35.1	1197	m1131	C	34.9	1172	m1268
	Westbound Left	165	F	91.6	20	42	F	105.4	80	118
	Westbound Thru/Right		D	37	368	484	D	36.3	674	717
	Northbound Left	435	F	90.3	88	127	F	128.3	191	#278
	Northbound Thru/Right		F	81.7	231	275	F	92	256	321
	Southbound Left	290	F	94.5	123	191	F	122.1	168	#318
	Southbound Thru/Right		E	79.8	228	270	F	258	~679	#822
	Southbound Right	305	F	87.5	209	290	F	279.8	~606	#850
5	**Driveway 1 (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Unsignalized)									
	Westbound Right		B	11		4	B	11.2		7
	Northbound Through		A	0		0	A	0		0
	Northbound Right		A	0		0	A	0		0
	Southbound		A	0		0	A	0		0
6	**Fairfax Ridge Road/ Pender Drive (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Signalized)		**B**	**23.4**			**C**	**28.2**		
	Eastbound Left						D	47.3	1	6
	Eastbound Thru/Right		D	35.7	1	61	D	37.6	1	50
	Westbound Left	215	D	36.8	96	189	D	44.4	162	#347
	Westbound Left/Thru		B	18.1	0	0	C	22.8	1	32
	Westbound Right	215	B	18.1	0	0	C	22.8	1	32
	Northbound Left	215	B	15.8	26	80	B	19.8	61	160
	Northbound Thru		C	22.2	91	190	C	24.1	98	202
	Northbound Right	110	B	11.6	0	52	B	10.7	0	48
	Southbound Left	455	B	16	28	85	B	17.3	23	72
	Southbound Thru/Right		C	21.3	72	154	C	28.1	130	249
7	**Fairfax Ridge Road/ Driveway 2 (E/W) and Waples Mill Road (N/S)**									
	Eastbound		C	18.9		12	D	26.3		11
	Westbound		B	14.3		20	C	19.6		42
	Northbound Left		A	0		0	A	0		0
	Nortbound Through		A	0		0	A	0		0
	Northbound Right		A	0		0	A	0		0
	Southbound Left		A	1		1	A	0.7		1
	Souhtbound Through		A	0		0	A	0		0
	Southbound Right		A	0		0	A	0		0

Future (2045) – Proposed Plan with Mitigations + Jermantown Road Connector
The Future with Jermantown Road Connector (2045) scenario evaluated the additional transportation operational benefits associated with implementing a planned two-lane multimodal inter-parcel and interjurisdictional connection between the study area and Jermantown Road in the City of Fairfax. This scenario was previously studied in Phase I of the Land Unit K study and incorporates previously adopted street recommendations and identified intersection mitigation improvements, including signal timing modifications and geometric enhancements.

The Jermantown Road Connector provides an additional east-west travel route, allowing traffic to redistribute throughout the roadway network, improving connectivity between activity centers in Fairfax County and the City of Fairfax, and reducing congestion at critical intersections. The scenario demonstrated incremental operational benefits compared to the mitigated Proposed Comprehensive Plan amendment scenario, particularly at the Route 50/Waples Mill Road intersection, where select movements experience reductions in delay and queue lengths. Key operational findings include:

- **Intersection 1: Random Hills Road/James Swart Circle and Waples Mill Road**
  - Operations remain generally similar to previous future scenarios, with some continued PM peak congestion and isolated queue storage constraints.

- **Intersection 2: Route 50 and Waples Mill Road**
  - The connector provides localized operational improvements by shifting some traffic demand away from existing approaches. However, the intersection remains a critical constraint, with several movements continuing to operate at LOS E or F during peak periods. While the connector improves conditions compared to the mitigated scenario alone, it does not fully resolve long-term capacity limitations.

- **Intersection 4: Route 50 and Jermantown Road**
  - The connector improves network circulation and provides additional travel options; however, the intersection continues to experience operational constraints during peak periods, including several movements operating below the desired LOS standard.

- **Intersection 6: Fairfax Ridge Road/Pender Drive and Waples Mill Road**
  - Operations remain generally acceptable during the AM and PM peak periods, with only minor changes compared to the mitigated scenario. The connector does not substantially alter intersection performance but helps maintain overall network balance.

The results of the intersection capacity analysis, expressed in LOS, delay (seconds per vehicle) per lane group, and 50th percentile and 95th percentile queues (feet), are presented in Table 7. with operational conditions illustrated in Figure 28.

Queue analysis indicates that several movements at Random Hills Road/Waples Mill Road, Route 50/Waples Mill Road, and Route 50/Jermantown Road may continue to exceed available

turn-lane storage during peak periods. These conditions reflect existing and future regional capacity constraints that are not fully addressed by the connector alone.

Overall, the Jermantown Road Connector provides a meaningful long-term transportation benefit by improving network connectivity, creating an additional travel route, and providing incremental operational improvements at key intersections. While the connector enhances the effectiveness of previously identified mitigation measures, additional strategies including targeted intersection improvements, transportation demand management, and multimodal enhancements may continue to be needed to support long-term transportation operations and accommodate future growth.



Figure 28. Jermantown Road Connector – Level of Service, Source: FCDOT

Table 7. Jermantown Road Connector (2045) Intersection Capacity Analysis Results, Source: FCDOT

No.	Intersection (Movement)	Full Width Storage Length (ft.)	AM Peak Hour				PM Peak Hour			
			LOS	Delay	50th % Queue (ft.)	95th % Queue (ft.)	LOS	Delay	50th % Queue (ft.)	95th % Queue (ft.)
			Synchro				Synchro			
1	**Random Hills Road/ James Swart Circle (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Signalized)	400	**C**	**26.4**			**C**	**31.2**		
	Eastbound Left		B	20	52	105	D	46	153	209
	Eastbound Thru		C	24.5	10	42	D	51.3	38	81
	Eastbound Right	285	B	13.2	0	12	D	38.4	0	46
	Westbound Left/Thru		C	30.3	7	27	D	52.1	52	96
	Westbound Thru		C	33.9	37	102	E	69.5	126	213
	Northbound Left	290	B	18.5	30	87	B	18.3	31	69
	Northbound Thru		C	28	126	241	C	23	119	189
	Northbound Right	285	C	23.3	0	0	C	20.7	0	0
	Southbound Left	135	B	19.2	29	86	B	16.6	70	135
	Southbound Thru		C	30.7	138	281	C	28.1	372	557
	Southbound Right		C	24.8	0	64	C	22.5	54	151
2	**Route 50 (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Signalized)		**E**	**75.5**			**F**	**96.1**		
	Eastbound Left	800	F	91.1	375	442	F	136.7	~369	#502
	Eastbound Thru		F	116.2	~1262	#1392	E	68.4	1045	1152
	Eastbound Right		C	21.8	161	216	F	83.9	~818	#1436
	Westbound Left	300	D	50.6	82	124	E	73.6	195	m232
	Westbound Thru		C	31.2	242	374	D	53.2	1133	m1122
	Westbound Right		C	33.5	0	m1	B	12.5	10	m18
	Northbound Left	400	F	98.2	360	#458	F	261.1	~567	#700
	Northbound Thru		F	90.1	259	313	F	106.8	225	278
	Northbound Right	300	E	59.7	97	175	E	70.8	173	276
	Southbound Left	295	E	65.9	48	81	E	75.4	48	81
	Southbound Thru		E	78.6	177	234	F	128.7	428	#566
	Southbound Right	430	E	63.2	402	536	F	131.4	~793	#710
3	**Route 50 (E/W) and Fair Oaks II Access Road (N/S)**	HCM 2000 two-way stop control intersections are limited to four lanes per approach; therefore, Synchro cannot produce results for Intersection 3 due to the number of lanes on westbound Route 50.								
4	**Route 50 (E/W) AND Jermantown Road (N/S)**									
	Overall Intersection (Signalized)		**E**	**61.9**			**F**	**108.8**		
	Eastbound Left	520	E	72.9	247	m236	F	124.7	263	m#317
	Eastbound Thru/Right		D	54.9	1103	m1017	C	22	1032	1092
	Westbound Left	165	F	91.6	20	42	F	105.4	80	118
	Westbound Thru/Right		E	57.1	466	521	D	36.5	673	718
	Northbound Left	435	F	90.3	88	127	F	128.3	191	#278
	Northbound Thru/Right		F	81.7	231	275	F	92	256	321
	Southbound Left	290	E	75.9	298	#497	F	571.3	~690	#912
	Southbound Thru/Right		D	54.6	170	230	F	232.3	~634	#777
	Southbound Right	305	E	55.2	156	245	F	251.6	~557	#794
5	**Driveway 1 (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Unsignalized)									
	Westbound Right		B	10.4		3	B	10.4		6
	Northbound Through		A	0		0	A	0		0
	Northbound Right		A	0		0	A	0		0
	Southbound		A	0		0	A	0		0
6	**Fairfax Ridge Road/ Pender Drive (E/W) and Waples Mill Road (N/S)**									
	Overall Intersection (Signalized)		**C**	**23**			**C**	**27.6**		
	Eastbound Left						D	48.6	1	6
	Eastbound Thru/Right		D	37.5	20	86	C	34.3	12	63
	Westbound Left	215	D	37.5	71	140	D	41	111	211
	Westbound Left/Thru		C	20.2	5	35	C	22.4	11	62
	Westbound Right									
	Northbound Left	215	B	14.7	22	70	C	20.8	50	138
	Northbound Thru		C	22.4	84	173	C	27.2	79	164
	Northbound Right	110	B	12.9	0	51	C	14.4	0	47
	Southbound Left	455	B	15.7	46	130	B	19.8	40	113
	Southbound Thru/Right		B	19.4	56	127	C	29.3	112	222
7	**Fairfax Ridge Road/ Driveway 2 (E/W) and Waples Mill Road (N/S)**									
	Eastbound		C	19		12	D	26.3		11
	Westbound		B	14.4		21	C	19.9		43
	Northbound Left		A	0		0	A	0		0
	Nortbound Through		A	0		0	A	0		0
	Northbound Right		A	0		0	A	0		0
	Southbound Left		A	1.2		1	A	1		1
	Souhtbound Through		A	0		0	A	0		0
	Southbound Right		A	0		0	A	0		0

Potential Future Transportation Mitigation Measures

The analysis indicates that traffic operations worsen under the Adopted Comprehensive Plan scenario due to regional growth and the office-oriented land use assumptions. The proposed Comprehensive Plan amendment is not expected to substantially degrade traffic operations beyond an isolated movement at the Route 50 and Waples Mill Road intersection as it generates fewer trips and reduces peak-hour congestion, resulting in improved intersection operations. However, several intersections within the study area currently operate, and are forecast to continue operating below the desired level of service due to existing conditions and projected regional growth. As a result, several long-term transportation improvements have been identified to enhance overall network performance (as shown in Figure 29). These improvements address broader system needs and are not attributable to the proposed development.

