

STAFFORD COUNTY

MASTER REDEVELOPMENT PLAN



VOLUME I: STAFFORD COUNTY GENERAL BACKGROUND RESEARCH & PLANNING CONCEPTS

OCTOBER 2009 | ADOPTED MAY 17, 2011



CMSSARCHITECTS

BOARD OF SUPERVISORS
COUNTY OF STAFFORD
STAFFORD, VIRGINIA

RESOLUTION

At a regular meeting of the Stafford County Board of Supervisors (the Board) held in the Board Chambers, Stafford County Administration Center, Stafford, Virginia, on the 17th day of May, 2011:

<u>MEMBERS:</u>	<u>VOTE:</u>
Mark Dudenhefer, Chairman	Yes
Paul V. Milde III, Vice Chairman	No
Harry E. Crisp II	Yes
Gary F. Snellings	No
Cord A. Sterling	Yes
Susan B. Stimpson	Yes
Robert "Bob" Woodson	Yes

On motion of Mr. Sterling, seconded by Mr. Crisp, which carried by a vote of 5 to 2, the following was adopted:

A RESOLUTION TO AMEND THE STAFFORD COUNTY COMPREHENSIVE PLAN IN ACCORDANCE WITH SECTION 15.2-2229 AND SECTION 15.2-2230 OF THE CODE OF VIRGINIA (1950), AS AMENDED, BY ADOPTING THE PROPOSED AMENDMENT, AS ADVERTISED, INCLUDING A NEW ECONOMIC DEVELOPMENT ELEMENT, ENTITLED "STAFFORD COUNTY MASTER REDEVELOPMENT PLAN," DATED OCTOBER, 2009, AS REVISED BY THE PLANNING COMMISSION AT ITS MEETING ON MARCH 15, 2011

WHEREAS, under Section 15.2-2229 of the Code of Virginia (1950), as amended, the Board may amend its Comprehensive Plan; and

WHEREAS, under Section 15.2-2229 of the Code of Virginia (1950), as amended, the Planning Commission (the Commission) has been directed by the Board to prepare and consider Comprehensive Plan amendments; and

WHEREAS, under Section 15.2-2230 of the Code of Virginia (1950), as amended, the Commission can review the Stafford County Comprehensive Plan to determine whether it is advisable to amend the Comprehensive Plan; and

WHEREAS, the proposed amendment to the Comprehensive Plan would amend the Comprehensive Plan by adopting a new economic development element entitled "Stafford County Master Redevelopment Plan," dated October, 2009, with recommendations for changes to existing County ordinances, policies, and procedures to serve as a framework to guide the coordinated and harmonious development of the County's four Redevelopment Areas: Boswell's Corner, the Courthouse area, Falmouth Village, and the Southern Gateway, as revised by the Commission at its meeting on March 15, 2011; and

WHEREAS, the Commission duly advertised and held a public hearing on April 20, 2011, on the proposed Comprehensive Plan Amendment, received a recommendation of County staff supporting approval of the proposed Amendment, received public testimony, decided on a 4-3 vote to recommend approval of Volume II and decided on a 5-2 vote to recommend approval of Volumes I, III, IV, V, VI, VII, VIII, IX, and X, and has forwarded its recommendation of approval of the proposed Comprehensive Plan amendment to the Board; and

WHEREAS, the Board duly advertised and held a public hearing on the proposed Comprehensive Plan Amendment on May 17, 2011, at which time public testimony was received and the above-referenced Comprehensive Plan Amendment was considered by the Board; and

WHEREAS, the Board has carefully considered the recommendations of the Commission, the recommendations of County staff, and the public testimony at the public hearing; and

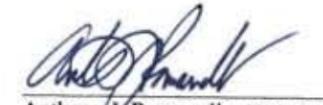
WHEREAS, the Board concludes that the adoption of the proposed Comprehensive Plan Amendment, as advertised, will guide a coordinated and harmonious development of the County's four Redevelopment Areas: Boswell's Corner, the Courthouse area, Falmouth Village, and the Southern Gateway which will, in accordance with the present and probable future needs and resources of Stafford County, best promote the health, safety, morals, order, convenience, prosperity and general welfare of the citizens of Stafford County, Virginia, including the elderly and persons with disabilities; and

WHEREAS, the Board concludes that the adoption of the proposed Comprehensive Plan Amendment, as advertised, is consistent with good planning practices.

NOW, THEREFORE, BE IT RESOLVED by the Stafford County Board of Supervisors on this the 17th day of May 2011, hereby adopts the proposed Comprehensive Plan Amendment, as advertised, by approving a new economic development element, entitled "Stafford County Master Redevelopment Plan," dated October, 2009, as revised by the Commission at its meeting on March 15, 2011.

BE IT FURTHER RESOLVED that the maximum allowed dwelling units in the Boswell's Corner Redevelopment Area is modified to a maximum of 744 units.

A Copy, teste:


Anthony J. Romanello, ICMA-CM
County Administrator

AJR:bbj:jf

RESEARCH & PROGRAM DEVELOPMENT

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STAFFORD COUNTY MASTER REDEVELOPMENT PLAN

The efforts of the *Phase I: Research & Program Development* and *Phase II: Concept Master Development Plan* have been combined into five separate volumes. In addition, three additional volumes contain the detailed Cultural Resources Report on each of the four redevelopment areas, as well as examples of Cultural Resources Legislation. Each volume, on each of the four redevelopment areas, stand alone along with the overall Stafford County General Research & Planning section. Each of the four redevelopment area's respective volume integrates the specific Phase I research and Phase II planning efforts. The volumes do not refer separately to Phase I or II efforts, since they are now combined into a book specific to the corresponding redevelopment area.

The volumes have been separated as follows:

VOLUME I

Stafford County: General Background Research & Planning Concepts

VOLUME II

Boswell's Corner

VOLUME III

Courthouse Area

VOLUME IV

Falmouth Village

VOLUME V

Southern Gateway

VOLUME VI

- A. Cultural Resources Report for Falmouth Village
- B. VDHR Forms for Falmouth Village

VOLUME VII

- A. Cultural Resources Report for Boswell's Corner, Courthouse Area, & Southern Gateway
- B. VDHR Forms for Boswell's Corner, Courthouse Area, & Southern Gateway

VOLUME VIII

Examples of Cultural Resources Legislation

VOLUME IX

Stafford County Traffic Data

VOLUME X

Stafford County Infrastructure Analysis

Following groundwork from the 2006 Stafford County Economic Development Strategic Plan, and using the Cunningham + Quill Architects Vision plans as a springboard, the Planning Team proposed redevelopment plans for the four areas that include: a comprehensive redevelopment plan with urban street grids, open space and parks, pedestrian friendly environments and streetscape improvements, preparing the strategic areas for increased quality commercial investment.

This Master Redevelopment Plan has been designed from the beginning as a possible addition to the Stafford County Comprehensive Plan. As such, the study and analysis needed to address a large cross section of issues including: land use patterns, regional economical support, transportation, architecture, archaeology and historic resources, civil infrastructure and flood hazards. Since each of these subjects is also included in the Comprehensive Plan, this study included assessments of all 18 elements of the Comprehensive Plan. Of these elements, two were found to be of particular significance to redevelopment: the Land Use Plan and the Transportation Plan.

The land uses presented herein are not meant to supercede land uses identified in the Stafford County Land Use Plan. The land uses and layouts depicted herein are notational and are offered as one possible layout for Comprehensive Plan uses. Residential densities are offered as potential targets for the creation of more urban environments conducive to pedestrian friendly, community based and appropriately scaled, commercial development. In no way do the residential densities referenced constitute endorsement of those densities, or endorsement at the exact locations depicted, by the governing body.

INTERIM IMPLEMENTATION STRATEGY AND REVIEW STANDARDS

Stafford County's historic development pattern has been of a low-rise suburban scale. In the recent past, individual development projects have approached mid-rise scale and form. Therefore, an interim strategy for review and approval of development projects within the Redevelopment Areas is outlined below to facilitate implementation of the recommendations contained within the Redevelopment Plans, but within a context of historical development patterns and current market dynamics. Until such time as adequate public infrastructure is in place to establish the core framework needed to realize the redevelopment visions, all rezoning or conditional use permit development proposals will be reviewed to determine if they meet the following standards for development during the interim phase:

- the development proposal either constructs or makes accommodation for planned infrastructure identified in the Redevelopment Plans.
- the development proposal includes parcels that are subdivided in a manner to accommodate the creation of blocks and the potential consolidation of properties as recommended by the Plans.
- architectural design themes contained in the development proposal will not conflict with those suggested in the Redevelopment Plans. Franchise architecture should be modified to meet Redevelopment Plans' visions.
- the development proposal is cognizant of the need for public and private open spaces that benefit private properties as well as the public.
- the development proposal uses street furniture and other pedestrian features as recommended by the Redevelopment Plans.
- the location, placement, and design of signs included in the development proposal are done in such a manner as to not detract from building architecture.

Additionally, as development codes are reviewed and modified to ensure there are limited regulatory impediments to implementing the Redevelopment Plans, incentives for by-right developments to incorporate architectural and design recommendations of the redevelopment plans will be considered.

RESEARCH & PROGRAM DEVELOPMENT



INTRODUCTION

BACKGROUND

Located just outside of Washington, DC and approximately mid-way between the nation’s capital and Richmond, Virginia, Stafford County has a strategic location offering a variety of services and an abundance of underdeveloped land, making it an attractive locality for new development. The population and the built environment of Stafford have grown increasingly since construction of Interstate 95 (I-95) over 40 years ago, and the County has been experiencing a period of profound growth in the last several years. This growth, in turn, has created a variety of new challenges and opportunities. As part of meeting these challenges and continuing to grow in a sustainable fashion, Stafford County has identified several redevelopment areas for study. This redevelopment effort, initiated by County staff and with the support and direction of the Board of Supervisors, is intended to build on Stafford County’s Economic Development Strategic Plan of 2006 and on elements of Stafford County’s Comprehensive Plan in order to respond to and guide anticipated future growth.

PURPOSE

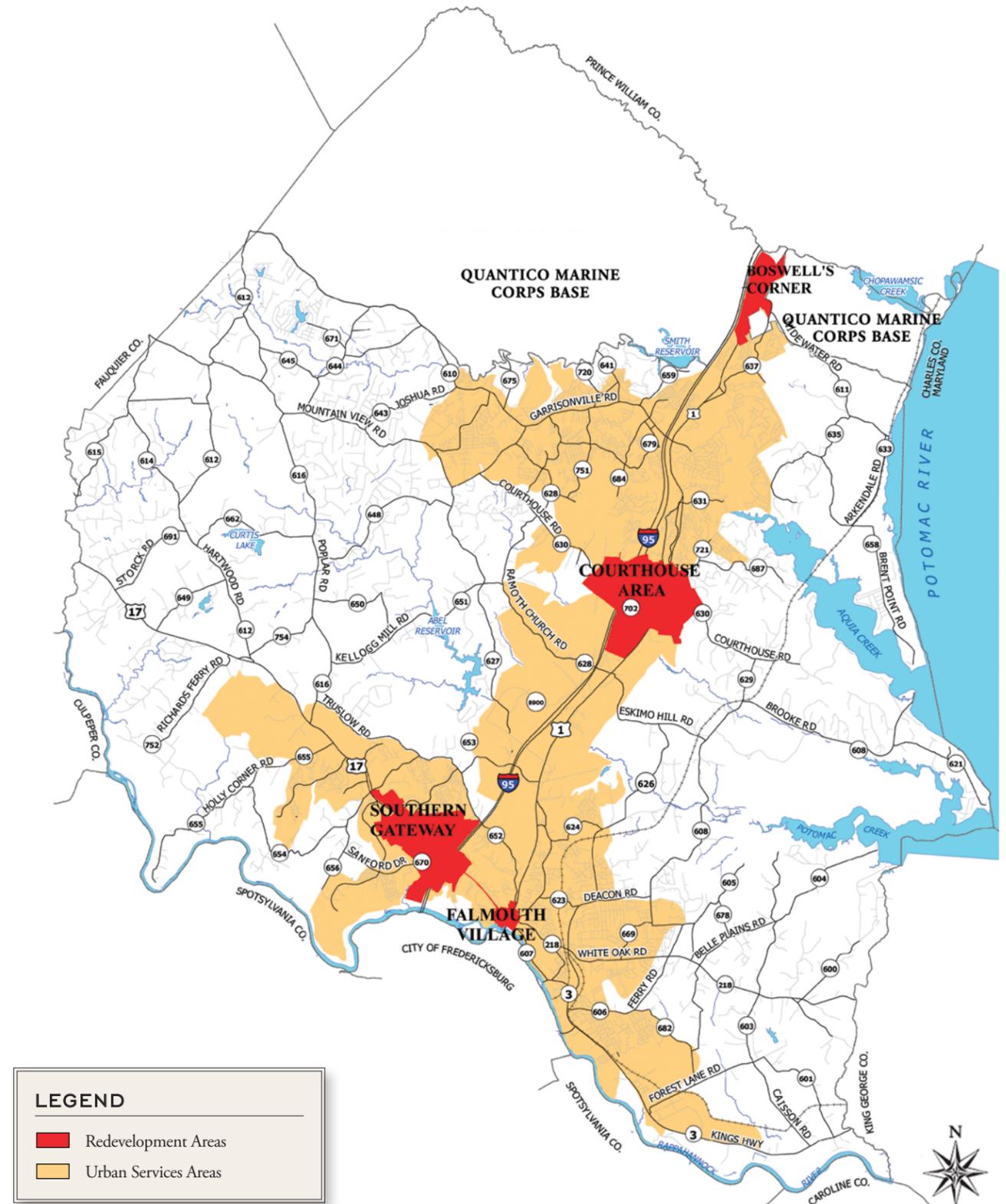
In an effort to bridge the gap between long-term development, the Comprehensive Plan, and improvements in the near future, the Stafford County Economic Development Department engaged the services of a Master Redevelopment Team. This team was charged with the following:

- Study the four redevelopment areas
- Build upon Stafford County’s “Vision”¹
- Create a Master Redevelopment Plan

The Stafford County Master Redevelopment Plan is a detailed analysis specific to the four areas identified for redevelopment. Because of the unique attributes present in each of these districts, Stafford County envisions these four areas as strategic keys to growth opportunities – the combination of regulatory, financial, and land use management tools and techniques² – providing for economic and community development. These areas are Boswell’s Corner, Courthouse Area, Falmouth Village, and Southern Gateway. The total study area consists of over 1,700 parcels containing roughly 3,635 acres of land. (Refer to Map 1: Stafford County Redevelopment Areas.)

In an effort to determine possible obstacles to redevelopment within these four areas, the study and analysis addresses a large cross-section of issues including: land use patterns, regional economical support, transportation, architecture, archeology and historic resources, civil infrastructure and flood hazards.

Map 1: Stafford County Redevelopment Areas



Source: Stafford County Comprehensive Plan.

1 The original “Vision” was prepared for each redevelopment area by Cunningham + Quill Architects, .
 2 The Practice of Local Government Planning, 3rd Edition, ICMA, 2000.

To accommodate this approach, the Master Redevelopment Team (hereafter the Planning Team) is composed of a variety of different professionals, creating a multi-disciplinary group capable of examining the study areas from multiple viewpoints. Team members are as follows:

- CMSS Architects, PC, project lead, master planner, Planning Team coordinator, and main point of contact
- Cultural Resources, Inc. (CRI), architectural/archeological resources
- Economics Research Associates (ERA), economic/market analysis
- Urban Engineering, civil infrastructure analysis
- Wells + Associates, transportation/traffic analysis

The Master Redevelopment Plan was divided in two phases:

- Phase I: Understanding – Documentation & Research of Existing Conditions; Emerging Trends & Market Analysis.
- Phase II: Initial Concept Master Plan (Phase II A) & Final Concept Master Plan (Phase II B).

Since the effort is now complete, the phases have been combined. This volume integrates the general research and concepts that apply to all four areas.

Following groundwork from the Stafford County Economic Development Strategy, the 2006 Economic Development Strategic Plan and using Cunningham + Quill Architects Vision plans as a springboard, the Planning Team proposed redevelopment plans for the four areas that include: a comprehensive redevelopment plan with urban street grids, open space and parks, pedestrian friendly environments and streetscape improvements, preparing the strategic areas for increased quality commercial investment.³

HISTORICAL CONTEXT – CULTURAL RESOURCES ANALYSIS

Stafford is a County rich in cultural and heritage resources, the cultural resources Planning Team members conducted an exhaustive Phase IA Archaeological Assessment and Phase I Reconnaissance Architectural Survey of the four redevelopment areas.

The survey was designed to identify all architectural resources that may be present in the project area and to obtain sufficient information to make recommendations about the potential of each resource based on their eligibility for designation on the National Register of Historic Places (NRHP). Additionally, a predictive model for areas of high probability for both historic and prehistoric archeological resources was developed using information such as soils, landform, proximity to water, and historic maps and descriptions.

Preservation and protection of Stafford County's heritage is fundamental to sustain its unique history. The Planning Team believes that future development within the Falmouth Village Historic District should reflect the evolution of architectural styles currently present. Preservation could be accomplished through the development of design guidelines that would govern all new construction within the district.

- The Planning Team has determined that most commercial development within Falmouth Village needs to be restricted to the main arteries, with the secondary streets remaining residential. With some exceptions, the street layout today represents the original street layout of Falmouth Village. The preservation of these streets is as integral to the preservation of the historic village as is the preservation of the buildings themselves. The Planning Team will make an effort to preserve these historic road alignments, in order to improve the heritage tourism potential for this area and help sustain a sense of place for the community.
- Future development within the Courthouse Area and Boswell's Corner should reflect the evolution of domestic and commercial architectural styles from the late 19th to the mid-20th centuries currently present. Design guidelines should be developed for these areas for all new construction to preserve the character and better define a sense of place.
- Similarly, Southern Gateway's architecture as a whole includes a mix of rural domestic architectural styles from the late 19th to mid-20th centuries. Future development should reflect this style. The Planning Team feels strongly that efforts should also be taken to tie the character of Southern Gateway in with the architecture and character of Falmouth Village, to foster a continuous physical and economic transition between the two areas via the Warrenton Road (US-17) corridor.
- In an effort to counter the poor signage and unattractiveness of the Warrenton Road (US-17) corridor, which currently does not reflect the historic resource that is Falmouth Village, Stafford County in a very proactive fashion has started a wayfinding and signage program study for this area that is now underway.

The Planning Team's extensive findings are included in the Cultural Resources section of this report.

³ Note: This document does not refer to Phase I or Phase II individually, as both Phases' efforts are now combined within each respective Volume.

EXISTING CONDITIONS

Stafford County's existing land use (not to be confused with "land uses") reveals the pattern of past growth, the location of areas that should be preserved and the potential locations for future development. This analysis of existing conditions forms the basis of the future land use plan for Stafford County.

The redevelopment opportunity areas are located on the economic "spine" of Stafford, along Interstate 95 (I-95) and Jefferson Davis Highway (US-1), from Marine Corps Base Quantico to the north to the Rappahannock River to the south and along Warrenton Road (US-17) beyond Interstate (I-95) to the west. The redevelopment areas location along and near the Interstate 95 (I-95) corridor are attractive for development because of direct access to Northern Virginia, the Marine Corps Base Quantico and Washington, DC. International airports and direct access routes make it easier for workers and visitors, as well as products, to reach their intended destination. The redevelopment areas, through proper preparation and planning, will be well positioned to capitalize on these advantages, adding to the quality of life and economic stability of Stafford County.

- The Courthouse Area, which houses the government complex and the historic Courthouse Building, is a significant center of activity. The addition of the future Judicial Court Complex, new Public Safety Building and the Stafford Hospital Complex, recently opened, will only serve to strengthen this trend. With a location that centers at the intersection of Courthouse Road (VA-630) and Jefferson Davis Highway (US-1), a mile from Interstate 95 (I-95), increased development will bring additional workers and visitors. However, despite this expansion, the Courthouse Area does not currently have sufficient amenities to serve as a legitimate urban center, lacking necessary services such as outdoor gathering spaces and retail to support or promote increases in pedestrian traffic.
- Boswell's Corner is an underutilized and underdeveloped area at present but becoming an economic force. Boswell's Corner has historically had little office or retail development; business development in the area, to date, has been mostly warehouse and distribution centers, automobile sales and housing areas. However, due to its location centered at the intersection of Jefferson Davis Highway (US-1) and Telegraph Road (VA-637), just outside the Marine Corps Base Quantico's back gate, Boswell's Corner stands to gain a significant increase in employment through the BRAC process, which will bring a significant number of relocated workers and related businesses to the area as part of Quantico's expansion, spurring development interest. This process is already on display at the new Quantico Corporate Center, where the second of seven buildings has been completed.

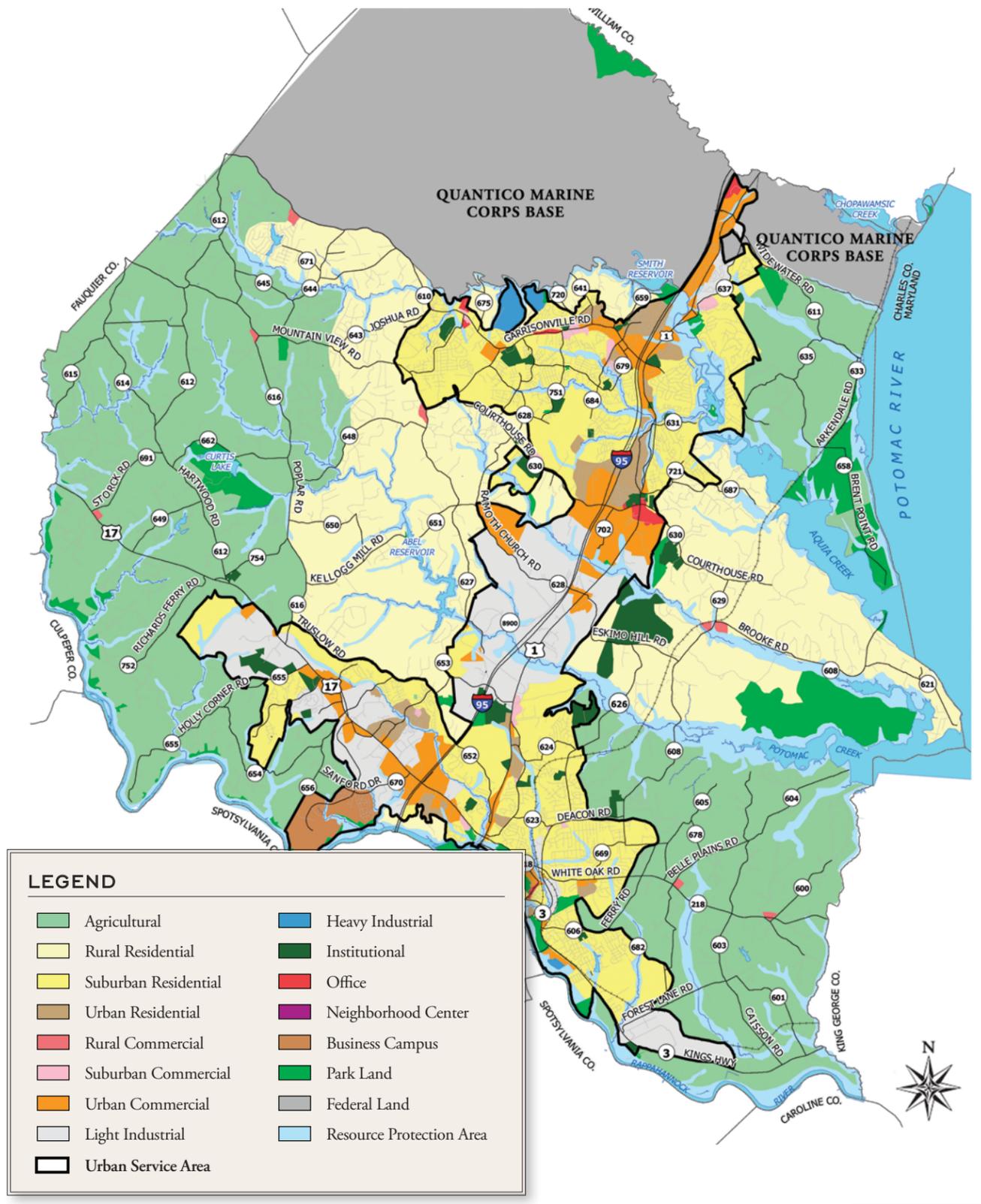
The Falmouth Village and Southern Gateway areas, while of a different character and scale are both significant opportunity areas, strengthened by their locations along the Warrenton Road (US-17) corridor and their adjacency to the Interstate 95 (I-95) interchanges in Stafford.

- The historic Falmouth Village presents a unique opportunity to preserve, enhance and develop a cultural attraction in Stafford County. This village, situated along the north bank of the Rappahannock River, is already recognized as a National Register Historic District and contains some of the most significant historic sites and buildings in Stafford County. Falmouth Village – along with the other three redevelopment areas – was previously the subject of conceptual plans drawn for Stafford County by Cunningham + Quill Architects. This latest vision, as well as several others going back to the Plan of Falmouth from 1978, identified the need to preserve the village and integrate it within the existing network of open space, cultural heritage and recreational trails. The Planning Team examined possible scenarios for optimizing the cultural heritage tourism potential within a context that does not overload this resource. The Planning Team believes that, together with Southern Gateway, Falmouth Village would become a part of the market demand estimates for Southern Gateway.
- Southern Gateway is clearly a large, intense commercial development with the advantage of visibility from Interstate 95 (I-95). As such, its development potential and avenues for expansion are relatively clear. However, as a historic district, Falmouth Village requires a more delicate approach. Due to its relatively small building scale, historic setting and sensitive archeological, architectural and natural resources, development should be executed in a selective fashion, focusing on visitor-related businesses that may also serve residents. Falmouth Village benefits from its adjacency to the intersection of Jefferson Davis Highway (US-1) and Warrenton Road (US-17); however, this relationship also places strain on the district by physically bifurcating it.

Beyond the redevelopment areas themselves, the Warrenton Road (US-17) connector, which serves to connect two of these districts, suffers from its own shortcomings, including a lack of character, very poor signage, and a general unattractiveness that does not reflect the County's rich history and potential as a recreational and cultural resource. Recent decision to bridge the gap with Warrenton Road (US-17) east of Southern Gateway allowed for a development transition area that would link Southern Gateway and Falmouth Village.

- The Warrenton Road (US-17) Corridor connecting both redevelopment areas may also be targeted for development as part of the redevelopment process, but in a way that allows for a physical and economic transition between the modern developing economic center at Southern Gateway and a historic visitor and recreational and cultural attractions in Falmouth Village. The character of Southern Gateway, with its retail, commercial and hotel development area, has the potential to add to a continuous physical and economic transition between the two areas along Warrenton Road (US-17).

Map 2: Stafford County Land Use (Adopted on February 13, 2003; Last Revised on July 8, 2008)



Source: Stafford County Comprehensive Plan, GIS, CMSS Architects.



RELATIONSHIP TO OTHER STUDIES

The Planning Team has been guided by Stafford County’s Comprehensive Plan and by its objectives, specifically: encourage mixed-use commercial and residential centers; infill and designate more urban areas offering diverse living, create working and recreational opportunities; ensure greater compatibility between uses and provide the mechanisms to preserve specific rural areas while minimizing the environmental impact to water bodies, wetlands and floodplain areas. Where the Planning Team’s findings are not yet part of the Comprehensive Plan’s guidelines, pertinent recommendations will be made. This will allow the Planning Team to present and guide Stafford County with a framework for future uses that will set the stage for the enjoyable places to live and work that it envisions, while maintaining sensitivity to the residents concerns about the impact of economic development and the overall quality of life in their community.

To support the economic vitality of Stafford County, one of the Comprehensive Plan’s objectives is to establish commercial and business growth targets for development/redevelopment. The Planning Team believes that mixed-use land policies would be attractive to both consumers and professionals and would be consistent with Stafford County’s goal of attracting and retaining high quality employers.

Recent reevaluation of Stafford County’s Comprehensive Plan has inspired a new direction and philosophy towards land use for projected growth and a modified Urban Services Area, all coordinated with a long term vision for the County.

The Planning Team’s analysis for the redevelopment areas, in conjunction with the findings of previous studies, including Stafford County’s 1994 Economic Development Strategy from Hammer, Siler, George Associates, the 2006 Economic Development Strategic Plan, from Basile, Baumann, Prost & Associates, and with Stafford County’s interdepartmental direction and support from the Redevelopment Advisory Committee, will determine opportunities and potential obstacles for redevelopment and identify key strategies to achieve within these, including an urban street grid; integration of green spaces, pedestrian friendly environments and streetscape improvements for its main thoroughfares.

Additionally, as mentioned above, the Planning Team made use of the 2006 conceptual vision plans, developed by Cunningham + Quill Architects, as departure for the next step in the process: a more comprehensive redevelopment approach, with specific land uses and implementing strategies for each redevelopment area.

Land Use Plan

A key element of the Comprehensive Plan, the Land Use Plan, guides the physical form of Stafford County and directs location, type and intensity of land uses. This Plan recognizes the need to direct growth into the Urban Services Area, while also discouraging growth in agricultural areas.

The land use categories that account for the largest land percentage area in Stafford County are Residential (36%), and Agriculture (17%). Of the remaining land, 22% is vacant or underdeveloped.^{4 5} (Refer to Map 2: Stafford County Land Use.)

⁴ Land Use Data provided by Stafford County GIS. Numeric designations based on the Land Base Classification Standards. Source: American Planning Association.

⁵ The remaining 25% is divided and much smaller use percentages.

Zoning

The Stafford County Zoning Ordinance is a critical tool for controlling the type, density, and appearance of development within Stafford County. The Zoning Ordinance establishes 16 Zoning Classifications. While the ordinance does not specifically have a “Mixed-Use” category, it contains provisions for the establishment of two types of Planned Development districts, PD-1 and PD-2. These development districts allow for the creation of innovative neo-traditional developments with a mix of commercial and residential uses, while providing variety in terms of the overall development, residential and commercial densities, and open space ratios.

The PD-1 Planned Development District allows for greater residential density on developments less than 500 acres, while the PD-2 Planned Development District is for developments between 500 and 850 acres. The PD-2 designation has already been used for a proposed development on Courthouse Road (VA-630) near Interstate 95 (I-95). However, neither of these Planned Development Districts allows for the kind of urban density required for the town center style of development desired in the Courthouse Area.

In 2007, the Planning Commission considered an amendment to the Comprehensive Plan to re-designate certain parcels of land and expand the Urban Services Area (USA) to allow for a Planned Traditional Neighborhood Development (PTND) for one preliminary project which would have allowed for a mix of housing and commercial uses in one District.

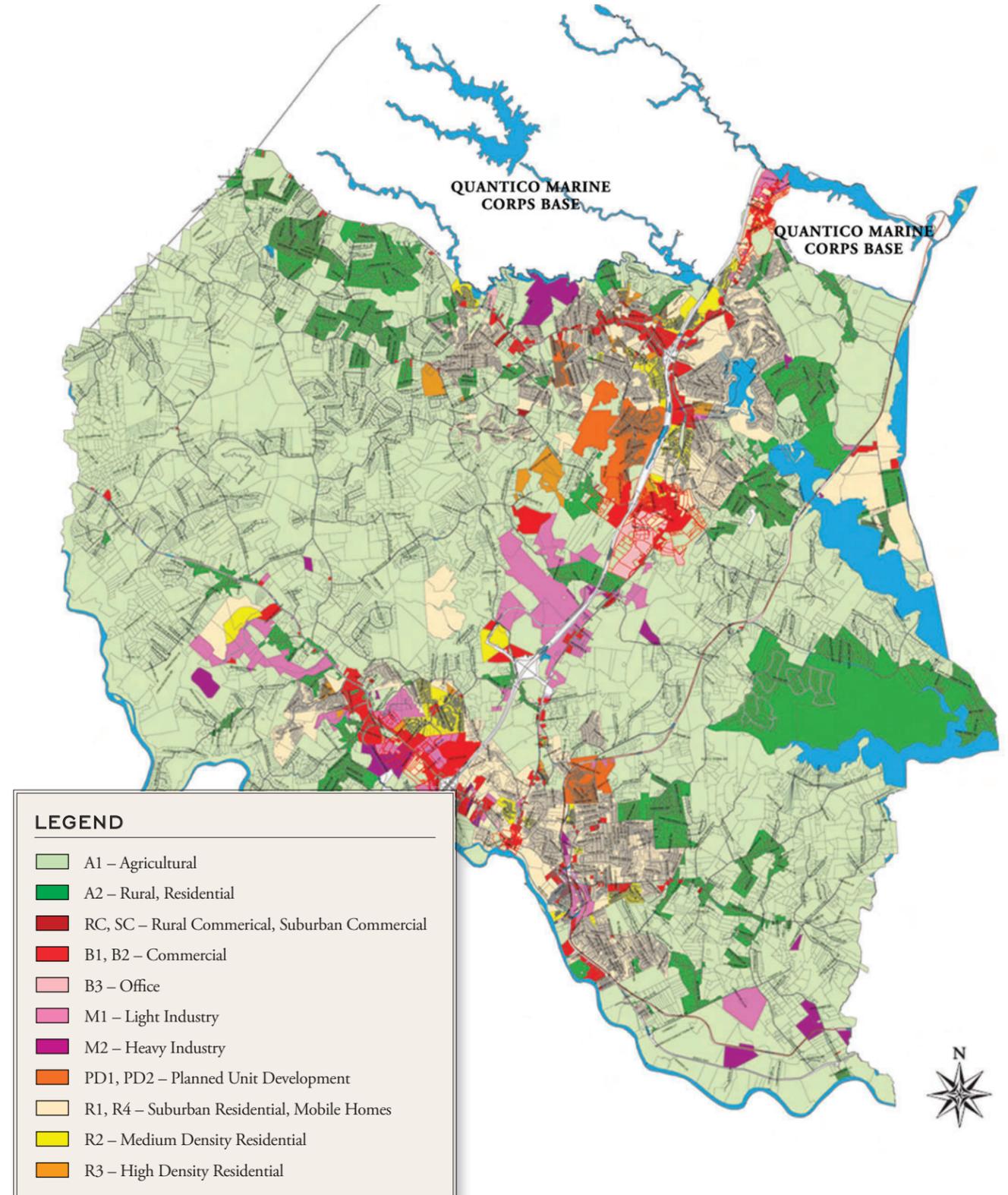
In addition to the two planned development districts, the Zoning Ordinance contains eight overlay districts, created for the purposes of protecting historical and environmental resources, reducing conflicts and mitigating potential hazards. These standards could include use restrictions, preservation requirements, or stricter density regulations; therefore, the analysis will touch on the relevant districts as they apply to flood hazards, such as highway corridors, historic resources and military facilities.

The existing Zoning Ordinance also has a provision, known as Conditional Zoning, in which a developer can request a change in the zoning designation on a property, mostly via voluntary proffers, to offset the negative impact that the proposed land use would have in the surrounding area.

One of the Comprehensive Plan’s most important objectives is the rezoning of land adjacent to the Urban Services Area (USA), especially agricultural or industrial-zoned land, for commercial or business uses (Urban Commercial and Office).

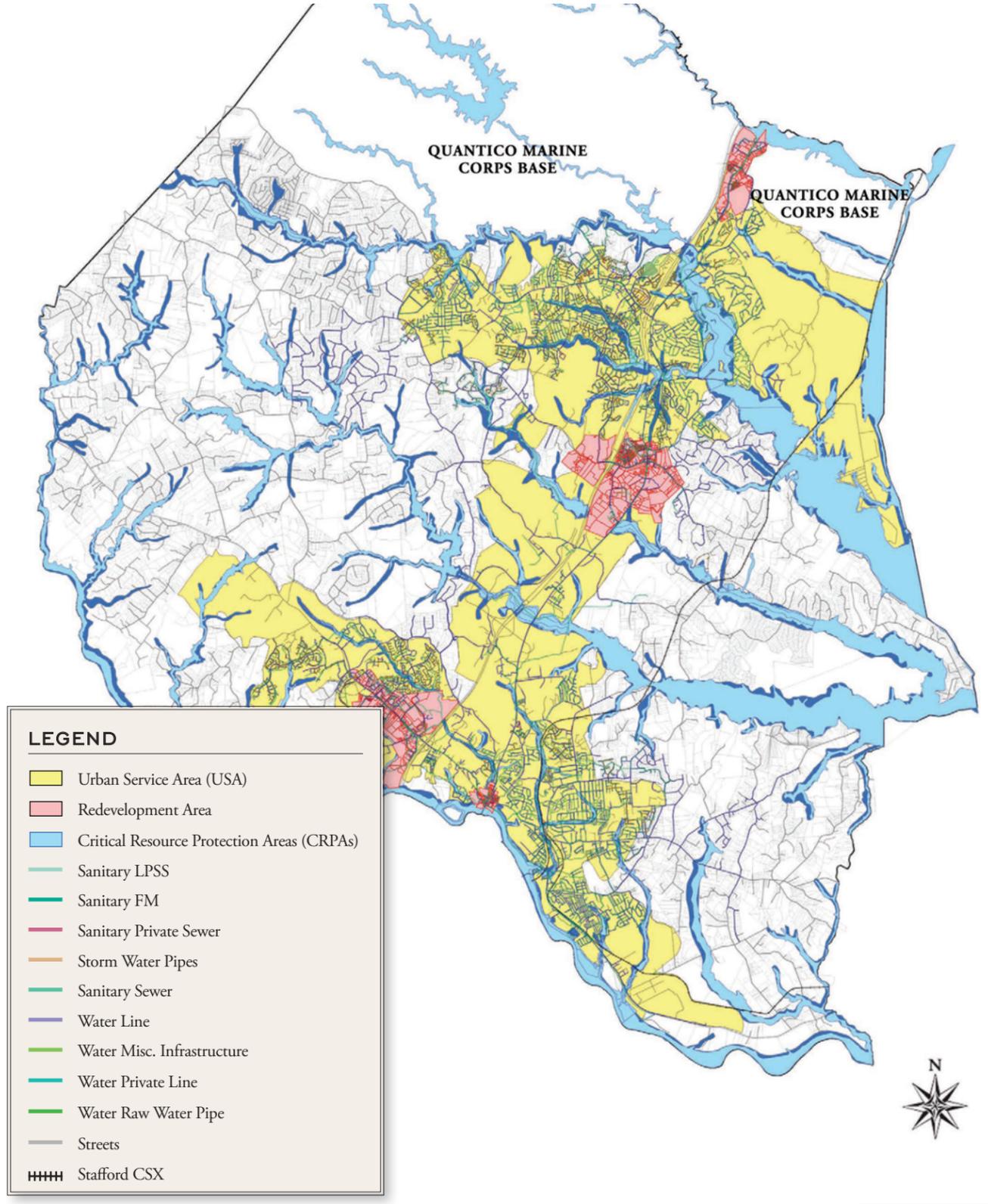
Currently the largest percentage of Stafford County is zoned Agricultural (66%) with Rural Residential and Suburban Residential following (11% each). (Refer to Map 3: Stafford County Zoning.)

Map 3: Stafford County Zoning



Source: Stafford County Comprehensive Plan, GIS, CMSS Architects.

Map 4: Stafford County Redevelopment Areas & Infrastructure



Source: Stafford County GIS, CMSS Architects.

EXISTING INFRASTRUCTURE ANALYSIS

This section of the report focuses on the Civil Engineering components of the redevelopment process; namely, Storm Water Management (SWM) and public water/sewer service.

It gives an overview of the initial assessment, including the current issues pertaining to SWM and public water/sewer, how they relate to the components of Stafford County’s Comprehensive Plan, and what potential future improvements have been identified.

For this initial phase, the Planning Team has obtained and reviewed all pertinent water/sewer information. Review of this information was confined to an analysis of limiting factors within each planning area, as well as relying on the previously prepared reports to make an assessment of the existing utility networks and services. No additional modeling will be performed at this time.

The infrastructure section includes a final summary to our findings within each of the redevelopment areas, with bullet points touching on the more important challenges within each area for the next phase.

The Planning Team members have compiled and catalogued information within each planning area related to stormwater management, including the locations of County/FEMA floodplains, flood zone elevations, and major drainage ways. Critical Resource Protection Areas (CRPAs), as established by Stafford County’s Chesapeake Bay Protection Area (CBPA) Overlay District, a section of the Zoning Ordinance enacted to implement the requirements of the Commonwealth’s Chesapeake Bay Preservation Area (CBPA) Plan, have also been highlighted in the study. (Refer to Map 4: Stafford County Redevelopment Areas & Infrastructure.)

EXISTING TRANSPORTATION & TRAFFIC ANALYSIS

This section of the report provides a summary of the transportation infrastructure currently in place and available in each of the four redevelopment areas. It is a compilation of data and information obtained from a variety of sources.

Stafford County’s existing roadway network is characterized by predominately rural two-lane roadways with limited vehicle capacity and associated geometric constraints. Regional connectivity is limited to a few major corridors, including Interstate 95 (I-95) and Jefferson Davis Highway (US-1), which run parallel to each other in the north-south direction, and Warrenton Road (US-17), which runs east-west.

