

**Stafford County  
Virginia**

**Comprehensive Plan  
2010-2030**



**Prepared By:  
The Stafford County Planning Commission**

**December 14, 2010**

**Amendments:**

**June 7, 2011  
January 17, 2012  
June 19, 2012  
May 21, 2013  
June 18, 2013  
March 18, 2014**

**December 16, 2014  
February 24, 2015  
August 18, 2015  
September 1, 2015  
September 15, 2015**

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# Acknowledgements

## **Board of Supervisors**

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Paul V. Milde III, Vice Chairman  
Harry E. Crisp II  
Gary Snellings  
Cord A. Sterling  
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Paul V. Milde III, Liaison to the Board of Supervisors

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BOARD OF SUPERVISORS  
COUNTY OF STAFFORD  
STAFFORD, VIRGINIA

RESOLUTION

At a public hearing of the Stafford County Board of Supervisors (the Board) held in the Board Chambers, Stafford County Administration Center, 1300 Courthouse Road, Stafford, Virginia, on the 14th day of December 2010, regarding certain amendments to the Comprehensive Plan that had been advertised for hearing by the Board:

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<u>MEMBERS:</u>	<u>VOTE:</u>
Mark Dudenhefer, Chairman	Yes
Paul V. Milde III, Vice Chairman	Yes
Harry E. Crisp II	Yes
Gary F. Snellings	Yes
Cord A. Sterling	Yes
Susan B. Stimpson	Yes
Robert "Bob" Woodson	Yes

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On motion of Mr. Sterling, seconded by Ms. Stimpson, which carried by a vote of 7 to 0, the following was adopted:

A RESOLUTION TO: (1) AMEND THE STAFFORD COUNTY COMPREHENSIVE PLAN IN ACCORDANCE WITH SECTION 15.2-2229 OF THE CODE OF VIRGINIA (1950), AS AMENDED, BY ADOPTING THE PROPOSED AMENDMENTS, INCLUDING, AMONG OTHER THINGS, A NEW TEXTUAL DOCUMENT ENTITLED "STAFFORD COUNTY, VIRGINIA, COMPREHENSIVE PLAN, 2010-2030," DATED NOVEMBER 17, 2010, AND THE PROPOSED LAND USE MAP, ALSO DATED NOVEMBER 17, 2010, PROVIDED, HOWEVER, THAT THE BOARD DOES NOT ADOPT THE PROPOSED STAFFORD STATION AND BROOKE STATION URBAN DEVELOPMENT AREAS; (2) FURTHER AMEND THE STAFFORD COUNTY COMPREHENSIVE PLAN BY REPEALING THE EXISTING LAND USE PLAN, THE EXISTING LAND USE MAP, AND THE EXISTING TRANSPORTATION PLAN; (3) ESTABLISH A JOINT COMMITTEE OF THE BOARD AND THE PLANNING COMMISSION TO DEVELOP AND RECOMMEND COMPREHENSIVE PLAN AMENDMENTS NECESSARY TO REDISTRIBUTE THE 4,000 DWELLING UNITS INCLUDED IN THE FORMERLY PROPOSED STAFFORD STATION AND BROOKE STATION URBAN DEVELOPMENT AREAS NOT ADOPTED BY THE BOARD; (4) DELINEATE DEADLINES AND RESPONSIBILITIES FOR THE JOINT COMMITTEE TO COMPLETE ITS WORK; AND (5) ESTABLISH DEADLINES FOR THE PLANNING COMMISSION TO RECOMMEND AND THE BOARD TO ADOPT COMPREHENSIVE PLAN AMENDMENTS TO ACCOMPLISH THE REDISTRIBUTION OF THE 4,000 DWELLING UNITS INCLUDED IN THE FORMERLY PROPOSED STAFFORD STATION AND BROOKE STATION URBAN DEVELOPMENT AREAS

WHEREAS, under Va. Code § 15.2-2229 of the Code of Virginia, the Board may amend its Comprehensive Plan; and

WHEREAS, under Va. Code § 15.2-2229 the Planning Commission ("Commission") has been directed by the Board to prepare and consider Comprehensive Plan amendments; and

WHEREAS, under Va. Code § 15.2-2230 the Commission can review the Stafford County Comprehensive Plan to determine whether it is advisable to amend the Plan; and

WHEREAS, the proposed Comprehensive Plan Amendments would, among other things, amend the Comprehensive Plan by adopting a new textual document entitled "Stafford County, Virginia, Comprehensive Plan, 2010 – 2030," dated November 17, 2010, with new Goals, Objectives, and Policies, and new recommended land uses, as shown on the proposed Land Use Map, also dated November 17, 2010, to serve as a framework to guide and accomplish the coordinated, adjusted, and harmonious development of Stafford County, Virginia; and

WHEREAS, the Commission duly advertised and held a public hearing on November 17, 2010, on the proposed Comprehensive Plan Amendments, received a recommendation of County staff supporting approval of the proposed Amendments, received public testimony, decided on a 5-2 vote to recommend approval of the proposed amendments, and has forwarded its recommendation of approval of those proposed Amendments to the Board; and

WHEREAS, the Board duly advertised and held a public hearing on the proposed Comprehensive Plan Amendments on December 14, 2010, at which time public testimony was received and the above-referenced Comprehensive Plan Amendments were 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 has concluded that the proposed Stafford Station and Brooke Station Urban Development Areas ("UDAs") should not be adopted; and

WHEREAS, the Board recognizes that the Virginia Code contains a deadline of July 1, 2011, for the Board to comply with certain requirements applicable to urban development areas, and wishes to establish a joint committee comprised of members of the Board and the Commission in order to develop and recommend proposed Plan amendments that would redistribute the 4,000 dwelling units that were formerly proposed for the Stafford Station and Brooke Station UDAs, neither of which are being adopted by the Board in this resolution; and

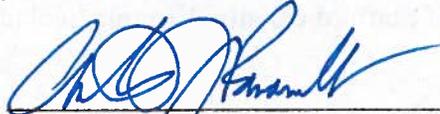
WHEREAS, the Board concludes that the adoption of the proposed Comprehensive Plan Amendments, less and except the proposed Stafford Station and Brooke Station UDAs, will guide and accomplish a coordinated, adjusted, and harmonious development of Stafford County, Virginia, which will, in accordance with 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 Amendments is consistent with good planning practices;

NOW, THEREFORE, BE IT RESOLVED that the Stafford County Board of Supervisors on this the 14th day of December 2010, be and it hereby does decide the following:

- (1) except for the proposed Stafford Station and Brooke Station UDAs, the Board hereby adopts the proposed Comprehensive Plan Amendments, as advertised, by approving a new textual document entitled "Stafford County, Virginia, Comprehensive Plan, 2010 – 2030," dated November 17, 2010, and the proposed Land Use Map, also dated November 17, 2010, and by repealing the existing Land Use Plan, the existing Land Use Map, and the existing Transportation Plan;
- (2) in conjunction with the foregoing approvals and repeals set forth in the immediately preceding paragraph, the Board establishes a joint committee of the Board and the Commission, comprised of three members of the Board, to be appointed by the Chairman of the Board, and two members of the Commission, to be appointed by the Chairman of the Commission;
- (3) because neither the Stafford Station nor Brooke Station UDAs are being adopted by the Board, it will be necessary for the foregoing joint committee of the Board and Commission to develop and recommend an amendment(s) to the Stafford County Comprehensive Plan regarding how the 4,000 dwelling units that had previously been proposed for the Stafford Station and Brooke Station UDAs shall be distributed, either in one of the six UDAs adopted this day by the Board or in one or more new UDAs to be proposed by the joint committee;
- (4) the joint committee shall provide its recommendations in writing to the Board and the Commission no later than February 15, 2011;
- (5) in the event the joint committee is unable to agree on a recommendation, on or before February 15, 2011, it shall notify the respective chairmen of the Board and the Commission of the joint committee's inability to agree on its recommendations;
- (6) in the event the joint committee provides its recommendations in writing to the Board and the Commission on or before February 15, 2011, the Commission shall, on or before April 1, 2011, conduct a public hearing on the proposed Plan amendments for the purpose of making its recommendation to the Board; and

- (7) upon receipt of the Commission's recommendations regarding the proposed Plan amendments to redistribute the 4,000 dwelling units previously proposed for the Stafford Station and Brooke Station UDAs, the Board will conduct a public hearing on said proposed Plan amendments on or before June 21, 2011, in order to meet the statutory deadline for the adoption of UDAs in Stafford County.



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Anthony J. Romanello, ICMA-CM  
County Administrator

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, 1300 Courthouse Road, Stafford, Virginia, on the 7th day of June, 2011, regarding certain amendments to the Comprehensive Plan that had been advertised for hearing by the Board:

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

On motion of Mr. Milde, seconded by Mr. Sterling, 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 OF THE CODE OF VIRGINIA (1950), AS AMENDED, BY ADOPTING THE PROPOSED AMENDMENTS, AS ADVERTISED, TO THE TEXTUAL DOCUMENT ENTITLED "STAFFORD COUNTY, VIRGINIA, COMPREHENSIVE PLAN, 2010-2030," AND ITS ACCOMPANYING LAND USE MAP, BOTH DATED DECEMBER 14, 2010.

WHEREAS, under Va. Code § 15.2-2229, the Board may amend its Comprehensive Plan; and

WHEREAS, under Va. Code § 15.2-2229 the Planning Commission ("Commission") has been directed by the Board pursuant to the Board's Resolution R11-94 to conduct a public hearing on, and provide recommendations to, the Board on certain Comprehensive Plan amendments proposed by the Board ("the proposed Comprehensive Plan amendments"); and

WHEREAS, in accordance with Resolution R11-94, the proposed Comprehensive Plan Amendments propose, among other things, to amend the Comprehensive Plan by amending the textual document entitled "Stafford County, Virginia, Comprehensive Plan, 2010-2030," and its accompanying Land Use Map, to: allocate 4,000 additional dwelling units to Urban Development Areas ("UDAs") in five existing UDAs and one new UDA; create a new UDA named the Brooke Station UDA;

expand the boundaries of five of the existing UDAs; modify the Urban Services Area ("USA") boundary in the Widewater area of the County; amend the land use designations on the land to the east of the proposed USA in the Widewater area on the proposed Land Use Map; and delete from the Plan several planned transportation improvements in the Widewater area; and

WHEREAS, the Commission duly advertised and held a public hearing on May 4, 2011, on the proposed Comprehensive Plan Amendments, received a recommendation from County staff supporting approval of the proposed Comprehensive Plan Amendments, received public testimony, decided on a 4-2 vote to recommend approval of the proposed Comprehensive Plan Amendments, with modifications, and has forwarded its recommendation to the Board; and

WHEREAS, the Board duly advertised and held a public hearing on the proposed Comprehensive Plan Amendments on June 7, 2011, at which time public testimony was received and the proposed Comprehensive Plan Amendments were considered by the Board; and

WHEREAS, the Board has carefully considered the recommendations of the Planning 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 Amendments, as advertised, will guide and accomplish a coordinated, adjusted, and harmonious development of Stafford County, Virginia, 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 Amendments, as advertised, is consistent with good planning practices;

NOW, THEREFORE, BE IT RESOLVED that the Stafford County Board of Supervisors on this the 7th day of June 2011, hereby adopts the proposed Comprehensive Plan Amendments, as advertised and that Patawomeck Park not be removed from the Urban Services Area.

A Copy, teste:

  
\_\_\_\_\_  
Anthony J. Romanello, ICMA-CM  
County Administrator

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 January, 2012:

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<u>MEMBERS:</u>	<u>VOTE:</u>
Susan B. Stimpson, Chairman	Yes
Cord A. Sterling, Vice Chairman	Yes
Jack R. Cavalier	Yes
Paul V. Milde III	Yes
Ty A. Schieber	Yes
Gary F. Snellings	Yes
Robert "Bob" Thomas, Jr.	Yes

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On motion of Mr. Sterling, seconded by Mr. Milde, which carried by a vote of 7 to 0, the following was adopted:

A RESOLUTION TO AMEND THE STAFFORD COUNTY COMPREHENSIVE PLAN IN ACCORDANCE WITH VIRGINIA CODE SECTION 15.2-2229, BY ADOPTING THE PROPOSED AMENDMENTS, AS ADVERTISED, TO THE TEXTUAL DOCUMENT ENTITLED "STAFFORD COUNTY, VIRGINIA, COMPREHENSIVE PLAN, 2010-2030," DATED DECEMBER 14, 2010 AND LAST AMENDED ON JUNE 7, 2011

WHEREAS, under Va. Code § 15.2-2229, the Board may amend its Comprehensive Plan; and

WHEREAS, under Va. Code § 15.2-2229 the Planning Commission ("Commission") has been directed by the Board pursuant to the Board's Resolution R11-243 to conduct a public hearing on, and provide recommendations to, the Board on certain Comprehensive Plan amendments proposed by the Board ("the proposed Comprehensive Plan Amendments"); and

WHEREAS, in accordance with Resolution R11-243, the proposed Comprehensive Plan Amendments propose to amend the Comprehensive Plan by amending the textual document entitled, "Stafford County, Virginia, Comprehensive Plan, 2010-2030," to adopt and incorporate an Implementation Plan as a new chapter (Chapter 7) in the Comprehensive Plan; and

WHEREAS, the Commission duly advertised and held a public hearing on October 5, 2011, on the proposed Comprehensive Plan Amendments, received a recommendation from County staff supporting approval of the proposed Comprehensive Plan Amendments, received public testimony, decided on a 5-1 vote to recommend approval of the proposed Comprehensive Plan Amendments, and forwarded its recommendation to the Board; and

WHEREAS, the Board duly advertised and held a public hearing on the proposed Comprehensive Plan Amendments on January 17, 2012, at which time public testimony was received and the proposed Comprehensive Plan Amendments were considered by the Board; and

WHEREAS, the Board has carefully considered the recommendations of the Planning 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 Amendments, as advertised, will guide and accomplish a coordinated, adjusted, and harmonious development of Stafford County, Virginia, 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 Amendments, as advertised, is consistent with good planning practices;

NOW, THEREFORE, BE IT RESOLVED that the Stafford County Board of Supervisors on this the 17th day of January, 2012, be and it hereby adopts the proposed Comprehensive Plan Amendments, as advertised.

A Copy, teste:

  
\_\_\_\_\_  
Anthony J. Romanello, ICMA-CM  
County Administrator

AJR:JAH:mz

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 19<sup>th</sup> day of June, 2012:

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<u>MEMBERS:</u>	<u>VOTE:</u>
Susan B. Stimpson, Chairman	Yes
Cord A. Sterling, Vice Chairman	Yes
Jack R. Cavalier	Yes
Paul V. Milde III	Yes
Ty A. Schieber	Yes
Gary F. Snellings	Yes
Robert "Bob" Thomas, Jr.	Yes

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On motion of Mr. Milde, seconded by Mr. Sterling, which carried by a vote of 7 to 0, the following was adopted:

A RESOLUTION TO AMEND THE STAFFORD COUNTY COMPREHENSIVE PLAN IN ACCORDANCE WITH VIRGINIA CODE SECTION 15.2-2229, BY ADOPTING THE PROPOSED AMENDMENTS, AS ADVERTISED, TO (1) THE TEXTUAL DOCUMENT ENTITLED "STAFFORD COUNTY, VIRGINIA, COMPREHENSIVE PLAN, 2010-2030," DATED JANUARY 17, 2012, AND (2) THE TEXTUAL DOCUMENT ENTITLED "COURTHOUSE URBAN DEVELOPMENT AREA PLAN, STAFFORD COUNTY, VIRGINIA," DATED FEBRUARY 10, 2012

WHEREAS, under Virginia Code § 15.2-2229, the Board may amend its Comprehensive Plan; and

WHEREAS, under Virginia Code § 15.2-2229, the Planning Commission ("Commission") has been directed by the Board pursuant to the Board's Resolution R12-68 to conduct a public hearing on, and provide recommendations to the Board on certain Comprehensive Plan amendments proposed by the Board ("the proposed Comprehensive Plan Amendments"); and

WHEREAS, in accordance with Resolution R12-68, the proposed Comprehensive Plan Amendments propose to amend the Comprehensive Plan by amending the textual document entitled, "Stafford County, Virginia, Comprehensive Plan, 2010-2030," (the "2010-2030 Plan"), and the textual document entitled "Courthouse Urban Development Area Plan, Stafford County, Virginia" (the

“Courthouse UDA Plan”), to: (1) add language to the 2010-2030 Plan to summarize the Virginia Code changes, effective July 1, 2012, which would allow previously mandatory Urban Development Areas (UDAs) to be an optional element of a locality’s Comprehensive Plan; (2) amend both the 2010-2030 Plan and the Courthouse UDA Plan to clarify that previously stated minimum densities for development are now target densities; and (3) amend both the 2010-2030 Plan and the Courthouse UDA Plan to recommend that the zoning district standards created for UDAs should incorporate density ranges for new development; and

WHEREAS, the Commission duly advertised and held a public hearing on May 2, 2012, on the proposed Comprehensive Plan Amendments, received a recommendation from County staff supporting approval of the proposed Comprehensive Plan Amendments, received public testimony, decided on a 7-0 vote to recommend approval of the proposed Comprehensive Plan Amendments, and forwarded its recommendation to the Board; and

WHEREAS, the Board duly advertised and held a public hearing on the proposed Comprehensive Plan Amendments on June 19, 2012, at which time public testimony was received and the proposed Comprehensive Plan Amendments were considered by the Board; and

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

WHEREAS, the Board concludes that the adoption of the proposed Comprehensive Plan Amendments, as advertised, will guide and accomplish a coordinated, adjusted, and harmonious development of Stafford County, Virginia, 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 Amendments, as advertised, is consistent with good planning practices;

NOW, THEREFORE, BE IT RESOLVED that the Stafford County Board of Supervisors on this the 19<sup>th</sup> day of June, 2012, be and it hereby adopts the proposed Comprehensive Plan Amendments, as advertised.

A Copy, teste:

  
\_\_\_\_\_  
Anthony J. Romanello, ICMA-CM  
County Administrator

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 21<sup>st</sup> day of May, 2013:

<u>MEMBERS:</u>	<u>VOTE:</u>
Susan B. Stimpson, Chairman	No
Robert "Bob" Thomas, Jr., Vice Chairman	No
Jack R. Cavalier	Yes
Paul V. Milde III	Yes
Ty A. Schieber	Yes
Gary F. Snellings	Yes
Cord A. Sterling	Yes

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

A RESOLUTION TO APPROVE AND ADOPT PROPOSED AMENDMENTS TO THE TEXTUAL DOCUMENT, "STAFFORD COUNTY, VIRGINIA, COMPREHENSIVE PLAN, 2010-2030," AND THE TEXTUAL DOCUMENT, "TRANSPORTATION PLAN"

WHEREAS, under Virginia Code § 15.2-2229, the Board may amend its Comprehensive Plan; and

WHEREAS, on February 5, 2013, the Board directed the Planning Commission to hold a public hearing to consider the proposed Comprehensive Plan Amendments for Chapter 4, Transportation Plan and Transportation Plan Background information, and Appendix G, of the Comprehensive Plan; and

WHEREAS, the proposed Comprehensive Plan Amendments would amend the Comprehensive Plan by amending the textual document, "Stafford County, Virginia, Comprehensive Plan, 2010-2030," and the textual document, "Transportation Plan," to: (1) eliminate references to the current impact fee areas; (2) establish a County-wide Impact Fee Service Area that would encompass all properties within the boundary of the County, excluding lands within Quantico Marine Corps Base; (3) establish an Impact Fee project list; (4) provide maps depicting the proposed projects; and (5) amend the appendix of the Comprehensive Plan to eliminate old typical street cross sections for roadway design and establish new typical street cross sections for roadway design; and

WHEREAS, the Planning Commission duly advertised and held a public hearing on March 27, 2013 on the proposed Comprehensive Plan Amendments, received staff's recommendation supporting approval of the proposed Comprehensive Plan Amendments, received and considered public testimony, and voted 7-0 to recommend approval of the proposed Comprehensive Plan Amendments, and forwarded its recommendation to the Board; and

WHEREAS, the Board duly advertised, and held a public hearing on the proposed Comprehensive Plan Amendments on May 21, 2013, at which time public testimony was received and the proposed Comprehensive Plan Amendments were considered by the Board; and

WHEREAS, the Board carefully considered the recommendations of the Planning Commission and staff, and the testimony, if any, at the public hearing; and

WHEREAS, the Board desires to adopt the proposed Comprehensive Plan amendments;

NOW, THEREFORE, BE IT RESOLVED by the Stafford County Board of Supervisors on this the 21<sup>st</sup> day of May, 2013, that it be and hereby does adopt the proposed Comprehensive Plan amendments as advertised.

A Copy, teste:

  
\_\_\_\_\_  
Anthony J. Romanello, ICMA-CM  
County Administrator

AJR:MTS:tbn

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 18th day of June, 2013:

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<u>MEMBERS:</u>	<u>VOTE:</u>
Susan B. Stimpson, Chairman	Yes
Robert "Bob" Thomas, Jr., Vice Chairman	Yes
Jack R. Cavalier	Yes
Paul V. Milde III	No
Ty A. Schieber	Yes
Gary F. Snellings	Yes
Cord A. Sterling	Absent

---

On motion of Mr. Schieber, seconded by Mr. Thomas, which carried by a vote of 5 to 1, the following was adopted:

A RESOLUTION TO AMEND THE STAFFORD COUNTY COMPREHENSIVE PLAN IN ACCORDANCE WITH VIRGINIA CODE § 15.2-2229, BY ADOPTING THE PROPOSED AMENDMENTS TO THE TEXTUAL DOCUMENT ENTITLED, "STAFFORD COUNTY, VIRGINIA, COMPREHENSIVE PLAN, 2010-2030," DATED JANUARY 17, 2012

WHEREAS, D.R. Horton, applicant, requested amendments to the Comprehensive Plan in accordance with Virginia Code § 15.2-2229; and

WHEREAS, the proposed amendments to the Comprehensive Plan would, among other things, amend the Comprehensive Plan by amending the textual document entitled, "Stafford County, Virginia, Comprehensive Plan, 2010 – 2030," (the "2010 – 2030 Plan") to: (1) amend Policy 1.3.3 in Chapter 2 of the 2010 – 2030 Plan to encourage in-fill development in appropriate areas in the Urban Services Areas; and (2) amend the land use recommendations for areas designated Suburban on the Land Use Plan by allowing townhomes, apartments, and condominiums, as in-fill development on land where 60% or more of the linear footage of the property's perimeter physically abuts property, and where the same type or higher density dwelling units exist, or have been approved, when compatible by use (or density) with existing or planned development patterns, and when in-fill development mitigates visual impacts from existing or planned lower density residential uses or other incompatible uses; and

WHEREAS, the Planning Commission duly advertised and held a public hearing on April 10, 2013, on the proposed Comprehensive Plan Amendments; received a recommendation from County staff supporting approval of the proposed Comprehensive Plan Amendments; received public testimony; decided by a 7-0 vote to recommend approval of the proposed Comprehensive Plan Amendments; and forwarded its recommendations to the Board; and

WHEREAS, the Board duly advertised, and held a public hearing on the proposed Comprehensive Plan Amendments on June 18, 2013, at which time public testimony was received, and the proposed Comprehensive Plan Amendments were considered by the Board; and

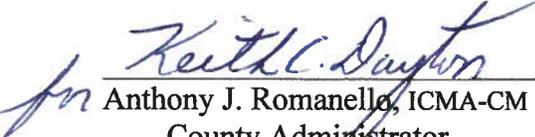
WHEREAS, the Board carefully considered the recommendations of the Planning Commission, the recommendations of County staff, and the public testimony, if any, at the public hearing; and

WHEREAS, the Board concludes that adoption of the proposed Comprehensive Plan Amendments will guide and accomplish a coordinated, adjusted, and harmonious development of Stafford County, Virginia, 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 Amendments is consistent with good planning practices;

NOW, THEREFORE, BE IT RESOLVED that the Stafford County Board of Supervisors on this the 18th day of June, 2013, that it be and hereby does adopt the proposed Comprehensive Plan Amendments, as advertised.

A Copy, teste:

  
for Anthony J. Romanello, ICMA-CM  
County Administrator

AJR:JAH:mz

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, George L. Gordon, Jr., Administration Center, Stafford, Virginia, on the 18<sup>th</sup> day of March, 2014:

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<u>MEMBERS:</u>	<u>VOTE:</u>
Jack R. Cavalier, Chairman	Yes
Gary F. Snellings, Vice Chairman	Yes
Meg Bohmke	Yes
Paul V. Milde, III	Yes
Laura A. Sellers	No
Cord A. Sterling	Yes
Robert "Bob" Thomas, Jr.	Yes

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On motion of Mr. Cavalier, seconded by Mr. Sterling, which carried by a vote of 6 to 1, the following was adopted:

A RESOLUTION ADOPTING AN AMENDMENT TO THE LAND  
USE PLAN COMPONENT OF THE COMPREHENSIVE PLAN

WHEREAS, amending the Land Use Plan designation for Assessor's Parcels 20-66B, 20-66C, 21-15, and 21-16 from Agricultural/Rural to Suburban, and extending the boundaries of the Urban Services Area to include these parcels, reflects the desired future land-use in the area located on the north side of Juggins Lane, west of Doc Stone Road; and

WHEREAS, designating these parcels Suburban Land Use supports the relocation and reconstruction of a school to a more suitable location; and

WHEREAS, the Board may amend the Comprehensive Plan under Virginia Code § 15.2-2229; and

WHEREAS, the Planning Commission held a public hearing and recommended that the Comprehensive Plan be amended to change the future Land-Use Map classification for these parcels and extend the boundaries of the USA to include these parcels; and

WHEREAS, the Board carefully considered the recommendation of the Planning Commission and staff, and the testimony, if any, received at the public hearing; and

WHEREAS, the Board concludes that the adoption of the proposed amendment to the Land Use Plan component of the Comprehensive Plan will guide and accomplish a coordinated, adjusted, and harmonious development of the County, which will, in accordance with the present and probable future needs and resources of the County, best promote the health, safety, order, convenience, prosperity, and general welfare of the citizens of the County, including the elderly and persons with disabilities; and

WHEREAS, the Board concludes that the adoption of the proposed amendment to the Land Use Plan component of the Comprehensive Plan is consistent with good planning practices;

NOW, THEREFORE, BE IT RESOLVED by the Stafford County Board of Supervisors on this the 18<sup>th</sup> day of March, 2014, that the Land Use Plan component of the Comprehensive Plan be and it hereby is amended to include Land Use Map changes identified on the map entitled, "Proposed Land Use," dated March 18, 2014.

A Copy, teste:



\_\_\_\_\_  
Anthony J. Romanello, ICMA-CM  
County Administrator

AJR:JAH:kb

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, George L. Gordon, Jr., Government Center, Stafford, Virginia, on the 16<sup>th</sup> day of December, 2014:

MEMBERS:

Jack R. Cavalier, Chairman  
Gary F. Snellings, Vice Chairman  
Meg Bohmke  
Paul V. Milde III  
Laura A. Sellers  
Cord A. Sterling  
Robert "Bob" Thomas, Jr.

VOTE:

Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes

On motion of Mr. Sterling, seconded by Mr. Thomas, which carried by a vote of 7 to 0, the following was adopted:

A RESOLUTION TO AMEND THE STAFFORD COUNTY COMPREHENSIVE PLAN BY ADOPTING AMENDMENTS TO CHAPTER 5, "THE PUBLIC COSTS OF GROWTH AND DEVELOPMENT," OF THE TEXTUAL DOCUMENT, "STAFFORD COUNTY, VIRGINIA COMPREHENSIVE PLAN, 2010-2030," DATED JANUARY 17, 2012

WHEREAS, Virginia Code § 15.2-2229 authorizes the Board to amend the Comprehensive Plan (Plan); and

WHEREAS, pursuant to Virginia Code §§ 15.2-2229 and 15.2-2230, the Planning Commission may prepare and recommend amendments to the Plan; and

WHEREAS, the proposed Plan amendments (i) add language to the Comprehensive Plan, Chapter 5.2.3, to further clarify the connection between the Capital Improvement Plan (CIP) and the proffer guidelines, and (ii) remove the recommended cash proffer amounts for residential units from Chapter 5.3.2 identified in Exhibit A, "Comprehensive Plan Amendments – Proffer Guidelines," dated November 13, 2014; and

WHEREAS, the Planning Commission conducted a public hearing on the proposed Plan amendments, and provided its recommendations to the Board on the proposed Plan amendments; and

WHEREAS, the Planning Commission recommended approval of the proposed Plan amendments; and

WHEREAS, the Board carefully considered the recommendations of the Planning Commission and staff, and the public testimony, if any, received at the public hearing; and

WHEREAS, the Board finds that the adoption of the proposed Plan amendments will guide and accomplish a coordinated, adjusted, and harmonious development in Stafford County, Virginia, which will, in accordance with the present and probable future needs and resources of the County, best promote the health, safety, morals, order, convenience, prosperity, and general welfare of the citizens of the County, including the elderly and persons with disabilities; and

WHEREAS, the Board finds that the proposed Plan amendments are consistent with good planning practices;

NOW, THEREFORE, BE IT RESOLVED by the Stafford County Board of Supervisors on this the 16<sup>th</sup> day of December, 2014, that it be and it hereby does adopt the proposed amendments to Chapter 5 of the textual document, "Stafford County, Virginia Comprehensive Plan, 2010-2030," dated January 17, 2012.

A Copy, teste:



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Anthony J. Romanello, ICMA-CM  
County Administrator

AJR:JAH:ehe

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, George L. Gordon, Jr., Government Center, Stafford, Virginia, on the 24<sup>th</sup> day of February, 2015:

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<u>MEMBERS:</u>	<u>VOTE:</u>
Gary F. Snellings, Chairman	No
Laura A. Sellers, Vice Chairman	Yes
Meg Bohmke	No
Jack R. Cavalier	Yes
Paul V. Milde III	Yes
Cord A. Sterling	No
Robert "Bob" Thomas, Jr.	No

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On motion of Mr. Milde, seconded by Mr. Thomas, which carried by a vote of 4 to 3, the following was adopted:

A RESOLUTION TO AMEND THE STAFFORD COUNTY COMPREHENSIVE PLAN PURSUANT TO VIRGINIA CODE § 15.2-2229, BY ADOPTING THE PROPOSED AMENDMENTS TO CHAPTER 3 AND THE "NEIGHBORHOOD DEVELOPMENT STANDARDS PLAN" OF THE TEXTUAL DOCUMENT ENTITLED "STAFFORD COUNTY, VIRGINIA COMPREHENSIVE PLAN, 2010-2030," DATED JANUARY 17, 2012

WHEREAS, Virginia Code § 15.2-2229 authorizes the Board to amend the Comprehensive Plan (Plan); and

WHEREAS, pursuant to Virginia Code §§ 15.2-2229 and 15.2-2230, the Planning Commission may prepare and recommend amendments to the Plan; and

WHEREAS, the proposed Plan amendments amend Chapter 3 of the Plan to incorporate text regarding the Transfer of Development Rights (TDR) program, including, but not limited to, the purpose of a TDR program, eligibility criteria for sending and receiving properties, delineation of sending and receiving areas, determining the use of transferred development rights, and adoption of a new map entitled, "Figure 3.8, Transfer of Development Rights Sending and Receiving Areas;" and

WHEREAS, the proposed Plan amendments would amend the Neighborhood Development Standards Plan to require development utilizing transferred development rights within designated receiving areas to be in compliance with the Architectural Design Guidelines; and

WHEREAS, the Planning Commission conducted a public hearing on the proposed Plan amendments and provided its recommendations to the Board on such proposed Plan amendments; and

WHEREAS, the Board carefully considered the recommendations of the Planning Commission and staff, and the public testimony, if any, received at the public hearing; and

WHEREAS, the Board finds that the adoption of the proposed Plan amendments will guide and accomplish a coordinated, adjusted, and harmonious development in Stafford County, Virginia, which will, in accordance with the present and probable future needs and resources of the County, best promote the health, safety, morals, order, convenience, prosperity, and general welfare of the citizens of the County; and

WHEREAS, the Board finds that the proposed Plan amendments are consistent with good planning practices; and

WHEREAS, the Board finds that the proposed Plan amendments should be adopted;

NOW, THEREFORE, BE IT RESOLVED by the Stafford County Board of Supervisors on this the 24<sup>th</sup> day of February, 2015, that it be and it hereby does adopt the proposed amendments to Chapter 3 and the Neighborhood Development Standards Plan of the textual document entitled, "Stafford County, Virginia Comprehensive Plan, 2010-2030," dated January 17, 2012.

A Copy, teste:

  
\_\_\_\_\_  
Anthony J. Romanello, ICMA-CM  
County Administrator

AJR:JAH:jmh

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, George L. Gordon, Jr., Government Center, Stafford, Virginia, on the 18<sup>th</sup> day of August, 2015:

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<u>MEMBERS:</u>	<u>VOTE:</u>
Gary F. Snellings, Chairman	Yes
Laura A. Sellers, Vice Chairman	Yes
Meg Bohmke	Yes
Jack R. Cavalier	Yes
Paul V. Milde, III	Yes
Cord A. Sterling	Absent
Robert "Bob" Thomas, Jr.	Yes

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On motion of Ms. Bohmke, seconded by Ms. Sellers, which carried by a vote of 6 to 0, the following was adopted:

A RESOLUTION TO AMEND THE STAFFORD COUNTY COMPREHENSIVE PLAN IN ACCORDANCE WITH VIRGINIA CODE § 15.2-2229, BY ADOPTING THE PROPOSED AMENDMENTS, TO CHAPTER 2, "THE FOUNDATION FOR THE FUTURE," OF THE TEXTUAL DOCUMENT ENTITLED, "STAFFORD COUNTY, VIRGINIA, COMPREHENSIVE PLAN, 2010-2030," DATED DECEMBER 14, 2010, LAST AMENDED FEBRUARY 24, 2015

WHEREAS, Virginia Code § 15.2-2229 authorizes the Board to amend the Comprehensive Plan (Plan); and

WHEREAS, pursuant to Virginia Code §§ 15.2-2229 and 15.2-2230, the Planning Commission may prepare and recommend amendments to the Plan; and

WHEREAS, the proposed Plan amendments include guidelines in Chapter 2 of the Plan for cluster subdivisions with additional density as identified in Exhibit A, entitled "Comprehensive Plan Amendments – Guidelines for Cluster Subdivisions with Additional Density," dated June 10, 2015; and

WHEREAS, the Planning Commission conducted a public hearing on the proposed Plan amendments and provided its recommendations to the Board on such proposed Plan amendments; and

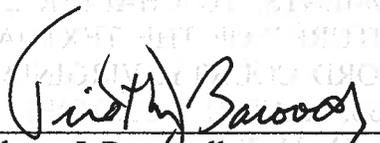
WHEREAS, the Board carefully considered the recommendations of the Planning Commission and staff, and the public testimony, if any, received at the public hearing; and

WHEREAS, the Board finds that the adoption of the proposed Plan amendments will guide and accomplish a coordinated, adjusted, and harmonious development in Stafford County, Virginia, which will, in accordance with the present and probable future needs and resources of the County, best promote the health, safety, and general welfare of the citizens of the County, including the elderly and persons with disabilities; and

WHEREAS, the Board finds that the proposed Plan amendments are consistent with good planning practices;

NOW, THEREFORE, BE IT RESOLVED by the Stafford County Board of Supervisors on this the 18<sup>th</sup> day of August, 2015, that it be and hereby does adopt amendments to Chapter 2 of the textual document entitled, "Stafford County, Virginia, Comprehensive Plan, 2010-2030," dated December 14, 2010, last amended on February 24, 2015, as identified in Exhibit A, entitled "Comprehensive Plan Amendments – Guidelines for Cluster Subdivisions with Additional Density," dated June 10, 2015.

A Copy, teste:



Anthony J. Romanello, ICMA-CM

for County Administrator

AJR:JAH:ehe

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, George L. Gordon, Jr., Government Center, Stafford, Virginia, on the 1<sup>st</sup> day of September, 2015:

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<u>MEMBERS:</u>	<u>VOTE:</u>
Gary F. Snellings, Chairman	Yes
Laura A. Sellers, Vice Chairman	Yes
Meg Bohmke	Yes
Jack R. Cavalier	Yes
Paul V. Milde III	Yes
Cord A. Sterling	Yes
Robert "Bob" Thomas, Jr.	Yes

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On motion of Mr. Milde, seconded by Mr. Thomas, which carried by a vote of 7 to 0, the following was adopted:

**A RESOLUTION TO AMEND THE STAFFORD COUNTY COMPREHENSIVE PLAN, SPECIFICALLY TO ADD A NEW TEXTUAL DOCUMENT ENTITLED "STAFFORD COUNTY ECONOMIC DEVELOPMENT STRATEGIC PLAN"**

WHEREAS, the County last adopted an Economic Development Strategic Plan (ED Plan) in 2006 as an element of the Comprehensive Plan, and in 2011, the Board adopted a separate Economic Development 10-Point Plan (10-Point Plan); and

WHEREAS, the Board desires to update the ED Plan element of the Comprehensive Plan and the 10-Point Plan to reflect the latest economic conditions and objectives; and

WHEREAS, pursuant to Virginia Code § 15.2-2229, the Board may amend the Comprehensive Plan; and

WHEREAS, the Board prepared certain amendments to the ED Plan element of the Comprehensive Plan, as identified in the document entitled "Stafford County Economic Development, Strategic Plan" dated April 14, 2015 (New ED Plan); and

WHEREAS, pursuant to Virginia Code § 15.2-2229, the Board sent the proposed amendments to the Planning Commission for its review and recommendation; and

WHEREAS, the Planning Commission conducted a public hearing on July 22, 2015, and pursuant to Planning Commission Resolution RCR15-09, unanimously recommended approval of the New ED Plan; and

WHEREAS, the Board carefully considered the recommendations of the Planning Commission and staff, and the public testimony, if any, received at the public hearing; and

WHEREAS, the Board finds that the adoption of the New ED Plan will guide and accomplish a coordinated, adjusted, and harmonious development in Stafford County, including support of the economic vitality of Stafford County, which will, in accordance with the present and probable future needs and resources of the County, best promote the health, safety, and general welfare of the County and its citizens; and

WHEREAS, the Board finds that the New ED Plan is consistent with good planning practices; and

WHEREAS, the Board finds that the New ED Plan should be adopted;

NOW, THEREFORE, BE IT RESOLVED by the Stafford County Board of Supervisors on this the 1<sup>st</sup> day of September, 2015, that the proposed amendment to the Comprehensive Plan, as identified in the document entitled "Stafford County Economic Development Strategic Plan" dated April 14, 2015, be and it hereby is adopted.

A Copy, teste:



Anthony J. Romanello, ICMA-CM  
County Administrator

AJR:JAH:mz

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, George L. Gordon, Jr., Government Center, Stafford, Virginia, on the 15<sup>th</sup> day of September, 2015:

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<u>MEMBERS:</u>	<u>VOTE:</u>
Gary F. Snellings, Chairman	Yes
Laura A. Sellers, Vice Chairman	Yes
Meg Bohmke	Yes
Jack R. Cavalier	Yes
Paul V. Milde III	Yes
Cord A. Sterling	Absent
Robert "Bob" Thomas, Jr.	Yes

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On motion of Ms. Sellers, seconded by Mr. Milde, which carried by a vote of 6 to 0, the following was adopted:

A RESOLUTION TO AMEND THE TEXTUAL DOCUMENT ENTITLED "STAFFORD COUNTY, VIRGINIA, COMPREHENSIVE PLAN, 2010-2030," DATED DECEMBER 14, 2010, AND LAST AMENDED ON FEBRUARY 24, 2015, IN ACCORDANCE WITH VIRGINIA CODE § 15.2-2229 BY ADOPTING THE PROPOSED AMENDMENTS

WHEREAS, the Pence Group, Inc. (Applicant), requested an amendment to the textual document entitled "Stafford County, Virginia, Comprehensive Plan, 2010-2030", dated December 14, 2010, and last amended on February 24, 2015 (Plan), in accordance with Virginia Code § 15.2-2229; and

WHEREAS, the proposed amendments to the Plan would, expand the areas where townhomes and multi-family dwelling units are allowed in the Suburban Area land use designation as identified in Exhibit A, entitled "Comprehensive Plan Amendments – Stafford Village Center," dated June 24, 2015; and

WHEREAS, the Board has carefully considered the merits of the proposed amendments, the public testimony received at the public hearing, and the recommendations of the Planning Commission and County staff; and

WHEREAS, the Board believes that the proposed amendments guide and accomplish the coordinated, adjusted, and harmonious development of Stafford County, Virginia, which will in accordance with the present and probable future needs and resources of Stafford County, best promote the health, safety, convenience, prosperity, and general welfare of the citizens of Stafford County including the elderly and persons with disabilities; and

WHEREAS, the Board finds that the proposed amendments to the Plan are consistent with good planning practices;

NOW, THEREFORE, BE IT RESOLVED by the Stafford County Board of Supervisors on this the 15<sup>th</sup> day of September, 2015, that it be and it hereby does adopt amendments to the textual document entitled "Stafford County, Virginia, Comprehensive Plan, 2010 – 2030," dated December 14, 2010, and last amended on February 24, 2015, as identified in Exhibit A, entitled "Comprehensive Plan Amendments – Stafford Village Center," dated June 24, 2015.

A Copy, teste:



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Anthony J. Romanello, ICMA-CM  
County Administrator

AJR:JAH:mz

## 1.0 Introduction

Stafford County is a dynamic community. It includes a mix of suburban neighborhoods and rural enclaves. Retail centers and office and industrial parks provide shopping and employment opportunities throughout the County. The County is strategically located at a crossroads of major transportation routes which carries both positive and negative impacts to the quality of life. The built environment of Stafford County is relatively new. Since the construction of Interstate 95 in the 1960's through the County, population has doubled every 20 years.

The result of Stafford's burgeoning growth has been prosperity for some, but with prosperity comes valid concerns. Increasing traffic, the effects of development on the County's natural and cultural resources, the effects on the overall environment, as well as housing affordability and the ability to provide adequate public services are all increasing concerns for residents of Stafford County.

As the community continues to grow, the need for planning is ever greater. This document serves as a guide for future development of Stafford County over the next 20 years.

The Plan tells us where we are today and through goals and objectives, policies, and implementation tools, guides

the physical development of the county--the location, type, and intensity of future land use. The plan includes goals, objectives and policies for sustainability; fiscal responsibility; the environment; health, safety and welfare; housing; transportation; economic development; education; and heritage resources.

The Stafford County Comprehensive Plan emphasizes maintaining and enhancing the quality of life for existing and future residents of the County.



*View of Crow's Nest from Accokeek Creek*

## 1.1 Background

Stafford County is located approximately 40 miles south of Washington, D.C., and sixty miles north of Richmond, Virginia. The County covers 277 square miles of generally level to rolling land, with elevations ranging from sea level to 425 feet. The County is bordered by Prince William County on the north, Fauquier County and Culpeper County on the west, Spotsylvania County and the City of Fredericksburg below the Rappahannock River to the south, and the Potomac River and King George County on the east.

Established in 1664, Stafford County has a rich history from pre-colonial days to the industrialization of the nineteenth century. The County has important



*Stafford County in Regional Context*

associations with major events and people in our nation's history. This history is documented by the County's bountiful archaeological and architectural remains.

Stafford remained mostly a rural community until the construction of Interstate 95 during the late 1960s. Since that time, the County has experienced a growth rate that, for a period of time, ranked it among the fastest growing jurisdictions in the nation.

The County's proximity to major industrial and commercial markets, combined with its high percentage of vacant land, is attractive for residential, commercial, and industrial development. Since Stafford County is located within commuting distance of major employment centers to the north and south, it continues to be an attractive location for new development. While the rate of growth has slowed in recent years, residential and commercial development is still occurring to meet the demand for housing and services in this ever growing region.

## 1.2 Purpose of the Plan

The purpose of the Comprehensive Plan is to guide the physical development of Stafford County. The Comprehensive Plan:

- Documents local characteristics and trends regarding resident population composition, land use, the natural environment, economic development and service provision;
- Provides a benchmark for evaluating the compatibility of individual development proposals with the long range development objectives of the community;
- Identifies future service needs;
- Serves as a comprehensive source of information that can be used to secure state and federal funding and market the area to potential developers;
- Promotes open space conservation designed to preserve the rural heritage of the community and enhance the overall quality of life;
- Attracts appropriate development to the County through the identification of community goals and objectives for the next 20 years;
- Lays the foundation for future cooperative efforts between the County and its neighbors

An important function of the Comprehensive Plan is to provide a framework for assessing development proposals that come before the County. The Comprehensive Plan is a lens through which development proposals should be evaluated. Each proposal should answer the question: Will this development further the vision of the future as articulated in the Comprehensive Plan? If the proposal is not consistent with the Plan, either the proposal should be rejected or revised to accurately reflect the vision of the future.

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## 1.3 Format of the Plan

After this Introduction, the plan begins with Goals and Objectives, Policies, and Implementation Tools. Following those are the main Land Use and Public Facility Needs, and lastly, the existing conditions and public input that support the Plan. The interrelationship between these elements of the Plan are further explained:

Goals and Objectives – identify a desired future condition for various elements of growth such as land use or transportation. Goals and Objectives are the lens through which the future of Stafford is imagined.

Policies – provide guidance to the County leaders as it makes decisions. The policies serve as the filter through which the future of the built environment is directed and through which new development proposals and new directions are evaluated.

Implementation Tools – identify the specific actions that should be taken by the County to follow specified policies. An Implementation Matrix is included to prioritize tasks and identify responsible agencies.

Land Use Policies and Map – are included with this document to provide a recommended foundation for future land use decisions.

Transportation Plan – is included to identify funded transportation improvements, planned network improvements for next 20 years and anticipated road improvements that may exceed the 20 year planning horizon based on build-out of the planned land uses.

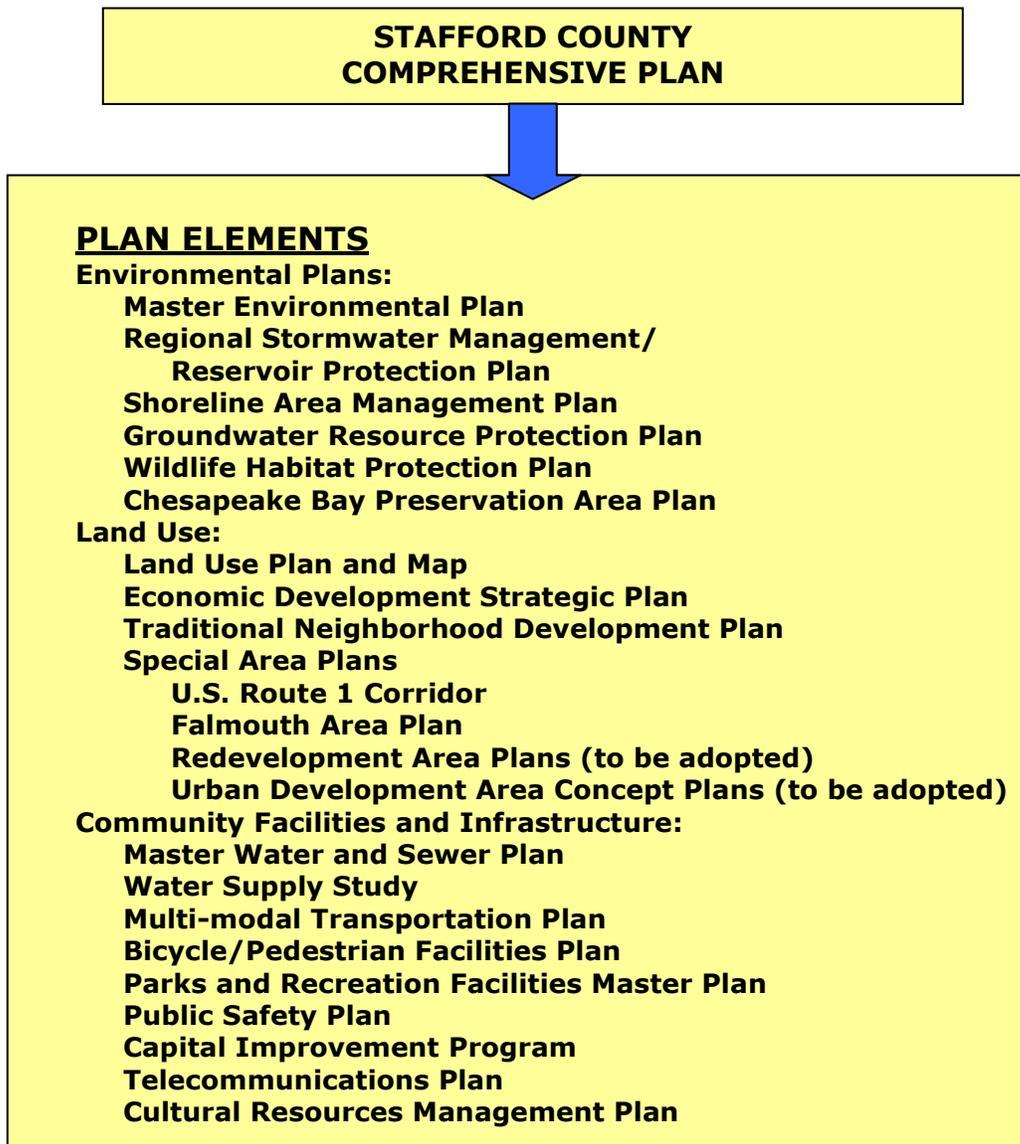
Public Facility Projections – are estimated based on the anticipated growth over the next 20 years. These facilities include schools, fire and rescue stations, parks, libraries, and government facilities.

Background Data – is provided that identifies the existing conditions and public input provided in developing this Plan. This Background Data provides a basis for the future direction envisioned in this Plan.

## 1.4 Relationship to other Plan Elements

The Comprehensive Plan is the main document that guides land use policy in the County. It provides the framework for public policy and land use decisions.

Plan elements provide more detailed strategies regarding specific components of land use planning, consistent with the guidance provided in the Comprehensive Plan. These Plan elements are appended to the Comprehensive Plan by reference, and upon review by the Planning Commission and adoption by the Board of Supervisors, are a part of the Comprehensive Plan. These documents may have different planning horizons, or have a purview significant enough that they require a stand-alone plan. Together, these plans are the components of the Comprehensive Plan.



## 1.5 Legal Basis for the Plan

The Code of Virginia requires each jurisdiction to adopt a Comprehensive Plan for its physical development. The Plan shall be prepared by the Planning Commission and adopted by the Board of Supervisors. The purpose of the Plan is to guide and accomplish a coordinated, adjusted and harmonious development of the territory which will, in accordance with present and probable future needs and resources, best promote the health, safety, morals, order, convenience, prosperity and general welfare of the inhabitants, including the elderly and persons with disabilities.

The Code of Virginia includes specific expectations of a locality's Comprehensive Plan. It identifies what shall be required and may be included:

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

As part of the Comprehensive Plan, each locality shall develop a transportation plan that designates a system of transportation infrastructure needs and recommendations that may include the designation of new and expanded transportation facilities and that support the planned development of the territory covered by the plan and shall include, as appropriate but not be limited to, roadways, bicycle accommodations, pedestrian accommodations, railways, bridges, waterways, airports, ports, and public transportation facilities. The plan should recognize and differentiate among a hierarchy of roads such as expressways, arterials, and collectors. The Virginia Department of Transportation shall, upon request, provide localities with technical assistance in preparing such transportation plan.

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

1. The designation of areas for various types of public and private development and use, such as different kinds of residential, including age-restricted, housing; business; industrial; agricultural; mineral resources; conservation; active and passive recreation; public service; flood plain and drainage; and other areas;
2. The designation of a system of community service facilities such as parks, sports playing fields, forests, schools, playgrounds, public buildings and institutions, hospitals, nursing homes, assisted living facilities, community centers, waterworks, sewage disposal or waste disposal areas, and the like;
3. The designation of historical areas and areas for urban renewal or other treatment;
4. The designation of areas for the implementation of reasonable ground water protection measures;
5. A capital improvements program, a subdivision ordinance, a zoning ordinance and zoning district maps, mineral resource district maps and agricultural and forestal district maps, where applicable;

6. The location of existing or proposed recycling centers;
7. The location of military bases, military installations, and military airports and their adjacent safety areas; and
8. The designation of corridors or routes for electric transmission lines of 150 kilovolts or more.

The plan shall include: the designation of areas and implementation of measures for the construction, rehabilitation and maintenance of affordable housing, which is sufficient to meet the current and future needs of residents of all levels of income in the locality while considering the current and future needs of the planning district within which the locality is situated.

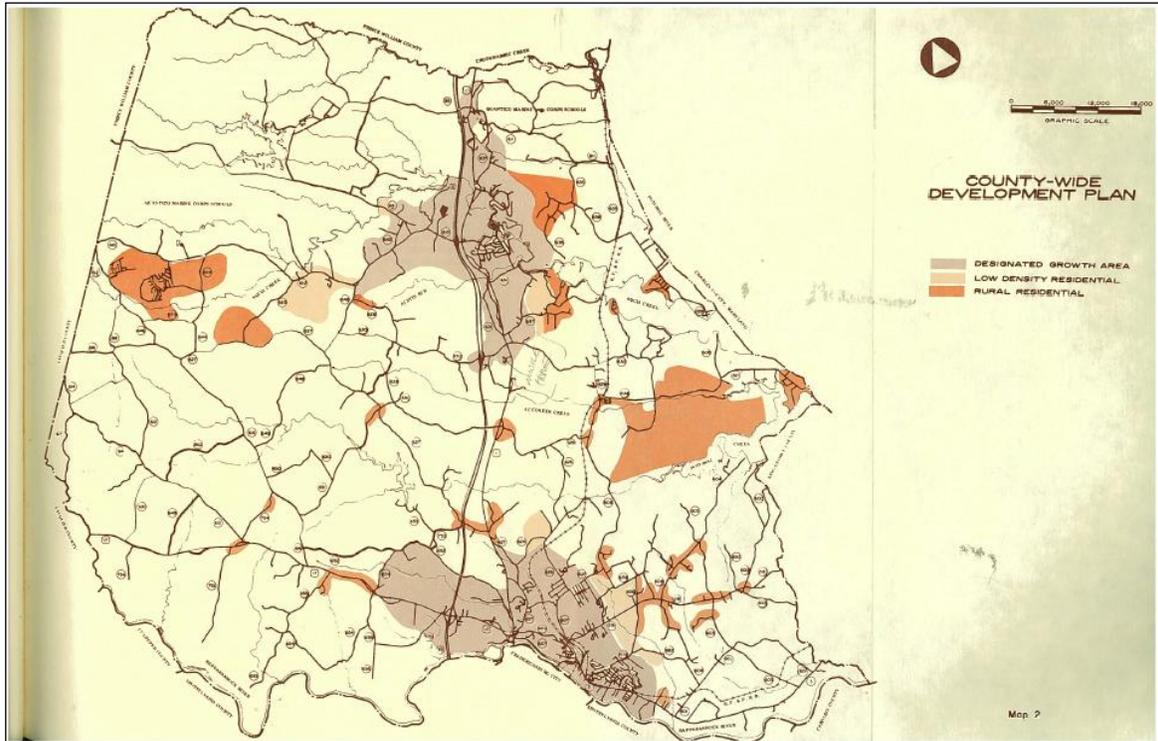
The plan shall include: a map that shall show road improvements and transportation improvements, including the cost estimates of such road and transportation improvements as available from the Virginia Department of Transportation, taking into account the current and future needs of residents in the locality while considering the current and future needs of the planning district within which the locality is situated.” (Va Code 15.2-2223)

## 1.6 History of the Comprehensive Plan in Stafford County

During the 1960’s and early 1970’s, Stafford County’s in-house planning function was primarily regulatory, involving administration of the subdivision and zoning ordinances. Comprehensive planning efforts were, for the most part, made possible through the assistance of State and regional agencies. The Governor’s Office, Division of Industrial Development and Planning, assisted the Stafford County Planning Commission in compiling eight reports studying the County’s existing natural resources, land uses, public facilities, and trends in population, employment, income, and industry and trade. These reports culminated in the *Future Land Use Plan (Report No. 9)* and the *Major Streets and Highways Plan (Report No. 10)*. These plans, including maps and descriptive matter (the preceding eight reports), were adopted by the Stafford County Board of Supervisors on July 8, 1964, as Stafford County’s first master plan.