Potential future mitigation measures include:

- Waples Mill Road and Pender Drive/Fairfax Ridge Road: Install protected northbound and southbound left-turn signal phases and optimize signal timing to reduce conflicts between turning and through movements and improve overall intersection operations.
- Route 50 and Waples Mill Road: Reconfigure the southbound approach to provide two left-turn lanes, two through lanes, and one dedicated right-turn lane, together with signal timing adjustments, including an eastbound protected left-turn phase, to better accommodate future traffic demand.
- Waples Mill Road and Random Hills Road/James Swart Circle: Convert the intersection to eight-phase signal operation and extend the eastbound left-turn lane to increase storage capacity, reduce queue spillback, and improve intersection efficiency.
- A two-lane, local street from the intersection of Waples Mill Road at Fairfax Ridge Road to Pender Drive is proposed as part of future planning efforts. Therefore, an appropriate location for such connection needs to be considered as part of future redevelopment in Fairfax County. A connection that accommodates vehicles, bicycles, and pedestrians would offer more direct efficient travel routes while alleviating traffic congestion. Provisions for such a connection should be integrated into the redevelopment of the site to support long-term transportation goals.

In addition to these operational improvements, the Fairfax County Comprehensive Plan identifies several long-term transportation projects intended to address regional mobility and capacity needs, including widening Route 50 between Waples Mill Road and I-66, widening Waples Mill Road both south and north of Route 50, and constructing a future grade-separated interchange at Route 50 and Waples Mill Road (as shown in Figure 29).

Collectively, these improvements would enhance operations throughout the study area, including the intersections of Waples Mill Road and Random Hills Road, Route 50 and Waples Mill Road, Route 50 and Fair Oaks Corporate Center II Access, Route 50 and Jermantown Road, Waples Mill Road and site access points, and Waples Mill Road and Pender Drive/Fairfax Ridge Road. These measures represent long-term transportation strategies that would support future regional growth and improve overall network performance independent of the proposed Comprehensive Plan amendment.

The potential Jermantown Road Connector could further improve operations by enhancing network connectivity and redistributing traffic, although additional coordination and evaluation with the City of Fairfax will be needed.

Overall, the proposed Comprehensive Plan amendment, combined with targeted transportation improvements and the potential Jermantown Road Connector, is expected to support future growth with fewer vehicle trips, reduced congestion, and a more efficient and resilient transportation network.

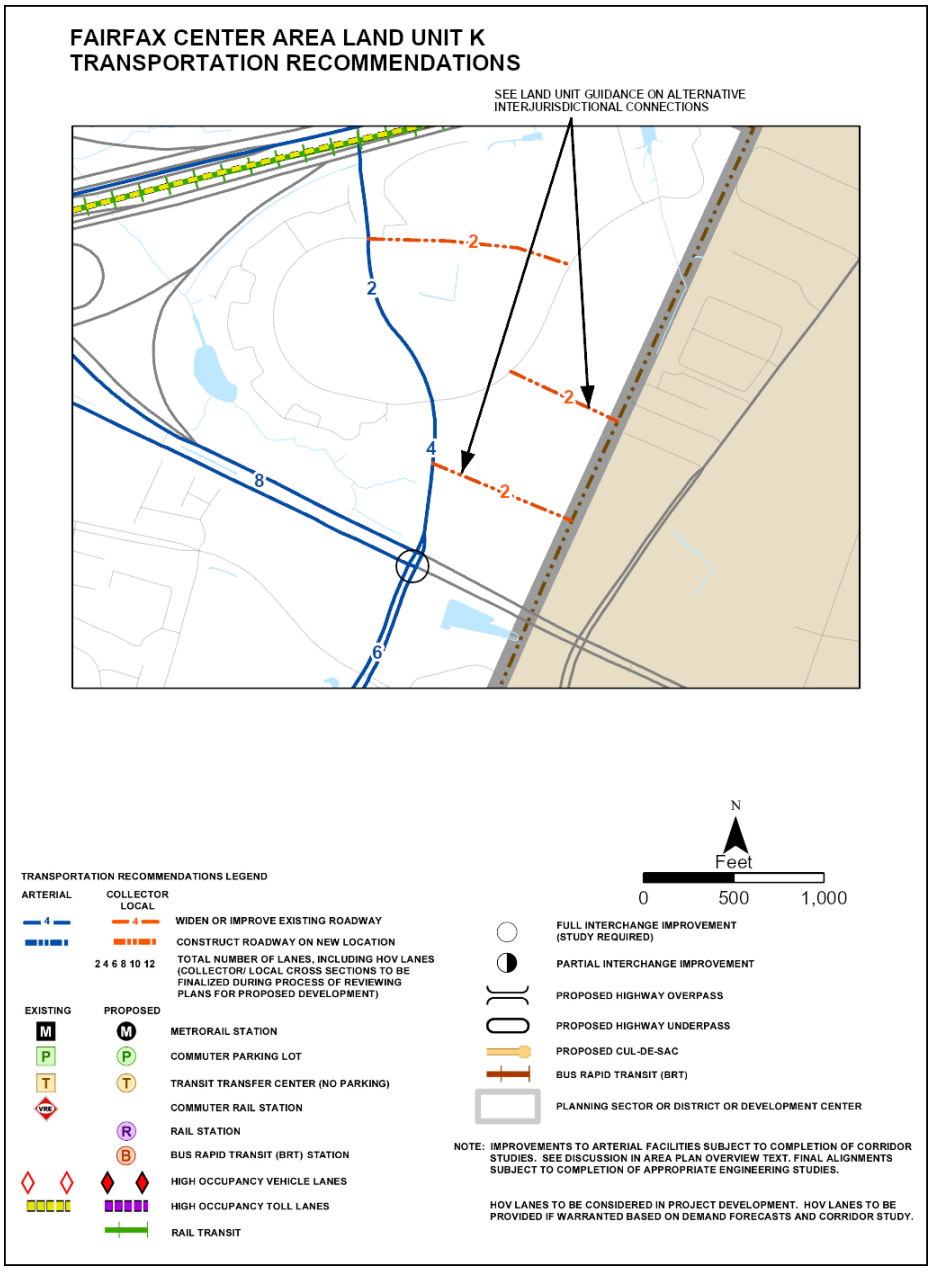

Figure 29. Fairfax Center Area Land Unti K Transportation Recommendations Map, Source: FCDOT

Area-Wide Pedestrian, Bicycle, and Transit Recommendations

The proposed Comprehensive Plan Amendment supports a multimodal transportation network that enhances pedestrian, bicycle, and transit connectivity throughout Land Unit K and the surrounding area. Key recommendations are:

- Accommodate a future multimodal inter-parcel and interjurisdictional connection linking Pender Drive, Jermantown Road, and the Waples Mill Road/Fairfax Ridge Road intersection, and a two-lane, local street from the intersection of Waples Mill Road at Fairfax Ridge Road to Pender Drive. This connection would improve access between Fairfax County and the City of Fairfax, provide convenient bicycle and pedestrian routes, and help reduce short vehicle trips on the surrounding roadway network. Implementation will require coordination among Fairfax County, the City of Fairfax, and adjacent property owners as redevelopment occurs.

- To improve pedestrian comfort and accessibility, the study recommends upgrading sidewalks and landscape buffers throughout the area, with the goal of achieving a Pedestrian Level of Comfort (PLOC) score of 2 or better. Recommended improvements include wider sidewalks, expanded landscape buffers with street trees where feasible, and enhanced pedestrian facilities along Pender Drive, Waples Mill Road, Fairfax Ridge Road, Route 50, Fair Oaks II Access, and Fairfax Oaks Entrance I.

- To support safe and connected bicycle travel, the study recommends implementing a network of bicycle facilities designed to achieve a Bicycle Level of Traffic Stress (BLTS) score of 2 or better. Improvements include on-street bicycle lanes, shared-use paths, and separated bicycle facilities along key corridors, including Pender Drive, Waples Mill Road, Fairfax Ridge Road, Route 50, Fair Oaks II Access, and Fairfax Oaks Entrance I.

- Enhancing pedestrian crossings at key intersections and driveways through the use of high-visibility crosswalks, pedestrian refuge islands, pedestrian signals, and reduced crossing distances where feasible. Priority locations include the intersections of Waples Mill Road with Pender Drive/Fairfax Ridge Road and Route 50, as well as unsignalized driveways throughout the study area. These recommendations build upon recent pedestrian improvements completed by VDOT at Route 50 and Waples Mill Road and planned improvements associated with adjacent redevelopment projects.

- To support future transit service, bus stop locations should be incorporated along Pender Drive to accommodate the planned Fairfax Connector Route 625. New transit stops should include passenger amenities such as shelters, seating, and accessible pedestrian connections to surrounding development.

Collectively, these recommendations advance the Comprehensive Plan's vision for a safe, connected, and multimodal transportation network by improving walking, bicycling, and transit accessibility while reducing reliance on single-occupant vehicle travel.

Overall, the proposed amendment advances a balanced, multimodal transportation network that promotes safe, efficient, and sustainable mobility within Land Unit K and the surrounding area. The findings indicate that the proposed land use pattern can accommodate anticipated growth while supporting the County's broader transportation and mobility objectives, providing a strong basis for approval and implementation. Supplemental analysis of the Jermantown Road Connector further indicates that, although the connector would provide long-term network connectivity benefits, the proposed Comprehensive Plan amendment and its associated mitigation measures are the primary contributors to the operational improvements identified within the study area.

Sanitary Sewer

Sewage generated within Land Unit K is treated at the Noman M. Cole, Jr., Pollution Control Plant (NMCPCP), a Water Recycling Facility with an advanced treatment capacity of 67 million gallons per day (mgd). This facility is projected to have sufficient capacity to accommodate sewage flow through the year 2045. The study area is currently served by the Pender and High Ridge sanitary sewer pump stations as shown in Figure 30, both of which have adequate capacity to serve the existing uses. Sewage flow from High Ridge Pump Station is currently conveyed directly to the Pender Pump Station, which then transfers the combined flow to the 50/66 Pump Station, located outside of the study area. Given this configuration, the capacity and condition of both Pump Stations, as well as the supporting sanitary sewer infrastructure, were assessed to guide long-term planning in the area as part of the Phase I study, which was adopted on November 18, 2025. The findings were subsequently incorporated into the Land Unit K Phase II study.