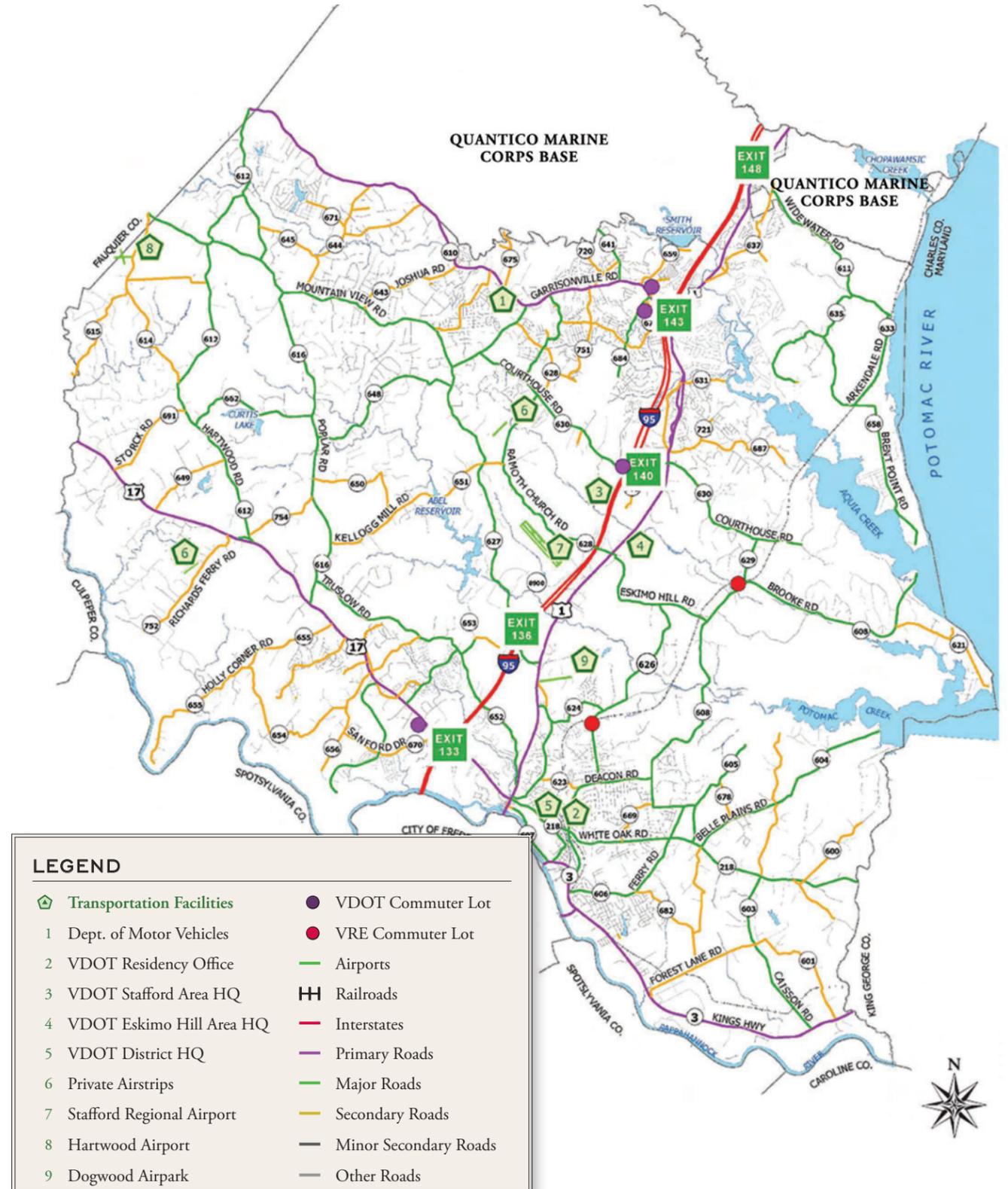
In addition, there are several Virginia routes in Stafford County that facilitate inter-County travel and function as part of Stafford County’s arterial network. The remaining network is made up of roads serving as minor arterials, collectors, and local roads. The Stafford County Transportation Plan acknowledges the limitations of the existing roadway network, stating that the rural nature of the transportation system “is generally incompatible with the evolving land use patterns.” Furthermore, the roadway connections between Stafford County and neighboring jurisdictions are limited by natural water boundaries requiring bridge/causeway crossings, thus making the regional corridors all the more critical.

Mass transit facilities and services are provided throughout Stafford County via the Virginia Railway Express (VRE), which carries commuters to Washington, DC from the outer suburbs, by way of the Fredericksburg Line, and the Manassas Line. Limited bus service in Stafford County is provided by Fredericksburg Regional Transit (FRED).

In terms of non-motorized transit, Stafford County lacks comprehensive bicycle and pedestrian facilities, according to the 1996 Bicycle & Pedestrian Facilities Plan. Many of the County’s existing roadways were designed in accordance with older standards and do not include such accommodations. Stafford County is currently working with the Fredericksburg Area Metropolitan Planning Organization (FAMPO) to create a regional network, including the extension of the Belmont-Ferry Farm Trail system.

(Refer to Map 5: Stafford County Existing Transportation Network.)

Map 5: Stafford County Existing Transportation Network



Source: Stafford County Comprehensive Plan, Wells + Associates, Inc.

ECONOMIC RESOURCES & EMERGING TRENDS ANALYSIS

As part of the redevelopment planning process, the economic and market analysis members of the Planning Team were tasked with the preparation of demographic profiles and GIS-based mapping for Stafford County, with specific variance for each of four redevelopment areas to provide and to forecast demand for various real estate types. The Planning Team members researched and analyzed real estate economics, such as rents/sales prices and absorption rates, and prepared a summary of real estate market indicators with GIS-based mapping. These two elements are the basis of a Demographic and Real Estate Economic Conditions Summary to be included in the Redevelopment Master Action Plan.

The Planning Team assessed each area's strengths, weaknesses and opportunities for redevelopment and prepared retail market demand analyses, commercial office demand analyses, and residential development/redevelopment market opportunities analyses for the targeted redevelopment areas. The Planning Team has also prepared a strategy for capitalizing on possible heritage tourism opportunities at Historic Falmouth Village.

From the analysis, the Planning Team has found the following short-term potential by land use category (refer to *Table 1: Stafford County Summary of Demand Potential*). The numbers illustrate the demand for various uses, using the available data and projections and based on existing market conditions and known variables. These numbers reflect a status-quo baseline short-term potential. The Master Redevelopment Plan will propose changes to the County policies, procedures, ordinances and capital improvement strategies employed in the status-quo scenario to increase the attractiveness of the Redevelopment Areas as locations for private-sector investment. The effects of these changes will be seen in the future land use numbers illustrated in each of the Redevelopment Area's long-term plans.

Table 1: Stafford County Summary of Estimated Existing Supply & 5-Year Demand Potential

	Office (SF)		Retail (sf)		Hotel (rooms)		Residential (Units)			
	Existing	5 yrs	Existing	5 yrs	Existing	5 yrs	For Sale		For Rent	
							Existing	5 yrs	Existing	5 yrs
Boswell's Corner	189,000	310,000	36,000	68,000-87,000	0	95	258	180	274	545
Courthouse	124,000	104,500	40,000	90,000-110,000	0	n/a	304	290	683	150
Southern Gateway	262,000	207,000	385,000	370,000-540,000	660	90-250	64	265	196	885
Falmouth	4,879	Up to 3,000	28,000	Up to 14,000	0	Guest Hs.	76	n/a	1	n/a

Notes:

5-year demand indicates NET NEW space.

Existing office and retail space is from CoStar. Existing hotel rooms are from Smith Travel Research. Existing residential units are based on an appropriation of County-produced TAZ estimates.

Courthouse office demand numbers include supportable medical office space but EXCLUDE the proposed 88,000 square foot medical office building to be constructed by the new hospital

n/a in 5-year demand indicates that area not evaluated for the use.

Source: Economics Research Associates, 2008.

ELEMENTS OF THE COMPREHENSIVE PLAN SUMMARY

Stafford County's Comprehensive Plan includes a series of plans assembled to provide the local public agencies with a tool to manage growth. Each component was written and adopted independently of one another, yet all have gone towards the drafting of the Comprehensive Plan. The text of this report touches on the relevant elements from the Comprehensive Plans that have an impact on each redevelopment area. As the planning process moves ahead, the Planning Team will continue to review how the redevelopment areas may be affected by the Plan's elements and how to address these issues. (Refer to Map 6: Stafford County Comprehensive Plan.)

BICYCLE & PEDESTRIAN FACILITIES PLAN

This plan was adopted as part of the Comprehensive Plan on April 16, 1996 and contains Stafford County's goals and objectives for improved pedestrian circulation. The plan provides information as to how the streetscapes may be designed in the redevelopment areas. Certain right-of-way will incorporate bicycle lanes, as was recently recommended in the Streetscape Charrette for the Courthouse Area. Fundamentally, each of the redevelopment areas demonstrates a need for more comprehensive pedestrian movement strategies.

Since the adoption of this plan, Stafford County has continued to make improvements to the urban conditions, so pedestrians can travel safely. The plans for each redevelopment area will continue to guide Stafford County in its efforts to enhance pedestrian circulation. The proposed redevelopment area plans will address regulations that may be necessary to meet Stafford County's goals for open space and bike routes.

CHESAPEAKE BAY PRESERVATION AREA (CBPA) PLAN

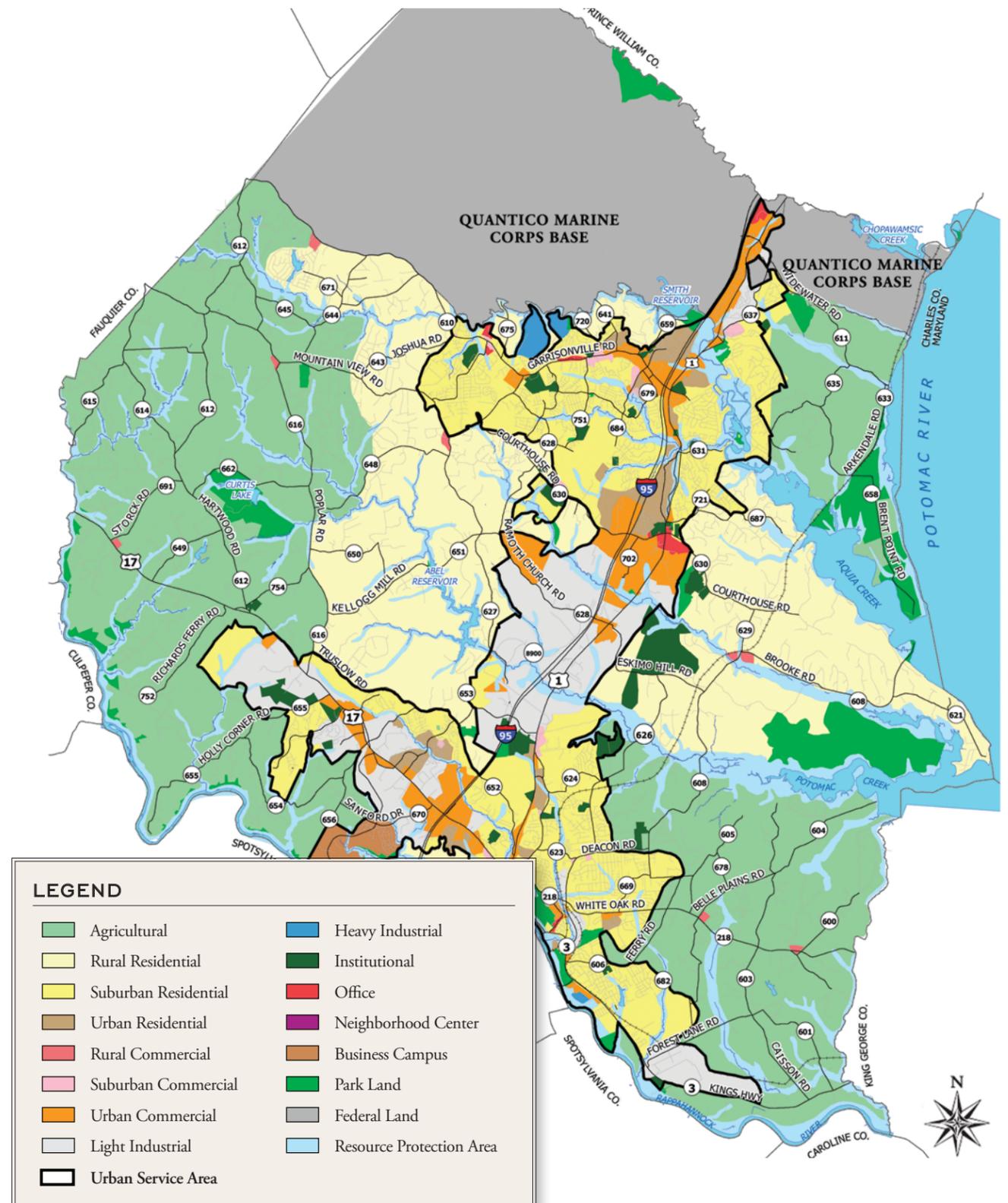
This plan was adopted as part of the Comprehensive Plan on November 20, 2001, and also takes into consideration the Shoreline Area Management Plan adopted as part of the Comprehensive Plan on September 4, 1990. Both plans demonstrated the importance of environmental issues which are reiterated in the goals and objectives of Stafford County's Land Use Plan of 2003.

The CBPA Plan uses four categories of focus, as follows:

- Physical constraints to development
- Protection of potable water supply
- Shoreline erosion problems and control measures
- Public and private access to waterfront

The infrastructure analysis sections for each redevelopment area address the specific effects and influence of the CBPA Plan in each location.

Map 6: Stafford County Comprehensive Plan



Source: Stafford County Comprehensive Plan.

Boswell's Corner

The northern portion of Boswell's Corner is part of the Chesapeake Bay Protection Area (CBPA). This area is within the floodplain. Any development occurring on the floodplain is strongly regulated through zoning and subdivision regulations, which restrict construction on properties with greater than 25% slope.

The Silver Companies' Quantico Corporate Center, a one million square foot office facility located within a substantial portion of the floodplain, will have a large on-site stormwater pond Best Management Practice (BMP) at the northern portion of the property. This BMP is expected to meet County environmental objectives, while mitigating the development occurring along the floodplain.

A lengthy floodplain runs along Jefferson Davis Highway (US-1), encompassing several properties especially on the western half of the road. Any proposed design recommendations will take into consideration this challenging environmental condition and provide mediation strategies to meet Stafford County's goals and the objectives of the CBPA Plan.

Courthouse Area

The CBPA Plan has little impact on this district due to the presence of a floodplain along Regional Jail property and surrounding vacant land. Development will highlight the intersection of Jefferson Davis Highway (US-1) and Courthouse Road (VA-630). Open space and other public recreational opportunities will be taken into consideration in an effort to assist Stafford County with their efforts to improve groundwater resources. Planning and zoning incentives may also be formulated to improve economic opportunities in the area.

A floodplain associated with the Accokeek Creek is found at the southern end of the redevelopment area and is located at the south of the Regional Jail. The few parcels affected by the floodplain are vacant or used by the County. Parcels in this area are zoned either as agricultural or B3 (office). This floodplain extends east beyond Jefferson Davis Highway (US-1) and west beyond Interstate 95 (I-95). Another property containing a floodplain is vacant land in the southeast corner of the redevelopment area, also zoned B3.

Falmouth Village

The floodplain has a strong presence in and around Falmouth Village due to the adjacency of the Rappahannock River. New development is strongly restricted along the floodplain. However, zoning ordinance § 28.57.g.2 does permit some development, provided that the lowest floor, including basement level, shall be a minimum of three feet above the 100-year flood or maximum record flood, whichever is greater. Designs for public recreational facilities may be provided in the plan to promote open space and other environmental prospects.

Southern Gateway

There are very few floodplains in Southern Gateway, making the CBPA Plan of little significance to the area's redevelopment. All the infrastructure needs are provided within Stafford County by VDOT and FEMA, allowing for major development to occur. Open space and other public recreational opportunities may be recommended by the plan in an effort to assist Stafford County with their efforts to improve groundwater resources. Planning and zoning incentives may also be formulated to improve economic opportunities in the area.

One floodplain runs along a parcel in the southern portion of the area. This property is zoned light industrial (MI), but is used as residential. Another parcel with a floodplain is the auto dealership auction site located on the north end of the redevelopment area. The floodplain runs along the area north of the massive parking lot. Development in these parcels is restricted to zoning ordinance §28.57.g.2.

CAPITAL IMPROVEMENT PROGRAM (CIP)

This plan is Stafford County's schedule for capital improvements from 2007 to 2012. The areas being influenced the most by this plan are the Courthouse Area, the central location of local government agencies, and Falmouth Village. The CIP has little or no impact on Boswell's Corner and Southern Gateway.

The Stafford County 2005 Water and Sewer Master Plan is the basis for recommended CIP improvements to these facilities. The Master plan gives guidance on whether said improvements are short-term or long-term. Attached to the Master Plan is a "Summary of Cost and Schedule for Recommended CIP Improvements", which provides a suggested timeline in greater detail. However, through discussion with County staff, we note that some items have been moved up or back compared to what was anticipated in 2005.

Plans for the Redevelopment Areas will focus on public and private property, while providing some recommendation on urban fabric, streetscapes and safety improvements.

Please refer to the Infrastructure & Stormwater (SWM) Analysis section for each redevelopment area for detailed descriptions of these improvements.

Boswell's Corner

There are currently no CIP projects scheduled in Boswell's Corner. Some recent sewer upgrades, as indicated in the Boswell's Corner Infrastructure section of this report, have been completed.

Facilities such as the Smith Lake Water Treatment Plant are subject to improvements. The CIP currently documents the completion and efficiency of Hilldrup Company's pumping station. Certain gravity mains outside the redevelopment area may require improvements. See Infrastructure section of the report for detailed information on these projects and others.

Courthouse Area

This plan will provide some recommendations for public property such as right-of-way and open space opportunities. Plans for the Redevelopment Areas will focus on public and private property while providing some recommendation to the urban fabric, streetscapes and safety improvements. The CIP has various projects that will effect the area's water and sewer treatment, see Infrastructure section of the report for detail information on these projects and others.

Falmouth Village

Certain water and sewer improvements are scheduled. The Infrastructure analysis section for Falmouth Village describes some of the future improvements that will be made. The CIP has various projects that will affect the area's water and sewer treatment, see the Infrastructure section of the report for detailed information on these and other projects.

Southern Gateway

There are currently no 2007 CIP projects scheduled for Southern Gateway.

CULTURAL RESOURCES MANAGEMENT

This document provides a brief introduction to Stafford County's policies regarding cultural resources. Each redevelopment area's portion of the report contains a brief Cultural and Historic Analysis section highlighting the main findings and recommendations. However, analysis of the architectural and archeological elements of each redevelopment area is detailed in a seven-volume separate document associated with this report. Please refer to Appendix II for complete information.

ECONOMIC DEVELOPMENT PLAN

Stafford County's Economic Development Plan – 5 year plan – was prepared by Hammer, Silver, George and Associates and adopted as an element of Stafford County's Comprehensive Plan on December 1994.

Stafford County also commissioned an Economic Development Plan from Basile Baumann Prost & Associates in July 2006. This plan contains the application of the Economic Base Theory and its results, in an effort to identify basic and non-basic sectors of local economy. The document also provides recommendations for the public sector to advance various economic opportunities for growth. Recommendations include the establishment of various economic zoning strategies such as Tax Increment Financing (TIF) districts and the formation of various partnerships with private sector entities to encourage economic opportunities.

Each redevelopment area has unique opportunities. For example, Falmouth Village possesses a vibrant tourism market potential, while Southern Gateway is abundant with retail centers, office complexes, restaurants, and industries. Boswell's Corner is home of Quantico Corporate Center, while Courthouse Area serves as the central location of government and hospital for Stafford County. The Economic & Market Analysis section of each redevelopment area contains specific information for existing economic conditions and future projections for each area.

FALMOUTH PLAN

Stafford County adopted the Falmouth Plan on May 21, 2002, prepared by the Old Falmouth Renaissance Commission. This document also contains numerous implementation strategies and advocacy for historic preservation and tourism in Falmouth Village.

Previous survey efforts in Falmouth Village began in 1936 with a Works Progress Administration of Virginia Historical Inventory. In 1958 a number of buildings within Falmouth Village were recorded as part of the Historic American Building Survey (HABS), and in 1969 the Falmouth Village Historic District was nominated to the NRHP.

In 1977, 33 historic resources were recorded as part of the 1978 Plan for Falmouth Village. These resources were ranked in terms of priority, based on their condition, historical significance, and threat of demolition. The 1978 Plan for Falmouth Village recommended several measures, including a by-pass from Warrenton Road (US-17) just west of Washington Street (VA-1001), arcing north of the Village and connecting with Blue and Gray Parkway (VA-3) to the east to alleviate traffic problems at the intersection of Jefferson Davis Highway (US-1) and Warrenton Road (US-17); a paved bicycle path along the river front; and the rehabilitation of historic buildings for use as small businesses in the southwestern quadrant, considered the most intact and historically significant portion of the village. The plan also promoted the rehabilitation of buildings by private owners, the construction of a visitor's center (in the vacant lot south of the Lightner's Store), and parking areas along Washington Street (VA-1001) and Cambridge Street (US-1).

Tracerics, Inc. conducted a study of Falmouth Village and Stafford County in 1992, and in 2005 VDOT conducted a thorough study of Falmouth Village for their Historic District boundary amendment nomination.

Due to the cultural relevance and the numerous architectural and archeological resources found in Falmouth Village, please refer to Appendix II and Volume IV (Falmouth Village) for complete, detailed information on the Falmouth Plan and history.

GROUNDWATER MANAGEMENT PLAN

Draper Aden Associates provided Stafford County with the Groundwater Management Plan in October 2004, and it was adopted as part of Stafford County's Comprehensive Plan a year later. This document is a countywide plan for groundwater improvements. Each redevelopment area's section of the report contains a Groundwater Analysis and discusses this plan and its impact. For more information see the Infrastructure & Stormwater Management (SWM) Analysis section for the four redevelopment areas.

PARKS & OPEN SPACE PLAN

Stafford County adopted the Parks and Open Space Plan as an element of the Comprehensive Plan on May 16, 1989. Prepared by Rhodeside and Harwell Incorporated and Economic Research Associates, this countywide planning document provides a management tool for Stafford County as it maintains and improves its recreational facilities. The design for each redevelopment area takes into consideration the significance of open space. Plans for the four redevelopment areas will highlight open space opportunities, where Stafford County can continue to make improvements to its parks and other recreational facilities. The Land Use Plan Matrix (*refer to Figure 1: Stafford County Land Use Plan Matrix*) was created to highlight the importance of land uses and its correlation to the Park and Open Space Plan and Bicycle & Pedestrian Facilities Plan, as well as the others, all of which reiterate Stafford County's goals and objectives for open space and parklands.

PUBLIC SAFETY

On May 18, 1993 Stafford County adopted the Public Safety Plan as a component of the Comprehensive Plan. In the years since the adoption of this document, Stafford County has made numerous improvements to the public safety facilities throughout the County, as well as in and around the four redevelopment areas. Current County services in the redevelopment areas include communication, fire, and emergency management services. The Public Safety Plan provides a list of facilities and the jurisdictions served by the County. Listed are those within the redevelopment areas:

- Communication Facilities
 - ◆ Boswell's Corner » Midway Island
 - ◆ Courthouse Area » Stafford Courthouse
 - ◆ Southern Gateway » McWhirt Loop
- Fire Station & EMS Facility Locations
 - ◆ Boswell's Corner » Potomac Hills (Co. 10)
 - ◆ Courthouse Area » Stafford (Co. 2) (Just completed.)
 - ◆ Southern Gateway » (New Berea Station No. 12)
 - ◆ Falmouth Village » Falmouth (Co. 1)
 - ◆ Courthouse Area » Stafford (Rescue 1) (Just completed.)
 - ◆ EMS & Fire Station in Southern Gateway » New Berea Station No. 12)

Though these facilities are in the redevelopment areas, the plans for the areas will not provide any recommendations for improvements to these facilities as they are County owned and operated. Public facilities will be incorporated into the plan according to the respective redevelopment areas.

SHORELINE AREA MANAGEMENT PLAN

On September 4, 1990, Stafford County adopted the Shoreline Area Management Plan as an element of its Comprehensive Plan. This plan describes the Resource Protection Areas and Land Management Areas illustrated in the 1988 County Land Use Plan. As this is a countywide plan, each redevelopment area will be investigated separately by the consultant specialized in such engineering challenges. Each redevelopment area's portion of the report contains an Infrastructure section. Refer to this section for more details regarding Shoreline Area Management.

STORMWATER MANAGEMENT (SWM) PROTECTION PLAN

On December 14, 1993, Camp Dresser and McKee provided Stafford County with the Regional Stormwater/Reservoir Management Study, which the County adopted as part of the Stafford County Comprehensive Plan. This extensive document details the regional stormwater conditions and provides Stafford County with implementation strategies to maintain and improve the five major watersheds in their jurisdiction. The appendix of Stafford County's Stormwater Management Protection Plan contains specific strategies for the County to maintain and improve the conditions of its watersheds. Stormwater management analysis for each redevelopment area is located in the Infrastructure section of the report.

TRANSPORTATION PLAN

On June 7, 2005, Stafford County adopted the Transportation Plan, prepared by the Stafford County Planning Commission and the Comprehensive Planning Committee, as an element of the Comprehensive Plan. This document provides general information regarding roles and responsibilities of organizations, local governmental policies and regulations, and the strategies to monitor countywide traffic conditions. The plan follows typical planning practice documentation, using the rational-based planning strategies method, by providing broad goals as well the various objectives necessary to achieve them, along with numerous lists of new roads and improvements the County seeks to conduct. Typical sections for four roadway classifications are also provided in the Stafford County Transportation Plan. The changes that affect each redevelopment areas are provided in the Traffic section of the report for the vicinity.

Goals of Transportation Plan

- Achieve a balanced transportation network that implements Stafford County's adopted Land Use Plan and allows roadways within Stafford County to achieve a level of service that promotes safe and efficient operation.
- Provide transportation facilities that promote economic development within Stafford County.
- Design and construct transportation facilities that are compatible with environmental, cultural, and historic resources.
- Promote alternative modes of transportation to more effectively address traffic demands on the transportation network, including support of regional transportation programs.
- Plan future transportation facilities that are implementable from a physical, fiscal and political standpoint.

TELECOMMUNICATION PLAN

On June 4, 2002, the Stafford County Planning Commission and Comprehensive Plan Committee drafted the Telecommunication Plan, adopted as an element of the Comprehensive Plan the same date. This 12-page manuscript introduces the policies for telecommunication facilities and goals the County seeks to accomplish. The design for each area will provide recommendations regarding the Right-Of-Way, which Stafford County may use as regulations to achieve the goals and objectives of the plan. As part of infrastructure network, each redevelopment area's section addresses telecommunication facilities separately.

Goal of Telecommunication Plan

- Stafford County recognizes the need to develop an effective and efficient telecommunications infrastructure, which will support and promote public safety and economic development, as well as fulfill the needs of its citizens for high quality service.

(Refer to Map 7: Stafford County Telecommunication Plan.)

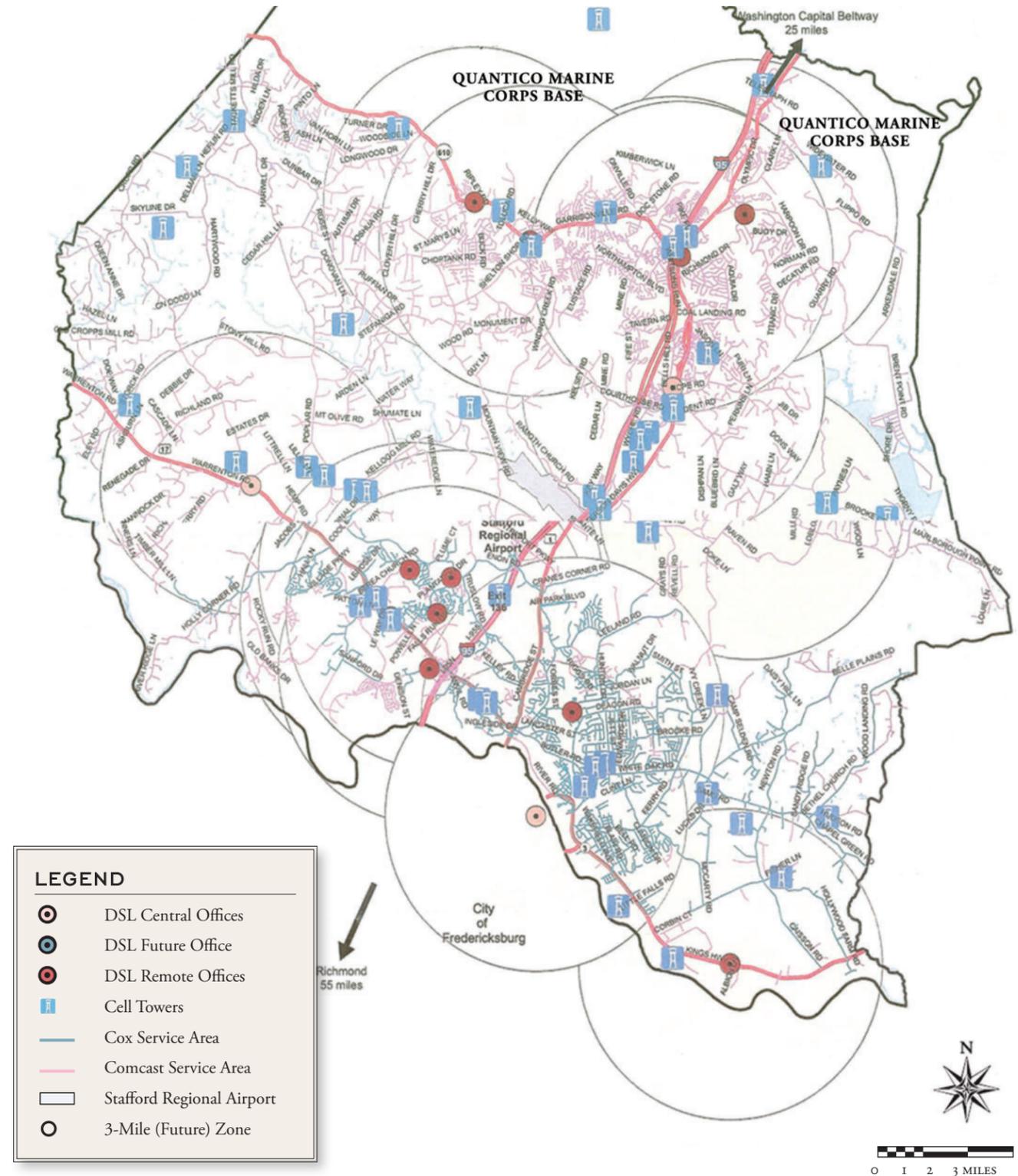
WATER & SEWER PLAN

On February 6, 2007, Stafford County adopted the Water and Sewer Plan as part of the Stafford County Comprehensive Plan. Several portions of the plan were prepared by O'Brien and Gere in 2004; however, the wastewater treatment section was conducted by Parsons Engineering in 2006. The plan provides analysis of existing conditions, projections of future improvements, results of analysis and "plan of actions" for County wide infrastructure planning. Each redevelopment area's section of the report also contains information regarding its water and sewer elements as they relate to this plan.

WATER SUPPLY PLAN

In 1991 O'Brien and Gere also provided Stafford County with a Water Supply Study, a comprehensive analysis of existing conditions and future requirements for infrastructure maintenance and improvement. The County continues to make necessary improvements to meet the growing demand placed on County infrastructure. This engineering report precedes the Water and Sewer Plan adopted by Stafford County in 2007 and provides information on water supply management. Refer to the Infrastructure & Stormwater Management (SWM) Analysis section of the redevelopment area portion of the report for additional analysis for each redevelopment area.

Map 7: Stafford County Telecommunication Plan⁶



⁶ Construction costs may be incurred by the subscriber to receive cable modem service in some areas. Due to various limiting factors, DSL service may not be available everywhere within the area represented. Information believed to be accurate but must be confirmed by potential users.
Source: Department of Economic Development, January 2008.

WILDLIFE HABITAT PROTECTION PLAN (WHPP)

On June 20, 2000, Stafford County adopted the Wildlife Habitat Protection Plan (WHPP) as an element of the Stafford County Comprehensive Plan. Thirteen local, state, and federal agencies worked together in drafting a document to assist County government in managing and protecting local wildlife. This countywide plan calls for specific zoning and subdivision requirements for all of Stafford County. Some of the zoning and subdivision recommendations provided in the WHPP will be taken into consideration for the planning of the redevelopment areas.

As the WHPP is a general plan, any changes to the redevelopment areas will ensure the County continues to protect its wildlife by meeting the following implementation strategies defined in the WHPP.

Zoning Ordinance

The main elements of the Stafford County Zoning Ordinance are:

- Allow clustering in some zoning districts.
- Extend floodplain requirements to include small streams.
- Increase floor area ratio (FAR) and building height restriction adjacent to a designated habitat corridor.
- Provide flexibility for the location of required buffers/landscaping for properties in habitat corridors.
- Establish a Land Resource Management Area (LRMA) buffer.
- Promote tree preservation practices in new developments.
- Permit the use of existing vegetation for buffer requirements when properties are developed.
- Establish an overlay zoning district for sensitive resource areas. The overlay district could require developmental standard for densities and stormwater management, and require forest management practices.
- Establish minimum open space ratios, maximum disturbance limits, maximum noise and glare limits, and minimum contiguous landscaping standards.
- Require preliminary buffer delineations on conceptual Generalized Development Plans (GDPs).

Subdivision Ordinance

The main elements of the Subdivision Ordinance are:

- Amend cluster regulations to encourage open space contiguous to Critical Resource Protection Areas (CRPAs), tributaries of CRPAs, and other sensitive areas.
- Reduce the requirement for usable open space where properties have significant areas that would be eligible for conservation or preservation.
- Provide a higher value credit for open space in floodplain areas.
- Allow innovative street design practices (such as reduction of right-of-way widths for streets and minimize requirements for street configuration) to reduce fragmentation of forest areas.

LAND USE PLAN

One of the primary tools used by Stafford County's planning staff is the Land Use Plan, adopted on February 18, 2003. State regulations require local governments to update their Comprehensive Plan every five years, which compelled Stafford County to update the elements of their Comprehensive Plan as well. After a qualitative analysis of the Comprehensive Plan, the Stafford County Land Use Plan was created to further reiterate the goals and objectives necessary for the County to effectively and efficiently manage changes to their jurisdiction. Peter J. Smith and Company drafted the Comprehensive Plan in May 2007, titled *A Sustainable Future*. The Plan is currently under review.

The matrix shown here was derived to simplify the Land Use Plan using qualitative analysis practices of codifying the goals and objectives into an illustrative spreadsheet. The Land Use Plan matrix is done in conjunction with the Land Use Map. All the goals and objectives affect each redevelopment area equally just as other elements of the Comprehensive Plan have countywide effect. (*Refer to Figure 1: Stafford County Land Use Plan Matrix.*) Color-coding indicates an assortment of strategies, zoning ordinances, and urban design practices.

Formulating the Land Use Plan Matrix

The following procedures were implemented in order to conduct a thorough investigation of Stafford County's Land Use Plan.

- Goals and objectives were taken from each of the Elements of the Stafford County Comprehensive Plan. These were then compared to those listed in *The Stafford Comprehensive Plan (2003)*.
- Logical/Matrix Analysis – as defined in numerous Qualitative Data Analysis publications – was used to derive a color coded chart, representing the interrelationship of goals, objectives and planning.
- Numerous goals were consolidated into six rows of simplified Goals; and numerous objectives were consolidated into the columns of simplified Objectives.

Using the Land Use Plan Matrix

The following lists the goals and objectives as they relate to the County Land Use Plan. Completing one objective may satisfy the requirements of various goals. The matrix identifies which objectives are necessary to achieve a specific goal and recognizes which goals are affected by meeting a specific objective.

The following are the benefits gained when accomplishing these goals:

-  Economic Development
-  Residential Quality of Life
-  Open Space & Environment
-  Infrastructure & Public Facility
-  History & Architecture
-  Vehicle & Pedestrian Circulation
-  Comprehensive Interrelation

DEMOGRAPHIC OVERVIEW HIGHLIGHTS: STAFFORD & SURROUNDING COUNTIES

Using the data sources, the Planning Team both looked at demographic and economic indicators for Stafford County and compared these data with that of surrounding counties and the nation, as appropriate.⁷

INCOME & EMPLOYMENT TRENDS

By all accounts, Stafford County has a relatively affluent base of residents. In January 2008, Forbes.com reported Stafford County as 11th in its list of “America’s Richest Counties,” which used 2006 US Census American Community Survey median income data. The Planning Team’s research found this enviable position to hold true among neighboring counties as well. According to ESRI data, Stafford’s median household income was \$84,204 in 2007 (refer to Figure 2: *Stafford & Surrounding Counties Median Household Income, 2007 & 2012*), which is higher than adjacent counties. The closest comparable county, Prince William, had a median household income of approximately \$1,000 less. By comparison, the US median household income in 2007 was \$53,154. According to ESRI’s projections, between 2007 and 2012, Stafford County’s median household income is expected to increase by 16% to \$100,636 – at a rate of 3.6% annually. This rate implies a small amount of “real” income growth – growth that exceeds the typical rate of inflation (3%).

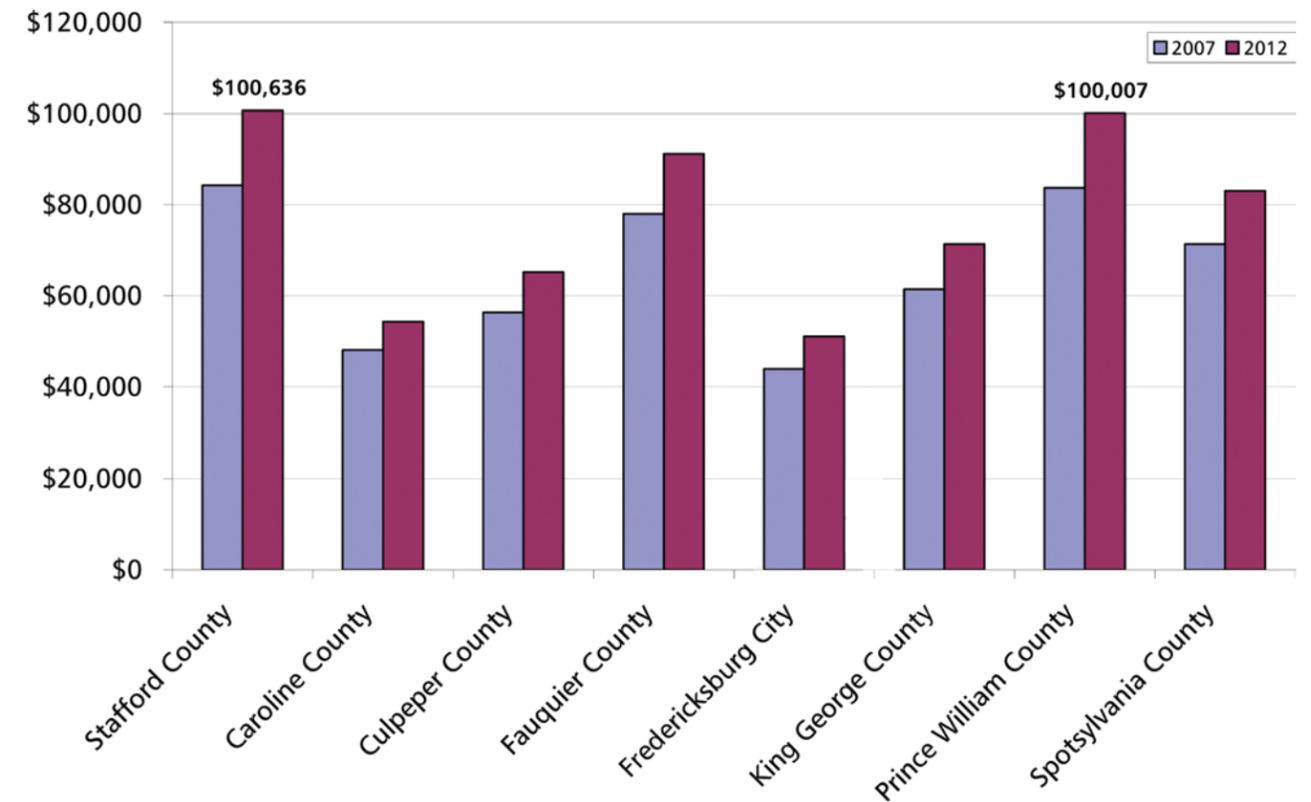
Table 2: Stafford County Household by Household Income Trends, 2007–2012

	2007	%	2012	%	Change	% Change	Change in Share
\$0-\$50,000	9,133	22.0%	8,230	16.4%	-903	-9.9%	-5.6%
\$50,000-74,999	8,187	19.7%	7,581	15.1%	-606	-7.4%	-4.6%
\$75,000-\$99,999	7,657	18.4%	9,028	18.0%	1,371	17.9%	-0.4%
\$100,000-\$149,999	10,828	26.1%	14,087	28.1%	3,259	30.1%	2.0%
\$150,000-\$249,999	4,585	11.0%	8,816	17.6%	4,231	92.3%	6.5%
\$250,000-\$499,999	975	2.3%	1,876	3.7%	901	92.4%	1.4%
>\$500,000	144	0.3%	518	1.0%	374	259.7%	0.7%
Total:	41,509	100%	50,136	100%	8,627	21%	

Note: Incomes are expressed as the income of the previous year (i.e. 2006 income for 2007) in that year's dollars (not adjusted for inflation).

Source: ESRI Business Analyst; Economics Research Associates, 2008.