Comprehensive planning efforts continued into the early 1970’s primarily through the assistance of the Rappahannock Area Development Commission (RADCO), now referred to as George Washington Regional Commission (GWRC). In 1973, increases in staff permitted a greater focus on long-range planning issues. Further impetus to bolster comprehensive planning efforts resulted from growth pressures during the 1970’s, as well as changes in planning legislation made by the 1975 Virginia General Assembly. The 1975 General Assembly amended the law to require all Virginia local governments to adopt comprehensive plans by July 1, 1980. As a result of these combined

factors, the Stafford County Board of Supervisors adopted a new comprehensive plan, the *Comprehensive Development Plan*, on April 17, 1975. This Plan was amended in June 1979, and July 1980. In February 1986, the Central Stafford U.S. Route 1 Corridor Development Plan was added.



*The Comprehensive Development Plan - 1979*

In May 1986, the County began the process of developing a new Land Use Plan which would represent the first in a series of component documents that now comprise the Stafford County Comprehensive Plan. The Land Use Plan was to direct residential, commercial, and industrial growth in suitable areas. This process was initiated with the development of extensive environmental, land use, and historic inventories, which would be used as a foundation in determining appropriate land uses. The location of major transportation routes, existing public utilities, and existing public facilities was also considered. The intention was to identify areas for growth that limited impacts on environmental and historic resources and took advantage of major existing roads and public utilities, while ensuring that new development was able to utilize existing park, school, library, and fire/rescue facilities effectively.

These efforts culminated in the adoption of a new County Land Use Plan as the first component of the County's Comprehensive Plan, in July 1988. This Land Use Plan provided a basis for the development of numerous Comprehensive Plan components and planning documents. These plans identify the various needs for the County relative to parks, schools, utilities, public safety, and

## Introduction

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transportation, while also identifying a course for development of plans to protect sensitive environmental resources. The Land Use Plan was now being used to determine the needs of the County in several important areas. Water and sewer lines were sized to accommodate future land uses in the Plan, road improvements were directly related to the Plan, as were the potential needs of the County for parks, schools, fire/rescue, libraries, and other services. The Land Use Plan was revised several times since its adoption, most recently in 1996 and 2003.

The many different elements of the Comprehensive Plan have been adopted at different times and have not been reevaluated and updated on a synchronized schedule. Several documents have not been updated since their initial adoption while others have been updated on a more regular basis.

The effort to prepare this update of the Comprehensive Plan began in April 2006. This document serves the purpose of creating a unifying document whereby other elements will be referenced and subsequently adopted or amended.

## 1.7 Preparation of the Plan

The Plan represents the collaborative effort of County officials and citizens and of a Comprehensive Plan Steering Committee. It is a collection of policies prepared to guide the County over the next 20 years. This section outlines the tasks completed in preparation of the Comprehensive Plan.

### Steering Committee Meetings

In 2006 and 2007, a series of meetings were held with an ad-hoc Comprehensive Plan Steering Committee. The Committee consisted of appointed and elected local officials, citizens and developers. The Committee met periodically with a hired consultant to discuss and direct the preparation of the Plan. The Committee reviewed extensive documentation and mapping resources, provided contacts and helped determine representatives to participate in a series of focus group sessions. There was a visioning session held with the Committee to develop initial goals and objectives and to help define the future of Stafford County. Visioning sessions held with the Steering Committee, staff and Planning Commission are summarized in the final chapter of this plan document.

In 2008 and in 2010, two separate sub-committees of the Planning Commission met to complete the draft of the Comprehensive Plan. Revisions to the draft were considered and made with the input and guidance provided by members of the governing Board of Supervisors. Revisions also took into

account other changes in the operating environment and state legislation that took place earlier in the planning process.

### Inventory

A data collection process was completed for the Plan. The information contained in the Plan was supplemented by data from various governmental and private agencies to help ensure the accuracy of the document. With the help of the various agencies, information was obtained regarding local laws and ordinances, land use, the environment, population, community services, housing, municipal services and economic development. Geographic Information Systems (GIS) data was provided by Stafford County to create maps and illustrate land uses, environmental conditions and the location of community services and transportation corridors.

### Focus Group Sessions & Interviews

A series of telephone interviews was conducted to obtain additional information. Many public and private sector individuals and organizations contributed data and assisted in efforts to update previous Plan elements.

Focus Group sessions were held with stakeholders on: Economic Development and Housing; Environment Parks and Nature; and Transportation and Community Services. Visioning sessions were also conducted with the Planning Commission and staff and department directors. The focus group sessions are summarized in the final chapter of this Plan document.

### Public Meetings/Hearings

Interactive public meetings were conducted. The public was invited to hear about the proposed Plan and provide comments. The public meetings were held during late spring and fall of 2006 and early in 2007. These sessions helped provide the County's outside consultant and the Steering Committee with valuable feedback regarding the Plan and the future of Stafford County. These sessions are summarized in the final chapter of this Plan document.

### Community Survey

A random survey was distributed to both homeowners and renters in the County. The survey was designed to determine the opinions of residents on a variety of topics, including community image, recreation, transportation, housing and community services. The survey is summarized in the final chapter of this Plan document.

### Implementation

Goals, policies and actions were developed for Stafford County to guide decisions over the next 20 years. The goals, policies and actions were

## Introduction

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developed based in large part upon the visioning sessions, the results of the community survey, and public and other community input. These goals, objectives and policies are intended to lead to the overall improvement of Stafford County and a better quality of life for all County residents.

### Revisions to the Plan

The Plan should be evaluated on an on-going basis to ensure it meets current and changing expectations. This introduces flexibility through time to evaluate changes that are unanticipated by the Plan. When the Planning Commission and/or the Board of Supervisors identify a need to amend the Comprehensive Plan, such amendments should be based on a general County need, not specific development proposals.

The entire Comprehensive Plan should be revisited and updated every five years. These revisions should reflect changes in the economic, demographic and other aspects of the community and should incorporate changing goals, objectives and policies. The five-year review is the time to accommodate changes in philosophy or direction.

## 1.8 Use of the Plan

This Plan will serve as a resource for those who seek general information as to how the County envisions change over the next 20 years. Crafting the Comprehensive Plan indicates a commitment to a vision for the future. As the County's primary planning document, it is of interest to elected officials, County staff, as well as the public.

**Elected Officials** will use the Plan to learn about their constituency's vision of the community's future as they consider development proposals and adopt local codes and ordinances to support the desired goals.

**Planning Commissioners** can measure the desirability of proposed developments by their conformity with the Plan; use the Plan to identify areas in which to initiate changes to subdivision and zoning ordinances; and guide its recommendations regarding transportation planning and capital improvements.

**County employees** will use the Plan when evaluating development proposals and prioritizing work efforts.

**The Public** will use the Plan as a reference when making residential location choices, determining where to locate a business, and evaluating the effectiveness of local government.



## **2.0 The Foundation for the Future**

### **2.1 Introduction**

The purpose of the Comprehensive Plan is to guide the physical development of our County. The Comprehensive Plan is a policy document that lays out a vision of the future with specific recommendations, a recommended Future Land Use Plan and recommendations for changes to zoning and land use regulations to implement the Future Land Use Plan. It is a guide to land use decision-making in Stafford.

### **2.2 Goals, Objectives and Policies**

The goals, objectives and policies provide a framework to guide that physical development and change in Stafford County. They set a standard for the County and its residents to meet and provide a benchmark for evaluating the progress of the implementation of the Plan.

The goals are the general aims of Stafford County. The objectives are more specific, providing mid-range strategies to accomplish the goal. Policies are operational actions, usually for the purpose of relatively short-term implementation.

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## Sustainability

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. A sprawling growth pattern of low-density development, which disperses residents over a wide area, consumes resources at a rate greater than can be replenished.

The location of roads and infrastructure shapes future development patterns. Builders and developers look for land with good access and the availability of public facilities. In particular, water and sewer extensions are major growth-inducing factors. Road improvements, construction of public facilities and water and sewer service can be used to direct growth into designated growth areas.

### **Goal 1. Manage growth and development in a sustainable manner.**

Objective 1.1. Make development, land use, transportation, utility and other public facility decisions consistent with the Comprehensive Plan.

Policy 1.1.1. Review of all development proposals should include an analysis on consistency with the Comprehensive Plan. Proposals that are inconsistent with the Comprehensive Plan should be denied.

Policy 1.1.2. Stafford County should encourage development proposals that are consistent with the Comprehensive Plan, land use and other regulations, and discourage development proposals that are inconsistent with the Comprehensive Plan.

Policy 1.1.3. Future development proposals should incorporate some, but not necessarily all of the following characteristics:

- Maintains or improves the quality of life in Stafford County
- Is sustainable or enhances sustainability
- Serves a range of transportation needs
- Protects natural, cultural and historic resources
- Considers aesthetic values
- Provides adequate provision of public facilities necessitated by the development
- Incorporates energy conservation measures
- Contributes to a pleasing community character
- Minimizes land use conflicts
- Promotes economic development.

Policy 1.1.4. Plans that are incorporated as elements in this Plan by reference should be updated to be consistent with the goals, objectives and policies of this Plan.

Policy 1.1.5. Amendments to the Comprehensive Plan should be made to serve the general public interest. Amendments should be based on a general need in response to the current context of development patterns and community vision, and not based solely on a specific development proposal.

Policy 1.1.6. The Erosion and Sediment Control, Stormwater Management, Water, Sewer and Sewage Disposal, Wetlands, Subdivision and Zoning and any other relevant chapters of the Code of Stafford County should be updated to be consistent with the goals, objectives and policies of the Comprehensive Plan.

Policy 1.1.7. This Plan should be implemented with respect to and in consideration of private property rights.

Objective 1.2. Direct growth into the Urban Services Area.

Policy 1.2.1. Establish a clear Urban Services Area boundary in a location that is suitable to accommodate residential and commercial development characterized by the presence of public facilities, utilities, and government services.

Policy 1.2.2. The County will establish measures to encourage new development within the Urban Services Area in order to reduce the growth pressure in the rural parts of the County.

Policy 1.2.3. Any expansion of the Urban Services Area boundaries must be reviewed by the Planning Commission and then approved by the Board of Supervisors before any extension of or connection to public water and sewer will be allowed for any area outside the existing Urban Services Area. The following specific criteria should be met when reviewing proposed Urban Services Area boundary expansions:

- The lands that are proposed to be included in the USA must have been zoned commercial or industrial as of the original date of adoption of this Plan.
- For mixed use projects with a residential component, demonstration of the need for expansion of the Urban Services Area, specifically that forecasted demand for residential units exceeds the availability of forecasted residential units.
- Demonstration of no availability of suitable alternative locations within the Urban Services Area.
- Demonstration that the new boundary is consistent with the goals and objectives of the Comprehensive Plan.

- Demonstration that the proposed extension would not lead to extension of water and/or sewer to other lands outside the Urban Services Area.
- Demonstration that the boundary change and associated land use will have minimal impact on land and land uses outside of the new boundary, and that the change will have minimal impact on public facilities or transportation.
- Demonstration of the availability of adequate services.
- Consideration of input from area residents and property owners.
- Demonstration that extensions to sewer lines will minimize the potential impact of failing septic drainfields on the watershed.

Policy 1.2.4. As required by Section 15.2-2223.1 of the State Code, the County shall designate Urban Development Areas in locations appropriate to accommodate higher density development, located in proximity to adequate transportation facilities, and within the current Urban Services Area. The Urban Development Areas shall be sufficient to accommodate projected residential and commercial growth for a period of 10 years.

Policy 1.2.5. The County shall establish a mixed-use district and design standards for development in the Urban Development Areas. This district shall have a residential density of at least four dwelling units per acre, and shall have a minimum commercial floor area ratio of 0.40. The design standards shall incorporate principles of new urbanism and traditional neighborhood development.

Policy 1.2.6. The County shall encourage within the Urban Development Areas pedestrian-oriented neighborhoods and town centers composed of a variety of housing types and densities, incorporating shopping and work place opportunities, and public facilities.

Policy 1.2.7. Dense, compact mixed-use developments should meet the following criteria:

- Be within the current Urban Services Area;
- Is most appropriate for infill or redevelopment;
- Have a sufficient density and scale to support a mix of uses, walkability, and public transit;
- Be designed, located, and programmed to offer alternatives to single occupancy vehicle trips, by enabling safe and effective pedestrian and bicycle access to multiple uses and activities and by being accessible to public transportation;
- Be sensitive to existing environmental features and protect natural resources;

- Incorporate sustainable design features;
- Include a mix of housing types for all income levels; and
- Offset its impacts to County services.

Policy 1.2.8. To the extent possible, feasible and consistent with other goals of the Comprehensive Plan, the County may adopt financial and other incentives to direct development into the Urban Development Areas.

Policy 1.2.9. Residential density “bonuses” in the Urban Services Area, and within Urban Development Areas, should be tied to reductions in residential density outside the Urban Services Area.

Policy 1.2.10. New development projects for residential neighborhoods and commercial sites located within the Urban Services Area should be connected to the public water supply and the public sewer system.

Policy 1.2.11. At least 80 percent of the future cumulative residential growth should be located inside the Urban Services Area. The progress toward this policy should be evaluated on an annual basis through the tracking of building permit activity.

Policy 1.2.12. Cluster subdivisions with increased density should meet the following criteria:

- Cleared natural resource area should be restored through the provision of increased landscaping in open space, buffer areas and on residential lots.
- Viable areas of existing agricultural uses and natural resources should be avoided when possible as part of the development design.
- Subdivisions should be located in areas of the County where public facilities (including schools, transportation, parks and recreation, water/sewer, emergency services) have planned capacity to absorb the demand of the additional density.
- Impacts of the development should be mitigated where existing public facilities are inadequate.
- Environmentally sensitive areas should be preserved within open space areas, including wetlands, floodplain, alluvial soils, slopes greater than 25%, designated trees and significant tree stands.
- Open space areas should be a continuous land mass that is not fragmented by the development of the subdivision and shall be of sufficient size and shape to support its intended use.

- The proposal should be consistent with airport land use compatibility standards, if the subdivision will be located within the Airport Impact Overlay District, including:
  - a. the provision of a minimum area of usable open space;
  - b. clustering dwelling units away from aircraft traffic patterns;
  - c. locating dwelling units at least 3,000 feet from the runway centerline;
  - d. noise mitigation measures in building standards; and
  - e. disclosure notices where applicable.
- The proposal should be consistent with military facility land use compatibility standards that are in accordance with Chapter 3.4, and provide for real estate disclosure notices, noise mitigation measures in building standards, and other sound attenuation measures where applicable, if the subdivision will be located within Quantico Noise and Range Compatibility Zones.
- The minimum side yard setback for each residential lot should be ten (10) feet or a fire suppression system should be provided within each dwelling unit.

Objective 1.3. The County will promote infill development and redevelopment within the Urban Services Area, including Urban Development Areas. Infill development includes the process of development on vacant, bypassed and underutilized land within built up areas of existing communities where infrastructure is already in place, and redevelopment of sites in these areas.

Policy 1.3.1. Redevelopment and infill development should be of an appropriate building scale and compatible character with surrounding uses.

Policy 1.3.2. The County will work with the private sector in efforts to revitalize commercial, office and industrial areas and corridors.

Policy 1.3.3. In-fill and redevelopment efforts will be encouraged in appropriate areas in the Urban Services Area, and the County's promotion will focus on Boswell's Corner, the Courthouse Area, Falmouth, and the Southern Gateway Area, as shown as Redevelopment Areas on the Land Use Plan map. Southern Gateway and Falmouth are envisioned to merge into one area as the final product evolves. Special Area plans should be adopted as elements of this Comprehensive Plan for these areas for the purpose of establishing future land use patterns, types, and intensities, and circulation and building design.

Policy 1.3.4. The County shall, where appropriate, consider alternatives to conventional zoning regulations to support a

development pattern consistent with the goals and objectives of the Redevelopment Areas and allow infill development that minimizes impact on adjacent uses. Examples include performance and incentive zoning, sometimes referred to as form based codes.

**Objective 1.4.** Discourage growth in the Rural areas outside the Urban Services Area.

Policy 1.4.1. Areas outside of the Urban Services Area will be characterized by large lot residential subdivisions, agricultural activities, and open land. These rural areas will have limited public services, utilities and facilities.

Policy 1.4.2. Water and/or sewer should not be extended beyond the current boundaries of the Urban Services Area for residential projects, with the following exception:

- Allow for the extension of public sewer utilities outside of the Urban Services Area only where there has been documented risk to public health and where application of the current pump and haul policy would be financially excessive to County Utility rate payers.

Policy 1.4.3. Private connections for houses, buildings or property to public sewer lines located outside the Urban Services Area should be allowed only when the property to be served abuts a street, alley or right-of-way in which there is located an existing public sewer line, and the building drain is located within 300 feet of the public sewer.

Policy 1.4.4. Private connections for houses, buildings or property to public water lines located outside the Urban Services Area should be allowed only when the property to be served abuts a street, alley or right-of-way in which there is located an existing public water line, and the house or building is located within 300 hundred feet of the public water line.

Policy 1.4.5. Road improvements should be focused on the Urban Development Areas, and to a lesser extent on the Urban Services Area to support the areas of targeted growth. Safety and general welfare of the public should be the primary consideration for road improvements outside the Urban Services Area.

Policy 1.4.6. The subdivision and zoning ordinances should be updated to incorporate the highest standards allowable under Virginia statutes for building and developing in agricultural areas.

Policy 1.4.7. The County should educate residents and developers that public facilities and access to public services may be limited outside the Urban Services Area.

Objective 1.5. The County may from time to time establish water and sewer service areas in locations outside of the designated Urban Services Area where a documented need exists for the protection of public health, safety, and welfare relative to existing uses and developments, and not to promote new development.

Policy 1.5.1. Allow for the extension of public water and sewer utilities to established rural residential neighborhoods and crossroads that may not be contiguous with the main Urban Services Area and where the sizes of lots preclude the construction of new systems and aging private systems are no longer sustainable.

Policy 1.5.2. Designate limited water and sewer utility service areas in the vicinity of Lake Arrowhead, Hidden Lake, and the Roseville neighborhoods, and the Hartwood Elementary School area as defined within this Plan. The mapping should be amended if the need arises in additional areas.

Policy 1.5.3. Funding for the utility lines to serve the areas referenced in Policy 1.5.2 shall be achieved by obtaining grants, establishing service districts, or by other means, and not at the expense of the utility rate payers.

Policy 1.5.4. Public water and sewer lines may need to be located outside of the Urban Services Area or Water and Sewer Service Areas to reach the designated service areas. This policy does not support the rezoning of land along these lines that would increase the intensity of development outside of the designated service areas nor does this policy support the extension of utility lines to serve by-right residential subdivisions or commercial development.

Objective 1.6. Preserve rural and agricultural areas of Stafford County and establish mechanisms for ensuring their continued protection from development.

Policy 1.6.1. The County should establish a Transfer of Development Rights (TDR) Program. The program should focus development into the Urban Services Area. Properties located outside of the Urban Services Area shall be designated by amendment to the Comprehensive Plan as sending areas for development rights. Areas within the Urban Services Area shall be designated by amendment to the Comprehensive Plan to be

eligible to receive development rights. Incentives may be used to encourage the transfer of development rights from sending to receiving areas. The transfer of development rights into the Urban Services Area should not negatively impact public services levels.

Policy 1.6.2. The County should continue support of the Purchase of Development Rights program.

Policy 1.6.3. The County should encourage private landowner dedication of conservation easements.

Policy 1.6.4. Calculations to establish the number of development rights for a parcel should exclude areas located on slopes of 25% or greater, hydric soils, and 4 % of the gross tract size for right of way dedication.

Policy 1.6.5 The County supports the preservation of rural character through the clustering of residential development. Cluster development would permit smaller lot sizes in exchange for preservation of open space, farmland, sensitive resources, and forested areas.

Objective 1.7. Phase growth to coincide with the establishment of necessary public infrastructure and services.

Policy 1.7.1. Implementation of Urban Development Areas should be phased based on the availability of public services and adequate infrastructure, projected population growth and projected residential and commercial growth.

Policy 1.7.2. New development proposals for projects within the Urban Services Area boundary and for the Urban Development Areas that are dependent upon the future changes should be rejected until the projected changes have been implemented.

Objective 1.8. Integrate land use and transportation decisions.

Policy 1.8.1. The County shall apply the requirements of Virginia Administrative Code Chapter 527, the traffic impact analysis regulations, to all projects potentially eligible under the statute to properly understand the impacts that land use changes may have on the transportation network. Land use proposals that have a negative impact on the transportation network should fully mitigate impacts to achieve adequate levels of service.

Policy 1.8.2. The County will prioritize road, pedestrian and transit improvement within the Urban Service Areas to include

consideration of Levels of Service as well as Transportation Bond Projects.

Policy 1.8.3. Prior to constructing new roads or adding capacity to roads outside the Urban Services Area, the County should conduct an impact assessment of the potential for increased development as a result of the road project.

Policy 1.8.4. The County should maintain its Traffic Model to gauge the effect of growth, development, road improvements and changing transportation patterns on the transportation network.

## **Fiscal Responsibility**

Residential development, although sometimes necessary to accommodate population growth, on average does not pay for itself. As of calendar year 2008, on average, each new “by-right” single family dwelling in Stafford County (developed without cash proffers to mitigate the cost of public services) creates capital infrastructure costs of an estimated \$92,002. Infrastructure includes roads, schools, parks, and other public facilities. The dollar amount is based on a linear projection, assuming that as population increases all future facilities would be developed to achieve a desired service level without consideration for deficiencies or excess capacity. The number may vary based on inflation and construction costs. This does not include operating costs, such as maintenance cost and personnel salaries.

In contrast, depending on how it is maintained, open space is budget neutral or “gives back” more in revenues than it uses in public services, and commercial development generates more revenues than the cost of public services that it consumes.

The explosion of residential development in Stafford County during the first half of the last decade has led to escalating property taxes, changes in levels of public services and increasing County debt. The imbalance of residential to commercial development that occurred during that time was not financially sustainable.

### **Goal 2. Ensure that growth and development is managed in a fiscally responsible manner.**

Objective 2.1. Adopt a land use plan and establish a growth management system that will accommodate the projected year 2030 population of 218,772.

Policy 2.1.1. To the extent possible, the future land use map should limit potential residential growth to the amount of dwelling units needed to accommodate forecasted population growth.

Policy 2.1.2. Amendments to the Comprehensive Plan, including the Land Use Map, should not create additional excess residential capacity.

Policy 2.1.3. The County will maintain and update population and housing data and future projections that will be used to:

- Evaluate development proposals;
- Provide adequate housing opportunities for all residents;
- Assure that adequate levels of service are met;
- Deliver adequate public services;

- Generate employment opportunities to meet the needs of a growing population;
- Ensure adequate transportation planning; and
- Measure growth trends against the Comprehensive Plan.

Objective 2.2. Stafford County should use Level of Service Standards to assist in identifying which existing lands, facilities or services should be extended, widened, removed, relocated, vacated, narrowed, abandoned, or changed in use as the case may be.

Policy 2.2.1. At a minimum, the Level of Service standards should address roadway systems, transit, libraries, storm water quantity and quality, parks and recreation, solid waste collection and disposal, public safety, schools, water, sanitary sewer and administration.

Policy 2.2.2. The Comprehensive Plan should incorporate Levels of Service Standards for which the inputs are now known.

Policy 2.2.3. The County should identify missing information to establish some Levels of Service Standards, and implement a plan to obtain this information. The Board of Supervisors should initiate an amendment to the Comprehensive Plan to incorporate additional Levels of Service Standards as needed.

Objective 2.3. The Board of Supervisors should use the Public Facilities Plan, as included in Chapter 5 of this document, as a needs assessment for the annual Capital Improvements Plan.

Policy 2.3.1. The Public Facilities Plan should assess existing and future public facility needs, forecasting when and where expanded and new public facilities will be needed to most efficiently and conveniently serve County residents.

Policy 2.3.2. The Public Facilities Plan should be implemented to apply the Levels of Service Standards for public facilities and services.

Objective 2.4. Identify the public costs of residential growth and development, and its potential impact on the County's budget and property taxes.

Policy 2.4.1. The County should adopt a Financial Impact Model as an element of the Comprehensive Plan and prepare and present an annual update to the Board of Supervisors.

Policy 2.4.2. The Financial Impact Model should incorporate the Levels of Service Standards, and model for a period of twenty

years the projected revenues and expenses for the County based on projected population growth, and projected residential and commercial development.

Policy 2.4.3. The Comprehensive Plan should estimate the incremental capital costs of new residential units.

Objective 2.5. Ensure that impact statements are complete and incorporated into the development review process.

Policy 2.5.1. Where not specified by state statute, the County should establish standards for impact statements.

Policy 2.5.2. Development proposals or amendments to the Comprehensive Plan that do not include required and complete impact statements should be rejected.

Objective 2.6. Use infrastructure as a tool to guide development into locations where the land is most cost effectively served.

Policy 2.6.1. Future public facilities should be encouraged to be located within the Urban Services Area (USA). Exceptions may be made when the only way to meet Level of Service Standards or location criteria contained in the Public Facilities Plan is to locate the facility outside the USA or when land is dedicated to the County and the development of the site and any required infrastructure would not be cost prohibitive.

Policy 2.6.2. Priority should be given to meeting capital improvement, road and other infrastructure needs within the Urban Development Area, and to a lesser extent the remainder of the USA.

Objective 2.7. To the maximum extent possible, the County should collect funds from land development projects to pay for the costs of growth and development.

Policy 2.7.1. The County should maintain an up-to-date assessment of the capital costs of residential and non-residential development.

Policy 2.7.2. The County should collect transportation impact fees pursuant to Virginia Code Sec. 15.2-2317 et seq.

Policy 2.7.3. The County should collect proffers on rezoning applications to the extent possible to meet capital improvement needs.

Policy 2.7.4. For land development located within a dam break inundation zone, the County should establish a system for collecting fifty percent of the costs for necessary upgrades to impounding structures, pursuant to Sec. 15.2-2243.1.

Policy 2.7.5. The County should regularly update and/or recalculate transportation impact fees and/or proffer guidelines to reflect current costs.

## Environment

Our decision to occupy and alter Stafford County's landscape has resulted in increased volumes and concentrations of specific pollutants in the air, in surface and ground waters, and in the soil. These pollutants can harm both the natural and the human environment.

Although Stafford County does not have to contend directly with the more serious forms of pollution associated with heavy industry, discharges from factories in other parts of the region and country and pass through traffic on Interstate 95 have indirectly created a negative effect on air and water quality in the County. Within the County, the conversion of land to urban uses and our dependence on the automobile have resulted in increased amounts of pollution.

- o The County has not attained federal air quality standards for ozone.
- o While Stafford County has attained federal carbon monoxide standards, high CO concentrations occur in "hot spots" near points of traffic congestion.
- o Some streams and lakes in Stafford County, and the Potomac River, are characterized by poor water quality.
- o Removal of natural vegetation along stream banks and shorelines has increased stream bank erosion. Land use and development activities have altered stream flows, and transported pathogens and pollutants into streams, wetlands and lakes.
- o The County continues to lose open space, much of which is significant for protecting environmental resources. It is desirable to conserve a portion of the County's land in a condition that is as close to a predevelopment state as is practical.
- o Development impacts have led to increased light and noise pollution.

Although faced with many threats, Stafford is rich in diverse, natural resources. These resources present opportunities for education, recreation, eco-tourism and buffers to the impacts of development. Chief among these resources is the Crow's Nest peninsula. Located approximately seven miles east of the County Courthouse, Crow's Nest encompasses 3,884 acres of contiguous forestland. It is bounded by Brooke Road (Rt 608) on the West, Accokeek Creek to the North, and Potomac Creek to the South. The confluence of these creeks and the Potomac River is at the eastern tip of the peninsula. In addition to natural assets, there are significant cultural and historical resources on the Peninsula.

Protection of the Crow's Nest peninsula as a public natural area park will provide public access for low-impact educational and recreational activities; provide additional public water access points in the Chesapeake Bay watershed; preserve important historical and archeological sites; and increase protected natural/open space. Suitable uses for the public park include fishing, wildlife observation and photography, environmental and historical education,

hiking, and limited deer hunting dependent upon needs for deer population maintenance and control.

**Goal 3. Stafford County encourages its citizens and businesses to preserve and protect Stafford’s natural and environmental resources through voluntary efforts.**

Objective 3.1. Ensure that environmental protection efforts meet federal and state mandates with minimal impacts on the County.

Policy 3.1.1. Stafford County recognizes that certain environmental requirements are mandated by federal and state regulations, including, but not limited to, the state Chesapeake Bay Preservation Act, Wetlands Code, the federal Clean Water Act, Clean Air Act, and National Flood Insurance Program. When trying to meet the objectives of state and federal mandates and a menu of options are provided to meet objectives, emphasis should be placed on incentive based measures.

Policy 3.1.2. Stafford County should encourage and support community education programs to educate the public, its citizens and businesses about green programs, federal and state environmental mandates and requirements.

Policy 3.1.3 - Development proposals that are projected to cause a substantial increase in auto related air pollutants should provide a transportation management strategy which minimizes dependence on single occupant automobiles. This shall apply to residential and non-residential development proposals that meet the requirements to submit a traffic impact analysis in accordance with VDOT criteria. The types of strategies employed may include, but not be limited to:

- Provision of an interconnected street network within a development and to adjoining property to potentially shorten trip lengths
- Incorporation of pedestrian and bicycle facilities into the design of the development
- Promotion of ride sharing programs by employment centers
- Design commercial projects to limit vehicle trips within the shopping complex
- In mixed use developments, focus residential uses within ¼ mile of shopping and employment opportunities, with the design, configuration, and mix of uses emphasizing a pedestrian oriented environment.
- Enhancement of telecommunications infrastructure to promote work from home opportunities
- Provision of shuttle buses to transportation nodes.

Objective 3.2. Preserve and improve air quality.

Policy 3.2.1. Establish land use patterns and transportation facilities that encourage the use of public transportation and reduce trip lengths to reduce emissions of nitrous oxide, carbon monoxide, and hydrocarbons from automobiles.

Policy 3.2.2. Implement transportation strategies that reduce auto travel and improve traffic flow, thereby reducing auto emissions.

Policy 3.2.3. Encourage the application of state of the art technology toward the reduction of emissions from stationary sources of air pollution.

Objective 3.3. Prevent and reduce pollution of surface and groundwater resources. Protect and restore the ecological integrity of streams in Stafford County.

Policy 3.3.1. Continue to study and evaluate the need for the establishment of a Stormwater Utility.

Policy 3.3.2. Maintain a best management practices (BMP) program for Stafford County, ensure that new development and redevelopment complies with the County's best management practice (BMP) requirements, and monitor the performance of BMPs. Update BMP requirements as newer, more effective strategies become available.

Policy 3.3.3. Preserve the integrity and the scenic and recreational value of stream valleys when locating and designing storm water detention and BMP facilities. In general, such facilities should not be provided within stream valleys unless they are designed to provide regional benefits or unless the stream has been significantly degraded.

Policy 3.3.4. When facilities within the stream are appropriate, encourage the construction of facilities that minimize clearing and grading, such as embankment-only ponds, or facilities that are otherwise designed to maximize pollutant removal while protecting, enhancing, and/or restoring ecological integrity.

Policy 3.3.5. Update erosion and sediment regulations and enforcement procedures as new technology becomes available. Minimization and phasing of clearing and grading are the preferred means of limiting erosion during construction.

Policy 3.3.6. Where practical and feasible from a design and cost

standpoint, retrofit older stormwater management facilities to perform water quality functions to better protect downstream areas from degradation.

Policy 3.3.7. Protect water resources by maintaining high standards for discharges from point sources.

Policy 3.3.8. Establish a program to monitor Stafford County's surface and groundwater resources.

Policy 3.3.9. Encourage land use activities to protect surface and groundwater resources.

Policy 3.3.10. For new development and redevelopment, apply better site design and low impact development (LID) techniques, and pursue commitments to reduce stormwater runoff volumes and peak flows, to increase groundwater recharge, and to increase preservation of undisturbed areas.

Policy 3.3.11. Encourage watershed management planning and consider any watershed management plans that are adopted or endorsed by the Board of Supervisors as a factor in making land use decisions.

Policy 3.3.12. Optimize stormwater management and water quality controls and practices for redevelopment consistent with revitalization goals.

Policy 3.3.13. Natural wetlands should not be used as silt ponds, or serve as the receiving area for stormwater.

Objective 3.4. Protect the Potomac Estuary, the Rappahannock, and the Chesapeake Bay from the avoidable impacts of land use activities in Stafford County.

Policy 3.4.1. Ensure that new development and redevelopment complies with the County's Chesapeake Bay Preservation Ordinance, as applied to Chesapeake Bay Preservation Areas adopted by the Board of Supervisors.

Policy 3.4.2. Evaluate the need to strengthen the County's Chesapeake Bay Preservation Ordinance by amending the Ordinance to include, but not be limited to, additional protection of streams as allowed under the State statute. Implement all recommendations contained in the *Chesapeake Bay Preservation Area Plan* element of the Comprehensive Plan.

Policy 3.4.3. Where tidal shoreline erosion control measures are needed, consider recommendations contained in the "Shoreline

Protection Policies” in the *Chesapeake Bay Plan* element of the Comprehensive Plan dated November 2001.

Policy 3.4.4. Boating and other tidal shoreline access structures should be sited, designed, and constructed in a manner that minimizes adverse environmental impacts. Where County approval of tidal shoreline access structures is needed, the following guidelines should be consulted and considered in the decision-making process: the Chesapeake Bay Program's document entitled "Chesapeake Bay Area Public Access Technical Assistance Report;" and the following guidelines issued by the Virginia Marine Resources Commission; "Shoreline Development BMPs," "Wetlands Guidelines," and "Subaqueous Guidelines."

Policy 3.4.5. Support efforts to mitigate or compensate for losses of wetlands impacted by shoreline structures and development.

Objective 3.5. Conserve and restore tree cover on developed and developing sites.

Policy 3.5.1. Establish tree cover requirements and implement through tree preservation rather than tree planting where existing tree cover exists.

Policy 3.5.2. Protect or restore the maximum amount of tree cover on developed and developing sites consistent with planned land use and good silvicultural practices.

Policy 3.5.3. Use open space/conservation easements as appropriate to preserve woodlands, monarch trees, and/or rare or otherwise significant stands of trees, as identified by the County.

Objective 3.6. Establish mechanisms to protect scenic and/or sensitive environmental resources in perpetuity.

Policy 3.6.1. Create open space and conservation easement policies.

Policy 3.6.2. Create an Environmental Quality Corridor (EQC) system to identify, protect and restore areas that have a desirable or scarce habitat; provide “connectedness” for wildlife movement; desirable aesthetic features; and/or pollution reduction capacities, prioritizing stream valleys.

Policy 3.6.3. Encourage incentives for private placement of land in open space and conservation easements, and within a protected EQC.

Policy 3.6.4. Preserve and protect the natural beauty of Stafford County's topography, including its view sheds, waterways and signature rolling hills and valleys.

Objective 3.7. Encourage parks and natural areas to include low-impact recreational and educational uses.

Policy 3.7.1. Incorporate plans for natural areas and parks for low-impact uses into the Parks and Recreation Master Plan.

Policy 3.7.2. Permanently protect the Crow's Nest peninsula in the areas designated on the Land Use Map.

Policy 3.7.3. Incorporate requirements and standards for open and green spaces and natural areas into land use districts.

Objective 3.8. Minimize light emissions to those necessary and consistent with general safety.

Policy 3.8.1. The County should establish the use of lighting plans to reduce glare, eliminate over-illumination and reduce sky glow, and follow Crime Prevention Through Environmental Design (CPTED) principles.

Policy 3.8.2. Light sources for parking lots and signage should use the minimum intensity necessary to accomplish the light's purpose.

Policy 3.8.3. Full cutoff fixtures should be used in exterior lighting for development and redevelopment projects.

Policy 3.8.4. Lighting plans should incorporate the latest technology in lighting that provides effective illumination and enhanced energy efficiency whenever possible.

Objective 3.9. Integrate environmental planning and implementation efforts into a single Master Environmental Plan.

## **Health, Safety and Welfare**

Maintaining and improving the health, safety and welfare of the residents of the County improves the overall livability of a community. In ensuring that Stafford is a great place to live, work, learn, and play, the County must be mindful of the challenges involved in maintaining a high quality of life and in response establish policies to address these issues.

Unlike some parts of the United States, Stafford County has not experienced widespread destruction due to natural disasters. However the County is not free from being impacted by natural events and manmade hazards.

The geologic conditions in Stafford create a variety of challenges. There are hazards to property in some areas of the County posed by wet or unstable soils. Marine clay soils found in the eastern part of the County and shrink-swell clay soils found primarily in the western area can cause foundation failures, cracked and shifting walls, and in extreme cases, catastrophic slope failure. Asbestos bearing soils may pose a health risk to construction workers requiring special precautions during excavation.

Increasing urbanization often creates an imbalance between developing important natural resources and protecting quality of life and overall community values. The location of mineral resources, such as sand and gravel, and crushed stone, depends upon geological reserves. As residents locate nearer to these areas, extraction of these resources may threaten their safety and well-being.

Stafford must be mindful of its ability to sustain basic needs during short term natural events, as well as in the long term. In the short term, emergency preparedness will allow residents to better deal with disruptions to food, water, power, and fuel supplies, as seen during past hurricane or major snow events. In the long term, the County shall be mindful of its water resources, to ensure land use practices do not impact surface and groundwater reserves.

The County offers a superb network of parks, abundant recreation opportunities, and unique natural areas. As the County continues to grow, a challenge will be to maintain adequate recreational opportunities and open space. Parks, recreational facilities and open space are designed to improve the health of the residents of Stafford County by providing for their need for exercise and relaxation, but they also help to protect the County's natural resources and environment. Because of its dramatic growth, Stafford County must be particularly mindful of the need to set aside land for future parks and open space as well as provide adequate facilities for the active and passive recreational requirements of its current and future population.

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**Goal 4. Ensure the health, safety and well-being of Stafford County residents.**

Objective 4.1. Through land use policies, maintain and enhance the capacity of Stafford County to meet the basic needs of citizens during times of crisis and in the face of diminishing resources.

Policy 4.1.1. Establish mechanisms to encourage continued active agricultural uses, and to re-establish active agricultural uses outside the Urban Services Area.

Policy 4.1.2. Encourage the local production and purchase of food and fiber through establishment and support of viable farmers markets and agri-tourism events, establishment of standards for community gardens in major residential developments, and promotion of individual garden plots.

Policy 4.1.3. In order to ensure an adequate supply of energy resources, promote conservation measures such as property tax credits for use of alternative energy sources or use of high efficiency appliances or building practices.

Objective 4.2. Protect drinking water resources.

Policy 4.2.1. Encourage that development and redevelopment sites that may have been subject to contamination by toxic substances or other hazardous materials be remediated to the extent they will not present unacceptable health or environmental risks for the specific uses proposed for such sites.

Policy 4.2.2. Implement a groundwater management ordinance in accordance with the Groundwater Management Plan element of the Comprehensive Plan.

Policy 4.2.3. Ensure the quality of drinking water reservoirs is maintained through a pre-treatment monitoring program. If water quality degradation is detected, then appropriate mitigation measures should be implemented.

Policy 4.2.4. Establish reservoir overlay district standards for the long term protection of the County's public water supplies.

Policy 4.2.5. Ensure development proposals that include the use and storage of hazardous materials comply with all state and federal regulations.

Policy 4.2.6. Support education about methods to minimize the application of fertilizers, pesticides, and herbicides to lawns and

landscaped areas through, among other tools, the development, implementation and monitoring of integrated pest, vegetation and nutrient management plans.

Objective 4.3. Minimize development on erodible, hydric, and other soils deemed unsuitable for development.

Policy 4.3.1. Discourage development on erodible and hydric soils, and cluster development away from steep slopes and potential problem areas.

Policy 4.3.2. Require new development on problem soils such as shrink swell and low pH (acidic) soils to provide appropriate engineering measures to minimize geotechnical hazards.

Objective 4.4. Minimize the potential impacts of flood hazards, storm surges, and high water levels.

Policy 4.4.1. Create awareness of Stafford County waters that may be susceptible to a rise in tidal water levels and storm surge and assess the potential impacts.

Policy 4.4.2. Discourage development of new buildings and structures within dam inundation zones.

Policy 4.4.3. The Comprehensive Plan should include a map identifying all parcels wholly or partly within dam break inundation zones.

Objective 4.5. Support the expansion of electric and pipeline utilities in a manner that minimizes the exposure of County residents to potential pipeline ruptures and visual impacts and environmental hazards associated with electrical transmission and distribution facilities.

Policy 4.5.1. The Comprehensive Plan should include a map designating major gas and petroleum pipelines, and electrical transmission and distribution facilities.

Policy 4.5.2. Public Service Corporations should have their easements and facilities well marked and they should provide regular public education on the location and hazards associated with major gas and petroleum pipelines, and electrical transmission and distribution facilities.

Policy 4.5.3. The County should identify critical surface and ground water resource areas in the vicinity of pipelines, and the pipeline operators should share with the County contingency plans for emergency response in case of an accident.

Policy 4.5.4. Electric utility and telecommunication providers should design their systems to minimize electromagnetic field impacts on nearby residential uses, schools, and businesses.

Policy 4.5.5. Above ground transmission lines, sub-stations, and switching stations should be sited and designed in a manner to minimize visual and environmental impacts on adjacent land uses. Within the Urban Services Area, the County encourages the underground placement of all electric transmission lines when new lines are installed or existing lines relocated. Above ground transmission lines of 150 kilovolts or more, and associated facilities such as sub-stations and switching stations should provide adequate screening and buffering.

Policy 4.5.6. The County discourages future residential development from locating in the vicinity of existing and future electric transmission lines of 150 kilovolts or more, and associated facilities such as substations and switching stations without adequate screening and buffering.

Objective 4.6. Minimize potential impacts of mineral extraction on nearby properties.

Policy 4.6.1. To meet future demands, allow mineral extraction activities, including, but not limited to, sand, gravel, stone, and rock, to occur only in areas of known geological reserves, as determined by the Virginia Department of Mines, Minerals and Energy, Division of Mineral Resources.

Policy 4.6.2. Encourage existing mining/ extraction operations to fully utilize adjoining areas that have suitable mineral resources by relocation of existing operations at the appropriate time, rather than relocate to other sites within the County.

Policy 4.6.3. Require proposals for mineral extraction to obtain a Conditional Use Permit to mitigate impacts to nearby properties.

Policy 4.6.4. Require berms and/or other screening measures to minimize visual intrusions.

Policy 4.6.5. Restrict operating hours to preclude disturbances from vehicles and equipment.

Policy 4.6.6. Encourage existing mining/extraction operations to provide for appropriate re-use of mined areas, after mining and reclamation procedures have been completed. Appropriate re-use may include dedication of portions of the reclaimed site for public infrastructure needs such as parkland and/or reservoirs.

Objective 4.7. Create a diversity of recreational opportunities for Stafford residents of all ages.

Policy 4.7.1. The County will evaluate its future need for public parks, recreational facilities and passive open space on an on-going basis and identify areas for acquisition to fill this need in order to conform to the County's Level of Service Standard incorporated into the Comprehensive Plan.

Policy 4.7.2. Where practical, expansion of existing parks should be considered when a future need is identified. Development proposals should consider donation of land to adjacent parks if a need exists and the need is reasonably related to the development proposal.

Policy 4.7.3. Criteria for parks and recreation will be guided by the Virginia Outdoors Plan and National Recreation and Parks Association standards.

Policy 4.7.4. A Parks and Recreation Master Facilities Plan should be updated and incorporated as an element of the Comprehensive Plan.

Objective 4.8. Minimize the noise impacts, vibration impacts, and potential safety hazards generated by the use of live fire ranges and aircraft overflight and aviation impacts in general at Quantico Marine Corps Base (MCB).

Policy 4.8.1. Amend the existing Military Facility Impact Overlay District boundary map to include the following areas as depicted in the Quantico MCB 2006 Range Compatibility Use Zone (RCUZ) Study:

- All land within a five mile radius of Quantico MCB demolition areas.
- All land designated under Range Safety Zone C.

Policy 4.8.2. Amend the Military Facility Impact Overlay District ordinance to encourage the following residential densities within the District in areas outside of the County's Urban Services Area:

- Within the five mile radius area, reduce density to 1 dwelling unit per 10 acres.
- Within the remaining Range Safety Zone C, reduce or maintain a density at 1 dwelling unit per 3 acres.

These densities should be accomplished through means such as conservation easements, Purchase of Development Rights, Transfer of Development Rights, and continuation and establishment of agricultural uses and coordination with the Base on their encroachment control plans.

Policy 4.8.3. Amend the Military Facility Impact Overlay District ordinance to include Noise Level Reduction (NLR) requirements in building codes for structures within the District.

Policy 4.8.4. Require written noise disclosure, as permitted by law, for potential purchasers and lessees within the Military Facility Impact Overlay District of military operation impacts through means that include, but are not limited to, the requirement of a note on subdivision plats or exploring the possibility of revisions to the County's Noise Ordinance.

Policy 4.8.5. Amend the zoning ordinance to establish a maximum height restriction of 450 feet above mean sea level for towers, structures, buildings or objects in areas within the Quantico MCB Range Safety Zone C depicted in the Quantico MCB 2006 RCUZ Study.

Policy 4.8.6. Evaluate the need to adopt regulations that promote compatible land uses in areas outside the Military Facility Impact Overlay District, but within sufficient proximity to Quantico MCB to experience noise and/or vibration impacts.

Policy 4.8.7. Designate the boundaries of an Airport Impact Overlay Zone for the approach to the Quantico MCB air facility. The primary approach to the landing strip at Quantico, known as Turner Field, is a north south orientation located over the eastern portion of the County, including areas such as Crow's Nest and the Widewater peninsula. It is illustrated in Figure 5.14 of this document.

Policy 4.8.8. Notify the Commander and Community Plans and Liaison Officer of Quantico MCB and the Civilian-Military Community Relations Council, of any proposed extension of water or sewer service outside the Urban Services Area on lands within five miles of the boundary of Quantico MCB.

Policy 4.8.9. Work cooperatively with Quantico MCB to limit land uses to those compatible with military training activities within the Military Facility Impact Overlay Noise Zones and Range Safety Zones as recommended in the August 2006 Range Compatible Use Zone Study and included in Chapter 3 of this document.

## The Foundation for the Future

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Objective 4.9. Minimize the noise impacts and potential safety hazards generated by general aviation at public and private airfields in the County.

Policy 4.9.1. The County should develop land use compatibility standards for new development to conform to within the aircraft approach patterns of airports and landing strips.

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## Housing

Home ownership expands individual opportunities to accumulate wealth, enables a family to exert greater control over their living environment, creates incentives for households to better maintain their homes, and may benefit children of homeowners. Homeownership also benefits local neighborhoods because owner-occupiers have a financial stake in the quality of the local community.

Stafford County's housing stock has increased exponentially through 2007 and the rate of growth dropped sharply in 2008 in line with national trends. According to the 2000 Census, the median year that all homes were built is 1987. That figure will change, as more than 10,000 residential units were added between 2000 and 2007, an increase of 34%. Although there were approximately 1,500 new residential units per year through 2007, the number of new building permits dropped to 419 in 2008. Although median home values increased at a similar rate, from \$156,400 in 2000 to \$360,000 in 2007, the value dropped to \$272,950 in 2008. Stafford must determine a direction for future residential development that is more affordable should housing values rebound and rise sharply.

In Stafford County, past increases in housing costs had the effect of limiting opportunities for affordable home ownership. Affordable housing is safe, decent housing where costs (mortgage or rent plus utilities) do not exceed 30 % of gross household income. This should apply across the spectrum of income levels. The mid-range income level, known as "workforce housing" applies to households that earn between 50% and 120% of the median household income, or between \$44,768 and \$107,443, based on a median income of \$89,536 in 2008. The lower end of this level includes the community's sheriff deputies, firemen, school teachers, nurses and retail associates who often are priced out of the market. The drop in housing value that began in 2007 and continued into 2010 had the positive effect of increasing the availability of affordable workforce housing. An Affordable Housing Study that was presented to the Steering Committee is included in the Appendix.

In November, 2008, Stafford County endorsed the efforts of the George Washington Regional Commission's (GWRC) Affordable Housing Task Force to address regional affordable housing. The County agreed to work in cooperation with GWRC and four regional localities to ascertain the degree of need for affordable housing; work with the community non-profit organizations and the private sector to help find affordable housing solutions; evaluate the local and regional need for affordable housing in local and regional comprehensive plans; consider development of a regional housing plan; and consider programs and other options regarding affordable housing. In 2009, the County participated in the task force's "Foreclosure Sale by

Region” program which facilitated acquisition, rehabilitation, and resale of foreclosed properties at an affordable price.

## **Goal 5. Promote affordable and quality housing.**

Objective 5.1. Identify need for and potential solutions to creating new and maintaining existing affordable housing.

Policy 5.1.1. Establish an Affordable Housing Taskforce with community stakeholders.

Policy 5.1.2. Incorporate criteria in the County’s monetary proffer guidelines that offer credit for providing affordable housing.

Policy 5.1.3. When new development proposals would displace aging and affordable housing stock, the means to relocate the residents to other affordable housing should be considered, including, but not limited to:

- Assisting with relocation search and costs
- Including affordable dwelling units within the development.
- Payment into an affordable housing fund.

Objective 5.2. Identify opportunities for private/public partnerships to increase the stock of affordable housing where sustainable home ownership can be achieved that will not create a burden on the County. The types of units may include townhomes, multi-family units, and reasonably sized detached homes.

Policy 5.2.1. Create land-use incentives for private development of affordable housing.

Policy 5.2.2. Identify publicly owned properties that could be redeveloped as public housing for public employees.

Objective 5.3. Promote housing opportunities for all income ranges and ages, including housing for elderly, disabled and low-income residents, workforce housing, and executive housing.

Policy 5.3.1. Community areas should include a mix of housing types and have access to local services, infrastructure, community facilities and employment opportunities.

Policy 5.3.2. Affordable housing will be encouraged, but not limited to, Urban Development Areas, as designated on the Land Use Plan Map.

Policy 5.3.3. Development and redevelopment proposals should promote housing choices for those who own or rent, and where residents have the opportunity of a livable home at an affordable price that promotes opportunity and a better quality of life in a secure and attractive environment.

Policy 5.3.4. Housing should include universal design features.

Policy 5.3.5. Pedestrian facilities in communities should be appropriately designed and well lit for safe accessibility.

Policy 5.3.6. The County should promote the conservation of stable neighborhoods, revitalization of older neighborhoods, and maintenance of quality housing and property values.

## **Transportation**

Adequate transportation systems promote a high quality of life by ensuring the ability of residents, workers, students, shoppers, tourists and others to move freely between home, work, school, recreation, commerce and other venues.

The growth in Stafford County and the surrounding region has contributed to roadway congestion and resulted in a need for transportation solutions that will meet current and future demand for better, safer and less congested roads.

### **Goal 6. Create an intermodal system of transportation which implements the Land Use Plan by providing a safe, efficient and affordable means for our people and products to move safely in and through Stafford County.**

#### Objective 6.1. Maintain a safe road system.

Policy 6.1.1. Road safety improvements should be prioritized over capacity improvements.

Policy 6.1.2. Prioritize secondary road funds for small, spot safety improvements that can be completed within a year and lead to immediate benefits.

Policy 6.1.3. Road improvements should improve safety by incorporating features that ensure protection from unhealthful levels of transportation related noise.

Policy 6.1.4. Utilize inter-parcel connections and reverse frontage streets to minimize vehicle conflict points onto busy streets.

#### Objective 6.2. Provide and maintain a multi-modal public transit system.

Policy 6.2.1. The County should establish incentives for development proposals to include support for alternative modes of transportation including bus, rail, commuter parking, and car/van pooling.

Policy 6.2.2. Encourage the future expansion and development of an efficient transit system inside the Urban Services Area and Urban Development Areas to serve higher density employment, retail and residential areas and sectors of the population with limited mobility. Where practical, transit systems should provide access from residential areas to commuter rail stations and park and ride lots.

Policy 6.2.3. Promote the development of high occupancy lanes on Interstate 95.

Policy 6.2.4. Promote regional rideshare and para-transit programs.

Policy 6.2.5. Continue to support the development of the Stafford Regional Airport to serve economic development interests.

Objective 6.3. Create a system of sidewalks, bike paths and trails to provide non-motorized transportation alternatives.

Policy 6.3.1. Development proposals should establish sidewalks and greenways to connect local neighborhoods with activity centers such as shopping, employment, and schools and with one another.

Policy 6.3.2. Support development of bicycle and pedestrian facilities that connect to local, regional and statewide trail and park systems.

Policy 6.3.3. The Comprehensive Plan should designate inter- and intra-County bike networks.

Policy 6.3.4. The County will support public and private organizations in their efforts to develop and fund inter- and intra-County bike route networks.

Policy 6.3.5. The County should explore the creation of bicycle and pedestrian trails in pipeline, electrical and other easements, particularly when the use of easements for non-motorized movement will create connectivity between open space areas and neighborhoods.

Policy 6.3.6. Encourage development to construct pedestrian access points where public streets do not connect.

Policy 6.3.7. Support the implementation of trails and sidewalks along road improvements and new roads.

Objective 6.4. Create more efficient patterns of traffic flow and circulation.

Policy 6.4.1. New residential subdivisions should provide more than one point of ingress/egress and should conform to the VDOT secondary street acceptance regulations.

Policy 6.4.2. New residential subdivisions should provide inter-subdivision connectivity based on the number of units in the

subdivision. Connections should be designed to minimize the effects of cut-through traffic by the use of measures such as constructing spine roads that utilize reverse frontage, multiple means of access through neighborhoods and street alignments that provide indirect travel routes between neighborhoods.

Policy 6.4.3. Circulation systems within commercial developments should be adequate to handle peak loads internally and at traffic lights, and provide inter-parcel connectivity.

Policy 6.4.4. Continue the use of Highway Corridor Overlay Districts and promote the use of access management principles along main thoroughfares.

Policy 6.4.5. Promote alternative routes to relieve congested corridors.

Objective 6.5. Retain and enhance the visual landscape along major transportation corridors to acknowledge the unique culture and historical development patterns.

Policy 6.5.1 Future improvements to roadway corridors should be done in a manner that provides transportation functionality while not detracting from or significantly altering the cultural landscape of the roadside viewshed.

Policy 6.5.2 The County should develop guidelines to ensure that future development of roadside landscapes is consistent with cultural and historic development patterns.

Policy 6.5.3. Design transportation facilities to avoid encroachment upon historic resources where possible.

Policy 6.5.4. Ensure that roadside signage and lighting is sensitive to the existing development pattern while including necessary safety and traffic control.

Objective 6.6. Provide transportation facilities that promote economic development.

Policy 6.6.1. Plan for sufficient access and adequate transportation facilities to serve existing and future business and industry.

Policy 6.6.2. Support the expansion of funding programs that facilitate the development of business and industry.