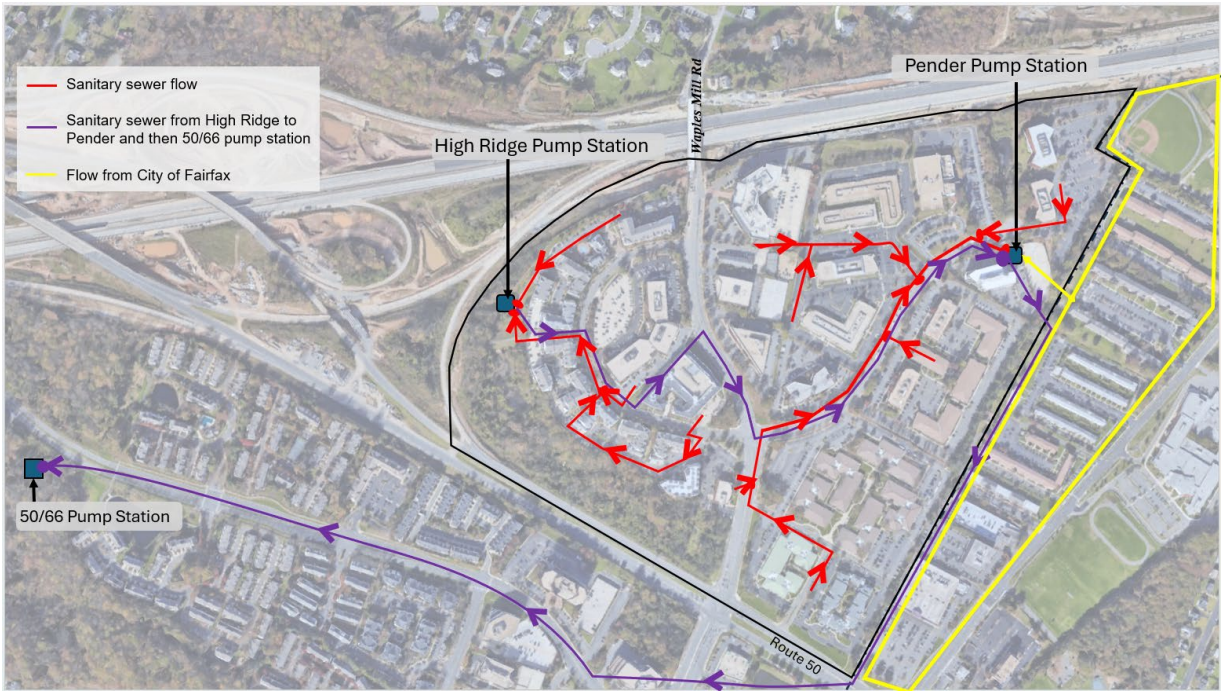

Figure 30. Current Sewer Sanitary Flow, Source: Google Earth Aerial Map

According to the sanitary sewer capacity analysis submitted by Bohler Engineering to the Department of Public Works and Environmental Services (DPWES), Wastewater Planning Division on March 12, 2024, the existing uses served by the Pender Pump Station require 0.85 mgd pump capacity, while the station's current pump capacity is 0.96 mgd. The existing uses served by the High Ridge Pump Station require 0.48 mgd pump capacity, while the station's current pump capacity is 0.5 mgd. As a result, while both pump stations currently have sufficient capacity to serve existing uses, little additional capacity remains to accommodate flows from more intense uses. Critically, the pump stations and multiple sanitary sewers serving Land Unit K do not have sufficient capacity to support the proposed uses and intensity. Therefore, upgrades to both Pump Stations as well as multiple sanitary sewers are required to accommodate the increased demand associated with the proposed development.

In order to plan for future capacity needs and prevent piecemeal upgrades to these pump stations and sanitary sewers, DPWES worked with the nominators on the Phase I study of Land Unit K to evaluate the sewer demand associated with the two site-specific proposals (Fair Oaks Business Park and Rideg Top Road sites), as well as the demand associated with full build-out of Land Unit K under a mixed-use option under the Phase II study. With the proposed scenario for the whole Land Unit, the Pender Pump Station will need to be upsized to a firm capacity of approximately up to 3.0 mgd, and the High Ridge Pump Station will need to be upgraded to a firm capacity of approximately up to 0.75 mgd.

The sewer study explored several alternatives and opportunities, including a "bypass option" that would redirect the force main from the High Ridge Pump Station to a point downstream of the Pender Pump Station, allowing flow to be directed to the 50/66 Pump Station and freeing up additional capacity at the Pender Pump Station. However, this bypass option may have several restrictions and challenges, including environmental constraints due to the presence of a Resource Protection Area (RPA), and conflicts with existing infrastructure such as Route 50 and Waples Mill Road intersection. These issues will require further detailed analysis and coordination with the county. Importantly, even with the Bypass option, the current Pender Pump Station lacks the capacity to accommodate the flow generated by the proposed land use intensity.

As noted, capacity upgrades are necessary for both pump stations and associated sanitary sewers pipelines to support the recently approved two SSPAs and the anticipated build out of Land Unit K, including intensities proposed under the land use scenario developed for the Phase II study. A commitment to upgrading all undersized existing wastewater infrastructure such as pumps, force main, and gravity pipes would be expected with any future rezoning application in order to meet the anticipated Land Unit K buildout condition. Current Comprehensive Plan language reflects these infrastructure needs. DPWES identified the required capacity for High Ridge pump station at 0.75 MGD (million gallon per day) and Pender Pump Station at 3.0 MGD. In addition, a detailed sanitary sewer study would be required during the rezoning application review process to evaluate the preliminary planning for the necessary sanitary sewers upgrade, pump stations (including force main, if required) per the Zoning Ordinance.

Schools

Background

The subject area, consisting of Fairfax Center Area Land Unit K, has the potential for 3,080 residential units and is located north of the Fairfax Center Area Sub-units J1 and J2, which are being considered through a separate planning study and staff report. Given the proximity of these two studies a cumulative analysis was conducted to evaluate potential impacts. The analysis incorporates the plan potential of both the recently adopted Fairfax Center Area Land Unit K Phase I Study (SSPA 2023-III-2FC and 3FC) and the proposed Fairfax Center Area Land Unit K Phase II Study. The Phase I Study, which included the two Site-Specific Plan Amendments (Fair Oaks Business Park and Fairfax Ridge Road sites) was adopted by the Board of Supervisors on November 18, 2025. The Phase II Study includes a comprehensive assessment of land use, transportation, and parks within Land Unit K. Collectively, the findings of these two studies (Phase I and Phase II) along with the Fairfax Center Suburban Center Subunit J1 and J2 study (PA 2023-II-2F), provide the foundation for the analysis presented here.

Analysis

For School Year (SY) 2026-27, the schools serving these areas are Oakton High School (HS), Woodson HS, Franklin Middle School (MS), Frost MS, Fairfax Villa Elementary School (ES), and Waples Mill ES.

On July 16, 2026, the School Board approved boundary adjustments for schools in the western high school pyramids beginning in SY 2027-28. The adopted phasing plan implements the boundary adjustment on a grade-by-grade basis, with all grades fully implemented by SY 2030-31. The approved boundary adjustment and adopted phasing will likely affect membership at Franklin MS in the future.

On January 22, 2026, the School Board approved adjustments for 46 schools countywide beginning in SY 2026-27. The approved boundary adjustment and adopted phasing will likely affect membership at Franklin MS in the future.

The following projections were published in the Fairfax County Public Schools (FCPS) Adopted Capital Improvement Program (CIP) Fiscal Year (FY) 2027-31 and do not reflect the increase in the number of students resulting from the Comprehensive Plan amendment.

Table 8. School Capacity

School	Program Capacity SY 2025-26	Membership SY 2025-26	Capacity Utilization SY 2025-26	Projected Membership SY 2030-31	Projected Capacity Utilization SY 2030-31
Oakton HS	2,642	2,711	103%	2,602	98%
Woodson HS	2,331	2,482	106%	2,471	106%
Franklin MS[1]	844	792	94%	670	79%
Frost MS	1,337	1,233	92%	1,178	88%
Fairfax Villa ES	651	549	84%	488	75%
Waples Mill ES	836	709	85%	606	72%

[1] School is currently going through or will be going through a boundary adjustment.
Source: FCPS, *Adopted Capital Improvement Program FY 2027-31*, February 2026.
Note: Information does not reflect boundary adjustments adopted for implementation beyond the SY 2025-26 school year.

The school capacity Table 8 shows a snapshot in time of student membership and school capacity balances. The five-year student membership projections and individual school capacity evaluations are updated annually by FCPS. Potential school expansions and new schools are included in the FCPS CIP for future consideration based on the most recent five-year projections and capacity evaluations from SY 2025-26. Any option(s) chosen for implementation will be discussed and decided through a transparent process in accordance with Fairfax County School Board Policies and Regulations. At this time, Oakton HS has a slight capacity deficit; Woodson HS is considered to have a moderate capacity deficit; Franklin MS, Frost MS, and Waples Mill ES are considered to have sufficient capacity for current programs; and Fairfax Villa ES is considered to have a capacity surplus. If by-right development occurs under the existing zoning, Oakton HS would be approaching a capacity deficit; Woodson HS would be considered to have a moderate capacity deficit; Franklin MS, Fairfax Villa ES, and Waples Mill ES would be considered to have a capacity surplus; and Frost MS would be considered to have sufficient capacity for current programs and future growth by SY 2030-31. Beyond the five-year projection horizon, membership projections are not available.

Impact

The table below shows the potential student yield by school level, calculated using the FCPS 2022 countywide student yield ratios based on the number of housing units proposed with these Comprehensive Plan amendments.

Table 9. Potential Student Yield – Adopted Plan

School Level	Planned Number of Housing Units	Potential Student Yield
High	652	64
Middle	652	37
Elementary	652	132
Total Student Count		**233**

Source: FCPS, *2022 Countywide Student Yield Ratios*, June 2022.

Table 10. Potential Student Yield – Proposed Plan

School Level	Proposed Number of Housing Units	Potential Student Yield
High	3,208	136
Middle	3,208	83
Elementary	3,208	276
Total Student Count		**495**

Source: FCPS, *2022 Countywide Student Yield Ratios,* June 2022.

Summary

Based on the FCPS Adopted CIP FY 2027-31, one high school has a slight capacity deficit, one high school is considered to have a moderate capacity deficit, two middle schools and one elementary school are considered to have sufficient capacity for current programs, and one elementary school is considered to have a capacity surplus. For projected membership, assuming no change to programs and boundaries, one high school would be approaching a capacity deficit, one high school would be considered to have a moderate capacity deficit, one middle school and two elementary schools would be considered to have a capacity surplus and one middle school would be considered to have sufficient capacity for current programs and future growth, prior to consideration of any comprehensive plan amendment or rezoning. This analysis is a snapshot in time for student membership and school capacity balances.