Figure 2: Stafford & Surrounding Counties Median Household Income, 2007 & 2012

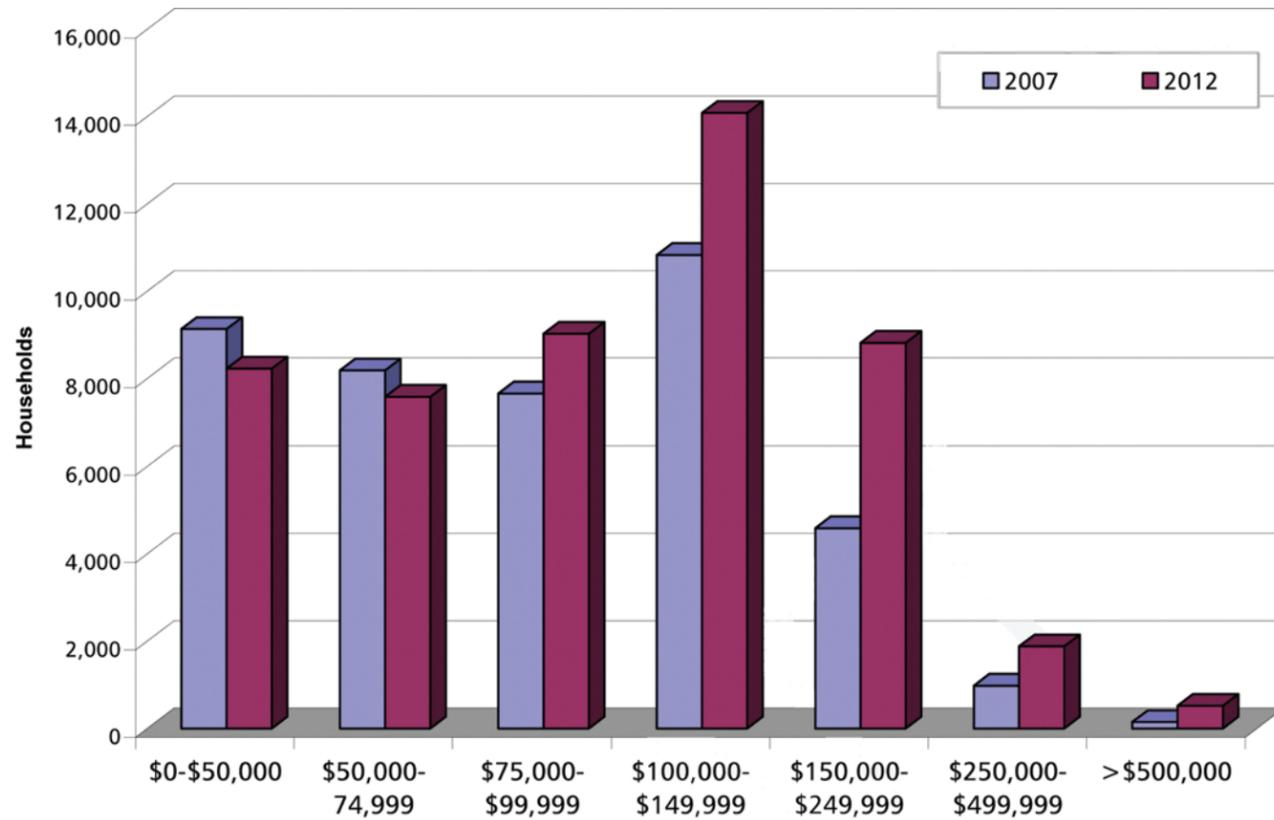


Source: ESRI Business Analyst; Economics Research Associates, 2008.

As indicated by the high median household incomes, Stafford County households generally earn mid-to-upper-level incomes (ESRI, *Table 2: Stafford County Household by Household Income Trends, 2007–2012*, and *Figure 3: Stafford County Households by Household Income, 2007 & 2012*). 58% earn over \$75,000 per year, and an additional 19% earn between \$50,000 and \$75,000. This level is comparable to Prince William County (refer to *Figure 3: Stafford County Households by Household Income, 2007 & 2012*), which has approximately 1% less of its households earning over \$75,000. By 2012, 68% of Stafford County households will be earning \$75,000 or more. The \$75,000 mark is an important benchmark viewed by the retail community when deciding to locate stores in an area. A concentration of households earning over this amount indicates that the residents will likely have adequate disposable income to support retail purchases. Overall, Stafford’s income profile places it in good position for retail and other development.

⁷ Please refer to Appendix I: Economics & Market Analysis Methodology & Data Sources.

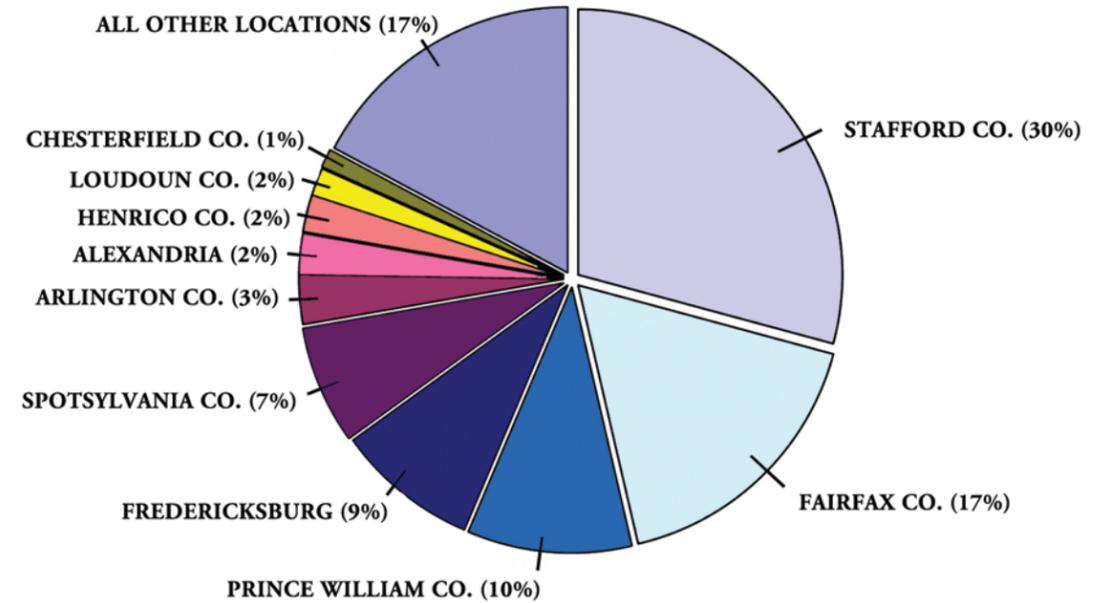
Figure 3: Stafford County Households by Household Income, 2007 & 2012



Source: ESRI Business Analyst; Economics Research Associates, 2008.

Whereas household income trends reflect the earnings of County households, regardless of where they work, at-place employment trends examine only jobs within Stafford County (which may be employing residents of other counties). According to the US Census Bureau, Longitudinal Employment Dynamics Origin-Destination Data Base for 2006, about one third of Stafford workers works within Stafford County.

Figure 4: Top Counties/Independent City Work Locations of Stafford Residents, 2006



Source: US Census Bureau, LED Origin-Destination Base (2006); Economics Research Associates, 2008.

To assess at-place employment (all workers working within Stafford County), the Planning Team used Woods and Poole as one of the sources. According to this data, the sector with the greatest change between 2000 and 2007 in Stafford County was Services, which added approximately 2,500 jobs, including jobs in professional services, educational services, and health services. Following closely behind was Finance, Insurance and Real Estate (FIRE), adding 2,087 jobs. These were also two of the fastest-growing sectors, growing at annual rates of 4.4% and 4%, respectively. Construction was also a fast-growing industry (at 4.5% annually), likely fueled by the area's rapid growth, as was Retail Trade (4.4%) and State and Local Government (3.7%), which both also reflect responses to increasing population.

In the next 5 years, growth is expected to be fastest in Wholesale Trade (3.2% annually) and Finance/Insurance/Real Estate (3.1%). Services will also still grow, at a respectable rate of 2.7% annually (refer to Table 3: Stafford County Employment Trends, 2000, 2007, & 2012). These sectors are traditional users of office space and so, growth in these sectors beyond existing available supply will require new workplace real estate development.

In order to get a fuller picture of Stafford County’s employment trends, the Planning Team also looked at other sources that publish data. The Virginia Employment Commission also issues employment trends at Stafford County and Workforce Investment Area (WIA) level. A WIA is an area defined by the Virginia Employment Commission for issuing employment projections and for state investment purposes. Stafford County is a part of the Bay Area Consortium WIA which includes 15 counties and Fredericksburg City. These trends are in Figure 5 (*Stafford County Employment Growth Rate by Sector, 2000–2007 and 2007–2012*), and are slightly lower than Woods and Poole, which includes self-employment and other factors not included in State or Federal numbers. According to this data, total employment in Stafford County in 2007 was 34,542, a 7% increase over the previous year, and a 34% increase in the last five years. Stafford County has also steadily increased its share of the overall WIA employment – from 19% in 2002 to 22% in 2007 (refer to Figure 6: *Stafford County Historic Employment as a Share of the Workforce Investment Area (WIA), 1996–2007*) – indicating Stafford County’s increasing position as an employment center. Again, growth in employment is a positive economic indicator and suggests the possibility of new office development.

Table 3: Stafford County Employment Trends, 2000–2012

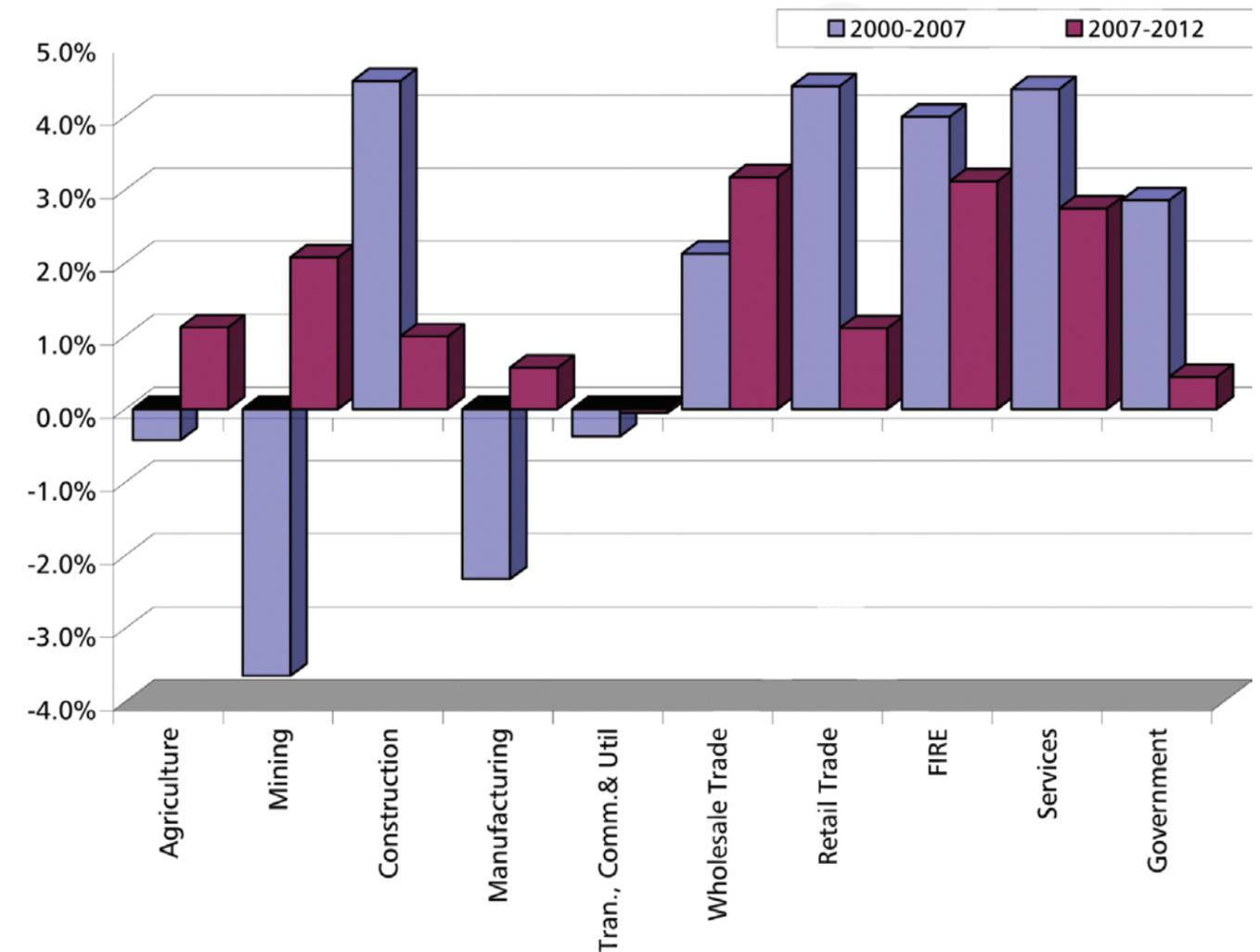
	2000	2007	2012	00 - '07 CAGR	07 - '12 CAGR /2	00 - '07 Change
Agriculture	613	595	629	-0.4%	1.1%	-18
Mining	48	37	41	-3.7%	2.1%	-11
Construction	2,940	3,997	4,199	4.5%	1.0%	1,057
Manufacturing	783	664	683	-2.3%	0.6%	-119
Transport, Comm. & Public Util	1,189	1,158	1,155	-0.4%	-0.1%	-31
Wholesale Trade	2,489	2,884	3,371	2.1%	3.2%	395
Retail Trade	4,857	6,572	6,943	4.4%	1.1%	1,715
Finance, Ins. & Real Estate	6,612	8,699	10,139	4.0%	3.1%	2,087
Services	7,145	9,643	11,041	4.4%	2.7%	2,498
Government	6,224	7,579	7,746	2.9%	0.4%	1,355
Total	32,900	41,828	45,947	3.5%	1.9%	8,928

1/ Compound Annual Growth Rate

Note: Includes at home and self employed.

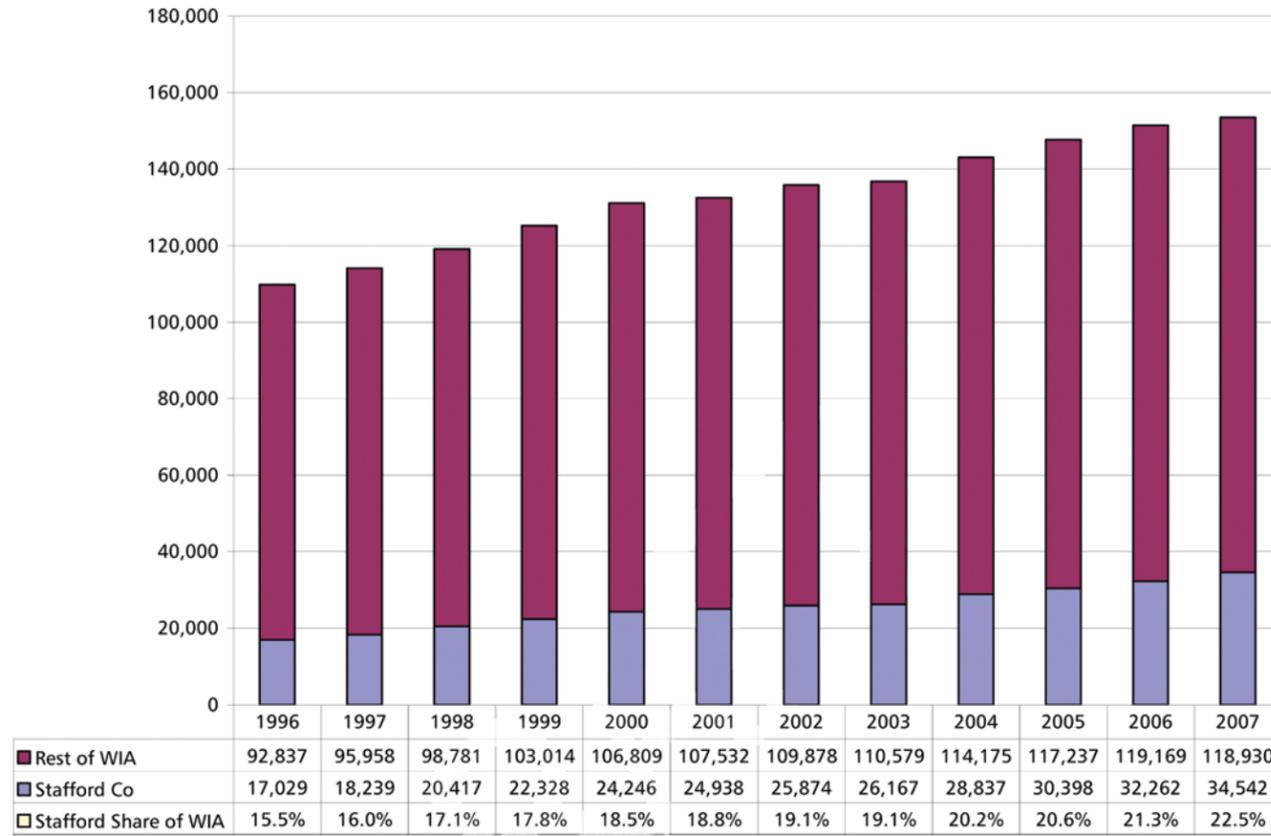
Source: Woods & Poole; Economics Research Associates, 2008.

Figure 5: Stafford County Employment Growth Rate by Sector, 2000–2007 & 2007–2012



Source: Woods & Poole; Economics Research Associates, 2008.

Figure 6: Stafford County Historic Employment as a Share of the Workforce Investment Area (WIA), 1996–2007



Source: Virginia Employment Commission, 2007.

POPULATION & HOUSEHOLD TRENDS

According to ESRI data, in 2007, Stafford County had 127,000 residents. (Refer to Table 4: *Stafford County Population and Household Trends, 2000–2012*.) This is comparable to Stafford County’s population data for 2006 of 118,425.

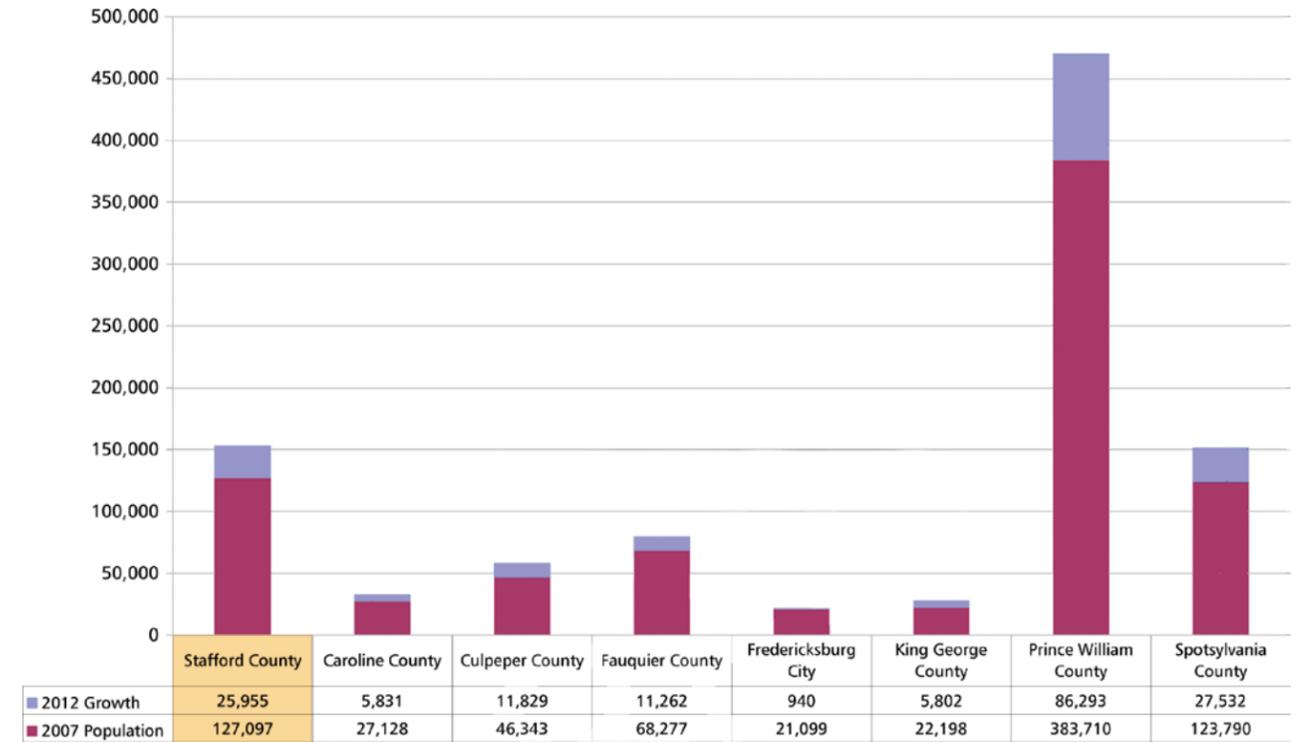
Table 4: Stafford County Population and Household Trends, 2000–2012

Year	Stafford County		
	2000	2007	2012
Population	92,446	127,097	153,052
% Growth over Previous Pd.		37%	20%
Households	30,187	41,509	50,136
% Growth over Previous Pd.		38%	21%

Source: ESRI Business Analyst; Economics Research Associates, 2008.

Of the neighboring counties, Stafford County was surpassed in population only by Prince William to the north, which has realized greater growth pressure from the DC Metro area (refer to Figure 7: *Stafford & Surrounding Counties, Comparison of 2007 & 2012 Population*).

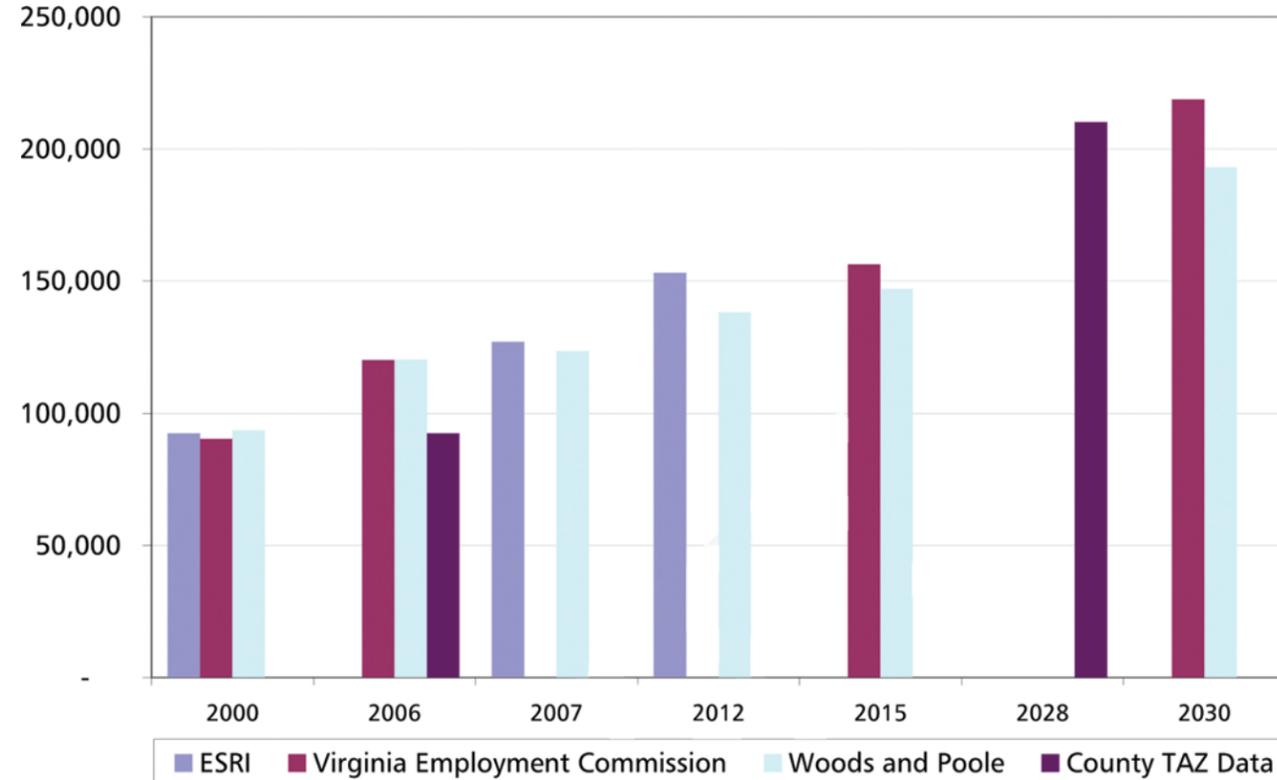
Figure 7: Stafford & Surrounding Counties, Comparison of 2007 & 2012 Population



Source: ESRI Business Analyst; Economics Research Associates, 2008.

According to ESRI data, Stafford County grew by a compound annual growth rate of 4.65% in between 2000 and 2007, and households grew at the same rate. The number of Stafford residents and households is expected to grow at a slower rate between 2007 and 2012, at an average annual rate of 3.8%.

Figure 8: Comparison of Stafford County Population Estimates & Projections by Source, 2000–2030



Source: ESRI; Virginia Employment Commission; Woods and Poole; County TAZ Data; Economics Research Associates, 2008.

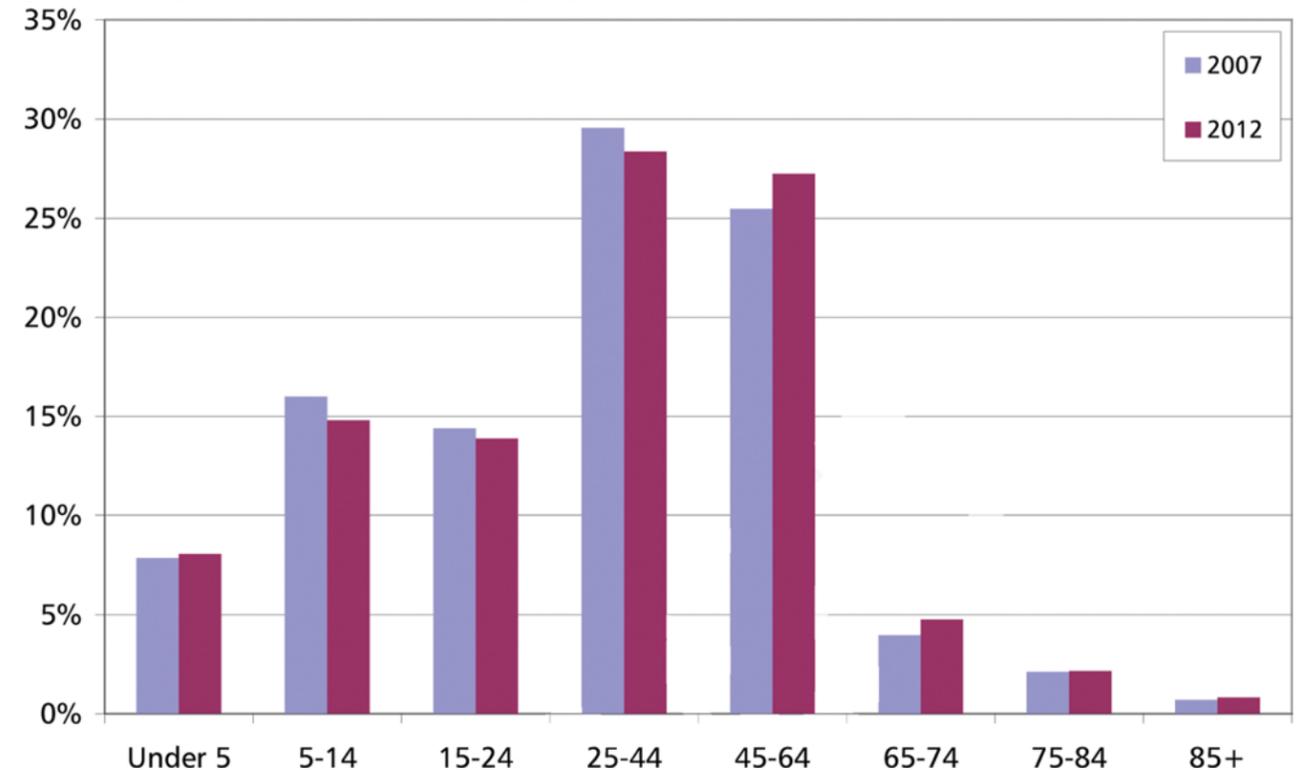
Different sources project and estimate population differently (refer to Figure 8: Comparison of Stafford County Population Estimates & Projections by Source, 2000–2030). Data from the Virginia Employment Commission, as reported by the George Washington Regional Commission in their report State of the Region: 2007, suggests a similar pace of growth to ESRI data, with Stafford County adding approximately 35,000 households between 2006 and 2015, an average of 3,885, or 3.2% annually.

Woods and Poole projects a total population of 161,000 by 2020, and Stafford County’s projections indicate slightly less (154,700). (It is not uncommon for there to be variations in projection methods.) Woods and Poole’s projections were recently issued in 2007, and thus most likely take into account Stafford’s success in attracting new households. The Planning Team has compared the results of the various projection methods in Figure 8 (Comparison of Stafford County Population Estimates & Projections by Source, 2000–2030).

POPULATION AGE TRENDS

According to ESRI data, in 2007, over half of Stafford County’s population would be considered “working age,” ranging from 25-64. A significant percentage of population, 38%, is 24 and under indicating the presence of families with children. Stafford County’s age profile follows fairly closely the nation as a whole. (Refer to Figure 9: Stafford County Population by Age, 2007 & 2012.)

Figure 9: Stafford County Population by Age, 2007 & 2012



Source: ESRI; Economics Research Associates, 2008.

According to ESRI’s projections, between 2007 and 2012, there will be an increase in the overall share of residents in the 45-64 age cohort. This group will add 9,300 residents, increasing its share of all residents by 1.7%. The next older age group (65-74) will also be gaining share – 0.8% – because of the additional 2,200 residents in that group. Still, residents ranging from 25 to 64 in age will comprise the largest group, representing 56%. This is in line with nationwide aging trends, as Baby Boomers move into retirement.

HOME OWNERSHIP TRENDS

According to data from ESRI, the majority of the 43,400 housing units in Stafford County in 2007 were owner occupied (77%) (refer to Table 5: *Stafford County Population and Housing Summary, 2000–2012*), slightly higher than the 71% combined average of all the bordering counties. 2006 data from Stafford County’s Comprehensive Plan cites approximately 41,000 housing units.

According to ESRI, Stafford is projected to add just over 10,000 units between 2007 and 2012. (Refer to Table 6: *Comparison of Population and Housing Unit Projections, ESRI & Stafford County TAZ, 2000–2012*.)

Table 5: Stafford County Population and Housing Summary, 2000–2012

Year	Stafford County		
	2000	2007	2012
Population	92,446	127,097	153,052
Total Housing Units	31,405	43,429	53,538
Owner Occupied Housing Units	77.4%	77.2%	75.4%
Renter Occupied Housing Units	18.7%	18.4%	18.3%
Vacant Housing Units	3.9%	4.4%	6.4%

Source: ESRI Business Analyst; Economics Research Associates, 2008.

Table 6: Comparison of Population and Housing Unit Projections, ESRI & Stafford County TAZ, 2000–2012

Year	2006	2007	2012	2028
Population	118,425	127,097	153,052	210,102
Total Dwelling Units	40,953	43,429	53,538	78,540

Source: 2000, 2007, and 2012 Data from ESRI; 2006 and 2028 Data from Stafford County TAZ; table by Economics Research Associates, 2008.

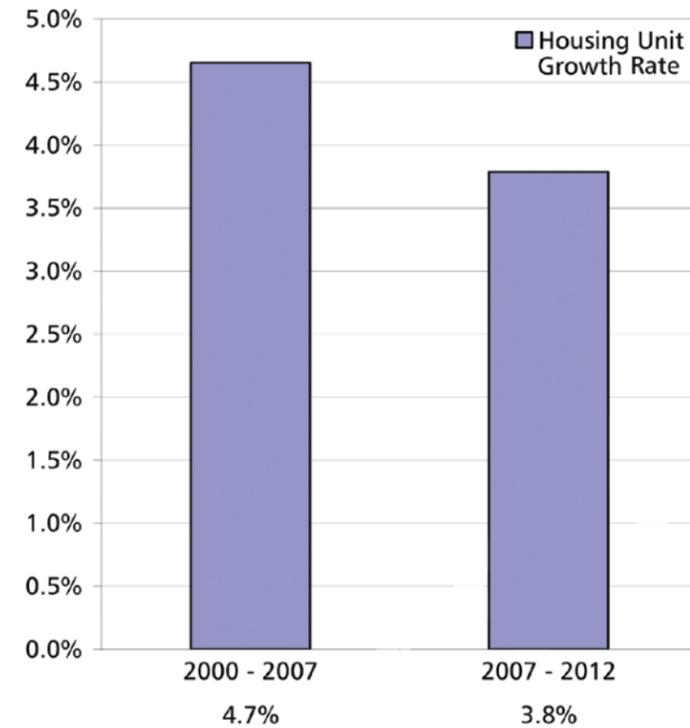
According to ESRI data, the median owner-occupied home value in Stafford County increased by 14% annually from 2000 to 2007. (Refer to Table 7: *Stafford County Median Owner-Occupied Home Values, 2000–2012*.) Home values are projected to grow by 2% annually between 2007 and 2012. Similar growth patterns occurred in the combined average of the neighboring counties. (Refer to Table 8: *Stafford & Surrounding Counties Demographic and Economic Snapshot, 2007* and Table 9: *Stafford & Surrounding Counties Demographic and Economic Snapshot, 2012*.)

Table 7: Stafford County Median Owner-Occupied Home Values, 2000–2012

Year	2000	2007	2012
Stafford County	\$155,107	\$390,310	\$431,148
Median Home Value Change		'00 - '07	'07 - '12
CAGR		14.1%	2.0%
Absolute Change		\$235,203	\$40,838

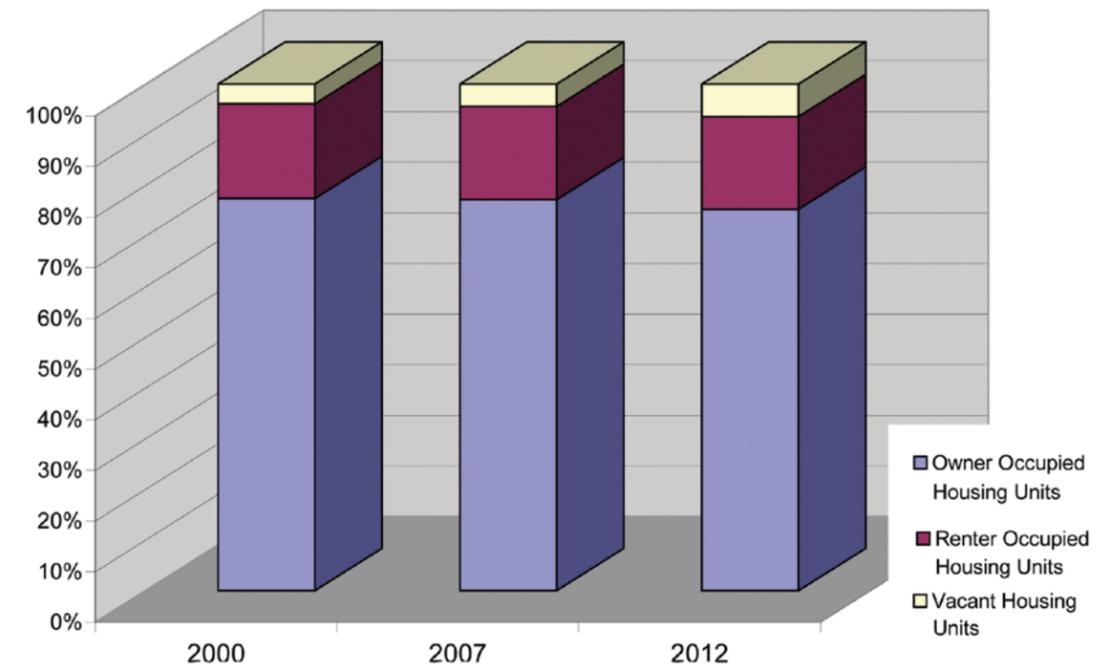
Source: ESRI Business Analyst; Economics Research Associates, 2008.

Figure 10: Comparison of Stafford County Home Value Growth Rates, 2000–2007 & 2007–2012



Source: ESRI Business Analyst; Economics Research Associates, 2008.

Figure 11: Stafford County Housing Occupancy, 2000–2012



Source: ESRI Business Analyst; Economics Research Associates, 2008.

Table 8: Stafford & Surrounding Counties Demographic and Economic Snapshot, 2007

2007 Snapshot	Stafford County	Caroline County	Culpeper County	Fauquier County	Fredericksburg City	King George County	Prince William County	Spotsylvania County
Population	127,097	27,128	46,343	68,277	21,099	22,198	383,710	123,790
Households	41,509	10,109	16,930	25,072	9,001	8,189	131,917	43,284
Average Household Size	3.03	2.63	2.64	2.7	2.04	2.67	2.9	2.85
Families	33,002	7,373	12,279	18,647	4,129	5,918	98,978	33,289
Per Capita Income	\$32,502	\$22,380	\$25,715	\$37,511	\$30,115	\$27,913	\$35,102	\$29,349
2007 Households by Income 1/								
Household Income Base	41,509	10,109	16,930	25,072	9,001	8,189	131,916	43,284
<\$15,000	3.2%	9.6%	8.2%	5.6%	13.3%	5.6%	3.1%	4.0%
\$15,000 - \$24,999	3.6%	11.3%	10.2%	5.6%	13.4%	6.9%	3.5%	5.8%
\$25,000 - \$34,999	5.3%	12.5%	10.4%	5.5%	12.9%	10.6%	5.1%	7.0%
\$35,000 - \$49,999	9.9%	18.6%	14.5%	11.7%	15.9%	15.7%	10.8%	13.4%
\$50,000 - \$74,999	19.7%	22.6%	22.6%	19.1%	18.1%	24.7%	20.5%	22.5%
\$75,000 - \$99,999	18.4%	12.1%	15.0%	16.8%	10.5%	13.6%	16.9%	18.1%
\$100,000 - \$124,999	16.7%	6.8%	9.0%	11.8%	5.7%	11.4%	14.7%	13.8%
\$125,000 - \$149,999	9.4%	3.5%	4.6%	8.6%	2.9%	4.6%	10.2%	7.0%
\$150,000+	13.7%	2.9%	5.4%	15.4%	7.3%	6.9%	15.4%	8.3%
Median Household Income	\$84,204	\$48,096	\$56,319	\$77,946	\$43,890	\$61,420	\$83,660	\$71,298
Average Household Income	\$98,925	\$59,095	\$68,721	\$101,768	\$65,505	\$74,928	\$101,872	\$83,720
2007 Population by Age								
Under 5	7.8%	6.5%	6.5%	6.2%	5.7%	7.6%	8.5%	7.7%
5-14	16.0%	12.5%	13.3%	13.3%	8.7%	14.0%	16.4%	14.7%
15-24	14.4%	11.5%	12.8%	12.4%	25.9%	13.6%	12.8%	13.5%
25-44	29.5%	27.2%	27.6%	24.9%	25.9%	27.7%	31.3%	28.7%
45-64	25.5%	28.8%	27.1%	30.6%	20.5%	26.6%	24.7%	26.2%
65-74	4.0%	7.7%	6.8%	7.1%	6.1%	6.2%	4.2%	5.4%
75-84	2.1%	4.4%	4.2%	3.9%	5.0%	3.1%	1.7%	2.7%
85+	0.7%	1.5%	1.7%	1.5%	2.1%	1.2%	0.5%	1.0%
Median Age	34.4	40.3	38.7	41.2	30.3	36.8	34.1	35.6
2007 Population by Race								
White	75.3%	58.4%	73.0%	84.1%	65.3%	73.2%	57.2%	77.2%
Black	12.4%	36.0%	18.9%	9.4%	20.3%	19.7%	17.0%	12.9%
American Indian / Alaska Native	0.5%	0.8%	0.4%	0.3%	0.3%	0.5%	0.4%	0.3%
Asian or Pacific Islander	2.2%	0.5%	0.9%	0.8%	1.9%	1.4%	4.4%	1.8%
Other	1.6%	0.7%	1.5%	0.8%	3.3%	0.6%	5.2%	1.4%
Two or More Races	3.1%	1.8%	1.8%	1.8%	2.4%	2.0%	4.1%	2.4%
Hispanic Origin 2/	4.9%	1.8%	3.5%	2.9%	6.5%	2.5%	11.8%	3.9%

Table 9: Stafford & Surrounding Counties Demographic and Economic Snapshot, 2012

2012 Snapshot	Stafford County	Caroline County	Culpeper County	Fauquier County	Fredericksburg City	King George County	Prince William County	Spotsylvania County
Population	153,052	32,959	58,172	79,539	22,039	28,000	470,003	151,322
Households	50,136	12,451	21,558	29,477	9,562	10,419	162,726	53,240
Average Household Size	3.02	2.6	2.62	2.68	2.02	2.65	2.88	2.83
Families	39,227	8,891	15,305	21,492	4,206	7,369	119,739	40,214
Per Capita Income	\$39,717	\$26,098	\$30,710	\$46,079	\$36,269	\$33,385	\$43,251	\$35,332
2012 Household by Income 1/								
Household Income Base	50,136	12,451	21,558	29,477	9,562	10,419	162,725	53,240
<\$15,000	2.7%	8.0%	6.9%	4.7%	11.2%	4.7%	2.6%	3.3%
\$15,000 - \$24,999	2.7%	9.3%	7.6%	4.1%	11.1%	5.2%	2.4%	4.0%
\$25,000 - \$34,999	3.6%	11.1%	8.8%	4.5%	10.2%	7.7%	3.7%	5.6%
\$35,000 - \$49,999	7.4%	16.9%	13.5%	7.7%	16.3%	13.0%	7.5%	10.3%
\$50,000 - \$74,999	15.1%	21.2%	19.9%	18.0%	17.5%	21.7%	16.6%	20.0%
\$75,000 - \$99,999	18.0%	15.5%	17.1%	15.6%	11.7%	18.3%	17.2%	17.4%
\$100,000 - \$124,999	13.8%	7.2%	9.8%	13.1%	7.7%	9.8%	12.5%	14.4%
\$125,000 - \$149,999	14.3%	5.1%	7.2%	9.1%	4.5%	8.8%	12.7%	10.3%
\$150,000+	22.4%	5.5%	9.2%	23.3%	9.7%	10.7%	24.7%	14.7%
Median Household Income	\$100,636	\$54,268	\$65,166	\$91,136	\$51,075	\$71,320	\$100,007	\$82,979
Average Household Income	\$120,690	\$68,198	\$81,385	\$123,966	\$78,178	\$89,065	\$124,711	\$100,224
2012 Population by Age								
Under 5	8.0%	6.2%	6.6%	6.3%	5.9%	7.7%	8.4%	7.9%
5-14	14.8%	12.9%	12.7%	13.0%	8.1%	14.2%	15.9%	14.2%
15-24	13.9%	11.1%	12.7%	11.5%	26.2%	12.2%	12.8%	12.6%
25-44	28.3%	24.8%	26.1%	23.4%	25.0%	26.5%	29.0%	28.2%
45-64	27.2%	30.3%	28.7%	32.1%	21.0%	28.1%	26.4%	27.4%
65-74	4.8%	8.6%	7.1%	8.0%	6.7%	6.8%	5.0%	5.8%
75-84	2.2%	4.2%	4.4%	4.1%	4.8%	3.2%	2.0%	2.7%
85+	0.8%	1.8%	1.7%	1.7%	2.4%	1.3%	0.6%	1.1%
Median Age	34.2	41.5	39.3	42.1	31.5	36.7	34.7	35.4
2012 Population by Race								
White	73.5%	56.2%	71.3%	82.5%	62.0%	71.6%	54.6%	75.6%
Black	12.7%	37.4%	19.5%	9.9%	20.6%	20.4%	16.9%	13.3%
American Indian / Alaska Native	0.5%	0.9%	0.4%	0.3%	0.4%	0.5%	0.4%	0.4%
Asian or Pacific Islander	2.4%	0.6%	1.0%	1.0%	2.2%	1.6%	4.8%	2.0%
Other	1.8%	0.8%	1.7%	0.9%	4.1%	0.6%	5.8%	1.5%
Two or More Races	3.5%	2.0%	2.1%	2.0%	2.8%	2.3%	4.4%	2.7%
Hispanic Origin 2/	5.6%	2.1%	4.0%	3.4%	7.9%	2.9%	13.1%	4.5%

REAL ESTATE MARKET OVERVIEW: STAFFORD & SURROUNDING COUNTIES

OFFICE MARKET OVERVIEW

The Planning Team used data from CoStar to assess Stafford County office market. As of mid-year 2008, Stafford County has an estimated 1.67 million square feet of office space in 102 buildings. (Refer to Table 10: *Stafford & Surrounding Counties Office Market Indicators*.) This is more than Spotsylvania County (1.4 million square feet) and slightly more than Fredericksburg City (1.64 million square feet).