Policy 6.6.3. Consider alternative means of financing for existing and future economic centers such as public and private

partnerships, community development authorities and service districts.

Objective 6.7. Plan future transportation facilities that can be implemented from a physical, fiscal, and community standpoint.

Policy 6.7.1. Plan and develop transportation facilities to minimize destruction of environmental assets such as wetlands, floodplains, unique forest areas and wildlife habitats, prime agricultural lands and environmentally sensitive soils.

Policy 6.7.2. Plan future transportation facilities that are financially feasible through identified funding sources such as federal and state allocations, transportation service districts, transportation impact fees and grant opportunities.

Policy 6.7.3. Design transportation facilities such that communities are not physically divided or otherwise adversely impacted and that are supported by the citizens and business community.

Policy 6.7.4. Construct utilities such that they are located outside of the ultimate right-of-way design to prevent costly relocations when roadways are widened.

Policy 6.7.5. Coordinate construction of transportation facilities with federal, state, regional and local agencies to minimize undesirable community impacts.

Policy 6.7.6. Ensure that development provides necessary transportation improvements in a timely manner.

Policy 6.7.7. Transportation facility improvements to be constructed with development projects should be designed to maintain a Level of Service (LOS) C for impacted intersections and/or road segments. Where achieving a LOS C is not practical given existing transportation deficiencies, improvements should be designed to not further degrade the LOS.

## **Economic Development**

The main thrust of economic development is to attract new businesses and industries to the area, diversify the economic base, work cooperatively with Quantico Marine Corps Base during its workforce and infrastructure expansion resulting from BRAC, and promote job creation and sustainable agriculture for County residents while supporting the retention and growth of existing businesses and industries in the County.

Economic growth in Stafford County will have two distinct benefits: it will diversify and expand the tax base and it will provide jobs closer to home for Stafford residents. In 2000, 71 percent of Stafford workers commuted out of the County for work. By 2008, this number improved to approximately 58 percent, according to the U.S. Census Bureau's American Community Survey. Continuing to provide more jobs closer to home would have a collateral benefit of taking pressure off the overstressed regional transportation network.

### **Goal 7. Support the economic vitality of Stafford County through land use policies.**

Objective 7.1. Establish targets for commercial and business growth for development and re-development.

Policy 7.1.1. Minimum floor area ratios should be established and maximum floor area ratio requirements should be relaxed for commercial development within mixed use redevelopment and Urban Development Areas. Encourage an appropriate mix of uses, with a minimum of 25% land and/or building area designated for commercial or business use, depending on the land use.

Objective 7.2. Ensure that land use policies are consistent with attracting and retaining high quality employment options for Stafford residents.

Policy 7.2.1. A rezoning to a commercial or industrial use on land adjacent to the Urban Services Area will support approval of an expansion of the Urban Services Area boundary to extend water and/or sewer to the commercial or industrial zoned property.

Policy 7.2.2. Encourage development of new and expansion of existing technological research and design businesses by promoting and maintaining the County's Technology Zone.

Policy 7.2.3. The County will encourage the development of accessible, convenient and attractive commercial and industrial locations within the Urban Services Area.

Policy 7.2.4. Retail and other commercial nodes in mixed use areas and office and industrial parks will serve local residential communities and be accessible to transportation including roads, rail and air.

Policy 7.2.5. For the purpose of attracting and retaining businesses that offer highly skilled and well paying jobs, the County will continue to market and promote its many assets including a highly educated workforce, excellent school system, abundant interstate access, a state of the art regional airport, a variety of shopping, lodging, dining and recreation opportunities, and its many heritage tourism assets.

Objective 7.3. Promote alternative rural economic development (i.e., agri-tourism, eco-tourism, home-based businesses, and telecommuting.).

Policy 7.3.1. Land use policies should establish incentives for rural economic development and facilitate the development of these economic opportunities.

Policy 7.3.2. The County will capitalize on its location and wealth of cultural, historical and natural resources.

## Education

Stafford County prides itself on having a superb public school system. The citizens of Stafford County expect and support a quality educational system. As the 6th fastest growing locality in the state since 2000, Stafford County is challenged to construct and maintain adequate facilities for all students while continuing the quality educational programs Stafford residents expect.

Our students score above the state and national averages on standardized tests and earn awards at the regional, state and national levels. More than 84% of our graduates plan to continue their education at college or trade/technical schools.

### **Goal 8. Support Stafford County as a community for superior education.**

Objective 8.1. Land use policies and the Comprehensive Plan should support education in Stafford County.

Policy 8.1.1. Education facilities, including technical skill training centers should be incorporated into the Levels of Service Standards.

Policy 8.1.2. Future schools should be located within the Urban Services Area (USA). Exceptions may be made when the only way to meet Level of Service Standards or location criteria contained in the Public Facilities Plan is to locate the facility outside the USA or when land is dedicated to the County and the development of the site and any required infrastructure would not be cost prohibitive or detrimental to its growth management policies.

Policy 8.1.3. When considering new school locations, the safety and well being of the students should be a priority, with consideration of the following factors:

- Locate in close proximity to existing and planned residential areas to promote walking zones and/or minimize the length of bus trips.
- Locate schools within neighborhoods, avoiding sites along major roads.
- Locate schools away from major electric transmission lines.

Policy 8.1.4. With the limited availability of large tracts of land within the Urban Services Area, the County should focus on

maximizing the use of usable available land to meet educational needs.

- Consider relaxing of minimum size standards for school sites.
- Ensure school sites are suitable for development with gentle topography, good soils, and limited sensitive resources.
- Ensure that estimates of public infrastructure costs are included in location decisions.

## Heritage Resources

Stafford County is rich in heritage resources, which are central to the community's identity and culture. Protection and preservation of our heritage resources are fundamental to sustaining Stafford County's uniqueness, sense of place, and economic sustainability.

Heritage resources are those buildings, sites, structures, objects, or districts, including their physical settings, that exemplify the cultural, architectural, economic, social, and political heritage of the County and its communities. Such sites or buildings are 1) listed on, or are eligible for listing on, the National Register of Historic Places or the Virginia Landmarks Register; 2) contributing resources within a historic district listed on, or eligible for listing on, the National Register of Historic Places or the Virginia Landmarks Register; 3) resources located within a Stafford County Historic Resource Overlay District; or 4) resources listed on, or eligible for listing on, the Stafford County Cultural Resource Inventory, as determined by the Stafford County Historical Commission Architectural Review Board, or Historic Preservation Planner.

### **Goal 9. Promote Stafford County's heritage and maintain a sense of place by identifying, protecting, preserving, and interpreting Stafford County's historic and cultural resources.**

Objective 9.1. Establish County land use policies that protect and preserve Stafford County historical and cultural resources.

Policy 9.1.1. The Stafford County Cultural Resource Management Plan should be updated and implemented as a part of the Stafford County Comprehensive Plan.

Policy 9.1.2. Stafford County should maintain its Cultural Resources Inventory. The inventory should be updated as new resources are discovered.

Policy 9.1.3. Applications for reclassification, conditional use permit, preliminary subdivision or site plan, major site plan, or grading plan should determine the possible presence, extent, and significance of heritage resources and prepare follow-up archeological and/or historic structures reports. A historic preservation ordinance should be adopted that creates development plan review procedures based on the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation and/or Virginia Department of Historic Resources "Guidelines for Conducting Cultural Resource Survey in Virginia".

Policy 9.1.4. Certificate of Appropriateness applications should be submitted to the Stafford County Architectural Review Board to review proposed exterior alteration, relocation, or demolition of heritage resources located within Stafford County Historic Resource Overlay Districts.

Policy 9.1.5. Development and redevelopment, including the construction of buildings, site improvements, or land clearing and grading, should be completed in such a way that protects and enhances, rather than harms, heritage resources and cultural landscapes.

Policy 9.1.6. The Cemetery Ordinance should be updated to protect all Stafford County cemeteries. The ordinance should include procedures for identifying, preserving, interpreting, and maintaining all cemeteries.

Policy 9.1.7. Stafford County should encourage the use of federal, state and local programs to ensure long term preservation of heritage resources, such as the Stafford County Historic Tax Abatement Program.

Policy 9.1.8. The design guidelines for the Stafford County Historic Resource Overlay Districts and Historic Overlay Corridors should be updated to protect heritage resources and their viewsheds.

Objective 9.2. The County should establish and maintain a long term stewardship program to care for all County-owned historical and cultural resources.

Policy 9.2.1. Long term management and stewardship plans should be written for all County-owned heritage resources with the assistance and recommendations from the Stafford County Architectural Review Board, Historical Commission, and designated Planning staff.

Policy 9.2.2. Comprehensive architectural and archaeological studies should be conducted on all County-owned heritage resources to determine historic integrity, significance, and best treatment plan for each resource.

Policy 9.2.3. Easements or other protective measures should be placed on all County-owned heritage resources, as determined by the results of architectural and/or archaeological studies.

## 2.3 Implementation

At the first Planning Commission meeting ninety (90) days after adoption of the Comprehensive Plan, the Department of Planning and Zoning shall present to the Planning Commission a draft Implementation Plan for the Comprehensive Plan Goals, Policies and Objectives.

The Implementation Plan shall contain concrete actionable steps, identify responsible parties, identify available and needed resources and completion dates. The actionable steps shall be prioritized in order of importance for implementing the Plan. The highest priority shall be given to aligning elements of the Comprehensive Plan and ordinances to comply with the goals, objectives and policies of this document. Priorities shall be identified as short term, mid term and long term actions. Short term actions shall be items that can be accomplished within one year of plan adoption. Mid term items can be accomplished within two to five years. Long term actions may take five to ten years to complete.

The Implementation Plan shall be adopted as an amendment of the Comprehensive Plan. The Planning Commission, other boards and commissions, staff and Board of Supervisors shall review the Implementation Plan periodically to determine its applicability in the current context of community desires and needs.

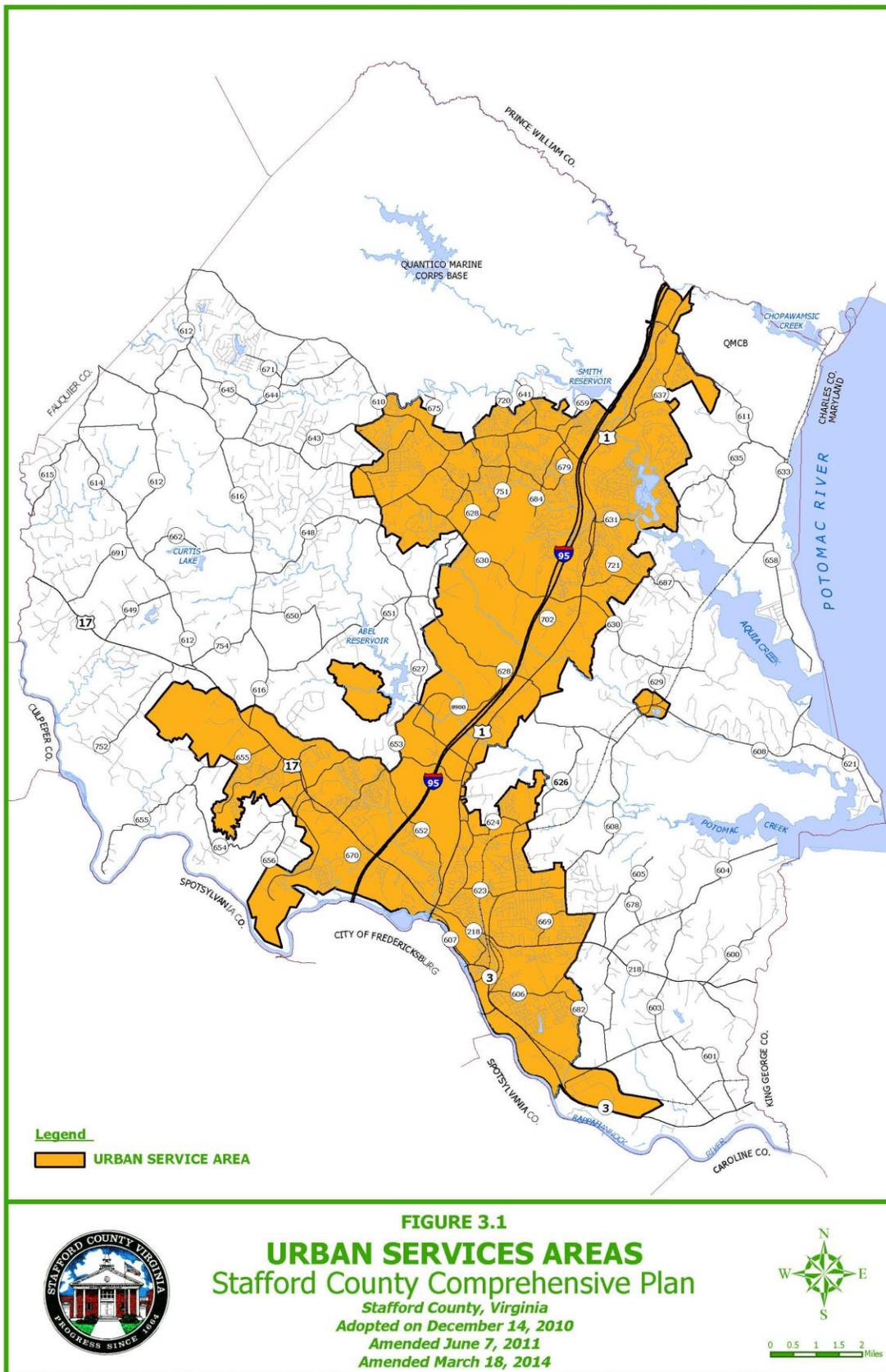
## 3.0 The Land Use Plan

### 3.1 Overview

The Land Use Plan for Stafford County is a key element of the Comprehensive Plan, guiding the physical form of the County by directing the location, type, and intensity of land uses. The Plan has been developed after taking into account factors such as existing development patterns and conditions, the potential for existing land use regulations to accommodate projected growth, and opportunities and constraints.

The key points of the Plan are:

- The Land Uses within the Urban Services Area (USA) have been generalized as Urban, Suburban, and Business and Industry.
- The USA boundary has been designated to promote infill development to access public water and sewer in the established suburban and industrial areas. The majority of future residential and commercial development is being recommended along the I-95 and U.S. Route 1 corridors.
- Establishes seven (7) Urban Development Areas located in the vicinity of primary road networks, transportation hubs, and along the rail corridor to maximize the use of public transportation.
- The USA boundary eliminates for the most part bifurcated parcels, which were partially in and partially out of the USA.
- Establishes four Redevelopment Areas.
- Business and Industrial land uses are encouraged around established and developing business areas.
- Lot sizes in agricultural and rural areas outside of the USA shall be at least three (3) acres in size.



## **3.2 Basis for the Plan**

The Land Use Plan has been developed on the premise that the development potential available under existing zoning is adequate to accommodate 20 years of projected population growth. Because existing residential zoned lands are adequate to meet projected population growth, the Plan recommends future land use designations follow existing zoning district development criteria and with the exception of the Urban Development Area and Business Land Use, does not recommend increasing land use intensity.

## **3.3 Key Features of the Plan**

### 3.3.1. GROWTH MANAGEMENT AND URBAN SERVICES AREA

The Plan recognizes the need to direct growth into the Urban Services Area and discourage growth in the agricultural areas. This is accomplished, in part, by establishing the location of public water and sewer facilities. The location of the Urban Services Area generally dictates what land areas may be served by public water and sewer lines.

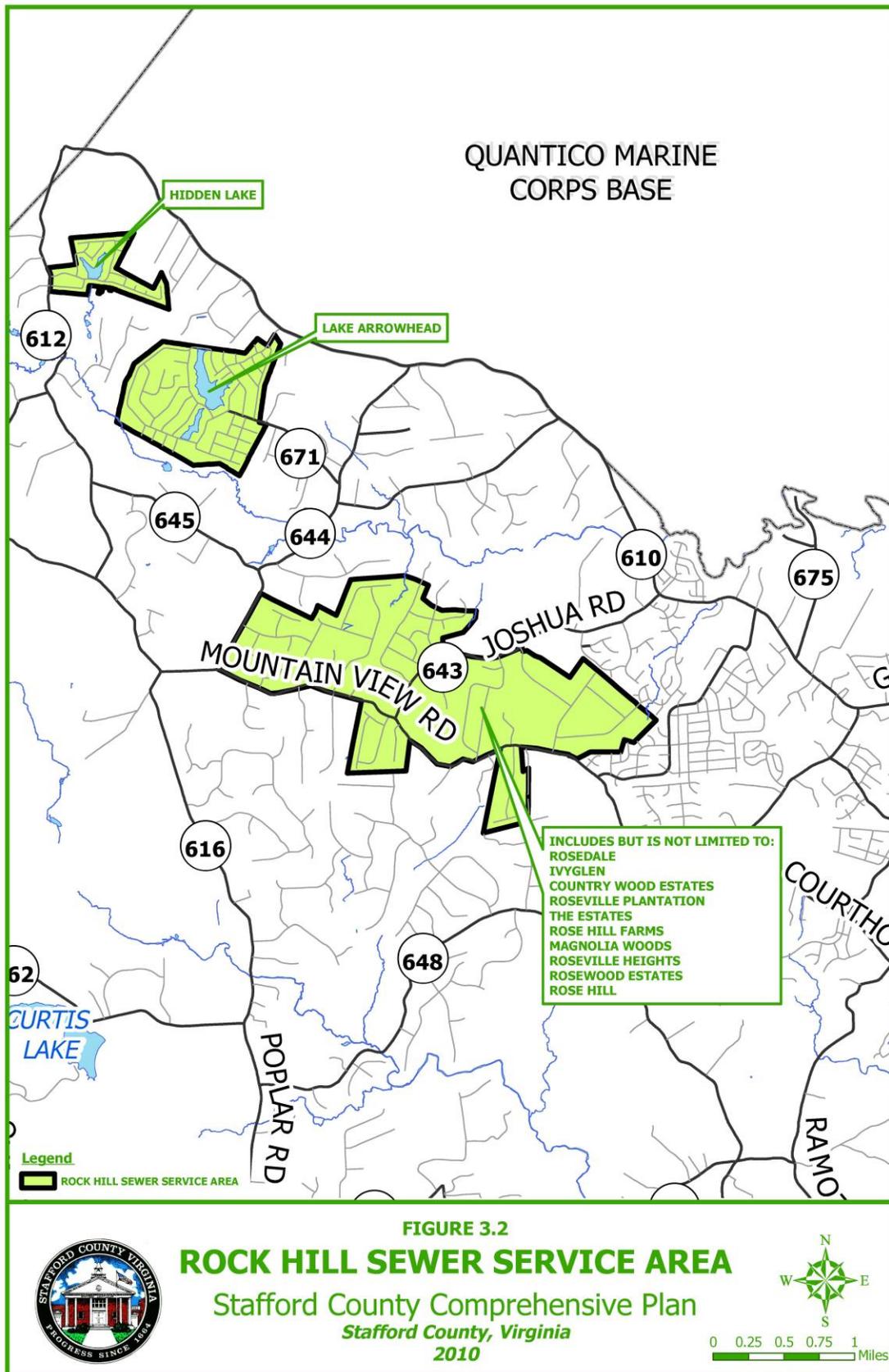
Within the Urban Services Area, newly constructed houses and buildings will be required to connect to the public water supply and the public sewer system.

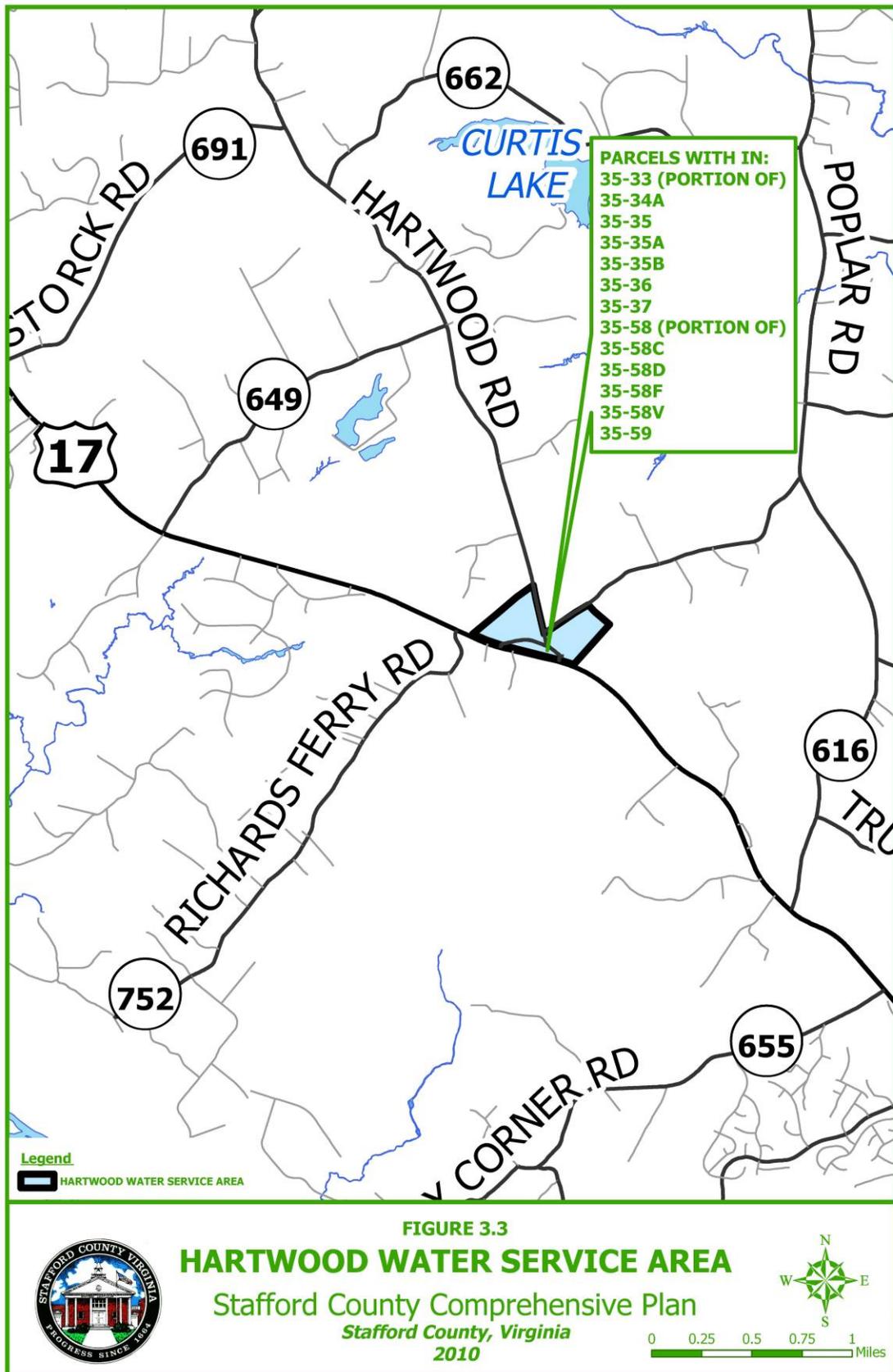
In several situations, existing or previously approved water and sewer lines may be located outside of the designated Urban Services Area. In these situations, the lines will be maintained in these locations, but new extensions and private connections to the lines will not be approved. Exceptions for private connections may be made when the property to be served abuts a street, alley, or right-of-way in which there is located an existing public sewer or water line, and the building drain (in the case of sewer) or the building (in the case of water) is located within 300 feet of the public sewer or water supply.

### LIMITED WATER AND SEWER UTILITY AREAS

Rock Hill Sewer Service Area – this area includes several rural residential communities in the northwest corner of the County. The area, identified in Figure 3.2, is primarily built out and is characteristic of older rural residential neighborhoods with 1 to 3 acre lots that utilize private wells and septic drainfields. Drainfield failures have occurred on several properties in this area. The purpose of this service area is to provide future sewer service to the existing residents and protect public health. The area includes, but is not limited to, the following subdivisions: Hidden Lake, Lake Arrowhead, Country Wood Estates, The Estates, Ivyglen, Rosedale, Roseville Plantation, Rose Hill Farm, Roseville Heights, and Rosewood Estates. The area is not intended for future higher intensity development.

Hartwood Water Service Area – this area is in the vicinity of the intersection of Warrenton Road and Hartwood Road, and includes Hartwood Elementary School and Hartwood Volunteer Fire Department. These facilities utilize well water. A future need is anticipated for water service upgrades in this area, specifically to Hartwood Elementary School. It is the intent of this area to be served by a future connection to the public waterline network. It is not the intent of this plan to promote higher intensity land uses in this service area. The geographic extent of this area is identified in Figure 3.3.





**3.3.2. URBAN DEVELOPMENT AREAS**

The Plan establishes Urban Development Areas in the County in accordance with a recently adopted state code provision that requires high growth localities, including Stafford, to designate Urban Development Areas that meet specified criteria. The exact location, number and development parameters for these areas are shown on the future Land Use Map (Figure 3.6) and are further described in Section 3.5 of this chapter.

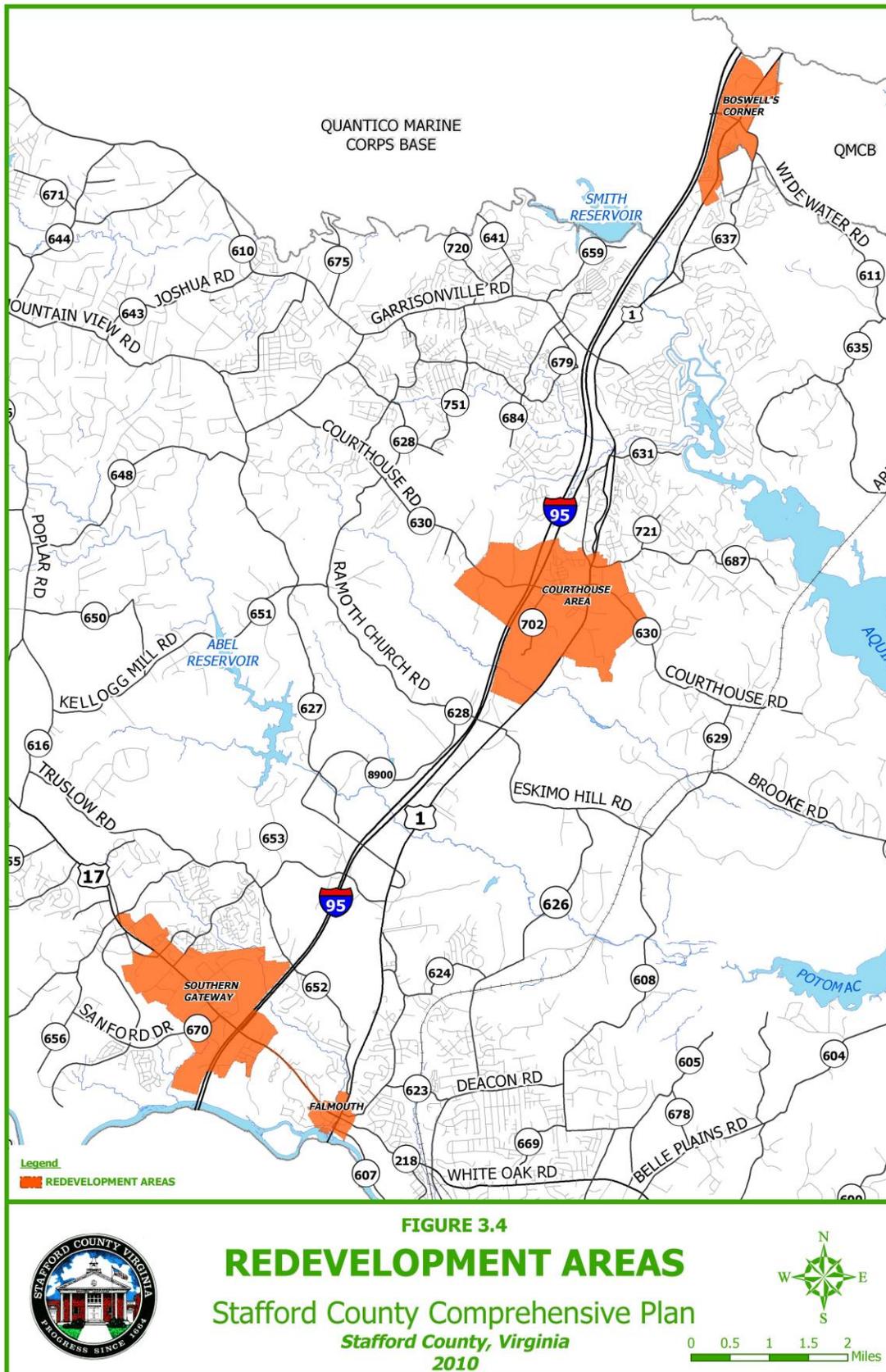
**3.3.3 REDEVELOPMENT AREAS**

The Plan identifies the locations of four Redevelopment Areas. These are areas that the County has identified in its 2006 Economic Development Strategic Plan as prime locations for redevelopment. These areas include Boswell’s Corner, the Courthouse Area, Falmouth, and Southern Gateway, along Warrenton Road, west of Interstate 95.

Redevelopment efforts were initiated in the Fall of 2006. Public workshops have been conducted and plans were developed by a consultant retained by the County to conduct the work. These efforts have produced Redevelopment Area Master Plans for each location, providing detailed assessments and analysis of the areas and detailed action plans. These areas will be incorporated as elements of the Comprehensive Plan. These area plans, once adopted, will provide the basis for evaluating land use proposals. Summaries of these Plans are included in Chapter 3.5 of this document. Until such time, any land use proposals should be consistent with the Comprehensive Plan.



Stafford Courthouse Redevelopment Area  
Courtesy of Cunningham + Quill Architects



### 3.4 Military Facility Impacts

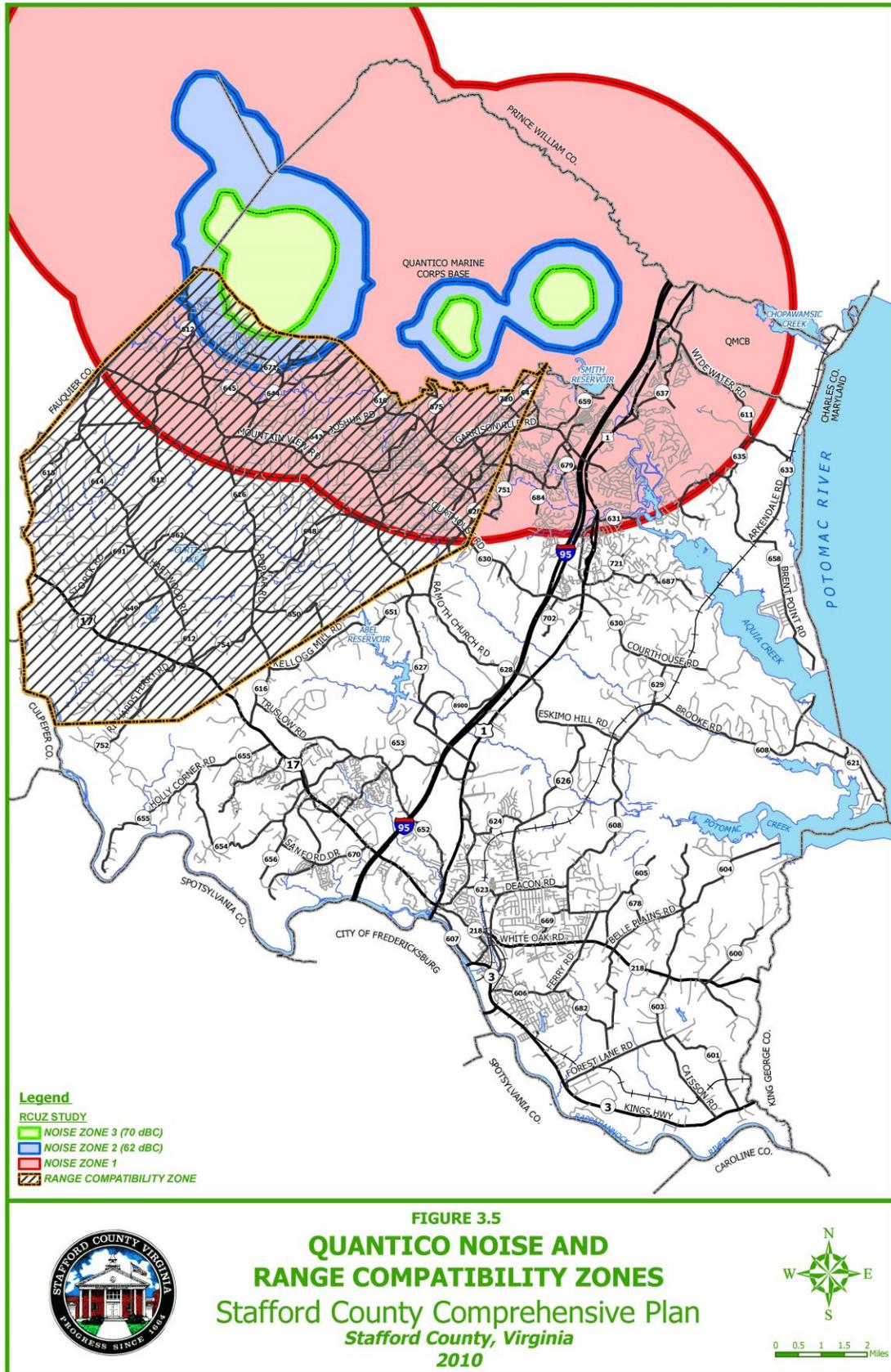
Quantico Marine Corps Base encompasses 33,000 acres (19%) of land area within the boundaries of Stafford County. This section of the Plan identifies areas in the County outside of the Base that may be impacted by military activities. Military activities on Quantico include realistic air and ground combat exercises and explosive ordnance demolition training. This training occurs on ranges located to the west of Interstate 95 near the Garrisonville Road corridor. Aircraft maneuvers that occur as part of this training extend off base into airspace over the Rock Hill and Hartwood Areas of the County. Noise impacts associated with both the ordnance demolition and aircraft extend well into the North Stafford, Hartwood, and Widewater areas of the County.

#### Range Compatibility Use Zone (RCUZ) Study

When the ranges were first established in the 1940's, the adjacent land was sparsely populated. Growth in this area has made the Garrisonville Road corridor the most heavily populated area in the County. Growth that has occurred around Quantico has the potential of compromising on-base operations. To protect the public health, safety, and welfare and safeguard mission capability of on-base activities, a Range Compatibility Use Zone (RCUZ) Study was developed. One of the objectives of the study is to encourage compatible land development near training range operations. The RCUZ Study identifies Range Safety Zones (RSZ's) and Noise Zones associated with the demolition training areas. In addition, the study provides land use compatibility tables for the RSZ's and Noise Zones. Figure 3.5 identifies the location of these areas in the County. Table 3.1 identifies suggested land use compatibility in noise zones and Table 3.2 identifies land use compatibility in RSZ's. These tables were modified for format and to reflect the areas applicable to land outside of the Base in Stafford County.

Range Compatibility Zones (RCZ) correspond with restricted airspace areas where aircraft maneuvers occur. RCZ III encompasses the northwestern part of the County outside of the Base.

Noise Zones are classified into 3 categories; Noise Zone 1 is an area of minimal impact where noise levels are less than 62 dB. The moderate and severe impact zones 2 and 3 include primarily rural residential subdivisions, including portions of Hidden Lake, Lake Arrowhead, Green Acres and Equestrian Estates. The area within a 5 mile radius of the munitions ranges are identified as they may experience high levels of peak event (short duration) noise and vibration under certain conditions.



**Table 3.1 Suggested Land Use Compatibility in Noise Zones (Source: Range Compatibility Use Zone Study for Marine Corps Base Quantico)**

LAND USE	Noise Zone 1 (5-mile radius)	Noise Zone 2		Noise Zone 3
	Heavy Weapons < 62 dB C	Heavy Weapons 62-66 dB C	Heavy Weapons 67-70 dB C	Heavy Weapons < 62 dB C
	Aircraft/Small Arms < 65 dB A	Aircraft/Small Arms 65-69 dB A	Aircraft/Small Arms 70-74 dB A	Aircraft/Small Arms < 65 dB A
Water Recreational Activities, Riding Stables, Golf Courses and Athletic Fields, Cemeteries, Outdoor Spectator Sports.		1	1	1
Wildlife Refuges, Group Camps, Hunting and Fishing Clubs, Parks.		1	1	
Educational Services (Schools) and Hospitals.		1	1	
Residential—Single Family, Multiple Family, Residential Hotels, Motels, Retirement Homes, Intermediate Care Facilities, and Nursing Homes.		1	1	
Mobile Homes.				
Auditoriums, Concert Halls, Indoor Areas, Churches.		1	1	
Office Buildings—Business, Education, Professional and Personal Services.		1	1	
Commercial/Retail, Shopping Centers, Restaurants, and Movie Theaters.			1	1
Commercial/Wholesale, Industrial, Manufacturing			1	1
Agriculture (except residences and livestock), Extractive Industry, Forestry, Utilities and Public Rights-of-Way		1	1	1
Outdoor Amphitheaters.	1			

	Compatible
	Compatible with Conditions
	Incompatible

**Notes:**

1. This table is for general illustrative purposes only. Please refer to *OPNAVINST 11010.36B*, 2002, Table 2 for detailed footnotes, specific situations, and actual use in analysis of potential compatibility in the Appendix.

Source: Adapted from U.S. Department of the Navy *OPNAVINST 11010.36B*, 2002.

**Table 3.2 Suggested Land Use Compatibility in Air-to-Ground Range Safety Zones (Source: Range Compatibility Use Zone Study for Marine Corps Base Quantico)**

Land Use	Range Safety Zones		
	A*	B*	C
Residential—Single Family, Duplex, Mobile Homes			1
Residential — Multiple Family			1
Transient Lodging			1
School Classrooms, Libraries, Churches			1
Hospitals, Nursing Homes			1
Auditoriums, Concert Halls			1
Office Buildings — Personal Business, Professional			
Commercial, Retail, Manufacturing, Utilities			
Playgrounds, Neighborhood Parks			1
Golf Courses, Riding Stables, Water Recreation		1	
Outdoor Spectator Sports			1
Industrial, Warehouse, Supplies			
Marine Craft Transportation		1	
Agriculture, Mining, Fishing		1	
Recreational, Wilderness Area		1	1

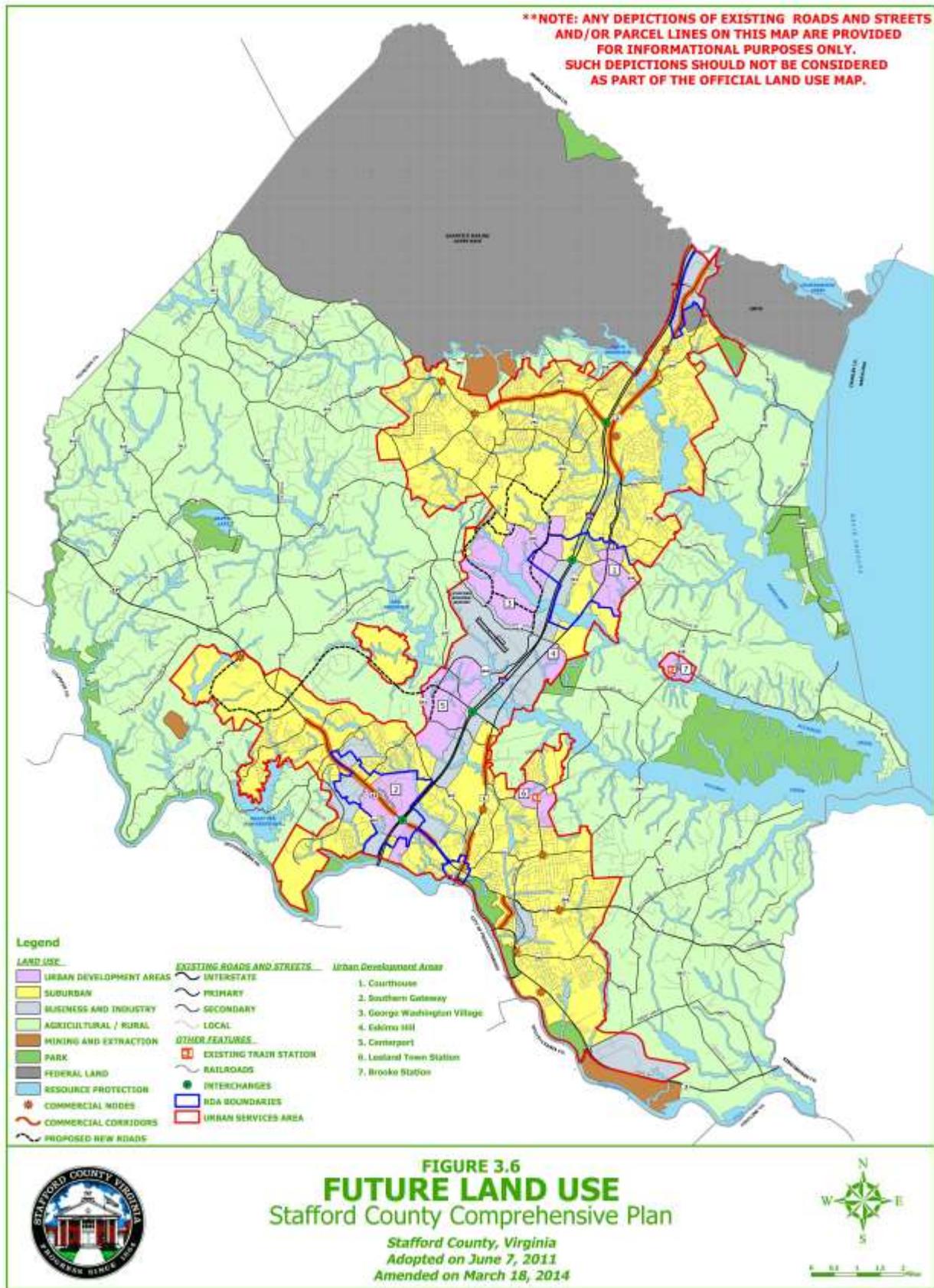
**\* - Zones A and B do not apply to land outside the limits of the Base.**

	Compatible
	Compatible with Conditions
	Incompatible

**Notes:**

1. This table is for general illustrative purposes only. Please refer to *OPNAVINST 3550.1*, 1998, Table 1, for detailed footnotes, specific situations, and actual use in analysis of potential compatibility included in the Appendix.

Source: Adapted from U.S. Department of the Navy *OPNAVINST 3550.1*. 1998.



## 3.5 Land Use Designations

### **Urban Services Area**

Urban Services Areas (USAs) are areas designated within the County where more compact development patterns are recommended. Government and community services and facilities will be concentrated in these areas. Such services will include public sewer and water utilities, location of schools and other public and community buildings as well as provision of transit services. Improvements to the utility system, road networks, pedestrian accommodations, street lights and community facilities may be required to support the land development in these areas. The area will be comprised of the following land use designations:

- Urban Development Areas,
- Suburban Areas,
- Business and Industry Areas, and
- Redevelopment Areas.

### **Urban Development Areas**

Urban Development Areas are areas of the County where an urban scale of development is most appropriate. These areas will support a more intense, pedestrian and transit oriented form of development, located in close proximity to primary road networks, transportation hubs, and along the rail corridor. Urban areas are intended to meet the requirements of Section 15.2-2223.1 of the Code of Virginia pertaining to Urban Development Areas. This more urban form of development will allow residents to work, live, shop and play within a relatively small area without fully relying on the automobile. Focus should be on the form of development, incorporating principles of traditional neighborhood design, including, but not limited to, (i) pedestrian-friendly road design, (ii) interconnection of new local streets with existing local streets and roads, (iii) connectivity of road and pedestrian networks, (iv) preservation of natural areas, (v) and mixed-use neighborhoods. Various types of dwellings, community uses and business activities may locate within the same block or within a single building. Dwelling unit densities are targeted at four (4) dwelling units per acre for single family detached units, six (6) dwelling units per acre for townhouse units, and twelve (12) dwelling units per acre for apartment, condominium, or cooperative units and commercial densities should be at a minimum floor area ratio (FAR) of 0.4 for each UDA. It is the intent of this Plan that the minimum density specified also serves as the maximum. Use of buffering, screening and extensive building setbacks should be limited. Buildings should not exceed six stories in height. Development in these areas should accommodate the need for affordable housing. Both on-street and off-street parking will be anticipated. In the most densely developed areas, structured parking should be encouraged. Parking structures should be sited and include architectural features to complement surrounding buildings. Development around primary

transportation hubs should accommodate commuter parking while respecting the more urban form of development. Future developments should include open commons areas or public spaces for residents and/or employees to enjoy leisure time activities. Streets and buildings should be designed to encourage physical and visual interaction at the street level. Street lighting and sidewalks are essential elements to ensure vibrant communities. These areas would also be designated as receiving areas if the County adopts a transfer of development rights program.

### Basis for Urban Development Areas

House Bill 3202, passed by the Virginia General Assembly in 2007, mandated that certain high growth communities create Urban Development Areas (UDAs) within their Comprehensive Plan sufficient to meet projected residential and commercial growth in the locality for an ensuing period of at least ten but not more than twenty years.

In 2010, the General Assembly, through House Bill 1071, amended the UDA provisions, found in Section 15.2-2223.1 of the State Code, to require that any locality with growth rates of at least 5% and populations between 20,000 and 130,000 shall create the UDAs with residential densities of 12.0 condominiums or apartments, 6.0 townhouses, or 4.0 single family homes per acre and commercial densities of 0.4 FAR. Stafford County, with its growth rate exceeding 10% and population of 124,166 (July 1, 2009 U.S. Census Bureau estimate), falls into this category. For communities with a population of 130,000 or more, higher density requirements apply. In Stafford's case that requires the creation of one or more UDAs within the Comprehensive Plan that provide for the construction of approximately 14,661 new residential units, equivalent to 10 years of projected growth. This estimate is derived from the Virginia Employment Commission by determining the amount of population growth projected between 2010 and 2030 and dividing that number by the average persons per household of 2.79.

In 2012, the General Assembly, through House Bill 869 and Senate Bill 274, further amended the UDA provisions, found in Section 15.2-2223.1 of the State Code, to allow UDAs to be an optional element of a locality's Comprehensive Plan. If UDAs are included in a locality's Comprehensive Plan, they are no longer required to accommodate ten to twenty years of projected residential and commercial growth, nor shall development be required to meet certain minimum densities. The previously stated growth projections and required densities are now optional.

While the UDA statute is intended to encourage smart development, reduce the environmental impact of sprawl, and reduce the cost of and impact upon Virginia's Transportation infrastructure, it did not incorporate elements that would encourage such growth along rail and other sources of public transportation. Failure to do so could result in all UDAs being built along existing interstate nodes, encouraging more vehicles on Virginia's congested interstate corridors, including I-95.

### Public Infrastructure and Services

Another important factor that was referenced in the state legislation is that these communities should incorporate principles of traditional neighborhood *design (TND) in urban development areas*, which may include but need not be limited to (i) pedestrian-friendly road design, (ii) interconnection of new local streets with existing local streets and roads, (iii) connectivity of road and pedestrian networks, (iv) preservation of natural areas, (v) and mixed-use neighborhoods, including mixed housing types, *with affordable housing to meet the projected family income distributions of future residential growth*. In the case of Stafford County, these UDAs do not just limit the TND elements to those specifically called for in (i) thru (v) but also include transportation, recreational, public safety, and educational amenities. For example, the lack of yards and open space within the required dense developments makes the provision of parks and other recreational facilities essential for a healthy lifestyle for the residents. Therefore the Comprehensive Plan provides for the creation of 950 acres of new public park space in or around the UDAs. It also provides for the creation of two large recreational facilities similar in size and amenities to the Freedom Aquatic and Fitness Center in Prince William County.

The types of Parks developed will provide different uses, they may be active or passive in nature. It is not the intent of this Plan to require all of the 950 acres within the limits of the UDAs designated on the Land Use Map. At the same time, the recommended Park land should be within reasonable proximity of the population within each UDA. The following is a list of criteria for the suitable location of parks in relation to each UDA. The types of parks are further described in the Development Control Policy Guidelines for Parks and Recreation Land Requirements.

- Neighborhood Parks/Civic Uses – should be located within the limits of the UDA, be within a 5 to 10 minute walk, or ¼ to ½ mile of the residents within the UDA, and include safe pedestrian and bicycle access.
- Community Parks should be located within 2 miles of the UDA they are intended to serve.
- District Parks shall be located within 15 to 20 minutes driving time of the UDA they are intended to serve.

The requirement for educational facilities will also be driven by such dense development. Traditionally, such facilities are located within the residential areas of the communities. The Comprehensive Plan provides for the construction of three (3) new elementary schools, two (2) new middle schools, and one (1) new Center for Technical Education. It also provides for the upgrade to one (1) existing fire and rescue facility and construction of four (4) new fire and rescue facilities and a new animal control facility to meet the increased public safety demands of the planned UDAs as well as a new Stafford Parkway, the extension of Mine Road, and other road upgrades to mitigate the local transportation impacts. Furthermore, the UDAs will follow the New Urbanism approach where town centers will include a mix of

commercial enterprises on the first floor with condominium units located on the second and higher level floors as a preferred development pattern in order to ensure that residents have the ability to shop and work within walking distance of where they live.

The above infrastructure improvements are essential components of the traditional neighborhood design requirement of the UDAs and would be required components for approval of rezonings within the planned UDAs. Without the upgrades, approval should not be given for rezonings because the impact of the development would not be sufficiently mitigated by the developer.

### Locations

In order to meet the state mandate for the creation of UDAs, encourage smart growth, and reduce the impact of unintended and negative impacts upon I-95 and commute times for Stafford residents, Stafford County has included seven (7) UDAs (or urban villages) within the comprehensive plan at residential and commercial densities that meet the state legislation.

Two of the UDAs (Courthouse and Southern Gateway) are the central portions of existing Stafford Redevelopment Areas encompassing 2,532 dwelling units (1/2 of the planned units within the RDAs should be developed in substantial conformance with the requirements of State Code Section 15.2-2223.1). The UDAs should follow the same model as that which is envisioned within the redevelopment plans with specific standards and features to enhance quality of life and reduce environmental impacts.

Two of the UDAs (Leeland Town Station and Brooke Station), encompassing 1,870 of the required dwelling units, are located at existing rail stations. The Eskimo Hill UDA, consisting of 879 units, is located nearby with required road and VRE lot upgrades to facilitate access. In order to reduce the impact of those who commute north but choose not take rail, the Comprehensive Plan provides for the construction of 3,400 new commuter parking spaces at three new locations and one existing location serving the UDAs, which together with VRE lot upgrades provides an additional 3,900 commuter parking spaces.

Furthermore, up to an estimated 1,490 units could be made possible by the transfer of development rights from properties outside the UDAs if a TDR program is adopted. For residential purposes, 1 residential development right in the sending area is equivalent to one residential development right in the receiving area. For non-residential purposes, 1 residential development right in the sending area is equivalent to the right to construct 3,000 square feet of commercial space in the receiving area.

### Form-Based Codes

The use of Form-based Code will be necessary as Stafford County continues its evolution. For the purposes of this 20 year view, Form Based Code will be defined by the following:

*Form-based codes address the relationship between building facades and the public realm, the form and mass of buildings in relation to one another, and the scale and types of streets and blocks. The regulations and standards in Form-based codes, presented in both diagrams and words, are keyed to a regulating plan that designates the appropriate form and scale (and therefore, character) of development rather than only distinctions in land-use types. This is in contrast to conventional zoning's focus on the micromanagement and segregation of land uses, and the control of development intensity through abstract and uncoordinated parameters (e.g., FAR, dwellings per acre, setbacks, parking ratios, traffic LOS) to the neglect of an integrated built form. Not to be confused with design guidelines or general statements of policy, Form-based codes are regulatory, not advisory.*

Form-based codes are drafted to achieve a community vision based on time-tested forms of urbanism. Ultimately, a Form-based code is a tool; the quality of development outcomes is dependent on the quality and objectives of the community plan that a code implements. The County may and could use Form Based Codes to achieve the desired outcomes for RDAs and the UDAs that are proposed and or contained within this Comprehensive Plan.

### Residential Density Requirements

The Plan is targeting 10 years of projected residential growth into the UDAs by recommending a total of 14,661 dwelling units across the seven (7) designated UDAs. Each UDA describes the desired number and types of dwelling units. The total number of dwelling units recommended meets the minimum number required in the State's UDA legislation. It is the intent of this Plan that the minimum densities for each residential unit type and for commercial uses shall also serve as maximum densities for those residential unit types and commercial uses. It is also the intent of this Plan that the number of dwelling units by unit type and the amount of commercial square footage recommended for each individual UDA shall serve as the maximum number of that type of dwelling unit and the maximum amount of commercial square footage for that UDA. Thus, once the maximum dwelling unit figure by unit-type or the maximum commercial square footage has been reached for an individual UDA, this Plan does not recommend any additional units of that type or commercial square footage for that UDA. As a result, this Plan recommends that the maximum number of units and commercial square footage planned for any particular UDA should not be exceeded.

Target densities for development within the UDAs include 12.0 condominiums or apartments, 6.0 townhouses, or 4.0 single family homes per acre where residential development occurs and a minimum density of 0.4 FAR where

commercial development occurs. To provide flexibility and allow for variations in individual projects, zoning district standards created for UDAs should incorporate the following density ranges:

- 3 to 6 dwelling units per acre for single-family detached homes,
- 5 to 8 dwelling units per acre for townhomes,
- 11 to 14 dwelling units per acre for condominiums or apartments, and
- 0.4 to 1.0 floor area ratio for commercial development

Specific UDA Locations

The following pages describe the seven (7) designated UDAs. These include 14,661 dwelling units and approximately 21,000,000 square feet of commercial building area.

**TABLE 3.3 UDA Development Summary**

	UDA	Residential Dwelling Units				Commercial (Total square footage)
		Multi-Family	Townhouse	Single Family	Total	
1	<b>Courthouse Area</b>	656	150	580	1,386	2,727,310
2	<b>Southern Gateway</b>	1,638	938	0	2,576	2,670,456
3	<b>George Washington Village</b>	1,080	450	2,650	4,180	11,434,400
4	<b>Eskimo Hill</b>	319	160	400	879	588,000
5	<b>Centerport</b>	750	300	2,720	3,770	1,878,400
6	<b>Leeland Town Station</b>	750	50	200	1,000	1,500,000
7	<b>Brooke Station</b>	120	300	450	870	174,240
	<b>Total Units</b>	4,994	2,188	6,600	14,661	20,972,806

**UDA 1: Courthouse**

Situated in a central location in the County, the Courthouse UDA consists of approximately 551 acres. This UDA is located within the Courthouse Redevelopment Area, which encompasses 1,900 acres and is planned for a mix of uses following the concepts of a traditional neighborhood design with 1,446 dwelling units (1,313 more than exist today) and 1,327,310 square feet of commercial buildings. Although the overall density of the larger redevelopment area is planned for 0.76 units per acre, the central UDA portion of the RDA, including the core development area located around the intersection of Jefferson Davis Highway and Courthouse Road, including the County Government Center, would have residential and commercial densities that are in substantial conformance with the UDA requirements for Urban Areas.

The UDA is planned to include 2,727,310 square feet of commercial development and 1,386 residential dwelling units. The core area of the UDA would contain 656 future apartment or condominium dwelling units (50% of the planned RDA dwelling units) and 1,327,310 square feet of commercial development. The UDA also extends to the south of the Stafford Hospital Center, east of Jefferson Davis Highway to Courthouse Road. This location, further away from the core, would contain an additional 1,400,000 square feet of commercial development and 730 dwelling units, including 150 townhomes and 580 single family homes.