With a Comprehensive Plan amendment that proposes an increase in residential density, the membership at these schools will necessarily increase. Any future development applications or Comprehensive Plan amendments would need to be analyzed along with this Comprehensive Plan amendment to determine the future impact on capacity. The impacts of a Comprehensive Plan amendment may occur beyond the five-year projection horizon and conditions of a school and/or school boundaries may change by the time the residential density proposed by this comprehensive plan amendment is realized

Capital Improvement Program Potential Solutions
The FCPS Adopted CIP FY 2027-31 includes potential solutions to alleviate current and projected school capacity deficits. For consideration purposes, as many options as possible have been identified for each school, in no significant order, and may be contingent on other potential solutions listed. Any option(s) chosen for implementation will be discussed and decided through a transparent process with the appropriate stakeholders, in accordance with Fairfax County School Board Policies and Regulations.

Fairfax County Comprehensive Plan Guidance and Recommendations
The adopted Fairfax County Comprehensive Plan, 2026 Edition, for the Fairfax Center Area, amended through December 9, 2025, states:

Traditionally, public school capacity needs have been addressed through various means including dedication of land, new school construction, additions to existing facilities, interior architectural modifications, use of modular buildings, changes to programs, and/or changes to attendance areas. In addition to the traditional means for addressing school capacity requirements listed above, Fairfax County Public Schools should evaluate other possible school impact mitigation strategies. The impact of development on schools should be mitigated by the developer(s) and the county. Any impact on schools, necessitated by any increased intensity, must be addressed with provisions for mitigation.

Recommendation

The Comprehensive Plan recommendations for the Fairfax Center Area currently include language specific to the mitigation of the impact of development on schools. The Comprehensive Plan identifies traditional means to address school capacity needs but also states that FCPS should evaluate other mitigation strategies as appropriate.

Parks and Recreation

The Policy Plan recognizes the need to mitigate adverse impacts to park and recreation facilities resulting from growth and development, and outlines strategies to address these impacts including contributions, land dedication, development of facilities, and other measures. Moreover, the Parks and Recreation element of the Policy Plan includes an Urban Parks Framework, which establishes urban parkland standards and detailed guidance for the development of urban parks. Areawide and Land Unit K text within the Comprehensive Plan further guide parks and recreation recommendations for the subject properties.

Analysis

The cumulative analysis presented in this memorandum incorporates the findings of both the Fairfax Center Area Land Unit K Phase I Study and the Fairfax Center Area Land Unit K Phase II Study. Collectively, the findings of these two studies provide the foundation for the cumulative analysis presented in this analysis.

Existing nearby parks (Carney Park and Random Hills Park) only partially meet the parkland demand generated by residential development within the service area of the proposed Plan amendments. Beyond parkland, there is a significant need for recreational facilities in the Fairfax Planning District. These include rectangle fields, adult baseball fields, adult softball fields, youth baseball fields and softball fields, sport courts, playgrounds, and trails as described at Table 11.

Table 11. Fairfax Planning District Recreational Facility Needs

Facility Type	Existing	Needs Assessment Standard	Need in 2020	Deficit/ Surplus
Rectangle Fields	19	1 field / 2,700 people	29	**(10)**
Adult Baseball	2	1 field / 24,000 people	3	**(1)**
Adult Softball	2	1 field / 22,000 people	4	**(2)**
Youth Baseball	6	1 field / 7,200 people	11	**(5)**
Youth Softball	2	1 field / 8,800 people	9	**(7)**
Sport Courts	13	1 court / 2,100 people	37	**(24)**
Playgrounds	7	1 playground / 2,800 people	28	**(21)**
Dog Parks	1	1 dog park / 86,000 people	1	**0**

As outlined in the adopted Comprehensive Plan, existing built and natural features in the surrounding area provide an opportunity to create larger parks connected by trails and pedestrian pathways. The development of urban parks such as pocket parks, plazas, common greens, and recreation-focused spaces should be encouraged. Integration of publicly accessible urban parks in the overall site design is essential to providing on-site recreation amenities within the area. Integration will enhance the desirability of the project, support broader development goals, and foster a strong sense of place.

The Land Unit K planning study (Phases I and II combined) proposes a total of 2,428 additional multifamily units and up to 1,279,001 less square feet of non-residential uses, which could result in a maximum potential increase of 4,249 new residents and decrease of 4,263 employees within the Fairfax Planning District. The cumulative impact density would generate a need for 5.95 acres of publicly accessible, onsite urban parks and associated programming per the Urban Parks Framework.

Tables 12 and 13 indicate the cumulative expected parkland, and recreational facility impacts generated by the proposed Plan amendments under their combined maximum development potential.

Table 12. Cumulative Expected Parkland and Recreational Facility Impacts

	Mixed-Use Multifamily Residential
Allowable Dwelling Units	2,428
Allowable Residential Population	4,249
Allowable Non-Residential (SF)	-1,279,001
Allowable Employees	-4,263

Table 13. Expected Parkland and Recreational Facility Impacts

Facility	Service Level Standard	Impact from 4,249 Additional Residents / 4,263 Fewer Employees
Rectangle Fields	1 field / 2,700 people	**1.57**
Adult Baseball Fields	1 field / 24,000 people	**0.18**
Adult Softball Fields	1 field / 22,000 people	**0.19**
Youth Baseball Fields	1 field / 7,200 people	**0.59**
Youth Softball Fields	1 field / 8,800 people	**0.48**
Multiuse Courts	1 court / 2,100 people	**2.02**
Playgrounds	1 playground / 2,800 people	**1.52**
Neighborhood Dog Parks	1 dog park / 86,000 people	**0.05**
Neighborhood Skate Parks	1 skate park / 106,000 people	**0.04**
Reservable Picnic Areas	1 area / 12,000 people	**0.35**

Parkland/Open Space Type	Service Level Standard	Impact (Acres) from 4,249 Additional Residents / 4,263 Fewer Employees
Onsite Urban Parks	1.5 acres / 1,000 people 1 acre / 10,000 people	**5.95**
Local Suburban	5 acres / 1,000 people	**21.25**
District/Countywide	13 acres / 1,000 people	**55.24**

Onsite Facilities

The Urban Parks Framework calls for urban park locations in high visibility areas with convenient pedestrian access and high pedestrian traffic. Onsite urban park space within Land Unit K should be planned as a pedestrian accessible network along Waples Mill Road and Pender Drive, consistent with Urban Parks Framework guidance. Design concepts submitted with the recently approved two SSPAs depict potential park space consolidated along Pender Road and Waples Mill Road. As additional existing office uses within the land unit convert to, or incorporate, new residential development, each development should prioritize consolidated urban park spaces oriented towards, and connected by, pedestrian facilities along Waples Mill Road and Pender Drive. Where the planned street grid does not accommodate additional infill buildings along Waples Mill Road or Pender Drive, new development should ensure that any new onsite urban park space remains accessible to and from these public streets by publicly accessible paths, trails, and/or sidewalks.

Housing

As outlined in the Housing element of the Policy Plan, increasing the housing supply in appropriate locations supports the county's overall housing goals. For private developments, the county primarily relies on two tools to secure affordable housing commitments: the Affordable Dwelling Unit (ADU) Ordinance and the Guidelines for the Provision of Workforce Dwelling Units (WDU Policy). The ADU Ordinance is part of the Zoning Ordinance, while the county's WDU policy is part of the Comprehensive Plan and applies to any residential development in

Suburban Centers and other designated mixed-use centers across the county. For developments that include multiple residential unit types, it is expected that ADUs and WDUs be integrated into each housing type and distributed throughout the project site. The WDU Policy also outlines expectations regarding the number, size, and affordability level of units to be provided at the time of rezoning.

The proposed increase in land use intensity and residential units would generate new affordable housing units, supporting the county's efforts to address the community's growing housing needs. Compliance with the minimum bedroom and living room sizes required for affordable units per the Virginia Construction Code and Property Maintenance Code should help ensure that these units can accommodate a variety of households and families.

The introduction of up to 1,341 net new residential units within Land Unit K is consistent with the Housing element of the Policy Plan. The increase in land use intensity and residential units associated with the mixed-use option could generate a new affordable unit, helping to address the community's growing housing need.

Environment

Existing environmental policies in both the Environment element and the Fairfax Center Area apply to this site and are adequate to address issues related to soils, low impact development techniques, forest resources, green building, electric vehicle charging, bird friendly design, noise, and lighting.

Noise

The Environment element of the Policy Plan recommends minimizing human exposure to unhealthful levels of transportation-generated noise using the terms of Day-Night Average Sound Level (DHL) and A-weighted decibels (dBA) to express sound pressure levels. To achieve this goal, the adopted Plan stipulates that new development should not expose people in their homes, or other noise sensitive environments, to noise in excess of DNL 45 dBA, or to noise in excess of DNL 65 dBA while in outdoor recreation areas of homes.

The north side of Land Unit K is in proximity to the right-of-way for I-66; therefore, the potential impacts of transportation-generated noise may be a concern. The potential for noise impacts on the proposed residential uses should be evaluated with any development application, and, if found, should be mitigated per the existing policy.

Water Quality and Stormwater Management

The Fairfax Center Area includes the headwaters for four watersheds that contain a variety of environmental resources: Difficult Run, Cub Run, Little Rocky Run, and Popes Head Creek. All of these watersheds except Difficult Run are tributaries to the Occoquan Reservoir water supply, and the careful control of stormwater management within these watersheds is essential to the protection of this water supply resource. The Area-wide guidance recommends

on-site measures for water quality and quantity for new development and redevelopment. Stormwater design should be an integral design principle that seeks 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.

Soils

Problem soils are found in much of the Fairfax Center Area. The eastern portion of the Fairfax Center Area contains rock formations in which naturally occurring fibrous asbestos may occur. Also, shrink-swell clays occur in the eastern and far western portions of the Fairfax Center Area. Development proposals should detail how these concerns will be mitigated. Highly erodible soils are also found adjacent to small tributaries on steep slopes. These conditions create constraints for development. Highly erodible soil and steep slopes along stream valleys make watershed preservation an essential concern.

Green Buildings

The Policy Plan's Environment element provides guidance for green building practices, to include the provision of electric vehicle charging and bird friendly design, applicable to Suburban Centers, and includes sustainable practices such as the achievement of the U.S. Green Building Council's Leadership in Energy Environmental Design (LEED) certification or equivalent third-party certification. Future development and redevelopment within the Fairfax Center Area should promote increased quality of life for the public and improve the quality of natural resources by employing sustainability in planning and design. To achieve development at the high end of the density range, high quality, innovative green building practices are expected per the existing policy.