Table 10: Stafford & Surrounding Counties Office Market Indicators

County	Number of Buildings	Total Rentable Building Area (RBA)	Share of RBA in all Counties	Direct Vacancy Rate	Average Rental Rate
Stafford County	102	1,674,518	12.7%	20.3%	\$25.08/fs
Caroline County	14	202,280	1.5%	53.7%	\$20.01/fs
Fauquier County	69	903,410	6.8%	15.2%	\$22.38/fs
Fredericksburg City	125	1,647,734	12.4%	8.5%	\$22.02/fs
King George County	13	326,315	2.5%	7.0%	\$12.37/fs
Prince William County	239	5,195,381	39.3%	15.6%	\$24.77/fs
Spotsylvania County	149	1,445,244	10.9%	17.3%	\$21.90/fs

Notes:

Direct Vacancy Rate does not include sublet vacancy

"FS" denotes full service, otherwise known as gross rent, which includes utilities.

Source: CoStar Property, June 2008; Economics Research Associates, 2008.

In the period that Stafford County office space has been covered by CoStar (2006 & 2007), the direct vacancy rate for space has averaged 17.8%. (Refer to Table 11: *Stafford & Surrounding Counties Office Direct Vacancy, 2002–2007*.) (Direct vacancy means that the rate does not include space that is leased but unoccupied and available for sublet.) There are several new buildings that are currently being leased, adding to the overall vacancy rate.

Table 11: Stafford & Surrounding Counties Office Direct Vacancy, 2002–2007

County	2002	2003	2004	2005	2006	2007	Avg. Annual
Stafford County	n/a	n/a	n/a	n/a	14.8%	20.8%	17.8%
Caroline County	n/a	n/a	n/a	n/a	n/a	49.0%	49.0%
Fauquier County	11.6%	11.5%	13.1%	12.2%	14.1%	15.0%	12.9%
Fredericksburg City	n/a	n/a	n/a	n/a	3.8%	4.6%	4.2%
King George County	n/a	n/a	n/a	n/a	3.1%	6.5%	4.8%
Prince William County	n/a	n/a	n/a	7.3%	11.3%	16.3%	11.6%
Spotsylvania County	n/a	n/a	n/a	n/a	10.2%	15.4%	12.8%

Source: CoStar Property; Economics Research Associates, 2008.

However, Stafford County commands some of the highest rental rates of area space. Rates averaged \$26.18 in 2006–2007, which was higher than Fredericksburg City (\$21.62) and Spotsylvania County (\$21.13). Much of this is driven by government contractor space near Quantico. Space there rents for \$27–\$30 full service. (Refer to Table 12: *Stafford & Surrounding Counties End of Year Direct Office Rent, 2002–2012*, for end of year rent or rent paid by the lease holders, not sublessors.)

Table 12: Stafford & Surrounding Counties, End of Year Direct Office Rent, 2002–2007

County	2002	2003	2004	2005	2006	2007	Avg. Annual
Stafford County	n/a	n/a	n/a	n/a	\$27.29	\$25.06	\$26.18
Caroline County	n/a	n/a	n/a	n/a	n/a	\$21.95	\$21.95
Fauquier County	\$14.00	\$14.00	\$14.00	\$18.55	\$21.58	\$20.94	\$17.18
Fredericksburg City	n/a	n/a	n/a	n/a	\$22.01	\$21.22	\$21.62
King George County	n/a	n/a	n/a	n/a	\$11.00	\$11.00	\$11.00
Prince William County	n/a	n/a	n/a	\$24.21	\$25.66	\$25.12	\$25.00
Spotsylvania County	n/a	n/a	n/a	\$19.35	\$22.10	\$21.94	\$21.13

Source: CoStar Property; Economics Research Associates, 2008.

RETAIL MARKET OVERVIEW

Retail Sales

Retail sales can be estimated in a variety of ways. The US Census Bureau's Economic Census reports sales by County. However, these surveys are conducted every 5 years. The most recent data available is 2002 data which reported retail sales of \$614 million and food service sales of \$68 million. Of course, there has been significant additional retail development in Stafford County since 2002. Additionally, the Virginia Department of Taxation publishes information quarterly on taxable retail sales by County. According to this data, Stafford County had a total of \$654 million in taxable retail and food service sales in 2007 (refer to Table 13: *Stafford County Taxable Sales, 2007*). Removing automotive and nonstore retailers equals \$624 million in sales, which at an average productivity (sales per square foot) rate of \$350 per square foot, supports approximately 1.78 million square feet of space. Of course, adding non-taxable sales would increase this amount. Because there is more retail space than this, it is possible that older space in Stafford County is producing less sales per square foot.

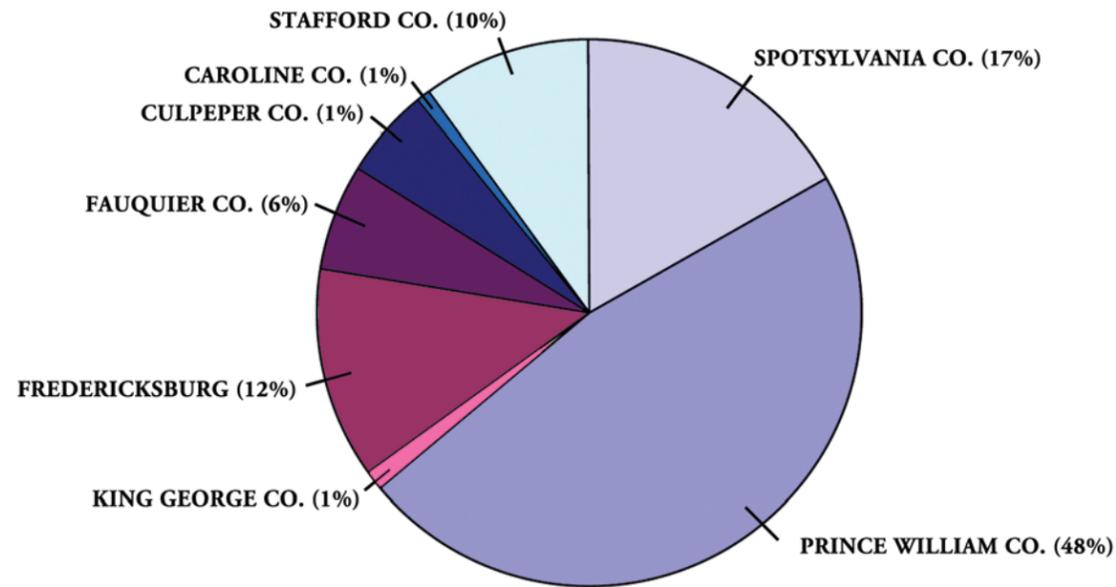
Table 13: Stafford County Taxable Sales, 2007

	Sales
Motor Vehicle and Parts Dealers	\$27,830,859
Furniture and Home Furnishings Stores	\$12,136,307
Electronics and Appliance Stores	\$3,498,822
Building Material and Garden Equipment and Supplies Dealers	\$76,371,024
Food and Beverage Stores	\$173,318,281
Health and Personal Care Stores	\$11,219,910
Gasoline Stations	\$21,247,699
Clothing and Clothing Accessories Stores	\$38,966,942
Sporting Goods, Hobby, Book, and Music Stores	\$4,785,890
General Merchandise Stores	\$163,688,084
Miscellaneous Store Retailers	\$26,564,963
Nonstore Retailers	\$2,837,573
Food Services and Drinking Places	\$91,889,443
Total Sales- Retail and Food Services	\$654,355,797

Source: CoStar Property; Source: University of Virginia Weldon Cooper Center for Public Service; Virginia Department of Taxation, 2007; ERA AECOM, 2008.

Stafford County’s sales (of retail and food service and drinking places sales, less motor vehicle and parts dealers, gasoline stations, and nonstore retailers) represent 10% of the sales of the surrounding counties. (Refer to Figure 12: *Stafford & Surrounding Counties’ Share of Total Area Retail Sales.*)

Figure 12: Stafford & Surrounding Counties’ Share of Total Area Retail Sales



Source: University of Virginia Weldon Cooper Center for Public Service; Virginia Department of Taxation, 2007; ERA AECOM, 2008.

RETAIL MARKET DATA

According to data from CoStar from June 2008, Stafford County has 309 retail properties, comprising 4 million square feet of retail space, 9% of which was vacant as of the most recent quarter.

Overall rental rates in Stafford County for retail space averaged \$21.20 triple net. Local brokers report that the premium “power center” space is renting for approximately \$30 per square foot and up, while smaller centers typically rent for \$15-20.

Retail space quarterly absorption has averaged approximately 15,000 square feet from the third quarter of 2005 to the most recent quarter. The quarterly absorption in the first quarter of 2008 was a negative 51,318. CoStar reports annual absorption of 16,500 in 2006 and 96,000 in 2007.

26 of the retail properties included in CoStar’s database for Stafford County are shopping centers, totaling 2.9 million square feet (75% of all space). (Refer to Table 14: *Stafford County Shopping Centers Ranked by Rentable Building Area.*)

The majority of Stafford retail properties are smaller “strip centers” or “neighborhood shopping centers;” 75% of all shopping center properties fall in this category (refer to Figure 13: *Stafford County Shopping Centers by Type, 2008*). However, the type of shopping centers with the largest amount of square footage in Stafford County is the “power center” (refer to Figure 14: *Stafford County Shopping Center Space (SF) by Type, 2008*). There are

two power center properties comprising just under a million square feet (Doc Stone Commons and Stafford Marketplace).

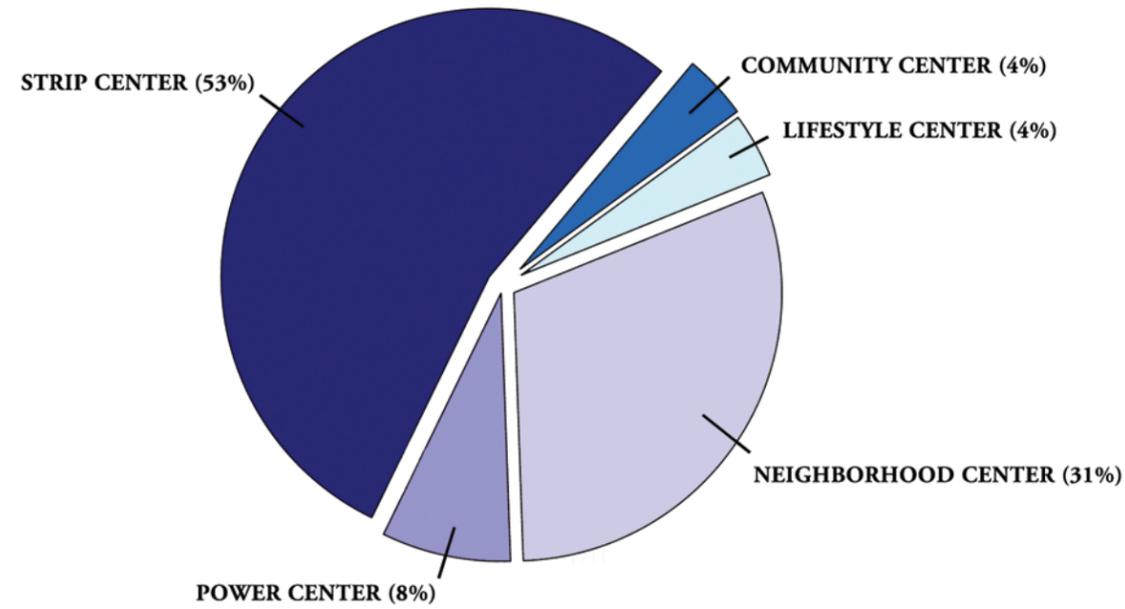
Stafford does not have any regional retail centers; the closest regional malls are Potomac Mills in Prince William County and Spotsylvania Towne Centre in Spotsylvania County. However, many of the Power Center retailers (such as Target) are more regional in nature in that they draw customers from a larger area. There have been many recent retail developments in Stafford County, including the Target at the intersection of Interstate 95 (I-95) and Warrenton Rd. (US-17) and the Cherry Grove/Banks Ford Center, also in Southern Gateway which includes a Lowe’s Home Improvement, Giant Food Supermarket, and other inline retail and office space.

Table 14: Stafford County Shopping Centers Ranked by Rentable Building Area

Name	Type	Address	Status	RBA/GLA	% Leased	Year Built
Stafford Marketplace	Power	1150-1260 Stafford Market Pl	Existing	661,983	89%	2003
Doc Stone Commons	Power	72 Doc Stone Dr	Existing	487,241	100%	1980
Stafford Lakes & Falls Run Centers	Lifestyle	Rte 17 @ Village Pkwy	Existing	420,500	91%	2009
Aquia Towne Center	Community	2830-2868 Jefferson Davis Hwy	Existing	313,771	100%	1987
	Community	Warrenton Rd @ Greenbank Rd	Existing	165,999	100%	2007
	Community	40 Stanstead Rd	Proposed	108,298	100%	1966
Brafferton Shopping Center	Neighborhood	315 Garrisonville Rd	Existing	97,872	94%	1974
The Shops at Amyclae Phase II	Neighborhood	Walpole St	Proposed	90,000	0%	
The Shops Of England Run	Neighborhood	736 Warrenton Rd	Existing	62,500	88%	2005
Ferry Farms Shopping Center	Neighborhood	201-207 Kings Hwy	Existing	61,774	100%	1990
The Markets at Shelton Shop	Strip	909 Garrisonville Rd	Existing	57,106	100%	1997
Spring Knoll	Neighborhood	20 Plantation Dr	Existing	55,098	82%	1984
Woodlawn Village Shopping Center	Neighborhood	282 Deacon Rd	Existing	54,144	100%	1987
	Neighborhood	2612 Jefferson Davis Hwy	Existing	49,929	100%	
Chatham Square	Neighborhood	411 Chatam Heights Rd	Existing	45,025	87%	1986
	Strip	300 Chatham Heights Rd	Existing	38,613	100%	
Garrison Village	Strip	395 Garrisonville Rd	Existing	37,716	100%	2001
Claiborne Run	Strip	430 Chatham Heights Rd	Existing	32,832	100%	2002
Washington Square	Neighborhood	102 Washington Square Pl	Existing	30,000	87%	
Shoppes At North Stafford	Strip	1198 Garrisonville Rd	Existing	29,069	0%	2007
Courthouse Professional Center	Strip	2152 Jefferson Davis Hwy	Existing	21,848	100%	1975
	Strip	1075 Garrisonville Rd	Existing	20,400	82%	1992
Red Oaks Crossing	Strip	0 Courthouse Rd	Proposed	20,000	50%	
Foreston Crossing	Strip	60 Susa Dr	Existing	20,000	100%	
	Strip	363 Warrenton Rd	Existing	19,485	100%	1969
Carter's Crossing	Strip	Warrenton Rd	Under Construction	18,700	54%	2008
	Strip	418 Garrisonville Rd	Existing	15,000	100%	
Berea Church Marketplace	Strip	Warrenton Rd @ Stafford Lakes Pky	Proposed	14,950	50%	
	Strip	9 Center St	Existing	13,220	80%	2001
	Strip	955 Garrisonville Rd	Under Construction	13,000	25%	2008
Olde Forge Plaza	Strip	367 Warrenton Rd	Existing	12,064	93%	
	Strip	624 Garrisonville Rd	Existing	12,007	100%	1987
	Strip	1 Mine Rd	Existing	12,000	100%	1996
	Strip	316 White Oak Rd	Existing	11,700	38%	1989
	Strip	628 Cambridge St	Existing	10,200	100%	1987
The Shops At Amyclae	Strip	45 Walpole St	Existing	10,098	55%	2006
Stafford Business Center	Strip	85 Mine Rd	Existing	10,000	8%	2006
	Strip	25 Trade St	Existing	7,500	40%	2007
	Strip	20 Berkshire Dr	Existing	7,000	100%	2007
	Strip	11 Hope Rd	Existing	4,488	100%	
Foreston Crossing	Strip	100 Susa Dr	Existing	4,127	100%	2003

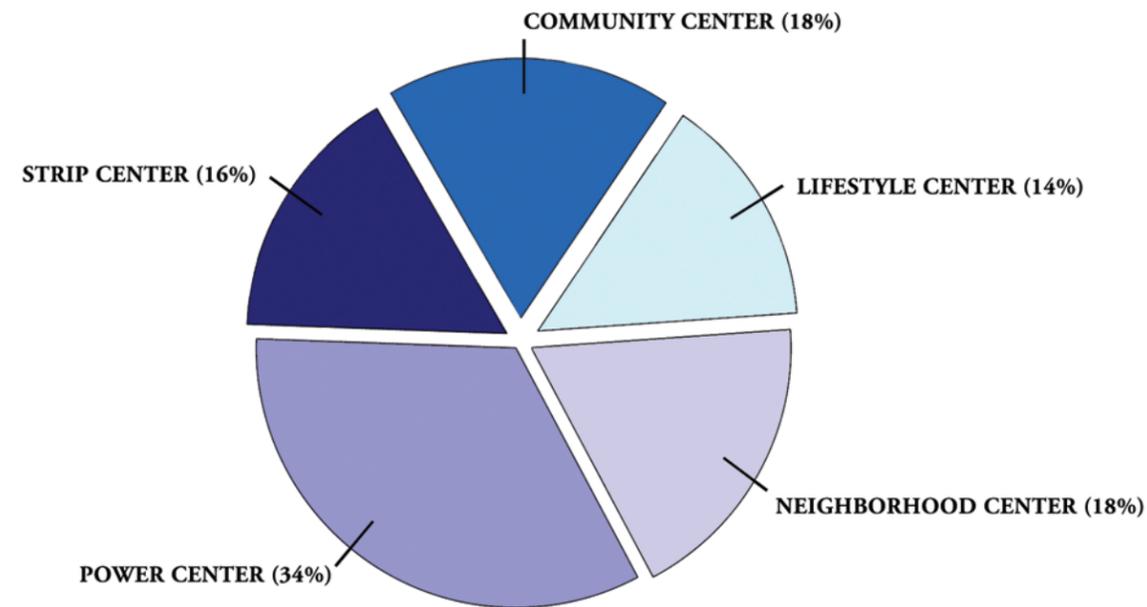
Source: CoStar Property, June 2008.

Figure 13: Stafford County Shopping Centers by Type, 2008



Source: CoStar, June 2008; Economics Research Associates, 2008.

Figure 14: Stafford County Shopping Center Space (SF) by Type, 2008



Source: CoStar, June 2008; Economics Research Associates, 2008.

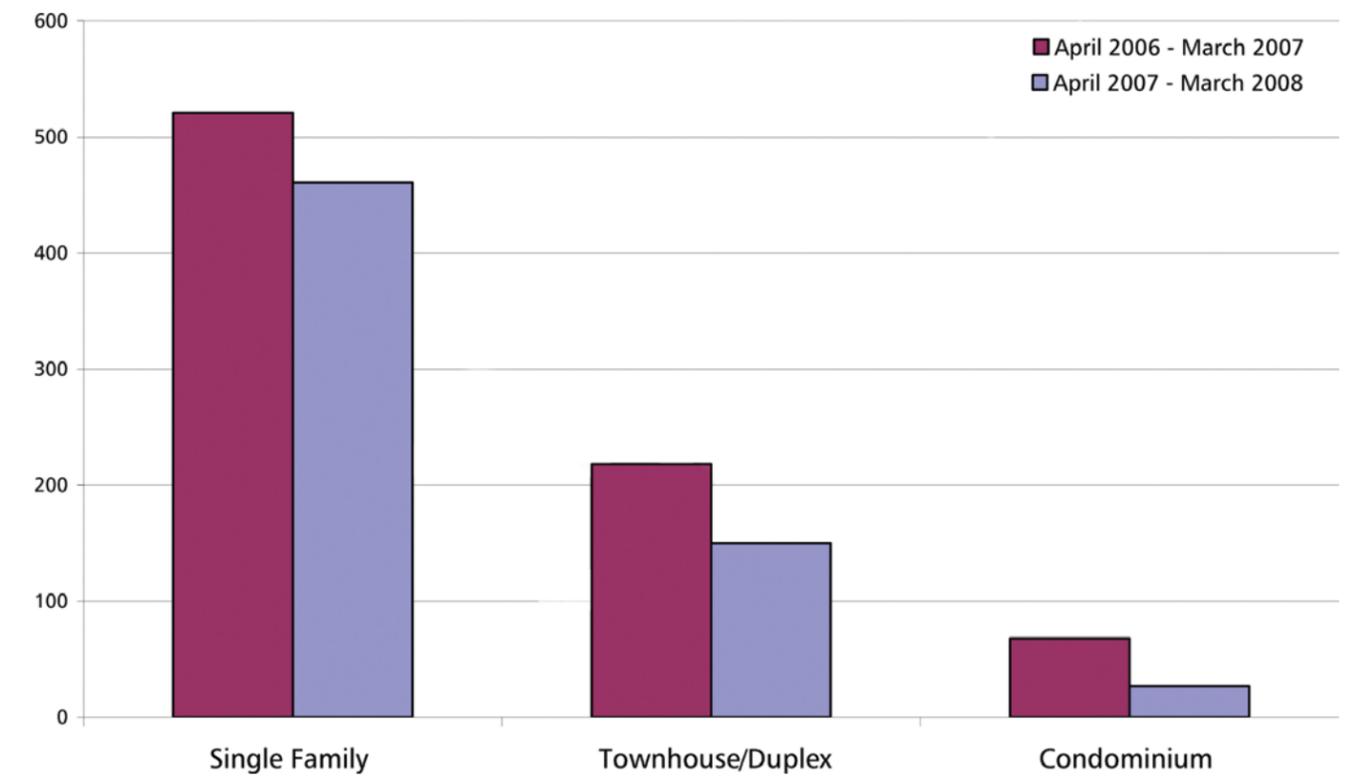
RESIDENTIAL MARKET OVERVIEW

New Home Sales Trends

To assess the market for potential new residential construction, one typically looks at new home sales trends. The Planning Team analyzed the most recently available for-sale housing trends data provided by Hanley-Wood Market Intelligence for Stafford County, from April 2007 through March 2008, as well as those of the same period the previous year.

Reflective of national trends, new home sales in Stafford County are significantly slowing. Sales rates are decreasing across all product types, and prices are trending downward (refer to Figure 15: Stafford County Gross Home Sales by Type, 2006–2007 v. 2007–2008).

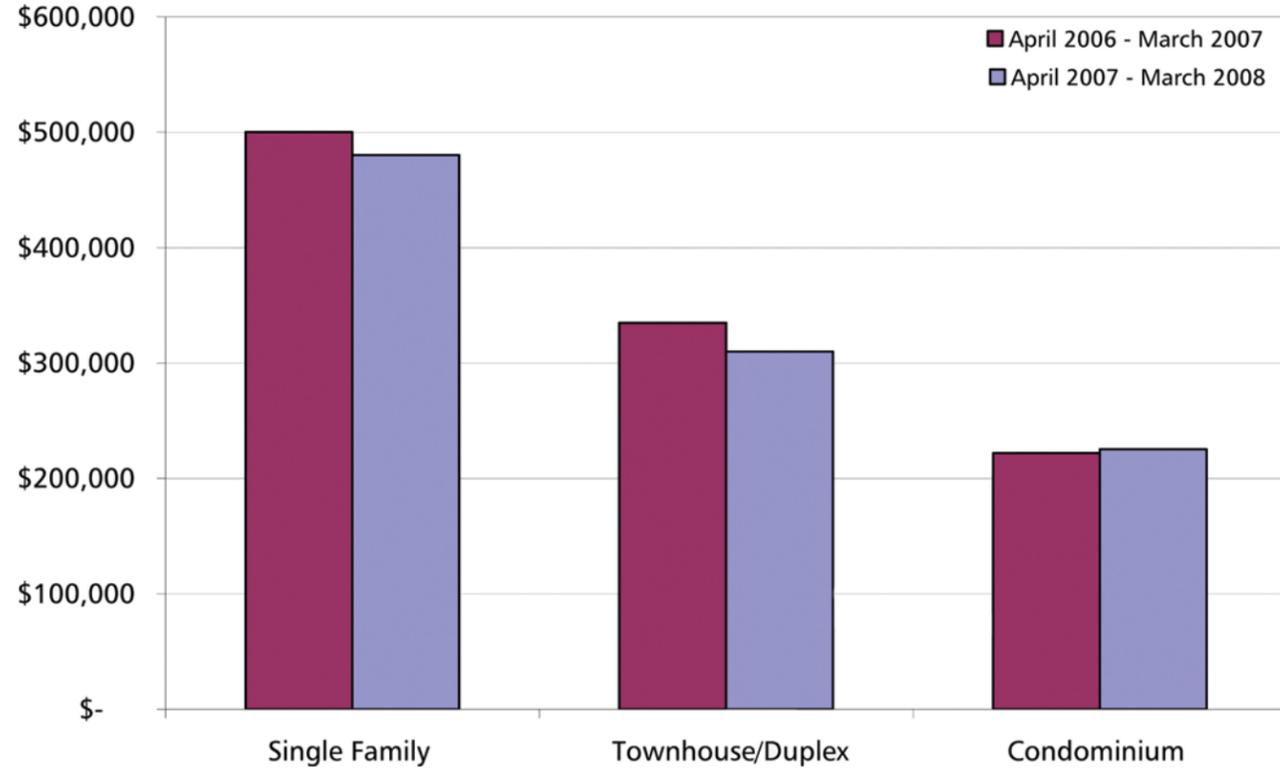
Figure 15: Stafford County Gross Home Sales by Type, 2006–2007 v. 2007–2008



Source: Hanley Wood; Economics Research Associates, 2008.

Sales declined across product types. There were 461 gross single family, 150 townhouse/duplex sales, and 27 condo home sales in Stafford County over the past year. Single family sales represented an 11.5% decrease over the previous year in which there were 521 new single family home sales. 25.4% of new single family home sales resulted in cancellations in the past year. Townhouse and condominium sales decreased more than single family sales, decreasing by 30% and 60%, respectively.

Figure 16: Stafford County Minimum Average Sales Price by Type, 2006–2007 v. 2007–2008



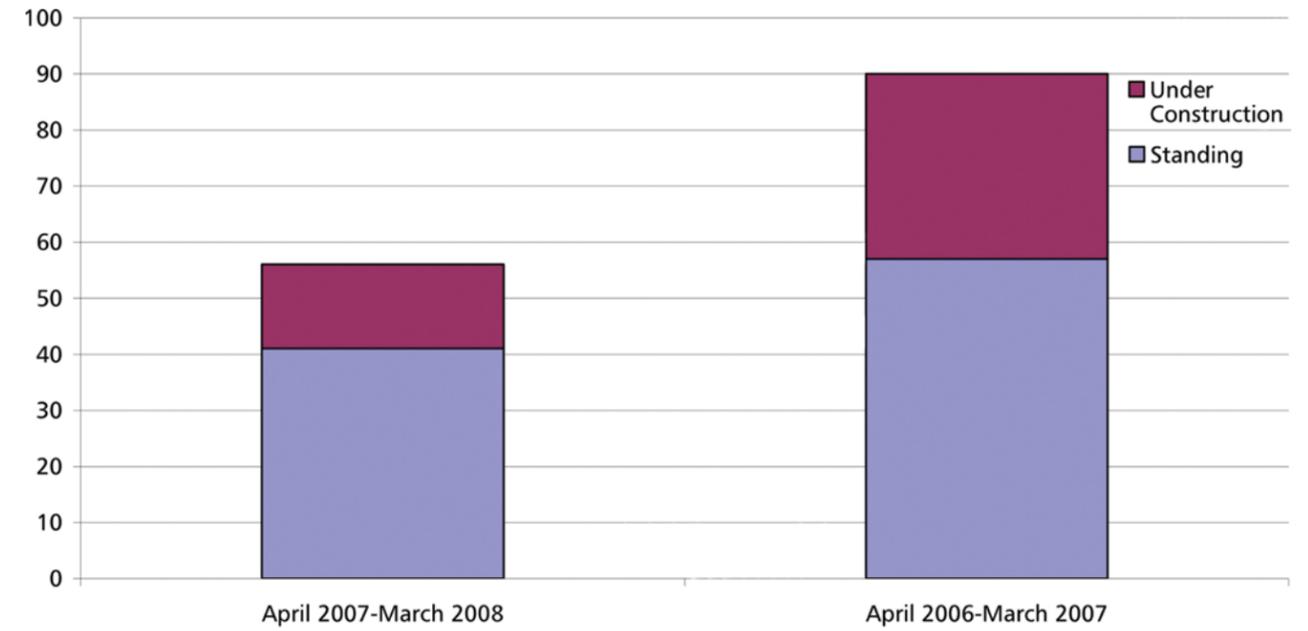
Source: Hanley Wood; Economics Research Associates, 2008.

Hanley Wood reports that the median minimum sales price⁸ for new single family homes in Stafford County during the past year was \$479,990. (Refer to Figure 16: *Stafford County Minimum Average Sales Price by Type, 2006–2007 v. 2007–2008*, for sales price comparisons.) New single family home sales prices decreased 4% over the past year, when median sales prices were \$500,000. The median sales price for townhouse/duplex during the past year was \$309,990. The median townhouse/duplex sales price decreased 7.4% over the previous 12 month period, but the median sales price for condos during the past year increased 1.4% to \$224,990.

According to the Hanley Wood data, as of March 2008, there were a total of 41 “standing” units (meaning units that are constructed and waiting for potential buyers) and 15 under construction. The majority of these are single family (refer to Figure 17: *Stafford County Standing and Under Construction New Home Inventory, 2006–2007 v. 2007–2008*). This is a reduction over the previous year, suggesting that builders are being more judicious in waiting for the market to recover and for sales to catch up. According to Hanley Wood’s data, there are an additional 2,356 units planned in existing subdivisions for future construction, 90% of these units are single family.

⁸ Median Minimum Sales Price: “A minimum price is the lowest price available for a particular plan, assuming no upgrades are purchased. The minimum price may include lot premiums, because some plans may only have units remaining on premium lots. The median minimum sales price is based on the actual number of homes sold. The median minimum sales price is the price at which half of the homes sold were priced higher, and half lower,” Hanley Wood Market Intelligence, *Stafford Summary Statistics*, March 2008.

Figure 17: Stafford County Standing and Under Construction New Home Inventory, 2006–2007 v. 2007–2008



Source: Hanley Wood Market Intelligence, March 2008; Economics Research Associates, 2008.

Sales of Existing Houses

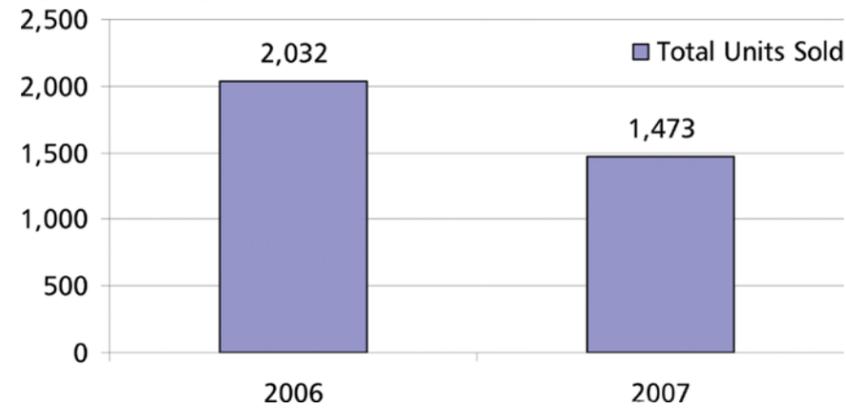
How the new build market is performing is more important to marketability of new product than how older resales are performing. However, re-sales data exhibits a similar slowdown to the new home sales. Figure 18 (*MRIS Stafford County Home Sales, 2006 & 2007*) shows the 28% decline in home sales between 2006 and 2007 based on data from Metropolitan Regional Information Systems (MRIS) (this only includes homes that are listed in the associated Multiple Listing Services). The average sale price also declined from \$395,500 to \$376,000, a 5% decline. The time on the market for these homes increased – from 74 days in 2006 to 124 days in 2007 – and MRIS data shows that the homes were netting approximately 92% of their listed price, down from 95% in 2006.

Table 15: Stafford County Residential Demand Summary, 2007–2012

	Stafford County	Courthouse		Boswell's Corner		Southern Gateway	
	#	#	Share	#	Share	#	Share
For-Sale	3,765	318	8%	194	5%	292	8%
Apartments	3,607	149	4%	537	15%	608	17%
Total	7,372	467	6%	732	10%	900	12%

Source: Economics Research Associates, 2008.

Figure 18: MRIS Stafford County Home Sales, 2006 & 2007



Source: MRIS; Economics Research Associates, 2008.

Apartment Market Trends

REIS publishes data on the for-rent multifamily market (apartments) on buildings/complexes containing 40 or more units. According to this data, Stafford County has very few apartment buildings indicating a largely non-rental market (aside from possible rentals of single family homes, which are not covered in the data). There are currently 16 apartment buildings in Stafford County with approximately 2,543 units. The apartment building stock has grown over the past decade; 57% of the buildings were constructed after 1999. (Refer to Table 16: Northern VA Metro & Stafford County, Apartment Inventory by Year Built.) Apartment rental rates are on average \$937 or \$1.30 per square foot for one-bedrooms, \$999 or \$.96 per square foot for two-bedrooms, and \$1,134 or \$.84 per square foot for three-bedrooms. (Refer to Table 17: Northern VA Metro & Stafford County, Rental Apartment Characteristics).

Table 16: Northern VA Metro & Stafford County, Apartment Inventory by Year Built

Year Built	VA Metro		Stafford County	
	Number	Percent	Number	Percent
Before 1970	222	40%	1	2%
1970-1979	78	14%	0	0%
1980-1989	89	16%	4	23%
1990-1999	67	12%	2	17%
After 1999	94	17%	9	57%
Total Buildings	555	100%	16	100%
Total Units	155,050		2,543	

As of 03/31/08

Source: REIS; Economics Research Associates, 2008.

Table 17: Northern VA Metro & Stafford County, Rental Apartment Characteristics

	VA Metro			Stafford County		
	1Q 2008 Avg Asking Rent	Avg. SF	Avg. Rent PSF	1Q 2008 Avg Asking Rent	Avg. SF	Avg. Rent PSF
Studio/Efficiency	\$1,056	516	\$2.05	n/a	n/a	n/a
One Bedroom	\$1,277	751	\$1.70	\$937	721	\$1.30
Two Bedroom	\$1,517	1,027	\$1.48	\$999	1,041	\$0.96
Three Bedroom	\$1,715	1,243	\$1.38	\$1,134	1,343	\$0.84

As of 03/31/08

Source: REIS; Economics Research Associates, 2008.

Apartment vacancy rates in Stafford County have remained low throughout the past few years. The current apartment vacancy rate across all classes is 5.6%. This represents a healthy market in which there is space available as leases rollover and new tenants enter into the market. (Refer to Table 18: Northern VA Metro & Stafford County, Apartment Vacancy Rate by Year Built.)

Table 18: Northern VA Metro & Stafford County, Apartment Vacancy Rate by Year Built

Year Built	VA Metro	Stafford County
Before 1970	4.4%	5.00%
1970-1979	4.9%	n/a
1980-1989	5.9%	4.00%
1990-1999	4.3%	5.30%
After 1999	11.2%	6.00%
All	6.2%	5.60%

As of 03/31/08

Source: REIS; Economics Research Associates, 2008.

REIS combines Stafford County into the Northern Virginia market, which includes Arlington County, Alexandria City, Fairfax County, Loudon County, Manassas City, Prince William County, Fredericksburg City, and Spotsylvania County. The Planning Team has included data on this area as a point of comparison with Stafford. Table 19 (Northern VA Apartment Market Statistics) contains class specific data for the Northern Virginia apartment market as a whole. Table 20 (Stafford County Apartment Market Statistics) provides the same information for Stafford County specifically. Class definitions are meant to generally separate buildings by quality of construction and finishes. Class A buildings will typically have high quality finishes, updated appliances, and may have added features such as a fully decorated lobby and/or concierge service. Class A buildings typically charge a rent premium. Class B and C buildings are typically older and/or aging buildings with lower quality finishes and lower asking rents.

Table 19: Northern VA Apartment Market Statistics

**Existing Apartment Building Stock Snapshot (1Q 2008)
Northern VA Metro Area**

Building Class	Units	Share of Units	Vacancy Rate 2/	Average Asking Rent
A	68,773	44.4%	7.3%	\$1,635
B/C	86,277	55.6%	5.3%	\$1,216
Total	155,050	100.0%	6.2%	\$1,402

**Direct Net Absorption By Building Class, 2001-2006
Northern VA Metro Area**

Building Class	2005	2006	2007	2008 (1Q)	Total	Avg. Annual (05 - 07)
A	(233)	(38)	4,338	20	4,087	1,440
B/C	(1,726)	(328)	1,294	(246)	(1,006)	240
Total	(1,959)	(366)	5,632	(226)	3,081	1,680

**End of Year Direct Vacancy Rate By Building Class, 2001-2006
Northern VA Metro Area**

Building Class	2005	2006	2007	2008 (1Q)	Avg. Annual (05 - 07)
A	4.2%	5.3%	7.0%	7.3%	5.5%
B/C	4.1%	4.1%	5.0%	5.3%	4.4%
Total	4.1%	4.6%	5.9%	6.2%	4.9%

**Average End of Year Asking Rent By Building Class, 2001-2006
Northern VA Metro Area**

Building Class	2005	2006	2007	2008 (1Q)	Avg. Annual (05 - 07)
A	\$1,494	\$1,560	\$1,616	\$1,635	\$1,557
B/C	\$1,102	\$1,148	\$1,207	\$1,216	\$1,152
Total	\$1,265	\$1,323	\$1,380	\$1,393	\$1,323

1/ Does not include sublet vacancy

Source: REIS; Economics Research Associates, 2008.