The roadway network in the Courthouse Area should be designed and developed to provide a hierarchical system of interconnected streets and recognize the dual purpose and functionality of Jefferson Davis Highway. A comprehensive access management plan should be developed to mitigate the impact of new development. Furthermore, a 400-space park and ride lot with a bus stop shelter will need to be completed to offset increased vehicle volumes on Interstate 95 during peak commute periods.

It is recommended that this UDA include passive and active recreational uses, plazas and congregational spaces, as well as cultural activity, consistent with the RDA recommendations. Dedication of open space to support these activities will be required.

As previously mentioned in the UDA summary section entitled "Public Infrastructure and Services", these new infrastructure requirements are the result of the new development, its density and location, and therefore will be the responsibility of the developer or developers of Courthouse UDA.

Consistent with this goal, a proposed rezoning should offset the impacts of the new development – both on existing public infrastructure and on future public infrastructure needs. Impacts may be offset by voluntary proffers of such things as cash contributions, land dedication for a public facility, or construction of a public facility, as appropriate. Proffers may also include restrictions on the intensity and type of development. In the case of uses

requiring a conditional use permit or special exception, the approving body may impose conditions to offset the impacts of the new development.

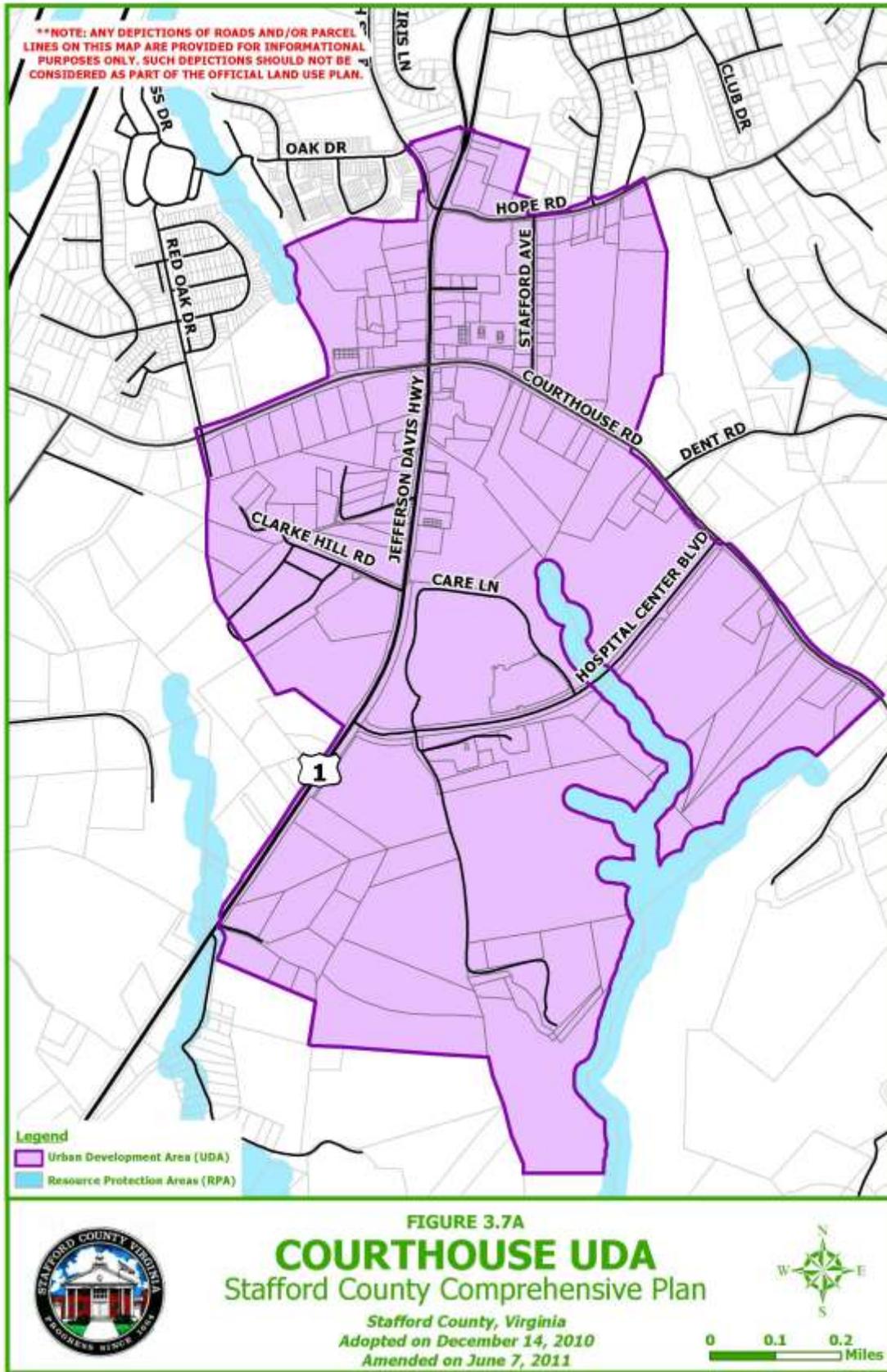
For more information on the Courthouse RDA and its various elements, see the Courthouse Area Redevelopment Plan.

### Summary

Projected New Dwelling Units:	1,386
Projected New Commercial Sq. Footage:	2,727,310

#### Facility needs:

- Upgraded road network, as shown in Figure 4.3
- 400 space park and ride lot with a bus stop shelter
- Passive and active recreational uses, plazas, and civic spaces



## **UDA 2: Southern Gateway**

Situated along Warrenton Road (US-17), on the east side and west side of Interstate 95, the Southern Gateway UDA consists of approximately 864 acres. This UDA is identified as a portion of the Southern Gateway Redevelopment Area, which encompasses 1,268 acres, and is planned for a mix of uses following the concepts of a traditional neighborhood design with 3,674 dwelling units (3,654 more than exist today) and 2,670,456 square feet of commercial buildings. Although the overall density of the larger redevelopment area is planned for 4.5 units per acre, not all are single family homes and therefore would not meet the density requirements. However, to the west of Interstate 95, the central portion of the RDA including the core development area located on the north and south sides of Warrenton Road, from the Interstate to England Run, would have residential and commercial densities that are in substantial conformance with the UDA requirements for Urban Areas. This portion of the UDA would contain 2,576 dwelling units, including 938 condominiums and 938 townhomes. To the east of Interstate 95, the UDA incorporates a site known as Rappahannock Landing, which is planned to include 700 multi-family dwelling units. Other land on the south side of Warrenton Road east to Old Forge Drive is included in the UDA, providing the opportunity for redevelopment of an aging commercial corridor. In total, 2,576 dwelling units are recommended in this UDA.

Getting the residents of Southern Gateway to and from work and other destinations without creating an undue hardship on them and other residents of Stafford County and the Commonwealth of Virginia, the provision of adequate transportation facilities (beyond the internal community road network) will be necessary. The roadway network in Southern Gateway should be designed and developed to provide a hierarchical system of interconnected streets and recognize the dual purpose and functionality of Warrenton Road (Route 17). A comprehensive access management plan should be developed to mitigate the impact of new development. Furthermore, upgrades to the existing transit facility on Warrenton Road may be necessary to offset increased vehicle volumes on I-95 during peak commute periods, including adding 200 parking spaces to the existing park and ride facility.

It is recommended that this UDA include passive and active recreational uses, plazas and congregational spaces, as well as cultural activity, consistent with the RDA recommendations. Dedication of open space to support these activities will be required.

The development of so many new dwelling units will by their nature increase the demand on Stafford County schools. In order to offset the capital cost of that demand, an elementary school will have to be constructed within this UDA.

As previously mentioned in the UDA summary section entitled "Public Infrastructure and Services," these new infrastructure requirements are the

result of the new development, its density and location, and therefore will be the responsibility of the developer or developers of Southern Gateway UDA.

Consistent with this goal, a proposed rezoning should offset the impacts of the new development – both on existing public infrastructure and on future public infrastructure needs. Impacts may be offset by voluntary proffers of such things as cash contributions, land dedication for a public facility, or construction of a public facility, as appropriate. Proffers may also include restrictions on the intensity and type of development. In the case of uses requiring a conditional use permit or special exception, the approving body may impose conditions to offset the impacts of the new development.

For more information on the Southern Gateway RDA and its various elements, see the Southern Gateway Redevelopment Area Plan.

Summary

Projected New Dwelling Units:	2,576
Projected New Commercial Sq. Footage:	2,670,456

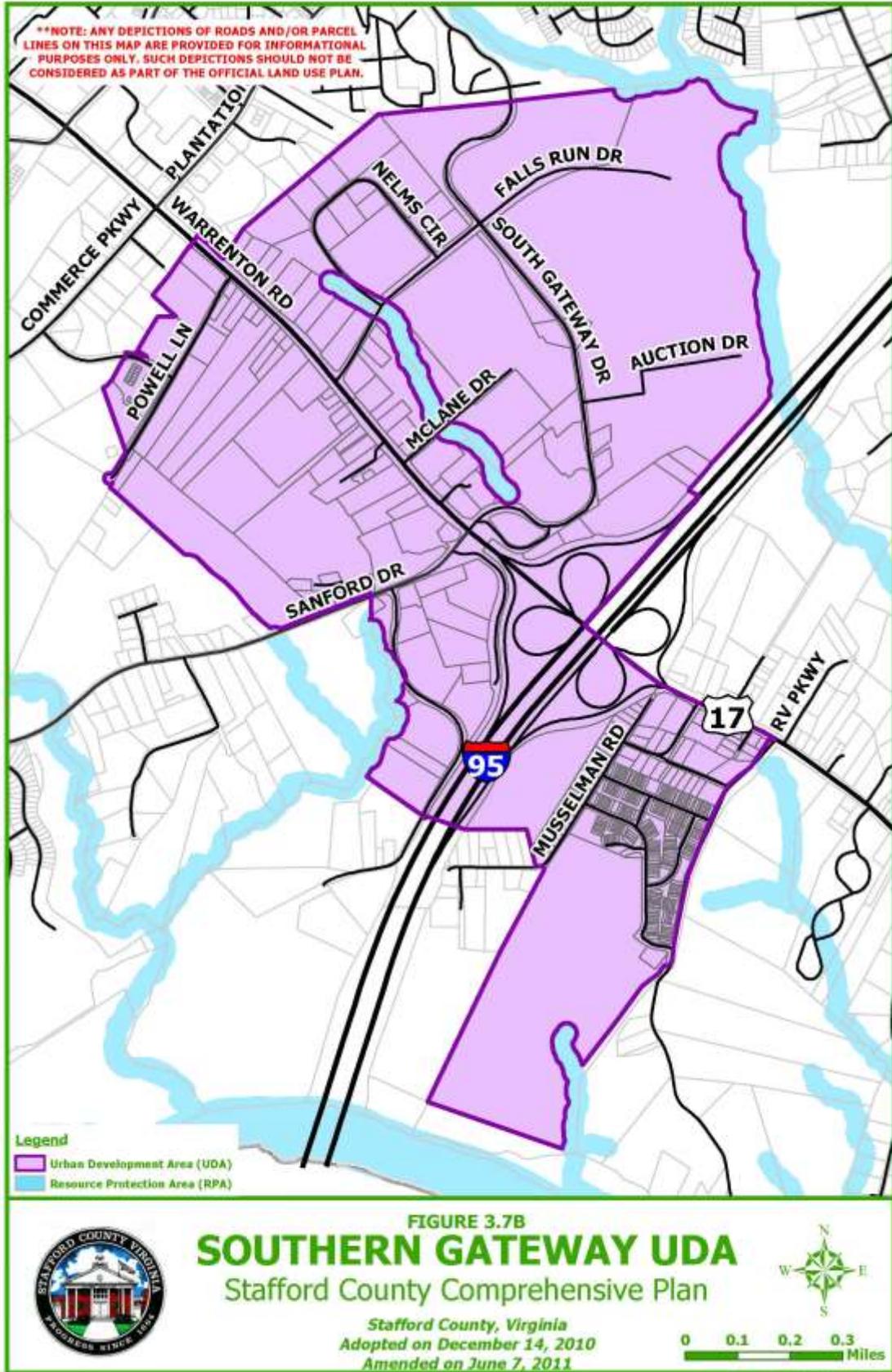
Facility needs:

- Upgrades to Warrenton Road (Route 17) and other roads as shown in Figure 4.3

- Add 200 parking spaces to existing park and ride facility

- 1 elementary school

- Passive and active recreational uses, plazas, and civic spaces



**UDA 3: George Washington Village**

Clustered around two town centers, George Washington Village will be a mixed-use community consisting of approximately 4,180 dwelling units and 11,434,400 square feet of commercial retail and office space in order to meet the density requirements for Urban Areas. The boundaries of this UDA are ¼ mile to the west of Interstate 95, land that includes the southern half of the planned Embrey Mill subdivision and the south side of Courthouse Road, 500 feet to the north of Ramoth Church Road, and Colonial Forge development to the west. George Washington Village encompasses approximately 1,878 acres.

Development in George Washington Village would be centered around three nodes: a town center on the north side of Courthouse Road (GW Village North – Embrey Mill); a town center on the south side of Courthouse Road (GW Village South), and; a business campus south of Accokeek Creek (GW Village Business Campus). These three areas are described below.

**GW Village North – Embrey Mill**

This area incorporates the southern portion of the approved Embrey Mill Subdivision. The center of this area of the UDA would include a town center, which should be modeled using the principles of new urbanism. It should include buildings three to four stories in height consisting of a mix of approximately 1,100,000 square feet of commercial space and 330 condominiums on 80 acres. A residential neighborhood should be located to the north of the town center and east of Mine Road with a mix of 150 townhouses and 250 single-family homes. To the west of Mine Road, would be several public facilities to serve the needs of the new residents in this area.

**GW Village South**

The center of this area of the UDA would include a town center, which should be modeled using the principles of new urbanism with buildings three to four stories in height consisting of a mix of approximately 1,622,400 square feet of commercial space and 750 condominiums on 100 acres, and surrounded by 300 townhouses on 50 acres. Adjacent to the town center would be 1 or more single family home neighborhoods on up to 600 acres with approximately 2,400 single family homes.

**GW Village Business Campus**

500 acre business campus oriented toward Stafford Regional Airport with another 8,712,000 square feet of commercial office space. Architectural standards (i.e., building height, mass, materials, amenities, and signage), minimum and maximum setback requirements, environmentally friendly materials, and other design features will be incorporated in the village.

Getting the residents of George Washington Village to and from work and other destinations without creating an undue hardship on them and other residents of Stafford County and the Commonwealth of Virginia, the provision of adequate transportation facilities (beyond the internal community road network) will be necessary. In order to avoid burdening any single

interchange, Mine Road extended from Courthouse Road to Ramoth Church Road will need to be built in order to distribute the traffic volume between the Courthouse Road and Centerport Parkway interchanges. Furthermore, a transit facility including a 1,400-space park and ride lot with bus stop shelter, as well as a commuter van pool and bus transit station will need to be completed to reduce increased vehicle volumes on I-95 during peak commute periods.

Because of the residential density required for Urban Development Areas, and the lack of nearby recreational facilities, the provision of adequate parks and recreational facilities is necessary. This will require that the developer or developers of George Washington Village provide approximately 250 acres of suitable park property (suitable for passive and active recreational— not encumbered by restrictive easements and capable of supporting at least 50 athletic fields and a network of trails—activities) and construct a recreational facility with a variety of indoor amenities such as gymnastics, aerobics, a 50 meter swimming pool and/or other activities. It is not the intent to require the construction of 50 athletic fields. Rather, the intent is parkland should meet the characteristics of having gradual terrain with limited sensitive resources and allow for flexible design and location of park facilities. Although the parks are not required to be located entirely within the UDA, they shall conform with the location criteria provided in the introduction of the UDA section of the Plan.

The development of so many new dwelling units will by their nature increase the demand on Stafford County schools. In order to offset the capital cost of that demand, a new elementary school and a new middle school will have to be constructed. The middle school is a proffered site within the Embrey Mill Subdivision. These new dwelling units, as well as the commercial development, will also increase the need for public safety assets and therefore two (2) new fire and rescue stations (one station on a proffered site in the Embrey Mill Subdivision) will have to be constructed.

As previously mentioned in the UDA summary section entitled “Public Infrastructure and Services,” these new infrastructure requirements are the result of the new development, its density and location, and therefore will be the responsibility of the developer or developers of George Washington Village UDA.

Consistent with this goal, a proposed rezoning should offset the impacts of the new development – both on existing public infrastructure and on future public infrastructure needs. Impacts may be offset by voluntary proffers of such things as cash contributions, land dedication for a public facility, or construction of a public facility, as appropriate. Proffers may also include restrictions on the intensity and type of development. In the case of uses requiring a conditional use permit or special exception, the approving body may impose conditions to offset the impacts of the new development.

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Summary

Projected New Dwelling Units: 4,180  
Projected New Commercial Sq. Footage: 11,434,400

## Facility needs:

Extension of Mine Road from Embrey Mill across Courthouse Road to Ramoth Church Road as shown in Figure 4.3

1,400 space park and ride lot with bus stop shelter

Commuter van pool and bus transit station

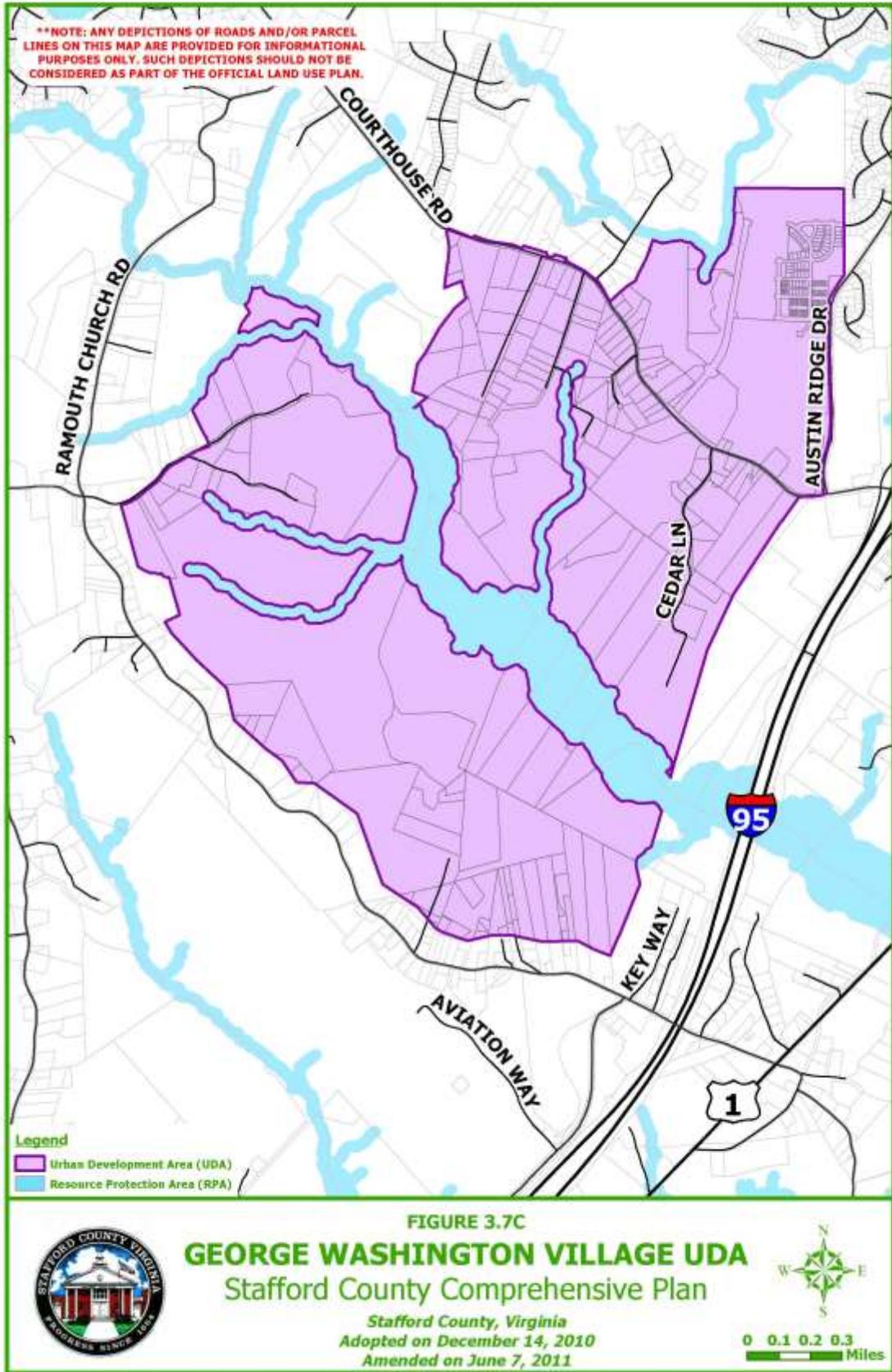
250 acres of parkland (passive and active)

Recreational facility with indoor amenities

1 elementary school

1 middle school

2 fire and rescue stations



**UDA 4: Eskimo Hill**

Clustered around a 50 acre town center, Eskimo Hill will be a 200 acre mixed-use community consisting of approximately 879 dwelling units and 588,000 square feet of commercial retail and office space in order to meet the density requirements for Urban Areas. This UDA is located to the east of Jefferson Davis Highway, 200 feet to the west of an existing Dominion Virginia power line easement, and on the south side of Eskimo Hill Road.

The town center itself would be modeled using the principles of new urbanism with buildings three to four stories in height consisting of a mix of approximately 588,000 square feet of commercial space and 319 condos, and surrounded by 160 townhouses on 27 acres. Adjacent to the town center would be 400 single family homes on up to 100 acres. Architectural standards (i.e., building height, mass, materials, amenities, and signage), minimum and maximum setback requirements, environmentally friendly materials, and other design features will be incorporated in the village.

Getting the residents of Eskimo Hill to and from work and other destinations without creating an undue hardship on them and other residents of Stafford County and the Commonwealth of Virginia, the provision of adequate transportation facilities (beyond the internal community road network) will be necessary. There will be a need for an additional 500 spaces at Brooke VRE station. Furthermore, Eskimo Hill Road from Route 1 to Brooke Road will need to be improved to facilitate use of the Brooke VRE.

Because of the residential density required for Urban Development Areas, and the lack of nearby recreational facilities, the provision of adequate parks and recreational facilities is necessary. This will require that the developer, or developers, of Eskimo Hill provide approximately 250 acres of suitable park property (suitable for passive and active recreational—not encumbered by restrictive easements and capable of supporting at least 50 athletic fields and a network of trails—activities) with at least 15 completed athletic fields. It is not the intent to require the construction of 50 athletic fields. Rather, the intent is parkland should meet the characteristics of having gradual terrain with limited sensitive resources and allow for flexible design and location of park facilities. Although the parks are not required to be located entirely within the UDA, they shall conform with the location criteria provided in the introduction of the UDA section of the Plan.

These new dwelling units, as well as the commercial development, will also increase the need for public safety assets and therefore a new animal control facility will have to be constructed.

As previously mentioned in the UDA summary section entitled “Public Infrastructure and Services,” these new infrastructure requirements are the result of the new development, its density and location, and therefore will be the responsibility of the developer or developers of Eskimo Hill UDA.

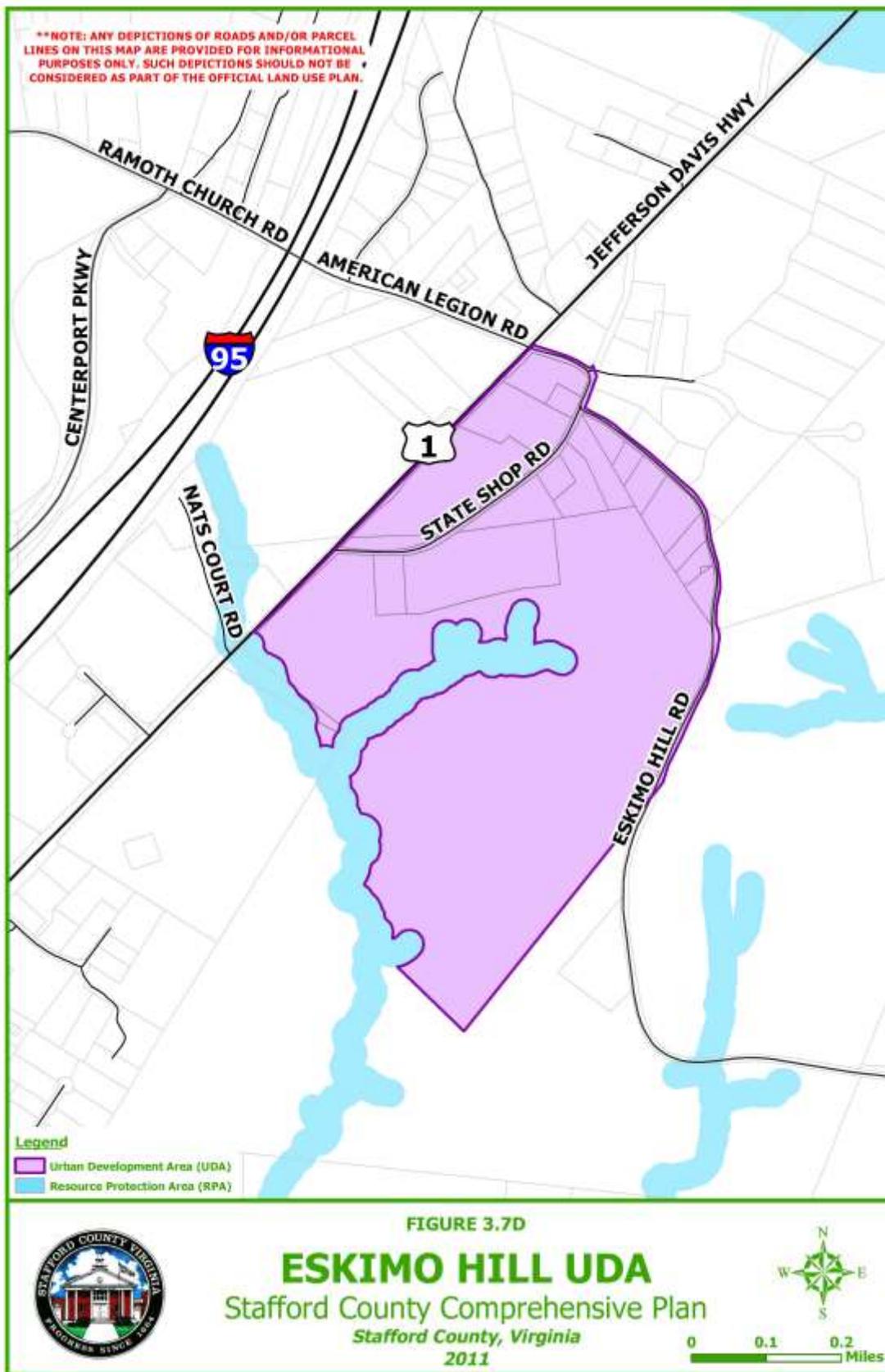
Consistent with this goal, a proposed rezoning should offset the impacts of the new development – both on existing public infrastructure and on future public infrastructure needs. Impacts may be offset by voluntary proffers of such things as cash contributions, land dedication for a public facility, or construction of a public facility, as appropriate. Proffers may also include restrictions on the intensity and type of development. In the case of uses requiring a conditional use permit or special exception, the approving body may impose conditions to offset the impacts of the new development.

Summary

Projected New Dwelling Units: 879  
Projected New Commercial Sq. Footage: 588,000

Facility needs:

- 500 parking spaces at Brooke VRE station
- Improvements to Eskimo Hill Road from Route 1 to Brooke Road
- 250 acres of parkland (passive and active) with 15 finished athletic fields
- One new animal control facility



### **UDA 5: Centerport**

Clustered around a town center, Centerport will be a mixed use community consisting of approximately 3,770 dwelling units and 1,878,400 square feet of commercial retail and office space in order to meet the density requirements for Urban Development Areas. The boundaries of the UDA include Centerport Parkway to the north, Moorewood Drive, Hulls Chapel Road, and Enon Road to the west; Truslow Road to the south, and; Wyatt Lane and a line ¼ mile to the west of Interstate 95, as depicted on the accompanying map. The area includes 1,118 acres.

The town center itself would be modeled using the principles of new urbanism with buildings 3 to 4 stories in height consisting of a mix of approximately 1,878,400 square feet of commercial space and 750 condos on 107 acres, and surrounded by 300 townhouses on 50 acres. Adjacent to the town center would be 1 or more single family home neighborhoods on up to 687 acres with approximately 2,750 single family homes. Architectural standards (i.e., building height, mass, materials, amenities, and signage), minimum and maximum setback requirements, environmentally friendly materials, and other design features will be incorporated in the village.

Getting the residents of Centerport to and from work and other destinations without creating an undue hardship on them and other residents of Stafford County and the Commonwealth of Virginia, the provision of adequate transportation facilities (beyond the internal community road network) will be necessary. In order to avoid burdening any single interchange, a 4 lane divided road from Centerport Parkway to Warrenton Road (Route 17) will need to be built in order to distribute the traffic volume. Furthermore, a transit facility including a 1,400-space park and ride lot with bus stop shelter, as well as a commuter van pool and bus transit station will need to be completed to offset increased vehicle volumes on I-95 during peak commute periods.

Because of the residential density required for Urban Areas, and the lack of nearby recreational facilities, the provision of adequate parks and recreational facilities is necessary. This will require that the developer, or developers, of Centerport provide approximately 250 acres of suitable park property (suitable for passive and active recreational—not encumbered by restrictive easements and capable of supporting at least 50 athletic fields and a network of trails—activities), at least 20 finished athletic fields, and construct a recreational facility with a variety of indoor amenities such as gymnastics, aerobics, a 50 meter swimming pool, and/or other activities. The recreational facility should be located at the southern end of the UDA, on or in the vicinity of the Musselman-Jones Park site. It is not the intent to require the construction of 50 athletic fields. Rather, the intent is parkland should meet the characteristics of having gradual terrain with limited sensitive resources and allow for flexible design and location of park facilities. Although the parks are not required to be located entirely within the UDA, they shall conform with the location criteria provided in the introduction of the UDA section of the Plan.

The development of so many new dwelling units will by their nature increase demands on Stafford County schools. In order to offset the capital cost of those demands, an elementary school, a middle school, and a center for technical education will have to be constructed. These new dwelling units, as well as the commercial development, will also increase the need for public safety assets and therefore, a new fire and rescue station will have to be constructed.

As previously mentioned in the UDA summary section entitled “Public Infrastructure and Services”, these new infrastructure requirements are the result of the new development, its density and location, and therefore will be the responsibility of the developer or developers of Centerport UDA.

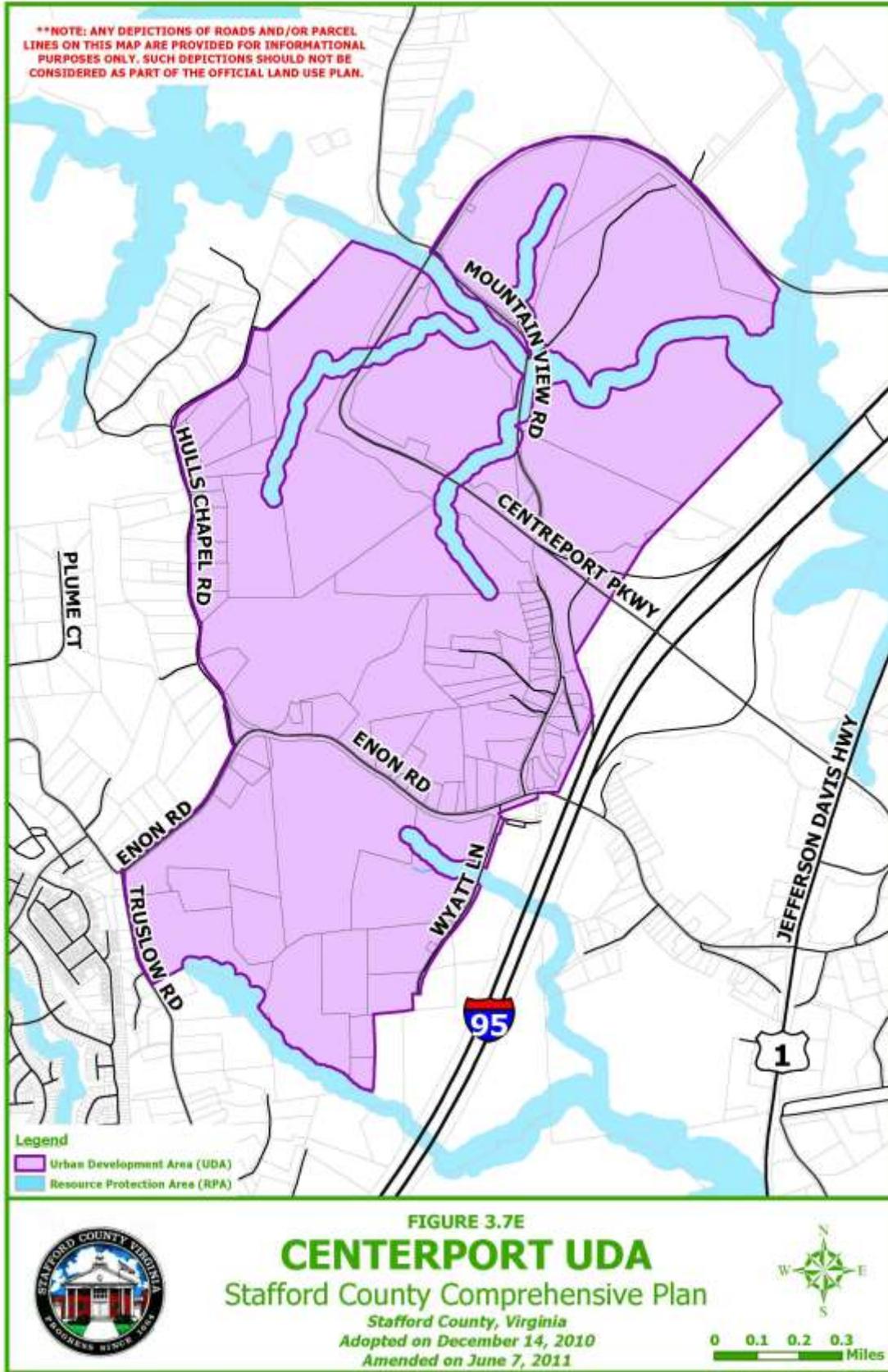
Consistent with this goal, a proposed rezoning should offset the impacts of the new development – both on existing public infrastructure and on future public infrastructure needs. Impacts may be offset by voluntary proffers of such things as cash contributions, land dedication for a public facility, or construction of a public facility, as appropriate. Proffers may also include restrictions on the intensity and type of development. In the case of uses requiring a conditional use permit or special exception, the approving body may impose conditions to offset the impacts of the new development.

Summary

Projected New Dwelling Units: 3,770  
Projected New Commercial Sq. Footage: 1,878,400

Facility needs:

- 4 lane divided road from Centerport Parkway to Warrenton Road (Route 17) as shown in Figure 4.3
- 1,400 space park and ride lot with bus stop shelter
- Commuter van pool and bus transit station
- 250 acres of parkland (passive and active) with 20 finished athletic fields
- 1 elementary school
- 1 middle school
- 1 center for technical education
- 1 fire and rescue station



**UDA 6: Leeland Town Station**

Leeland Town Station offers the unique advantage of allowing higher density development as required for Urban Areas on a commuter rail station which will reduce the increased burden on an already congested I-95 during peak rush hour periods. Centered on the Leeland Road Virginia Railway Express train station and bordered by Morton Road to the north and Primmer House Road and the undeveloped portions of the Leeland Station development to the south, Leeland Town Station is well suited to meet the purpose of a walkable, transit oriented development. The area includes 317 acres.

Leeland Town Station will be a mixed use community at the heart of the existing Leeland Station development, adjacent to the existing rail station, and consisting of a mix of 750 condos and 50 townhomes with 1,500,000 square feet of commercial space in buildings that are 3 to 4 stories in height in order to meet the requirements for Urban Development Areas. South of the core area and east of the existing Leeland Station development, would be a single-family neighborhood with 200 dwellings located on 50 acres. Architectural standards (i.e., building height, mass, materials, amenities, and signage), minimum and maximum setback requirements, environmentally friendly materials, and other design features will be incorporated in the village.

Because of the residential density required for Urban Development Areas, and the lack of nearby recreational facilities, the provision of adequate parks and recreational facilities is necessary. This will require that the developer, or developers, of Leeland Town Station provide approximately 200 acres of suitable developed park property (suitable for passive and active recreational—not encumbered by restrictive easements and capable of supporting at least 50 athletic fields and a network of trails—activities) and construct an indoor recreation facility with at least two multi-use fields and the ability to support one or more recreation sports leagues providing storage and office space. It is not the intent to require the construction of 50 athletic fields. Rather, the intent is parkland should meet the characteristics of having gradual terrain with limited sensitive resources and allow for flexible design and location of park facilities. Although the locations of the parks are not required to be located entirely within the UDA, they shall conform to the location criteria provided in the introduction of the UDA section of the Plan.

These new dwelling units, as well as the commercial development, will also increase the need for public safety assets and therefore a new fire and rescue station will have to be constructed. Furthermore, the secondary road network serving Leeland Town Station will require improvements to mitigate the impact of 1,000 new dwelling units. To promote alternative modes of transportation, a bus stop shelter will be needed at the existing Virginia Railway Express station.

As previously mentioned in the UDA summary section entitled “Public Infrastructure and Services”, these new infrastructure requirements are the

result of the new development, its density and location, and therefore will be the responsibility of the developer or developers of Leeland Town Station UDA.

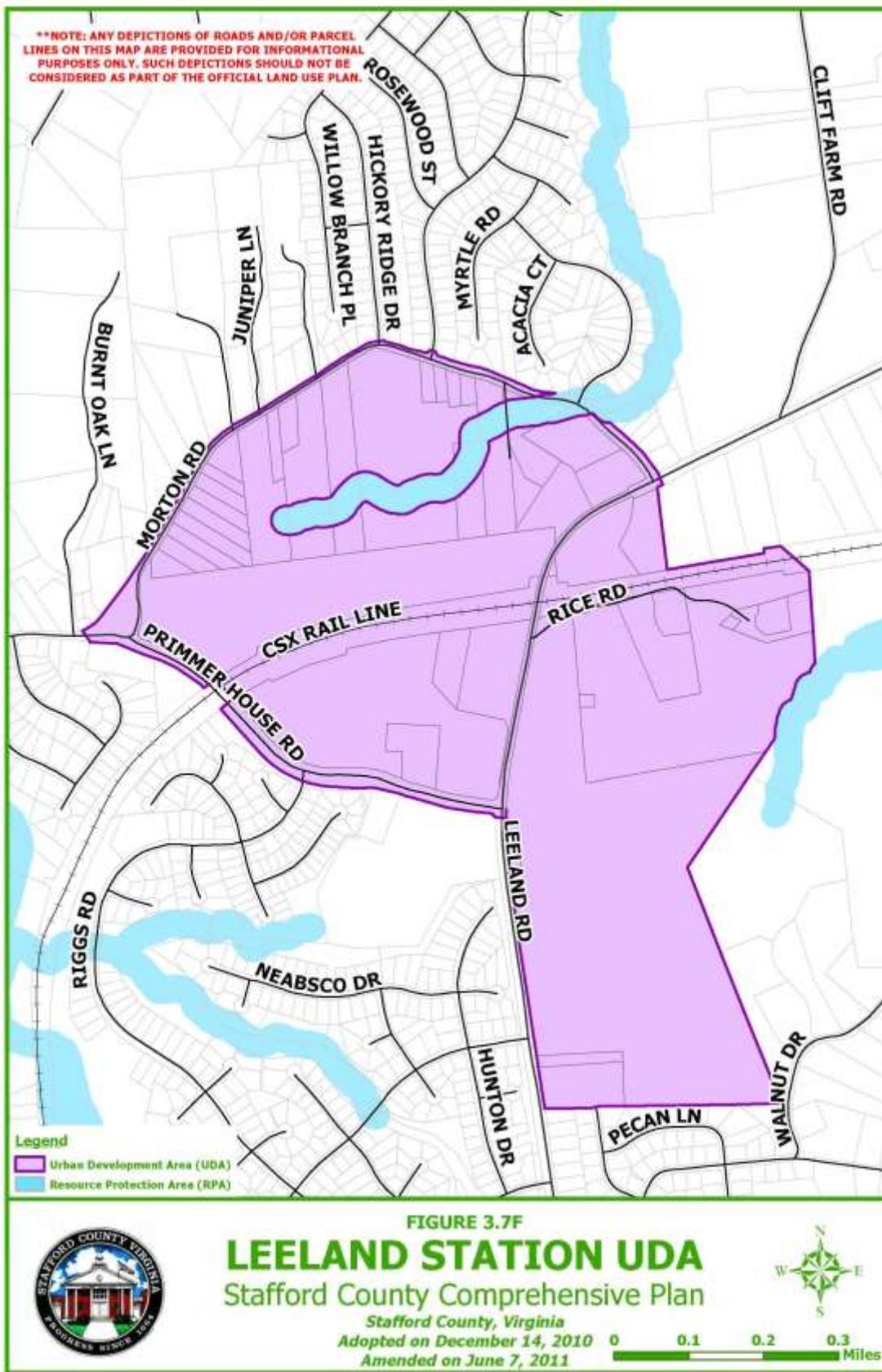
Consistent with this goal, a proposed rezoning should offset the impacts of the new development – both on existing public infrastructure and on future public infrastructure needs. Impacts may be offset by voluntary proffers of such things as cash contributions, land dedication for a public facility, or construction of a public facility, as appropriate. Proffers may also include restrictions on the intensity and type of development. In the case of uses requiring a conditional use permit or special exception, the approving body may impose conditions to offset the impacts of the new development.

Summary:

Projected New Dwelling Units: 1,000  
Projected New Commercial Sq. Footage: 1,500,000

Facility needs:

- 200 acres of parkland (passive and active)
- Indoor recreation facility
- 1 fire and rescue station
- Improvements to secondary road network
- 1 bus stop shelter



**UDA 7: Brooke Station**

Brooke Station offers the unique advantage of allowing higher-density development as required for Urban Areas on a commuter rail station which will reduce the increased burden on an already congested Interstate 95 during peak rush hour periods. Centered on the Brooke Virginia Railway Express train station, Brooke Station is well suited to meet the purpose of a walkable, transit-oriented development. Brooke Station would include 870 dwelling units and commercial development on approximately 184 acres.

Adjacent to the existing rail station, Brooke Station will include a mixed-use village using the principles of new urbanism. It should include buildings three to four stories in height consisting of a mix of approximately 174,240 square feet of commercial space and 120 condominiums on 10 acres, and surrounded by 300 townhomes and 450 single-family dwelling units. Architectural standards (i.e., building height, mass, materials, amenities, and signage), minimum and maximum setback requirements, environmentally-friendly materials, and other design features will be incorporated in the village.

Because of the residential density required for Urban Development Areas, the provision of adequate parks and recreational facilities is necessary. This will require that the developer, or developers, of Brooke Station provide approximately one acre of parkland adjacent to nearby Crow's Nest State Park for every four residential units constructed. These new dwelling units, as well as the commercial development, will also increase the need for public safety assets and therefore, the existing Brooke fire and rescue station will have to be upgraded.

Furthermore, improvements on Brooke Road between Eskimo Hill Road and Brooke Station will be necessary. To promote alternative modes of transportation, a bus stop shelter will be needed at the existing Brooke Virginia Railway Express train station.

As previously mentioned in the UDA summary section entitled "Public Infrastructure and Services," these new infrastructure requirements are the result of the new development, its density and location, and therefore will be the responsibility of the developer or developers of Brooke Station UDA.

Consistent with this goal, a proposed rezoning should offset the impacts of the new development – both on existing public infrastructure and on future public infrastructure needs. Impacts may be offset by voluntary proffers of such things as cash contributions, land dedication for a public facility, or construction of a public facility, as appropriate. Proffers may also include restrictions on the intensity and type of development. In the case of uses requiring a conditional use permit or special exception, the approving body may impose conditions to offset the impacts of the new development.

The Board of Supervisors may desire to adopt a transfer of development rights program. Upon adoption of a transfer of development rights program, residential development associated with this UDA shall, if possible, be tied to the retiring of development rights for properties east of the CSX railroad tracks, with the southern boundary being the Potomac Creek and the northern boundary being Aquia Creek.

Summary

Projected New Dwelling Units: 870

Projected New Commercial Sq. Footage: 174,240

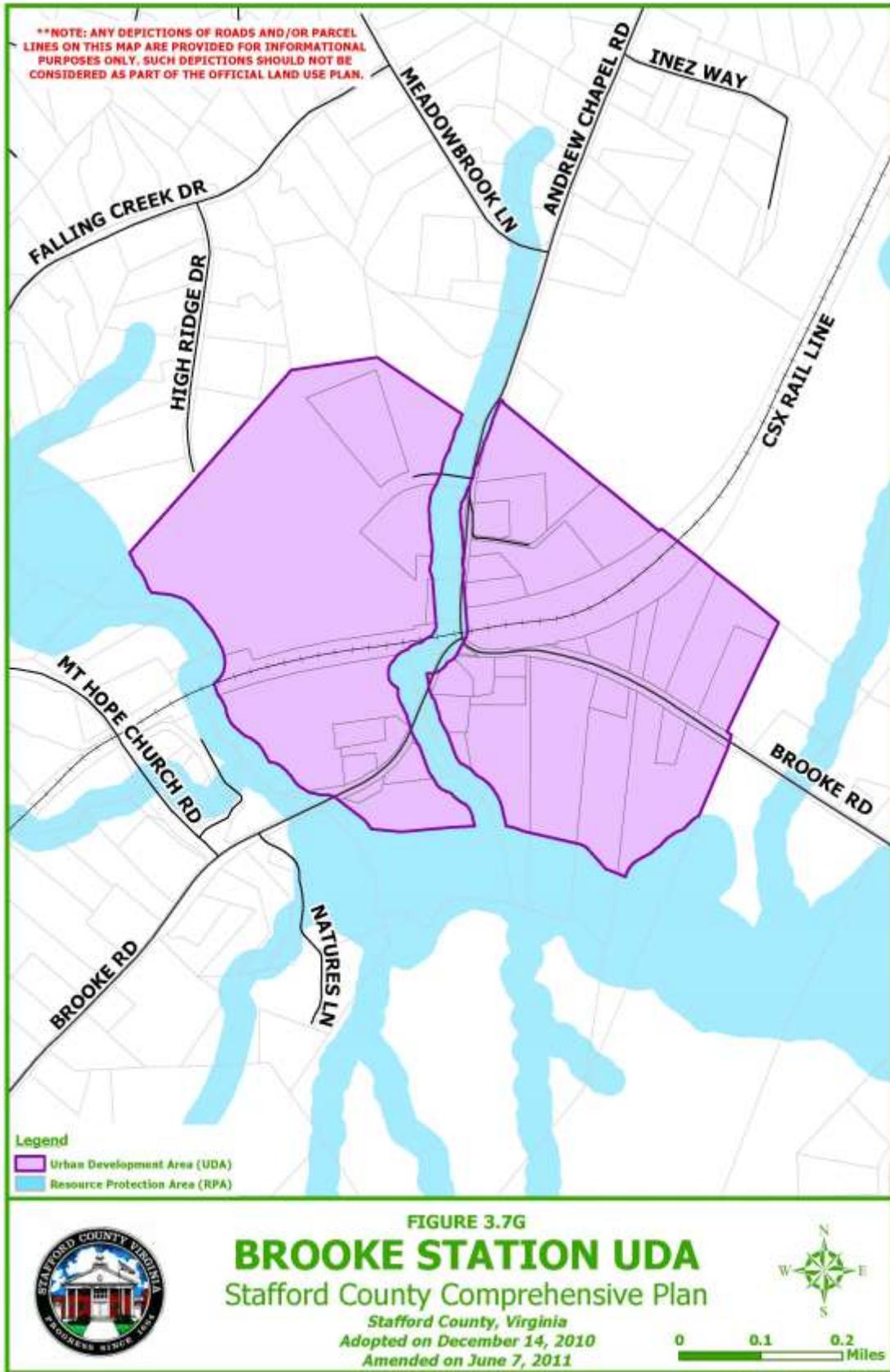
Facility needs:

1 acre of parkland for every 4 residential units

Improvements to Brooke Road between Eskimo Hill Road and Brooke Station

Upgrade to existing fire and rescue station

1 bus stop shelter



### **Suburban Areas**

Suburban Areas of the County are areas where suburban scale of development is most appropriate. Suburban scale of development is considered single family detached dwelling units, typically on ¼ to ½ acre lots, which may include community amenities and are buffered from any adjacent commercial development. These areas are intended to serve as infill development in the proximity of the established communities in the northern and southern areas of the County and in close proximity to major existing or planned transportation networks. Focus should be on the form of development and its relationship with existing communities. Such areas will be primarily residential in nature but will be complimented by neighborhood and community oriented activity centers, places of worship, parks and play areas, and retail and business activities. Development densities should not exceed three (3) dwelling units per acre for residential development and a floor area ratio (FAR) of 0.4 for non-residential development. New dwelling unit types should be limited to single family detached homes. Townhomes and apartments are permitted where land is already zoned for these types of dwelling units. All structures should be low rise in nature and not exceed three stories in design. Site lay-out and building design shall be oriented to compliment, be in scale with and minimize undesirable affects to existing neighborhoods and communities. Preservation of unique or sensitive environmental features should be incorporated into development design. Parking areas should be primarily off-street. Sidewalks and pedestrian trails should be located within neighborhoods and provide access between residential and non-residential uses. Commercial development should be oriented along arterial transportation corridors or at nodes where arterial and collector roads intersect.

More detailed design parameters are provided regarding residential, commercial and industrial uses within the Suburban land use designations.

### **RESIDENTIAL**

The Plan recommends that new residential development in Suburban Areas should be limited to single family detached housing types with the exception of projects that meet the *Special Conditions for Townhomes and Multi-family Units* provisions. Single Family detached units may be developed at a maximum density of three (3) units per acre. On land that has previously been rezoned or approved for a more urban form of residential development, single family attached units (townhomes) may be developed at a density of three and a half (3.5) to seven (7) units per acre and apartment/condominiums may be developed at a density of seven (7) to fifteen (15) units per acre.

### **Special Conditions for Townhomes and Multi-family Units**

A goal of the Plan is to locate at least 80% of the future cumulative residential growth within the Urban Services Area, and outside of the Agriculture/Rural Area. The design and construction of infill development, including mixed-use projects, is encouraged to further this goal and reduce impacts on the

environment and best utilize existing infrastructure. The use of reduced perimeter buffers and clustering will allow in-fill development to utilize higher densities without impacting adjoining properties. The opportunity for residents to live, work, and play within the same development reduces impact on regional highways, reduces sprawl, and increases each citizen's satisfaction with their community.

If the land has not been previously rezoned or developed, single family attached units (townhomes) and apartment/condominiums may be developed under the following special situations:

- A. As infill development in the Suburban land use district if:
  - 1) It is located on land where 60 percent or more of the linear footage of the property perimeter physically abuts property that has been or is currently approved for the same type of dwelling unit (e.g. townhomes next to townhomes, and condominiums next to condominiums) or a higher density dwelling unit type (e.g. proposed townhomes next to existing or planned condominiums);
  - 2) The density and design of the units would be compatible with the current pattern of development of adjacent parcels; and
  - 3) The infill development appropriately mitigates visual impacts from existing or planned lower density dwelling unit types or other incompatible uses through buffering or site design.
  
- B. As mixed-use infill development on property within and adjacent to designated Commercial Corridors in the Suburban land use district if:
  - 1) It is located on land where 60 percent or more of the linear footage of the property perimeter physically abuts property that has been or is currently approved for commercial, industrial, or residential development and is inside of the Urban Services Area;
  - 2) The development is located on a major County transportation corridor such as Garrisonville Road, Jefferson Davis Highway, or Warrenton Road;
  - 3) It is located within two (2) miles of any existing or planned ramp accessing Interstate 95;
  - 4) The development includes a mix of commercial and residential uses, with uses integrated into the same building(s) or as part of a unified project, and commercial uses of sufficient scope based on the entirety of the project;
  - 5) A phasing plan is proffered for the development that demonstrates that a significant portion of the non-residential uses will be built before all residential dwellings are constructed;
  - 6) Residential uses are designed to be integrated into existing or planned adjacent commercial uses, if practical, by providing vehicular and pedestrian connections;

- 7) The infill development appropriately mitigates visual impacts from the perspective of existing or planned lower density dwelling unit types or other incompatible uses through buffering or site design; and
- 8) When structures are proposed to exceed three stories, consideration is given to the need for mitigation of impacts to adjacent properties through enhanced buffering, landscaping, screening or other site design considerations. Mitigation may include wider transitional buffers, retention of existing trees, increased new tree plantings, or utilizing evergreen trees, berms, or fences.

Residential development should be designed and located with consideration given to the local road network. Single Family detached housing developments generally have access to collector streets. Residential developments should be designed to provide adequate and safe traffic flow and emergency service access. Interconnecting local streets should be planned between residential subdivisions.

Buffering should be required along major arterial and collector roads to limit road noise in residential areas. Residential development should be appropriately buffered and set back from commercial and industrial uses. In Planned Development districts, site specific evaluations can determine if buffers and setbacks can be reduced.

Residential developments should be designed to provide an aesthetically pleasing community with open space areas and in proximity to public parks and schools. Infill lot development which makes use of existing public infrastructure investments should be encouraged.

The use of innovative development techniques (clustering, zero lot lines and planned unit developments) are encouraged to allow for development with minimal impact on sensitive natural resources (steep slopes, poor soils, floodplains, and drainage ways). Developments are encouraged to preserve twenty-five (25) to fifty (50) percent of the site for a combination of natural and usable open space.

Staffordshire:

An approved residential project known as Staffordshire is identified in a Suburban Land Use area west of Abel Reservoir, separated from the larger Suburban areas. This project was approved with proffers that limited the site to a maximum of 336 dwelling units. It is the purpose of this Plan to maintain the existing limitation on the number of dwelling units.

#### COMMERCIAL RETAIL AND OFFICE

Development of commercial areas should be conducted in a manner to minimize noise, social, transportation and visual impacts on established residential neighborhoods. The Plan identifies commercial corridors and nodes within Suburban and Urban Areas where commercial development has

occurred or is envisioned. Residential development within commercial corridors or nodes should not be allowed, with exception of projects that meet the special conditions recommended in this chapter. It is not intended for commercial development to be limited only to the commercial corridors and nodes designated on the map.

Commercial activities should be located where there are adequate transportation facilities to accommodate the use. Infill development and the reuse of vacant commercial sites is encouraged. Development along commercial corridors should incorporate limited points of road access or shared access points to limit the number of turning movements, thereby placing fewer restrictions on traffic flow and reducing the potential for vehicle conflicts. Development of less intensive service-oriented suburban commercial uses are encouraged near major residential developments along major collector roadways with secondary access to other collector streets.

Commercial uses adjacent to residential uses should be designed such that the commercial use is integrated into and accessible to the community and designed so as to be unobtrusive to and compatible with the community. Provisions for shared parking to minimize impervious cover should be considered. Adequate parking for both residential and non-residential should be ensured.

Development of commercial and office areas should include mitigation of potential environmental impacts through preservation of significant features and natural vegetation, as well as site design and layout to incorporate open spaces and green areas.