CONCLUSION

Prior planning efforts in Land Unit K, including the recently adopted Phase I study, have encouraged mixed-use development and diversified residential options, reflecting changing market demands and community priorities. Key approvals of multifamily residential projects and incremental expansions of land use flexibility have gradually transformed Land Unit K into a more balanced, residentially supportive environment. The proposed amendment would continue this transition and implement the Fairfax Center Area's guiding planning principles by establishing a mixed-use activity node with a variety of compatible residential and non-residential uses within a network of urban parks and open spaces.

The Phase II study and amendment provide a recommended land use framework for Land Unit K for a mixed-use scenario, which includes residential, alternative provisions for office, hotel, self-storage, retail uses, associated site design and compatibility recommendations, and recommendations for supporting sewer capacity and transportation infrastructure to accommodate future growth. The scenario demonstrates how these recommended uses and intensities, including mixed-use, multifamily residential, and single-family attached townhouse

options, could be accommodated within the fabric of the surrounding neighborhood, while the compatibility provisions established for alternative uses ensure that architectural character and land use transitions remain consistent with the broader vision for the Fairfax Center Area.

RECOMMENDATION

Staff recommends the Comprehensive Plan be modified as shown below. Text proposed to be added is shown as underlined and text proposed to be deleted is shown with a ~~strikethrough~~. Text shown to be replaced is noted as such.

MODIFY: Fairfax County Comprehensive Plan, 2026 Edition, Area III, Fairfax Center Area, Amended through 05,05,2026, Land Use Plan Recommendations – Suburban Center Non-Core Areas:

"

Land Unit K

Character

This land unit is located in the area north of Route 50, west of the City of Fairfax, south of I-66, and east of the Route 50/I-66 interchange. The area is predominately developed with office uses and the Fairfax Ridge and Radiant at Fairfax multifamily residential developments.

Recommendations

Land Use

Baseline: Office use up to .25 FAR
Overlay: Office use up to .50 FAR

This area contains office uses, multifamily residential uses and a hotel. This land unit is planned for medium intensity office use at .50 FAR at the overlay level. Particular attention should be given to the presentation of a high-quality image from I-66 and Route 50. The planned roadway improvements for this area are shown on Figure 3.

Development in this area is constrained by an Environmental Quality Corridor (EQC) associated with the stream valley that traverses the western portion of the land unit. The EQC encompasses the floodplain, associated alluvial soils, and steep slopes. This EQC area should be retained in open space.

The existing two pump stations, Pender and High Ridge, serving Land Unit K and portions of the City of Fairfax lack adequate capacity to accommodate increased demand from new development. New development should include engineering studies that evaluate the existing sewer infrastructure capacity (pump stations, force mains, and gravity sewers) and commit to providing any necessary improvements to offset the increased sewer flow demand. Any

identified sewer improvements must be sized for the full planned build out of the service area of the two pump stations.

A logical street grid with a cohesive network of internal and external streets and active transportation improvements should be provided that prioritize safe and convenient connections for pedestrians, cyclists, and vehicles to adjacent uses, transit facilities, and other destinations. New development in the land unit should contribute to the envisioned grid of streets in the area as shown in Figure 12B and further detailed in the Transportation Plan Map. New grid streets include:

- A two-lane, inter-parcel and interjurisdictional connection to the east from either Waples Mill Road or Pender Drive designed for connection to Jermantown Road, in the City of Fairfax
- A two-lane, local street from the intersection of Waples Mill Road at Fairfax Ridge Road to Pender Drive.

Transportation improvements should include high-quality streetscapes with pedestrian-scaled lighting, on-street parking, landscaping, and street trees. In order to provide a street appropriate for a residential neighborhood, Waples Mill Road should be evaluated for two travel lanes (one in each direction) between I-66 and Fairfax Ridge Road/Pender Drive. The remaining space should be repurposed for planted medians and/or enhanced streetscapes. Turn lanes should be provided only where necessary in order to slow vehicle speeds and minimize pedestrian crossing distances at the intersections of Waples Mill Road, Pender Drive and Fairfax Ridge Road; and Waples Mill Road and Fairfax Ridge Road. Intersection improvements could also include roundabouts. Active transportation modes should be emphasized within the Waples Mill Road corridor and Pender Drive that improve bicycle and pedestrian facilities, including wide pathways, buffers and street trees, and enhanced street crossing treatments, and could include a 10-foot shared use path and an adequate landscaped buffer, or equally comfortable, low-stress facility.

Redevelopment Options

The following residential and mixed-use options represent additional redevelopment potential in excess of the overlay recommendation. Given the existing and planned mix of employment and residential uses, Land Unit K is an activity node where new infill development should be integrated with a network of public parks, pedestrian facilities, and natural open spaces. Development under the options described below should provide commensurate facilities to contribute to such an open space network. Residential and mixed-use redevelopment should create a vibrant and sustainable living environment that prioritizes high-quality architecture and site design, access to multimodal transportation facilities, and other amenities for residents of all ages, incomes, and ability levels. Retail uses provided under the options should be community-serving in nature.

As an option at the overlay level, Tax Map Parcel 56-2 ((26)) 210, as well as portions of the land unit east of Waples Mill Road (excluding Tax Map Parcels 56-2 ((1)) 74B; 57-1 ((1)) 10 and 23, which are planned under site-specific redevelopment options as listed below) may be redeveloped with mixed-use consisting of up to 1,341 residential units, 21,000 SF of retail use,

and 405,000 SF of office use, subject to area wide recommendations and provided the following criteria are met:

- Redevelopment should create a vibrant and sustainable living environment that prioritizes high-quality architecture. Logical parcel consolidation and/or coordination of development is recommended to ensure individual projects achieve high quality site design that can support publicly accessible open spaces, right-of-way to implement the grid of streets, and public facilities.

- The primary residential form under this option, as measured by the number of housing units, should be multifamily units to support compact building forms that can create a pedestrian-oriented open space network. Multifamily buildings should be oriented along Waples Mill Road and Route 50 in a manner that is compatible with and provides an appropriate transition to the surrounding established residential neighborhoods Traditional or stacked townhouses, or triplex units may be incorporated along and oriented towards Pender Drive and within the eastern portions of the land unit to create compatible transitions to lower density residential neighborhoods in the City of Fairfax.

- A mix of offices and community serving retail uses are encouraged to create an active mixed-use node with enhanced streetscapes.

- A hotel use may be considered in lieu of office use intensity; provided the proposal demonstrates logical consolidation of uses and appropriate mitigation of impacts on surrounding uses.

- A self-storage use may be considered in lieu of office use intensity; provided the proposal demonstrates logical consolidation of uses and appropriate mitigation of impacts on surrounding uses. The architecture should include high-quality building materials, façade articulation, and roof variation. Exterior building materials should consist primarily of neutral or muted colors; the use of bright colors or other architectural elements for corporate branding is discouraged. Loading and unloading areas should be screened or fully enclosed, ensuring that no storage bay doors or lighted hallways are visible from the outside the structure. Enhanced landscaping and pedestrian oriented features should be provided to ensure compatibility with adjacent uses and the broader use context.

- Ground floor non-residential uses are encouraged to be integrated within the multifamily buildings to serve the needs of residents, workers, and visitors of the surrounding area. Commercial and service uses may include but are not limited to retail, public facilities, child and adult daycare centers, shared workspace, community meeting or gathering spaces.

- The proposed uses along Pender Drive and Waples Mill Road should be oriented along these streets to activate the streetscape, enhance visibility, and establish a welcoming neighborhood.

- Site design should prioritize the development of consolidated, centrally located, and publicly accessible urban parks within the existing and planned open space network, as shown in Figure 12B. Urban parks should include a mix of active and passive spaces in locations that serve the development and the overall community. A signature park at the intersection of Waples Mill Road, Pender Drive and Fairfax Ridge Road is encouraged, as well as linear parks connecting with the surrounding neighborhood. Where feasible, individual parcels should contribute as part of the site design for the signature park.

- Redevelopment should occur in a manner that ensures the necessary infrastructure and amenities, including parks, multimodal transportation facilities, affordable/workforce dwelling units, site lighting, streetscape, and resident and visitor parking, are adequately provided to support the redevelopment option.

- Building heights should range from 50 feet - 85 feet. Taller building heights above the recommended height range may be considered along I-66 and central portions of the land unit, provided they do not create shade impacts on adjacent residences or open spaces. Development should provide compatible transitions in height to the surrounding residential uses through the use of step backs, setbacks, landscaping/buffering, or through architecture elements.

- Parking structures, loading, and service areas should be located behind or under buildings and away from Waples Mill Road and Pender Drive to minimize visual impacts.

- Adequate transition screening and buffering should be provided to the sites adjacent to I-66.

- The existing stormwater pond and treed area on Tax Map Parcels 47-3 ((1)) 58A and 60 in the northern portion of the land unit adjacent to I-66 should be preserved as environmental features, and enhanced where feasible as environmental amenities.

As an option to office use at the overlay level, the Fairfax Ridge Community is developed with multifamily residential uses at 20 to 25 dwelling units per acre subject to the following recommendations. Low-rise multifamily use and/or mid-rise multifamily use may be appropriate if the proposal results in a quality living environment. Less intensive uses or other unit types are generally not appropriate because they would not be compatible with existing office use. A quality living environment would include usable open space for recreation, buffers, screening and noise mitigation measures. Residential development should be designed in a manner compatible with the adjacent office buildings in terms of scale and height. Any development application for this option should also be evaluated in terms of adequately addressing the following conditions:

- Preservation of the Environmental Quality Corridor and the Resource Protection Area.

- Provide usable open space and on-site active recreation facilities sufficient to serve the residents of this complex.

- Provide pedestrian walkways connecting all portions of the development and linkages to adjacent properties.

- Provide noise attenuation measures, which may include noise barriers and/or a substantial vegetative buffer adjacent to I-66 and/or the I-66/Route 50 interchange; in addition, the site design should orient buildings in a manner that will further shield active recreational areas and open space areas from highway noise.

- At the time of zoning, provide an evaluation of the existing sewer system capacity and commit to providing any improvements necessary to offset the increased sewer flow demand of the residential development to the satisfaction of the City of Fairfax and Fairfax County.

As an option to office at the overlay level, Tax Map Parcels 56-2((1))19 and 20 are developed with the Radiant at Fairfax multifamily residential community at a density of 16-20 dwelling units per acre with the following conditions. Development should be designed in a manner that is compatible with the adjacent residential development in terms of height, scale, materials and massing of buildings and meets the conditions above for residential development in Land Unit K. Access should be through the adjacent residential community to Fairfax Ridge Road. No residential development should occur on Parcel 20. Density associated with these two parcels should be used to the extent possible on Parcel 19 and some or all of Parcel 20 should be considered for dedication to the county for park and transportation purposes.