Table 20: Stafford County Apartment Market Statistics

**Existing Apartment Building Stock Snapshot (1Q 2008)
Stafford County**

Building Class /1	Units	Share of Units	Vacancy Rate 2/	Average Asking Rent
A	N/A	N/A	N/A	N/A
B/C	2,519	99.1%	5.6%	\$1,000
Total	2,543	100.0%	5.5%	\$1,000

**Direct Net Absorption By Building Class, 2001-2006
Stafford County**

Building Class /1	2005	2006	2007	2008 (1Q)	Total	Avg. Annual (05-07)
A	N/A	N/A	N/A	N/A	N/A	N/A
B/C	10	270	88	36	404	131
Total	10	270	88	36	404	131

**End of Year Direct Vacancy Rate By Building Class, 2001-2006
Stafford County**

Building Class /1	2005	2006	2007	2008 (1Q)	Avg. Annual (05-07)
A	N/A	N/A	N/A	N/A	N/A
B/C	6.8%	10.5%	7.0%	5.6%	8.1%
Total	6.8%	10.5%	7.0%	5.6%	8.1%

**Average End of Year Asking Rent By Building Class, 2001-2006
Stafford County**

Building Class /1	2005	2006	2007	2008 (1Q)	Avg. Annual (05-07)
A	N/A	N/A	N/A	N/A	N/A
B/C	\$923	\$948	\$995	\$1,000	\$955
Total	\$923	\$948	\$995	\$1,000	\$955

1/ Class A category includes 1 building that was suppressed for confidentiality purposes.

2/ Does not include sublet vacancy

Source: REIS; Economics Research Associates, 2008.

INFRASTRUCTURE & STORM WATER MANAGEMENT (SWM) ANALYSIS

The Planning Team has analyzed the Civil Infrastructure components within the four defined redevelopment planning areas of: Boswell's Corner, Courthouse Area, Falmouth Village, and Southern Gateway. The total study area consists of over 1700 parcels containing roughly 3,635 acres. The infrastructure items analyzed within each planning area of this study include existing storm water management components and public water/sewer service.

STORM WATER MANAGEMENT (SWM)

The Planning Team has compiled and catalogued information within each planning sector related to storm-water management. Items of interest include: locations of County/FEMA floodplains, flood zone elevations, and major drainage ways. Critical Resource Protection Areas (CRPAs) as established by Stafford County's Chesapeake Bay Preservation Area Overlay District, a section of the Zoning Ordinance enacted to implement the requirements of the Commonwealth's Chesapeake Bay Preservation Area (CBPA) Plan, have also been highlighted in the study.

The above items have been compiled from County GIS information in a map graphic, which also shows individual parcel boundaries and topography within each planning area. Given this information, the location(s) of potential regional storm water management (SWM) improvements can be determined. The Planning Team has used the listing of parcels from Stafford County's Request for Proposal #1115074 within each planning sector to define each sector's boundaries. Once the planning sector boundary is established, the GIS parcel information is added within the boundary area. Each redevelopment area is remarkably larger than the listed parcel areas in the RFP due to the incorporation of roads and streets. The Planning Team has researched the existing zoning of each parcel and has determined a baseline impervious area for each planning sector which includes the allowable development on each parcel as well as the existing road/street networks. From there, we have revised the existing impervious area percentage downward based on actual "on the ground" conditions obtained from satellite imagery which reflects parcels that have lower intensity land uses than what is allowed given the parcel zoning. Undeveloped parcels have also been recognized using this methodology.

Finally, the text of this report touches on the appropriate elements from Stafford County's Comprehensive Plan.

PUBLIC WATER/SEWER SERVICE

Information related to Stafford County's public water service was obtained from Stafford County's Department of Utilities. The documents and information provided included: the Stafford County Water and Sewer Master Plan dated March 2005, the 6-year Capital Improvements Program (2007-2012), and software models for both services.

In this initial phase, the Planning Team has obtained and reviewed the water/sewer information. As this initial phase only deals with existing conditions analysis of the County's water and sewer models, no additional modeling has been done at this time. The Planning Team's review of this information is limited to an analysis of limiting factors within each planning area as well as relying on the previously prepared reports to make an assessment of the existing utility networks and services.

In an effort to determine possible obstacles to redevelopment within the redevelopment areas, the study of these sectors addresses a vast amount of issues including: regional economical support, transportation, archeology, and historic resources among others. This report focuses on the Civil Engineering components of the redevelopment process; namely, storm water management (SWM) and public water/sewer service.

The report gives an overview of the initial assessment of what the current issues are for each of these items, how they relate to the components of Stafford County's Comprehensive Plan, and what potential future improvements have been identified.

Map 8: Stafford County Existing Transportation Network



Source: Stafford County Comprehensive Plan, Wells + Associates, Inc. Note: VDOT's Eskimo Area HQ is now closed and the VDOT Falmouth Area HQ is not shown; the map shown reflects the Transportation Network as it appeared in the original Stafford County Comprehensive Plan.

TRANSPORTATION & TRAFFIC ANALYSIS

Stafford County is located midway between the metropolitan areas of Washington, DC and Richmond. Stafford County encompasses 277 square miles and is bounded on the north by Prince William County, on the east by the Potomac River and King George County, on the south by Spotsylvania County and on the west by Culpeper and Fauquier Counties. Stafford County includes a mix of suburban and rural areas.

Stafford County's location between the two metropolitan areas, as well as its large tracts of vacant land, is attractive to industrial, residential and commercial development. To that end, Stafford County's Economic Development Strategic Plan identified four areas of Stafford County for redevelopment. These areas are referred to as Boswell's Corner, Courthouse Area, Falmouth Village and Southern Gateway (refer to Map 1: Stafford County Redevelopment Areas). This redevelopment effort is intended to build not only on Stafford County's Economic Development Strategic Plan but elements of Stafford County's Comprehensive Plan in order to respond to and guide anticipated future growth.

To that end, this section of the report is intended to provide a summary of the transportation infrastructure currently in place and available in each of the four redevelopment areas. It is a compilation of data and information obtained from a variety of sources including, but not limited to, the Stafford County Department of Planning & Zoning, Stafford County Public Works Department, Transportation Division, Stafford County Economic Development, the Virginia Department of Transportation, and the files and library of members of the Planning Team. In some cases, information has been obtained from personal field observations, other traffic studies prepared within the limits of the redevelopment areas, as well as US Census Bureau data.

COUNTYWIDE TRANSPORTATION NETWORK

Overview

Stafford County's existing roadway network is characterized by predominately rural two-lane roadways with limited vehicle capacity and associated geometric constraints (both horizontal and/or vertical). Regional connectivity is limited to a few major corridors. These regional corridors include Interstate 95 (I-95) and Jefferson Davis Highway (US-1) which run parallel to each other in the north-south direction; and Warrenton Road (US-17) which runs generally east-west.

In addition there are several Virginia routes in Stafford County that facilitate inter-county travel and function as part of Stafford County's arterial network. These state routes include Blue and Gray Parkway/Kings Highway (VA-3), Butler Road (VA-218)/White Oak Road (VA-218) and Garrisonville Road (VA-610). The remaining network is made up of roads serving as minor arterials, collectors and local roads. Map 8 (*Stafford County Existing Transportation Network*) reflects the existing transportation network serving Stafford County.

The Stafford County Transportation Plan acknowledges the limitations of the existing roadway network stating that the rural nature of the transportation system "is generally incompatible with the evolving land use patterns." Furthermore, the roadway connections between Stafford County and neighboring jurisdictions are limited by natural water boundaries requiring bridge/causeway crossings thus making the regional corridors all the more critical.

Roadway Inventory & Functional Classification

The Stafford County Transportation Plan establishes a hierarchy of roadway facilities based on five categories:

- Freeways/Interstates
- Major/Principal Arterials
- Minor Arterials
- Collectors
- Locals

Table 21 (*Stafford County Redevelopment Plan: Existing Roadway Inventory*) provides a listing and general description of the major roadways within Stafford County. Stafford County's definitions of the above categories are stated in the Transportation Plan, a copy of which is provided herein as Volume IX.

In general, freeway facilities provide limited and/or controlled access for purposes of regional traffic mobility and are characterized by high operating speeds. Access to these facilities is limited to grade-separated interchanges. Desired rights-of-way within Stafford County as specified at 250 feet. The maximum design speed associated with such facilities would be between 50 and 70 mph. Interstate 95 (I-95) is the only freeway within Stafford County.

Major/Principal Arterials are designed to accommodate high traffic volumes for regional inter-county travel. Major intersections are signalized and adequately spaced to maintain through traffic mobility. Desired rights-of-way in urban areas are recommended to be 110 feet in width; in rural areas right-of-way widths of 200 feet are recommended. Jefferson Davis Highway (US-1) and Warrenton Road (US-17) are the principal arterials in Stafford County.

Minor Arterials are designed to connect the principal arterial network to other areas of Stafford County to serve intra-county traffic. Like principal arterials, the priority on these roadways is given to mainline through traffic mobility. However, more connections are provided to the local roadway network. Desired rights-of-way for these facilities are 90 feet in urban areas and 140 feet for rural areas.

Collectors carry traffic from the local road network to the arterials. Design speeds are generally lower and more emphasis is placed on serving local traffic rather than regional travel. Desired rights-of-way for collector roadways are between 64 and 90 feet for urban areas and 120 feet for rural areas of Stafford County.

Local streets are designed to provide direct access to individual properties. These roadways generally carry low design speeds and low traffic volumes within typical rights-of-way of between 50 and 100 feet.

CONGESTION STANDARDS

The Stafford County Transportation Plan states that a target level of service (LOS) "C" is to be achieved for all roadways and intersections.

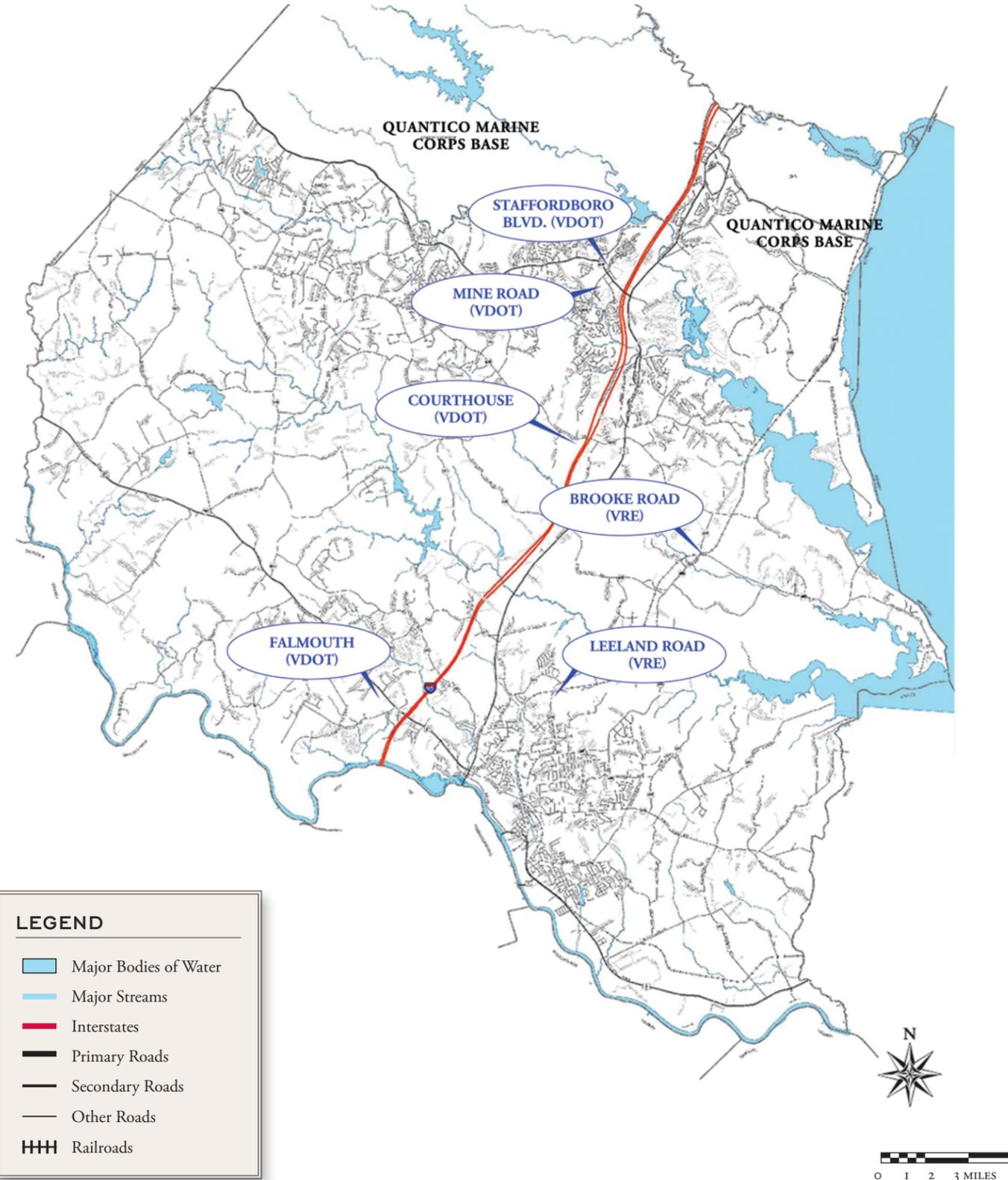
Table 21: Stafford County Existing Roadway Inventory

	<i>Route Number</i>	<i>Functional Class</i>	<i># of Lanes</i>	<i>VDOT's 2006 ADT</i>
<i>Boswell's Corner</i>				
Jefferson Davis Highway	(US-1)	Principal Arterial	4	21,000
Telegraph Road	(VA-637)	Collector	2	4,100
Widewater Road	(VA-611)	Collector	2	2,600
<i>Courthouse Area</i>				
Jefferson Davis Highway	(US-1)	Principal Arterial	4	14,000 to 19,000
Courthouse Road	(VA-630)	Minor Arterial	2 to 4	8,300 to 16,000
Bells Hill Road	(VA-631)	Collector	2	2,200
Hope Road	(VA-687)	Collector	2	5,600
Austin Ridge Drive	(VA-1486)	Collector	4 (TWTL*)	--
<i>Falmouth Village</i>				
Cambridge Street	(US-1)	Principal Arterial	4	12,000 to 30,000
Warrenton Road	(US-17)	Principal Arterial	4	31,000
Butler Road	(VA-218)	Minor Arterial	2	19,000
Forbes Street	(VA-627)	Collector	2	6,100
Truslow Road	(VA-652)	Collector	2	1,900
Washington Street	(VA-1001)	Collector	2	4,900
West Cambridge Street	(VA-607)	Collector	2	1,100
King Street/River Road	(VA-607)	Collector	2	5,500
<i>Southern Gateway</i>				
Warrenton Road	(US-17)	Principal Arterial	Varies	44,000
Auction Drive		Collector	2 (TWTL*)	--
Lichfield Boulevard	(VA-700)	Collector	2 (TWTL*)	2,900
Plantation Drive	(VA-1706)	Collector	2 to 4	6,000 to 12,000
Sanford Drive	(VA-670)	Collector	2	2,000

*TWTL: Two-Way Turn Lane.

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Map 9: Location of Stafford County Commuter Lots



Source: Wells + Associates, Inc.

COUNTYWIDE TRANSIT AND/OR COMMUTER SERVICES

Mass transit facilities and/or services are provided throughout Stafford County. The Virginia Railway Express (VRE) operates two rail lines to carry commuters to Washington, DC from the outer suburbs; the Fredericksburg Line and the Manassas Line. The Fredericksburg Line extends from the City of Fredericksburg north to the Stafford County stations at Leeland Road and Brooke Road. Trains run daily Monday through Friday during the AM, mid-day and PM peak periods. Trains do not run on weekends or federal holidays. Ridership on VRE for August 2008 was the highest ever recorded for the month of August with over 15,200 riders. August ridership in 2008 was approximately 10% higher than the previous August. Additionally, recent data reveal 17.9% of the systems riders originate at the Stafford County stations. Volume IX provides a schedule of daily VRE operations.

Limited bus service in Stafford County is provided by The Fredericksburg Regional Transit (FRED). Currently six routes provide service to County residents: Routes D1 through D6. Service is available Monday through Friday and varies from as early as 7:30 AM to as late as 7:00 PM on selected routes. Headways vary from one to two hours depending on the route.

In addition to commuter rail and bus service, there are currently six commuter park and ride lots located within Stafford County. Two of the lots are operated in conjunction with the VRE service at Leeland and Brooke Roads. The lot at Leeland Road consists of 652 parking spaces. As of September 2008, parking was at 116% capacity. The lot at Brooke Road consists of 499 spaces operating at 84% capacity.

The other four commuter lots are operated by the Virginia Department of Transportation (VDOT) and are located as shown on Map 9 (*Location of Stafford County Commuter Lots*). A total of 770 spaces are available at Aquia; 1,035 spaces at Falmouth Village; 721 spaces at Garrisonville; and 539 spaces at Courthouse Area. Field observations have shown each of the lots operating at or near capacity. Capacity is typically reached when a lot is between 80 and 90% full.

According to a review of the 2000 US Census journey to work data, residents in Stafford County employ the following modes as shown in Table 22 (*Stafford County Development Areas Existing Commute Mode Share (2000 US Census)*). As shown in the table, the four redevelopment areas generally follow mode choice trends consistent with Stafford County as a whole. Nearly three-quarters of the workforce commute via single-occupant vehicle (SOV). Between 15% and 20% carpool while between 1% and 4% use mass transit. Mass transit usage is generally higher for the Courthouse Area and Falmouth Village redevelopment areas which are located nearer to rail stations (Brooke and Leeland Road VRE stations, respectively). By contrast, less than 1% of employees within the County (according to the place-of-work data) use mass transit. People commuting into and/or within the County for employment favor the use of automobiles (either single-occupant or carpool).

Table 22: Stafford County Development Areas Existing Commute Mode Share (2000 US Census)

	<i>Single Occupant Vehicle (SOV)</i>	<i>Carpool</i>	<i>Mass Transit</i>	<i>Other</i>	<i>Total</i>
<i>Boswell's Corner</i>					
Number of Workers	1,780	480	15	165	2,440
Percent (%) of Total	72.95%	19.67%	0.61%	6.76%	100.00%
<i>Courthouse Area</i>					
Number of Workers	2,040	520	95	105	2,760
Percent (%) of Total	73.91%	18.84%	3.44%	3.80%	100.00%
<i>Falmouth Village</i>					
Number of Workers	955	194	50	75	1,274
Percent (%) of Total	74.96%	15.23%	3.92%	5.89%	100.00%
<i>Southern Gateway</i>					
Number of Workers	2,615	535	55	110	3,315
Percent (%) of Total	78.88%	16.14%	1.66%	3.32%	100.00%
<i>Stafford County</i>					
Number of Workers	36,078	8,316	1,198	2,886	48,478
Percent (%) of Total	74.42%	17.15%	2.47%	5.95%	100.00%

Source: Census Transportation Planning Package (CTPP) 2000. ©2008 Wells + Associates, Inc.

CURRENT TRANSPORTATION PLANS

To address current and future Stafford County transportation needs, the various County, regional, and state level planning agencies provide a number of system recommendations which are published in their respective planning documents. These documents, as they pertain to Stafford County, are referenced below.

Stafford County Transportation Plan

The current Stafford County Transportation Plan is a component of the County's Comprehensive Plan and was approved by the Board on June 7, 2005. The purpose of the plan is to identify transportation policies, programs, and facilities necessary to meet local and regional transportation demands. Stafford County is in the process of revising its Comprehensive Plan.

Fredericksburg Area Metropolitan Planning Organization (FAMPO) Constrained Long Range Plan (CLRP)

The FAMPO 2030 CLRP, dated January 2009, identifies multimodal transportation improvements for the Fredericksburg region and demonstrates the financial means by which to implement the improvements.

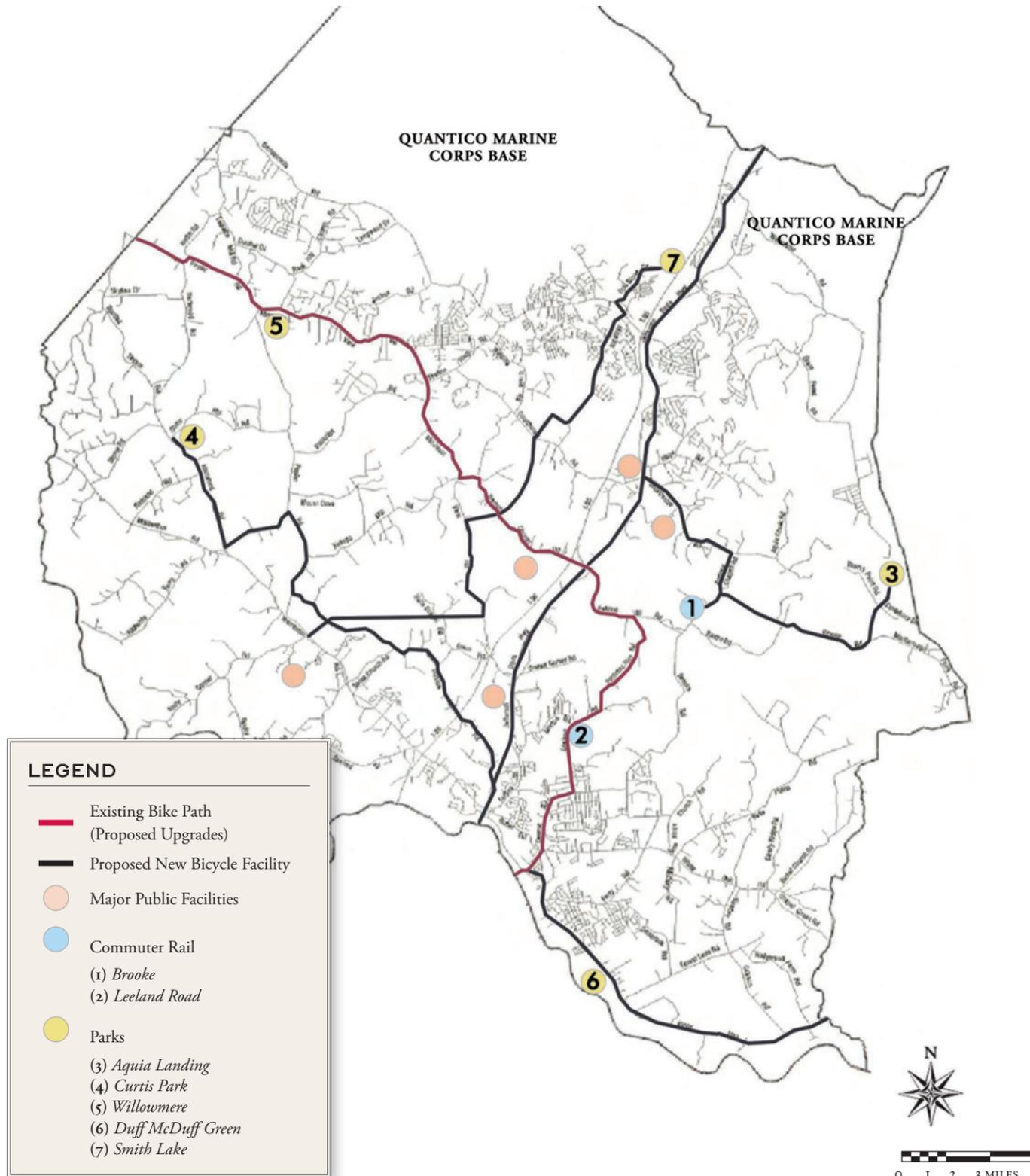
VDOT State Highway Plan

VDOT's 2025 State Highway Plan was completed in December 2005 and provides a coordinated statewide transportation plan that identifies transportation deficiencies in the roadway network. VDOT is currently in the process of developing the 2035 State Highway Plan that will update the 2025 Plan. This update has not yet been completed.

VDOT Six-Year Improvement Program

The Six-Year Improvement Program implements the State Highway Plan (referenced above) and allocates funds for transportation projects slated for construction, development or study in the next six fiscal years. The Six-Year Improvement Program is updated annually.

Map 10: Stafford County Bike Facilities Plan



Map ©2008 Wells + Associates, Inc.

BICYCLE & PEDESTRIAN FACILITIES

According to the 1996 Bicycle & Pedestrian Facilities Plan, Stafford County is lacking in comprehensive and adequate bicycle and pedestrian facilities. Many of the roadways in Stafford County were designed to an older standard and hence do not include such accommodations. Stafford County is currently working with the Fredericksburg Area Metropolitan Planning Organization (FAMPO) to create a regional network. Map 10 (*Stafford County Bike Facilities Plan*) depicts existing and proposed new bike facilities in Stafford County as recommended by the proposed Comprehensive Plan update.

STAFFORD COUNTY MASTER REDEVELOPMENT PLAN OVERVIEW: SUMMARY OF FINDINGS

The existing conditions assessment of the Stafford Master Redevelopment Plan focuses on the Existing Physical Conditions; Land Use; Zoning; Potential Land Uses; Economic and Market trends; Cultural, Architectural and Archaeological Resources, Transportation; Traffic; and Civil Infrastructure components within the four redevelopment areas. Along with this document's review and analysis, the Planning Team utilized feedback received from the public workshops and stakeholders input to address each community's particular needs, concerns and development potential.

ECONOMIC & MARKET ANALYSIS

The analysis of Economic and Market elements provides an overview of the historic growth and prosperity of Stafford County, which has experienced a previously unprecedented rate of growth. The growth of households necessitates the provision of services, and changes the real estate landscape. As growth continues, and as the already high incomes of county residents continue to increase, this opportunity will increase. In coming years, Stafford's real estate climate will adapt to meet new demands and opportunities, such as the addition of personnel as a result of BRAC and the Stafford Hospital Center.

Demographic Conclusions

The analysis has provided an overview of the historic growth and prosperity of Stafford County and where demographers predict it will go in the near-term. As with many Counties in similar locations outside of major metro areas, Stafford will continue to transition into an employment center, in addition to its role as a residential hub. Each section will examine the current status of the real estate market in Stafford and in each of the redevelopment areas, to view the baseline from which this new development will occur.

Real Estate Market Conclusions

This section examined the current state of Stafford's real estate market by land use. This data will form the backbone of the real estate demand conclusions made by ERA for each of the redevelopment areas. Office, retail, and housing sectors have all been strengthening and show strong indicators of health, particularly in rental rates. While office vacancy is high as of the time of this reports publication, these figures reflects the building of the new developments occurring in the County. The housing market is experiencing a price decline, but this is consistent with nationwide trends and is, in many ways, less dramatically than in other areas. The County has not historically had a large amount of rental apartments. As the County evolves, this is likely to change. Rents at existing apartment complexes are competitive with area housing, though slightly lower than the overall Northern Virginia area, and have low stabilized vacancy.

Each redevelopment area will continue to grow based on their unique location and particular circumstances.

INFRASTRUCTURE & STORM WATER MANAGEMENT (SWM) ANALYSIS

A summary of the main findings relating to existing civil infrastructure and storm-water for each area is included herewith in each redevelopment area section. Issues of capacity for new development are addressed in the Master Redevelopment Plan section for each redevelopment area. Please refer to each redevelopment area's Infrastructure and Storm Water section for detailed information and findings.

Storm Water Management

The team has compiled and catalogued information within each planning sector related to stormwater management. Items of interest include: locations of County/FEMA floodplains, flood zone elevations, and major drainage ways. Critical Resource Protection Areas (CRPAs), as established by the County's Chesapeake Bay Preservation Area Overlay District, a section of the Zoning Ordinance enacted to implement the requirements of the Commonwealth's Chesapeake Bay Preservation Act, have also been highlighted in the study.

The above items have been compiled from County's GIS information in a map graphic, which also shows individual parcel boundaries and topography within each planning area. Given this information, the location(s) of potential regional storm water management (SWM) improvements can be determined. The planning team has used the listing of parcels from the County's Request for Proposal within each planning sector to define each sector's boundaries.

Public Water/Sewer Service

Information related to the County's public water service was obtained from the County's Department of Utilities. The documents and information provided included: the Stafford County Water and Sewer Master Plan dated March 2005, the 6-year Capital Improvements Program (2007-2012), and software models for both services.

In the initial phase, the team obtained and reviewed the water/sewer information. The team's review of this information is limited to an analysis of limiting factors within each planning area, as well previously prepared reports, to make an assessment of the existing utility networks and services.

The text of this report touches on the appropriate elements from the County's Comprehensive Plan in relation to each Redevelopment Area.

TRANSPORTATION & TRAFFIC ANALYSIS

The Transportation and Traffic findings presented here are intended to give a more comprehensive, countywide view of the existing conditions in the four redevelopment areas. Please refer to each redevelopment area's section for specific information on Transportation, Traffic Issues, and Traffic Counts.

- The majority of the Stafford County roadway network (including the portions of the network within the redevelopment areas) is rural in design and character.
- The majority of the Stafford County workforce commutes via single-occupant vehicle (SOV). This trend is consistent with those commuting patterns found within the four redevelopment areas.
- Nearly 20% of the County's workforce uses carpools. The four VDOT park-and-ride lots are well utilized during weekdays.
- While mass transit usage is only a small proportion of the County's commuting mode choice, the two VRE stations are well utilized and ridership continues to increase. Transit service is regionally oriented with commuters being transported outside Stafford County for employment. Local transit service is limited to several low capacity bus routes.
- The vast majority of roadways within the development areas lacks a cohesive pedestrian or bicycle network. Very few intersections offer pedestrian signals and/or push buttons.
- Vehicular travel along the County's principal arterials is regional in nature and fluctuates greatly with peak commuting periods. Volumes along the arterials, particularly Jefferson Davis Highway (US-1), are also significantly influenced by incidents occurring on Interstate 95 (I-95).
- In general, the County's arterial network operates at adequate levels of service within the redevelopment areas. However, there are several bottlenecks in the network that impede traffic flow and hinder vehicle progression during peak periods.
- A review of crash reports for intersections within the redevelopment areas showed that most crash rates fall below VDOT expected values for certain crash types. The highest crash rates occurred at the intersections within the Falmouth Village area. In several instances, certain crash types exceeded VDOT's higher rates. Further detailed study should be undertaken for those intersections.

CULTURAL & HISTORIC RESOURCES ANALYSIS

This section contains the summary results for the Cultural and Architectural Resources for each area. Because of the extensive architectural and archaeological resources, the findings are included in the Cultural Resources Volumes VI-VIII. Refer to Appendix II of this report for detailed information about our cultural resources findings and recommended procedures.

MOVING FORWARD

The Planning Team's initial work focused on research, review and understanding of the four redevelopment areas' existing conditions; their rich cultural resources, land use potential and regulations, current trends and the market. With the information gathered and with the public workshops input the Vision started to take shape. Following, the Planning Team focused on the Master Redevelopment Concept Plan. This step brought the findings together with the public input – their “wish list” – to set realistic goals and seek redevelopment that is a response to market potential, land and infrastructure capacity and mostly, to the community's desires and vision of itself.

As a result, the actual mix and intensity recommended herewith varies from one redevelopment area to the other as they vary in size and character. Boswell's Corner, with great increase in commercial, office and Marine Corps-related activity in progress, is starting to emerge as a potentially strong northern commercial hub for the County. The Courthouse Area presents an opportunity to lay the foundation for development within a grid of streets that fosters activity, walking and connectivity. The increasing foot traffic from the Courthouse Complex, business' employees and visitors will benefit from added amenities, parks, museum, outdoors market, congregation and recreation spaces and make the government seat an active, pedestrian-oriented Town Center. The Planning Team recommended that Falmouth Village be considered as part of the Southern Gateway Redevelopment Area, in order to create a continuous transition between the two areas, allowing for the integrity of the historic district to be preserved while maintaining a connection to larger shops, hotels and restaurants in Southern Gateway in an extended corridor area that would make them each more successful for redevelopment. Landscape improvements to Warrenton Road (US-17) between Interstate 95 (I-95) and Jefferson Davis Highway (US-1) will blend Southern Gateway to Falmouth Village, assisting the County in its goals for Economic Development while maintaining dedication to Historic Preservation. Based on this discussion and recommendation that Falmouth Village be considered as part of the Southern Gateway Redevelopment Area, the need to create a continuous transition between the two areas became apparent; not just for a corridor via Warrenton Road (US-17) but to take advantage of Southern Gateway's more visible location to capture visitors. The proposed design strategy to create this link and foster development in the Warrenton Road (US-17) Corridor is illustrated as part of the Master Plan.

As mentioned throughout this report, the Planning Team's proposals for the four redevelopment areas include an urban street grid; green spaces, parks, pedestrian friendly environments and proposed streetscape improvements for Stafford's main arteries, especially Jefferson Davis Highway (US-1), Courthouse Road (VA-630) and Warrenton Road (US-17). In all redevelopment areas, even at the County's northern boundary of Boswell's Corner and at Southern Gateway where the product is less urban, planning design efforts were made to propose a grid system that fosters more density and interaction among users. Additional recommendations include the creation of wayfinding signage systems; physical improvements such as landscaping, screening and berms, and billboard management; and small business support programs and financial assistance.

The Master Redevelopment Plan takes the previous conceptual visions a step further, with specific land uses and implementation strategies for each redevelopment area's plan. The Planning Team's design recommendations are in tune with the Comprehensive Plan, the Land Use Plan and in direct response to development trends and public input. It provides a framework to address each community's vision and potential for the future of their neighborhoods and the County.

The Planning Team has determined that future development within all four redevelopment areas should reflect the evolution of architectural styles that is currently present through the development of design principles for new construction within the areas. These design principles are detailed in a separate document. In general, elements of the surrounding architecture should be included in order to promote a sense of continuity within the area, without creating a false sense of history with inaccurate representations of historic buildings. Regulation and enforcement of these guidelines will require an act of legislation. Additionally, the Planning Team has specifically determined that commercial development within Falmouth Village be restricted to West Cambridge Street (VA-607), Cambridge Street/Jefferson Davis Highway (US-1), and Butler Road (VA-218)/Warrenton Road (US-17), with the secondary streets maintaining their residential feel. The Planning Team has also determined that business should be encouraged to use existing historic properties whenever possible, and to conform to design guidelines when constructing new commercial or residential buildings within the Historic District. The regulation of new construction within the Falmouth Village Historic District will require an act of legislation, similar to the Fredericksburg Historic District Ordinance enacted to protect that city's historic, architectural, and cultural significance (Appendix II).

In an effort to locate and collect information on historic and prehistoric resources within all four redevelopment areas, and to specifically learn more about the industrial age of Falmouth Village and aid in the development of heritage tourism, the Planning Team has determined that Stafford County require a Phase I Archaeological Survey be conducted within high-probability areas, and on vacant lots within Falmouth Village, in an effort to collect information on factories, warehouses, commercial buildings, and dwellings related to the early development of Falmouth Village prior to any ground-disturbing activities.¹ Any resources identified during the course of these surveys will serve to add to the historical context of the area, and may provide opportunities for heritage tourism. The regulation of these processes may require an amendment to the current Cultural Resources Management Plan.

Finally, although not part of the Master Redevelopment Scope, the Planning Team has determined that Design Guidelines be developed for all areas, in particular for the Falmouth Village historic district. Currently, the County has Design & Construction Guidelines and the Stafford Architectural Review Board has specific requirements for the historic districts only.

¹ Specifically the Falmouth Beach Park, River Road Park, St. Clair Brooks Park, and Falmouth Union Church and Cemetery areas, to help locate the 1675 Fort at Falmouth – the original docks, public wharves, warehouses, and ferry houses within Falmouth Village.

CONCEPT MASTER REDEVELOPMENT PLAN & RECOMMENDATIONS



URBAN PLACEMAKING, HUMAN SCALE, & STREET HIERARCHY

Placemaking is making a Public Space a Living Space. It is not just the act of building or fixing up a space, but a whole process that fosters the creation of vital public destinations; the kind of places where people feel a strong stake in their communities and a commitment to making things better. It capitalizes on a local community's assets, inspiration, and potential, ultimately creating good public spaces that promote people's health, happiness, and well being.

The 12 Principles of Placemaking are:

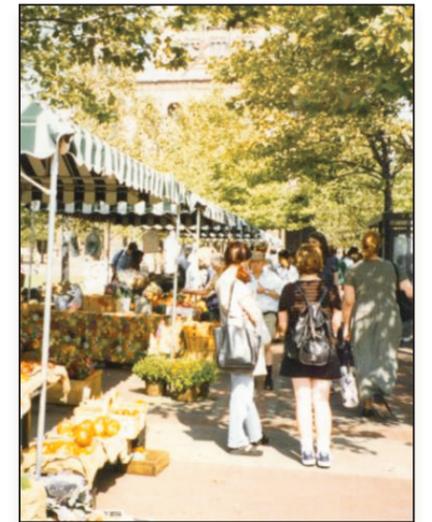
1. Identifying a Need
2. Creating a Vision and Establish an Implementation Plan
3. Building Community Support
4. Public / Private Partnership
5. Create Special Zoning & Standards
6. Establish Urban Street Grid
7. Build on Flexibility
8. Focus on Creation of Public Realm
9. Create Mixed-Use Environment
10. Establish Transportation & Parking Strategy
11. Elevate & Celebrate Community Identity
12. Create Human Scale, Pedestrian-Friendly Areas

The Stafford community expressed their wishes about the kind of places needed in the Redevelopment Areas;

- *"It would be a better place if it felt safer and more pleasant for pedestrians"*
- *"There should be a place close to home where my kids can play!"*
- *"We would like to see the scale of the area evolve gradually from suburban to urban"*

The Master Redevelopment Plans for each of the four areas provides different centers of activity, but also rather than isolate the neighboring residential areas, the plans also define transitioning building heights and green spaces; people will be able to move from denser, mixed-use center of activity to lower heights towards the edges and surrounding neighborhoods. The goals are to encourage the community to reclaim their streets as gathering spaces, and to help transform the policies of the transportation industry that currently favor and prioritize movement of vehicles over people and community.

The streets of these new centers of town will become destinations worthy of visiting, not just thruways to and from the workplace. Neighborhood streets will be places where parents feel safe letting their children play, and commercial strips such as Jefferson Davis Highway (US-1), Courthouse Road (VA-630) and Warrenton Road (US-17) are envisioned more as boulevards, safe for walking and cycling and allowing for both through and local traffic. When you focus on place, you do things differently, when you realize that your environment is designed for the human scale and everything you need for your everyday life is within easy reach and people are happier.





Some of the predominant features of the street – arguably the features that influence community development – include the presence of sidewalks, the setback and relation of buildings to the street, the type of street, the location of garages, the type of walkway to the buildings, the presence of street trees, the street width and bike paths. The proposed urban mixed-use context comprises grids or networks of boulevard and avenue thoroughfares. These thoroughfares will accommodate a mix of pedestrians, bicycles, transit and automobile traffic. The main thoroughfare in Stafford is Jefferson Davis Highway (US-1). Rebuilding it as an improved new boulevard will emphasize its role, with traffic-calming, streetscape improvements, and ample sidewalks for strolling and browsing the shops and cafes along its length. Each of these factors varies from street to street and defines the unique street environment of a neighborhood.

- The street hierarchy – which separates automobile through-traffic from developed areas – can be seen as a hierarchy of roads that embeds the importance of different roads and paths in the surrounding network, traditionally are defined as:
 - ◆ **Arterial:** Street that primarily accommodates through-traffic movement between areas and across the region, and that secondarily provides direct access to abutting property.
 - ◆ **Collector:** Provides a less highly developed level of service at a lower speed for shorter distances by collecting traffic from local roads and connecting them with arterials.
 - ◆ **Local:** Consists of all roads not defined as arterials or collectors; primarily provides access to land with little or no through movement.

- *Urban thoroughfare design* in walkable communities however focuses on boulevards, avenues, and streets. Boulevards are similar to the arterial definition and primarily carry through-traffic on divided roadways. Avenues are similar to collectors in that they primarily carry local traffic, with slightly lower design speeds. The design of boulevards and avenues should accommodate motor vehicles, pedestrians, bicyclists, transit, and freight/goods movement. Streets are meant to serve abutting property, but also *to connect neighborhoods and districts with each other.*
- *Connectivity* is the most crucial element in having roads become part of their communities instead of dividing them. A well-designed urban grid integrates the private and the public, the street with the pedestrian and bike pathways. Furthermore, an advantage of creating a “grid” network is that it provides additional roadway frontages for retail and civic uses. Connectivity in the redevelopment areas master plans means a system of streets with multiple routes and connections serving the same origins and destinations. Local Street System means the interconnected system of collector and local streets providing access to a development from an arterial street. Urban thoroughfares can and should be used as a means for connecting neighborhoods and districts.
- *Public Realm;* great attention has been given to improving the public realm in the proposed master plans; focusing activity in public places, increasing physical connectivity, protect view corridors, readapting existing buildings and landscapes, promote sensitive infill projects, transitions to residential neighborhoods and incorporate civic art. The Plans seek to achieve true and complete streets designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities will be able to safely move along and across the Redevelopment Areas’ complete streets fostering connectivity and interaction in a very harmonious Stafford County.

OVERVIEW

The Stafford County Master Redevelopment Plan is based on research and analysis specific to each of the four areas identified for redevelopment. Because of the unique attributes present in each one of them, Stafford County envisions these four areas as strategic keys to growth management, providing opportunities for economic and community development. These areas are:

- Boswell's Corner
- Courthouse Area
- Falmouth Village
- Southern Gateway

In an effort to determine possible obstacles to redevelopment within these four areas, the analysis addressed a large cross-section of issues including: market and land use patterns, regional economical support, transportation, architecture, archeology and historic resources, civil infrastructure and flood hazards.