The following design criteria should apply to commercial development along arterial and major collector roadways (including, but not limited to, Jefferson Davis Highway, Garrisonville Road, Warrenton Road, and Kings Highway) to minimize the potential for vehicle conflicts:

- *Shared access for site entrances should be provided along the corridor highways;*
- *Building setbacks and design should be consistent to the greatest extent practical;*
- *Inter-parcel access between commercial uses should be provided;*
- *Adequate street buffers should be provided;*
- *Sidewalks should be provided along all street fronts;*
- *Adequate lighting should be provided. Fixtures within parking lots should be cutoff style. Street and sidewalk lighting should be designed to complement the nearby community character. Lighting should be directed away from abutting properties and the corridor highway;*
- *Monument signage should be of a coordinated color and design with principal structures with limitations on the height and size;*
- *The use of carnival style flags, banners, balloons and other devices that may be seen as a distraction to vehicular travel should not be allowed.*

Vehicle sales are highway-oriented businesses and should be limited to major arterials, at or near major intersections. In the Suburban Area designation, new and used vehicle sales, including automobiles and boats, should be limited to the area along Jefferson Davis Highway near the intersection with Ramoth Church Road; and near the intersection with Garrisonville Road.

The following design criteria should apply to neighborhood serving commercial development in Suburban Areas adjacent to existing or approved single family detached or attached development.

- *Structures should be low rise and situated such that they are integrated with the surrounding community;*
- *Maximum floor area ratio should not exceed 0.35 and open space ratio should be at least 0.4;*
- *Sidewalks should be provided along all street fronts;*
- *Adequate lighting should be provided. Fixtures should be cutoff style and not exceed twenty feet in height. Lighting should be directed away from abutting properties;*
- *All loading areas abutting residential uses should be screened with opaque fencing and natural vegetation. Where natural vegetation is insufficient, a variety of evergreen and deciduous landscaping may be substituted;*
- *Inter-parcel access between commercial uses should be provided;*
- *Pedestrian trails should be extended off-site to access secondary streets and other trail systems;*
- *Architectural design should be compatible with the neighborhood character and architectures. Massing, texture and materials should be similar to those predominantly used by nearby residences. Front facades should consist at least partly of brick or equally suitable materials. All facades immediately visible from any public street or nearby residence should have architectural treatment of brick, textured masonry or siding;*
- *Maximum building height should be 35 feet;*
- *All parking areas should be landscaped;*
- *Structures should be located in such a way as to maximize pedestrian accessibility.*

Recommended uses in Commercial nodes adjacent to residential development should be low to medium intensity. Any high intensity uses should require a conditional use permit to protect against potential negative impacts. The use of drive-thru windows should be limited. Single use sites should be discouraged. Recommended uses include the following:

- *Bakery*
- *Bank and lending institution*
- *Barber/beauty shop*
- *Convenience center*

- *Dance studio*
- *Drug store*
- *Dry cleaner/laundry*
- *Florist*
- *Gift/antique shop*
- *Low intensity commercial retail*
- *Medical and dental clinics and Offices*
- *Medium intensity commercial retail*
- *Place of worship*
- *Professional office*
- *Restaurant*
- *Retail food store*
- *Tailor shop*

The Plan encourages the location of office uses in commercial nodes and corridors, and as a transition between more intense commercial uses and residential uses. Office developments should be located along or in close proximity to major collector or minor arterial roadways with secondary access to other collector streets. Office developments may be free-standing structures or office parks. The following design criteria apply to office development:

- *Office development should be in scale with adjacent residential development. Where there is no existing residential development adjacent to office uses, the development of the structures should be in a manner to be in scale with the planned development pattern;*
- *Sidewalks should be provided along all street fronts and tie into existing pedestrian facilities;*
- *Adequate lighting should be provided for parking lots and on-site pedestrian walkways. Fixtures should not exceed twenty feet in height. Lighting should be directed away from residential properties;*
- *All loading areas and refuse disposal sites should be screened from view of any public street or residence;*
- *Mechanical or telecommunications equipment should be screened from view of any public street or residence;*
- *Architectural design should be compatible with the neighborhood character and architecture. Architectural treatment such as brick, stone, stucco, split face block, wood or glass should be encouraged, while materials such as unadorned cinder block, corrugated or sheet metal should be discouraged.*
- *Vegetated, pervious green space, should be incorporated into overall design, as well as amenities including plazas or other gathering spaces for employees*

### INDUSTRIAL

Areas designated for clean, non-nuisance industrial uses which are not water intensive and are located near railroad lines and/or major highways. Preferable industrial development in Suburban Areas provides goods and

services to nearby businesses and residences, including warehousing, wholesaling, manufacturing, processing operations, mixed-use commercial/industrial development, and flex office space.

The following design criteria should apply to industrial development in Suburban Areas.

- Industrial development should be adequately screened and set back from nearby residential uses to minimize visual and noise impacts.
- *Maximum floor area ratio should not exceed 0.35 and open space ratio should be at least 0.20;*
- *All loading areas abutting residential uses should be screened with opaque fencing and natural vegetation. Where natural vegetation is insufficient, a variety of evergreen and deciduous landscaping may be substituted;*
- *Maximum building height should be 40 feet;*
- *All parking areas should be landscaped;*
- *Adequate lighting should be provided. Fixtures should be cutoff style and not exceed twenty feet in height. Lighting should be directed away from abutting properties;*

### **Business and Industry Areas**

Areas of the county where large scale business and industry activities are encouraged. These areas are to be the primary economic engines for the County. Such businesses and industries would primarily serve markets that stretch beyond the County borders. Activities will typically include retail, wholesale, corporate and professional offices, research and development, entertainment, manufacturing, distribution and transportation. Special consideration shall be given when locating heavy industrial uses in these areas. Buildings would typically be large in nature with extensive setbacks, parking and lot coverage requirements. They should be located in proximity to major transportation facilities. Residential activities in the area should be discouraged. Where such areas abut existing residential communities, berms, buffers, noise attenuation measures and additional setbacks may be necessary to minimize community conflicts.

It is noted that new and used vehicle sales, including automobiles and boats, shall also be considered in Business and Industry areas along major arterials, where compatible uses exist. This includes areas along Jefferson Davis Highway between Ramoth Church Road and Potomac Creek.

### **Agricultural/Rural Areas**

Areas where farming, forestry and low density residential activities are encouraged. Single family detached dwelling units may be developed at a maximum density of one (1) unit per three (3) acres. Such areas are located beyond the limits of the Urban Service Area and would have limited community services. Agricultural service establishments and community service retail establishments may be located at significant crossroads. As a means to support agriculture and the existing rural character, these areas will

be designated as sending areas in a future transfer of development rights (TDR) program. They are also the focal point for the County's purchase of development rights (PDR) programs.

In order to help preserve the rural character, the following design criteria for development are recommended for the Agricultural/Rural area:

- useable open space shall be preserved for agricultural or conservation purposes
- areas containing steep slopes greater than 35%, Resource Protection Areas, and floodplains should be excluded from the developable area
- a building setback of 100 feet should be maintained from the perimeter boundary where located adjacent to existing agricultural uses
- a building setback of 100 feet to be maintained along existing state-maintained roads to help retain the scenic quality of rural county roads
- wildlife migration corridors to be maintained where identified. Connectivity of open space areas shall be considered to enhance wildlife movement
- large stands of trees shall be maintained to the greatest extent possible on forested tracts of land
- the preservation of cultural resources to be considered in accordance with the Cultural Resources Management Plan
- cluster subdivisions should be encouraged where permitted
- Low Impact Development (LID) practices should be encouraged for stormwater management

### ***Mining and Extraction***

This designation identifies the location where mining and extraction activities are actively occurring or planned through previously approved expansions to existing operations or new operations. These areas correspond with the M-2, Heavy Industrial zoning designation. Associated processing uses may occur in this area, including asphalt and sand and gravel manufacturing. These uses shall be well buffered from residential uses so as to minimize noise and visual impacts.

### ***Parks***

Areas identified for parks and recreation that may attract visitors from the County, region and state. These parks are comprised of expansive land holdings that are owned and or managed by local government and state agencies. They may have limited or focused recreational activities. Extensive areas would be devoted to passive recreation and conservation. These areas do not reflect all parkland in the County, such as neighborhood scale parks located in Suburban and Urban Areas.

### ***Redevelopment Areas***

Redevelopment Areas are selected areas within the Urban Service Area where the County desires to concentrate its efforts to change the existing development pattern. These areas are typically underutilized or

underdeveloped. The primary focus is for economic revitalization through the development of mixed use developments. Commercial activities will be given special attention while limited residential uses are encouraged to keep the areas vibrant during non-working hours. Redevelopment Areas may be both suburban and/or urban in scale. The use of form-based codes, as described in this chapter, may assist in achieving the desired form of development. Four Redevelopment Areas have been designated, including Boswells Corner, Courthouse Area, Southern Gateway, and Falmouth. A summary of the location, characteristics and vision for these areas are described below.

On the Land Use Map, the Redevelopment Areas overlay Urban Development Areas (UDAs), Suburban areas, Business and Industry areas, Park, and Commercial Corridors and Commercial Nodes. The special area plans associated with these Redevelopment Areas include specific recommendations regarding the form of development. In locations where the special area plans include more specific recommendations, those recommendations shall take precedence over the underlying land use designations, with the exception of UDAs. In UDAs, the specific recommendations regarding density, use, and form of development shall take precedence over such recommendations in the Redevelopment Area special area plans.

#### BOSWELL'S CORNER

Boswell's Corner is largely defined by Interstate 95 (I-95) to the west, the Marine Corps Base Quantico to the north and east, and Telegraph Road to the east. Jefferson Davis Highway (US-1) runs north-south through the middle of the area. This redevelopment area generally consists of roughly 354 Parcels that contain approximately 575 acres of land area. The total land area, including streets and roads is about 601 acres, representing  $\pm 0.3\%$  of Stafford County's area.

Boswell's Corner is named for a crossroads of the same name, and in many ways, the area represents a crossroads of the different groups that live in this area of Stafford County. The biggest driver for the area is Marine Corps Base Quantico and those who serve the government operations. However, there are also several housing developments in the area that will also potentially serve as demand generators for service retail.

Boswell's Corner's location in the northern part of Stafford County and proximate to Marine Corps Base Quantico and Interstate 95 (I-95) make the area attractive for redevelopment, especially with the anticipated growth at Quantico as a result of the Base Realignment and Closure (BRAC) actions.

Currently, development in the area is limited to a few service and automotive retail locations intermixed with industrial and residential. However, several buildings in the Silver Companies Quantico Corporate Center have been completed in the northern section of the area, with the other components under construction.

Boswell's Corner was targeted for redevelopment by Stafford County upon the presentation of Stafford County's Economic Development Plan of 2006, which states that this area exists as future economic development site due to location, road access, and the Quantico Marine Corps Base, which is expected to see significant gain in employment through the BRAC process. Boswell's Corner "stands as the gateway to Stafford County from the north. Development of high quality office space and supporting retail would announce that Stafford County is an area for economic progress and not solely a bedroom community."

### COURTHOUSE AREA

The heart of the Courthouse Area is generally defined as the crossroads of Jefferson Davis Highway (US-1) and Courthouse Road. This redevelopment area generally consists of roughly 840 parcels that contain approximately 1,743 acres of land area. The total land area, including streets and roads, is about 1,900 acres, representing  $\pm 1.1\%$  of Stafford County's area.

Because of its position at the heart of Stafford County and location that serves as the County Government Center, the Courthouse Area is poised to play a key role as a Town Center for Stafford County. The conceptual drawings created for Stafford County by Cunningham + Quill Architects illustrated a traditional town center-style development in this redevelopment area. At the crossroads of Jefferson Davis Highway and Courthouse Road, the area is also accessible via an exit off Interstate 95 (I-95), making it accessible to both the northern and southern portions of Stafford County.

Currently the Courthouse Area is developed with a few businesses intermixed with residential communities. Most notably, the area houses Stafford County government and judicial offices proximate to the Jefferson Davis Highway and Courthouse Road intersection, along with a number of public schools east of the intersection, as well as the Courts, School Board and Hospital Center.

Stafford County's 2006 Economic Development Plan determined that "The Courthouse Area stands as an opportunity site" because of its location, current and future anchors. The area has three development resources planned that could transform the district: a new medical campus at the new Stafford Hospital Center, a new Interstate 95 (I-95) interchange, and a new potential Circuit & General District Court-J&DR Court complex. The area has long been talked about as a future location for a tourist visitor center, open-air market, and town square. Businesses, such as restaurants and supporting convenience retail, will be desired by employees and visitors, and the area could add to the diversity of Stafford County with health services, recreational activities and an active, pedestrian town center. The Plan recommended "to develop additional streets around the Courthouse Area to create a grid street pattern, establish the intersection of Courthouse Road and Jefferson Davis Highway as the center of Stafford County, and ensure the Courthouse Area and other mixed-use developments are pedestrian-friendly."

### SOUTHERN GATEWAY

Southern Gateway, located at the southwest part of Stafford County, is generally defined as the area along Warrenton Road (US-17) from Berea Church Road to Interstate 95 (I-95) in the east to Celebrate Parkway in the west. This redevelopment area generally consists of roughly 309 Parcels that contain approximately 1,197 acres of land area. The total land area, including street and road right-of-way is about 1,268 acres, representing  $\pm 0.7\%$  of Stafford County's area.

The area is traversed by Warrenton Road, a major East-West connector for vehicular traffic, and acts as an important link for trucks between Interstate 95 (I-95) and Interstate 81 (I-81), carrying approximately 60,000 vehicles daily.

Currently, Southern Gateway is developed with a mix of low-density retail and commercial uses with several hotels located closer to Interstate 95 (I-95). Several office buildings are located along Riverside Parkway adjacent to Interstate 95 (I-95). The England Run residential community is located north of Warrenton Road along Plantation Drive and Lichfield Boulevard, although it is not a part of Southern Gateway. The Celebrate Virginia planned development currently under construction is located beyond the western end of the redevelopment area (but not a part of it) along McWhirt Loop and Celebrate Virginia Parkway.

Adjacent to the redevelopment area, Celebrate Virginia is a 2,400 acre project being designed as a retail and tourism hub, developed by the Silver Companies. In addition to the retail in the study area, it includes over 2 million square feet of retail, a Corporate Campus offering up to 3 million square feet of office space, the Cannon Ridge Golf Club, and an adult living community. Silver Companies' representatives informed the Planning Team that there were no immediate plans to construct speculative office space here.

The area surrounding Southern Gateway is emerging as an employment center, including the GEICO operations center and other office space. The area is also home to the University of Mary Washington's Graduate and Professional campus, servicing approximately 1,000 students.

Stafford County's Economic Development Plan of 2006 recommended to "Plan and Develop New Opportunity Sites at the new Interstate 95 (I-95) Interchange at Falmouth Village and Warrenton Road in line with Identified Clusters." Southern Gateway's position on Interstate 95 (I-95) makes it attractive for hotels. The availability of road access and ample services and employment may make this an attractive residential location. Additionally, Falmouth Village is relatively easy to reach from Interstate 95 (I-95) and from Warrenton Road, creating an added attraction.

### **FALMOUTH VILLAGE**

The heart of Falmouth Village, located at the southern portion of Stafford County, is generally defined as the crossroads of Warrenton Road (US-17) and Cambridge Street (US-1). The redevelopment area is generally bounded by Truslow Road to the north, the Rappahannock River to the south, Colonial Avenue to the east and Melcher Drive to the west. This redevelopment area generally consists of roughly 200 parcels that contain approximately 120 acres of land area. The total land area, including street and road right-of-way is about 138 acres, representing  $\pm 0.08\%$  of Stafford County's area. The southern boundary of this area is the Rappahannock River.

One of the earliest colonial settlements in the area, historic Falmouth Village presents a unique opportunity to preserve, enhance and develop a cultural attraction in Stafford County. This village setting adjacent to the Rappahannock River is already recognized as a National Register Historic District and contains some of the most significant historic sites in Stafford County.

Relatively easy to reach from Interstate 95 (I-95) and Warrenton Road, Falmouth Village is becoming a notable attraction for the County. Stafford's 2006 Economic Development Plan recommended to "*plan and develop new opportunity sites at the new Interstate interchange at Falmouth Village and Warrenton Road in line with identified clusters.*"

Falmouth Village contains some of the most historic sites in Stafford County. The redevelopment area is currently developed with a mix of commercial uses intermixed with residential communities.

Much needed access improvements were identified as vital to its potential to provide another center to foster economic opportunity that could add to Stafford County's strength. A Cultural Management Team was encouraged to outline an implementation plan to develop the Historic Port of Falmouth into a tourist attraction. The area was recently designated as an economic redevelopment site, and will be treated on par with other similar areas in the proposed redevelopment plans.

### **Special Uses**

The educational opportunities in the region are enhanced by higher education institutions and cultural and performing art venues. The continued expansion of these uses is encouraged. Although not specifically designated on the Land Use Map, general location criteria are provided. Within the Urban Services Area, the County supports the continued expansion of higher education facilities and performing art venues. These facilities should be in close proximity to major population centers and be sited and designed for minimal impact on the existing community and transportation networks.

The location of cultural venues such as museums may be less reliant on urban services, although the impact on transportation and the surrounding uses and landscape should be a major consideration.

### 3.6 Land Use Map Growth Projections

The section of the Plan includes an evaluation of the projected residential and commercial growth of the County under the draft Land Use Plan. The Growth projections look at the amount of growth that can be expected over the next 20 years.

#### Growth Projections

Growth projections have been applied to the Land Use Map to identify where the County desires growth to occur over the next 20 years. The projections anticipate the amount of future growth inside the Urban Services Area (USA) in suburban areas, urban areas, and business and industry areas, as well as outside the urban services area. Growth projections are based on state population projections and County commercial growth estimates. Determining how growth is divided across the County is based on the following facts and assumptions or goals:

- Utilizes Virginia Employment Commission (VEC) population projections to determine 29,737 future dwelling units countywide ( 218,772 people in 2030 minus 135,806 people in 2010, divided by 2.79 persons per dwelling)
- Future residential growth includes a goal to achieve 80 percent of future growth inside the USA
- Conversely, assumes 20 percent of the future residential growth will occur in Rural Areas outside of the Urban Services Area
- Plans for 10 years of future population growth, or 14,661 future dwelling units, within designated Urban Areas. This is based on VEC projections of 40,904 new residents over the next 10 year period divided by the County estimated 2.79 persons per dwelling unit.
- The following assumptions have been made for non-residential growth:
  - Countywide, at least 1 million square feet of non-residential growth per year is anticipated based on past growth (i.e., 10 million square feet over 10 years)
  - Projects 500,000 square feet of non-residential growth per year outside of urban areas in industrial, suburban and rural areas (half of the anticipated growth)
  - Projects that additional non-residential growth will occur in Urban Areas beyond past growth levels. Urban Areas will take a different form of development than previously seen in the County. Non-Residential development will likely be better integrated into the Urban Development Area fabric.

The amount of growth projected in Urban Areas is predicated on criteria mandated under Virginia Code Section 15.2-2223.1 regarding Urban Development Areas, which requires Stafford County designate pedestrian oriented urban areas adequate to accommodate 10 years of residential and commercial growth. Note that the non-residential growth exceeds the projected

10 million square feet. Urban Development Areas are a new form of development to Stafford that may have a higher ratio of commercial to residential land uses by the nature of its form.

The outcome of the growth projections can be found in Table 3.4. The table divides the growth projections among the areas designated on the future land use map. The County should track the location of future growth on a regular basis to evaluate how new development is conforming to these projections.

#### Projected Dwelling Unit Types

Provided below is an estimation of the dwelling units by type in each of the land use designations that support residential development. The unit totals correspond with the growth projections in Table 3.4. To clarify the chart, the Suburban category includes a range for each dwelling unit type, with a single total of 9,129 units projected. The particular mix of unit types will vary depending on market conditions. In the Suburban land use, there is a potential of up to 2,025 townhomes and 1,163 multi-family units on land that is already zoned or has prior development approvals. As a result, the breakout of unit types includes a range from the minimum to maximum potential number of units. For example, the number of future townhouses may range from 0 units to 2,025 units. A higher number of townhouses would result in a lower number of either single-family units and/or multi-family units. An assumption made in this chart is, regardless of the unit mix, the end result is to meet the goal of 9,129 dwelling units in Suburban areas. This density range is carried through to the total dwelling unit numbers. The Urban Development Area (UDA) dwelling unit mix reflects the recommendations within the individual UDAs.

<u>Dwelling Unit Type</u>	<u>UDA</u>	<u>Suburban</u>	<u>Rural</u>	<u>Total</u>
Single-Family	7,000	5,941-9,129	5,947	18,888-22,076
Townhouse	2,348	0-2,025	---	2,348-4,373
Multi-family	5,313	0-1,163	---	5,313-6,476
<b>Total</b>	<b>14,661</b>	<b>9,129</b>	<b>5,947</b>	<b>25,737</b>

**Table 3.4 Land Use Map Growth Projections**

**INSIDE THE URBAN SERVICES AREA**

**SUBURBAN**

Sub-Area	Net Acreage	Residential Units			Projected Non-Residential Square Footage(5)
		Existing	Projected(1)	Total	
North	14,413	19,726	3,517	23,243	2,000,000
South	14,480	12,907	5,276	18,183	2,500,000
Staffordshire	617	0	336	336	0
<b>Sub-Total</b>	<b>29,510</b>	<b>32,633</b>	<b>9,129</b>	<b>41,762</b>	<b>4,500,000</b>

**URBAN DEVELOPMENT AREAS (2)**

1 - Courthouse Area	551	159	1,386	1,545	2,727,310
2 - Southern Gateway	864	274	2,576	2,850	2,670,456
3 - George Washington Vill.	1,878	123	4,180	4,303	11,434,400
4 - Eskimo Hill	189	13	879	892	588,000
5 - Centerport	1,118	55	3,770	3,825	1,878,400
6 - Leeland Town Station	317	25	1,000	1,025	1,500,000
7 - Brooke Station	184	25	870	895	174,240
<b>Sub-Total</b>	<b>5,101</b>	<b>674</b>	<b>14,661</b>	<b>15,335</b>	<b>20,972,806</b>

**BUSINESS/INDUSTRY**

1 - Boswell's Corner	599	561		561	1,000,000
2 - Centerport/Airport	3,184	153		153	2,000,000
3 - Stafford Industrial Park	245	0		0	250,000
4 - Heritage Commerce Park	349	2		2	250,000
5 - Riverside	131	0		0	500,000
6 - Warrenton Road East	309	58		58	1,250,000
7 - Cool Spring Road	178	8		8	250,000
8 - Sherwood	732	2		2	750,000
<b>Sub-Total</b>	<b>5,728</b>	<b>784</b>		<b>784</b>	<b>6,250,000</b>

**OTHER**

Resource Protection Area	4,273	0		0	
Park	722	21		21	
<b>Total</b>	<b>4,995</b>	<b>21</b>		<b>21</b>	

**INSIDE THE URBAN SERVICES AREA TOTALS**

	Acreage	Residential Units			Projected Non-Residential Square Footage
		Existing	Projected(3)	Total	
<b>Total</b>	<b>45,334</b>	<b>34,112</b>	<b>23,790</b>	<b>57,902</b>	<b>31,722,806</b>

**Table 3.4 Land Use Map Growth Projections (Continued)**

<b>OUTSIDE THE URBAN SERVICES AREA</b>					
<b>AGRICULTURAL/RURAL AREA</b>					
Sub-Area	Net Acreage	Residential Units			Projected Non-Residential Square Footage
		Existing	Projected (4)	Total	
All Agricultural/Rural Areas	77,293	10,289	5,947	16,236	250,000
<b>Total</b>	<b>77,293</b>	<b>10,289</b>	<b>5,947</b>	<b>16,236</b>	<b>250,000</b>
<b>OTHER</b>					
Resource Protection Area	17,358	0		0	
Mining	1,178	5		5	
Park	5,967	17		17	
Federal Land	32,221				
<b>Total</b>	<b>56,724</b>	<b>22</b>		<b>22</b>	
<b>OUTSIDE THE URBAN SERVICES AREA TOTALS</b>					
	Acreage	Residential Units			Projected Non-Residential Square Footage
		Existing	Projected	Total	
<b>Total</b>	<b>134,017</b>	<b>10,311</b>	<b>5,947</b>	<b>16,258</b>	<b>250,000</b>
<b>COUNTYWIDE PROJECTIONS</b>					
	Acreage	Residential Units			Projected Non-Residential Square Footage
		Existing	Projected	Total	
Inside the USA	45,334	34,112	23,790	57,902	31,722,806
Outside the USA	134,017	10,311	5,947	16,258	250,000
<b>TOTAL</b>	<b>179,351</b>	<b>44,423</b>	<b>29,737</b>	<b>74,160</b>	<b>31,972,806</b>

\* Non-Residential = commercial retail, office, industrial, institutional, community, & government uses

(1) Assumes approximately 40 percent of future growth projected in the Northern Area, with the remaining 60 percent projected in the Southern Area. This estimation is based on the likelihood of development to occur in each area and the amount of land available to be developed.

The 336 units in Staffordshire reflect the maximum development potential as restricted by proffers.  
 (2) For background on the dwelling units in the Urban Development Areas, see individual Urban Development Area descriptions.

(3) Meets goal of focusing at least 80 percent of residential growth inside of the Urban Services Area.  
 (4) Meets goal to limit future residential growth outside of the Urban Services Area to no more than 20 percent of future dwelling units.

(5) Projected non-residential growth is divided among the Suburban and Business/Industry Sub areas by the likelihood of development to occur and the availability and amount of developable land.

### 3.7 Transfer of Development Rights

The Board of Supervisors adopted the Transfer of Development Rights Ordinance, O13-21, on February 19, 2013, establishing a Transfer of Development Rights (TDR) program in Stafford County. The Board of Supervisors then adopted Ordinance to amend Ordinance O13-21, further enabling the TDR program.

The purpose of the TDR program is to provide a mechanism by which a property owner can transfer residential density from sending areas to receiving areas and/or to a transferee without relation to any particular property through a voluntary process intended to permanently conserve agricultural and forestry uses of lands, reduce development densities on those and other lands, and preserve rural open spaces and natural and scenic resources. The TDR program is intended to complement and supplement County land use regulations, resource protection efforts, and open space acquisition programs. The TDR program is intended to encourage increased residential and commercial density in areas that can better accommodate this growth with less impact on public services and natural resources.

**Sending Areas** are defined as those areas from which development rights are authorized to be severed and transferred to a receiving area or transferee without relation to any particular property. Figure 3.8, Sending and Receiving Areas Map, shows the sending area, outlined in blue, which is land located east of the CSX rail line, north of Potomac Creek, and south of Aquia Creek. In order to qualify as a sending area, property shall be:

- (1) Designated for agricultural, rural, or park land use(s), in the Comprehensive Plan;
- (2) Located within areas designated as sending areas on the map entitled "Figure 3.8 Transfer of Development Rights Sending and Receiving Areas Map" in the Comprehensive Plan; and
- (3) Zoned A-1 (Agricultural) or A-2 (Rural Residential) on the Zoning Map and meet one of the following criteria:
  - (i) A separate parcel in existence on the effective date of the Transfer of Development Rights ordinance that is at least twenty (20) acres;
  - (ii) Contiguous parcels in existence on the effective date of the Transfer of Development Rights Ordinance comprising at least twenty (20) acres and are under the same ownership on the date of application; or

- (iii) A separate parcel in existence on the effective date of Transfer of Development Rights Ordinance that is at least two (2) acres and designated as Park on the Land Use Map in the Comprehensive Plan.

**Receiving Areas** are defined as areas authorized to receive development rights transferred from a sending area. Figure 3.8, Sending and Receiving Areas Map, shows the receiving area, outlined in red. In order to qualify as a receiving area, property shall be:

- (1) Located in one of the following zoning districts: A-1, Agricultural; R-1, Suburban Residential; PD-1, Planned Development -1, PD-2, Planned Development-2; PTND – Planned Traditional Neighborhood Development; UD, Urban Development; and B-3, Office;
- (2) Located within a receiving area on the Sending and Receiving Areas Map;
- (3) Located within the USA by the Comprehensive Plan;
- (4) Designated as part of a RDA by the Comprehensive Plan; and
- (5) Included in an assessment of the infrastructure in the receiving area that identifies the ability of the area to accept increases in density and the plans to provide necessary utility services within any designated receiving area.

Under the TDR program, the sending area could send up to an estimated 1,490 units and the receiving area could accommodate up to an estimated 2,240 future units. The success of the TDR program may alter the number of units built in the rural areas but it will not change the number of units in the overall Comprehensive Plan.

**Architectural Design** of structures constructed within the receiving area shall utilize materials, quality, appearance, and details pursuant to the Neighborhood Design Standards Plan element of the Comprehensive Plan.





## 4.0 Transportation Plan

### 4.1 Introduction

Land use and transportation are interrelated. How the land is used affects how the public moves between home, shopping, their workplace, school, and other places. As land use intensifies, the level of vehicle traffic on the roads increases, thus negatively impacting how one moves from place to place. Improvements to existing roads and construction of new roads are means of relieving congestion and improving safety. The Transportation Plan benefits the County by spelling out in a comprehensive manner the required transportation improvements to achieve acceptable levels of service. Levels of Service ("LOS") are used to measure the effectiveness of a transportation facility to operate in an efficient manner and are typically categorized from LOS "A" (best operating conditions) to LOS "F" (worst operating conditions).

The roads in Stafford are not maintained by the County. The Virginia Department of Transportation (VDOT) maintains public roads, including those within most residential neighborhoods. Property owners associations and management companies maintain private streets in residential areas and commercial centers. The County works with VDOT and the Fredericksburg Area Regional Metropolitan Planning Organization (FAMPO), the regional transportation planning group, to plan for and secure funding to improve the transportation infrastructure.

The Transportation Plan identifies the future expansion and improvement of existing roadway facilities supplemented by the strategic construction of new roadways, the expansion of existing transit and commuter parking facilities, and the construction of new facilities to support increased options for transportation. The Transportation Plan is intended to implement the goals and objectives identified in Chapter 2 to meet the transportation needs of the County for the next 20 years.

The Transportation Plan was last updated in 2005 as an element of the Comprehensive Plan. It is intended that this chapter will become the new Transportation Plan. The 2005 plan element will be updated later to become

the Transportation Implementation Element of the Comprehensive Plan. The Transportation Implementation Element will identify all anticipated transportation improvements in the county, identify the extent of the projects, determine estimated project costs, sources of funding and estimate timelines for completion. It is anticipated that the Implementation Element will include regional and statewide projects that exceed the current 20 year planning horizon. This plan element will be updated on a regular basis to reflect changes in funding and stages of completion of projects.

There are a number of key factors that influence the Transportation Plan and the County's ability to make transportation network improvements. They are:

- Existing and Future Conditions
- Coordination with federal, state and regional agencies
- Multi-modal transportation facilities
- Transportation demand management
- Levels of service (LOS)
- Right-of-way requirements
- Access management and residential traffic management
- Secondary Street Acceptance Requirements (SSAR)
- Road improvement projects in approved programs
- New transportation improvements
- Funding Sources

## 4.2 Existing and Future Conditions

Stafford County has a transportation system typical of a suburban locality strategically located near major population and employment centers. The County is influenced by the expansion of the Washington, D.C. metropolitan region and growth of the Fredericksburg metropolitan area. The County's transportation system includes a predominance of narrow rural roads with physical constraints that are generally incompatible with the evolving land use patterns. This transportation system, although not initially designed to support suburban and urban land use densities, is used almost exclusively by automobiles and has significant morning and afternoon traffic congestion.

Interstate 95 and Jefferson Davis Highway/Cambridge Street (US-1), which bisect the County, are major north-south transportation routes for commuters, vacationers, business travelers, residents who use the facilities for local trips, and trucks traveling within and through the County. In addition, the Warrenton Road (US-17) and Kings Highway (SR-3) corridors provide strategic east-west links.

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Intra-county traffic places additional demand on the County's transportation facilities. Strategic roadway corridors include Mine Road/Centreport Parkway, Garrisonville Road, Courthouse Road, Brooke Road and Poplar Road. The Mine Road / Centreport Parkway project would provide a north/south reliever road to US-1 and I-95. Garrisonville Road provides a connection from Interstate 95 and destinations within Fauquier County. Courthouse Road is an east-west transportation route that links a number of schools and residential areas to Interstate 95 and Jefferson Davis Highway. Brooke Road is a north-south route that serves much of the eastern part of the county. Similarly, Poplar Road is a north-south route that serves the western part of the county providing a linkage between Garrisonville Road and Warrenton Road. These corridors are not principally for travel outside of Stafford County, but serve the citizens of Stafford and allow them to avoid the interstate congestion.

There are two existing rail corridors within the County. The CSX Corporation owns and operates a main rail line that traverses the eastern portion of the County. There is a spur line known as the Dahlgren Spur that branches off from the main line that parallels Kings Highway. The main rail line serves freight and passenger trains. The Dahlgren Spur serves freight trains only. There are currently two commuter rail stations in the County at Brooke and Leeland. Passenger service is also located outside of the County at the Fredericksburg Train Station.

The basis for identifying future roadway improvements in the Transportation Plan and Transportation Implementation Element will be derived from the County's Transportation Model. The Transportation Model examines existing and future land use, the existing road network and capacity as well as new planned roadways. The Transportation Model had been used in the 2003 and 2005 updates to the Transportation Plan. It will be updated again following adoption of this Comprehensive Plan.

The purpose of this model is to evaluate future year conditions and allow for the testing of various roadway improvement alternatives in order to achieve an overall operating Level of Service (LOS) equal to C (see Level of Service, Section 4.6). In order to more accurately evaluate the impact on the roadway system, an iterative process is used, which projects growth on the transportation system over time based on the Land Use Plan. The results of this modeling process will allow the County to better implement effective transportation solutions to ensure that level of service is maintained.

With the exception of most of the residential streets, all roadways are included in the model for greater flexibility and accuracy. The model evaluates both roadway segments and intersections based on a volume-to-capacity ratio. Due to the varying rate and location of development in the County, the final transportation network proposed in this Plan should be considered a dynamic element to be implemented and refined over time. Future detailed studies will determine the exact locations and design features of the Plan's improvements.

Even with the extensive road facility improvements and the establishment of new roadways, several roadways in the County will continue to operate at unacceptable levels of service. To alleviate these congested areas and maximize the capacity of the transportation network, transportation demand management and other transportation alternatives will need to be implemented.

### **4.3 Transportation Coordination**

The Fredericksburg Area Metropolitan Planning Organization (FAMPO), which includes all of Fredericksburg City, Stafford County, and Spotsylvania County, provides the foundation for regional transportation planning. Although Stafford County is also a member of the National Capital Region Transportation Planning Board (TPB), primarily for air quality conformity determinations, the County develops its regional transportation planning initiatives through FAMPO, which coordinates its initiatives with TPB.

The use of any federal funds for transportation improvements within the County must be approved by FAMPO and included within its regional plans. The County competes with the other localities in the region for those funding resources. FAMPO coordinates the development of a Transportation Improvement Program (TIP) for the region. The TIP programs and prioritizes interstate, primary (state route numbers of 599 and below), and secondary (state route numbers of 600 and above) road projects for a six-year period. FAMPO develops a Long Range Transportation Plan, which identifies those regional transportation facilities necessary to meet growth and development projections for the area for the next 20-30 years. Many of those recommendations have been incorporated into this plan.

The Virginia Department of Transportation (VDOT) has primary responsibility for maintaining public streets within the County. The County works closely with VDOT to plan and program road improvement projects. The County approves an annual secondary road improvement budget and secondary road improvement six-year plan in conjunction with VDOT. These two actions program state-allocated funds for secondary road projects. Interstate and primary system funds are allocated by the Commonwealth of Virginia in coordination with FAMPO through the TIP process. In addition, the County coordinates safety-related transportation projects with VDOT to ensure the safe operation of County roadways.

## 4.4 Multi-Modal Transportation Facilities

### 4.4.1 Car Pool and Van Pool

The County's carpool and vanpool programs are coordinated by George Washington Regional Commission (GWRC) through GWRideConnect. GWRideConnect maintains a database of participating individuals, but specific assignments are left to private arrangements. The Commonwealth of Virginia provides grant funds to support GWRC's coordination effort.

In 2008, there were 111 formal carpools and 215 vanpools. In addition, numerous carpools exist that do not formally register with GWRideConnect. GWRC's program is geared toward matching individuals who are new to the area and are unfamiliar with available carpools and vanpools. Carpools and vanpools are organized primarily to serve Northern Virginia; however, some provide service to Dahlgren in King George County, the Richmond area, and Maryland. FAMPO provides financial assistance in the early stages of new vanpool operation and provides technical assistance to potential operators on such matters as insurance, in addition to providing potential riders for the vanpool.

The County supports all initiatives that will expand carpool and vanpool operations, including encouraging the Commonwealth to provide additional services and funds to GWRC that allow them to further assist citizens in the community.

### 4.4.2 Park and Ride Lots

Four commuter parking lots serve Stafford County. Each lot is located near one of the Interstate 95 interchanges. There are two lots adjacent to Garrisonville Road. The lot on the north side of Staffordboro Boulevard has a capacity of 827 vehicles and has consistently exceeded capacity since 2008. The Mine Road lot on the south side of Garrisonville Road has a capacity of 750 vehicles and demand also exceeds capacity. The lot on Courthouse Road has a capacity of 523 vehicles and is nearly at capacity. The lot on Warrenton Road has a capacity of 1,000 vehicles and is at two-thirds capacity.

The County supports efforts to acquire land adjacent to or nearby the Garrisonville Road and Warrenton Road commuter parking lots for future expansion when additional capacity is needed and funds are available. The County supports the relocation of the Courthouse Road commuter parking lot to a location that is easily accessible to the future redesigned Courthouse Road/I-95 interchange. The new lot should be designed to meet future needs of this area for commuter parking. Commuter parking has not been established at the Centreport Parkway (SR-8900) interchange, but should be considered in the future. The FAMPO 2035 Long Range Transportation Plan

projects the future 2035 need for an additional 1,654 parking spaces at the Staffordboro lot, an additional 1,500 parking spaces at Mine Road, 1,447 spaces at Courthouse Road and 1,750 spaces at Warrenton Road.

In conjunction with these efforts, joint use parking areas at centrally located commercial and office centers should be considered. Specific areas could be designated at major centers for commuters. Larger residential developments should also incorporate commuter parking areas for their residents. The intent of these parking lots is to act as a supplement parking area for commuters for established car and vanpools and not to replace the primary commuter parking lots.

#### 4.4.3 Bus

FREdericksburg Regional Transit (FRED) serves as the local and regional bus provider in the County. FRED provides bus routes within Stafford which primarily serves the transit dependent citizens. Routes to Fredericksburg connect Stafford with the Fredericksburg metropolitan area.

Several private bus operators provide commuter bus service. The County supports the expansion of privately operated bus services. Bus service is most efficient when serving large concentrations of commuters in subdivisions or at central parking areas. All future central parking areas used for commuters should be designed to accommodate bus stops. In addition, developers of large communities should be encouraged to support transit programs and provide a coordinated effort to accommodate bus and commuter parking services.

As part of the I-95/I-395 HOT Lanes Study, the Virginia Department of Rail and Public Transit worked with the developer of the HOT lanes project, Flour-Transurban, to examine Bus Rapid Transit (BRT) as a component of the project. The study concluded that there would be a market for BRT services in the I-95 corridor. Potential BRT stations were evaluated for Garrisonville Road and Warrenton Road. Studies of potential locations for these stations is ongoing.

#### *4.4.4 Commuter Rail*

Virginia Railway Express (VRE) is supported by Stafford County, Spotsylvania County, Fairfax County, Arlington County, City of Alexandria, Prince William County, City of Manassas, City of Manassas Park, and the City of Fredericksburg. Commuter rail service is primarily a work-related commuting option operating in the morning from Fredericksburg and Manassas to Washington, D.C. and reversing itself for the evening commute.

## Transportation Plan

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The Leeland commuter rail station has 652 parking spaces and often exceeded capacity in 2008. The Brooke commuter rail station has 500 parking spaces in part due to a restriping of the parking lot. Prior to the restriping the lot was regularly reaching 90% capacity. Expansions of both the Brooke and Leeland Station Parking lots are being designed.

This Plan supports commuter rail service, including service expansions for mid-day and reverse commuters, geographic extension of rail service, weekends, late evening connections to other transit programs and additional rush hour trains. Methods which will make better use of capital and operating funds should be pursued as well as economic opportunities associated with the commuter rail program.

### *4.4.5 Telecommuting*

Stafford County supports alternatives that will help reduce traffic congestion, especially on Interstate 95. A program that has direct benefit in this area is telecommuting. Technological advances in recent years have dramatically widened the choice of workplace for information workers and others so they can work wherever these tools are available. This development has paralleled trends toward a service economy, greater worker flexibility, empowerment of employees, and rising frustration from the irritation and time loss associated with commuting.

Telecommuting does not necessarily imply working at home. Although this alternative is widely used, it will continue to grow in popularity as broadband communication networks are expanded. Satellite telecommuting centers near residential areas, fully equipped with appropriate telecommunications equipment and services, can also serve employees of private firms or government agencies located together on the basis of geography rather than business function. In many cases, a shared facility provides a more practical and satisfactory location than the home for telecommuting and a setting less threatening to traditional business management styles.

Telecommuting centers should be encouraged in areas where the greatest number of individuals may be served.

### *4.4.6. Stafford Regional Airport*

The Stafford Regional Airport is an operating reliever airport. The facility was developed by an authority comprised of representatives from Prince William County, Stafford County, and the City of Fredericksburg. It is located along Centreport Parkway on the south side of Ramoth Church Road, west of I-95 in central Stafford County. The airport site is approximately 500 acres in size. The runway is 5,000 feet in length with a full parallel taxiway system. The airport began operating in December 2000.

A reliever airport is a general aviation airport which the Commonwealth of Virginia and the Federal Aviation Administration (FAA) have identified as being close enough to a commercial airport (Reagan National and Dulles International Airports) to provide congestion relief for commercial air traffic. General aviation airports serve business and personal transportation, emergency rescue, express delivery, and news reporting flights. Most general aviation aircraft are small single and twin engine aircraft as well as business and corporate jets with wing spans up to 80 feet.

The Stafford Regional Airport accommodates both fixed-wing and helicopter aircraft. The airport accommodates up to 100 based aircraft and 75,000 flights annually. Ultimate design of the airport includes hangar space for 120 non-corporate aircraft; 200,000 square feet of corporate hangar space; and tie-down space for 150 aircraft.

#### *4.4.7 Bicycle and Pedestrian Facilities*

All new, reconstructed, or expanded roadways should include bicycle and pedestrian routes. Inside the Urban Service Area, subdivisions should accommodate pedestrian and bicycle facilities. Development for bicycles and pedestrians should comply with VDOT standards. Virginia Bike Route 1 traverses Stafford County. Bicycle accommodations along this state designated route should be provided.

Most of the trails in Stafford County are privately owned and constructed as part of individual neighborhoods. Providing a series of connecting trails and sidewalks is a priority for the County. Trails projects include the planned Belmont-Ferry Farm trail and the proposed Dominion trail. Where roads cannot be constructed to connect adjacent existing neighborhoods, pedestrian and bicycle trails should be considered to create connectivity.

## **4.5 Transportation Demand Management**

Transportation Demand Management (TDM) is designed to alleviate traffic problems through improved management of vehicle trip demand. These actions, which are primarily directed at commuter travel, are structured to either reduce the dependence on and use of single-occupant vehicles, or to alter the timing of travel to other, less congested time periods. Simply stated, the purpose of TDM is to maximize the movement of people, not vehicles, within the transportation system.

The most common form of TDM is used by employers to stagger working hours of their employees. Staggered working hours allows vehicles to arrive at the place of business in a regulated manner to minimize congestion on-site

as well as on the nearby streets. TDM also offers travelers alternatives to driving alone. Alternatives include various types of transit such as bus, commuter rail, carpooling and vanpooling, high-occupancy-vehicle (HOV) lanes, and where appropriate, provisions for walking and bicycling. The emphasis, however, is on providing these alternatives in a manner which makes them competitive with the service levels offered by the automobile. Individuals are more likely to use alternate modes of travel when familiar with the various programs.

### 4.6 Level of Service

The Level of Service (LOS) is a measure of a road's effectiveness to operate in an efficient manner. The operating characteristics of a roadway include, but are not limited to, the number of lanes, pavement width, design speed, traffic controls, shoulder condition, and horizontal and vertical alignments. Levels of Service are divided into six categories from LOS A (best operating conditions) to LOS F (worst operating conditions). At a minimum, LOS should be maintained at LOS C or better.

- LOS A Free flow; low volumes and no delays; volume less than 60% of capacity; delay at signals 0-10 seconds.
- LOS B Stable flow; speeds restricted by travel conditions; minor delays; volume 60-70% of capacity; delay at signals 10-20 seconds.
- LOS C Stable flow; speeds and maneuverability closely controlled due to higher volumes; volume 70-80% of capacity; delays at signals 20-35 seconds.
- LOS D Stable flow; speeds considerably affected by change in operating conditions; minor delays; high density traffic restricts maneuverability; volume 80-90% of capacity; delays at signals 35-55 seconds.
- LOS E Unstable flow; low speeds; considerable delay; volume at or near capacity; freedom to maneuver extremely difficult; volume 90-100% of capacity; delay at signals 55-80 seconds.
- LOS F Forced flow; very low speeds; volume exceeds capacity; long delays; stop and go traffic; delays at signals more than 80 seconds.

LOS is used in transportation modeling to determine the impacts of a particular development project or the addition of a new transportation facility on the operation of the existing road network. Development applications that meet specified thresholds will be required to submit a traffic impact analysis (TIA) in accordance with VDOT Chapter 527 requirements. Stafford County

will review the TIA based on LOS C. Where LOS C cannot be attained, development applications will be evaluated by “non-degradation” and “offsetting impact” policies discussed below:

The Non-Degradation Policy requires applicants to ensure that the transportation system affected by the application performs no worse after the project is developed than it would otherwise. This approach is primarily a performance based approach which requires applicants to provide improvements or other guarantees to maintain certain performance levels. These levels would be measured by levels of service or other measures as deemed appropriate by the County and VDOT.

The Offsetting Impact Policy requires applicants to contribute to transportation improvements. The contributions would be proportional to the traffic generated by the project and the amount of transportation capacity required to accommodate that traffic, presumably based on lane-miles. However, this policy would not ensure that the localized performance of the transportation system would be maintained. Instead, it recognizes that in some instances, it may be impossible for performance to be maintained or for one individual applicant to provide the transportation improvements which may be needed.

In general, the Non-Degradation Policy would be pursued in reviewing development applications, with the Offsetting Impact Policy employed in those instances where the Non-Degradation policy is not appropriate.

## 4.7 Right-of-Way Requirements

In an effort to preserve land for roadway improvements and to decrease delays in land acquisition, requirements are set forth in the Road Improvement table in Appendix G regarding right-of-way for roadways. The right-of-way specified therein should be obtained through the development approval process (e.g. rezoning, special exception, site plan, etc.) as applications are submitted to the County or through their purchase by the County. The provision of these rights-of-way will allow for future road improvements to be constructed with adequate ancillary features such as turning lanes, sidewalks, trails, and buffering, while minimizing impacts on properties which are subsequently developed. It should be stressed, however, that the ultimate roadway designs will recognize available right-of-way to the extent possible; the intent of these requirements is not to impose a rigid right-of-way swath through areas or mature neighborhoods, but rather to secure additional right-of-way needed for road improvements as development or redevelopment occurs.

Figure 4.1 depicts the anticipated road network improvements within the county based on the 20 year growth projection and build-out of the land use plan. Right of way requirements for specific road segments are identified as

future improvements on the map and are described in more detail in Appendix G. Many of these projects are not currently funded and may be constructed beyond the 20 year plan horizon. However, it is important to identify these needed roadway improvements for future planning purposes. In the future, funding opportunities may come available for corridor improvements and safety improvements as new projects and lane widening and shoulder improvements as maintenance projects. Appendix H also contains diagrams depicting typical street sections with extents of desired right-of-way, number of lanes to be provided, median sizes and types and treatments for the of the roadway.

### **4.8 Access Management**

In 2008, VDOT revised the Access Management Regulations. Recognizing the benefit of minimizing impacts to roadways by development and the community benefits, the County follows the Access Management Regulations as established by VDOT. The regulations are designed to preserve the performance of the existing highway and retain capacity through reduction in conflicting traffic movements. This will extend the transportation infrastructure capacity and promote economic development.

Typical techniques used in access management are use of reverse frontage, inter-parcel access and combining street entrances. Reverse frontage and/or inter-parcel connectors are required by the County's zoning ordinance along arterial and collector roads. In the Highway Corridor Overlay District (HCOD), the requirement supports the County's transportation objective to maximize the efficiency of roadway facilities. Principal arterials primarily accommodate through travel movements. However, direct access to and from these highways occurs frequently. In general, the provision of many access points reduces the efficiency and capacity of an arterial road. This reduction is caused by the interruptions in smooth traffic flow due to turning movements into and out of driveway entrances. Reverse frontage and inter-parcel connectors provide for the separation of the access and travel functions along roadways. When correctly planned and built, their use allows the adjacent parallel roadway to operate more efficiently, with increased capacity and safety. At the same time, access to adjacent properties is provided and oriented to controlled access points. These alternatives also allow for purely local inter-parcel trips to be made without disrupting the through traffic on the adjacent arterial.

Since October 2002, Stafford County has served as a liaison between residents and VDOT regarding traffic related concerns. Through the County's residential Traffic Management Plan (formerly the Traffic Calming Plan), various programs are available to citizens and communities to address residential traffic related problems for streets and roads operated and maintained by VDOT.

Based closely on VDOT's Residential Traffic Management Program and Traffic Calming Guide for Local Residential Streets, the County's Residential Traffic Management Plan provides the minimum criteria (if any) to be satisfied, the steps citizens need to follow to obtain assistance with traffic related requests, and the process that the County will follow to resolve those requests.

As traffic issues in residential areas may have various sources, the following programs are available to address most concerns:

- Multi-Way Stop Program
- Residence District – Additional \$200 Fine Signs
- Residential Cut-Through Traffic
- Through Truck Restriction
- Traffic Calming
- Watch for Children Signs

## 4.9 VDOT Secondary Street Acceptance Requirements

In March 2009, VDOT implemented its revised Secondary Street Acceptance Requirements (SSAR). A connected transportation system provides benefits to citizens and residents. A disconnected local street network reduces the effectiveness of the overall regional and local roadway system by forcing local trips onto the regional network. The revised requirements expand street connectivity and improve traffic circulation. It also reduces the number of one entrance subdivisions. This should also enhance emergency access to neighborhoods improving safety for the residents of Stafford. The County supports the VDOT Secondary Street Acceptance Requirements.

A major feature of SSAR is the designation of "Area Types". Under SSAR, all areas of the County are classified as either Compact (Urban) or Suburban. These area types do not directly correspond with the land use categories identified in the Comprehensive Plan. Land identified in the Urban Service Area identified as UDA, Suburban, and Business and Industry land use categories would be classified by SSAR as the Compact Area Type. Lands identified for Agricultural and Rural activities would be classified as the Suburban Area Type. The area types define the level of connectivity and design standards required for public streets to be accepted by VDOT for maintenance.

## 4.10 Road Improvement Projects in Approved Programs

Several transportation improvements are close to becoming reality. Programs at the County and Regional level have designated funding for projects.

- The 2008 Transportation Bond that was approved by the citizens identified 18 projects. Most of these projects consist of capacity and safety improvements to existing roads.
- The Transportation Impact Fee program has been in place since 2003. The purpose of the program is to require new development to assist in the funding of future road improvements, the need for which results from the additional demand generated. The impact fee service area encompasses all land located in the county, except any land located within the boundary of Marine Corps Base Quantico.
- The VDOT Six Year Improvement Program is a list of designated transportation improvements that will be undertaken by VDOT. The list is developed by VDOT (for the interstate and primary systems) and in consultation with county staff (for the secondary system).

A summary of all of these road improvement projects in approved programs are listed in Table 4.1 and graphically represented in Figure 4.2.

## 4.11 New Transportation Improvements

New roads will be required to support additional traffic generated by the growth patterns identified in the Land Use Plan. Some of these roads have been previously identified on the Transportation Plan Map and Land Use Plan Map. The new roads have many benefits. In the designated UDAs and redevelopment areas, road segments are proposed that are intended to meet the vision of these areas by creating a grid pattern street network that serves to relieve existing congested roadways. In new growth areas, collector roads will be required to move residents to work, shopping and other activities. In addition, roads are identified that have been designated as components of previously approved development projects. These new roads that are anticipated to be constructed during the 20 year planning horizon are identified in Table 4.2.

During the 20 year planning horizon, it is also anticipated that there will be a number of improvements to the transit facilities. Potential expansion of existing commuter parking lots was discussed in 4.4.2. Expansions of the existing VRE parking lots are currently being designed. As described in Chapter 3, development of the UDAs will drive the need to construct additional commuter parking areas. Both the George Washington Village and Centerport UDAs will contribute to the need for 1,400 new vehicle parking spaces.

Similarly, Courthouse will create the need for a new 400 space parking lot. The Eskimo Hill UDA would likely contribute to the need for additional parking spaces at Brooke beyond what is currently being planned for.

The map in Figure 4.3 identifies the new improvements to the road network and transit facilities.

## 4.12 Funding Sources

Road improvements in Stafford County are financed from various sources including the federal government usually through the Federal Highway Administration (FHWA), the Commonwealth of Virginia through VDOT, FAMPO, and with developers as well as County contributions. Funding sources include, but are not limited to:

- VDOT Six-Year Improvement Program for Interstate and Primary Systems (SYIP) — determined through VDOT. Funding is based on the Code of Virginia formula and approved by the Commonwealth Transportation Board (CTB).
- VDOT Six-Year Improvement Program for Secondary System (SSYP) — determined by VDOT. Funding is based on the Code of Virginia formula and approved by the Board of Supervisors and the CTB.
- Congestion Management and Air Quality (CMAQ) Program funds— federal monies allocated by FAMPO negotiated and based on formula
- Regional Surface Transportation Program (RTSP) funds — federal funds allocated by FAMPO
- VDOT Revenue Sharing Program
- Legislative appropriations (others not currently programmed)
- Advance construction funds through VDOT
- Federal Highway Administration (FHWA) Bonus Obligation Funds
- Federal earmarks
- County general funds
- Debt issued by the County for road projects
- 2% fuel sales tax
- Recordation fees
- Transportation Impact Fees
- Transportation Service District Tax
- Developer funds and improvements
  - Proffers
  - Built directly
  - Securities, usually supplemented by other funds for projects abandoned or unfinished by developers.
- Transportation Enhancement Grants — federal grants allocated through the CTB
- Other grants—there are a wide variety of grant programs

#### *4.12.1 Transportation Impact Fees*

In 2000, and amended in 2007 the Virginia General Assembly granted the County the authority to impose transportation impact fees for new development in order to generate revenue for the costs of reasonable road improvements “necessitated by and attributable to new development.” Two impact fee areas were in effect between 2003 and 2014, the Central West district (Area A) created in 2003 and the South East district (Area E5) established in 2005. In 2012, the South East district (Area ES) was repealed, and in 2014, the Central West district (Area A) was repealed and replaced with a County-wide Impact district.

The transportation impact fee program identifies specific road improvements that are identified as necessary due to new growth.