As an option at the overlay level, portions of the Fair Oaks Business Park (Tax Map Parcels 56-2 ((1)) 74B; 57-1 ((1)) 10 and 23) may be redeveloped with residential mixed-use at an intensity up to 1.2 FAR provided the following criteria are met:

- The primary residential form under this option, as measured by the number of housing units, should be multifamily units to capitalize on compact building forms that can create a pedestrian-oriented open space network. Stacked townhomes may supplement these units to provide a diversity of housing types and compatible transitions to lower density residential uses to the east of the site in the City of Fairfax.

- Site design should prioritize the development of high-quality, and publicly accessible urban parks within an open space network. Urban parks should include a mix of active and passive spaces that are integrated in locations that serve the development and the overall community.

- ~~If townhouses are proposed along Pender Drive or Waples Mill Road, they should be oriented along these streets to activate the streetscape, enhance visibility, and establish a welcoming neighborhood-level streetscape.~~

- Development should provide compatible transitions in height to any adjacent residential uses through the use of setbacks, building form/type, landscaping/buffering, or through architectural elements.

- The parking structures, loading, and service areas should be located and designed to minimize visual impacts through the use of landscaping/buffering or architectural elements.

- ~~Transportation improvements should include the following:~~

    - ~~Streetscapes with pedestrian-scaled lighting, on-street parking, landscaping, and street trees.~~

    - ~~Pedestrian facilities should be considered to facilitate connections to adjacent residential areas within the City of Fairfax.~~

    - ~~Safe, protected pedestrian crossings should be provided along Waples Mill Road at Pender Drive / Fairfax Ridge Road.~~

    - ~~A two-lane, multimodal, inter-parcel and interjurisdictional connection to the east from either Waples Mills Road or Pender Drive designed for connection to Jermantown Road, in the City of Fairfax.~~

As an option at the overlay level, Tax Map Parcels 46-4 ((1)) 15B; and 56-2 ((1)) 15C and 15D may be redeveloped with residential mixed-use at an intensity up to 1.52 FAR (at up to 65 dwelling units per acre) provided the following criteria are met:

- The primary residential form should be multifamily units to optimize a pedestrian-oriented open space network.

- Site design should prioritize the development of high-quality, and publicly accessible urban parks within an open space network. Urban parks should include a mix of active and passive spaces that are integrated in locations that serve the development and the overall community.

- Development should provide compatible transitions in height to the surrounding residential uses through the use of step backs, setbacks, landscaping/buffering, or through architecture elements. Building heights should range from 50 feet - 75 feet.

- The parking structures, and loading and service areas should be located and designed to minimize visual impacts through the use of landscaping/buffering or architectural elements.

- ~~Transportation improvements should include the following:~~

    - ~~Streetscapes with enhanced lighting, on-street parking, landscaping, and street trees.~~

    - ~~Safe, protected pedestrian crossings should be provided along Waples Mill Road~~

~~and Fairfax Ridge Road.~~

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COMPREHENSIVE LAND USE PLAN MAP:

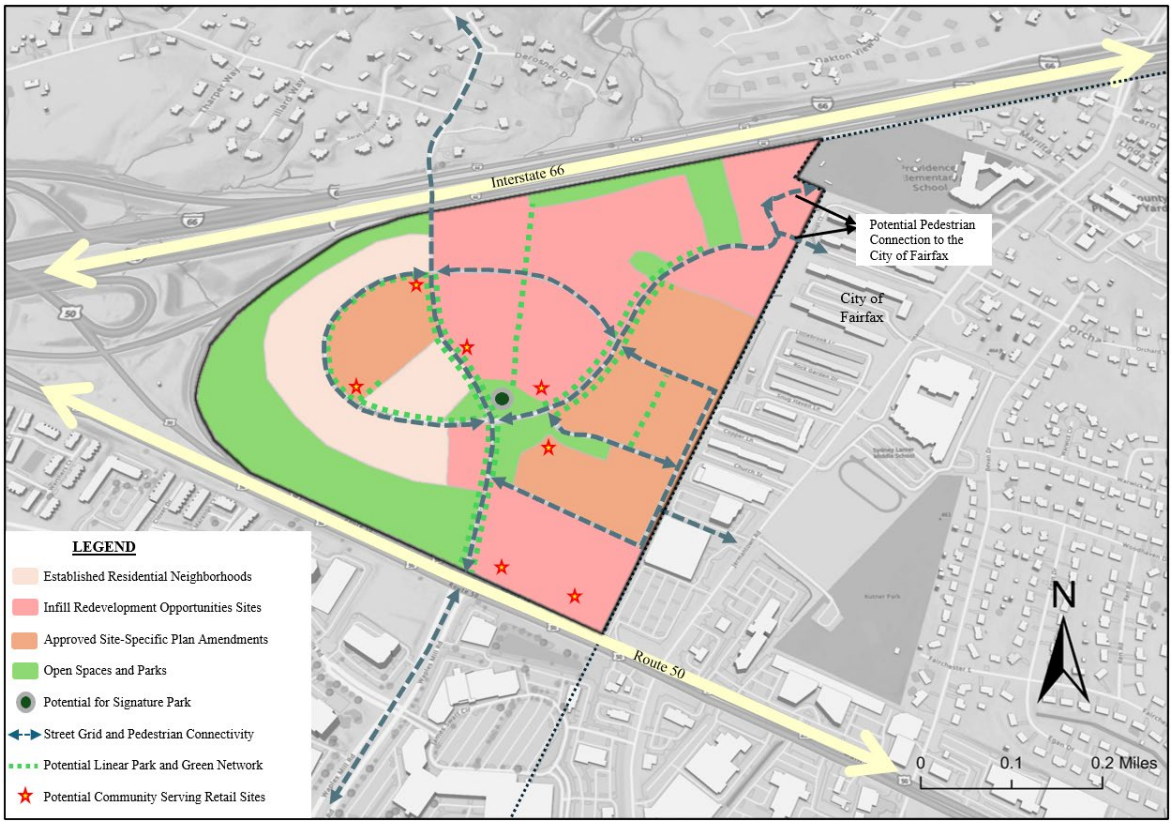
The Comprehensive Land Use Plan Map will not change.

COUNTYWIDE TRANSPORTATION PLAN MAP:

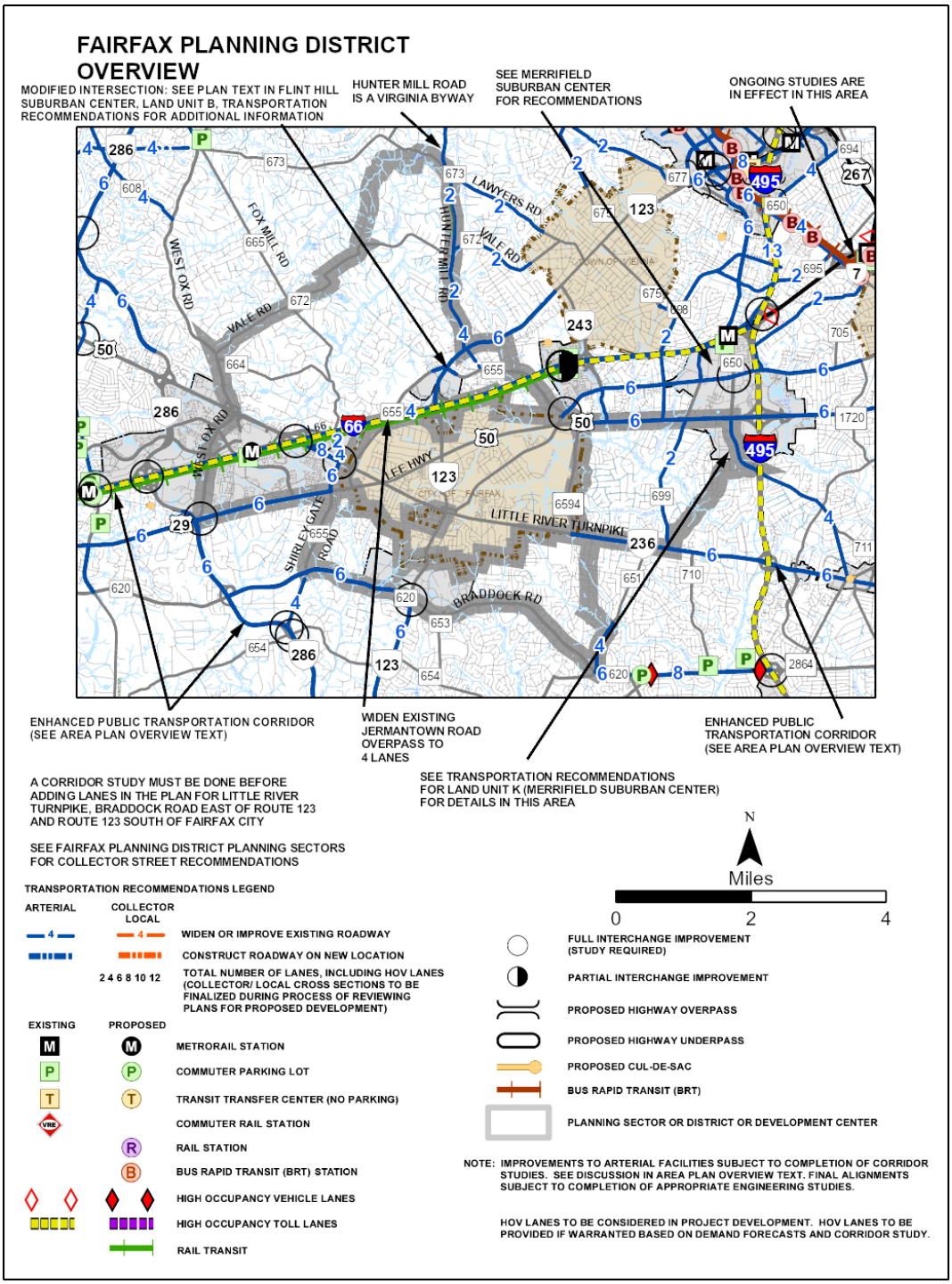
The Countywide Transportation Plan Map will be updated to incorporate the transportation recommendation for the Fairfax Center Area Land Unit K including a two-lane, local street from the intersection of Waples Mill Road at Fairfax Ridge Road to Pender Drive. Figures to be added or replaced are identified below.

Note: The Fairfax Center Area Phase III is scheduled for public hearings at the time of this staff report’s publication. If the Land Unit K and Phase III amendments are adopted, the final figures numbering will reflect both adopted Plans.