Based on a broad consensus view of the various development challenges, community assets, and potential opportunities as identified by the community and stakeholders, a master planning program was developed that establishes community goals, a future role for the area, and, ultimately, a vision of how the redevelopment areas would integrate into the whole of Stafford County, forming the basis for the Master Redevelopment Plan and be the instrument to redevelop these growing areas of the County.

PROCESS

The Planning Team's efforts started with the Documentation and Research of Existing Conditions & Emerging Trends in the Research and Program Development. The results of which are published in either Volume I, "General Background Research and General Planning Concepts & Processes" or in one of four redevelopment area specific volumes as follows:

- Volume II: Boswell's Corner
- Volume III: Courthouse Area
- Volume IV: Falmouth Village
- Volume V: Southern Gateway

The results of the initial efforts were presented in public workshops to obtain our first public input. From the Planning Team's findings and the input, the basis was formed for conceptualizing the proposed master plans under the second portion of the effort. Again, each of the area-specific conceptual master plans, with recommendations in the respective

volume noted above. This Volume (Volume I) focuses on the broad urban principles and general planning concepts.

Public input is documented in each of the area-specific volumes noted above, both in summary form within each volume and more detailed tabulations in each Redevelopment Area Volume's Appendices.

LOCATION, AREA OF STUDY: EXISTING CONDITIONS

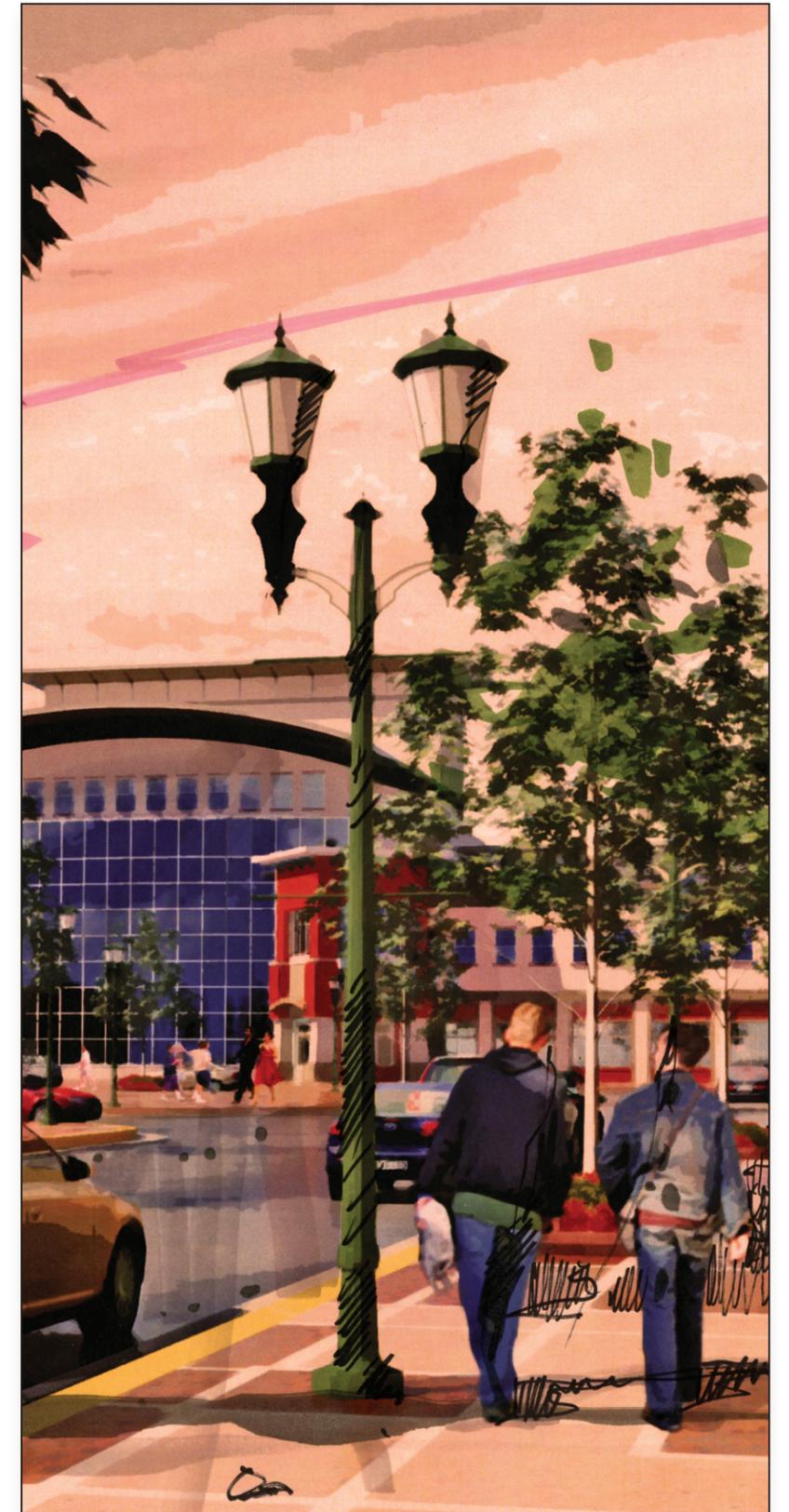
Strategically located just south of the nation's capital in northern Virginia, Stafford County possesses an abundance of underutilized land making it attractive for new development as well as a place to live to professionals working in Washington, DC. Stafford has grown increasingly over the past 40 years, and has experienced a period of profound growth in the last several years, physically and in population. This growth has created new challenges as well as new opportunities; in an effort to meet these challenges and continuing to grow in a sustainable fashion, a redevelopment effort was initiated by County staff, intended to build on the County's Economic Development Strategic Plan of 2006 and on elements of the its Comprehensive Plan in order to respond to and guide future growth. These efforts resulted in identifying several redevelopment areas; four of which form the focus of this study, the resulting Master Redevelopment Plans and the recommendations presented in this report.

VISION

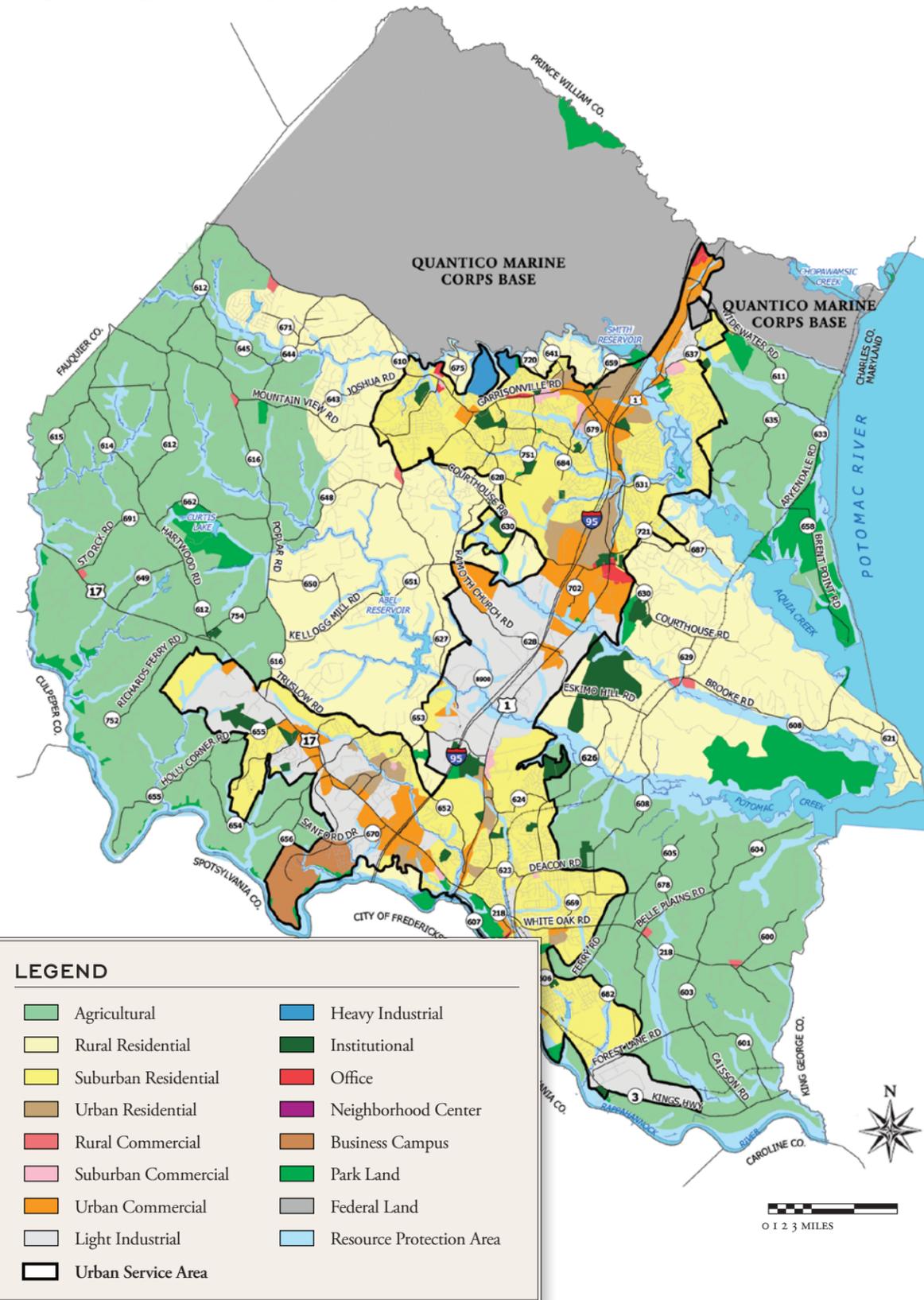
The vision statement for each of the redevelopment areas outline what the community wants to be. They focus on the future, they are a source of inspiration, they provide clear decision-making criteria. These visions seek to reduce sprawl, preserve open space and help create compact, compatible walkable green communities. "Green" doesn't necessarily mean lush parks (although they will be included) but sustainable locations that meet the following criteria: sense of place – a place that physically embraces its history and culture, a place that is pedestrian-friendly with activate public spaces, a place that is successful uniting site planning and landscape design, and a place that includes a variety of retail, housing, and commercial use.

COMMUNITY GOALS

The community workshops provided a wealth of input from residents, land and business owners on the vision for each of the Redevelopment Areas. The community's discussion focused on the challenges, identified priorities and goals to achieve. While the public stressed that each area lacks an urban grid, there is awareness of the need to bring buildings closer to the street and the sidewalks. The public agrees that with streetscape improvements, traffic-calming, beautification and gateways they could envision a greatly improved community that creates a sense of place.



Map 11: Stafford County Comprehensive Plan



CORRELATION TO THE ELEMENTS OF THE COMPREHENSIVE PLAN

The plan for redevelopment areas serves as an important guide for future development, especially as they relate to the County's Comprehensive Plan. As the Comprehensive Plan is composed of numerous elements, the plan provides information as they relate to each component. Goals and objectives of both the redevelopment areas and the Comprehensive plan serve as the essential guideline to assist the county in its efforts to manage growth.

The following are county-wide recommendations. Please refer to each individual redevelopment area's Volume for more detailed, specific recommendations.

Bicycle & Pedestrian Facilities Plan

- **Goal:** Enhance pedestrian & bicycle access through physical improvements of public right-of-ways.
 - ◆ Provide defined crossings at major and minor intersection
 - ◆ Provide bike racks at strategic locations
 - ◆ Develop a county-wide/regional bicycle pathway network
 - ◆ Incorporate a bike path in public right-of-way
 - ◆ Traffic lights to allow for pedestrian and bicycle crossing
 - ◆ Consider providing a bike box at key intersections

Chesapeake Bay Preservation Area (CBPA) Plan

- **Goal:** Protect the Chesapeake Bay Watershed through rigorous enforcement of zoning regulations and prevent development on flood plain.
 - ◆ Establish and regulate floodplain overlay district to foster development, establish and regulate floodplain overlay district.

Capital Improvement Program (CIP)

- **Goal:** Accomplish all utility improvements as proposed in the Comprehensive Plan while providing sufficient resources to enhance the infrastructure of the redevelopment areas.
 - ◆ Revise Capital Improvement Program to include specific improvements to redevelopment areas, and implement them.

Cultural Resources Management

- **Goal:** Maintain consistent architectural styles within each redevelopment area and recommend Phase I archeology surveys for high probability areas within each redevelopment area.
 - ◆ Establish County Archeologist position
 - ◆ Enforce Historic Resource Overlay District (HR) and Historic Gateway Corridor Overlay District (HG) regulations

Economic Development Plan

- Please refer to the Financial Feasibility for detailed information about the Economic Development for Stafford County.

Falmouth Plan

- **Goal:** Revitalize Falmouth Village through historic preservation and implementation of the Falmouth Redevelopment Plan.
 - ◆ Enforce specific design and consider consolidating multiple historic districts boundaries under supervision of Stafford County.
 - ◆ Consider establishing design guidelines inside historic district.

Groundwater Management Plan

- **Goal:** Specific uses and prevention measures be established and enforced for new business categories associated with the potential to handle hazardous materials.
 - ◆ Designate certain uses within the redevelopment area as "hot spots" – those types of uses which pose a more serious effect to the groundwater system.

Land Use Plan

- **Goal:** Coordinate development to follow through on the plans for the redevelopment area utilizing Comprehensive Plan implementation policies.
 - ◆ Devise appropriate form based code and design guidelines.

Parks & Open Space

- **Goal:** Assist County's Department of Parks and Recreation in its efforts to meet Comprehensive Plan's Goals and Objectives.
 - ◆ Provide and promote recreational opportunities as proposed in the plan throughout the county.
 - ◆ Provide passive and active parks, plazas, and open areas integrated into each redevelopment area.

Public Safety

- **Goal:** Improve upon public health, safety and welfare through enhancements to both physical environment and public policy.
 - ◆ Craft design guidelines to advance "eye on the street" design.
 - ◆ Buildings should create a perceptually distinct district in the eyes of the public realm; to have residential and ground floor units overlooking a park, square or courtyards to provide eyes on the street.
 - ◆ Establish and enforce Crime Prevention Through Environmental Design (CPTED) guidelines in each redevelopment area.

Shoreline Area Management Plan

- **Goal:** Achieve the Goals and Objectives outlined in the Plan
 - ◆ Implement strategies specified in the Plan.

Stormwater Management (SWM) Plan

- **Goal:** Mandate regional stormwater management facilities in the Comprehensive Plan.
 - ◆ Create a regional SWM Facility for each phase of (re) development
 - ◆ Institute a "pro-rata share" fee which is paid by the land owners or developers for increases in impervious area within a watershed.

Transportation Plan

- **Goal:** Revise the Transportation Plan to incorporate the four objectives for future development in the County, especially for the redevelopment areas. The proposed redevelopment plan for each Redevelopment Area has been designed to meet the objectives of the Plan. Implementation strategies should be developed in furtherance of the Plan's policies.
 - ◆ Maintain a safe road system.
 - ◆ Provide and maintain a multimodal public transit system.
 - ◆ Create a system of sidewalks, bike paths, and trails to provide non-motorized transportation alternatives through each area and coordinated into a county-wide system.
 - ◆ Create better patterns of traffic flow and circulation.
 - ◆ Provide traffic signals that allow for pedestrian crossings at intersections.

Telecommunication Plan

- **Goal:** Continue to improve upon the developing telecommunication infrastructure.
 - ◆ Enforce policies as prescribed by the Telecommunication Plan of 2002.

Water Supply & Sewer Plan

- **Goal:** Advance County infrastructure to accommodate future development in the redevelopment areas.
 - ◆ Incorporate redevelopment area specific infrastructure improvements into the County Capital Improvement Program

Wildlife Habitat Protection Plan

- **Goal:** Follow through on implementation strategies outlined in the Plan.
 - ◆ Revise county Zoning Ordinance and Subdivision Regulations by encouraging dense development as prescribed by the Wildlife Habitat Protection Plan of 2000.





PUBLIC PROCESS

PUBLIC PARTICIPATION

The public process started in January and February 2009 when Stafford County and the CMSS Planning Team hosted the first workshop series obtaining vital feedback from the community in the visioning process that provided the tools and information to draft the Preliminary Master Plan for each redevelopment area. In April, 2009, a second public workshop for each redevelopment area was hosted, focusing on the proposed planning efforts for each of these areas. The workshops included a digital presentation of the project background, analysis of findings and a summary of the previous workshops' preferences as expressed by the residents in each of the redevelopment areas. It also included activities that sought to obtain public input on each area's draft master plan. The team heard the public's opinion on strengths and weaknesses and of the external conditions – opportunities and /or threats the community sees. This step helped the team set realistic goals in response to market potential, land and infrastructure capacity and mostly, to the community's vision of itself.

Each of the four redevelopment areas has its own dedicated book. In each, a summary of both workshops listed below is provided with a more detailed documentation, provided in each Redevelopment Area's Appendices.

Public Workshops: Round I

January 24, 2009	Boswell's Corner
February 2, 2009	Falmouth Village & Southern Gateway
February 9, 2009	Courthouse Area

Public Workshops: Round II

April 23, 2009	Falmouth Village & Southern Gateway
April 28, 2009	Courthouse Area
April 30, 2009	Boswell's Corner

COMMUNITY INPUT

The Planning Team's design recommendations are intended to provide input for updating the Stafford County's Comprehensive Plan, and in direct response to development trends and public input. It provides a framework to address each community's vision and potential for the future. The public input raised the community's awareness of the redevelopment potential.

WORKSHOP CONCLUSIONS

The workshops provided a great deal of information for the planning of the redevelopment areas and measured how the plans addressed the public's concerns. Overall, the majority of the public approved of the plans, clearly giving a positive response to most of the questions asked about the plans. Additional information was provided in these workshops, which allowed the planning team to make specific improvements and enhancement to the draft master plans that favor both residents and businesses and stakeholders of Stafford County.

VISION

The vision statement for each of the redevelopment areas outlines the direction for redevelopment of each community. They focus on the future, they are a source of inspiration, and they provide clear decision-making criteria. These visions seek to reduce sprawl, preserve open space and help create compact, compatible walkable green communities. "Green" doesn't necessarily mean lush parks (although they are included) but sustainable locations that meet the following criteria: sense of place – a place that physically embraces its history and culture, a place that is pedestrian-friendly with activate public spaces, a place that is successful uniting site planning and landscape design, and a place that includes a variety of retail, housing, and commercial use.

COMMUNITY GOALS

The community workshops provided a wealth of input from residents, land and business owners on the future of the Redevelopment Areas. The community's concerns discussion while focused on the challenges, identified priorities and goals to achieve. While the public stressed that each area lacks an urban grid, there is awareness of the need to bring buildings closer to the street and the sidewalks. The public agrees that with streetscape improvements, traffic-calming, beautification and gateways they could envision a greatly improved community that effectively creates a sense of place.

URBAN SYSTEMS IMPLEMENTATION

During the public workshops, participants expressed an overwhelming preference for a more urban pattern of development in the four redevelopment areas. By absorbing demand into these clearly defined areas, the less other areas of the county would be subject to suburban sprawl. There was a clear preference for multi-use development that encouraged pedestrian use, additional retail services and choices. The following categories define principals for developing and planning good urban environments.

GATEWAYS & BOUNDARIES

Building site placement is essential in framing the space of a street and providing a sense of enclosure. But the siting of buildings also determines how accessible private spaces are from the public realm, encouraging frequent exchange between inside and outside and enhancing pedestrian activity. Building site placement is also one of the initiating factors of the character of a place. A consistent placement of adjoining buildings at the edge of the right-of-way gives the public realm a pedestrian sensibility, creating “street-walls” that result in a more intimate urban form. At the same time, buildings and landscape features can become iconic gateways and help to define the space.

URBAN PARKING

In an urban area, the parking system consists of a combination of public parking that is available to anyone and private parking for an individual building, owner, or land use. Typically in urban areas, fees are charged for usage of all parking based on some measure of time of stay. The overall parking system includes municipal on-street parking, whether metered or free of charge, off-street parking lots, and off-street parking garages, in the form of either multi-level above-ground structures or below ground structures. Parking structures can be freestanding, or they can be incorporated into the lower levels of buildings or developments.

Short-term parking is provided for businesses with rates and time limits to encourage high turnover and availability of spaces and to provide ease of enforcement. Long-term parking is provided mostly for employees and others needing to park for longer time periods. On-street customer parking for two hours or less is needed to support businesses located along the street. Off-street customer parking is also usually needed and primarily serves larger businesses or higher volume enterprises such as medical offices and primary shopping areas. Revenue control, in the form of parking meters, pay-and display stations, pay-on-foot, or other similar devices, is beneficial because such control discourages use of the most convenient spaces by long-term parkers such as employees. A single short-term parking space will usually turn over many times during course of the day; however, if an employee is parked all day, the space will not be available for customers.

In the future, good and frequent transit service can exist in the redevelopment areas. Furthermore, with continued development and change, a substantial population could be within easy walking distance of the core of the Courthouse Area and Southern Gateway. The comprehensive recommendation is to support the development of an appropriate parking system while also encouraging the implementation of measures and programs to reduce parking demand, and vehicular travel in general, to create a better balance in the way people travel over the long-term.

PATHWAYS, BIKE AND PEDESTRIAN TRAILS

An interconnected street network benefits more than vehicles alone. It offers pedestrians and cyclists a variety of routes and shorter travel distances. In addition, because interconnected systems have a greater number of streets carrying traffic, the streets themselves are typically narrower (fewer lanes), resulting in more easily crossable streets and a larger network of pedestrian friendly places.

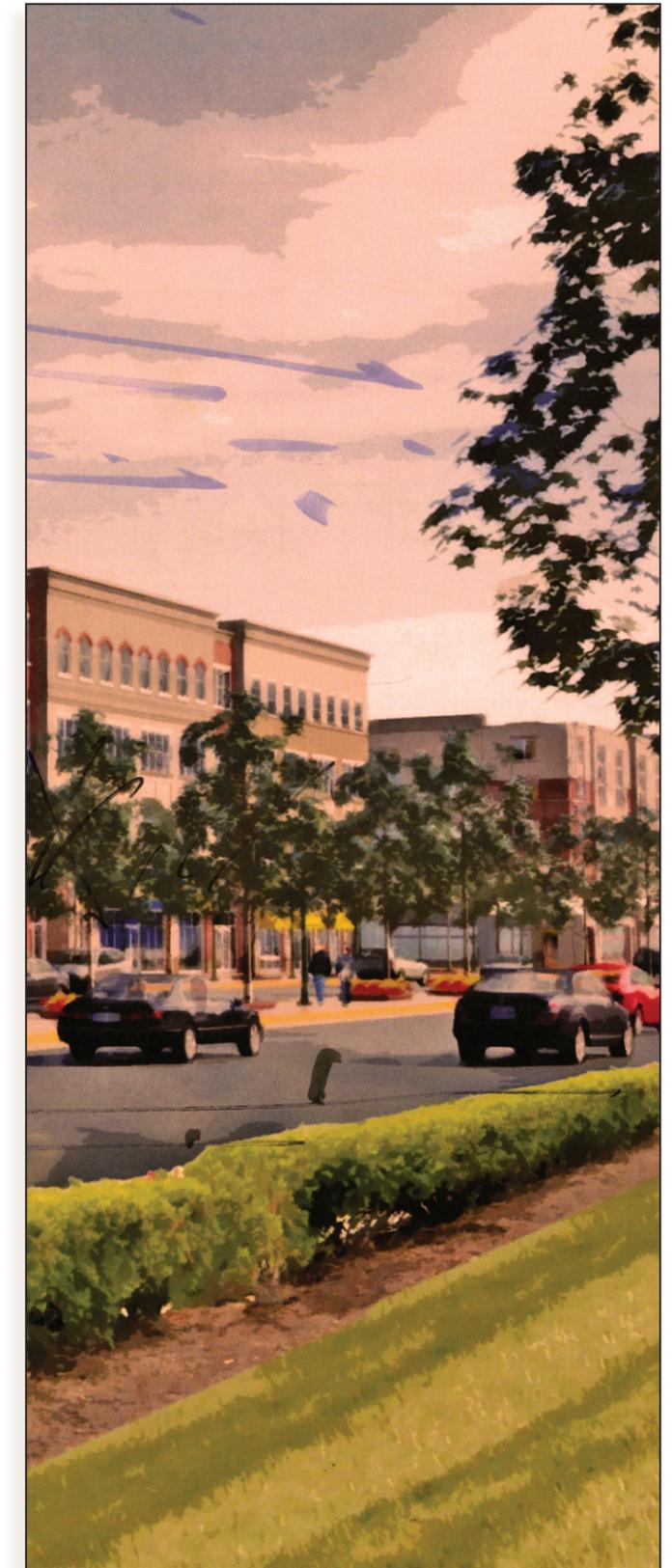
The street network is where most transportation modes interface. It is also where the transportation network interfaces with the private realm—buildings, parking lots, and other development-related elements. Within the finite right-of-way of the street system, all modes of transportation must be considered and space allocated appropriately. More space for one element, such as travel lanes, sidewalks, parking lanes, bicycle facilities, landscaping, transit, etc, means less space for another element. Stafford County should adopt a Complete Streets policy such that pedestrians, cyclists, mass transit, passenger vehicles, trucks, and parking all have a place within the street network of the redevelopment areas.

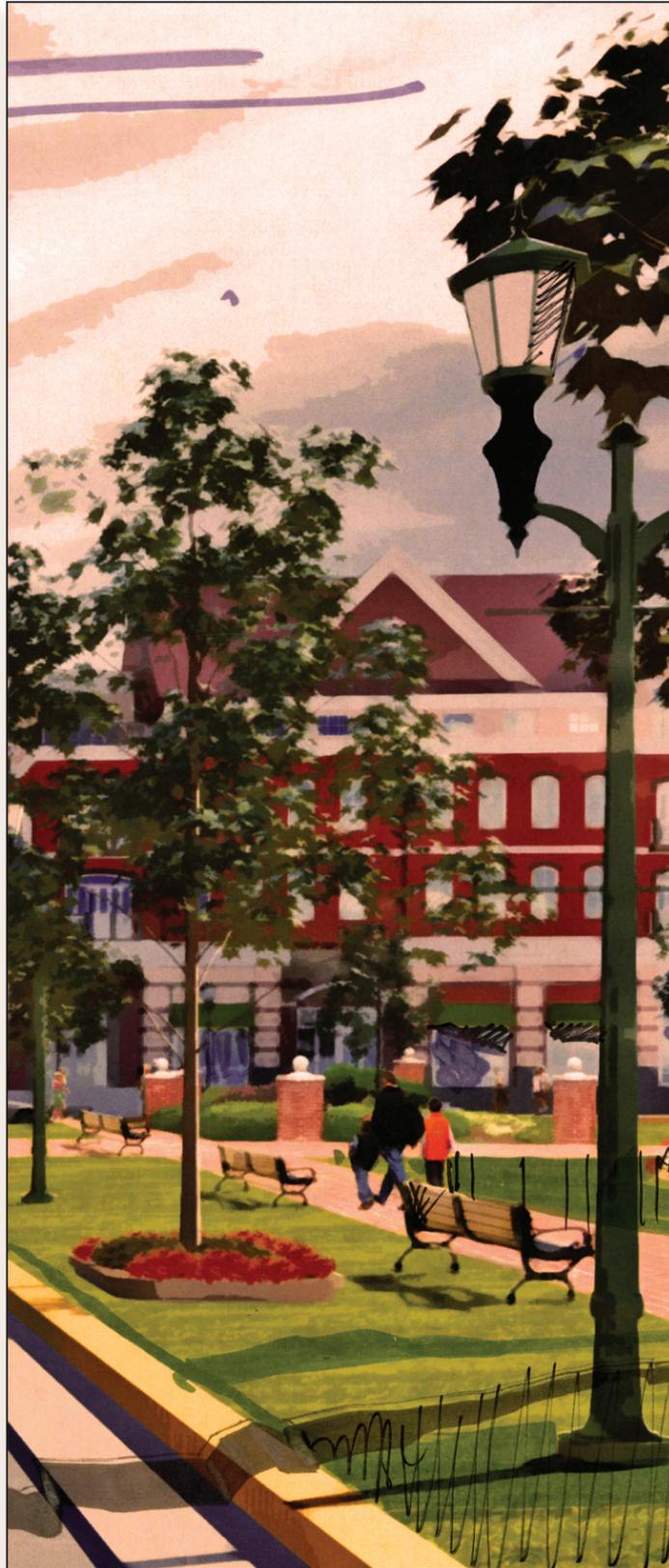
There are great opportunities for natural trails, view corridors, landscape improvements, park opportunities, and linkages to the proposed Belmont-Ferry Farm trail and the Falmouth Historical District and cultural offerings, as well as to the larger County open space network.

PARKS & OPEN SPACE

The Master Redevelopment Plan highlights Stafford’s abundance of creeks and waterways, the mighty Potomac to the east and the Rappahannock in the south, through a robust network of parks that emphasize the natural beauty surrounding the County. Some of the great resources are the Rappahannock River corridor; a planned overlook pier and promenade, and a riverfront park area associated with the Historic Port of Falmouth.

Great improvements to the Courthouse Area could be achieved by implementing the open spaces, plazas and squares showcased in the Master Plan, to bring back the old Wayside Park in its northern edge, as well as a proposed large green space area to the southwest of the intersection Jefferson Davis Highway (US-1) and Courthouse Road (VA-630). In Boswell’s Corner, the proposed linear Creek Park running along Jefferson Davis Highway (US-1) would be a natural area for green development improvements and will become an environmental-recreational centerpiece gateway into Stafford.





ENVIRONMENTAL STEWARDSHIP

The Stafford County Master Redevelopment Plan vision seeks to reduce sprawl, preserve open space and help create compact, compatible, walkable, green communities. Sustainable planning and “Green” building practices recommended for the redevelopment areas will not discourage new development; rather, these practices will tend to support a more sustainable, and ultimately more viable development model for the County that will foster healthy growth patterns in these areas for years to come. It should be noted that detailed studies and scientific and economic analysis will be required prior to the implementation of any of these strategies.

To design the right connections between earth and man, balancing energy, resources, people and places and achieve these goals, the following actions are recommended:

- Preserve/create a variety of green and open spaces.
- Increase densities through compact, vertically integrated development.
- Foster urban infill and Brownfield redevelopment.
- Create housing alternatives to encourage residential growth in core areas.
- Facilitate and promote transportation options beyond the automobile.
- Enact stormwater management practices to recharge water runoff.
- Incorporate green building techniques and materials.
- Create public policies and incentives to support these strategies.

Stafford County should promote the implementation and integration of LEED certification both for buildings and the overall development plan, using LEED for Neighborhood Development (or LEED-ND) as a benchmark. The LEED-ND Rating System integrates the principles of smart growth, urbanism and green building into the first nationally recognized system for sustainable neighborhood design. Sustainable design should strive to connect people with each other, with their communities, and with the natural light, air and landscapes that are fundamental to happiness and well-being; individual buildings should be designed using sustainable design practices.

LEED Buildings: At the redevelopment areas new buildings, developments and major renovations should be designed to meet low-energy and low-water consumption performance standards for each building type.

An integrated stormwater management approach should be implemented in the redevelopment areas through the use of reduced impervious surfaces, retention basins, and rain gardens, underground recharging systems, etc. to filter out pollutants, minimize channel erosion of the local waterways, and maintain or restore the physical and ecological integrity of these waterways. The compact development proposed as part of the Master Plan will also create fewer pollutants by reducing the surface area of lawns and parking lots.

Stormwater management systems for the redevelopment areas should endeavor to combine the use of:

- Regional BMPs and bioretention basins
- Under pavement reservoirs and rain gardens
- Interconnected Greenways
 - ◆ Implementation could reduce irrigation by 50% with good site-landscape design.¹
- Other innovative stormwater management systems.

These efforts need to be coordinated with the following programs:²

- Chesapeake Bay Preservation Area (CBPA) Plan
- Shoreline Management Protection Plan
- Groundwater Management Plan
- Stormwater Management (SWM) Protection Plan

The need for public involvement in information dissemination, consultation, and stakeholder participation is vital – in consultation with the implementing agencies – to ensure the implementation of sustainable operational policies. Public involvement improves the performance and impact of projects by:

- Enhancing ownership of, and accountability for project outcomes
- Addressing the social and economic needs of affected communities
- Building partnerships among project executing agencies and stakeholders
- Utilizing Heat Island Roofs: A procedure to install green roofs for a substantial portion of the future roof areas, with a combination of white pavers and/or green roofs.
- Making use of skills, experiences, and knowledge, in particular, of community and local groups, and the private sector in the design, implementation, and evaluation of project activities
- Secondary Streets Acceptance Requirements (SSAR) may need to be implemented for development of new residential/mixed-use streets in coordination with VDOT. The SSAR are a result of legislation introduced at the request of Governor Timothy M. Kaine and adopted during the 2007 session of the Virginia General Assembly. The policy and design standards contained within the SSAR serves as a vital component in the planning, design, and delivery of a street network which will promote livability, a more efficient transportation network, and the creation of more transportation choices.”³

Although more dependent on site than actual design, the Master Redevelopment Plans seek to achieve a healthy amount of green and open space.

¹ The general rule is that the initial extra costs for enhanced system will pay back in less than 2 years in water savings. But, the use of good plant selections (native, drought tolerant) needs to be decided before final design has taken place.

² See CBPA specific recommendations per Urban Engineers Phase II Report.

³ These benefits, recognized by both the legislative and executive branches through the enactment of Chapter 382 of the 2007 Acts of Assembly. This SSAR Guidance Document will assist staff of the Virginia Department of Transportation (VDOT), the development community, and local government staff in the proper development and review of plats and plans, related administrative processes, construction inspections, and applicable fees.

FORM BASED CODES

Form Based Codes involve a completely different means of regulating building use and form than traditional zoning. In contrast to traditional zoning, which regulates development primarily by use (housing, industrial, commercial) and therefore tends to segregate land uses, Form Based Codes are capable of encouraging the development of vibrant, pedestrian-friendly, mixed-use environments that are typical of historic urban centers. Whereas traditional zoning utilizes parametric devices such as setbacks, FAR's and dwellings per acre, to regulate development, form based codes emphasize building form and typology through the use of graphic guidelines, and provide incentives for development to adhere to a predictable and desirable urban form.

Form Based Codes may also include Architectural Design Guidelines, Landscaping Standards, Signage Standards, and Environmental Impact Standards. A regulating plan is also usually incorporated into the form based code, as a graphic statement of intent of the physical form of the area being regulated. It depicts the areas of the plan where different building form and streetscape standards will apply.

Because they can regulate development at the scale of an individual building or lot, Form Based Codes allow a desired developmental pattern to occur in a more organic fashion, gradually allowing the area which it regulates to assume a preferred urban form through the independent development of many small sites within the plan by multiple property owners. Because of this, it is less likely that large land areas will need to be acquired in order to achieve the overall goal. Rather, the Form Based Code provides incentives for property owners to develop their sites in a way that supports the vision of the plan. As a result, areas regulated by Form Based Codes often contain a diversity of architecture, materials, uses, and ownership.

The four areas of the Stafford County Master Redevelopment Plan encompasses such a vast area of land that it will be necessary to regulate the desired intent through several smaller districts, already outlined previously in this document. Each district will have its own character and development guidelines, so it will be beneficial to have a set of form based rules that apply individually to each of the areas. Within each redevelopment area, the Form Based Codes will assign a number of zones, called "transects" that will further regulate the density of building forms within each area or district. These will range from a Core zone, where the highest densities and building heights are permitted, to a Preserve zone, where no building forms will be permitted other than incidental landscaping structures.

The Form Based Code also includes a list of lot types. These lot types are used to graphically depict the building forms that are permitted within a particular district/transect. Character examples of building typologies for each lot type are also included. These examples assist the user of the Form Based Code in understanding the building typologies that are desired in a particular area of the plan.

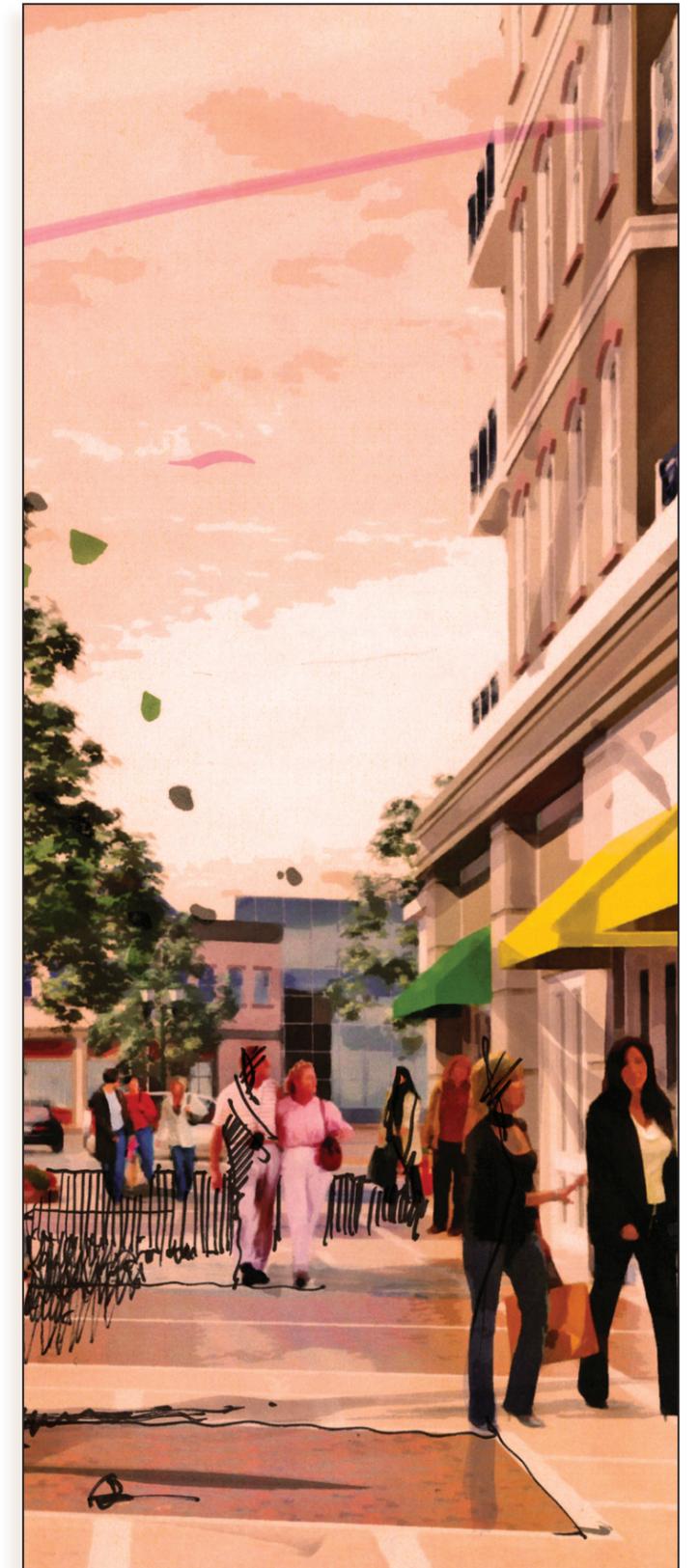
The Form Based Code, by its very nature tends to allow for the possibility of a variety of urban forms. Like any other code, though, it is not intended to be a static document; it may be amended as required to address a particular opportunity that was not foreseen at the time of its adoption. In addition, since development in these four areas will occur gradually over an extended period of time, it is our recommendation that any Form Based Code that is adopted for any of these areas allow for the submission of alternate Form Based Codes that would apply to a particular site that is to be developed. These alternate Form Based Codes would use the underlying Form Based Code as a template that would be adapted to address a particular development opportunity. This alternate code would be submitted to the County for approval and would become a legally binding document incorporated into the development agreement.