The identified improvements for the Stafford County are:

- Upgrade Richards Ferry Road (SR-752) from Warrenton Road (US-17) to Cotton Lane (private road) to a rural two lane major local standard
- Upgrade Holly Corner Road (SR-655) from Warrenton Road (US-17) to Hall Lane (SR-726) to a rural two lane major local standard
- Upgrade Ramoth Church Road (SR-628) from Courthouse Road (SR-630) to Kellogg Mill Road (SR-651) to a rural two lane major local standard
- Upgrade Embrey Mill Road (SR-733) from Winding Creek Road (SR-628) to Eustace Road (SR-751) to an urban two lane major local standard
- Widen Courthouse Road (SR-630) from an urban two lane major local to a four lane divided major collector from Austin Ridge Drive (SR-1486) to Walpole Street (SR-709)
- Widen Enon Road (SR-753) from an urban two lane major local to a four lane divided major collector from Hulls Chapel Road (SR-653) to Truslow Road (SR-652)
- Upgrade Enon Road (SR-753) from Porter Lane (SR-640) to Hulls Chapel Lane (SR-653) to an urban two lane major local standard
- Widen Enon Road (SR-753) from an urban two lane major local to a four lane undivided major collector from Cambridge Street (US-1) to Porter Lane (SR-640)
- Widen Cambridge Street (US-1) from a four lane undivided minor arterial to a six lane divided major arterial from the Fredericksburg City Line to Warrenton Road (US-17) / Butler Road (SR-218)

- Widen Eustace Road (SR-751) from an urban two lane major local to a four lane divided major collector from Embrey Mill Road (SR-733) and Garrisonville Road (SR-610)
- Upgrade Kellogg Mill Road (SR-651) from Poplar Road (SR-616) to Ramoth Church Road (SR-628) to a rural two lane major local standard
- Upgrade Eskimo Hill Road (SR-628) from Jefferson Davis Highway (US-1) to Potomac Run Road (SR-626) to a rural / urban two lane major local standard
- Upgrade Brooke Road (SR-608) from New Hope Church Road (SR-605) to Andrew Chapel Road (SR-629) to a rural / urban two lane major local standard
- Widen Jefferson Davis Highway (US-1) from a four lane undivided minor arterial to a six lane divided major arterial from Garrisonville Road (SR-610) to Telegraph Road (SR-637)
- Upgrade Andrew Chapel Road (SR-629) from Courthouse Road (SR-630) to Brooke Road (SR-608) to a rural / urban two lane major local standard
- Upgrade Winding Creek Road (SR-628) from Courthouse Road (SR-630) to Shelton Shop Road (SR-648) to an urban two lane major local standard
- Upgrade Staffordboro Boulevard (SR-684) from Sunningdale Drive (private) to Pike Place (private) to an urban two lane major local standard
- Widen Staffordboro Boulevard (SR-684) from an urban two lane major local to a four lane divided minor collector from Garrisonville Road (SR-610) to Sunningdale Drive (private)
- Upgrade Mine Road (SR-684) from Garrisonville Road (SR-610) to Settlers Way (SR-1460) to a four lane major collector standard
- Upgrade Truslow Road (SR-652) from Cambridge Street (US-1) to Poplar Road (SR-616) to a rural / urban two lane major local standard
- Upgrade Garrisonville Road (SR-610) from Rock Hill Church Road (SR-644) to Joshua Road (SR-643) to a rural / urban two lane major local standard
- Widen Plantation Drive (SR-1706) from an urban two lane minor collector to a four lane divided minor collector from Lichfield Boulevard (SR-700) to Lyons Boulevard (SR-2030) / Gladstone Drive (private)
- Upgrade Joshua Drive (SR-643) from Garrisonville Road (SR-610) to St. George's Drive (SR-1250) to an urban two lane major local standard

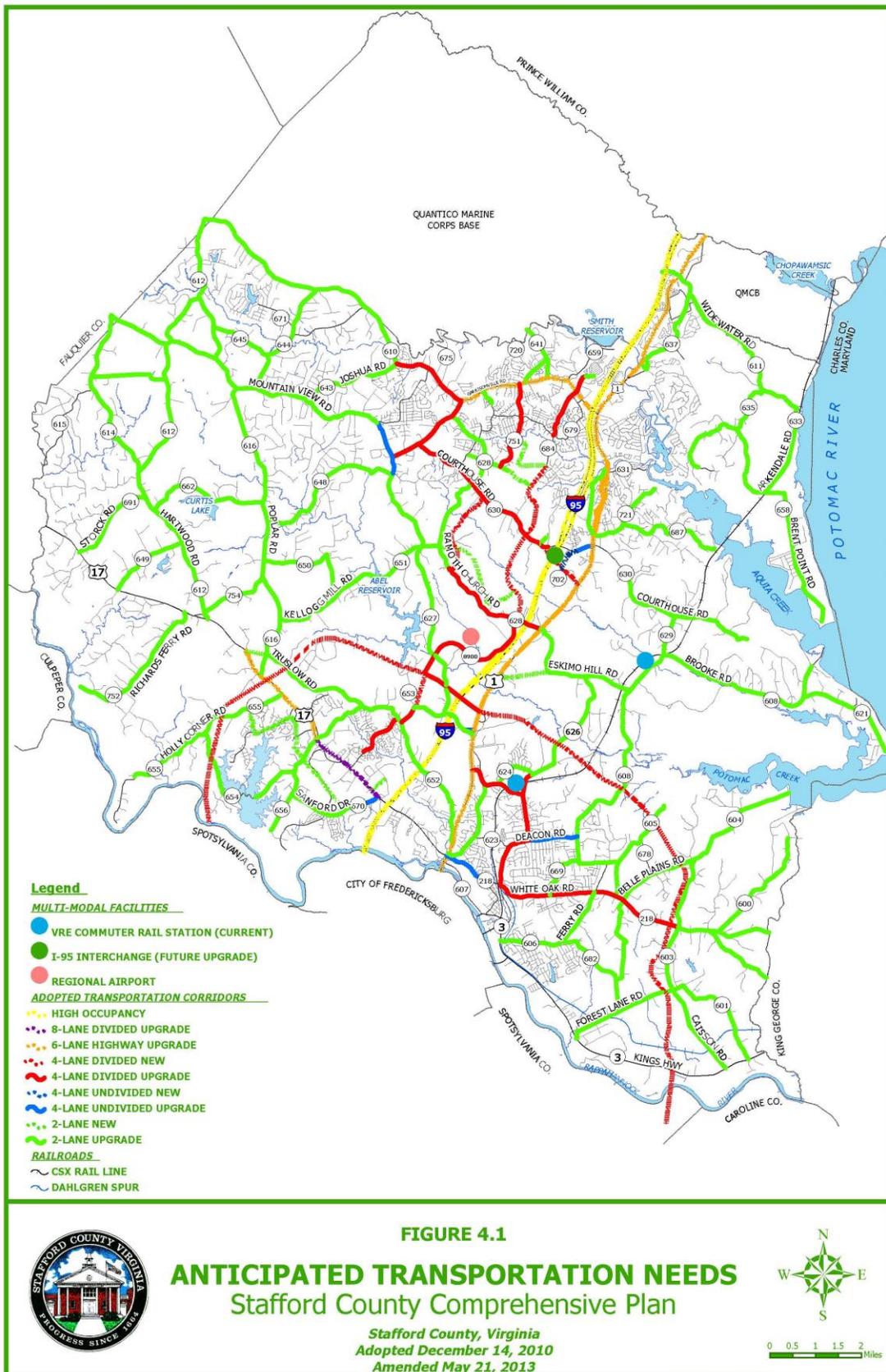
Figure 4.4 provides a map of the County-wide impact fee road projects.

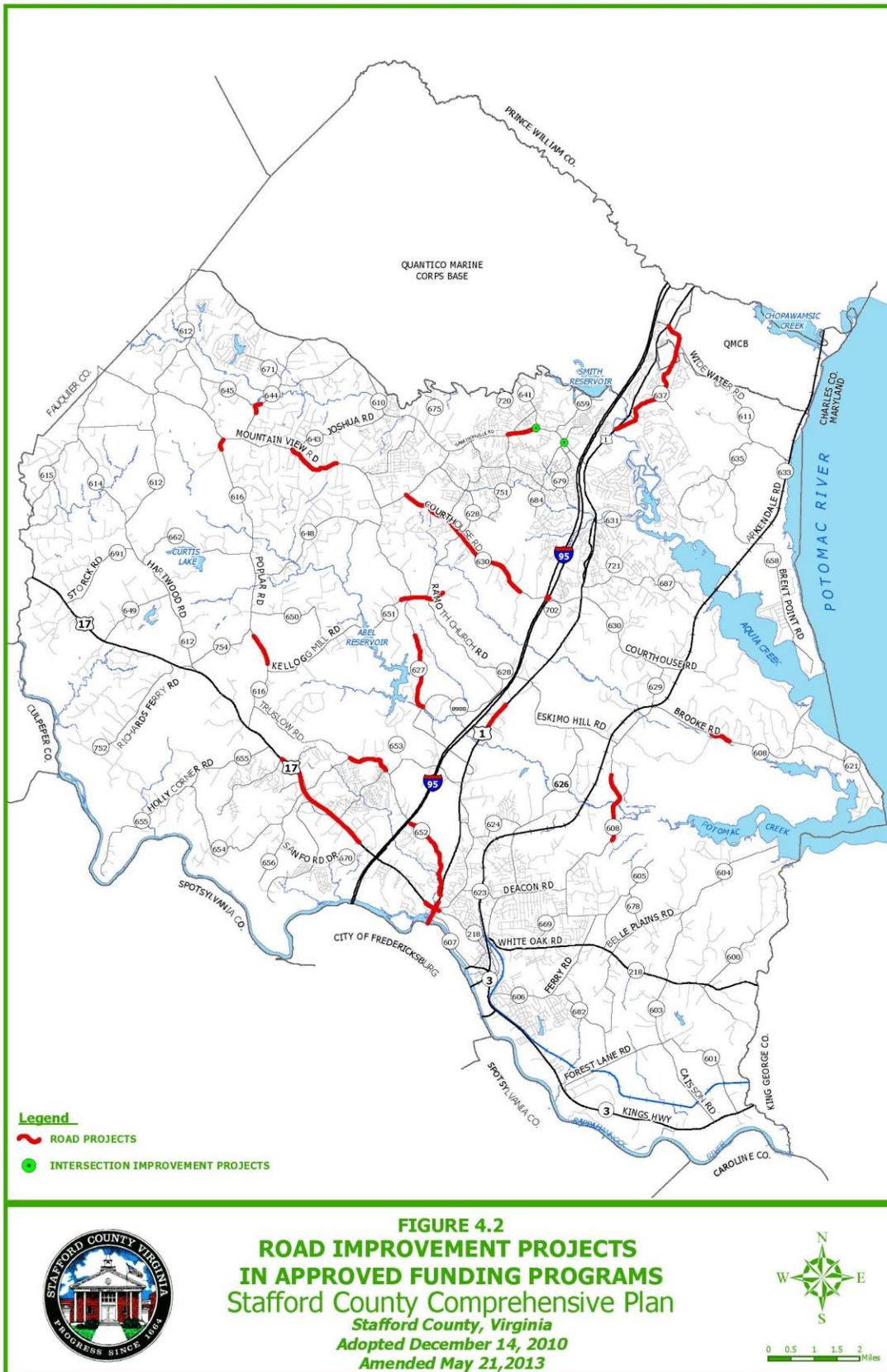
### *4.12.2 Transportation Service Districts*

Two transportation service districts serve the County, one in the Garrisonville Road (SR-610) area and one in the Warrenton Road (US-17) area. The County began collecting revenues in 2008. The Transportation Service Districts are special taxing districts in which commercial properties contribute to transportation improvement projects within the service district areas. All funds must be expended on transportation improvements within the respective service areas.

### *4.12.3 2% Fuel Sales Tax*

As a member of the Potomac and Rappahannock Transportation Commission, (PRTC), a two-percent motor fuels sales tax is collected and paid monthly by registered retail outlets in the County. The tax is, in effect, assessed at the pump. The revenue collected through this tax is used for transportation improvements in the County. PRTC is the management agency for the fuels tax collected within Stafford County's borders. Except for a small annual PRTC administrative fee, all of the fuels tax revenue collected in the County is used in the County. The County is obligated to use these funds to off-set the subsidy for VRE ridership within the County. Any remaining funds beyond what is required for the subsidy can be used by the County for other transportation improvement projects.







## Transportation Plan

Table 4.1. Road Improvement Projects in Approved Programs

VDOT Route Number	Street Name	Termini From	Termini To	Project Scope	Length (miles)	Program	Est. Cost (In millions)
1	Jefferson Davis Highway	0.25 miles North of Potomac Creek Dr.	0.25 miles South of Potomac Creek Dr.	Intersection Improvement -YDTF	0.50	Transportation Bond	1.3
608	Brooke Road	0.64 miles South of Eskimo Hill Road	2.44 miles South of Eskimo Hill Road	2-Lane Reconstruction -YDTF	1.80	Transportation Bond	6.5
608	Brooke Road	Raven Road	0.50 miles East of Raven Road	Spot Improvement - YDTF	0.50	Transportation Bond	1.8
616	Poplar Road	0.20 miles North of Kellogg Mill Road	0.77 miles North of Kellogg Mill Road	2-Lane Reconstruction - YDTF	0.57	Transportation Bond	2.1
616	Poplar Road	Mountain View Road	0.25 miles South of Mountain View Road	Spot Improvement - YDTF	0.25	Transportation Bond	0.9
627	Mountain View Road	Centreport Parkway	1.48 miles North of Centreport Parkway	2-Lane Reconstruction - YDTF	1.48	Transportation Bond	5.3
627	Mountain View Road	Rose Hill Farm Drive	0.25 miles North of Joshua Road	2-Lane Reconstruction - YDTF	1.27	Transportation Bond	4.6
627	Mountain View Road	0.25 miles North of Kellogg Mill Road	0.25 miles South of Kellogg Mill Road	Intersection Improvement - YDTF	0.50	Transportation Bond	1.3
644	Rock Hill Church Road	Crown Manor Drive	0.15 miles South of Dunbar Drive	Spot Improvement - YDTF	0.26	Transportation Bond	0.9
17	Warrenton Road	McLane Drive	Village Parkway	Widen to 6- and 8-lanes	2.10	Transportation Bond / VDOT Six-Year Improvement	47.7
610	Garrisonville Road	Onville Road	Eustace Road	Widen to 6-Lanes	0.65	Transportation Bond	11.7
606	Ferry Road	Kings Highway	Colebrook Road	2-Lane Reconstruction	1.40	Transportation Bond	5.0
630	Courthouse Road	Cedar Lane	0.2 miles West of Ramoth Church Rd	Widen to 4-Lanes	2.10	Transportation Bond / VDOT Six-Year Improvement	21.3
630	Courthouse Road	0.2 miles West of Ramoth Church Rd	Shelton Shop Road	Widen to 4-Lanes (PE & ROW Only)	1.30	Transportation Bond / VDOT Six-Year Improvement	8.9
637	Telegraph Road (East of US-1)	Jefferson Davis Highway, South Intersection	Jefferson Davis Highway, North Intersection	Spot Improvements	1.75	Transportation Bond	6.3
651	Kellogg Mill Road (Relocated)	0.15 miles West of Ramoth Church Rd	0.35 miles East of Ramoth Church Rd	New 2-Lane Road on New Location	0.50	Transportation Bond	1.8
652	Truslow Road	Cambridge Street	Interstate 95 Bridge	2-Lane Reconstruction	1.96	Transportation Bond	7.0
652	Truslow Road	Berea Church Road	Plantation Drive	2-Lane Reconstruction	0.87	Transportation Bond	3.1

<b>VDOT Route Number</b>	<b>Street Name</b>	<b>Termini From</b>	<b>Termini To</b>	<b>Project Scope</b>	<b>Length (miles)</b>	<b>Program</b>	<b>Est. Cost (In millions)</b>
1/17/218	Falmouth Intersection			Intersection Improvements		VDOT Six-Year Improvement	24.9
95 & 630	I-95 / Route 630 Interchange			Reconstruct / Relocate Interchange		VDOT Six-Year Improvement	191.6
1	Jefferson Davis Highway	At Aquia Creek		Bridge Replacement		VDOT Six-Year Improvement	6.4

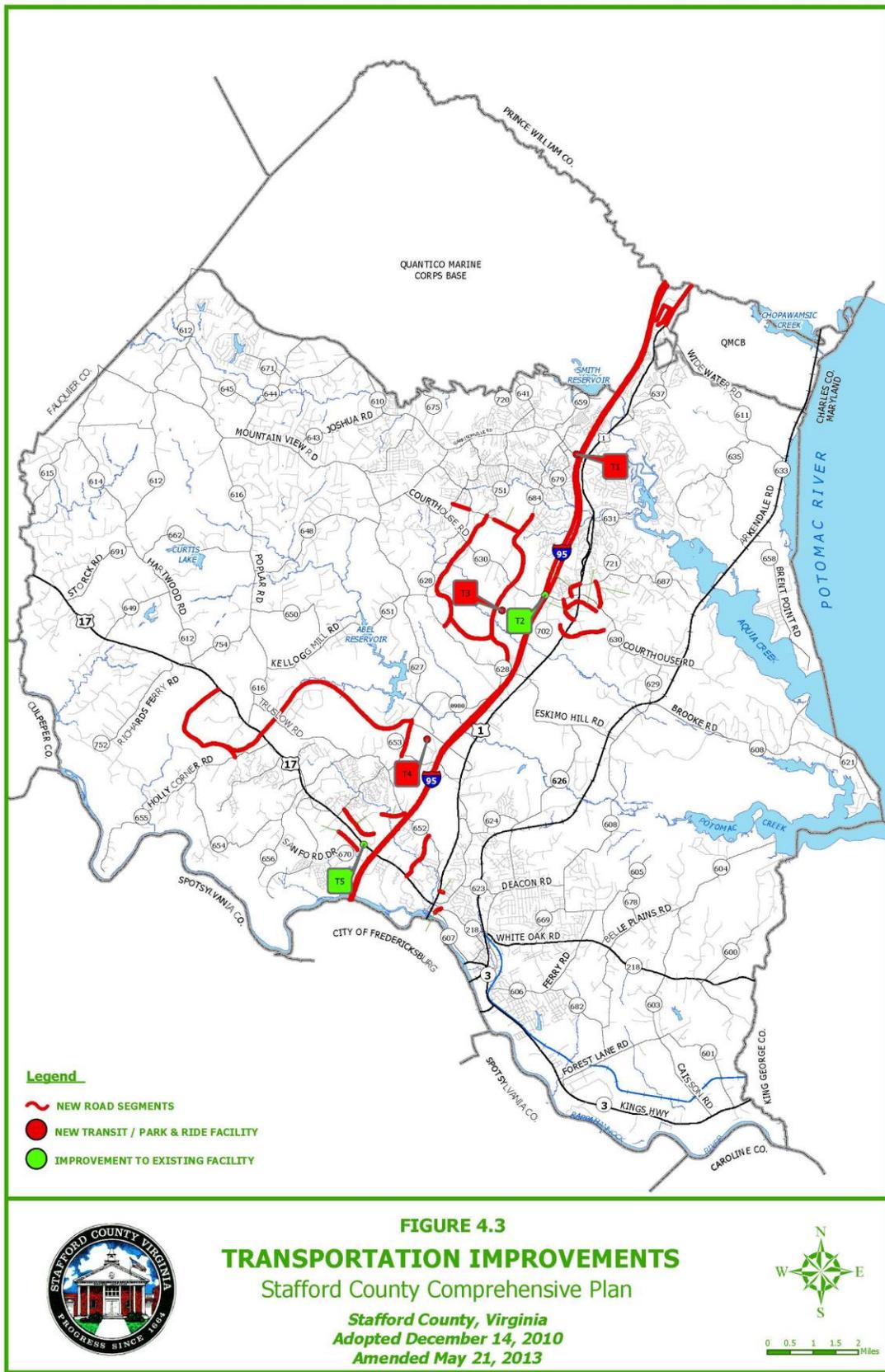
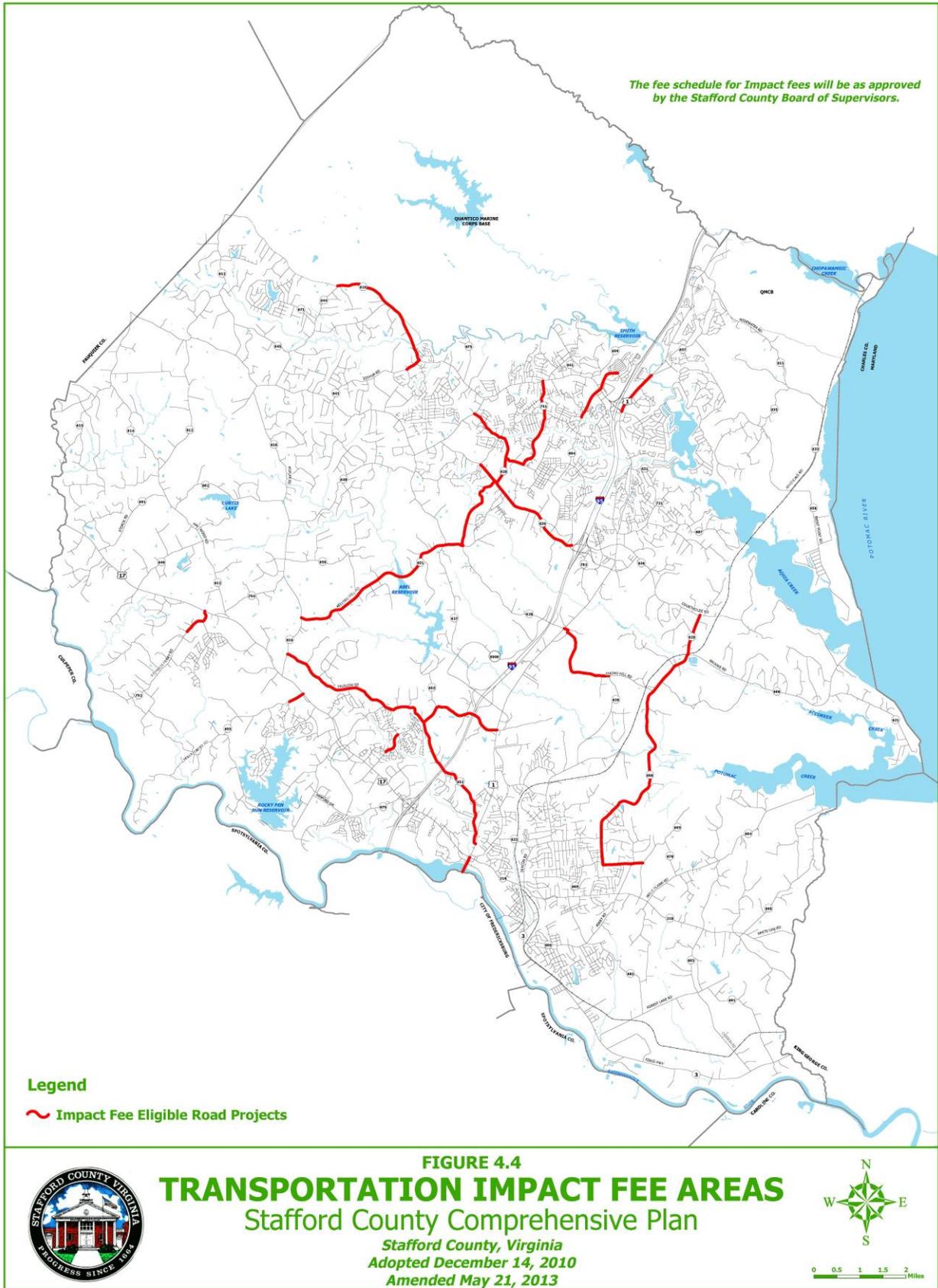


Table 4.2. Proposed Transportation Improvements

Map Number	Road Name	Estimated Cost
1	Corporate Drive Extension (to US Route 1)	Unknown
2	US Route 1 Parallel Roads (Corporate Drive to Telegraph Road)	Unknown
3	Embrey Mill Road Extension West (to Walpole Street)	Unknown
4	Embrey Mill Road Extension East (to Mine Road)	Unknown
5	Mine Road Extension (Austin Ridge Drive to Ramoth Church Road)	Unknown
6	Woodcutters Road (Eustace Road to Ramoth Church Road)	Unknown
7	George Washington Village Connector Road	Unknown
8	Northeast Courthouse Bypass (Courthouse Road to Hope Road)	Unknown
9	Northwest Courthouse Bypass (US Route 1 to Government Center Access Drive)	Unknown
10	Jason Mooney Drive Extension (Courthouse Road to US Route 1)	Unknown
11	Courthouse Road Parallel Road (Jason Mooney Drive to Hospital Center Blvd)	Unknown
12	Venture Drive Extension/South Campus Blvd	Unknown
13	Centerport Parkway Extension (south to Enon Road)	Unknown
14	Berea Parkway (Centerport Parkway to Warrenton Road)	Unknown
15	Westlake Parkway (Loop Road off of Warrenton Road)	Unknown
16	Falls Run Drive Extension (South Gateway Drive to Truslow Road)	Unknown
17	US Route 17 Parallel Road (North side - from Plantation Dr to South Gateway Dr)	Unknown
18	US Route 17 Parallel Road (South side - extension of Capital Ave to Sanford Dr)	Unknown
19	Lendall Lane Extension (Warrenton Road to Truslow Road)	Unknown
20	Clearview Avenue Extension (to US Route 1)	Unknown
21	Rowser Road Extension (River Road to Butler Road)	Unknown
22	Jefferson Davis Highway Widening (Telegraph Road to Prince William County Line)	Unknown
23	Interstate 95 High Occupancy Toll (HOT) Lanes	Unknown
T1	Garrisonville Road Transit Center	Unknown
T2	Courthouse Road Park and Ride Lot Expansion	Unknown
T3	George Washington Village Transit Center and Park and Ride Lot	Unknown
T4	Centerport UDA Transit Center and Park and Ride Lot	Unknown
T5	Warrenton Road/Southern Gateway UDA Park and Ride Lot Expansion	Unknown





# 5.0 The Public Costs of Growth and Development

## 5.1 Introduction

Stafford County anticipates increases in population and business growth within the next 20 years. Although the County may not grow as quickly as projected on a continuous basis, the County is mindful of its continued responsibility to provide adequate levels of public services for residents and businesses. Increased residential growth requires adequate school facilities, social services, health service, and recreation facilities. All residents, businesses and commuters require sheriff and fire and rescue protection and support. Some growth will require expansion of existing public utilities. This chapter details expected Level of Service Standards, estimated capital costs of growth, and actions that can be taken to ensure that new development pays its share of the additional costs to meet expected Level of Service Standards. This chapter also projects out future public facilities needs (the Public Facilities Plan) based on projected population growth and land use, and identifies how the financial impact of growth can be estimated with a Financial Impact Model that takes into account anticipated revenues and expenses. The information in this chapter may be used to assess the impact of proposed development projects, and to support planning for capital improvement projects.

### MAIN SECTIONS OF CHAPTER 5

<i>LEVEL OF SERVICE STANDARDS</i>	<i>P. 5-2</i>
<i>CAPITAL COSTS PER RESIDENTIAL UNIT</i>	<i>P. 5-14</i>
<i>PUBLIC FACILITIES PLAN</i>	<i>P. 5-17</i>
<i>FINANCIAL IMPACT MODEL</i>	<i>P. 5-20</i>

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## 5.2 Level of Service Standards

### 5.2.1 Background

Pursuant to Section 15.2-2223 of the Code of Virginia, Stafford County may identify which existing lands, facilities or services should be extended, widened, removed, relocated, vacated, narrowed, abandoned, or changed in use as the case may be. Level of Service (LOS) Standards can assist in this effort.

The LOS Standards is designed to clearly articulate expectations for County service delivery in terms of staffing and the construction and/or improvement of public facilities. The location, size and timing of needed improvements are directly related to the development patterns identified in the Comprehensive Plan.

Generally, LOS Standards for capital facilities can be measured based on size of facilities, carrying capacity, services provided, and location and design criteria.

The LOS Standards is the basis for inputs that can be used to calculate the capital costs per residential unit, to develop a public facilities plan and to estimate the financial impact of growth and development over the twenty year course of the Comprehensive Plan.

### 5.2.2 Definition

LOS Standards are benchmarks by which to measure the quantity and/or quality of service provided by a government agency. The types of services that are measured include schools, transportation, parks, libraries, emergency services, water utilities, wastewater utilities, and solid waste management. There are two types of LOS Standards; capital capacity and operational effectiveness. Capital capacity is geared towards ensuring there are an adequate number of facilities while operational effectiveness addresses issues such as staffing levels or response times. Although they are different, one has an effect on the other.

### 5.2.3 Purpose and Intent

Level of Service (LOS) standards are measured on a Countywide basis for services. The LOS Standards provide an objective justification for assessing and mitigating the impacts of proposed development projects. Proffers, are the most common method for mitigating impacts, and can be based on established LOS. LOS can be integrated into the methodology for determining recommended proffers, calculating comprehensive impact fees, projecting future public facility needs, estimating the financial impact of growth, and the funding mechanism of the Capital Improvement Plan (CIP). Location, size and

## The Public Costs of Growth and Development

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timing of needed improvements are directly related to the future development patterns identified in the Comprehensive Plan. LOS standards will ensure the connection between growth and its consequences and will ensure that adequate facilities are or will become available to support development.

The CIP is a dynamic document that is updated annually as part of the adopted budget; in this way, it reflects the capital capacity projects that are deemed necessary to meet and maintain the LOS Standards. The Proffer Guidelines are also updated annually and utilize a methodology which reflects the capital capacity projects on the CIP.

### **5.2.4 Benefits**

- Establishing Level of Service Standards in a community is a beneficial tool in providing adequate public facilities consistent with citizen and business needs.
- The location, number, and type of facilities can be directly related to future development identified in the Comprehensive Plan.
- Allows for the prioritizing of projects in the Capital Improvements Program.
- Sound fiscal policy through planned debt service based on capital facility needs
- LOS Standards can be integrated into the methodology for determining recommended proffer guidelines and required transportation impact fees to mitigate impacts from new development.
- High service levels may be used as selling points to promote Economic Development.
- Meeting these goals by providing adequate facilities can foster civic pride and a positive impression of the community.

### **5.2.5 Facilities**

#### 5.2.5.1. Schools

The Stafford County Public School System is currently comprised of seventeen elementary schools, seven middle schools, five high schools and the Gary Melchers complex, which includes Head Start and alternative education programs. Rapid residential growth in the County impacts the capacity of the public school system and increases the demand for new schools. Subsequently, new school construction has become a standard component of the County's capital budget and Capital Improvement Plans. Nevertheless, during the 2008-2010 timeframe, residential growth increased at a much slower pace than in previous years. In certain schools, the average number of students decreased during this period. Thus, the School Board has considered closing down schools temporarily until residential growth rebounds to previous levels. As the County's residential growth rebounds and new census figures

are released, future school facility planning needs must be addressed and planned for with LOS Standards in mind.

The estimated average daily membership for the 2009-2010 school year, elementary school enrollment was at 78.6% of capacity, middle schools were at 75.8% and high schools were at 98.8%. Out of all the public schools in the County, only two high schools (Colonial Forge and Stafford) exceeded their design capacity.

GOAL: Ensure school capacity is capable of meeting the expected increase of students from residential development.

Policies to achieve this goal include:

1. The desired design capacity for elementary schools should be a minimum of 88,000 square feet on at least 20 acres; for middle schools a minimum of 146,000 square feet on at least 40 acres and for high schools a minimum of 265,000 square feet on at least 70 acres.
2. Schools shall not exceed their design capacity of 950 seats for elementary, 1,100 seats for middle and 1,800 seats for high school students.
3. In order for schools to operate at their most efficient point for each educational level, student enrollment should not exceed 90 to 95 percent of the design capacity of the schools.
4. Maintain attendance zones and when necessary, make adjustments to relieve overcrowding of facilities; minimize disruptions to families and communities whenever possible
5. Consider realignment of attendance zones to best utilize existing facilities to accommodate student population before constructing new school facilities (maximize use of existing space)
6. Expand permanent seat capacity at existing schools as the first response to student growth rather than construct new schools or realign school attendance zones (new facilities or additions to existing facilities are warranted when no other viable solutions exist to address overcrowding)
7. Establish new attendance zones based on the safest and shortest school bus routes in order to transport students to and from school in a timely manner while minimizing travel distances
8. Reduce land costs for new schools through advance acquisition (also to secure optimal locations)
9. Where possible, seek to cluster schools together to take advantage of benefits derived from economies of scale such as shared facility or athletic field use
10. Provide varied and viable instructional alternatives for students and their families

### 5.2.5.2. Parks and Recreation

The Parks and Recreation Department provides leisure services and facilities to all citizens in order to improve social, mental and physical development. In addition, the Parks and Recreation Department coordinates cost effective, year round management and maintenance of parks and facilities, aquatics, gymnastics, community recreation, youth and adult sports and senior citizen programs. The Parks and Recreation Department is divided into six divisions: Sports, Gymnastics, Aquatics, Community Recreation, Administration and Parks Maintenance. The Parks Maintenance Division is responsible for managing over 1,000 acres of County-owned recreation and parkland (767 acres of parks and 533 acres of recreational facilities), not including school athletic fields.

It is the intent of the County to provide an appropriate balance of both active and passive recreation opportunities for the community. The County recognizes that an ideal park system provides a wide variety of multi-use recreation facilities that accommodate the varied recreation needs of all the community's citizens. Existing recreational facilities should be used as a base for future development. As additional parks are developed, consideration of the balance between conservation and preservation of open space and the provision of active recreation becomes an important ingredient in the park development process.

GOAL: Provide a highly rated parks and recreation system for the enjoyment of the citizens of Stafford County.

Policies to achieve this goal include:

1. Satisfy a LOS standard of 20 acres of developed parkland for each 1,000 county residents, consistent with standards established in the County's Development Control Policy for Parks and Recreation.
2. Develop a system of Parks and Recreation facilities distributed throughout the community, providing equitable opportunity for all citizens to utilize recreational programs, recognizing that unique County features, attractions and landscape may dictate in some areas the location of certain facilities.
3. Develop a system of greenways, water trails, and bicycle, pedestrian and vehicular trails throughout the County, with connections to other regional systems; relate the system to an ecotourism initiative.
4. Develop relationships with quality youth and adult sports organizations to improve and enhance the quality and opportunity for County youth and adults to participate in recreational sports.

5. Adopt development guidelines and policies that support the Parks and Recreation system and master plan to produce compatible public amenities and open spaces.

#### 5.2.5.3. Libraries

Central Rappahannock Regional Library (CRRL) provides library services within Stafford and Spotsylvania Counties as well as the City of Fredericksburg. Stafford County provides financial assistance for operations based upon the County population usage. As of March 2010, forty-five percent (45%) of the total 79,072 cardholders within the CRRL library system resided in Stafford County with the majority of them located in the southern portion of the County. The County will be providing maintenance to two County-owned branch facilities when the newest library opens.

The CRRL Headquarters Library is located in Fredericksburg. The John Musante Porter Library Branch is located on Parkway Boulevard in the northern portion of Stafford County. A new Falls Run Branch, proposed for the Fall of 2010, will be located on Lyons Boulevard in the southern portion of the County. Based on a current LOS standard of 1 square foot of library floor area per person, Stafford County has a need for approximately 124,166 square feet of public library space. The square footage of Porter (approximately 23,000 square feet) and Falls Run (approximately 30,000 square feet) combined with 45% of the Headquarters space (approximately 17,000 square feet, based on 45% of the total cardholders residing in Stafford County) results in a total of 70,000 square feet. The square footage provided has a direct impact on the collection counts provided.

GOAL: Provide adequate library services to meets the needs of the current and future residents.

Policies to achieve this goal include:

1. Provide and maintain a LOS standard of 1.0 square foot of library floor area per capita, consistent with national and state standards.
2. Provide and maintain a LOS standard collection of 2.5 books/materials per capita.
3. Locate libraries within a 5 to 15-minute drive of the population they serve
4. Build new facilities at a 30,000 square footage standard in order to provide enough space to meet the demand for services "close to home"
5. Locate future facilities to allow equitable distribution of services among the population

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6. Recognize the changing role of the library as a provider of information technology services and space for community meetings, classes and training.

### 5.2.5.4. Fire and Rescue

LOS Standards allow the County to plan for the number and location of facilities that meet the service needs of the residents. Standards are applied to an anticipated growth pattern (from the Land Use Plan) to determine facility needs. The intent is to identify these standards within the Comprehensive Plan. LOS Standards are defined as travel/response time as well as work load capacity that has been quantified as building square footage, acreage and equipment needed to provide fire and rescue service that meets local service standards for urban and rural populations expressed as cost per capita for residential development. New development presents demands for County-wide fire and rescue service that affects the ability of facilities to meet established LOS Standards. It is important, therefore, that Stafford County provides fire and rescue services countywide that address these demands.

Response and ISO Rating: Stafford County is rated by the Insurance Services Office (ISO) which has a direct impact on insurance premiums established by private insurance companies for residential, commercial and industrial structures. ISO is an independent company that serves insurance companies, communities, fire departments, insurance regulators and others by providing information about risk. ISO's expert staff collects information about municipal fire suppression efforts in communities throughout the United States. In each of those communities, ISO analyzes the relevant data and assigns a Public Protection Classification (PPC) – a number from 1 to 10. Class 1 represents an exemplary fire suppression program and Class 10 indicates that the area's fire suppression program does not meet ISO's minimum criteria. In October of 2008, ISO established the latest PPC rating for Stafford County at a Class 5/9 level. This "split" classification applies the rating of "5" to properties within 5-road miles of a recognized fire station and within 1,000 feet of a fire hydrant or alternate water supply. The rating of "9" then applies to most all other properties in Stafford County.

GOAL: Ensure adequate fire protection response and emergency medical services for the County's residents, businesses and tourists.

Policies to achieve this goal include:

1. Maintain and improve upon a LOS Standard of an ISO Rating of 5 countywide.
2. The LOS standard is to respond to 90% of all fire and emergency medical service calls within 8 minutes or less after being dispatched to incidents within the County.

3. The service areas of fire and rescue facilities exceeding 2,000 calls annually should be evaluated.
4. Strive towards manning all Fire and Rescue facilities 24 hours a day, 7 days a week.

#### 5.2.5.5. Law Enforcement

The Stafford County Sheriff's Office operates from the Ford T. Humphrey Public Safety Building located in the Stafford Courthouse area. The Office is organized into seven primary divisions: Field Operations, Administrative Services, Criminal Investigation, Civil Process/Court Security, Emergency Communications, Animal Control and Professional Standards Unit. In 2008, there were 240 total authorized positions, of which 165 positions are sworn officers and 75 positions are civilian. Of the 165 sworn officers, 112 are devoted to law enforcement activities. The rest are devoted to court services and school resources. Of the 75 civilian positions, 37 are assigned to Emergency Communications and the remaining 38 are distributed throughout the agency.

In 2006, a study was conducted by the International Association of Chiefs of Police (IACP) that indicated a need for additional sworn law enforcement officers. The IACP based its recommendation upon a formula using operational and administrative workload time and proactive time. The set standard is no more than 60% of a law enforcement officer's time should be devoted to operational and administrative workload time and no less than 40% of their time should be devoted to proactive time. Operational workload and administrative time is defined as the time dedicated to responding to calls for service or initiation of criminal investigations, time to meet fair labor standards, service vehicles, report documentation, case preparation, meeting, training, etc. Proactive time is defined as the time used to solve potential crime problems, engage the community, patrol, traffic safety, etc. The IACP study revealed that the County's present operational and administrative workload comprises 78% of a law enforcement officer's time, leaving only 22% of their time for proactive policing.

Response Time: The Sheriff's Office records all "Calls for Service" as workload. These calls are prioritized into five individual categories:

- A. Priority 1: Emergency call life threat or similar; respond with all haste generally lights and siren.
- B. Priority 2: Emergency but not quite to the level of #1; respond expeditiously.
- C. Priority 3: Urgent non-emergency; respond ASAP
- D. Priority 4: Non-emergency respond; within a certain time frame.
- E. Priority 5: Non-emergency respond; when you are free from other duties.

The “gold standard” for response time to emergency and “in-progress” calls for service is 3 minutes. The national recommended average for emergency response time has been set at under 5 minutes and is a more realistic goal for the County. Due to traffic congestion, distances in some areas and personnel constraints, the response time to these types of calls has averaged almost 8 minutes over the past 3 years. In the same area response time for non-emergency calls for service is recommended to be under 10 minutes. Over the past 3 years, the County’s field response time for all calls for service averaged over 11 minutes.

GOAL: Ensure a higher level of public safety protection by the Sheriff’s Office for the County’s residents, businesses and tourists.

Policies to achieve this goal include:

1. Respond to 100% of all emergency calls for service within 5 minutes or less, on average, of being dispatched.
2. Respond to 100% of all non-emergency calls for service within 10 minutes or less, on average, of being dispatched.
3. Decrease the percentage of a law enforcement officer’s time dedicated to operational and administrative workload activities to 70%.
4. Increase the percentage of a law enforcement officer’s time dedicated to proactive activities to 30%.

### 5.2.5.6. Water Utilities

The Stafford County Department of Utilities is the sole provider of public water service to the County. The public water service area is the entire Urban Service Area (USA) of the County and certain areas outside of the USA.

The County’s water supply and treatment system consists of two surface water reservoirs and two water treatment facilities. The Abel Lake reservoir has a safe yield of 6.1 million gallons per day (mgd). It is the sole source of raw water to the Abel Lake Water Treatment Facility which has a maximum treatment capacity of 6.0 mgd. The Smith Lake reservoir has a safe yield of 7.7 mgd. It is the sole source of raw water to the Smith Lake Water Treatment Facility which has a maximum treatment capacity of 14.0 mgd. The County currently has under construction the Rocky Pen Run reservoir with a planned capacity of 5.3 billion gallons which will be sufficient to provide water supply to meet the buildout needs of the County. A new water treatment facility with an initial capacity of 5 mgd and an ultimate capacity of 25 mgd will be constructed adjacent to the new reservoir. These facilities are scheduled to be completed by the Spring of 2013.

The water transmission and storage system consists of two ground level water storage tanks, 12 elevated water storage tanks, four major water pumping stations, and approximately 570 miles of water mains ranging in size from 2 inch to 24 inch diameter. The County currently has 6 individual pressure zones.

GOAL: Provide an adequate and quality public drinking water supply, treatment, transmission, storage, and distribution system which serves the existing and proposed development as reflected in the County's Land Use Plan (LUP). The public drinking water system is to be economically feasible and environmentally sensitive.

Policies to achieve this goal include:

1. Design and construct all water supply, treatment, and distribution facilities in accordance with the Stafford County General Water Improvement Plan. Water facilities shall be planned and designed in accordance with the land uses, densities, intensities and locations as shown in the Land Use Plan.
2. Water system improvements shall be constructed in accordance with the schedule shown in the Stafford County General Water Improvement Plan.
3. The capital costs of system expansions and increases in system capacity shall be the responsibility of new development.
4. The County's water supply and water treatment capacity shall be monitored and shall be increased as required in order to provide a sufficient water supply within Stafford County on an as needed basis.
5. Expansions of the service area and improvement of the water transmission system shall be done in accordance with criteria set forth in the Comprehensive Plan.
6. User Fees, Availability Rates, Pro Rata Rates, and other fees will be reviewed on an annual basis.
7. All future development within the USA shall be required to utilize the public water system.
8. Only developments within the USA will be allowed to connect to the public water system, except for those properties that satisfy Policy 1.4.2.
9. Extension and improvements of public water facilities shall not be used as a justification for increasing the residential densities beyond what is shown in the Land Use Plan.
10. Operate the water system at a LOS so that it is in full compliance 100% of the time with the maximum contaminant levels and the treatment techniques of the National Primary Drinking Water Regulations.
11. Design the water distribution system to meet a LOS that has a normal operating pressure of between 40-80 psi.

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12. Provide fire protection to the USA in accordance with the Stafford County Water and Sewer Standards. It is recognized that currently portions of the county do not have this standard of fire protection. Upgrading the entire service area to this level will require a minimum of 10 years.
13. Design Standards shall meet the following LOS:
  - a. Water treatment facilities shall be designed to provide a maximum daily water demand that is 1.5 times the annual average daily water demand.
  - b. Water pumping stations shall be designed to pump the maximum daily water demand with one pump out of service.
  - c. Pipelines shall be designed to provide:
    - i. The maximum hour domestic flow plus fire flow
    - ii. A maximum velocity of 5 fps
    - iii. A maximum head loss of 2-5 feet/1000 feet of pipeline.

### 5.2.5.7. Wastewater Utilities

The Stafford County Department of Utilities is the sole provider of public sewer service to the County. The public sewer service area is the entire Urban Service Area (USA) of the County, and includes very limited areas outside of the USA.

Stafford County has two wastewater treatment facilities. The Little Falls Run facility serves the southern portion of the USA and currently has a capacity of 6.0 mgd. The County is currently upgrading the facility to meet the requirements of the Chesapeake Bay Program and is expanding it to 8.0 mgd. This project is scheduled to be completed by December 2010.

The Aquia facility serves the northern portion of the USA and currently has a capacity of 6.5 mgd. The County is currently upgrading the facility to meet the requirements of the Chesapeake Bay Program and expand it to 12.0 mgd. This project is scheduled to be completed by December 2010.

There are five major interceptor sewer systems that are defined by the drainage basins they serve. The Claiborne Run and Falls Run Interceptors serve the Little Falls Run Facility. The Accokeek Creek, Austin Run, and Aquia Creek Interceptors serve the Aquia Facility. Smaller drainage areas are pumped into these major interceptors.

GOAL: Provide a quality wastewater treatment, conveyance, and collection system which serves the existing and proposed development as reflected in the County's Land Use Plan (LUP). The system is to be economically feasible and environmentally sensitive.

Policies to achieve this goal include:

1. Design and construct all wastewater treatment, transmission, and collection facilities in accordance with the Stafford County General Sewer Improvement Plan. Sewer facilities shall be planned and designed in accordance with the land uses, densities, intensities, and locations as shown in the LUP.
2. Sewer system improvements shall be constructed in accordance with the schedule shown in the Stafford County General Sewer Improvement Plan.
3. The capital costs of system expansions and increases in system capacity to serve new development shall be the responsibility of new development.
4. The County's wastewater treatment capacity shall be monitored and shall be increased to accommodate projected needs as required.
5. Expansions of the service area and improvements of the wastewater transmission system shall be done in accordance with criteria in the Comprehensive Plan.
6. User Fees, Availability Rates, Pro Rata Rates, and other fees will be reviewed on an annual basis.
7. All future development within the USA shall be required to utilize the public wastewater system.
8. Only developments within the USA will be allowed to connect to the public wastewater system, except for those properties that satisfy Policy 1.4.2.
9. Extension and improvements of public sewer facilities shall not be used as a justification for increasing the residential densities that are shown in the Land Use Plan.
10. Operate the wastewater system so that it is in full compliance 100% of the time with the requirements of the Virginia Pollutant Discharge Elimination System (VPDES) permits for each treatment facility.
11. Design Standards:
  - a. Wastewater treatment facilities shall be designed to treat the maximum daily flows which are 1.5 times the annual average daily flows.
  - b. Pipelines and pumping stations shall be designed to provide:
    - i. Dry weather flow of 64 gpd per capita (80% of average residential water demand).
    - ii. Infiltration allowance of 500 gpdidm (gallons per day per inch-diameter mile) for existing pipes.
    - iii. A peaking factor of 3.5 to account for diurnal flow variations and inflow.

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### 5.2.5.8. Solid Waste Management

The mission of the Rappahannock Regional Solid Waste Management Board (R-Board) is to provide professional, courteous, and intelligent service and solutions to the waste disposal needs of citizens residing in Stafford County and the City of Fredericksburg.

The R-Board's vision is to operate the best landfill in Virginia. Being the best landfill includes environmentally sound solid waste management policies, having an active Reduce, Reuse, and Recycling program, all coupled with outstanding customer service. The R-Board intends to continually strive to be a leader in the waste management industry and to set an example for others to emulate.

GOAL: Provide for efficient collection and disposal of solid waste while maintaining an adequate waste disposal capacity.

Policies to achieve this goal include:

1. Establish a LOS for land-filled waste based on a daily generation rate of 4.4 pounds per day per person, which is to be used in designing landfill capacity.
2. Continue to maintain or exceed 25%, measured by weight, as a recycling goal for residential and nonresidential waste stream.

### 5.2.5.9. Transportation

All public roads in the County should operate at a Level of Service of C or better. All new public roads should be built to Virginia Department of Transportation design specifications. Additional Level of Service Standards may need to be established to address specific situations within designated areas.

### 5.2.5.10. Stormwater Facilities

LOS Standards for stormwater management should be established.

## 5.3 Capital Costs per Residential Unit

### 5.3.1 Introduction

As population and commercial growth continues in the County, the demand increases for public facilities. This section presents a summary of the capital costs per type of residential unit, and the mechanisms available to the County to recover a portion of these costs, with the goal of ensuring that development pays its share of the impact.

Table 5.1: Summary of Capital Costs by Residential Unit Type

Housing Unit Type	Parks and Recreation	Schools	Libraries	Fire and Rescue	Transportation	Law Enforcement	Government	Total Monetary Contribution
Single Family	\$10,667	\$15,410	\$1,243	\$1,762	\$44,572	\$1,325	\$560	\$75,539
Townhouse	\$9,917	\$13,878	\$1,155	\$1,638	\$31,200	\$1,231	\$521	\$59,540
Multi Family	\$8,758	\$6,791	\$1,020	\$1,447	\$17,829	\$1,087	\$460	\$37,392
Mobile Home	\$6,440	\$11,053	\$750	\$1,064	\$21,395	\$799	\$338	\$41,839

Appendix 1 provides the methodology for calculating these costs. Proffers and impact fees may be used to recover a portion of these capital costs.

This data is based on a trend analysis assuming linear growth and cost increases. Growth projections are bound by state estimates, which may fluctuate. Fire and Rescue costs are based on assumed fixed population per fire and rescue station, rather than response times, which is a driving factor in determining facility need. Desired Parks and Recreation levels are based on public parkland and do not account for private recreation facilities which may fill some of the community needs.

### 5.3.2 Proffers

Proffers are voluntary contributions made by an applicant to offset the impacts of a change in land use through a rezoning. A locality cannot unilaterally impose proffers. They are offered by the applicant and the locality votes on whether or not to accept them as part of the rezoning. Proffers may be in the form of cash contributions, land dedication for a public facility, or construction of a public facility, and may also include restrictions on the intensity and type of the development. The Board of Supervisors periodically reviews its guidelines for proffers. The Proffer Guidelines will be updated annually and utilize a methodology which reflects the capital capacity projects on the CIP.

### **5.3.3 Transportation Impact Fees**

The County presently collects transportation impact fees in two areas of the County, generally in Hartwood and White Oak. Impact Fees for transportation may be collected Countywide for both residential and non-residential uses. The fee rates in the two existing areas vary in cost, as the rates depend on the growth potential in the area and the corresponding facility needs.

GOAL: Collect impact fees to ensure new development pays its share of the capital costs to build or expand transportation facilities to serve that development.

Policies to achieve this goal include:

1. Evaluate the potential to apply impact fees Countywide and update and revise the two existing areas.
2. Impact fees should be established to capture the public facility needs generated by each new residential dwelling unit and non-residential uses.
3. The impact fee areas and potential for new projects should be reevaluated on a 2-year cycle.

Action Strategies:

1. Adopt new ordinance and/or amend existing ordinance in order to maximize collection of transportation impact fees.
2. Continue to track affected parcels and collect impact fees as required.
3. Establish guidelines for the appropriate expenditure of collected impact fees.
4. Establish a process to regularly reevaluate and adjust the impact fee amounts.

### **5.3.4. Payments for upgrading impounding structures (Dams)**

Sec. 15.2-2243.1 of the Code of Virginia provides localities with the ability to collect funds from developers and subdividers to offset 50% of the costs of upgrading dams, effective July 1, 2009. These funds may be collected by the locality if the Department of Conservation and Recreation (DCR) determines that a plan of development proposed by a developer or subdivider is wholly or partially within a dam break inundation zone and would change the spillway design flood standards of an impounding structure pursuant to Sec. 10.1-606.3.

These payments are collected on a project specific basis, and must be used to improve the specific project within six years. The County may issue an

extension of up to an additional four years for the use of the funds if the dam owner shows that sufficient progress is being made.

If the County chooses not to collect these payments, then the developer or subdivider must make payments to the Virginia Dam Safety, Flood Prevention and Protection Assistance Fund instead.

GOAL: Collect payments for upgrades to dams when new development or subdivisions in a dam break inundation zone create the need for improvements to the dam.

Policies to achieve this goal include:

1. Developers and subdividers of land within dam break inundation zones should share in the costs of maintaining dam safety.
2. The County should explore the possibility of collecting payments to offset the costs of upgrading dams when these upgrades are needed because of development within the dam break inundation zone.

Action Strategies:

1. The County shall identify dam break inundation zones within the County.
2. The County shall create a system for identifying plans of development that lie within a dam break inundation zone and obtaining DCR review as required.
3. The County shall amend its subdivision and zoning ordinances to require applicants to provide an engineering study in conformance with the Virginia Soil and Water Conservation Board's standards under the Virginia Dam Safety Act (§ 10.1-604 et seq.) and the Virginia Impounding Structure Regulations (4 VAC 50-20) when DCR determines that the proposed plan lies within a dam break inundation zone.
4. Establish a payment system for collecting 50% of costs of improvements needed to meet spillway design flood standards and charging associated administrative fees.

## 5.4 Public Facilities Plan

### **5.4.1 Goal of the Plan**

To provide the public facilities and services needed to serve the existing population and new growth through efficient, equitable, safe and accessible delivery of public services as well as forecast when and where expanded and new public facilities will be needed.

### **5.4.2 Background**

The anticipated economic and population growth of Stafford County will require an increased level of public services. More population will mean more school-aged children as well as more health services, social services and recreation facilities. Economic growth will require expanded utilities, improved fire and rescue protection and coordination with the business community.

### **5.4.3 Purpose and Scope**

The purpose of the Public Facilities Plan is to assess the current and future public service and facility needs and provide a plan for addressing these needs in an efficient and cost effective manner. The Plan seeks to aid county staff when considering site selection and acquisition, facility location and timing of facility development. The plan will aid the county in the site selection process, reclassification and comprehensive impact fee processes as well as assist the county in the development of the Capital Improvement Program (CIP).

The County's Plan must be carefully coordinated with land use and transportation plans to integrate the provision of services with anticipated growth, revenues and available funding. The principal goals of this Comprehensive Plan regarding the provision of public facilities and utilities are:

- Provide community facilities/services to serve existing and new development in an efficient and cost effective manner;
- Provide emergency services and law enforcement to protect citizens and allow them to enjoy a safe and secure environment;
- Promote an integrated information system for the County, supporting the education and the enrichment of all of its citizens;
- Serve the recreational needs of the community through a comprehensive system of recreational facilities and programs;
- Provide a system of high quality educational opportunities that meet the future educational needs of all citizens;
- Provide safe and adequate facilities and educational programs for the removal, disposal and reduction of solid waste; and

- Provide a sufficient supply of high quality drinking water and a distribution system to serve the domestic, recreational, industrial, commercial and fire protection needs of the community at the most economical price possible.

#### **5.4.4 Key Objectives**

The Public Facilities Plan should serve as the foundation for future decisions concerning the location and timing of public facilities. In making these decisions, the following objectives should be considered:

- Locate new facilities within the existing Urban Services Area. Exceptions may be made when the only way to meet LOS Standards or locations criteria contained in the Public Facilities Plan, is to locate the facility outside the USA
- Locate new facilities to provide convenient service to the greatest number of users;
- Construct or expand facilities in accord with established Level of Service Standards;
- Coordinate the location of public facilities with the recommendations of the Comprehensive Plan;
- Provide equitable distribution of public facilities between established and developing parts of the county;
- Consider maintenance or replacement needs in established areas to encourage healthy communities;
- Acquire sites for future facilities in advance of, or in conjunction with, development;
- Provide co-located facilities wherever possible to provide greater efficiency and cost savings; and
- Use this plan to determine whether proposed facilities are in accord with the Comprehensive Plan as required by state law.