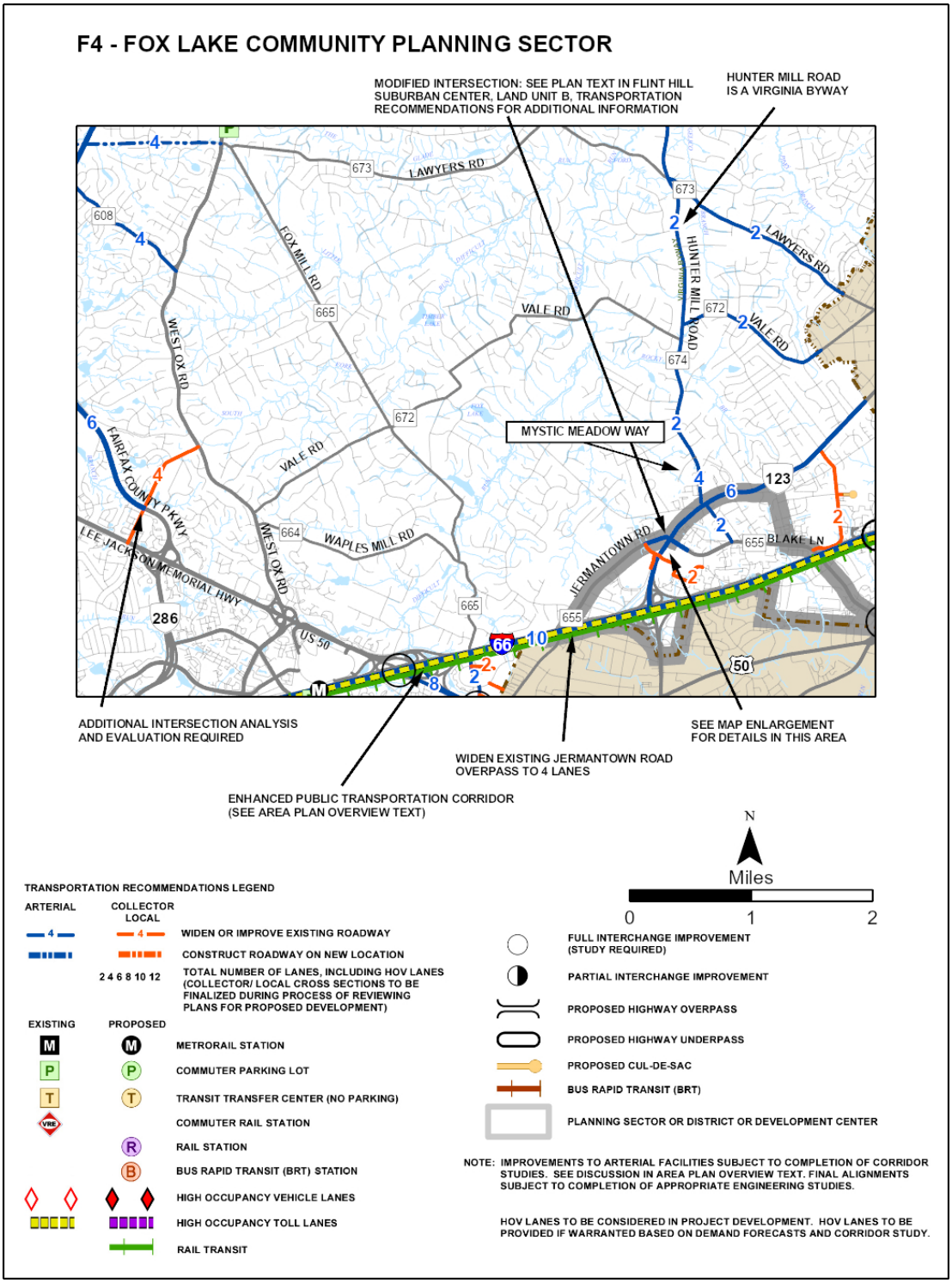
ADD FIGURE: Fairfax County Comprehensive Plan, 2026 Edition – Area Plan III, Fairfax Center Area, Land Use Plan Recommendations – Fairfax Center Area, Land Unit K, Recommendations, Conceptual Land Use Framework, [May 5, 2026]: Figure 12B



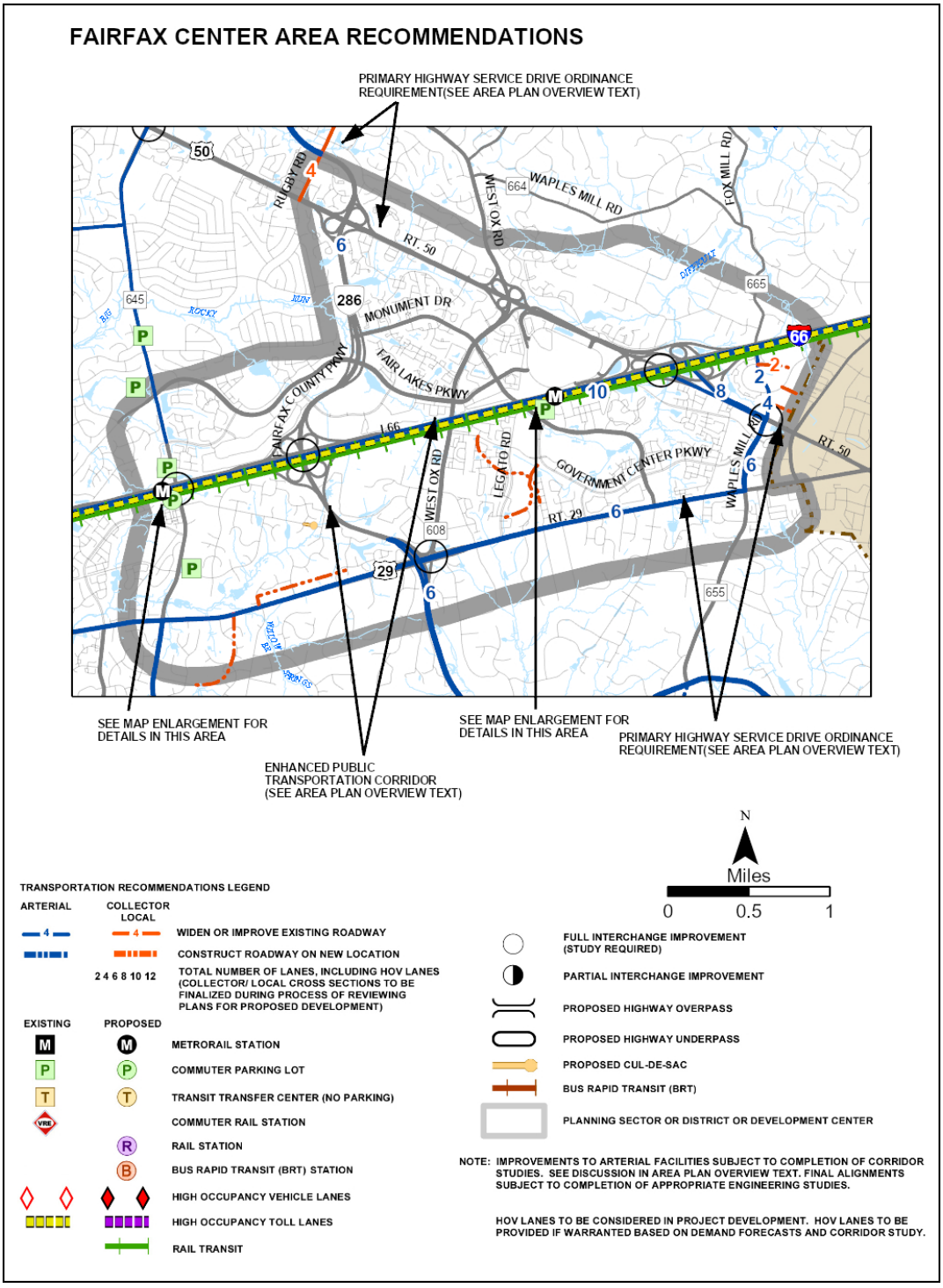
REPLACE Fairfax County Comprehensive Plan, 2026 Edition – Area Plan II,
FIGURE: Fairfax Planning District Overview [May 5, 2026]: Figure 2:
Countywide Transportation Recommendations Fairfax Planning District



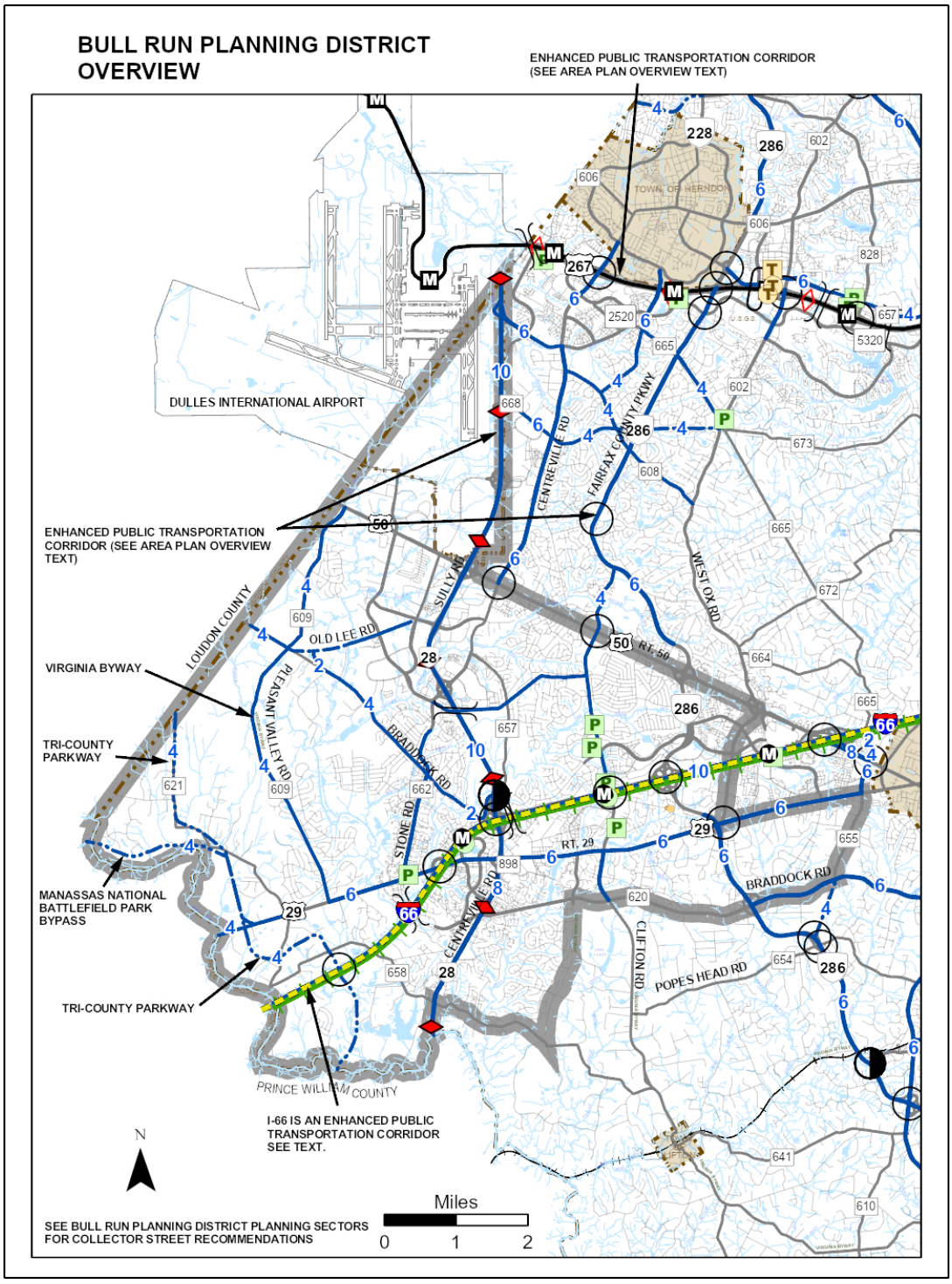
REPLACE FIGURE: Fairfax County Comprehensive Plan, 2026 Edition – Area Plan II, Fairfax Planning District Overview [May 5, 2026], F4 Fox Lake Community Planning Sector, Figure 22: Transportation Recommendations, F4 – Fox Lake Community Planning Sector