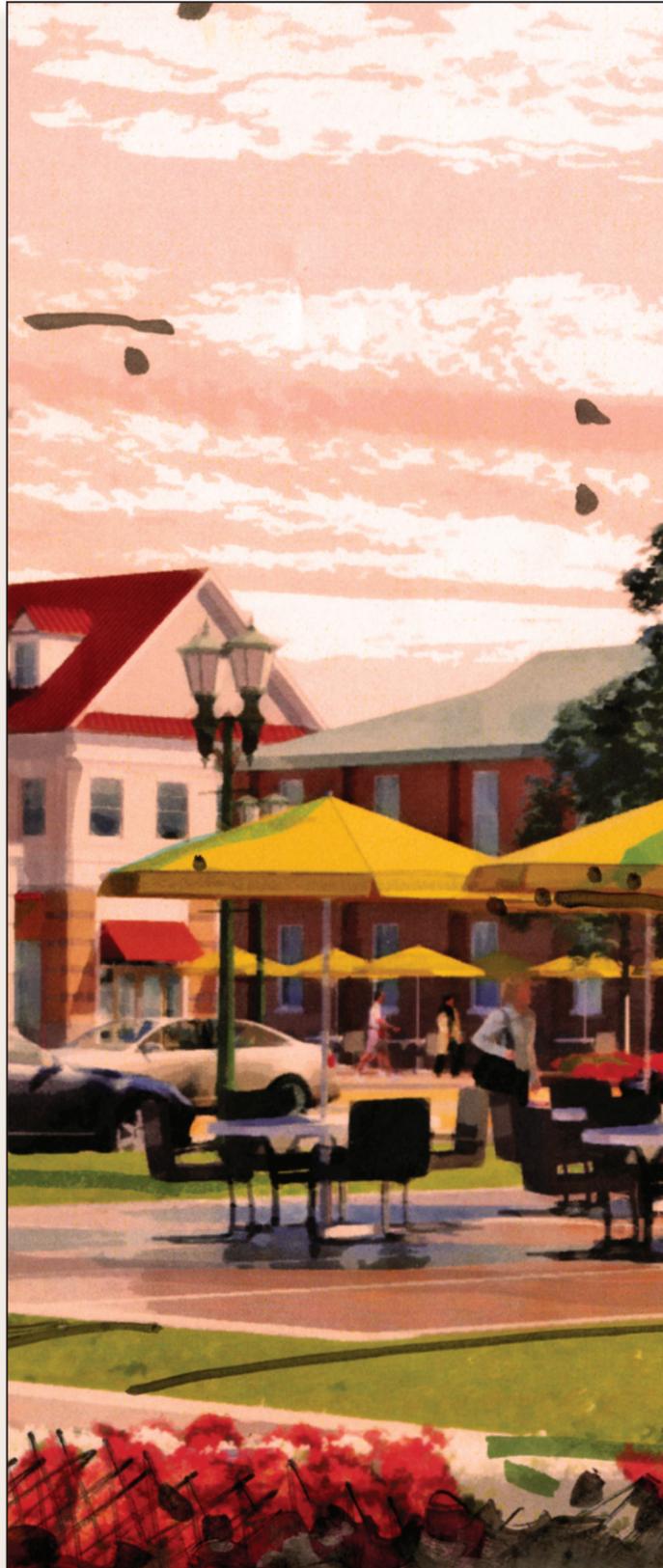
The following are components of a Form Based Code:

- Regulating Plan
- Districts
- Transect Zones
- Lot Types
- Design Standards

In a Form-Based Code, building form is regulated by the transect zones indicated on the regulating plan within each individual district, by lot types which establish the building typologies that are acceptable, and by regulatory tables that can be used to set limits for lot coverage, setbacks, building height, etc., and which dictate which lot types are permitted within each transect zone.

A well-crafted form-based code is the most effective form of development regulation for shaping pedestrian-scaled, mixed use and fine-grained urbanism. How should implementation of the proposed Stafford County Form-Based Code be incorporated into its development regulations?





Initially Stafford County may wish to adopt a Form Based Code for its entire jurisdiction following one approach, but may find this too ambitious with short-term resources and political limitations requiring a more focused effort, not to mention the need to start redevelopment. Instead, the County may wish to use the following approach for a smaller area, such as the Core Development Area boundaries, and then phase in other areas of the County's redevelopment areas, using the same approach. For large areas awaiting expected public resources, a Floating-Zone Code or Interim Overlay Zoning that could be adopted that would allow the County government to draft its own criteria until the Form Based Codes are completed. Stafford can pinpoint the specific design elements desired in new development, and it can achieve a similar outcome to that of a Form Based Code without having to start from scratch.

The most suitable action for Stafford County would be Floating-Zone Codes; these are now being written as Form Based Codes to facilitate mixed-use urban development. A Floating-Zone Code does not contain a regulating plan but includes instructions and standards for developers to follow when they prepare a regulating plan for their property (e.g. maximum block dimensions, street types, building types, open space accessibility, and sidewalk widths.) This distinguishes Floating-Zone Codes from other approaches; rather than the local government, the developers would create the regulating plans and the urban designs that they facilitate, but the County government would set the standards. This approach allows the County to establish urban form standards for development, without incurring the expense of developing urban design and regulating plans. Developers are given the freedom, within clear parameters, to prepare regulating plans for their property that are likely to meet County government approval. A developer would submit his or her regulating plan for approval through the rezoning process. Upon rezoning, the floating zone would replace the prior zoning for that property and the regulating plan becomes binding.

The Columbia Pike Form-Based Code in Arlington County is the only Form-Based Code adopted in Virginia. Other municipalities – such as Suffolk, Virginia and Durham, North Carolina – are overhauling their zoning ordinances with a Unified Development Ordinance (UDO). A type of zoning ordinance that incorporates a chapter setting parameters to regulate design, landscape and streetscape standards. Other municipalities not opting for the Form Based Code have chosen the Smart Code for their update to zoning ordinance, which often requires formal adoption but has a more simplified process than a Form Based Code.

The Virginia Standard State Zoning Enabling legislation of §15.2–2223.1 titled “*Comprehensive Plan to Include Urban Development Areas: New Urbanism*” provides the authority for counties and cities to use Form-Based Code.

The Code of Virginia now requires all local government comprehensive plans to include the designation of areas, including redevelopment areas, and implementation of measures for the construction, rehabilitation and maintenance of affordable housing. Thus, the Virginia Housing Development Authority (VHDA), in partnership with the National Development Council addressed these issues in a September 2009 workshop geared to practicing Virginia planners and local government officials and included among other things, reshaping neighborhoods with form-based codes.

Example codes:

- Columbia Pike Form-Based Code, Arlington County, Virginia
- Flowood SmartCode, Flowood, Mississippi
- Montgomery SmartCode, Montgomery, Alabama
- Suffolk Unified Development Ordinance, Suffolk, Virginia

DESIGN GUIDELINES

In order for the redevelopment projects to move forward certain county codes and/or ordinances need to be established to make these projects attractive to the property owners and prospective development.

- Guidelines will need to be created to aid future development meet the needs for site-specific projects within the redevelopment areas, and guide the process with similar form-based regulations along with design guidelines:
 - ◆ Form-Based Codes for each of the redevelopment areas.
 - ◆ Design Guidelines together with Guidelines for Architecture, streetscapes, open areas, signage and lighting.
- New codes and/or ordinances should be sympathetic to the county's cultural resources that are considered to be significant. The Stafford County Historical Commission should consider a consulting party when new codes or ordinances are being considered that may affect these resources.
- The Falmouth Plan intends to restore the historic character to Falmouth Village through redevelopment. Historic guidelines have been implemented for the area, which create an overlay district that limits some flexibility of redevelopment options.
 - ◆ Stafford's Design & Construction Standard enforces architectural controls at a County-wide level, while the Architectural Review Board has specific requirements for Falmouth Village. The regulation of some of the processes recommended however may require an amendment to the current Cultural Resources Management Plan.

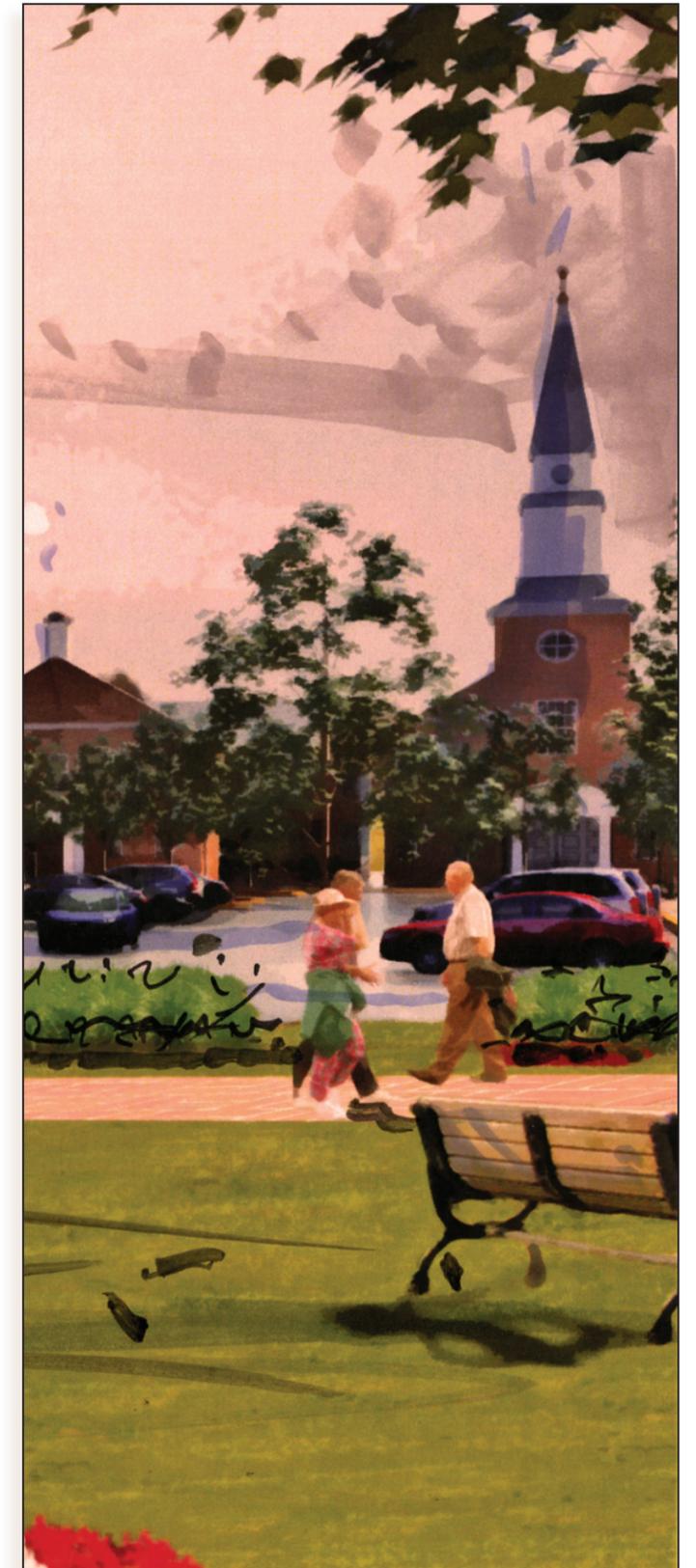
OVERLAY DISTRICTS

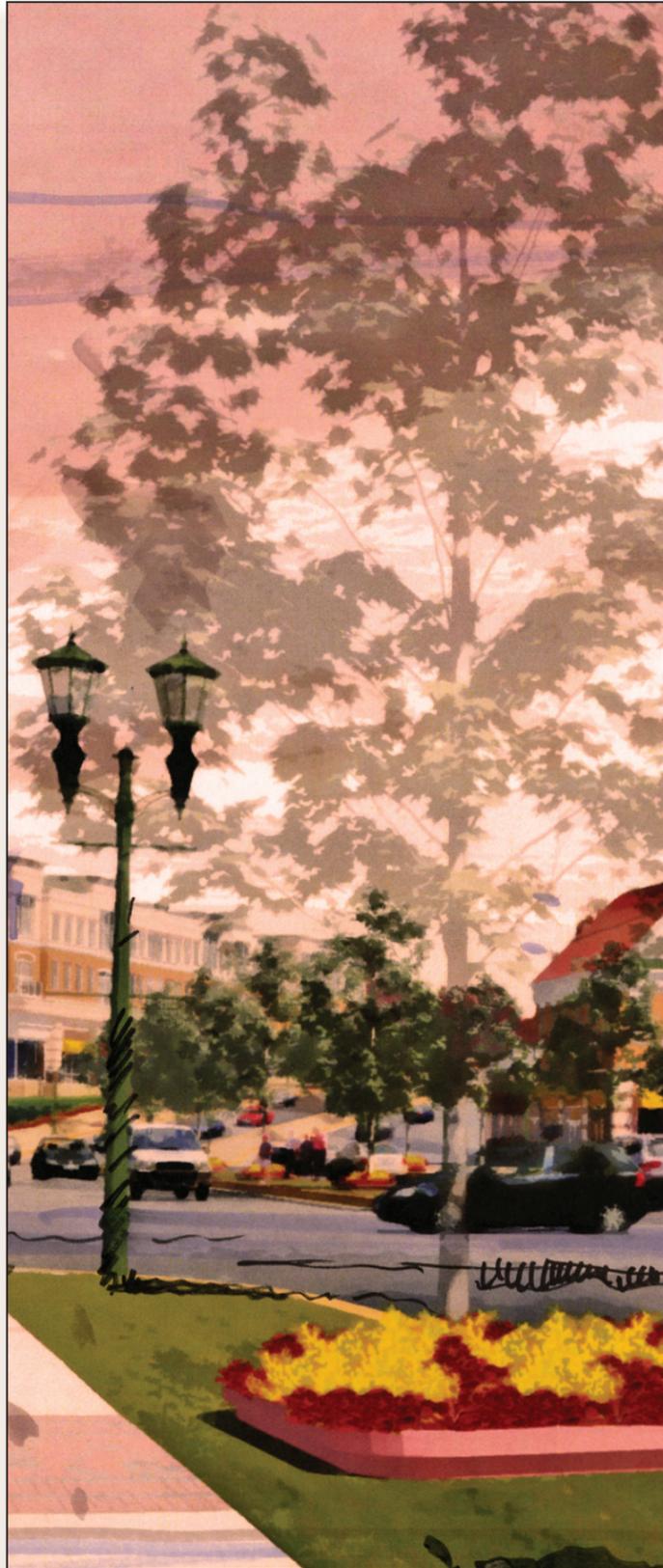
In order for the redevelopment projects to move forward there are also certain land use and regulatory mechanisms that Stafford may want to establish to make these projects attractive and feasible within the Comprehensive Plan and County Economic Development strategy. Overlay redevelopment areas serve as an additional guide on individual properties atop existing zoning; as established in the current Stafford County Zoning Ordinance.

- Stafford County currently has seven Overlay Districts¹ in the Zoning Ordinance, each with restrictions to protect environmental and historic resources. In order for the County to achieve the Comprehensive Plan goals and implement the plans for each Redevelopment Area, the County will need to update zoning data/map to include individual parcels with overlay district designations in conjunction with primary zoning.
- This is of significant importance in Falmouth Village. Major discrepancies remain as to what actually defines Falmouth Village Historic District and the historic district boundary is under contention. Many parcels in the southern and western portion of Falmouth Village can benefit for enforcement of existing Zoning Ordinance provided that individual parcels are designated as either Historic Resource Overlay District (HR) and/or Flood Hazard Overlay District (FH).
- Because of growing concern for the historic nature of Falmouth, in 2001 application was made to the National Trust to have the Village placed on the Trust's List of America's Most Endangered Historic Places. In 2006, the district was re-surveyed in an effort to further define the boundary. The boundary in the NRHP update more closely defines the extant historic architectural, as well as archaeological, resources present within the Village and is similar to the map accompanying the Historic District's Virginia Landmarks Register form.
- The original boundary for the Falmouth Historic District with description taken from the original National Registry is shown in the Falmouth section of this report. Conversations with the Virginia Department of Transportation (VDOT) in 2006, proposed a third iteration of the extent of the historic district. At present, neither 2006 historic district boundaries have been approved. The County of Stafford has a Historic District Overlay and has created an Architectural Review Board, through a zoning ordinance, which is empowered by a Local Historic District designation.

¹ Stafford County's current Zoning Ordinance identifies the following Overlay Districts:

- §28-57 Flood Hazard Overlay District (FH)
- §28-58 Historic Resource Overlay District (HR)
- §28-59 Highway Corridor Overlay District (HC)
- §28-60 Airport Impact District (AD) [RESERVED]
- §28-61 Reservoir Protection District (RP) [RESERVED]
- §28-62 Chesapeake Bay Preservation Area Overlay District
- §28-63 Military Facility Impact Overlay District (MZ)
- §28-64 Airport Impact Overlay District (AD)
- §28-65 Historic Gateway Corridor Overlay District (HG)





TRANSPORTATION IMPLEMENTATION STRATEGIES

OVERVIEW

In 2006, the Virginia General Assembly approved legislation (Senate Bill 699, Chapter 527 of the 2006 Acts of Assembly) to enhance the coordination of land use and transportation planning within the Commonwealth. Subsection 15.2-2222.1 was added to expand VDOT's role in the land planning and development review process. Chapter 155, 24 VAC 30-155 establishes the rules, procedures, and deadlines for VDOT review. Implementation of these new regulations was phased statewide over 18 months (July 1, 2007 to January 1, 2009). Implementation in the Fredericksburg District of VDOT began on January 1, 2008. Effective January 1, 2008, all proposals (including Comprehensive plan/amendments, rezoning, site plans, and subdivision plats) are subject to the regulations as outlined in VDOT's Guidelines for Traffic Analysis. In furtherance of the Master Plans for each area, a Chapter 527 study would be required prior to any adoption by the Board of Supervisors of changes to the County's Comprehensive Plan.

Implementation of the Master Plans for each of the redevelopment areas will require a focused effort by the County including but not limited to the Administrator's Office, the County's Department of Planning & Zoning, the Transportation Division, the Public Services Department, and Stafford County Economic Development, with implications for the Planning Commission and the County's Board of Supervisors. It is important that steps for each area be identified both for the areas' overall redevelopment as well as with regard to specific transportation improvements/enhancements. The purpose of this section is to identify and provide a list of implementation strategies/actions needed to further the redevelopment of those areas identified by Economic Development. These strategies/actions are offered as possible means to achieve the transportation goals and objectives proposed for adoption by the Planning Commission and Board of Supervisors as discussed in an earlier section of this report, as well as address the Chapter 527 requirements.

INVENTORY OF EXISTING CONDITIONS

Building on the information provided in the Phase 1 report, a more detailed and site specific inventory of transportation facilities (motorized and non-motorized) in each area should be conducted to include the following:

- Listing of all roadways within the redevelopment areas classified as a collector or higher functional classification and/or included within the Federal Highway Administration's National Highway System

- Inventory of all pedestrian/bike facilities within the redevelopment areas, including those areas which do not meet ADA criteria
- Inventory of all bus stops and/or transit facilities including commuter park and ride lots, etc.
- Inventory curb cuts along all primary and minor arterials within the redevelopment areas
- Review 2000 census data information for the use of alternate modes within the limits of the redevelopment areas and within a 3 to 5 mile radius
- Review parking demand requirements for specific land uses within the County and conduct parking occupancy counts at select locations, including counts at existing commuter park and ride lots
- Solicit citizen, Planning Commission and Board experience in order to develop a list of transportation facilities deemed deficient

NEEDS ASSESSMENT

Utilizing the data included in the Phase I efforts, compare the transportation systems' current and future performance and conditions.

- Correlate current planned transportation improvements with future land use policies and plans in order to determine how future growth patterns will affect the network
- Complete Chapter 527 studies in order to assess the specific impacts of the proposed land uses changes on the existing and currently planned transportation network within each redevelopment area. This should include the development of future year traffic forecasts in conjunction with VDOT and the review of alternative roadway networks needed to support planned densities with careful consideration given to the use of alternative modes.
- Utilizing the results of the Chapter 527 studies and community experience/input, identify proposed or additional improvements to the vehicular transportation system in order to foster connectivity within the redevelopment area
- Identify improvements/ enhancements to planned pedestrian and/or bicycle facilities
- Conduct a review of best practices with regard to transportation demand management strategies and parking requirements regionally, statewide and nationally

STRATEGIES FOR IMPLEMENTATION

Overview

Implementation of the Master Plans will require a planned and coordinated effort involving the community as a whole. Success will depend a great deal on the private sector's willingness and ability to bring to the table the resources necessary to undertake the identified major redevelopment projects. As this ability is very much market driven, the public sector's ability to respond to the "opportunities" presented by the market and to make public resources available as needed will be critical. A public/private partnership, based on mutual perceived benefit, must be developed as the keystone for the successful implementation of the Master Plans for each redevelopment area.

Implementation is complex and involves multiple areas of concern. Both short and long term areas are identified. Implementation strategies are grouped in the following categories:

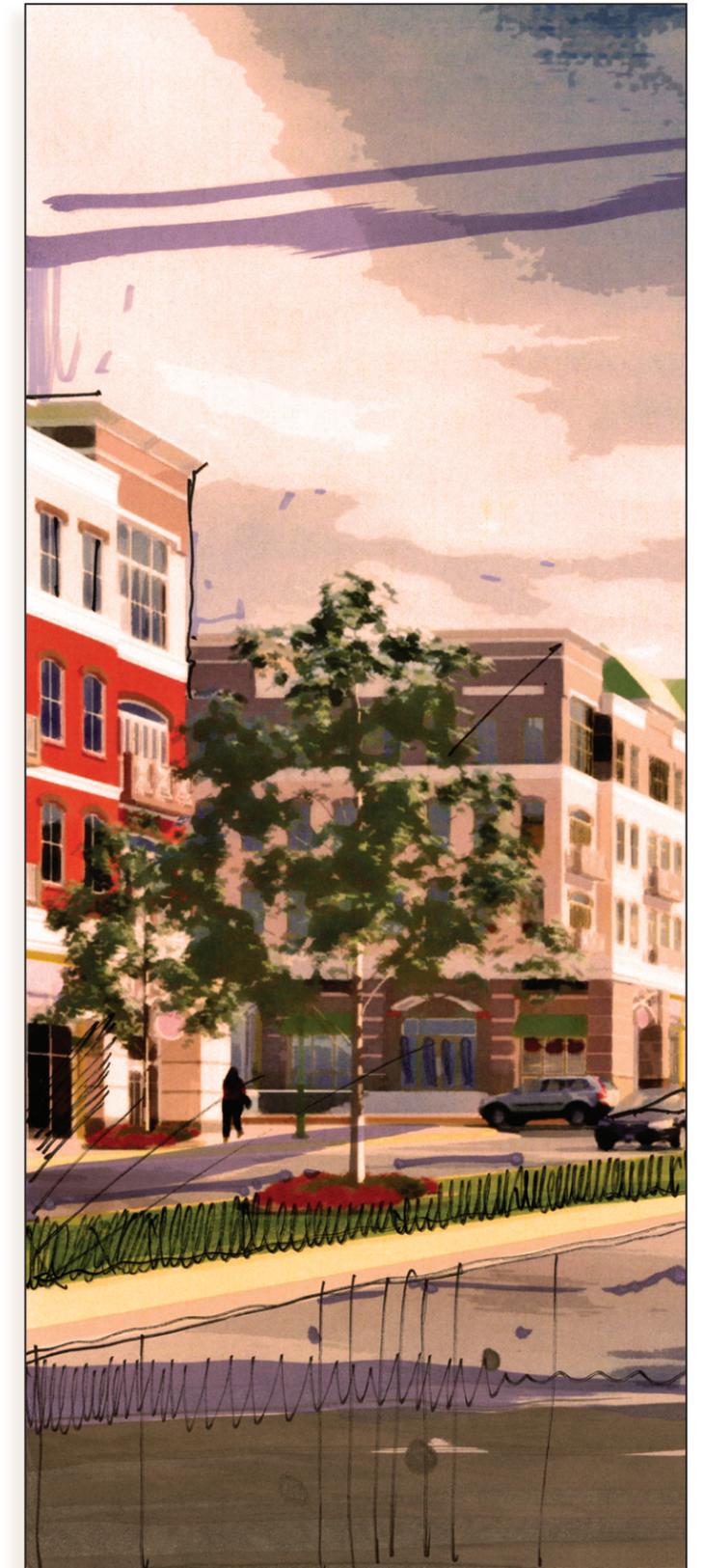
- Development Issues
- Redevelopment Management
- Zoning
- Development Phasing

Development Issues

Development of the public infrastructure and services needed to serve each of the redevelopment areas is crucial. First there is the transportation (motorized and non-motorized) and transit infrastructure, as well as water, sewer, fire and rescue, schools etc. An internal network of interconnected streets is necessary to provide sufficient capacity for more dense office, retail, institutional/governmental, civil and cultural and/or residential uses within the individual areas. Pedestrian and bicycle access within and to the area is also of critical importance. Key strategies include:

- Update/revise the County's Land Use Plan to reflect an interconnected grid of streets and identify which of those facilities shall be incorporated into the Comprehensive Plan.
- Establish pedestrian/bike friendly street cross sections for typical functional classification(s) within individual redevelopment areas in conjunction with VDOT.
- Develop a coordinated approach to the Jefferson Davis Highway (US-1) corridor throughout Stafford County in terms of parcel access, level of service criteria, etc.
- Within the four redevelopment areas develop a new acceptable level of service standard to address urban densities and arterial/intersection levels of service due to the concern that providing additional vehicular capacity conflicts with pedestrian objectives for the redevelopment areas.

- Establish a mode split goal for each redevelopment area based on the mix of land uses and existing and future transit facilities.
- Work with VDOT to develop approved access management strategies and implementation plans within each area in accordance with recent Access Management guidelines.
- Identify phased improvements to the redevelopment areas that may be accomplished in the short term with the cooperation of the private sector.
- Review long term improvements to the transportation network to evaluate their feasibility and impacts within the redevelopment area and to understand how the phasing of redevelopment will impact the timing and need for such improvements. Most critical is an evaluation of the proposed interchange improvements at Interstate 95 (I-95)/Courthouse Road (VA-630) and Warrenton Road (US-17)/Jefferson Davis Highway (US-1), and connections between Courthouse Road (VA-630), west of Interstate 95 (I-95) to Warrenton Road (US-17) along what is currently referred to as Mine Road extended (or the Stafford Parkway).
- Investigate expansion of local and regional bus service to/from the redevelopment areas. Develop a short and long term transit plan for each of the areas for inclusion in the County's Comprehensive Plan.
- Expand the Highway Corridor (HC) zoning designation for relevant sections of Jefferson Davis Highway (US-1) and Warrenton Road (US-17) within the redevelopment areas
- To comply with Chapter 527, all project applications, regardless of whether new infrastructure is included in the development proposal, will be required to include a traffic impact analysis in order to evaluate the adequacy of the existing and proposed roadway network, and identify required transportation improvements.





Area Management

The redevelopment of each area into a mixed-use, first class, urban “town center” will require a higher level of streetscape and open space improvements as well as enhanced maintenance and programming in the public realm than currently exists. In order to manage the extensive improvements which will be required the following strategies are recommended:

- Establish appropriate streetscapes for each redevelopment plan area based on adjacent land uses not functional classification
- Establish a formal public/private partnership within each area. Cooperation between the public and private sectors is critical to the success of such redevelopment programs

Zoning

Implementation of the Master Redevelopment Plans will require a coordinated effort among various stakeholders (developers, citizens, County staff, Planning Commission and Board of Supervisors). The following strategies are recommended to facilitate the redevelopment of each area:

- Revise the County’s Comprehensive Plan to provide a “road map” for future development and accompanying site specific criteria for each of the four areas.
- Develop changes to the County’s Zoning Ordinance to facilitate increased densities within core areas. This could include the development of an overlay district along certain corridors in order to tier density.
- Provide a mechanism to facilitate access (pedestrian, bike and/or vehicular) between land parcels.
- Develop a strategy for shared parking among compatible land uses within core areas, as well as consider reduced parking requirements for land uses within such designated core areas vis a vis an overlay district, etc.
- Allow parking to be provided based on distance to the building, not necessarily on the same site.
- Allow on-street parking to be counted towards the required number of parking spaces.
- Consider implementation of ordinance based transportation demand management strategies similar to other more dense suburban areas, such as Fairfax and Prince William Counties.
- Establish teams of County staff tasked with the review of all new development proposals within specific core areas and expediting the review process.

Development Phasing

During the most recent visioning session with County staff, different ideas for phasing within each of the four areas were discussed. Some wanted to establish a specific sequence of proposed developments and accompanying amenities to be prescribed for each area. While it is understood that flexibility is needed to respond to the market and funding opportunities, any residential, office and retail development should be expected to provide related public water, sewer, road, streetscape and open space improvements relative to its impact on these systems/ infrastructure. Strategies for preparing a development:

- Prepare more refined and detailed short and long term phasing plans for each area.
- Study potential locations for pedestrian crossings within each of the redevelopment areas; begin feasible pedestrian improvements in conjunction with early roadway or development initiatives.
- Study potential short and long term improvements to Warrenton Road (US-17) in the Southern Gateway; identify feasible short term improvements.
- Study potential short and long term improvements to improve access to Jefferson Davis Highway (US-1) and Warrenton Road (US-17) from the core areas and nearby communities; begin feasible short term improvements.
- Study alternative designs for the Jefferson Davis Highway (US-1)/ Warrenton Road (US-17) interchange in order to minimize impacts to the surrounding Falmouth area and foster a sense of community.
- Develop a coordinated bicycle plan for each of the areas. Incorporate the bike plan into the Comprehensive Plan recommendations for each area.

OVERALL RECOMMENDATIONS

Defining the Core Development Area Recommendations for each of the four redevelopment areas incorporated a number of factors in making a recommendation. They include:

- What initial development will have the largest impact? The following factors were considered:
 - ◆ Creating a positive image change
 - ◆ Creating enough initial critical mass to spur future phases
 - ◆ Its central location within each area to maximize future phases marketability
- Is there adequate infrastructure for this initial phase without completing major upgrades?
- What impact will this proposed phase have on traffic? On the “flip-side”, what road/street projects are planned that may affect the proposed Core Development Areas.

It must be realized that in each Proposed Core Development Area, there may be multiple phases. They will be dependent on the market demand, and absorption. They are also dependent on initial first steps and incentives provided by the County. They may include:

- Providing a regional stormwater management facility to support the initial phase of development in each of the four redevelopment areas
- Providing a parking structure (i.e. Courthouse Area and Southern Gateway)
- Developing Form Based Codes for each area. Each redevelopment area should be broken down into districts representing different desired massing, density and character. Design Guidelines should be developed in conjunction with the Form-Based Codes. Presently, current zoning of any of the Core Development Areas do not allow Mixed-Use development and does not allow development within and urban framework.
- Providing regional infrastructure upgrades and streets

It is anticipated that redevelopment may concurrently occur at other locations within each of the four redevelopment areas. This should occur within the planning and design principals and concepts presented. Not only is responsible redevelopment outside the Target Areas desirable, but it will also add to the momentum of positive change.

INFRASTRUCTURE

- Develop a utility framework and urban policies for upgrading of the utilities
- Develop a wayfinding system throughout each Redevelopment Area
- Develop a parking/structured parking strategy owned by the County

URBAN SERVICES

- Develop EMS, fire and police urban policies and strategies for each redevelopment area
- Develop public facilities analysis (i.e. libraries, schools, recreation centers, governmental facilities, judicial facilities) for each redevelopment area

PLANNING LAND-USE POLICIES

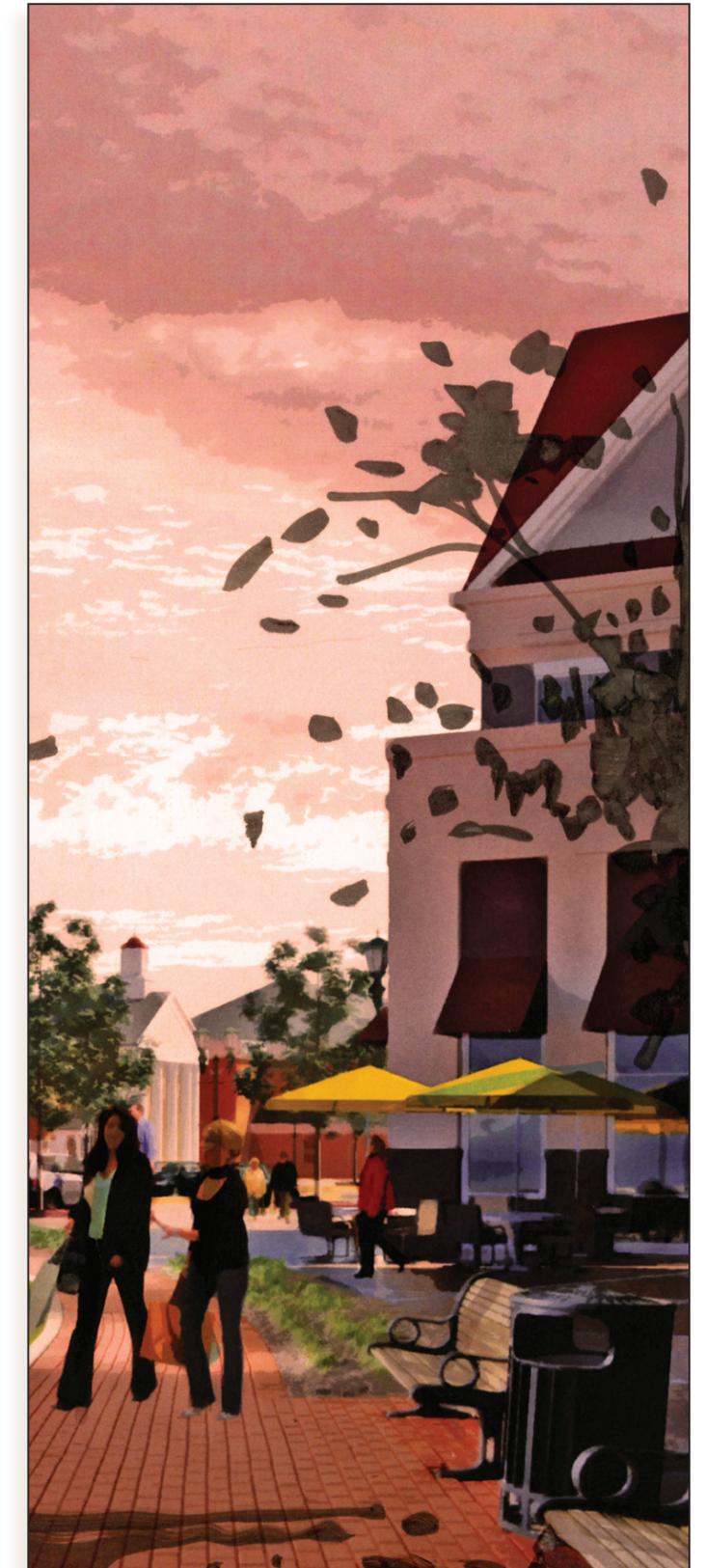
- Create Form Based Codes to guide future development and meet the needs of specific projects within each of the redevelopment areas:
 - ◆ Create Design Guidelines that address architecture, landscape architecture, streetscapes, signage, and lighting
 - ◆ Define and design review process for review and approval
- Develop policies to foster alternative housing/workforce housing
- Create incentives for vertical mixed-use development
- Develop public art incentive programs

TRANSPORTATION POLICIES

- Within the County streets plans revise to accommodate the new, urban street grid systems suggested in redevelopment area
- Develop urban street standard policies (i.e. speed limits, on-street parking, bike lanes, lane widths)
- Develop shuttle service and parking recommendations for each redevelopment area to connect to the Virginia Railway Express (VRE) stations
- Develop a bicycle network within each area lined to a county-wide framework of paths
 - ◆ Integrate bike racks at strategic locations in each redevelopment area
- Enhance pedestrian-friendly accessibility
 - ◆ Provide traffic signals that include pedestrian signals for crossing

ENVIRONMENTAL

- Create LEED for Neighborhood Development recommendations
- Create LEED building recommendations
- Create a storm water policy, which recognizes the Chesapeake Bay, ecosystem protection and restoration
- Develop open space/parks policy
 - ◆ To achieve a healthy amount of green and open space.
 - ◆ Draft policies that determine green space requirements for large and small developments.
- Create a system of regional Stormwater Management (SWM) facilities in each redevelopment area



FINANCIAL FEASIBILITY: ASSUMPTIONS & METHODOLOGY

Note: The findings herewith are the result of the Planning Team’s assumptions and their recommendations based thereon are typical for a master redevelopment study of this magnitude. It is also understood that the market will drive the master plan implementation. Stafford County does not have plans for consolidating land to directly implement the plan.

Economic Research Associates (ERA) constructed a financial pro forma development model to analyze the potential gross residual land value from the proposed Core Development Area development program for each of the redevelopment areas.

The results of the analysis indicate the maximum amount per acre a developer could pay for the land.

Aside from the assumptions by category below, all redevelopment area analyses assume, per discussions with County representatives that:

- The entire Core Development Area program (as summarized by master plan drawings and accompanying tables) is developed in one phase, in year 0 of the development pro forma. (Although in reality this may be multi-phased, the end results will be similar.)
- The Financial feasibility analysis for the master plan is for a ten year period from 2010-2020, with assumed reversion in year 10

Additional assumptions are outlined below in the attached tables and explained below as appropriate.

Efficiency ratios, which represent the percentage of built space which is usable (versus space that is dedicated to circulation or building core that is not rentable), are based on industry experience of buildings that are newer and more efficient. They vary slightly by type – from 85–95%.

Vertical Development Costs are a cost per square foot figure for building the building (not internal streets or other site infrastructure). These were garnered from R.S. Means, an industry standard for cost estimation with adjustments based on the experience in the market of the Master Planning Team Members. They include both hard and soft costs.

Tenant Fit Out costs are costs to finish interior spaces specifically for tenants’ needs. These are based on local rental surveys as well as discussions with the Master Planning Team Members and are adjusted upward for inflation.

Parking annual maintenance costs are based on industry averages. Based on discussions with the Master Planning Team Members, it is assumed that all developer-provided parking is on surface lots.

A percentage of the total cost is often added to development costs as Contingency costs for unforeseen overruns and expenses.

The *Developer fee* in this analysis is represented as a percentage, and is a stand in for the minimal amount of profit for the developer. The general contractor fees and other fees are included in the vertical development costs.

Operating assumptions provide the backbone of the revenues and expenses which create the value of the development. These include rents, other revenues, and operating expenses such as utilities. The sources for these are noted on the associated table.

Other assumptions include the stabilized occupancy rate (which is the occupancy rate at which most buildings are considered “full” to allow for tenant turnover and other factors), an assumed percentage of units or space that will be presold/preleased, and loss on unsold units. These variables are based on industry experience.

The program used for each redevelopment area is based on information provided by the Master Planning Team. ERA used numbers of square feet, units, and parking spaces by type (designated as either multifamily residential, office, retail). Average unit sizes are calculated by dividing total square feet by the total number of units. ERA further distributed the residential between rental apartments or condominiums, and the retail between general retail and restaurants (because restaurants have a higher construction cost and greater tax implications). This distribution, and the annual absorption, is professional judgment based on ERA’s experience with similar projects, the findings of the market study, and consideration for the likeliest market position for the redevelopment area. Because of the conceptual nature of the plan, these represent best guess estimates.

Each area’s analysis begins with an estimation of construction and development costs. The vertical construction costs are the result of the per square foot costs multiplied by the gross building area (GBA). By contrast, the tenant improvements use the net rentable area (NRA). Parking was calculated on a per-space basis (\$2,500 per space for surface lots). Additional horizontal costs (infrastructure and site work) are added on a per acre basis. The Master Planning Team members provided ERA with the horizontal cost data, at \$250,000 per acre, which is assumed to provide the necessary on-site parking. Additional infrastructure costs were added to the Boswell’s Corner Redevelopment Area for a linear park. A 5% contingency and 4% developer fee were added to the total vertical and horizontal costs.

ERA then prepared a pro forma operating statement analysis by land use type (office, retail, restaurant, hotel, rental apartment, and for sale condominiums, as applicable for the redevelopment area). These found the net operating income of each use by taking the total revenue minus the total expenses. The resulting net operating income (NOI) was capitalized at prevailing capitalization rates to find an approximation of sale value, less a 5% cost of sale (for marketing of the property).

This is unleveraged, meaning it does not represent the cost of money to the developer (financing). In a subsequent step, ERA performs a cash flow analysis to find the net costs and revenues to the developer. The net present value of the revenue at a discount rate of 12% minus the net present value of the construction costs at the same rate represents the residual land value for each area’s development. Again, it is important to note that this analysis only represents development of the program for the Core Development Areas. The full step-by-step analyses for each redevelopment area can be found in the Appendix tables.

FISCAL OVERVIEW

This fiscal overview is intended to give an estimate of the tax revenues generated by the proposed Core Development Area in the four redevelopment areas. This is not intended to be a net fiscal analysis, which would consider sources and uses of funds and the costs associated with the development. The fiscal overview examines the property values of the new investment (using construction costs as a proxy for assessed value) and any county infrastructure investments, and determines the corresponding revenues for Stafford County in the following tax categories, using the most recently available rates from the County (as of the FY 2010 budget):

- **Real Property Tax:** \$0.84 per every \$100 of assessed value. Construction costs are used as a proxy for assessed value in this analysis.
- **Retail Sales Tax:** The state collects 1% for local jurisdictions. The analysis includes retail sales taxes collected for on-site spending, for resident retail sales that happen off-site, and for construction materials bought in the County.
- **Meals Tax:** The County collects 4% dedicated to the School Board, in addition to the 1% local sales tax and 4% state sales tax. Again, this is estimated for both on-site spending, and for resident spending off-site in the County.
- **Transient Occupancy Tax:** The County currently collects (in addition to the retail sales tax) 5% transient occupancy tax – 2% for the general fund and 3% for tourism development. This is estimated for the redevelopment areas in which a hotel is planned in its Core Development program.

Stafford County also collects personal property, business property, machinery and equipment, and BPOL taxes (starting in 2010).¹ Because these vary by value of equipment and by revenue levels, they would require too many unknown assumptions to compute with a reliable accuracy.

As a summary, the total impacts of all four redevelopment areas during the construction period would be \$1.8 million, including \$1.5 million in sales taxes on construction materials, and \$290,000 in sales and use taxes from construction worker spending. Annually, the Core Development program for all four redevelopment areas would benefit the County with \$3.2 million in property taxes, \$4.2 million in on-site sales and use taxes, and \$511,000 in off-site sales and use taxes for a total of \$7.9 million annually. These summary figures are shown in Table 23 (*Summary of Core Development Area Annual and Construction Period Fiscal Benefits*), and the methodology and results for each of the impacts are in the following section. As a typical assumption for a financial/fiscal analysis on a master redevelopment plan, it does not include adjacent property value increases due to redevelopment.