It is not the intent of the Comprehensive Plan to address funding availability, debt capacity or other financial concerns. The plan also does not address facility design, equipment or operation factors, unless such factors directly relate to system-wide facility planning.

The Plan recommends construction of the following new (and expansion to existing facilities which are not built to the County's current standards) public facilities by facility type by 2030. The Plan references the Public Facilities Impact Model (PFIM) to help keep track of the capital needs with the growth population on an annualized basis. The PFIM is based on Virginia Employment Commission population projections for Stafford County to the year 2030.

The PFIM tracks the amount of building square footage by facility type as well as the number of acres of County parkland needed based on the year's projected increase. Using the County's current standards for each facility

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type, especially the building size of which County facilities are constructed, the PFIM can determine the total number of facilities needed by 2030. Where standards have not been established, the PFIM uses current data to establish the provided service level by the County. This service level is assumed to be provided by the County as the population increases over the next 20 years. During the twenty-year period of 2010-2030 covered by this Comprehensive Plan, there is a projected need for the following, additional public facilities:

- Eight elementary schools;
- Four middle schools;
- Five high schools;
- Five Fire and Rescue stations for a total of 100,135 square feet of space;
- 1,892 acres in land for parks and recreational facilities;
- Three libraries for a total of 94,606 square feet of space; and
- Other government facilities totaling 147,148 square feet of space.

As of this revision of the Comprehensive Plan, the Public Facilities Plan does not address the need to upgrade existing facilities to the Level of Services Standards. The Public Facilities Plan background is provided in Appendix B.

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## 5.5 Financial Impact Model

A financial impact model (FIM) is a simplified representation of public revenue and expenditure flows. It estimates in a systematic manner how economic, land use and population changes affect government finances. The model can be used to estimate the impact of residential and non-residential growth and development over the twenty year period of the Comprehensive Plan.

Objective 2.4 of this Plan recommends the County adopt a Financial Impact Model. The Financial Impact Model should be designed to facilitate analysis of future trends or forecasts in population, expenses and revenues for the county and show the financial impact of alternate scenarios. The FIM is only a part of the total planning process. It is designed to show the potential fiscal result of planning choices, not what those choices should be. It does not address land use, environmental impact, transportation, health and safety, community design or economic development except as a reflection of how decisions in those areas might impact the County's fiscal condition.

## 6.0 The People and the Place

This section of the Plan provides the existing characteristics of the community regarding the built environment, population, economy, types of services provided, and the natural environment. Section 15.2-2223 of the State Code states that in preparation of the Comprehensive Plan, the Planning Commission shall make careful and comprehensive surveys and studies of the existing conditions and trends of growth. The elements included in this chapter are listed below.

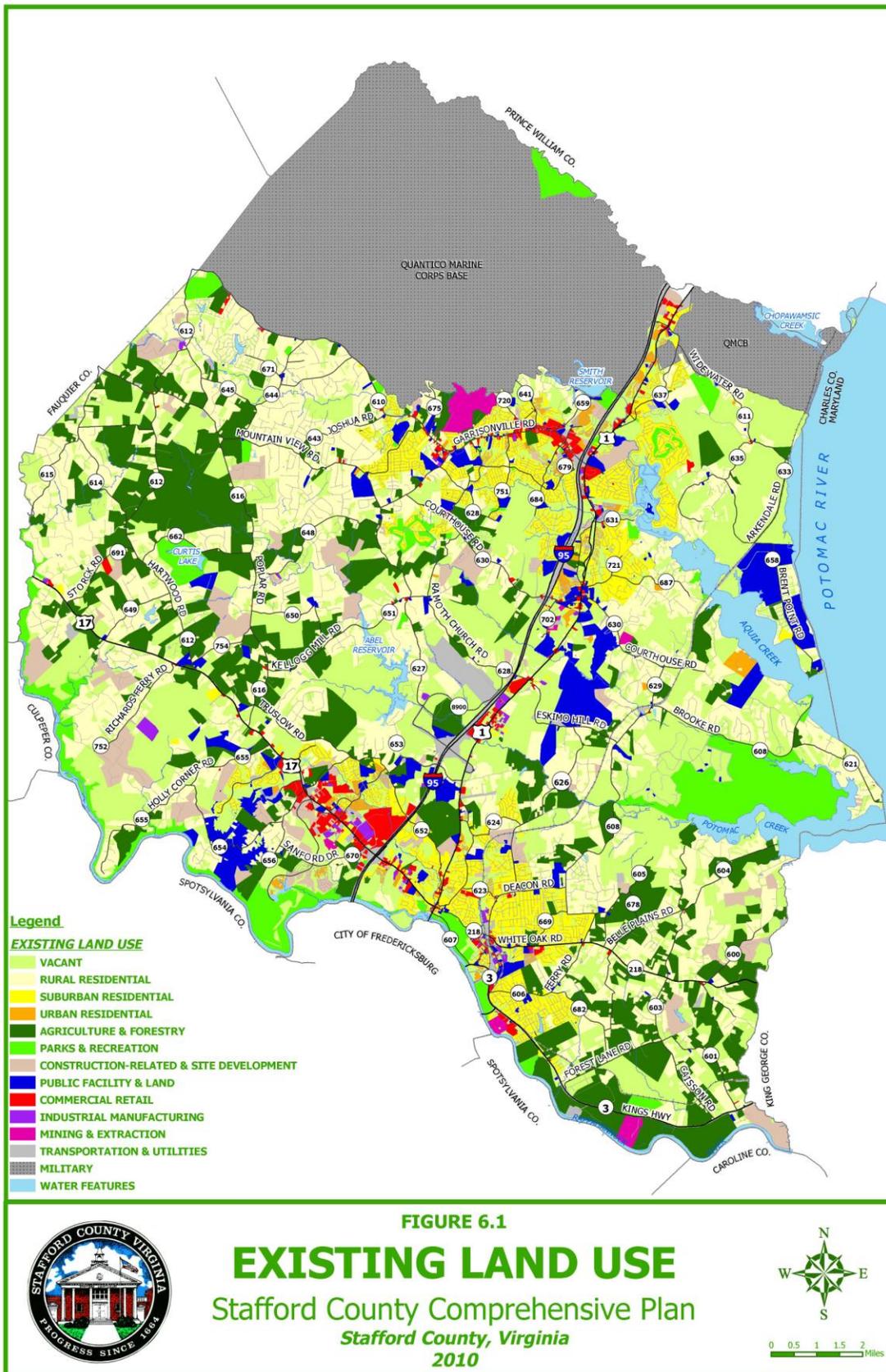
- Land Use
- Population
- Housing
- Economy
- Historic and Cultural Resources
- Mineral Resources
- Community Facilities
- Parks and Recreation
- Infrastructure
- Transportation
- Natural Resources

Please note that some of the data tables provided are based on data from the 2000 census. Updated information should be incorporated into this document when the 2010 Census information is released in the spring of 2011.

### 6.1 Land Use

The existing, observable land use of each parcel in Stafford County is important because it reveals the pattern of past growth, the location of areas that should be preserved and the potential locations for future development. The analysis of existing conditions forms the basis of the future land use plan for the County.

<b><u>Land Use</u></b>
<ul style="list-style-type: none"><li>● Current Land Use</li><li>● Zoning Districts</li><li>● Future Zoning Buildout</li></ul>



### 6.1.1 Current Land Use

An inventory of land uses by parcel reveals how the land in Stafford County is currently being used and is helpful in identifying areas that should be preserved and potential locations for future development. Parcel mapping data was obtained from a data layer in the County’s GIS with a large number of very specific land uses. These were simplified into broad categories for ease of discussion.

Table 6.1 Stafford County Land Use – 2010

Land Use	Acres	Percent
Rural Residential	37,001	20.6%
Suburban Residential	9,131	5.1%
Urban Residential	1,126	0.6%
Commercial Retail	2,042	1.2%
Industrial and Manufacturing	437	0.3%
Parks and Recreation	7,330	4.1%
Public Facilities and Land	5,977	3.3%
Transportation and Utilities	8,905	5.0%
Under Construction/Land Development	5,411	3.0%
Mining and Extraction	796	0.4%
Agriculture and Forestry	22,527	12.6%
Military	32,656	18.2%
Vacant	39,675	22.1%
Water Features	6,338	3.5%
Total	179,352	100.0%

Source: Stafford County Planning and Zoning Department and design based planning, inc.

Stafford County consists of 179,352 acres that have been classified into 14 general land use categories and a brief description of each category is provided:

- Vacant
- Rural Residential
- Suburban Residential
- Urban Residential
- Under Construction/Land Development
- Agriculture and Forestry
- Public Facilities and Land
- Commercial Retail
- Parks and Recreation
- Industrial and Manufacturing
- Transportation and Utilities
- Mining and Extraction
- Military
- Water Features

### Vacant Land

Vacant land is the largest land use category in Stafford County, accounting for approximately 22% (39,675 acres) of the County's land area. Vacant land is any land that is currently not being used and has not been set for the purpose of preserving open space. Large vacant areas are located throughout the County and have potential as development sites, open space buffers or recreational uses. Some parcels in the eastern central portion of the County are designated wetlands and should be protected from development.

### Rural Residential

Rural residential is the second largest land use category in Stafford County, accounting for 20.6% (37,001 acres) of the County's land area. The rural residential category includes single-family detached dwellings on lots at least 1 acre in size. This land use is dispersed throughout the rural areas of the County outside of the Urban Service Area. The largest concentration of this type of land use is in the northwest part of the County, south of the Quantico Marine Base.

### Suburban Residential

The Suburban Residential land use category includes single-family detached residential dwellings located within the Urban Services Area and is typically on ¼ to ½-acre sized lots. This land use accounts for 5.1% (9,131 acres) of the County and is located primarily in North Stafford, south of the Quantico Marine Base, and in the area north of the City of Fredericksburg.

### Military

The military category represents the land occupied by Quantico Marine Base in the northern section of the County. Quantico Marine Base occupies 18.2% (32,656 acres) of the County's land area.

### Agriculture and Forestry

Approximately 12.6% (22,527 acres) of the land area in Stafford County is classified as agricultural uses. This use is also dispersed throughout the County but larger parcels are located along King's Highway and Poplar Road and Hartwood Road.

### Public Facilities and Land

This category refers to those uses that provide services to residents such as health, education, religion and public safety. Land under public ownership but not yet developed is also included in this category. Approximately 3.3% (5,977 acres) of Stafford's land area is devoted to this use.

### Commercial Retail

Commercial uses include retail sales and services, auto sales and service, hotels, food and beverage establishments, financial institutions and offices. Land devoted to commercial use account for 1.2% (2,042 acres) of the County's land area. This land use is primarily located on Garrisonville and Warrenton Roads in the vicinity of I-95 and along Jefferson Davis Highway.

### Urban Residential

The urban residential category includes apartment complexes, townhouses, condominiums and the common areas that surround them. This land use accounts for less than 1% (1,126 acres) of the County's land area. This land use can be found near the I-95 corridor.

### Parks and Recreation

Recreation uses account for 4.1% (7,330 acres) of Stafford County's total acreage. The recreation category includes all public and private parks, marinas, golf courses and community centers in the County. Recreation sites vary in size and are located throughout the County.

### Industrial and Manufacturing

Industrial land uses includes manufacturing and warehousing facilities, truck terminals, salvage yards and quarries. These account for 0.3% (437 acres) of the County's land area and are primarily located along Warrenton Road and Jefferson Davis Highway.

### Under Construction/Land Development

This land use category identifies land that is under development and is in the process of being transformed, typically from a vacant or agricultural use to a more intense use. These areas cover 3.0% (5,411 acres) of the County.

### Transportation and Utilities

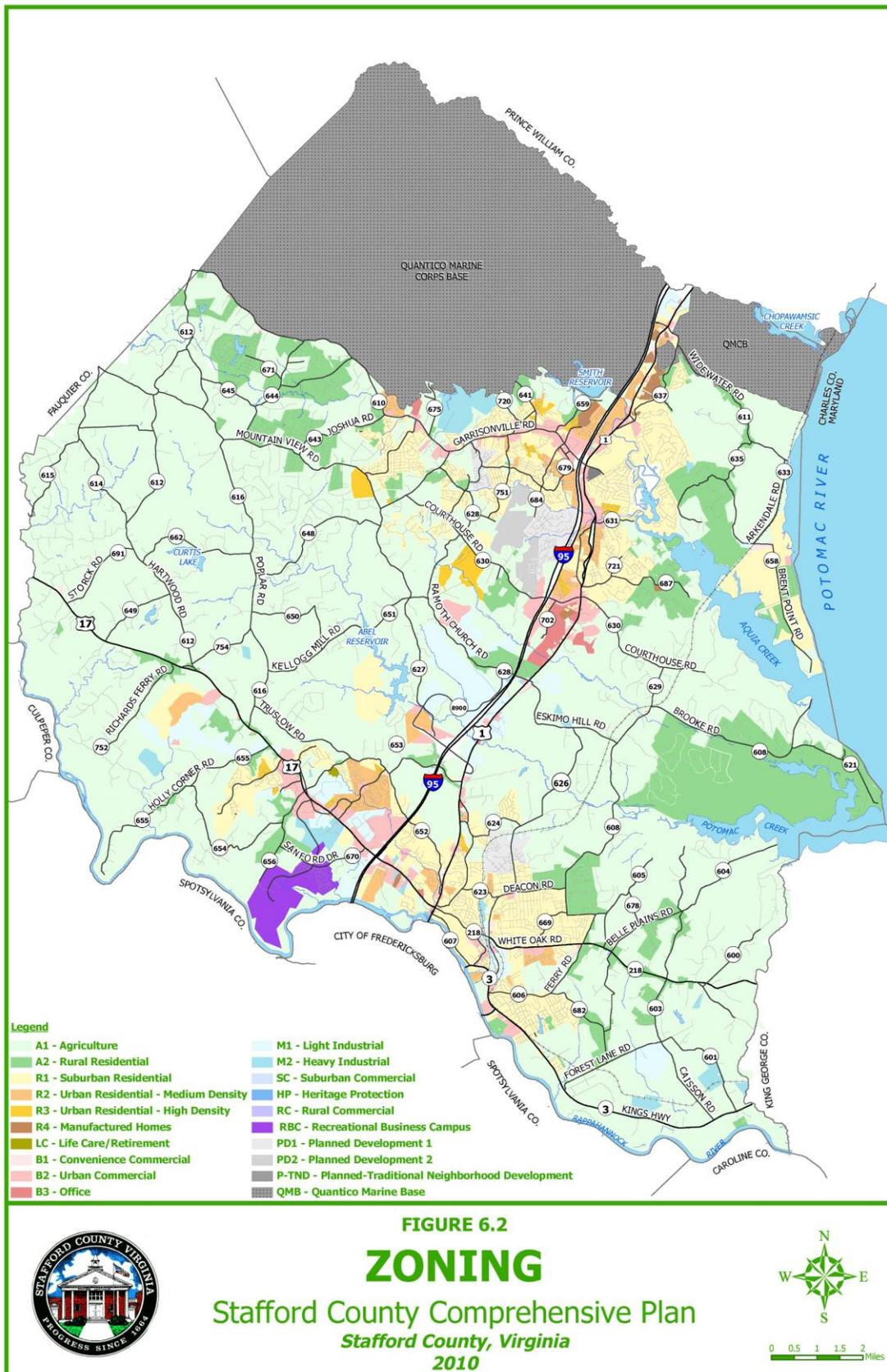
This land use category includes utilities and public works facilities that provide infrastructure support to residents. These uses include power lines, railroad lines, cell tower lots, commuter parking lots, airports, and right-of-ways. This land use accounts for 5.0% (8,905 acres) of the County's total acreage.

### Mining and Extraction

This land use category includes the location of surface mining operations, which covers 0.4% (796 acres) of the County. These areas are located on the north side of Garrisonville Road and along King's Highway.

## *6.1.2 Zoning Regulations*

Stafford County last recodified its Zoning Ordinance in 1994, and it routinely updates the Ordinance on a quarterly basis. The Zoning Ordinance establishes, among other things, permitted uses, minimum lot sizes, minimum front, side and rear setbacks for principal and accessory buildings, maximum building heights, maximum building and lot coverage, and maximum floor areas. The Zoning Ordinance is a critical tool for controlling the type, density, and design of development within the County. The Zoning Ordinance for Stafford County establishes 16 districts. The Ordinance contains provisions for the establishment of two types of planned development districts. In addition to these districts, there are eight overlay districts, which were created to protect resources and mitigate conflicts around certain facilities.



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The following table presents a breakdown of the zoning districts by area. The table was generated using the County's geographic information system (GIS), which summarized the parcel areas based on assessment data. This accounted for the area in which "No Data" was available. The Quantico Marine Base (QMB) is not a zoning district, but an area over which the County has no land use control.

Table 6.2 Existing Zoning Districts, Stafford County, VA

	Zoning District	Acres	Percent	
Rural	A1- Agriculture	87,884	49.0%	57.2%
	A2- Rural Residential	14,680	8.2%	
Residential	R1- Suburban Residential	14,391	8.0%	9.9%
	R2- Urban Residential - Medium Density	2,241	1.2%	
	R3- Urban Residential - High Density	837	0.5%	
	R4- Manufactured Home	324	0.2%	
	LC- Life Care/Retirement Community	22	0.0%	
Commercial	RC- Rural Commercial	5	0.0%	2.3%
	SC-Suburban Commercial	18	0.0%	
	B1- Convenience Commercial	303	0.2%	
	B2- Urban Commercial	3,180	1.8%	
	B3- Office	477	0.3%	
Industrial	M1- Light Industrial	3,980	2.2%	3.0%
	M2- Heavy Industrial	1,372	0.8%	
Planned Development/ Mixed Use	PD1- Planned Development	1,148	0.6%	1.6%
	PD2- Planned Development	716	0.4%	
	Planned - Traditional Neighborhood Development	35	0.0%	
	RBC- Recreational Business Campus	1,115	0.6%	
Other	HI- Heritage Interpretation	0	0%	
Unzoned Land	Military/Federal Land	33,056	18.4%	25.9%
	Street Right-of-Way &	7,230	4.0%	
	Waterways	6,338	3.5%	
<b>TOTAL</b>		179,352	100%	

Source: Stafford County Real Estate Data

### Rural Districts

The County has two districts dedicated to rural development. These are the A-1 Agriculture District and A-2 Rural Residential District.

The **A-1** District allows for a greater number of uses, which are associated with agriculture and large lots, such as mulching facilities, sawmills, nurseries and slaughterhouses. The District occupies almost half (49%) of the County and is dominant in the western half and southeast portion of the County.

The **A-2** District is intended as a transition between agriculture and more intense development. Single-family homes and community facilities are permitted on lots of at least one acre. The largest A-2 area is located around

Brooke Road near Marlborough Point. Many of the A-2 areas exist as pockets within the A-1 District.

### Residential Districts

There are five residential districts in Stafford County, which combined, represent roughly 10% of the County. The districts vary in residential use density. Community and public facilities are permitted in all of the districts.

The **R-1** Suburban Residential District is intended for single-family homes with a density of 1.5 units per acre. R-1 Districts are concentrated just south of the Quantico Marine Base and just north of Fredericksburg. Some R-1 Districts are scattered within the Agriculture District.

The **R-2** Urban Residential District allows duplexes and townhouse developments with a density of 3.5 units per acre. Most R-2 Districts are adjacent to R-1 developments.

The **R-3** Urban Residential – High Density District allows the same uses as the R-2 District with a density of 7.0 units per acre. Overall, 0.5% of the county is designated as **R-3** and is primarily located near commercial areas south of Quantico Marine Base.

The **R-4** Manufactured Home District is reserved for manufactured home developments. They are located near the I-95 corridor north of Garrisonville Road.

The **LC** Life Care/Retirement Community District is intended to provide areas for the continuing care of the elderly, providing for transitional housing, progressing from independent units and culminating in nursing home care. Such districts are to be located only where approved water and sewerage are available and where transportation systems are adequate.

### Commercial Districts

Stafford County has six commercial districts. The districts vary in the mix of retail and office development as well as intensity. Overall, 2.3% of the County is designated for commercial use.

The **B-1** Convenience Commercial District is intended for small commercial development that serves the surrounding population. These districts are scattered throughout the County with concentrations found on White Oak Road and Jefferson Davis Highway in both central and northern Stafford County.

The **B-2** Urban Commercial District allows high-density retail sales and service developments with a regional or County-wide market area. These retail

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centers are located along Garrisonville Road, Courthouse Road and Warrenton Road near interchanges off I-95.

The **B-3** Office District is intended to provide an area for professional offices near retail areas. These areas are spotted throughout the County with the largest concentration just added in the Courthouse area.

The **SC** Suburban Commercial District also provides a location for small retail businesses that serve the immediate neighborhood. The difference between the SC and B-1 districts is that the SC District need not be located near a major transportation network and it provides for a greater open space ratio. There are three small areas that are designated as SC Districts in Stafford County.

The **RC** district allows commercial uses at major intersections that serve the nearby rural population. Only two parcels are designated as the RC District.

### Industrial Districts

Stafford County has two zoning designations for industrial uses. Together, they constitute 3.0% of the County's area.

The **M-1** Light Industrial District sets aside areas for certain business and industrial uses which are relatively free from offensive activities and are generally compatible with nearby residential uses. Industrial parks are encouraged within the M-1 District. The largest concentration of M-1 development is found in the center of the County around Jefferson Davis Highway. Other developments exist around Warrenton Road west of I-95, Cool Spring Road, Forest Lane Rd, and on Jefferson Davis Highway near the Quantico Marine Base.

The **M-2** Heavy Industrial District provides for the location of industrial uses that may not be compatible with residential uses due to potential nuisances or hazards. These districts are found in the southern section of the County, around Celebrate VA Parkway, and south of the Quantico Marine Base off of Garrisonville Road.

### Planned Developments/Mixed Use

There are two types of Planned Development Districts. They allow for the creation of innovative neo-traditional developments with a mix of commercial and residential use. They differ in the size 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. The P-1 District has been utilized in the Park Ridge, Austin Ridge, and Leeland Station communities.

The **PD-2** Planned Development District is for developments between 500 and 850 acres. PD-2 developments are allowed a greater commercial density. A PD-2 District has been designated for the proposed Embrey Mill development on Courthouse Road near I-95.

The **P-TND** Planned – Traditional Neighborhood Development provides for areas of the county which are suitable for an approach to land-use planning and urban design that promotes the development or redevelopment of pedestrian-friendly neighborhoods with a mix of uses, housing types and prices, lot sizes and density, architectural variety, a central civic building and use, a network of streets and alleys that may include on-street parallel parking, and defined development edges.

The **RBC** Recreational Business Campus District provides an area for professional offices, executive housing, and senior housing as well as other developments that will benefit from a natural campus-like setting with open space. One RBC development is located at the end of Celebrate VA Parkway.

#### Other Zoning Districts

Areas of the County include unique characteristics and uses that may not conform with typical development design standards that apply across the County.

The **HI** Heritage Interpretation District was established for the purpose of reserving areas in all regions of the county for interpretation of heritage sites, retaining the setting and feeling of the cultural landscape, permitting restoration, preservation, conservation, education, research and business activities related to the operation of a museum and other historic sites, providing heritage tourism opportunities, and promoting the preservation and enhancement of unique Stafford County cultural resources.

#### Overlay Districts

In addition to the base zoning districts, the Stafford County Zoning Ordinance contains eight overlay districts. The purposes of the districts vary from protecting historical and environmental resources, reducing conflicts between established facilities, and mitigating potential hazards.

Overlay districts add a variety of standards to the underlying districts. These standards could include use restrictions, preservation requirements, or stricter density regulations. The following is a list of the overlay districts used in Stafford County:

- AD Airport Impact - Provides an overlay zone in areas subject to intense and/or frequent emissions of noise and vibration from airports and

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prevents obstructions of airport zones which may result in an air navigation hazard

- CB Chesapeake Bay Preservation Area - Provides an overlay zone to protect the valuable resources of and related to the Chesapeake Bay in accordance with the Virginia Code and adopted plans
- FH Flood Hazard - Provides an overlay zone with limitations on development in areas likely to be inundated by the 100-year flood event, as defined by current flood insurance rate maps for Stafford County to protect life and property and to prevent or minimize flood damage
- HC Highway Corridor - Provides an overlay zone along developed and rapidly developing high traffic road facilities where appropriate special standards would address access and design needs
- HG Historic Gateway Corridor - Is intended to implement the goals of the Comprehensive Plan by protecting cultural resources by guiding new development along major entrance routes to the designated areas
- HR Historic Resources - Is intended to provide for the protection of historic resources in the County
- MZ Military Facility Impact - Is intended to provide an overlay zone to address the interaction between military facilities and surrounding land uses
- RP Reservoir Protection - Is intended to provide an overlay zone that requires best management practices and other protective measures in areas critical to the integrity of public water supplies, rivers, streams and other sensitive features

### Conditional Zoning

The Zoning Ordinance for Stafford County allows a developer to request a change in the zoning designation on a piece of property. In most zoning cases, voluntary proffers made by the applicant are included with the request. Proffers are intended to mitigate negative impacts of the land use proposal on the surrounding community. A proffer could be the construction of roads, provision of infrastructure, dedication of open space, or a cash contribution in lieu of the actual provision of an improvement. Generally, in order for a conditional zoning change to be approved, the proffer must be reasonably related to the requested zoning change and the zoning change must not adversely affect the character of the area in which it is located. The County Board of Supervisors is responsible for deciding zoning change requests following a public hearing and a recommendation of the Planning Commission on the request.

### 6.1.3 Future Build-out Under Existing Zoning

To assess the impact the current zoning regulations would have on future land development in the County, a build-out analysis was conducted. This assumes that all available land builds out to its maximum potential based on the maximum allowable densities.

**Table 6.3 Inside the Urban Services Area**

ZONING DISTRICTS	EXISTING DWELLING UNITS	FUTURE DWELLING UNITS			TOTAL BUILDOUT (EXISTING PLUS FUTURE)	FUTURE COMMERCIAL SQUARE FOOTAGE
		IN APPROVED SUBDIVISIONS	BASED ON ZONING POTENTIAL	TOTAL		
AGRICULTURE	1,028	2,013	1,922	3,935	4,963	0
RURAL RESIDENTIAL	1,052	6	654	660	1,712	0
CONVENIENCE COMMERCIAL	29	0	0	0	29	3,803,715
URBAN COMMERCIAL	112	0	0	0	112	48,989,368
OFFICE	16	0	0	0	16	8,132,147
LIGHT INDUSTRIAL	20	0	0	0	20	35,616,141
HEAVY INDUSTRIAL	2	0	0	0	2	11,901,145
PLANNED DEVELOPMENT 1	1,905	355	1,196	1,551	3,456	0
PLANNED DEVELOPMENT 2	0	1,602	0	1,602	1,602	0
SUBURBAN RESIDENTIAL	16,544	980	5,408	6,388	22,932	0
URBAN RESIDENTIAL MEDIUM DENSITY	7,469	0	1,348	1,348	8,817	0
URBAN RESIDENTIAL HIGH DENSITY	3,219	575	0	575	3,794	0
MANUFACTURED HOMES	1,399	0	396	396	1,795	0
RECREATIONAL BUSINESS CAMPUS	25	409	848	1,257	1,282	36,842,479
SUBURBAN COMMERCIAL	0	0	6	6	6	38,727
<b>TOTAL</b>	<b>32,820</b>	<b>5,940</b>	<b>11,778</b>	<b>17,718</b>	<b>50,538</b>	<b>145,323,722</b>

**Table 6.4 Rural Areas**

ZONING DISTRICTS	EXISTING DWELLING UNITS	FUTURE DWELLING UNITS			TOTAL BUILDOUT (EXISTING PLUS FUTURE)	FUTURE COMMERCIAL SQUARE FOOTAGE
		IN APPROVED SUBDIVISIONS	BASED ON ZONING POTENTIAL	TOTAL		
AGRICULTURE	6,038	1,423	9,477	10,900	16,938	0
RURAL RESIDENTIAL	3,580	104	1,817	1,921	5,501	0
CONVENIENCE COMMERCIAL	7	0	0	0	7	535,030
URBAN COMMERCIAL	5	0	0	0	5	696,481
OFFICE	0	0	0	0	0	522,203
LIGHT INDUSTRIAL	3	0	0	0	3	2,206,706
HEAVY INDUSTRIAL	0	0	0	0	0	0
SUBURBAN RESIDENTIAL	1,270	225	446	671	1,941	0
URBAN RESIDENTIAL- MEDIUM DENSITY	38	0	408	408	446	0
URBAN RESIDENTIAL- HIGH DENSITY	168	0	58	58	226	0
MANUFACTURED HOMES	12	0	81	81	93	0
RECREATIONAL BUSINESS CAMPUS	0	0	1	1	1	48,963
RURAL COMMERCIAL	0	0	0	0	0	130,885
SUBURBAN COMMERCIAL	1	0	0	0	1	282,727
<b>TOTAL</b>	<b>11,122</b>	<b>1,752</b>	<b>12,288</b>	<b>14,040</b>	<b>25,162</b>	<b>4,422,996</b>

**Table 6.5 Summary**

<b>TOTAL IN GROWTH AREA</b>	32,820	5,940	11,778	17,718	50,538	145,323,722
<b>TOTAL OUTSIDE GROWTH AREA</b>	11,122	1,752	12,288	14,040	25,162	4,422,996
<b>GRAND TOTAL</b>	<b>43,942</b>	<b>7,692</b>	<b>24,066</b>	<b>31,758</b>	<b>75,700</b>	<b>149,746,718</b>

### 6.1.4 Findings

- Stafford County consists of 174,291 acres
- The land use categories that accounts for the largest land areas in Stafford County are vacant land (20.8%), rural residential (20.4%), military (19%) and agriculture (13.6%)
- Stafford County’s Zoning Ordinance includes: 19 zoning districts, including 4 planned development/mixed use districts and eight overlay districts

## 6.2 Population

An understanding of current and expected future population allows the locality to adequately prepare for its potential impacts on land use and community resources. This section examines several characteristics of the population of Stafford County. Using data obtained from the US Census Bureau, Stafford County is compared to surrounding counties, the City of Fredericksburg, and the State as a whole, to get an understanding of its current characteristics and future role within the State.

Over the last five decades, as the population in Stafford County has grown, the character of the landscape has also changed. The once primarily rural County is being transformed through the development of suburban and urban centers. The challenge for the County is to accommodate growth while maintaining the quality of life residents have come to expect; a component of which is the availability of an adequate amount of open space.

### 6.2.1 Historical Trends

In 2000, the population in Stafford County was 51% higher (92,446) than it was in 1990 (61,236). During that same time period, all comparison areas experienced population increases, but only Spotsylvania County had a greater population increase (58%) than Stafford County. The population of Stafford County increased at a significantly faster rate than the State as a whole (14%).

Table 6.6 Population Change 1950-2000  
(Stafford County, VA and Comparison Areas)

	1950	1960	1970	1980	1990	2000	Percent Change 1990-2000
<b>Stafford County</b>	11,902	16,876	24,587	40,470	61,236	92,446	51.0%
<b>Fauquier County</b>	21,248	24,066	26,375	35,889	48,741	55,139	13.1%
<b>King George County</b>	6,710	7,243	8,039	10,543	13,527	16,803	24.2%
<b>Prince William County</b>	22,612	50,164	111,102	144,703	215,686	280,813	30.2%
<b>Spotsylvania County</b>	11,920	13,819	16,424	34,435	57,403	90,395	57.5%
<b>City of Fredericksburg</b>	12,158	13,639	14,450	15,322	19,027	19,279	1.3%
<b>State of Virginia</b>	3,318,680	3,966,949	4,648,494	5,346,818	6,187,358	7,078,515	14.4%

Source: US Census Bureau and design based planning, inc.

As indicated in the table above, Stafford's population has steadily increased since 1950. However, the rate of increase has slowed somewhat since 1980. Between 1970 and 1980, Stafford's population increased by 65%. The rate of change in the population decreased to 51% between 1980 and 1990 and

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remained the same for the 1990 to 2000 period. Overall, the County has experienced a doubling of its population for every 20 year period since 1950.

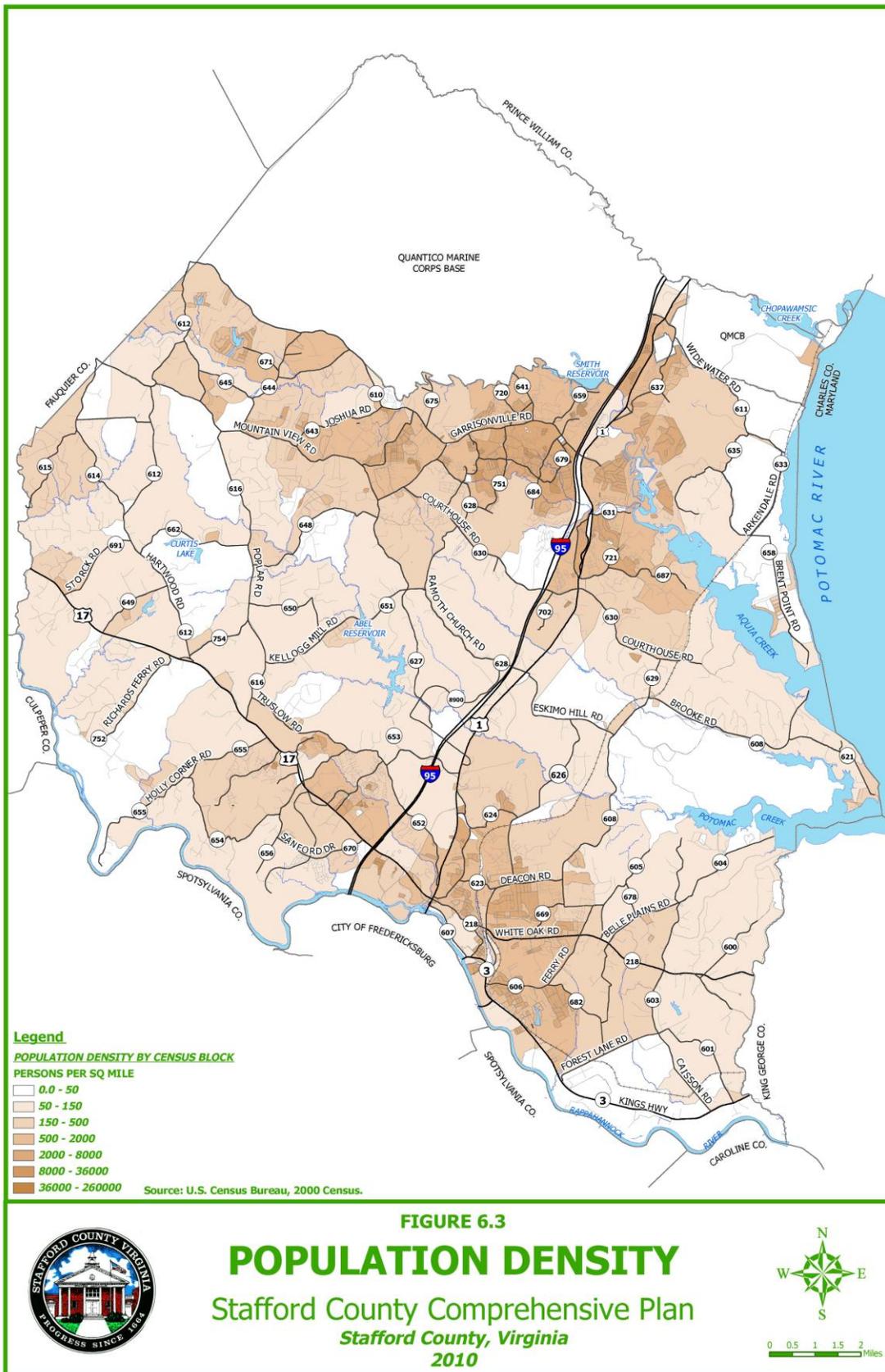
Table 6.7 Population Estimates and Projections  
Stafford County, VA and Comparison Areas

	<b>2000 Census</b>	<b>July 1, 2009 Census Estimate</b>	<b>2010 VEC Projection</b>	<b>2020 VEC Projection</b>	<b>2030 VEC Projection</b>	<b>Percent Change 2000 to 2030</b>
<b>Stafford County</b>	92,446	124,166	135,806	176,710	218,772	136.6%
<b>Fauquier County</b>	55,577	68,010	72,685	89,318	107,168	92.8%
<b>King George County</b>	16,803	23,557	23,580	30,120	37,393	122.5%
<b>Prince William County</b>	283,811	379,166	401,323	515,235	609,935	114.9%
<b>Spotsylvania County</b>	90,395	120,977	134,163	175,402	217,797	140.9%
<b>City of Fredericksburg</b>	19,279	23,193	22,371	25,116	28,518	47.9%
<b>State of Virginia</b>	7,104,078	7,882,590	8,010,342	8,917,575	9,825,288	38.3%

Source: US Census Bureau and Virginia Employment Commission

According to population projection figures prepared by the Virginia Employment Commission, continued growth is expected for Stafford County's population between 2000 and 2030, but at a slower rate than was experienced during the previous two decades. Stafford's population was expected to grow by 47% between 2000 and 2010, by 30.1% between 2010 and 2020, and by 23.8% between 2020 and 2030. A similar pattern of continued growth was also projected at the state level, but at a slower rate than the County. The State's population was projected to grow by approximately 12.8% between 2000 and 2010, 11.3% between 2010 and 2020, and 10.2% between 2020 and 2030.

Although population continues to grow, the County has experienced a decline in the rate of increase in recent years. Based on the July 1, 2009 estimates, it is unlikely the County population will increase to 135,806 in 2010, as projected by the Virginia Employment Commission.



6.2.2 *Composition*

In 2000, Stafford County’s population was primarily white (80%, not including individuals of Hispanic origin) and there was an almost equal proportion of males and females. Among comparison areas, Fauquier County and Spotsylvania had less racially diverse populations (87% and 81% white, respectively), while Prince William County had the most racially diverse population (65% white). Although Stafford County was predominantly white in 2000, the percentage of non-whites increased between 1990 (11%) and 2000 (20%). Most comparison areas experienced a similar pattern of increased diversity. The table that follows summarizes major population characteristics in 2000.

Table 6.8 Population Characteristics – 2000  
Stafford County, VA and Comparison Areas

	Stafford County	Fauquier County	King George County	Prince William County	Spotsylvania County	City of Fredericksburg	State of Virginia
<b>White*</b>	80.1%	87.1%	76.4%	64.6%	81.2%	71.1%	70.1%
<b>Black*</b>	11.7%	8.2%	18.9%	18.5%	11.8%	20.3%	19.4%
<b>Hispanic</b>	3.4%	2.1%	2.1%	9.7%	2.6%	4.8%	4.6%
<b>Male:</b>	50.4%	49.2%	50.8%	49.9%	49.3%	45.0%	49.0%
<b>Female:</b>	49.6%	50.8%	49.2%	50.1%	50.7%	55.0%	51.0%
<b>Under 18 years</b>	31.5%	26.8%	27.7%	30.4%	29.9%	17.7%	24.5%
<b>18 to 34 years</b>	21.3%	18.1%	21.7%	24.8%	20.9%	38.3%	24.1%
<b>35 to 50 years</b>	28.1%	26.9%	25.8%	26.7%	26.4%	18.4%	24.7%
<b>50 to 64 years</b>	13.2%	17.6%	15.2%	13.5%	14.7%	12.6%	15.5%
<b>Over 65 years</b>	5.8%	10.6%	9.6%	4.6%	8.1%	13.1%	11.2%
<b>Median Age</b>	33.1	37.8	35.1	31.9	34.3	30.3	35.7
<b>High School Diploma</b>	51.5%	51.9%	52.8%	50.0%	55.3%	45.6%	46.4%
<b>Associate Degree</b>	7.4%	5.6%	3.9%	7.3%	5.7%	4.1%	5.6%
<b>Bachelor's degree</b>	18.8%	18.2%	15.6%	20.3%	16.0%	17.9%	17.9%
<b>Post Graduate Degree</b>	10.8%	8.8%	8.1%	11.2%	6.8%	12.6%	11.6%

Source: US Census and design based planning, inc.

\*Does not include individuals of Hispanic Origin

In 2000, 32% of the population in Stafford County was under the age of 18. This was a higher percentage than all comparison areas. At the other end of the spectrum, Stafford County had a lower percentage (6%) of residents over 65 years of age than all comparison areas except Prince William County (5%). The median age of residents in Stafford was 33.1 years, which was lower than most comparison areas including Spotsylvania County (34.3 years), the State (35.7 years) and Fauquier County (37.8 years). The percentage of the population in Stafford County that was 50 years of age or older increased from 16% in 1990 to 19% in 2000.

Stafford County residents, 25 years and older, had a higher level of educational attainment than most comparison areas in 2000. Thirty seven percent of residents had earned an associate degree or higher and 30% had a bachelor's degree or higher. Among comparison areas, only Prince William County had a higher percentage of residents with an associate degree or higher (39%).

### 6.2.3 Findings

- Stafford County's population has more than doubled over every 20 year period between 1950 and 2000, and by more than 50% between 1990 and 2000
- The Virginia Employment Commission projects that Stafford County's population will grow at more than three times the rate of the State as a whole between 2000 and 2030
- In 2000, the median age of residents in Stafford County was 33.1 years, which was lower than the State as a whole
- Stafford County residents had a higher level of educational attainment than most comparison areas in 2000

## 6.3 Housing

Housing conditions in Stafford County are evaluated to ensure that there is adequate housing for current and future residents of the County. This is accomplished through a review of the total number of housing units, total units in each structure, median age of the housing stock, housing occupancy and vacancy, number of building permits issued, value of housing and median contract rent.

### 6.3.1 Housing Availability

Stafford County had 31,405 housing units in 2000, 96% of which were occupied. Owners occupied more than 80% of units. Stafford’s occupancy rate was higher than all comparison areas except Prince William County. Of the County’s 4% vacant units, most were for sale (34%) or rent (24%). Between 1990 and 2000, the number of housing units in Stafford County increased by 53% (10,876 units) while the population increased by 51% (31,210 persons). All comparison areas also had increases in the number of housing units, but only Spotsylvania County had a higher rate of increase (63%) than Stafford County.

Table 6.9 Housing Characteristics – 2000  
Stafford County, VA and Comparison Areas

	Stafford County	Fauquier County	King George County	Prince William County	Spotsylvania County	City of Fredericksburg	State of Virginia
<b>Total Housing Units</b>	<b>31,405</b>	<b>21,046</b>	<b>6,820</b>	<b>98,052</b>	<b>33,329</b>	<b>8,888</b>	<b>2,904,192</b>
<b>Occupied</b>	<b>96.1%</b>	<b>94.3%</b>	<b>89.3%</b>	<b>96.4%</b>	<b>93.9%</b>	<b>91.2%</b>	<b>92.9%</b>
Owner occupied	80.6%	76.2%	71.8%	71.7%	82.2%	35.5%	68.1%
Renter occupied	19.4%	23.8%	28.2%	28.3%	17.8%	64.5%	31.9%
<b>Vacant</b>	<b>3.9%</b>	<b>5.7%</b>	<b>10.7%</b>	<b>3.6%</b>	<b>6.1%</b>	<b>8.8%</b>	<b>7.1%</b>
For rent	23.7%	13.8%	16.7%	26.6%	22.9%	60.8%	23.5%
For sale only	34.2%	20.3%	10.8%	34.9%	24.2%	16.4%	15.9%
Rented or sold, not occupied	15.2%	7.6%	19.2%	8.6%	10.0%	9.2%	9.7%
For seasonal, rec. or occasional use	14.1%	33.1%	36.5%	9.8%	29.6%	7.9%	30.6%
Other vacant	12.7%	25.2%	16.7%	20.0%	13.2%	5.7%	20.3%
<b>Average Household Size</b>	<b>3.01</b>	<b>2.75</b>	<b>2.7</b>	<b>2.94</b>	<b>2.87</b>	<b>2.09</b>	<b>2.54</b>

Source: US Census and design based planning, inc.

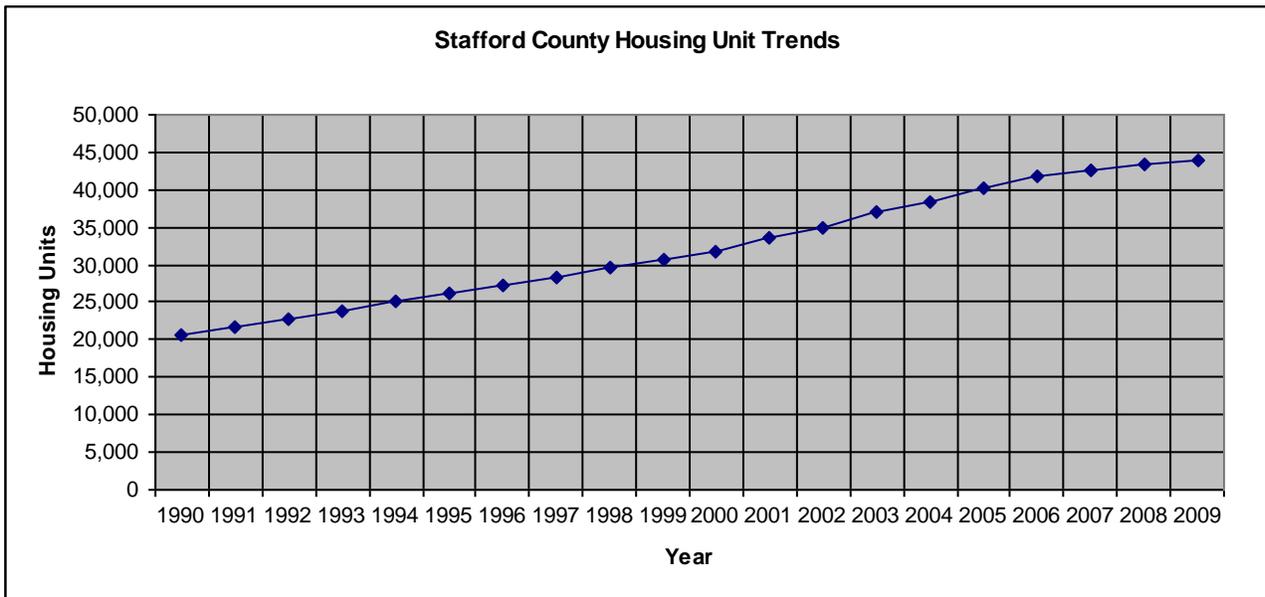
Over the last nineteen years, housing units in the County increased from 20,529 in 1990 to 43,838 in 2009. Over the ten year period from 1990 to 2000, the County experienced an annual increase of 1,129 housing units. During the last decade from 2000 to 2009, an annual increase of 1,202 housing units occurred. While the unit increase has been consistent from

decade to decade, the rate has slowed in recent years. From 2006 to 2009, an annual increase of 684 housing units occurred. The annual housing unit data is provided in Table 6.10 and the accompanying chart.

Table 6.10 Annual Housing Unit Trends (1990 – 2009)  
Stafford County VA

Year	Housing Units	Year	Housing Units
1990	20,529	2000	31,820
1991	21,658	2001	33,479
1992	22,787	2002	34,973
1993	23,916	2003	36,982
1994	25,045	2004	38,427
1995	26,175	2005	40,220
1996	27,304	2006	41,787
1997	28,433	2007	42,595
1998	29,562	2008	43,322
1999	30,691	2009	43,838

\* Values between 1990 and 2000 are based on a linear increase of 1,129 housing units per year between the actual decennial census counts. From 2000 to 2009, the data is based on building permit data.



A variety of housing is available in Stafford County, but the predominant housing type is the single-family detached dwelling. Single-family detached units accounted for 76% of all dwellings, followed by single-family attached at 11%. Among comparison areas only Fauquier County had a higher percentage of single-family units. The City of Fredericksburg had the lowest percentage of single-family units (49%), which was consistent with its urbanized, higher density setting.

## The People and the Place

The housing stock in Stafford County is relatively new. Over 40% of the homes in Stafford County were constructed between 1990 and 2000, 25% were constructed during the 1980s and 17% during the 1970s. Among comparison areas, only Spotsylvania had a similar construction pattern with 45% of homes constructed during the 1990s, 28% during the 1980s and 16% during the 1970s.

Table 6.11 Units in Structure – 2000  
Stafford County, VA and Comparison Areas

	Stafford County	Fauquier County	King George County	Prince William County	Spotsylvania County	City of Fredericksburg	State of Virginia
1 Unit - Detached	76.2%	85.1%	73.9%	53.9%	79.0%	41.7%	62.3%
1 Unit - Attached	11.3%	5.9%	3.8%	26.8%	7.2%	7.4%	9.6%
2 Units	0.5%	1.6%	1.5%	0.7%	0.3%	4.6%	2.1%
3 or 4 Units	1.4%	1.5%	2.7%	1.2%	0.8%	4.6%	3.3%
5 to 9 Units	2.4%	0.8%	3.4%	3.6%	1.0%	10.5%	5.0%
10 to 19 Units	2.8%	1.8%	1.3%	9.1%	2.0%	20.9%	5.3%
20 to 49 Units	0.5%	0.4%	0.3%	1.1%	0.4%	3.7%	1.7%
50 or more Units	0.3%	0.6%	0.1%	1.7%	1.8%	6.0%	4.2%
Mobile Home	4.6%	2.1%	12.7%	1.8%	7.4%	0.6%	6.4%
Boat, RV, Van, etc.	0.1%	0.1%	0.2%	0.1%	0.1%	0.0%	0.1%
Median Year Home Built	1987	1979	1979	1983	1988	1968	1975

Source: US Census and design based planning, inc.

Residential and commercial development is continuing in Stafford County. The table that follows indicates the number of new construction permits that were issued between 2000 and 2007. Residential construction permits have been issued for single-family, mobile home/agriculture, townhouse, duplex, multi-family and condominium dwellings. New residential development remained strong through 2005, but has since experienced a decline, consistent with the national economic slowdown.

Single family (55%) and multi-family dwelling units (28%) were the primary housing types being constructed. The number of permits that were issued each year varied, averaging to over 1,700 dwellings annually through 2007, and construction values have generally increased. In 2002, residential construction peaked with building permits being issued for 2,096 units. 2006 reflected the start of the housing and economic downturn with only 860 permits issued, compared to 1,641 the prior year.

Table 6.12 Permit Activity 2000-2009  
(In Millions of Dollars)

<b>New Construction</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Residential	1,970	1,581	2,096	1,398	1,981	1,641	860	758	413	516
Residential Construction Value	\$205	\$227	\$293	\$243	\$315	\$375	\$239	\$188	\$87	\$114
Commercial	24	27	44	151	68	86	81	60	47	38
Commercial Construction Value	\$15	\$51	\$15	\$55	\$45	\$552	\$96	\$110	\$51	\$33
Industrial	N/A	8	20	20	35	34	20	14	6	2
Industrial Construction Value	N/A	\$4.6	\$7.8	\$3.2	\$15.2	\$11.1	\$6	\$14	\$0.75	\$0.05

Source: Department of Public Works

According to the US Census Bureau, Stafford County had approximately 41,791 housing units in 2006. This represents a 33% increase from 2000 when that figure was 31,405 units. In 2005, according to the Stafford County Department of Economic Development, 810,000 sq. ft. of commercial and industrial space was added. As of April 2006, over 700,000 sq. ft. was under construction while an additional 2 million sq. ft. was undergoing site plan review.

### 6.3.2 Value and Rent

In 2000, the median value of a home in Stafford County was \$156,400, which was higher than all comparison areas except Fauquier County. The median monthly contract rent was \$707, which was higher than all comparison areas except Prince William County (\$755). Renters spent more of their income on housing than homeowners in 2000. This was true in all comparison areas.

Table 6.13 Housing Value and Median Rent – 2000  
Stafford County, VA and Comparison Areas

	Stafford County	Fauquier County	King George County	Prince William County	Spotsylvania County	City of Fredericksburg	State of Virginia
Less than \$50,000	0.5%	0.8%	2.2%	0.5%	1.1%	3.1%	6.1%
\$50,000 to \$99,999	11.8%	11.2%	28.1%	11.9%	23.6%	27.8%	30.6%
\$100,000 to \$124,999	15.2%	11.8%	21.3%	18.8%	22.5%	14.6%	13.1%
\$125,000 to \$149,999	17.9%	17.8%	18.1%	19.1%	19.6%	10.3%	11.6%
\$150,000 to \$174,999	18.2%	16.6%	10.3%	12.8%	11.8%	12.5%	8.8%
\$175,000 to \$199,999	14.7%	10.8%	6.3%	9.7%	7.3%	8.9%	6.7%
\$200,000 to \$299,999	17.8%	22.2%	9.9%	21.9%	10.5%	14.6%	13.9%
\$300,000 to \$399,999	2.7%	4.6%	2.6%	3.9%	2.0%	3.3%	5.0%
\$400,000 to \$499,999	0.5%	2.5%	0.7%	1.0%	0.7%	3.3%	2.1%
\$500,000 or more	0.8%	1.7%	0.5%	0.4%	0.9%	1.5%	2.1%
Median value	\$156,400	\$162,700	\$123,200	\$149,600	\$128,500	\$135,800	\$125,400
Homeowners who Spent over 30% of Household Income on Housing in 1999	20.8%	20.2%	17.8%	22.7%	21.7%	22.2%	20.3%
Median Contract Rent	\$707	\$594	\$527	\$755	\$679	\$583	\$550
Renters who Spent Over 30% of Household Income on Housing in 1999	31.8%	31.2%	20.6%	32.2%	33.9%	41.3%	33.9%

Source: US Census and design based planning, inc.

According to the US Department of Housing and Urban Development, housing is generally considered affordable if costs do not exceed 30% of household annual income. In 2000, Stafford County had a higher median home value and median contract rent than most comparison areas. In 1999, 32% of renters and 21% of home owners in Stafford County spent 30% or more of their income on housing; a decrease from 1989 when those figures were 38% and 28%, respectively. In 1999, a lower percentage of residents in Stafford spent over 30% of their income on housing than Spotsylvania County, Prince William County, the City of Fredericksburg, and the State as a whole.

### Recent Real Estate Trends

To assess real estate trends in recent years, home sales data from Metropolitan Regional Information Systems, Inc. was reviewed. Home sales data was derived from public records provided by County offices.

As indicated in the table that follows, average sale price and home sales volume peaked between 2005 and 2006, after which a severe drop occurred. From 2005 to 2007, home sales volume was cut in half, decreasing from 2,962 units to 1,473 units. Since 2006, average sales prices have seen a decline from \$395,473 to \$244,769 in 2009.

Table 6.14 Home Sales (2004-2009)  
Stafford County, VA

Year	Total Sold	Average Sale Price	Median Sale Price
2009	1,835	\$244,769	\$229,000
2008	1,614	\$294,951	\$272,950
2007	1473	\$375,959	\$360,000
2006	2032	\$395,473	\$380,000
2005	2962	\$388,836	\$379,000
2004	2861	\$303,613	\$290,000

Source: Metropolitan Regional Information System's Inc. – MLS Resale Data

### 6.3.3 Findings

- Over 96% of housing units in Stafford County were occupied in 2000 and 81% were owner-occupied
- Between 1990 and 2000, the number of housing units grew at a slightly faster rate than the population
- In 2000, most dwellings in Stafford County were single-family detached units
- In 2000, over 40% of Stafford's housing stock had been constructed between 1990 and 2000
- Significant residential and commercial development occurred between 2000 and 2005
- The amount of new residential development has declined since 2005
- In 2000, the median value of homes in Stafford was higher than all comparison areas
- In 2000, renters in all comparison areas spent a higher percentage of their income on housing than homeowners
- Housing was generally affordable in the County in 1999; almost 70% of residents in Stafford spent less than 30% of their income on housing
- Housing values peaked in 2006 with an average home sale price of \$395,473.