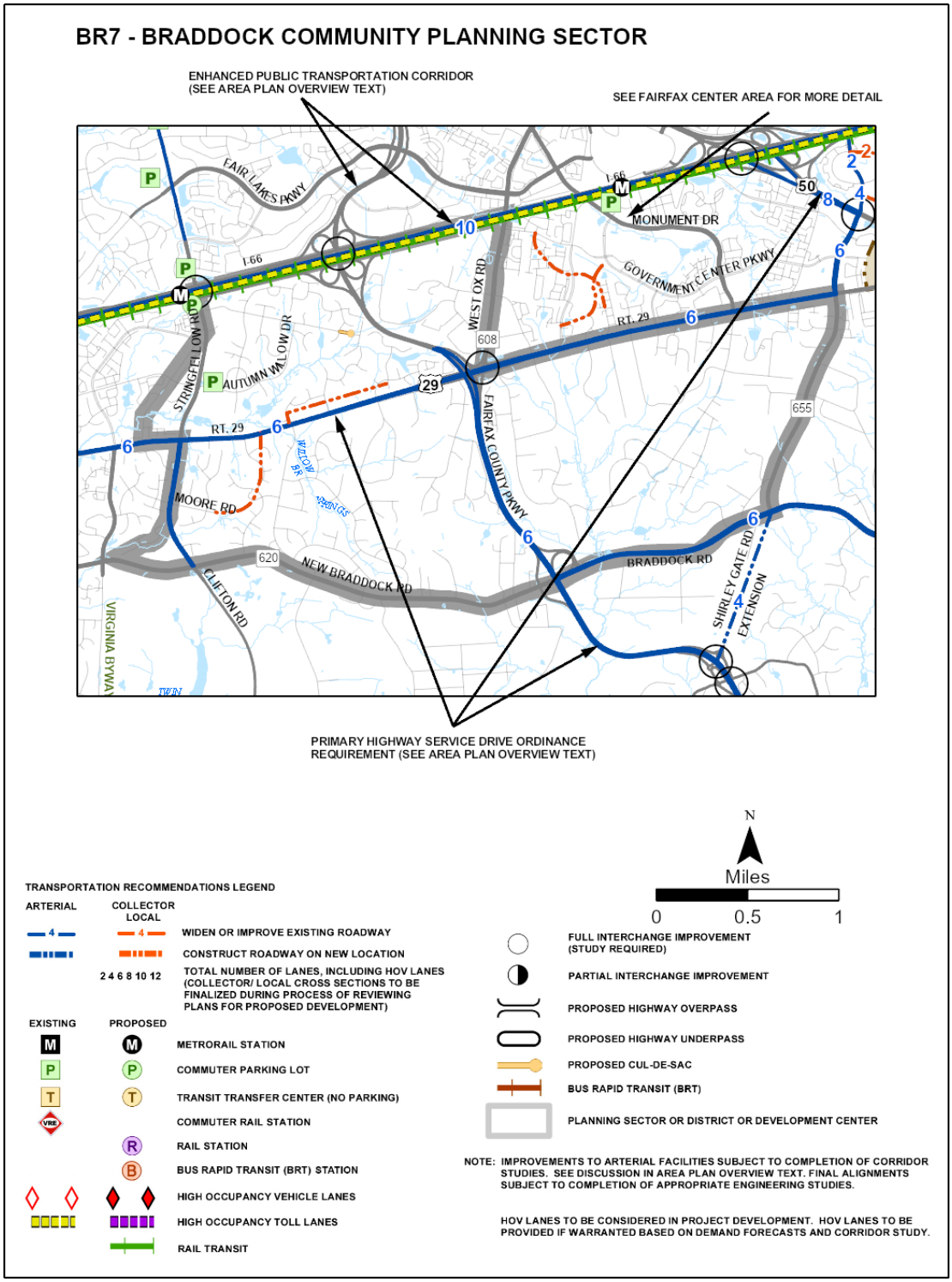
REPLACE FIGURE: Fairfax County Comprehensive Plan, 2026 Edition – Area Plan III, Fairfax Center Area [May 5, 2026], Fairfax Center Area-Wide Recommendations Figure 3: Transportation Recommendations Fairfax Center Area



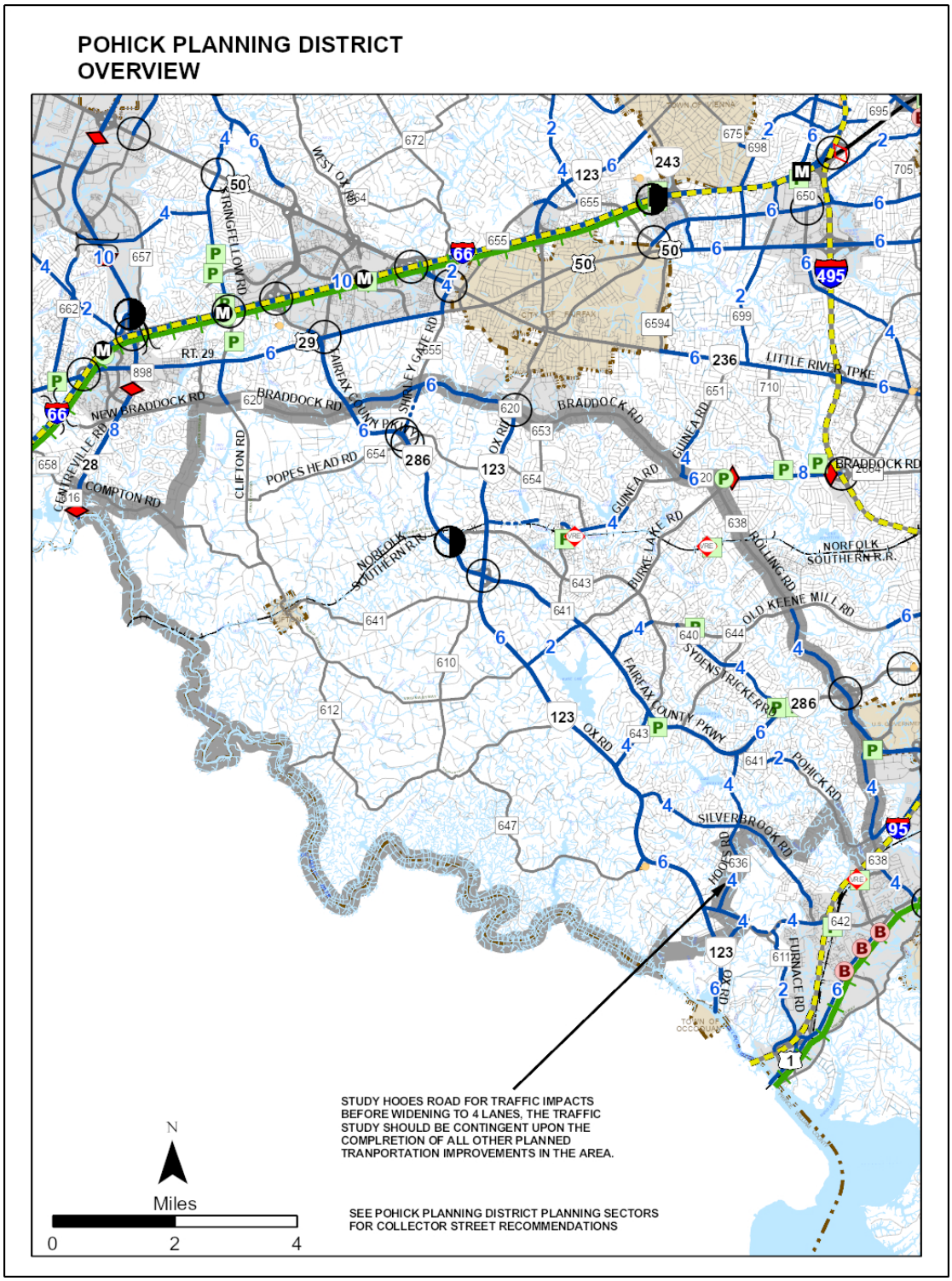
REPLACE FIGURE: Fairfax County Comprehensive Plan, 2026 Edition – Area Plan III, Bull Run Planning District Overview [May 5, 2026], Figure 2: Countywide Transportation Recommendations Bull Run Planning District



REPLACE FIGURE: Fairfax County Comprehensive Plan, 2026 Edition – Area Plan III, Bull Run Planning District Overview [May 5, 2026], BR7 Braddock Community Planning Sector, Figure 36: Transportation Recommendations BR7 – Braddock Community Planning Sector



REPLACE FIGURE: Fairfax County Comprehensive Plan, 2026 Edition – Area Plan III, Pohick Planning District Overview [May 5, 2026], Figure 2: Countywide Transportation Recommendations Pohick Planning District



REPLACE FIGURE: Fairfax County Comprehensive Plan, 2026 Edition – Area Plan III, Fairfax Center Area [May 5, 2026], Fairfax Center Area-wide Recommendations, Figure 3B: Transportation Recommendations Land Unit K Fairfax Center Area