Table 23: Summary of Core Development Area Annual and Construction Period Fiscal Benefits

ANNUAL				
Redevelopment Area	Property Tax /1	On-Site Sales & Use Taxes /2	Off-Site Sales & Use Taxes/ 2	Total
Boswell's Corner	\$1,027,926	\$1,488,293	\$131,525	\$2,647,745
Courthouse	\$1,217,035	\$1,549,669	\$252,716	\$3,019,419
Southern Gateway	\$800,238	\$883,460	\$108,387	\$1,792,086
Falmouth	\$146,663	\$291,546	\$18,597	\$456,807
	\$3,191,862	\$4,212,969	\$511,225	\$7,916,057

CONSTRUCTION PERIOD			
Redevelopment Area	Construction Materials Sales Tax	Sales & Use Taxes on Const. Worker Spending /2	Total
Boswell's Corner	\$477,251	\$92,269	\$569,520
Courthouse	\$565,052	\$109,243	\$674,295
Southern Gateway	\$383,483	\$74,140	\$457,623
Falmouth	\$72,725	\$14,060	\$86,785
	\$1,498,512	\$289,712	\$1,788,224

1/ Construction Cost (not including land) is used as a proxy for full market value. Using 2009 Rates, per County web site @ \$0.84 per \$100 value. It is assumed that all construction purchases are made in Stafford as often, jurisdictions charge taxes on materials even if they are purchased elsewhere.
 2/ Includes local retail sales tax of 1%, meals tax of 4%, and hotel tax of 5%, as appropriate
 Source: Stafford County Commissioner of the Revenue; ERA, 2009.

REAL PROPERTY

As described above, real estate is taxed at a rate of \$0.84 for every \$100 of assessed value. For this study, the construction cost of the new development is used as the assessed value. The same values as were used for the feasibility study are used for the fiscal analysis. The per square foot costs were estimated using published rates by building type from RS Means adjusted using the industry experience of the Master Planning Team and ERA.

A summary of the results by redevelopment area follow. It is important to note that this does not represent a net impact (existing uses and their impact are not removed, and the costs of County services to these new uses are not represented).

Table 24: Summary of Property Tax Benefits by Redevelopment Area

Use	Value /1	County Tax /2
Boswell's Corner	\$122,372,178	\$1,027,926
Courthouse	\$144,885,069	\$1,217,035
Southern Gateway	\$95,266,451	\$800,238
Falmouth	\$17,459,910	\$146,663

1/ Construction Cost (not including land) is used as a proxy for full market value
 2/ Using 2009 Rates, per County web site @ \$0.84 per \$100 value
 Source: Stafford County Commissioner of the Revenue; ERA, 2009.

¹ BPOL is on business revenues, not retail sales, and it is not computed on gross sales, but is dependent on the number of businesses and how much each earn.

SALES AND USE

ERA calculated sales and use taxes both for the annual sales of on-site retail, restaurants, and hotels; for the estimated expenditures of residents (annual, at buildout of the Core Development Area), office workers, and construction workers (for the construction period) throughout the County (exclusive of on-site sales to these groups); and for the sales tax on construction materials.

On Site

Retail sales tax of 1% is imposed upon all retail sales. Sales tax rates to the Commonwealth of Virginia differ by type of sale (some food products food and non-prescription drugs are taxed at lower rates than other retail goods).

Retail sales for the various developments were estimated by taking the total rents used in the financial feasibility pro forma and dividing by 10%. 10% is the industry benchmark for the percentage of revenues spent on rent.

Meals in the County are taxed at 5% – 4% Meals and 1% sales tax. Restaurant sales were calculated using the same benchmark as retail – assuming rents represented 10% of sales.

Hotel stays in the county are taxed for transient occupancy tax at 5% and 1% for sales tax. ERA used room revenue – as assessed in the financial pro forma analysis – as a basis for sales. Other sales in the hotel are assumed to be mostly food sales, and are taxed as meals (5% total).

The results of all on-site sales and use are found in Table 25 (*On-Site Sales and Use Tax Revenue*).

Table 25: On-Site Sales and Use Tax Revenue

Boswell's Corner			
Use	Est. Sales /1	County Tax Rate /2	County Tax
Retail			
General Retail	\$37,886,778	1%	\$378,868
Restaurant	\$16,435,827	5%	\$821,791
Hotel			
Hotel--Rooms	\$4,793,905	6%	\$287,634
Hotel--Other	\$2,518,298	5%	\$125,915
Total	\$59,116,510		\$1,488,293
Courthouse			
Use	Est. Sales /1	County Tax Rate /2	County Tax
Retail			
General Retail	\$81,856,566	1%	\$818,566
Restaurant	\$14,622,062	5%	\$731,103
Total	\$96,478,628		\$1,549,669
Southern Gateway			
Use	Est. Sales /1	County Tax Rate /2	County Tax
Retail			
General Retail	\$46,665,884	1%	\$466,659
Restaurant	\$8,336,033	5%	\$416,802
Total	\$55,001,917		\$883,460
Falmouth			
Use	Est. Sales /1	County Tax Rate /2	County Tax
Retail			
General Retail	\$4,810,024	1%	\$48,100
Restaurant	\$4,868,923	5%	\$243,446
Total	\$9,678,947		\$291,546

1/ Sales are estimated assuming rents represent 10% of sales (benchmark for retail operations)

2/ Sales Tax rate is 1% for localities in Virginia; to this is added 5% rooms tax for hotel rooms and 4% meals tax for restaurants and hotel's "other" revenue.

Source: Stafford County Commissioner of the Revenue; Virginia Department of Taxation; ERA, 2009.

Resident and Office Worker Annual Retail Sales and Meals

New households, hotels, and office space will bring new daytime populations to Stafford County. To quantify the impact of these populations on sales taxes, ERA used the following methodologies:

Residents: ERA took the number of projected households (based on the new units in the Core Development Area) and estimated retail sales by category based on 2009 ESRI spending per household for the County. It was assumed that between 50% and 80% of total sales would be spent within the County (not counting sales on-site which are counted separately in the analysis).

Office workers: to estimate employees in proposed office space, ERA assumed an average of 250 square feet per employee. To estimate retail sales, ERA used information published by the International Council of Shopping Centers on office worker spending patterns. This is the same data used in ERA's market analysis work for the redevelopment areas. It was assumed 70% of all employees' workday spending would be captured in the County (excluding on-site purchases).

Hotel visitors: Boswell's Corner is the only redevelopment area to have a proposed hotel in the Core Development Area. To estimate visitor spending, ERA multiplied the number of rooms (110) by the estimated occupancy rate (70%) and multiplied the result by 365 to find the yearly room nights. Using spending data by the Virginia Travel Corporation (VTC), ERA calculated approximate total visitor group spending and estimated that of this, 40% would be captured within the County off-site.

The results of this analysis are shown in Table 26 (*Resident, Office Worker, & Hotel Guest Sales Tax Revenue from Off-Site Spending*).

Table 26: Resident, Office Worker, & Hotel Guest Sales Tax Revenue from Off-Site Spending

Boswell's Corner		
	County Sales	County Tax
Households	\$3,577,048	\$65,974
Hotel Visitors	\$533,510	\$14,983
Office Workers	\$2,352,000	\$50,568
Courthouse		
	County Sales	County Tax
Households	\$8,479,637	\$156,396
Office Workers	\$4,480,000	\$96,320
Southern Gateway		
	County Sales	County Tax
Households	\$4,701,604	\$86,715
Office Workers	\$1,008,000	\$21,672
Falmouth		
	County Sales	County Tax
Households	\$681,912	\$12,577
Office Workers	\$280,000	\$6,020

Source: Stafford County Commissioner of the Revenue; Virginia Department of Taxation; ERA, 2009.

Construction Period Sales and Use Taxes

For the construction period sales and use taxes, ERA assessed two components: construction of the Core Development Area program and additional infrastructure improvements by the County for the Core Development. There were assumed to be additional infrastructure needs in the Falmouth and Southern Gateway areas, based on information provided to ERA by the civil infrastructure members of the Master Planning Team. Both these infrastructure costs and construction costs of the development program were broken down into hard and soft costs. As a benchmark, costs break down to approximately 65% hard costs and 35% soft costs. Hard costs include the cost of construction—including materials and the labor to construct the building; soft costs include costs such as financing and architecture. Hard costs can subsequently be divided into labor and materials costs. The cost of labor represents approximately 40% of total hard costs, with materials making up the balance.

For sales county-wide from these construction workers, ERA took the total costs of labor, and using standard retail benchmarks based on the U.S. Bureau of Labor Statistics Consumer Expenditure Survey, assumed that these workers will spend 28% of income on general retail purchases and 6% on meals in restaurants. Of these, ERA estimated that half of all spending would be in Stafford.

Additionally, developers would pay sales tax on building materials purchased for construction. It is assumed sales tax for Stafford would be levied on 100% of the materials. The total construction-period impacts are shown by redevelopment area in Table 28 (*Sales and Use Tax Revenues from Construction Period*).

Table 27: Core Development Area Construction Costs for Materials and Labor

Boswell's Corner			
Use		Development Program	Other Infrastructure Expenditures
Total		\$122,372,178	n/a
Estimated Hard Costs	65%	\$79,541,916	n/a
Estimated Soft Costs	35%	\$42,830,262	n/a
Estimated Hard Costs		\$79,541,916	n/a
Estimated Materials Costs	60%	\$47,725,149	n/a
Estimated Labor Costs	40%	\$31,816,766	n/a
Courthouse			
Use		Development Program	Other Infrastructure Expenditures
Total		\$144,885,069	n/a
Estimated Hard Costs	65%	\$94,175,295	n/a
Estimated Soft Costs	35%	\$50,709,774	n/a
Estimated Hard Costs		\$94,175,295	n/a
Estimated Materials Costs	60%	\$56,505,177	n/a
Estimated Labor Costs	40%	\$37,670,118	n/a
Southern Gateway			
Use		Development Program	Other Infrastructure Expenditures
Total Construction Costs		\$95,266,451	\$3,062,585
Estimated Hard Costs	65%	\$61,923,193	\$1,990,680
Estimated Soft Costs	35%	\$33,343,258	\$1,071,905
Estimated Hard Costs		\$61,923,193	\$1,990,680
Estimated Materials Costs	60%	\$37,153,916	\$1,194,408
Estimated Labor Costs	40%	\$24,769,277	\$796,272
Falmouth			
Use		Development Program	Other Infrastructure Expenditures
Total		\$17,459,910	\$1,187,585
Estimated Hard Costs	65%	\$11,348,942	\$771,930
Estimated Soft Costs	35%	\$6,110,969	\$415,655
Estimated Hard Costs		\$11,348,942	\$771,930
Estimated Materials Costs	60%	\$6,809,365	\$463,158
Estimated Labor Costs	40%	\$4,539,577	\$308,772

Source: Urban, Ltd.; ERA, 2009.

Table 28: Sales and Use Tax Revenues from Construction Period

Boswell's Corner		
	Development Program	Other Infrastructure Expenditures
Sales Taxes from Materials	\$477,251	n/a
<u>Construction Worker Spending</u>		
General Sales Taxes	\$44,543	n/a
Restaurant	\$47,725	n/a
Courthouse		
	Development Program	Other Infrastructure Expenditures
Sales Taxes from Materials	\$565,052	n/a
<u>Construction Worker Spending</u>		
General Sales Taxes	\$52,738	n/a
Restaurant	\$56,505	n/a
Southern Gateway		
	Development Program	Other Infrastructure Expenditures
Sales Taxes from Materials	\$371,539	\$11,944
<u>Construction Worker Spending</u>		
General Sales Taxes	\$34,677	\$1,115
Restaurant	\$37,154	\$1,194
Falmouth		
	Development Program	Other Infrastructure Expenditures
Sales Taxes from Materials	\$68,094	\$4,632
<u>Construction Worker Spending</u>		
General Sales Taxes	\$6,355	\$432
Restaurant	\$6,809	\$463

Source: Urban, Ltd.; Stafford County Commissioner of the Revenue; ERA, 2009.

FINANCIAL IMPLEMENTATION CONSIDERATIONS & TOOLS

Implementation of the development programs will be highly depended on:

- Availability of infrastructure appropriate to the land uses and scale;
- Availability of financing for the specific development or land uses proposed (including the timing of economic recovery of capital markets);
- Ability of each specific market (retail, residential, office, etc.) to absorb space as it is developed (greatly linked to the availability of qualified tenants).

To address the issue of infrastructure implementation, development plans should start in the locations within each redevelopment area that already has adequate infrastructure for the proposed uses, while planning for eventual growth over a period of 10 to 30 years (30 years being a common period for infrastructure bonds). Issues of financing availability are linked to the individual developer, whether there is a public financing mechanism that can be used to cover infrastructure or other costs (thus lowering the amount of financing required) such as tax-increment financing (TIF) or enterprise funds that might be available. Market absorption was addressed in the market analysis of the redevelopment areas.

At the time of the development of this plan, the residential, retail and office market opportunities are limited, with the possible exception of medical-related office and supporting retail in the Courthouse Area. As Marine Corps Base Quantico expands, additional market support will improve for office and supportive retail and residential development in Boswell's Corner.

While grant funds and programs for commercial redevelopment are limited, the tools listed below are an example of organizations, funds and programs that may be available for use in the various redevelopment areas.

ECONOMIC DEVELOPMENT SUPPORT – STAFFORD COUNTY

Economic Development Authority

The Stafford Economic Development Authority (EDA) is a Board-appointed commission of the county that assists the Board of Supervisors in attracting and financing industry and commerce. The Stafford EDA and the State of Virginia provide incentives to businesses based on the return on investment that they will bring to the community. Incentives include industrial revenue bonds, a loan guaranty program, capital access program and work force training. The EDA would seem to be a logical key actor in the implementation of the redevelopment program, along with local economic development organizations.

The Economic Development Authority (EDA), in cooperation with the Virginia Electronic Commerce Technology Center (VECTEC), offers 50/50 E-commerce Grant Funds for small businesses expansion.

TECHNOLOGY ZONES

Virginia cities, counties and towns have the ability to establish, by ordinance, one or more technology zones to attract growth in targeted industries. Each jurisdiction designs and administers its own program. According to the enabling legislation (Virginia Code 58.1-3850), this enables jurisdictions to grant tax incentives and provide certain regulatory flexibility.

Tax incentives may be provided for up to ten years and may include:

- Reduction of permit fees
- Reduction of user fees
- Reduction of any type of gross receipts tax.

In addition to tax incentives, the jurisdiction can also provide regulatory flexibility such as special zoning, a special permitting process, exception from certain ordinances, or other incentives. These are also binding for a period of ten years. Having a technology zone does not preclude the County from also taking advantage of an enterprise zone program.

ECONOMIC AND BUSINESS DEVELOPMENT TOOLS – COMMONWEALTH OF VIRGINIA

Tax-Increment Financing (TIF)

Tax Increment Financing (TIF) is an economic development tool available for use in Virginia designed to stimulate economic activity within specific geographic boundaries. A TIF district is effective for redeveloping areas, encouraging private investment in areas with limited prospects for growth, and improving areas where a much higher quality of development is desired. A key element of the TIF is a “but for” statement – that the economic benefits of the new private development would not otherwise occur (“but for”) without the public investment within the TIF district. TIF is most often used to support bonds used for infrastructure improvements. The calculation of funds available is based on the difference between a baseline assessed value and a projected future assessed value after improvements. Use of a TIF district should be carefully planned so as to not over estimate the potential increment and to accurately anticipate development absorption and market values.

Virginia Small Business Financing Authority

The Virginia Small Business Financing Authority (VSBFA) provides debt financing assistance to established, existing, Virginia-based businesses, entrepreneurs, and to qualifying businesses wishing to expand into Virginia. The VSBFA's financing programs include:

1. *Economic Development Loan Fund (EDLF):* The Economic Development Loan Fund (EDLF), funded by the federal Economic Development Administration (EDA), offers gap financing between private debt financing and private equity. Funds are available to economic development authorities and qualifying new and expanding businesses that are creating new jobs or saving “at risk” jobs in qualified underserved and distressed areas of Virginia as defined by the EDA. Funds are also available to Virginia businesses which derive 15% or more of their revenues from defense-dependent activities and can demonstrate economic hardship related to defense downsizing. Funds can be used for the acquisition of land and buildings, construction or improvements to facilities and the purchase of machinery and equipment. Funds can also be used to assist defense-dependent businesses transition to private sector markets. The maximum loan available from the EDLF for each project is limited to \$1,000,000 or 40% of the total project cost, whichever is less.
2. *Loan Guaranty Program:* Through the Loan Guaranty Program, the Virginia Small Business Financing Authority will guarantee a portion of a loan or line of credit extended by a commercial bank to a qualified Virginia business. With a guaranty from VSBFA, the bank benefits by reducing its risk in lending to the Virginia business, and the business benefits by accessing financing it would not otherwise have been able to obtain. The maximum guaranty under the program is 75% of the loan or line of credit up to a maximum

guaranty of \$500,000. The program can be used to provide a guaranty for a short-term line of credit or a term loan of up to three years in duration. Applications for the Loan Guaranty Program are made by the bank requesting the guaranty.

3. Virginia Capital Access Program (VCAP):

The Virginia Small Business Financing Authority's (VSBFA) Virginia Capital Access Program (VCAP) provides access to capital for Virginia businesses by encouraging banks in Virginia to make loans that they would otherwise not make due to a borrower's riskier profile. Unlike government guaranty programs which provide a guaranty of a specific loan, VCAP utilizes an insurance concept on a portfolio of loans. The Program establishes a loan loss reserve at each participating bank which is funded by enrollment premiums paid by the Borrower/Bank and VSBFA. Because the participating bank determines what loans to enroll without VSBFA's involvement, the Program is a flexible, non-bureaucratic tool to assist banks in meeting the financing needs of Virginia businesses. If the participating bank determines that the proposed financing request does not meet the bank's normal underwriting guidelines, the bank will then determine whether the proposed loan transaction would be acceptable if the loan were enrolled in VCAP.

4. Industrial Development Bond Program: Companies seeking to finance new manufacturing plants or improvements to existing manufacturing plants can obtain long-term financing at favorable interest rates through the use of industrial development bonds (IDBs). An IDB is a form of tax-exempt municipal bond issued by a state or local government entity to finance the acquisition, construction or equipping of a facility. IDB tax-exempt financing for manufacturing projects has been restored under the federal Revenue Reconciliation Act of 1993 on a permanent basis. Today IDBs continue to provide companies with an important alternative to conventional financing of manufacturing projects. Some of the benefits of IDBs are:

- a. Sub-prime pricing. Since interest earned on IDBs is exempt from federal income taxes, IDBs provide lower interest rates than conventional financing.
- b. 100% project financing. IDBs enable companies to finance virtually all the costs of a project, including site preparation, capitalized interest during construction and most issuance costs, up to \$20 million.
- c. Long-term financing. IDBs can have an average maturity of up to 120% of the economic life of the assets financed.

5. Virginia Department of Housing and Community Development - The Community Economic Development (CED) fund:

The CED fund is designed to support economic development activities, particularly those creating employment opportunities for low- and moderate- income persons in Virginia Community Development Block Grant Eligible Localities. Assistance is limited to projects involving employment creation by private, for-profit basic industries. Projects involving commercial development or other types of job creation may be eligible for competitive grant funding. Activities eligible for CED funding include:

- a. Off-site improvements related to industrial location or expansion, including water and sewer system improvements, streets, and drainage.
- b. On-site improvements are also eligible, pending underwriting, but the funding required for these improvements will be provided to localities in loan form.
- c. This is a relatively broad strategy; therefore certain communities with higher median income are not always eligible, and funds are implemented in a case-by-case basis.

6. Governor's Opportunity Fund (GOF):

The GOF supports economic development projects that create new jobs and capital investment according to state guidelines:

- a. Project investment & job creation are achieved
- b. Locality participates with matching financial commitment
- c. Project is not an intrastate relocation
- d. Performance agreement is effected between the locality and the business to ensure fulfillment of promised job creation and investment GOF is coordinated by the Virginia Economic Development Partnership (VEDP)

7. Virginia Department of Taxation Major Business Facility Tax Credit:

Qualified businesses locating or expanding in Virginia receive a \$1,000 corporate income tax credit for each new full time job created over 100 jobs. (not available to businesses utilizing Enterprise Zone job grants.)

8. Community Development Authority (CDA):

A Community Development Authority is an entity authorized by the Board of County Supervisors (upon petition by a majority of property owners, or those owning a majority of the assessed value, within the proposed CDA boundaries) for the purpose of providing public infrastructure. The CDA is empowered to issue tax-exempt bonds for thirty different kinds of infrastructure improvements including, in part, roads, parks, recreation facilities, educational facilities, water and sewer, and fire prevention and control systems.

Any bonds issued by the CDA are repaid through assessments (other than county tax assessments) levied upon the property owners within the boundaries of the CDA district. Assessments can be levied in two ways.

1. Ad Valorem Assessments limited to 25 cents per \$100 unless all property owners agree to a higher rate;
2. Special Assessment based on use and benefit from the improvements. Assessments cannot exceed the cost of the improvements.

Potential Benefits of a CDA:

There are several reasons to consider using a CDA as a funding mechanism for infrastructure improvements. Some reasons would include:

- a. Providing a development incentive for potential developers and property owners by reducing the costs of development of infrastructure;
- b. As a means of accelerating the project timing by financing all of the improvements over the 30-year bond period but implementing the infrastructure improvements in the initial phases of the redevelopment;
- c. Owners/developers might be able to increase development value of their investments by having such infrastructure and funding available;
- d. The CDA can require levels of development quality, thus improving the overall redevelopment area;
- e. It is a lawful and ready redevelopment tool that is already being used in other areas of the Commonwealth;
- f. The CDA could assume expenses that otherwise could be County expenses.

Caveats Using CDA Bonds:

Using CDA bonds is not without risk. As with any issuance of debt, the primary concern is default on bonds as a result of insufficient ad valorem tax revenues (if that is the method chosen) or the inability

of property owners to pay special assessments due to slow absorption or poor financial performance of developments within the CDA district. Other concerns might include:

- a. Property value decline could reduce the bond repayment revenue stream. Recent economic experience nationwide with property value declines raises the question of whether values can be kept constant or increasing over the life of the bonds;
- b. There is default potential in the development start-up phase when most land in the CDA owned by developers or property owners and is not yet improved. This time gap can be problematic if extended as bond repayments may have to begin before sufficient revenues are available for repayment;
- c. Insufficient sales/rents to feed bond repayment revenue stream could be a problem if the land uses within the CDA do not perform well;
- d. Cyclical economic downturn could hurt property values, sales prices and/or sales of goods and services that ultimately support the values and/or assessments;
- e. Cost overruns on infrastructure improvements could lead to a liquidity problem
- f. If the CDA fails to perform financially, the County could be at risk to cover the repayments;
- g. The higher tax burden on property located within a CDA might make owners within the boundaries less likely to support the creation of the CDA and risk of higher burden should the CDA fail could reduce citizen support for general County bond referenda;
- h. A potential policy issue exists with the permissibility of using CDA bond proceeds to satisfy proffer obligations. As most CDA-type improvements would likely be eligible for funding under the use of proffers, using CDA funding in this manner results in a depletion of total available County CDA debt capacity. There is also the policy issue of shifting responsibility for paying for proffered improvements directly to the property owner as opposed to specific developers.

ERA was not tasked to complete a CDA sensitivity analysis or to conduct an analysis that reliance upon which debt or securities should be issued. To understand the full implication of the risks and potential of the establishment of a CDA, a full detailed analysis would be needed.

Note: Master plan implementation may require that there will have to be some public funds invested for infrastructure improvements if the CDA vehicle isn't used. These could be paid through:

- a. General obligation bonds as they might any infrastructure or
- b. As a pay-as-you-go using the general fund, the utility fund or a combination of the two.
- c. For any large single developer within the redevelopment areas, a proffer structure may also be used to pay for needed improvements to support the development (however, but, unless such developers are "ready to develop right away, some incentive such as a CDA to reduce the cost of development may be needed).

FEDERAL ECONOMIC DEVELOPMENT TOOLS

Economic Development Administration (EDA)

1. ***Public Works and Economic Development Program:*** Public Works and Economic Development investments help support the construction or rehabilitation of essential public infrastructure and facilities necessary to generate or retain private sector jobs and investments, attract private sector capital, and promote regional competitiveness, including investments that expand and upgrade infrastructure to attract new industry, support technology-led development, redevelop brownfield sites and provide eco-industrial development. Eligibility is based on economic distress levels, which is determined at the time of application. The EDA

defines economic distress as having one or more of the following criteria: an unemployment rate 1% above the national average for 24 months; per capita income that is 80% or less of the national average per capita income; or a "Special Need," as determined by EDA. The EDA may approve projects that are in sub-areas of regions that do not meet this criteria if the project has "substantial direct benefit" to a geographic area that meets the criteria by providing significant employment to unemployed or low-income residents.

Department of Housing and Urban Development

1. ***Community Development Block Grants (CDBG):*** CDBG funds are available to eligible localities for off-site activities such as water and sewer extensions or treatment facilities and road & rail access. Funds may be available for on-site assistance that supports economic development, subject to underwriting.

Community Development Finance Institutions Fund (CDFI)

1. ***The Community Development Financial Institutions (CDFI) Program*** uses federal resources to invest in and build the capacity of CDFIs to serve low-income people and communities lacking adequate access to affordable financial products and services. The Fund provides monetary awards for Financial Assistance (FA) through the CDFI Program. CDFIs use FA awards to further goals such as economic development (job creation, business development, and commercial real estate development) and affordable housing (housing development and home ownership).
2. ***Financial Assistance (FA) Awards:*** Through FA awards, the Fund invests in certified CDFIs that demonstrate they have the financial and managerial capacity to:
 1. Provide affordable and appropriate financial products and services that positively impact their communities;
 2. Be viable financial institutions;
 3. Use and leverage CDFI Fund dollars effectively.
3. ***New Market Tax Credits:*** The New Markets Tax Credit (NMTC) Program permits taxpayers to receive a credit against Federal income taxes for making qualified equity investments in designated Community Development Entities (CDEs). Substantially all of the qualified equity investment must in turn be used by the CDE to provide investments in low-income communities. An organization wishing to receive awards under the NMTC Program must be certified as a CDE by the CDFI Fund. To qualify as a CDE, an organization must:
 - i. Be a domestic corporation or partnership at the time of the certification application;
 - ii. Demonstrate a primary a mission of serving, or providing investment capital for, low-income communities or low-income persons;
 - iii. Maintain accountability to residents of low-income communities through representation on a governing board of or advisory board to the entity.
4. ***Office of Economic Adjustment:*** Stafford already receives BRAC-related funds to establish a baseline for further planning in the Boswell's Corner area, and to establish Jefferson Davis Highway (US-1) in Boswell's Corner as a regional improvement priority.

Within the planned redevelopment areas, all of the census tracts are reported by the CDFI Fund as eligible to receive NMTC funds. NMTC may also be used in conjunction with federal and state historic rehabilitation tax credits (HTC) in eligible areas for historic properties. There may be opportunities for such reinvestment activity in the Falmouth Village redevelopment area.

APPENDICES



APPENDIX I

ECONOMICS & MARKET ANALYSIS: METHODOLOGY & DATA SOURCES

Data Sources

ERA used a wide variety of data sources for this analysis. In addition to development pipeline data, tourism data, and other information provided by Stafford County, ERA used data from:

- ESRI is the worldwide leader in geographical information system (GIS) mapping and data linkage. ERA used ESRI ARC/GIS database of US Census-based demographic data. ESRI also creates annual estimates and five-year projections based on the latest available information from federal, state and local government, and academic and private sources. They take into account major developments – such as base closures, major new employers, and other nationwide and regional trends. ESRI Tapestry segmentation data divides US households into 65 segments based on demographic variables such as age, income, home value, occupation, household type, education, and other consumer behavior characteristics. Using the demographic data, we segmented the market groups by income, tenure, unit preference, locational preference, and those with housing preferences for the traditional neighborhood development product types.
- Costar is a national source for commercial real estate information such as comprehensive property details, including building location, class, zoning, available space, asking rents and sales prices, ownership type, vacancy rate, maximum contiguous space, typical floor size, year built, elevators, core factor, parking and contact information. CoStar also offers property analytics, including vacancy and rental rate trends, sales and loan information, assessment data, and other information. This information is collected on the ground and by information given to CoStar by building owners and managers;
- Reis, Inc., is a leading provider of commercial real estate performance information and analysis at the metro (city), submarket (neighborhood) and property level for more than twenty-five years;
- Woods & Poole Economics, Inc. is an independent firm that specializes in long-term county economic and demographic projections. Woods & Poole's database for every county in the US contains projections through 2030 for more than 900 variables. Each year Woods & Poole updates the projections with new historical data. Woods & Poole has been making county projections since 1983;
- Smith Travel Research (STR), is the leading database of hotel market and performance data. Each month STR collects performance data on over 24,500 hotels representing more than 2.9 million rooms. This data comes from chain headquarters, management companies, owners, and directly from independent hotels. The data are audited for accuracy and checked for adherence to the STR reporting guidelines. STR also collects daily performance data from over 20,000 hotels each week. The Virginia Tourism Commission uses STR data to report Virginia hotel performance;

- Virginia Tourism Corporation (VTC) provides tourism-related data analysis and gathering, including visitor profiles, market share, the economic impact of tourism on the state and localities;
- Virginia Employment Commission (VEC), is a source of economic, demographic, and occupational information in the Commonwealth. Data from the VEC is used by Stafford County extensively for its comprehensive planning projects;
- Interviews. ERA also conducted interviews with developers, managers, real estate brokers and others active in Stafford County in order to confirm data collected by secondary sources and gain supplemental market perspective. These were conducted with an understanding of confidentiality to ensure the free flow of information.

Comparing Data Sources

Every data source which makes projections or estimates about population, households, or other data has some degree of error. And, typically, the smaller the area, the larger this degree of error becomes. That is because, with the exception of the Decennial Censuses, where an attempt is made to count each and every person or household, projections and estimates rely upon calculations, judgments, and the accuracy of the other data used to make the projections. Even the US Census has some degree of error. While it might be fairly straightforward to make a nationwide estimate of population, based on immigration and emigration, birth and death, and other trends, to try to estimate the same for a neighborhood is more difficult.

That being said, demographic estimates are often needed at smaller geographic levels than states and counties for making decisions. The types of decisions often dictate the best data for that purpose, and experience indicates whether the data can be relied upon for that purpose. Some of the variations are discussed throughout the body of this report. However, before explaining the methodology for the market analyses that follow, ERA would like to address the variation between two specific data sources: County Transportation Analysis Zone (TAZ) data and demographic projections made by ESRI.

Counties and metropolitan planning organizations use TAZ data to attempt to predict the need for transportation capacity and improvements and infrastructure needs. Often in those kinds of decisions, it makes sense to err on the side of having too much than too little. ERA has worked with TAZ data in many metropolitan regions and has been told in discussions with demographers at the planning organizations that while they would be fairly confident in the estimates at the metropolitan and county-wide levels, local levels are more prone to changes.

Stafford County's 2006 base year TAZ data was compiled by the Stafford County Geographic Information Systems (GIS) office. Residential unit counts were estimated through examination of aerial photography in conjunction with tax assessment data. New developments were taken into consideration using building permit applications received by Stafford County; building permits that were issued but not completed were removed. Population estimates are based upon average household size for Stafford County and unit size information for new and existing buildings. Employment estimates were made in conjunction with the Fredericksburg Area Metropolitan Planning Organization with use of individual business listing data provided by Dunn & Bradstreet (dated 2006).

The 2028 projections were created by the Stafford County Department of Planning in conjunction with the GIS Office. Total growth estimates are based upon figures developed by the VEC. Distribution of VEC projected growth throughout the county and in each TAZ zone (TAZ zones are small units of geography typically used for traffic analysis and planning) is based upon the 2028 Comprehensive plan, current land usage, analyzing subdivisions that are currently platted and vested but not yet fully built out, and general expectations of growth in each area.

While transportation planning requires one kind of data, making real estate decisions and assessing market potential requires another. ERA regularly uses data-provider ESRI for this purpose. The data has been found to be fairly accurate. ESRI is one of the data providers often used by marketers and real estate developers and investors. Therefore, seeing this data can enable a community to know what these individuals are seeing when making decisions on investing in an area.

Both of these methods use similar data and at a larger geographic level arrive at the same conclusion. However, a disparity can be seen in the data at finer grained geographies, such as at the redevelopment areas covered in this report. At Stafford County's request, ERA has presented this data side by side at the redevelopment area level, with the understanding that the market projections being made are being made using larger geographies. Trade areas for various uses sometimes traverse geographic political boundaries. A customer does not stop at the border of his or her neighborhood or city in deciding where to shop, but rather, will travel to the shopping destination or store that best meets his or her needs. As described in further detail below, the retail analysis relies on reasonable trade areas (which can comprise of various geographies), a rationally defensible capture rate, and an inflow factor to account for sales from outside the defined trade areas. ERA is confident that the ESRI data is accurate within acceptable degrees of error, and has used it to make five-year projections of retail demand.

DEMAND PROJECTION METHODOLOGY

Office/Workplace Demand

The need for new workplace uses is determined by increases in employment – in other words, users of that space – and by the relative attractiveness of the area as a workplace destination, as determined by historic trends in office real estate performance and share of employment growth. ERA used county-wide projections provided by Woods and Poole as the basis for office projections. A county-wide demand number – netting out existing space – was evaluated, distributing space by redevelopment area based on the area's historic share as well as trends affecting each of the locations.

Not all industries use office space equally. To account for this, ERA uses average percentages of office users per industry to determine how many of the new employees would be office users. Financial/Insurance/Real Estate (FIRE) and Services are particularly heavy users of office space, and because these are growing industries in Stafford County, there is a higher amount of office demand.

ERA also includes a percentage for replacement of older, outdated office space into the demand numbers.

For the Courthouse Area, where the addition of the hospital will be a key driver for new office space, ERA analyzed medical office space separately from other professional office space. The approach taken for this analysis is outlined in the Courthouse Area section.

Retail Demand

Retail location is mostly driven by good access and visibility to readily accessible markets, such as households, employees, and visitors. Retailers also tend to concentrate near other retailers to enhance their visibility and access to potential customers. Retail is directly supported by increases in overall area income and spending. Stafford County has had many new successful retail developments in recent years, responding to Stafford County's high incomes and new residents, which increase overall County spending power.

ERA has assessed the potential demand for retail space in the next five years. Retail is a use that changes rapidly to respond to trends and customers' needs. As a result, projecting further out than five years gives less than reliable results.

To determine the amount of supportable square footage in the redevelopment areas, ERA assessed the retail expenditures of likely sources of demand, including trade area residents, area visitors, and daytime employees.

Data sources for spending patterns of these various markets included data service ESRI Business Analyst, to assess trade area households and their spending; the International Council of Shopping Centers' (ICSC) Office Worker Spending Patterns survey for daytime employees; VTC and the Travel Industry Association for travelers; and ERA's experience from past retail studies.

The ability of any retailer or shopping center to attract customers relies on a variety of factors including competition, geographic and topographic considerations, demographics and other non-quantifiable characteristics of customer behavior. These affect the retail trade area, or the area from which most of the customers will come to a shopping center or retail area. ERA mapped competitive retail locations and considered travel times and patterns, the transportation network, site visibility, and qualitative information to arrive at probable trade

areas for the new center. A primary trade area is the area from which a shopping center, individual retailer, or area receives the majority of its sales. A secondary trade area is the area from which it receives the next greatest amount of sales.

The trade area of neighborhood and community shopping locations is often smaller than for regional ones. Smaller shopping concentrations and centers serve the immediate neighborhood and provide convenient access to daily needs such as groceries, drugstores, quick service restaurants, and a limited selection of specialty shops. On the other hand, larger regional centers and retailers need a critical mass of similar retail to be able to draw from a wider trade area. Often, many shopping centers cluster together to benefit from proximity to each others' customers and the ability to draw customers from further distances, – such as a large regional mall with nearby power centers. These types of retailers benefit from economies of agglomeration by drawing additional customers for each other. As an example, someone shopping for furniture will go to an area where there are several furniture stores from which to choose.

ERA distributed expenditures by retail category into retail store types using ratios derived from the US Economic Census produced by the Census Bureau. The Census Bureau is also the source of employee estimates and the percentage of employees living in each of the trade areas. The captured daytime expenditures of employees living within the residential trade area were netted out of the trade area expenditures.

ERA estimated capture rates for each store type based on each redevelopment area's competitive strengths and the proximity to competitive supply. Applying the capture rates to the total expenditures by store type from all available markets results in the supportable sales for the site. ERA has augmented the supportable sales by an inflow factor to account for sales from residents outside of the defined trade areas, for pass-through traffic, and for visitors.

To arrive at the supportable square footage from the available sales, ERA applied a range of average productivity rates, based upon published sources such as ULI's Dollars and Cents of Shopping Centers. These were tempered by knowledge of area retail rents, and were adjusted for the specific location of the redevelopment area.

Hotel/Hospitality Demand

ERA assessed hotel demand for the Boswell's Corner and Southern Gateway redevelopment areas. Each area required a slightly different approach based upon the available data. The methodology is outlined in the appropriate section. ERA used data from Smith Travel Research and the Virginia Tourism Commission for this purpose.

Residential Demand

ERA expects the demand for housing units at each redevelopment site to come from two primary sources: (a) turnover of households already living in the region and (b) households moving to Stafford County. Sources of demand will vary based on the residential product type. ERA's analytical technique included the use of ESRI Tapestry® segmentation data, which divides US households into 65 segments based on demographic variables such as age, income, home value, occupation, household type, education, and other consumer behavior characteristics. Using the demographic data, we segmented the market groups by income, tenure, unit preference, locational preference, and those with housing preferences for the traditional neighborhood development product types.

ERA relied on IRS County-to-County migration data as a baseline for measuring residential demand in addition to data from Census and ESRI. ERA's residential demand model uses the Tapestry data to indicate housing preferences of existing and in-migrating households. ESRI's household projections indicate 8,600 new households in Stafford County by 2012 (over 2007 numbers). ERA's projections have shown total demand for slightly less new housing – about 7,300 units (refer to Table 2: Stafford County Residential Demand Summary, 2007–2012) – because of existing inventory and the changing housing market. ERA has assumed that demand for residential will vary throughout the next five years because of conditions in the local housing market and the economy in general. The confluence of the Stafford County housing market slowing, gas prices influencing new home buyers to locate closer to places of employment, and increasing caution by lenders will have a negative impact on the potential on-site absorption throughout the next four years. Demand estimates for 2012 represent a stabilized annual demand moving forward.

Each redevelopment area has a share of this total demand, based on their respective competitive positions and on the desire to have these areas as locations for future development. Each area's demand is discussed in further detail in later sections of this report.

This report's review and analysis of the above-mentioned resources, market and land use trends and the feedback received from the community workshops and stakeholders input guided the Planning Team to address each community's needs and concerns.

APPENDIX II

CULTURAL & HISTORIC RESOURCES: HISTORY, GROWTH, & HISTORIC PRESERVATION OF THE REDEVELOPMENT AREAS

The independent investigation of the four redevelopment areas has derived a collection of architectural and archeological significant properties. Some properties are part of the National Registry of Historic Places while others have the potential of being so designated. Three separate volumes, compiled by Cultural Resources, Inc., document each of the four redevelopment areas as well as additional references of Cultural Resources Legislation. The following is a list of each volume and what they contain.

- Volume VI: Cultural Resources Report for Falmouth Village
 - A. The history and growth of the redevelopment area.*
 - B. VDHR Forms and Documentation of properties within Falmouth Village.*

- Volume VII: Cultural Resources Report for Boswells Corner, the Courthouse Area, and Southern Gateway
 - A. The history and growth of Boswell's Corner, Courthouse Area, and the Southern Gateway redevelopment areas.*
 - B. VDHR Forms and Documentation of properties within Boswell's Corner, the Courthouse Area, and the Southern Gateway Redevelopment Areas..*

- Volume VIII: Examples of Cultural Resources Legislation
 - Best practices for historic preservation.*

APPENDIX III

FREQUENTLY USED ACRONYMS

ADA	Americans with Disabilities Act	FRED	Fredericksburg Regional Transit	TIF	Tax Increment Financing
ADR	Average Daily Rate	FY	Fiscal Year	TND	Traditional Neighborhood Development
BRAC	Base closure And Realignment Commission	GDP	Generalized Development Plan	UDA	Urban Development Area
BMP	Best Managed Practice	GIS	Geographical Information System	USA	Urban Service Area
CBPA	Chesapeake Bay Protection Area	HABS	Historic American Building Survey	USD	Urban Service District
CIP	Capital Improvement Program	LOMR	Letter of Map Revision	VATC	Virginia Tourism Corporation
CLRP	Constrained Long Range Plan	LOS	Level of Service	V/C	Volume to Capacity
CRPA	Critical Resource Protection Area	LRMA	Land Resource Management Area	VDCR	Virginia Department of Conservation & Recreation
EIS	Environmental Impact Statement	MRIS	Metropolitan Regional Information Systems	VDHR	Virginia Department of Historic Resources
EMS	Emergency Medical Service	NRHP	National Register of Historic Places	VDOT	Virginia Department of Transportation
E&S	Erosion & Sediment	PRV	Pressure Reducing Valve	VSMP	Virginia Stormwater Management Permit
FAMPO	Fredericksburg Area Metropolitan Planning Organization	PUD	Planned Urban Development	VEC	Virginia Employment Commission
FAR	Floor Area Ratio	SWM	Storm Water Management	VRE	Virginia Railway Express
FEMA	Federal Emergency Management Agency	SWOT	Strengths, Weaknesses, Oppotunities, & Threats	WHPP	Wildlife Habitat Protection Plan
FIRE	Finance, Insurance, & Real Estate	TAZ	Traffic Analysis Zone	WIA	Workforce Investment Area

APPENDIX IV

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Tallahassee, Florida.

APPENDIX V

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