## 6.4 Economy

The economy of Stafford County is evaluated through an examination of characteristics such as labor force, industries of employment, occupations of residents and their income levels. Employment characteristics reveal which industries are important to the economic viability of the locality. The income characteristics of residents are an indicator of the County's financial stability and its ability to pay for governmental services. Multiple income characteristics are usually examined because no one statistic accurately demonstrates the economic character of an area.

### 6.4.1 Labor Force

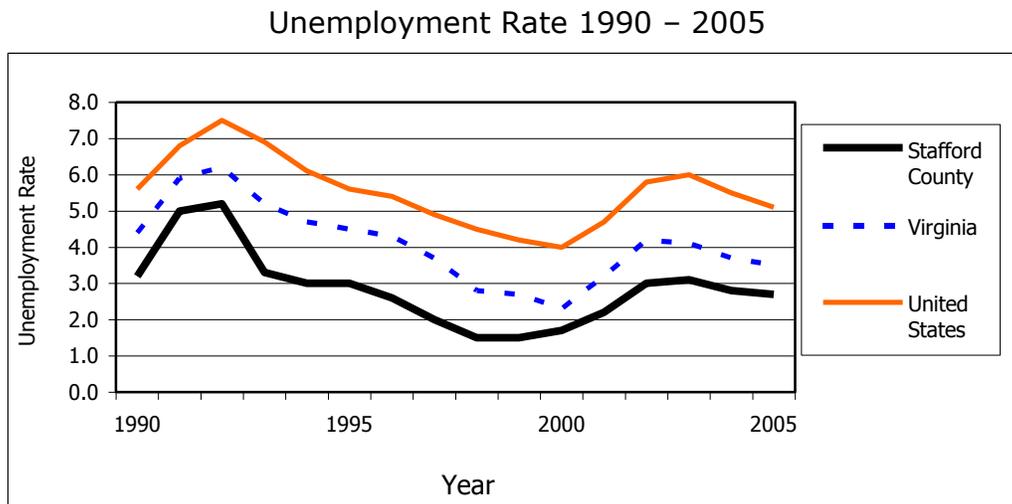
In 2000, Stafford County had a higher percentage (76%) of its residents 16 years of age or older in the labor force than all comparison areas except Prince William County. The size of the labor force provides an indication of the availability of workers in the community for businesses seeking to relocate into the area.

Table 6.15 Labor Force Characteristics – 2000  
Stafford County, VA and Comparison Areas

	<b>Stafford County</b>	<b>Fauquier County</b>	<b>King George County</b>	<b>Prince William County</b>	<b>Spotsylvania County</b>	<b>City of Fredericksburg</b>	<b>State of Virginia</b>
Total	66,359	42,007	12,632	204,002	66,138	16,157	5,529,980
In labor Force	50,424	29,446	8,723	157,254	47,747	10,906	3,694,663
Unemployed	1,387	745	345	4,460	1,501	1,035	151,125
Percent in Labor Force	76.0%	70.1%	69.1%	77.1%	72.2%	67.5%	66.8%
Percent in Labor Force Unemployed	2.8%	2.5%	4.0%	2.8%	3.1%	9.5%	4.1%

Source: US Bureau of Census and design based planning, inc.

The unemployment rate is an indicator of the level of employment in the area. The graph that follows shows that between 1990 and 2005, Stafford County has consistently had a lower unemployment rate than both the State and Nation as a whole. Stafford County's unemployment rate has been 3% or less since 1994.



Source: US Department of Labor – Local Area Unemployment Statistics – 2005

6.4.2 At-Place Employment

In 2000, the primary employment sector in Stafford County was public administration (16%). Stafford County had a higher percentage of jobs in this employment sector than all comparison communities except King George County (21%). Other important employment sectors for Stafford County were retail trade (11%), construction (10%), and health care and social assistance (9%). The primary employment sectors within the State as a whole were retail trade (11%), manufacturing (11%), and health care and social assistance (10%).

Table 6.16 Industries of Employment – 2000  
Stafford County, VA and Comparison Areas

	Stafford County	Fauquier County	King George County	Prince William County	Spotsylvania County	City of Fredericksburg	State of Virginia
Agriculture, forestry, fishing and hunting, and mining:	0.3%	4.0%	2.0%	0.3%	0.7%	0.3%	1.3%
Construction	10.0%	11.5%	10.3%	8.9%	9.6%	6.4%	7.3%
Manufacturing	4.6%	6.3%	6.9%	4.7%	5.7%	4.8%	11.3%
Wholesale trade	2.7%	3.4%	2.5%	2.2%	3.8%	3.1%	2.7%
Retail trade	11.3%	11.1%	11.7%	12.0%	13.1%	13.2%	11.4%
Transportation and warehousing	4.2%	4.1%	3.8%	4.7%	4.8%	2.1%	3.8%
Utilities	0.8%	0.8%	1.4%	0.8%	1.9%	0.5%	0.8%
Information	3.5%	5.4%	1.9%	5.1%	2.6%	2.7%	3.8%
Finance and insurance	5.0%	4.4%	3.4%	3.7%	7.0%	7.2%	4.8%
Real estate and rental and leasing	1.9%	2.5%	2.3%	1.9%	1.5%	1.9%	1.8%
Professional, scientific, and technical services	8.5%	9.6%	9.6%	11.3%	6.9%	8.7%	8.3%
Management of companies and enterprises	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Administrative and support and waste management services	3.2%	2.9%	3.2%	3.9%	3.0%	3.5%	3.3%
Educational services	8.1%	7.7%	5.3%	6.9%	7.7%	12.6%	8.6%
Health care and social assistance	8.6%	8.2%	6.4%	8.6%	7.9%	9.2%	9.7%
Arts, entertainment, and recreation	1.6%	2.0%	0.8%	1.3%	1.4%	2.4%	1.5%
Accommodation and food services	4.7%	3.4%	3.8%	4.9%	5.6%	8.7%	5.7%
Other services (except public administration)	5.3%	5.1%	3.5%	5.4%	5.0%	4.2%	5.4%
Public administration	15.5%	7.6%	21.3%	13.2%	11.8%	8.4%	8.3%

Source: US Census and design based planning, inc.

The highest paying employment sectors in 2004 were management of companies and enterprises (\$82,539), utilities (\$73,040), and finance and insurance (\$73,010), based on national average salaries generated by the US

Department of Commerce, Bureau of Economic Analysis. The lowest paying industries of employment were accommodation and food services (\$19,934), agriculture, forestry, fishing and hunting (\$26,371) and retail trade (\$28,216). Employment sectors important to Stafford County had the following average salaries: public administration \$46,941; retail trade \$28,216; construction \$41,945; and health care and social assistance \$40,328.

### Occupations of Stafford County Residents

In 2000, the predominant occupation types for Stafford County residents, regardless of their work location, were professional and related occupations (24%), management, business and financial occupations (17%) and office and administrative support (15%). A similar pattern was noted among comparison areas.

Table 6.17 Occupations – 2000  
Stafford County, VA and Comparison Areas

	Stafford County	Fauquier County	King George County	Prince William County	Spotsylvania County	City of Fredericksburg	State of Virginia
Management, business, and financial operations occupations	16.9%	18.5%	10.8%	18.0%	14.7%	11.7%	15.5%
Professional and related occupations	24.1%	21.0%	27.2%	23.2%	20.2%	25.6%	22.7%
Healthcare support occupations	1.1%	1.0%	1.4%	1.1%	1.2%	1.5%	1.6%
Protective service occupations	3.9%	2.2%	2.4%	3.4%	3.1%	2.5%	2.1%
Food preparation and serving related occupations	3.6%	3.1%	3.6%	3.5%	4.1%	6.7%	4.3%
Building and grounds cleaning and maintenance occupations	2.0%	3.1%	3.1%	2.4%	2.6%	3.8%	3.0%
Personal care and service occupations	2.7%	3.5%	1.9%	3.0%	2.4%	3.0%	2.7%
Sales and related occupations	10.3%	10.6%	9.2%	10.2%	11.6%	12.8%	10.5%
Office and administrative support occupations	15.4%	14.8%	15.2%	17.5%	15.9%	14.0%	14.9%
Farming, fishing, and forestry occupations	0.1%	1.3%	0.9%	0.1%	0.2%	0.1%	0.5%
Construction and extraction occupations	7.1%	7.8%	7.3%	6.1%	6.7%	5.8%	5.8%
Installation, maintenance, and repair occupations	4.6%	4.7%	4.1%	4.1%	5.2%	3.0%	3.9%
Production occupations	3.0%	3.6%	5.3%	3.0%	5.0%	4.3%	7.0%
Transportation and material moving occupations	5.0%	4.7%	7.8%	4.2%	7.2%	5.2%	5.5%

Source: US Census and design based planning, inc

### 6.4.3 Resident Income

Per capita and median household incomes are two measures of a community's wealth. Per capita income better reflects the wealth of the community while median household income better reflects the distribution of income within the community. Per capita income is determined by dividing the total income of residents by the population. The median household income is the level at which the number of households with higher incomes is equal to those with less.

In 1999, Stafford County had a median household income of \$66,809 and a per capita income of \$24,762. Among comparison areas, Stafford County had the highest median income but Fauquier County (\$28,757) and Prince William County (\$25,641) had higher per capita incomes. Stafford County had the lowest poverty rate (3.5%) among all comparison areas and the City of Fredericksburg had the highest (15.5%) in 1999.

Table 6.18 Income Characteristics – 1999  
Stafford County, VA and Comparison Areas

Household Income	Stafford County	Fauquier County	King George County	Prince William County	Spotsylvania County	City of Fredericksburg	State of Virginia
Less than \$25,000	10.5%	14.5%	19.3%	10.0%	14.7%	34.4%	24.6%
\$25,000 to \$49,999	22.2%	23.5%	30.9%	23.6%	26.7%	31.4%	28.6%
\$50,000 to \$74,999	25.7%	23.5%	22.6%	24.6%	26.4%	17.1%	20.3%
\$75,000 to \$99,999	20.7%	14.6%	15.3%	18.2%	17.1%	7.0%	11.4%
\$100,000 to \$149,999	15.5%	15.2%	8.5%	17.0%	11.4%	5.6%	9.4%
\$150,000 to \$199,999	3.4%	4.2%	2.0%	4.4%	2.2%	2.3%	3.0%
\$200,000 or more	2.0%	4.4%	1.5%	2.2%	1.6%	2.2%	2.7%
<b>Median Household Income in 1999</b>	\$66,809	\$61,999	\$49,882	\$65,960	\$57,525	\$34,585	\$46,677
<b>Per Capita Income in 1999</b>	\$24,762	\$28,757	\$21,562	\$25,641	\$22,536	\$21,527	\$23,975
<b>Percent Below Poverty</b>	3.5%	5.4%	5.6%	4.4%	4.7%	15.5%	9.6%

Source: US Census Bureau and design based planning, inc.

According to the US Census Bureau, Stafford County's median household income in 2003 was \$75,456 compared to \$50,028 within the State as a whole.

#### 6.4.4 Business Activity

The number of businesses in Stafford County grew by 38% between 2000 and 2005, from 1,394 to 1,928, according to statistics provided by the Stafford County Department of Economic Development. Between March 2000 and March 2005, 6,336 new jobs were created, a 27% increase. During the same time period, the State's rate of new job creation was 2% annually compared to the County's rate of 5%.

Table 6.19 Major Private Sector Employers - 2005  
Stafford County, VA

Firm	Type	Number of Employees
Anteon Corporation	Government Technology Services	91
Applied Ordnance Technology	Defense Engineering Support	120
BAE Systems	Weapon Systems	200
Battelle	Research & Development	130
Coca Cola Bottling Company	Sales and Distribution	110
Dominion Virginia Power	Electricity	152
Federal Express & Federal Express Ground	Delivery Service	95
Fredericksburg Auto Auction	Dealer Auction	175FT/400 PT
GEICO Insurance	Regional Headquarters	3,900
Hilldrup United Moving and Storage	United Van Lines	200
Intuit, Inc.	Computer Services	625
Lifecare	Medical Transports	250
McLane Mid-Atlantic	Retail Distribution	850
MTC Services Corporation	Defense Research & Development	170
Northrop Grumman	Information Technology/Logistics	300

Source: Stafford County Economic Development

#### 6.4.5 Quantico Marine Corps Base

The Quantico Marine Corps Base is home to the Marine Corps Combat Development Command and the Presidential Helicopter Squadron. Quantico occupies 32,753 acres in Stafford County. Over 6,000 Marines are stationed at the base and most live with their families in the surrounding area. The Base also employs approximately 7,500 civilians. Quantico has an annual military payroll of \$348 million and an annual civilian payroll of \$471 million. Approximately 3,000 new jobs are expected by 2011 as a result of actions Congress took during its most recent round of Base Realignment and Closure (BRAC) activities.

The FBI Academy and the FBI National Crime Lab are also located on the Quantico Marine Corps Base. The FBI National Crime Lab relocated to Stafford in 2003 and has over 900 employees. The Marine Corps University and several

advanced training schools are also located at Quantico. The Marine Corps Systems Command is a tenant on the base that has both civilian and military employees and an annual budget of \$2 billion.

### 6.4.6 *Agriculture*

Although agriculture's economic role has been diminished in the County, it is still a defining characteristic of the area. According to the 2007 USDA Census of Agriculture, the most recent year for which information was available, Stafford County had 233 farms in operation that occupied 19,816 acres of land. The average farm size was 85 acres and the market value of production was \$2,798,000. Each of these statistics showed an increase between 1997 and 2002. In comparison with the last census in 2002, the number of farms in operation decreased from 236, the number of acres being farmed decreased from 26,128, the average farm size decreased from 111 acres and the market value of production saw a slight increase from \$2,485,000.

### 6.4.7 *Comprehensive Economic Strategic Plan*

The Stafford Department of Economic Development and Tourism engaged a consultant in 2006 to assist in drafting the Comprehensive Economic Development Plan. The purpose of the Plan is four-fold:

- Assist the County in attracting new businesses and industries to aid in community growth
- Develop employment opportunities in Stafford for County residents
- Diversify the tax base
- Enhance Stafford's quality of life.

The Plan included 51 recommendations that are sustainable because they promote consistent and long-term growth, and strategic, because they are designed to reach the County's long-term objectives. Recommendations were organized into the following economic areas:

- Marketing
- Interdepartmental Cooperation
- Community Communication
- Tourism
- Development Sites
- Business Retention Efforts
- Business Recruitment Efforts
- Process

The Plan includes a review of existing economic development efforts, a review of current economic conditions and an assessment of the forces that shape the economy of Stafford now. These include an assessment of the large – and growing – impact of the military on Stafford from Quantico Marine Corps Base and also from Fort A.P. Hill in Caroline County, and Dahlgren. Additionally, the

Plan recognizes defense contracting among private sector players as an important and growing influence on Stafford County. An equally important and growing sector is relocation of Federal employees as new buildings meeting post-9/11 building standards are constructed farther and farther from Washington, D.C.

An analysis of the potential private sector development efforts found Stafford should focus on development of the wholesale trade and transportation, and warehouse industries. Distribution center locations are central to a company's overall success as distribution center costs can be as much as 60 percent of a company's total distribution expense. Stafford's location could be strategic for companies including those currently located in Northern Virginia. The Plan acknowledges companies are moving out of the northeast because of delays caused by traffic jams. However, it does not note the traffic problems associated with I-95 in Stafford.

The Plan's analysis of compensation finds that workers in Stafford are generally compensated at a lower rate than workers in Virginia and the nation as a whole. Stafford workers commute from the County to higher-paying jobs elsewhere to support lifestyles they earn with median incomes 43 percent higher than the State median in 2000 and 59 percent higher than that of the Nation.

High growth employment sectors in 2000 to 2003 developing within Stafford according to a shift-share analysis executed for the Plan include professional, scientific and technical services and administration, support, waste management and remediation services. Other growth areas include construction, wholesale and retail trade, transportation and warehousing, educational services and arts, entertainment and recreation. Manufacturing suffered jobs losses, as did management of companies and enterprises, although that sector's employment base is relatively small to begin with.

The shift-share and cluster analysis found the following industries "of note", showing potential for employment growth:

- Finance and Insurance
- Professional Business or Technology Firms
- Wholesale Trade
- Construction
- Arts Entertainment and Recreation (although tempered by its lower-paying job status)

Four opportunity sites are identified by the Plan: Boswell's Corner; the Courthouse area; Historic Falmouth; and Southern Gateway. With 2,400 civilian and 500 military jobs potentially moving to Quantico through the most recent round of BRAC, Boswell's Corner is poised for explosive growth. The area is now the focus of concentrated high-quality growth.

Similarly, the Courthouse area, which is the nerve center of Stafford County but never developed as a downtown, is on the verge of explosive growth. This is evident with the hospital development, as well as continued expansion of the County's headquarters including the new Public Safety Building and Fire and Rescue Station under development. Both the Economic Development Plan and the public input for this Comprehensive Plan identified the Courthouse area as a location where local residents would like to see higher density, pedestrian-friendly growth.

### 6.4.8 Findings

- Stafford County has had a significantly lower unemployment rate than the State and the Nation for over a decade
- In 2000, the primary employment sector for residents of Stafford County was education, health and social services
- The most common occupation type for County residents in 2000 was professional and related occupations at 24% of the workforce
- Stafford County had the highest median income and lowest poverty rate among comparison areas in 1999
- Between 2000 and 2005, the number of businesses grew by 38% and new jobs increased by 27% in Stafford County
- Job creation occurred at a faster rate in Stafford County than the State as a whole from 2000 to 2005
- The County's annual revenues and expenditures have grown in line with its population
- The County's Comprehensive Economic Development Plan identified a series of 51 recommendations aimed at increasing the County's economic competitiveness, increasing employment opportunities and diversifying the local economy
- Boswell's Corner, the Courthouse area, Historic Falmouth, and the Southern Gateway are special planning areas



## 6.5 Historic and Cultural Resources

### 6.5.1 A Brief History of Stafford County

Stafford County was established in 1664 and originally encompassed most of northern Virginia, including the areas which later became the Counties of Arlington, Fairfax and Prince William and the City of Alexandria.

Stafford County's prehistory is documented with fossil remains of small sea creatures that can be found along the rivers and tributaries. Artifacts identified through archaeological study tell us that prehistoric man occupied Stafford County from the Paleo-Indian Period (ca. 10,000-8,000 B.C.) through the Archaic Period (ca. 8,000-500 B.C.), during which people lived in seasonal, nomadic groups, and the Woodland Period (ca. 500 B.C.- A.D.1600), which is characterized by the establishment of permanent settlements and an emphasis on agricultural practices.

In 1608, John Smith mapped the major rivers, tributaries, and Native American settlements of the Chesapeake Bay area, including substantial portions of Stafford County. Powhatan, chief of the Potowomeks, and his daughter Pocahontas, were associated with these settlements, which included the large village of Potowomek, located at what is now Marlborough Point.

Stafford County has strong connections to events that shaped our nation's history. Rich arable land and early colonial industries, such as iron manufacturing and quarrying of sandstone and granite, attracted important families, such as the Brents, Carters, Masons, Fitzhughs, Mercers, and Washingtons. During the Revolutionary War, James Hunter's Iron Works contributed significantly to earning our freedom from British rule by supplying weapons and implements to the Continental Army and Navy.



Falmouth, founded on the north side of the Rappahannock River, was a prominent port town throughout the 18<sup>th</sup> century and the first quarter of the 19<sup>th</sup> century. It was the terminus for goods, including tobacco and flour, transported east from Warrenton and shipped to England in exchange for a variety of products. Enslaved Africans were also shipped to Falmouth where slave auctions were held.



Like other port towns of the colonial period, Falmouth attracted Scottish entrepreneurs, such as Basil and Samuel Gordon. The Gordons established a thriving marketing industry. The town also supported a number of water mills that flourished mostly due to the transition from tobacco cultivation to grain.

Stafford County residents rallied to defend the country during the War of 1812 by establishing the 45<sup>th</sup> Virginia Militia Regiment, which defended both Stafford and Westmoreland Counties. British troops rampaged through areas of the County en route to Washington, D.C.

In the first half of the 19<sup>th</sup> century, Stafford County experienced the rise of the railroad. In 1834, the Richmond, Fredericksburg and Potomac Railroad opened its first segment, connecting Fredericksburg with Richmond. Then in 1842, the railway was extended north to Aquia Landing and eventually to Washington, D.C.

Situated halfway between the Union and Confederate capitals, Stafford County became a crossroads of military activity during the Civil War. The federal forces arrived en masse in the latter part of 1862. During the Fredericksburg and Chancellorsville campaigns, November 1862 through June 1863, Stafford County was occupied by more than 100,000 troops. The effect of the Federal Army's presence on the Stafford County landscape and economy was devastating. The army denuded the County of its trees and fences, agricultural fields were trampled and neglected, and foraging troops

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“liberated” food and other essentials from the civilian population. Four years of warfare left Stafford County barren and ravaged. The effects of the Civil War remained visible on the landscape into the 20<sup>th</sup> century.



After the Civil War, Stafford County struggled to regain its former economic stability. The agricultural practices of Stafford at this time were characterized by a transition from grain crops to dairying and market gardening. Large family farms were still present, but several were subdivided—many producing only enough to sustain the immediate family and their livestock. This period also saw the rise of the fishing industry in Stafford County.

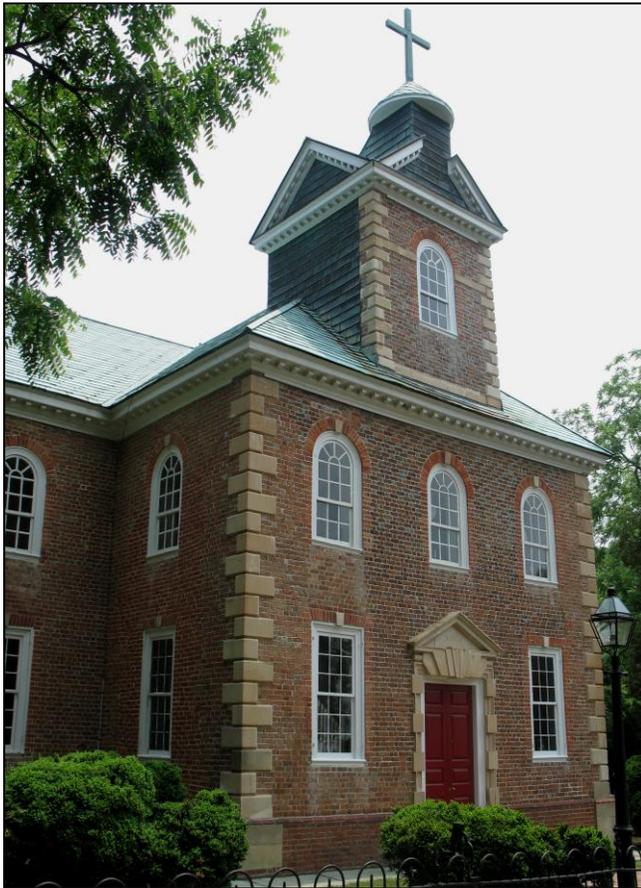
From the early 20<sup>th</sup> century through the end of World War II, Stafford County witnessed growth with the construction of U.S. Highway 1, expansion of Quantico Marine Corps Base to the north, and establishment of Fort A. P. Hill to the south and Dahlgren Naval Base to the east. With the rapid expansion of the Washington, D. C. metropolitan area and the construction of the Federal Interstate Highway System (I-95) in the late 1960s, Stafford County witnessed the creation of many suburban residential communities and commercial developments.

Stafford’s long agricultural heritage is now being offset by an increasing emphasis on commercial enterprise. Stafford is now faced with issues of growth, conservation of natural and heritage resources, and maintaining a sense of community and place.

### 6.5.2 *Known Heritage Resources*

Stafford County's heritage resources are identified and evaluated through several mechanisms, including the National Register of Historic Places Program, the Virginia Landmarks Register Program, the Stafford County Historic Resource Overlay District designation, the National Historic Landmarks Program, and the Stafford County Cultural Resource Inventory designation.

The National Register of Historic Places, which is administered by the National Park Service, is the nation's official list of cultural resources worthy of preservation. Stafford County currently has 14 listings in the National Register of Historic Places, but several other properties have been determined eligible for this prestigious listing.



#### **Aquia Episcopal Church, 1751-1755**

Listed on the National Register and the Virginia Landmarks Register, and designated as a Stafford County Historic Resource Overlay District and a National Historic Landmark, Aquia Episcopal Church is one of Stafford County's most significant historic properties.

The Virginia Landmarks Register, administered by the Virginia Department of Historic Places, is the state's official list of properties that are significant to Virginia's history. There are currently 15 Stafford County resources listed in the Virginia Landmarks Register.

The Stafford County Board of Supervisors designates historic places as Stafford County Historic Resource Overlay Districts by ordinance. Properties included within historic overlays must have public value and warrant conservation and preservation. There are now 23 Stafford County Historic Resource Overlay Districts.

The National Historic Landmark Program designates nationally significant historic places that possess exceptional value or quality in illustrating or interpreting the heritage of the United States. Today, fewer than 2,500 historic places in the United States bear this distinction. While there are many

important historic places in the United States, only a small number qualify for the National Historic Landmark Program. Three Stafford County sites—Belmont, Ferry Farm, and the Aquia Episcopal Church—have been designated as National Historic Landmarks.

### 6.5.3 Stafford County Cultural Resource Inventory

As a Certified Local Government, Stafford County is required to periodically update and maintain an inventory of known cultural resources. The Department of Planning & Zoning maintains the Stafford County Cultural Resource Inventory. As of May 1, 2008, over 1,500 resources were included in the inventory. Resources include historic buildings, archaeological sites, and over 430 family and community cemeteries.

### 6.5.4 Significant Cultural Resources

The table below lists some of Stafford County’s most significant cultural resources. Most are currently listed in the National Register of Historic Places or Virginia Landmarks Register or designated as a National Historic Landmark or Stafford County Historic Resource Overlay District. Properties recorded with no distinction have been determined eligible for the National Register of Historic Places. As more intensive survey continues in the County, additional resources may be determined worthy of listing.

Table 6.20 Significant Heritage Resources;  
Stafford County, VA

Property	Location	National Register	Virginia Landmark	Stafford County Historic Resource Overlay District	National Historic Landmark	Eligible for National Register but not Currently Listed
Accokeek Furnace Site	Address Restricted	X	X	X		
Aquia Episcopal Church	3938 Jefferson Davis Highway	X	X	X	X	
Belmont (Gari Melcher Home)	224 Washington Street	X	X	X	X	
Bloomington House Site & Adie Cemetery	Patowomack Park					X
Aquia Landing Aquia Landing Battlefield	Aquia Creek & Potomac River					X
Redoubt #2 (Brockman’s Fort or Fort No Name)	15 Old Fort Road	X	X	X		
Brent Cemetery	Address Restricted			X		X
Carlton	501 Melchers Drive	X	X	X		
Chatham (within Fredericksburg-Spotsylvania National Military Park)	120 Chatham Lane	X	X			
Clearview	22 Strawberry Lane	X	X	X		
Civil War fortifications (4), encampments (2), corduroy road, 18 <sup>th</sup> –19 <sup>th</sup> century quarries (2), sandstone bridge abutments & roadbed (Old Potomac Church Road)	Rappahannock Regional Landfill					X
Clifton Chapel	60 Clifton Chapel Lane					X
Crucifix Monument	3140 Jefferson Davis Highway			X		X

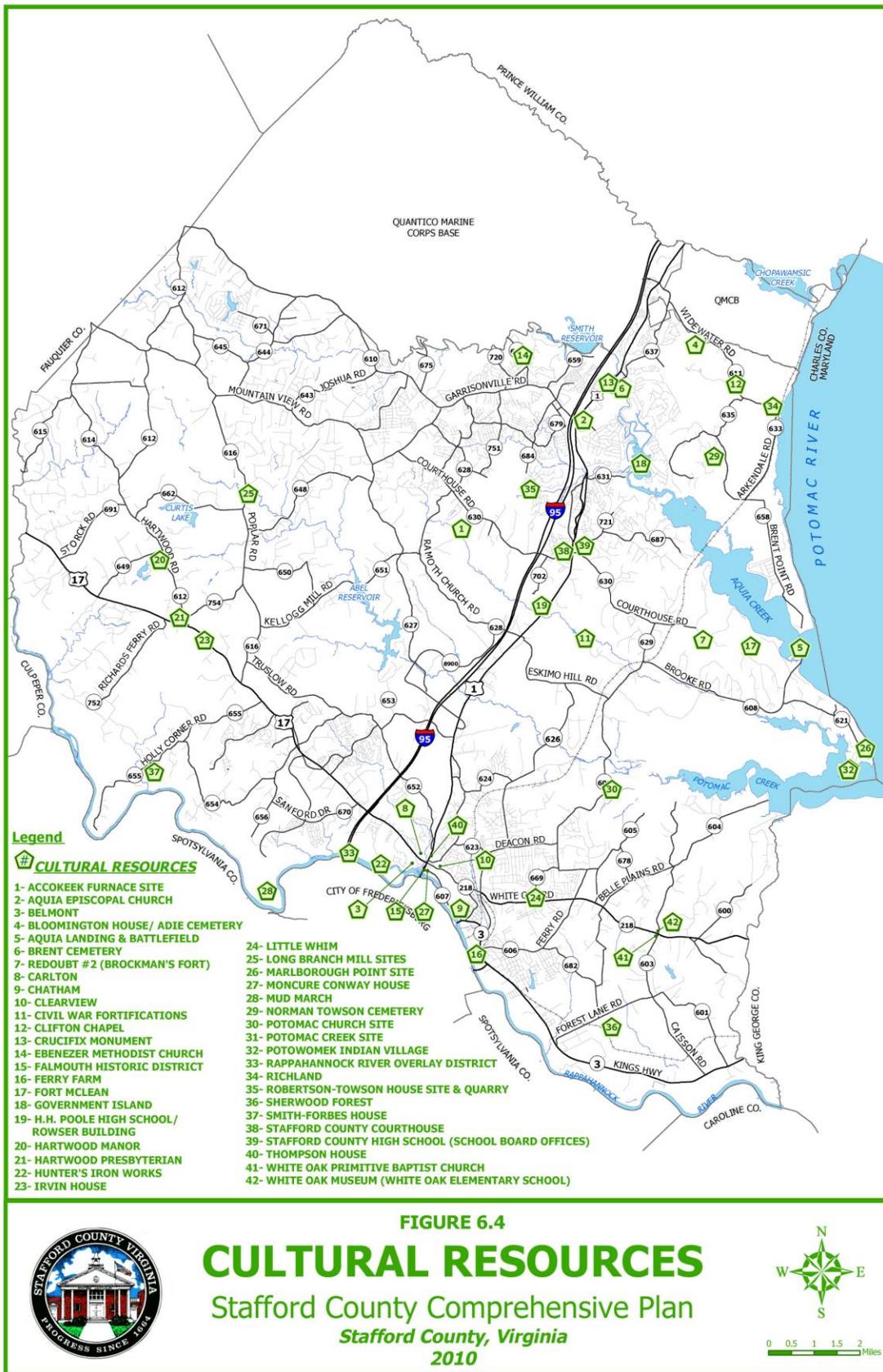
Property	Location	National Register	Virginia Landmark	Stafford County Historic Resource Overlay District	National Historic Landmark	Eligible for National Register but not Currently Listed
Ebenezer Methodist Church	168 Onville Road			X		X
Falmouth Historic District	Hwy 1 & Hwy 17	X	X	X		
Ferry Farm	240 Kings Highway	X	X	X	X	
Fort McLean	End of Courthouse Road. 40-56B			X		X
Government Island	Aquia Creek & Austin Run	X	X	X		
H.H. Poole High School (Rowser Building)	1739 Jefferson Davis Highway					X
Hartwood Manor	335 Hartwood Road			X		X
Hartwood Presbyterian Church	50 Hartwood Road	X	X	X		
Hunter's Iron Works	138 Blaisdell Lane	X	X			
Irvin House	1791 Warrenton Road					X
Little Whim	375 White Oak Road			X		X
Long Branch Mill Sites	Long Branch down to Poplar Rd, West Stafford					X
Marlborough Point Site (Town of Marlborough Archaeological Site)	Marlborough Point	X	X	X		
Moncure Conway House	305 King Street	X	X	X		
Mud March, Union 5 <sup>th</sup> Corps Advancement along River Road, Battle of Chancellorsville	Stafford & Spotsylvania Counties		X			X
Norman-Towson Cemetery	Quarry Road					X
Potomac Church Site	1090 Brooke Road	X	X			
Potomac Creek Site (Potowomek Indian Village)	Address Restricted	X	X			
Rappahannock River Historic Overlay District	see historic overlay map			X		X
Richland	945 Widewater Road					X
Robertson-Towson House Site & Quarry	Austin Ridge Subdivision, adjacent to community pool					X
Sherwood Forest	971 Kings Highway 59-71D, 59-71.					X
Smith-Forbes House	58 Westebe Lane			X		X
Stafford County Courthouse	2119 Jefferson Davis Highway			X		
Stafford County High School (Stafford School Board Offices)	31 Stafford Avenue					X
Thompson House	122 Cambridge Street			X		X
White Oak Museum (White Oak Elementary School)	985 White Oak Road			X		X
White Oak Primitive Baptist Church	8 Caisson Road	X	X	X		

Source: Stafford County Department of Planning &amp; Zoning

\* A State Owned Resource

### 6.5.5 Findings

- A large number of historic and cultural resources are located in Stafford County
- The Cultural Resources Management Plan uses the land development process to identify and protect cultural resources
- Procedures for identification and protection of historic and cultural resources are recommended but not mandatory; the County's adoption of the Cemetery ordinance codifies these procedures for cemeteries. Adoption of a Historic Preservation Ordinance would further strengthen the protection of historic and cultural resources.



## 6.6 Community Facilities

The ability to provide adequate services help to shape a community and make it a desirable place to live. These services include public safety, education and cultural amenities, and waste management. This section explores the services that are provided in Stafford County. Several maps in this section identify the location of community services in the County.

**Community Facilities**

- Schools
- Law Enforcement
- Correctional Facilities
- Fire and Rescue
- Libraries
- Hospitals
- Waste Management

### 6.6.1 Public Schools

As Stafford County’s population has steadily increased, so too has its student enrollment figures. The average daily membership (ADM) for Stafford County Public Schools was 9,761 students in 1982, and has since climbed to 25,852 students for the 2009-10 school year. As of March 31, 2010, the Stafford School District had 11,324 elementary school students, 6,309 middle school students and 9,016 high school students. Although the rate of school enrollment increase has slowed within the last four years, the School Board projects that enrollments will continue to increase through 2015-16 to 27,917 students.

Currently the County operates 30 schools (17 elementary schools, 8 middle schools and 5 high schools). The table below provides basic data on each school and a map identifies their location in the County.

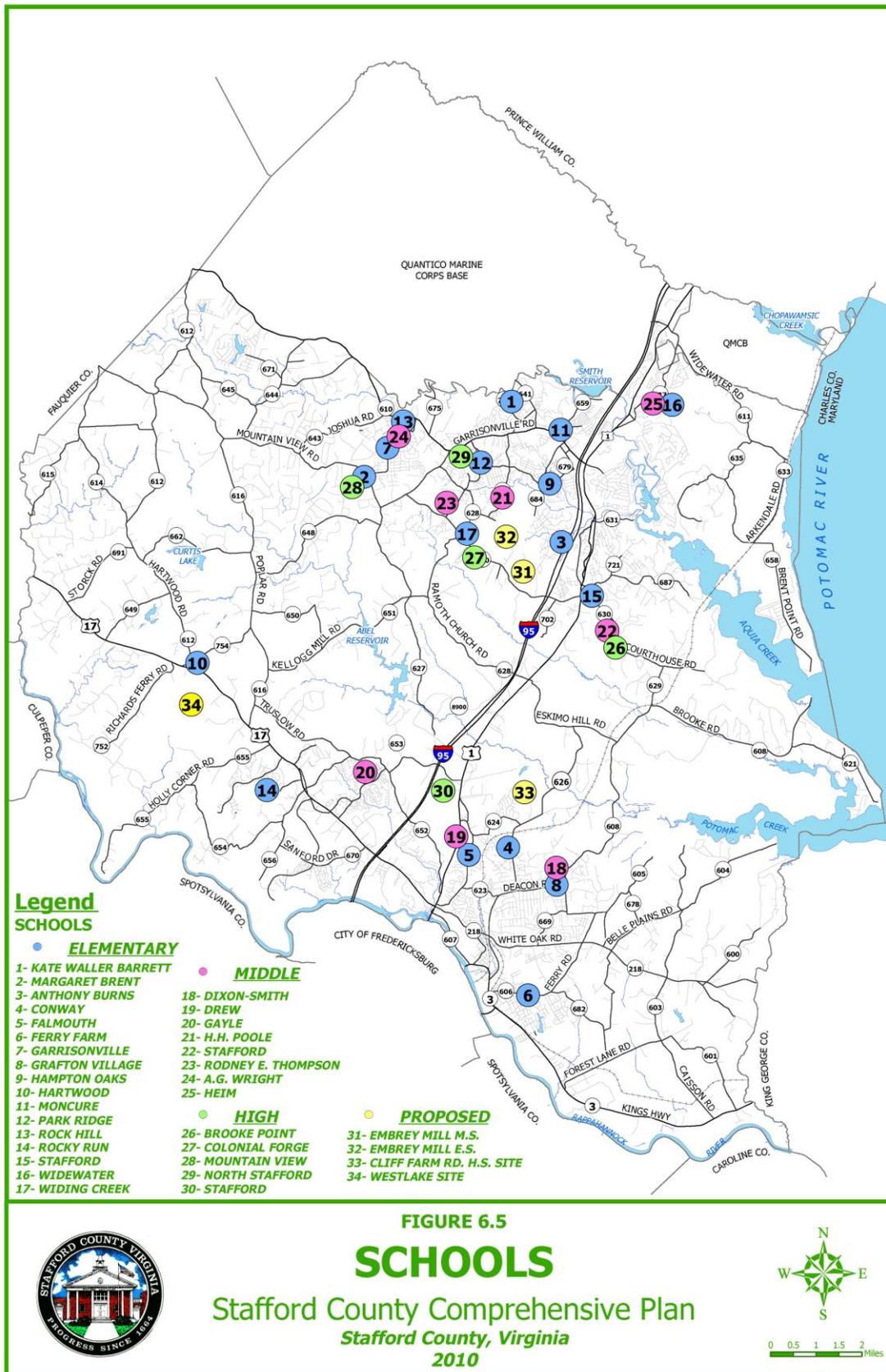
Table 6.21 Stafford County Public Schools

School	Location	Average Daily Membership 2009-2010	Operational Capacity	Construction Date
<b>Elementary Schools (Pre-K-Grade 5)</b>				
Kate Waller Barrett	150 Duffey Dr.	707	950	2002
Margaret Brent	2125 Mountain View Rd.	772	950	2004
Anthony Burns	60 Gallery Rd.	756	950	2006
Conway	105 Primmer House Rd.	821	950	2006
Falmouth	1000 Forbes St.	556	794	1967; Addition -1997
Ferry Farm	20 Pendleton Rd.	539	732	1957; Additions - 1963, 1989, 1992
Garrisonville	100 Wood Dr.	548	768	1981; Addition- 1999

School	Location	Average Daily Membership 2009-2010	Operational Capacity	Construction Date
Grafton Village	501 Deacon Rd.	594	754	1967; Additions - 1977, 1996
Hampton Oaks	107 Northampton Blvd.	723	950	1992; Addition - 1996
Hartwood	14 Shackelford's Well Rd.	604	649	1963; Additions - 1966, 1989, 1993
Anne E. Moncure	75 Moncure Ln.	667	754	1966; Additions - 1973, 1997
Park Ridge	2000 Parkway Blvd.	644	843	1990; Addition - 1994
Rock Hill	50 Wood Dr.	586	843	1989; Addition - 1994
Rocky Run	95 Reservoir Rd.	854	950	2000
Stafford	1349 Courthouse Rd.	605	794	1968; Addition - 1996
Widewater	101 Den Rich Rd.	627	843	1988; Addition - 1995
Winding Creek	475 Winding Creek Rd.	721	925	1997
<b>Middle Schools (Grades 6-8)</b>				
Dixon-Smith	503 Deacon Road	905	1,100	2006
Edward E. Drew	501 Cambridge St.	423	800	1951; Additions - 1957, 1990 and 1998
T. Benton Gayle	100 Panther Drive	882	1,100	2002
Shirley C. Heim	320 Telegraph Road	783	1,100	2008
H. H. Poole	800 Eustace Rd.	913	1,100	1995; Addition - 1998
Stafford Middle	101 Spartan Dr.	511	1,100	1991
Rodney E. Thompson	75 Walpole St.	1084	1,100	2000
A. G. Wright	100 Wood Dr.	808	920	1981; Addition - 1999
<b>High Schools (Grades 9-12)</b>				
Brooke Point	1700 Courthouse Rd.	1,631	1,800	1993
Colonial Forge	550 Courthouse Rd.	<b>2,018</b>	1,800	1999
Mountain View	2135 Mountain View Rd.	<b>1,842</b>	1,800	2005
North Stafford	839 Garrisonville Rd.	1,667	1,925	1981; Addition - 2003
Stafford	33 Stafford Indian Ln.	<b>1,858</b>	1,800	1975; AIMIE Bldg -1981

Source: Stafford County Public Schools as of 6/10;

Enrollment figures in **bold** exceed operational capacity



In order to appropriately serve its growing student population, Stafford County has made a significant investment in public school facilities. Since 1986, the County has constructed 10 elementary schools, five middle schools and three high schools. The County has also replaced a middle school, and made additions and upgrades to all three levels of schools. Two new facilities opened for the 2006-07 school year: Anthony Burns Elementary School and Dixon-Smith Middle School. One facility opened for the 2008-09 school year: Shirley Heim Middle School.

The Stafford County Public Schools Capital Improvement Program (CIP) for fiscal years 2011 to 2016 includes construction of a replacement high school and a Career and Technical Facility, renovations at 5 elementary schools, expanded support facilities, and site improvements to existing facilities.

### Adult Education

Stafford County Public Schools also provide adult education courses at several middle and high school locations during the Spring and Fall. Courses are offered in the evenings and are generally 10 weeks in length. These low-cost courses cover topics such as computer concepts, home gardening, automotive maintenance, culinary basics, AutoCAD, wardrobe maintenance, home horticulture, and basic home repair and maintenance.

### *6.6.2 Law Enforcement*

The Stafford County Sheriff's Office provides countywide law enforcement services. Supplemental services are also provided to the Counties of Spotsylvania, Prince William, Fauquier, and King George and the City of Fredericksburg with whom the County has mutual aid agreements. The Sheriff's Office has a total of 221 employees that includes 148 sworn officers, 6 animal control personnel, 30 civilian personnel, and 37 emergency communication center personnel.

During 2005, the emergency communications center received 143,410 calls, of which 51% (73,390 calls) were calls for service to which an officer responded. Officers made 8,429 arrests in 2005. In 2004, a total of 150,011 calls were received and 73,390 of those (49%) were calls for service. Between 2004 and 2005, the total number of calls received decreased by 4.4% but the number of calls for service increased by 3.9%. Between 2000 and 2005, the number of total calls received increased by 6.4% and calls for service increased by 12.6%.

The Sheriff's Office headquarters are in the new Public Safety Building located on Courthouse Road adjacent to the Administration Complex. Two satellite buildings are rented to house Narcotic investigations, Policy & Strategic Planning, Professional Standards, and Crime Prevention. The Sheriff's Office occupies about 40,000 sq. ft of the public safety building, housing the Sheriff's operation, Emergency Communications, and Emergency Management

Services. This new facility is expected to meet the facility needs of the Sheriff's Office for a 20- to 25-year life period.

### 6.6.3 *Correctional Facilities*

The Rappahannock Regional Jail, located at 1745 Jefferson Davis Highway, serves the adult corrections needs of the Counties of Stafford, Spotsylvania, and King George, and the City of Fredericksburg. A new 264,000 square foot, state-of-the-art corrections facility was opened in June 2000 which has a 662-bed capacity that can expand to 1,200. The jail authority has applied for permission for this expansion.

The Rappahannock Juvenile Detention Center is an 80-bed, 59,000-square-foot facility located at 275 Wyche Road that opened in December 2000. The facility provides pre-dispositional and post-dispositional juvenile detention housing.

The Stafford Correctional Unit #21 located on Eskimo Hill Road is operated by the Commonwealth of Virginia and houses male inmates.

### 6.6.4 *Fire and Rescue*

The Fire and Rescue Department serves the entire County and is headquartered at the new Public Safety Building on Courthouse Road. The Department was established in 2005 as an "all hazards" agency that provides fire, rescue, basic and advanced life support emergency medical service, ambulance transportation and environmental hazard (Haz-Mat) response and mitigation. Other responsibilities of the Department include emergency management, explosive ordnance disposal, building plan review and fire code enforcement, fire and environmental crime investigation, and public education and preparedness. Mutual aid agreements exist with the Counties of Fauquier, King George, Prince William and Spotsylvania, as well as the Quantico Marine Base. In 2005, fire and rescue personnel responded to 19,651 emergency response calls; an increase of 5% from 2002 when the Department responded to 18,706 emergency calls.

The Fire and Rescue Department has a workforce of 60 career officers and 300 volunteers that operate from 14 fire and rescue stations, which are organized into three battalions. Each battalion includes 5 stations. Battalion 1 serves the northern portion of the County, Battalion 2 serves central Stafford, and Battalion 3 serves south Stafford. Seven stations are combined fire and rescue facilities; the remaining eight are stand alone fire or rescue stations. New facilities are designed and built as combination stations. Fire and Rescue Station 2, the newest station near the Courthouse, serves as a replacement station combining Fire 2 and Rescue 1 under one roof. The table that follows lists the stations and their locations.

Table 6.22 Fire and Rescue Stations, Stafford County, VA

Station	Location
Fire-Rescue Co. 1 – Falmouth	250 Butler Rd.
Fire-Rescue Co. 3 – Widewater	749 Widewater Rd.
Fire-Rescue Co. 5 – Brooke	222 Andrew Chapel Rd.
Fire-Rescue Co. 6 – Hartwood	67 Hartwood Church Rd.
Fire-Rescue 9 – Aquia Harbour	1001 Washington Dr.
Fire-Rescue Co. 10 – Potomac Hills	729 Widewater Rd.
Fire-Rescue Co. 12 - Berea	Sebring Way
Fire Co. 2 – Stafford	305 Jason Mooney Drive
Fire Co. 4 – Mountain View	924 Kellogg Mill Rd.
Fire Co. 7 – White Oak	12 Newton Rd.
Fire Co. 8 – Rock Hill	2133 Garrisonville Rd.
Rescue 1 – Stafford	305 Jason Mooney Drive
Rescue 4 – Mountain View	1268 Mountain View Rd.
Rescue 7 – White Oak	535 White Oak Rd.
Rescue 8 – Rock Hill	1565 Garrisonville Rd.

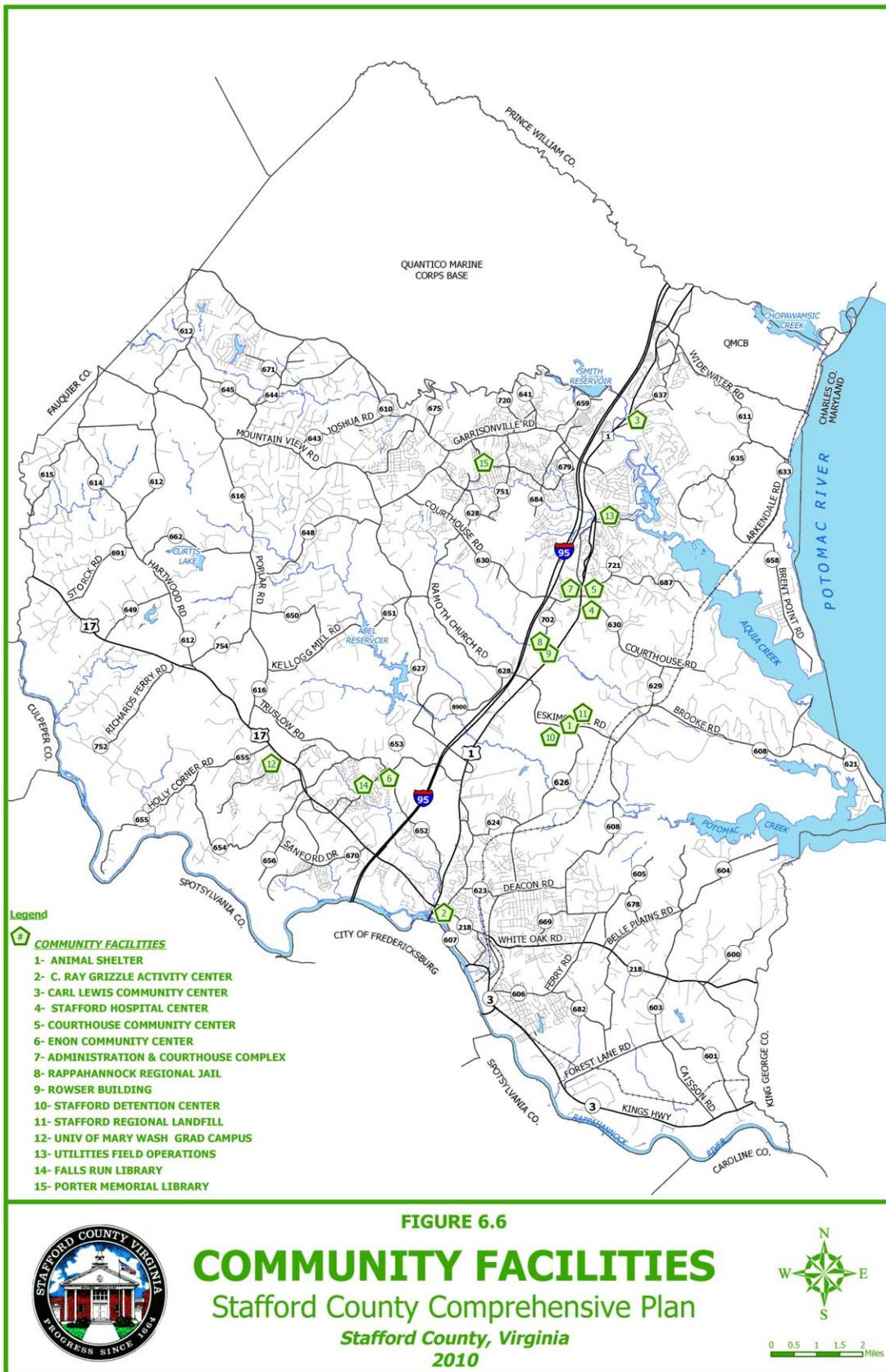
Source: Stafford County Fire and Rescue Department

The Capital Improvements Program for fiscal years 2009 - 2013 identifies the need for two additional fire and rescue facilities: North County and Airport, as well as construction of a Fire and Rescue Training Center.

### 6.6.5 Hospitals

Stafford Hospital Center, the first hospital in Stafford County, opened in 2009 on a 70-acre site on the southeast side of U.S. 1 and Courthouse Road. The hospital is designed to hold up to 100 beds. The site presently includes one medical office building. The facility is operated by MediCorp, the parent company of Mary Washington Hospital.

The next closest facilities are Mary Washington Hospital about 9 miles from central Stafford in the City of Fredericksburg and Potomac Hospital about 16 miles from central Stafford in Woodbridge, VA.



### 6.6.6 *Libraries*

The John Musante Porter Branch of the Central Rappahannock Regional Library system is the only Library within the County and is located at 2001 Parkway Boulevard. The Central Rappahannock Regional Library system consists of seven different branches in the City of Fredericksburg and in Spotsylvania, Stafford, and Westmoreland counties.

The Porter Branch of the Central Rappahannock Regional Library is housed in a 23,000 square foot building that was constructed in 1992. This branch is open daily and houses a collection of 124,672 items. Other features include:

- Public access computers (15) with internet service
- An 80-seat theater that can be partitioned to make two smaller rooms and a 20-seat meeting room
- The Porter Book Club (meets monthly)
- The Atrium that features monthly art exhibits of local artists' works

In 2005, the Porter Branch had over 729,000 library visits and circulated over 2.8 million items.

A second library is under construction. The Falls Run Branch of the library system located at the intersection of Lyons Boulevard and Plantation Drive in the England Run North Community is scheduled to open in the fall of 2010.

### 6.6.7 *Solid Waste*

The Rappahannock Regional Solid Waste Management Board operates the landfill in Stafford County. Residents may deposit household garbage at no charge. Commercial refuse haulers serving residents have to pay to use the landfill. The landfill accepts newspaper, aluminum cans, glass, plastic, cardboard, steel can, oil and office paper for recycling. The landfill is located on 700 acres of land. The County is currently working with the Virginia Department of Environmental Quality to permit an 80-acre area for the landfill for future expansion – an estimated 40-year extension to the life of the facility. The landfill has other sections that could also accommodate the County's growing needs for solid waste disposal.

### 6.6.8 *Virginia Cooperative Extension*

Using a combination of paid and volunteer staff, the Virginia Cooperative Extension (VCE) provides research-based information to County residents in the fields of agriculture/horticulture, 4-H youth development, food, nutrition and health, and family and consumer sciences. Educational programs in Agriculture and Natural Resources programs help to sustain the profitability of agriculture and forestry production, while protecting and enhancing the quality of land and water resources. The Food, Nutrition and Health Program and the Smart Choices Nutrition Education Program improve the quality of life of residents by encouraging appropriate and safe food choices and improving

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health literacy. Through the 4-H program, youth aged 5-19 receive hands-on learning experiences and develop leadership skills.

During the 2005 Fiscal Year, the VCE served over 15,000 residents through contacts, volunteer opportunities, club membership and program participation. VCE volunteers donated over 5,500 hours, which represented a dollar value gained from volunteer service of \$109,241.

### 6.6.9 *Rappahannock Area Community Services*

The Rappahannock Area Community Services Board (RACSB) is a regional government agency that provides comprehensive services to individuals with mental health, mental retardation and substance abuse problems in Planning District 16 (including Stafford and Spotsylvania Counties). Established in 1970, the agency is managed by a board of 15-volunteer members who are appointed by member jurisdiction's local governing bodies. Two RACSB service sites are located in Stafford County: the Stafford Clinic and the Leeland Road Group Home.

### 6.6.10 *Findings*

- Significant investment has been made in the construction and maintenance of educational facilities to accommodate Stafford County's growing school population and additional facilities and improvements are planned
- The new Public Safety Building that houses the Sheriff's Office and Fire and Rescue Department should meet these agencies' needs over the next 20 to 25 year period.
- State of the art facilities for the Rappahannock Regional Jail and the Rappahannock Juvenile Detention Center were constructed in 2000
- Stafford County's Fire and Rescue Department is staffed by 60 career officers and approximately 300 volunteers
- A 100-bed hospital opened in 2009 near the Courthouse
- The John Musante Porter Library, which serves Stafford County, had over 729,000 library visits and circulated over 2.8 million items in 2005

## 6.7 Infrastructure

Adequate access to water, sewage disposal and electric and gas utilities is generally considered essential to the health and well being of residents. This section presents a discussion of infrastructure facilities that are available in Stafford County. A map is included to identify infrastructure locations in the County.

### 6.7.1 *Water and Sewer*

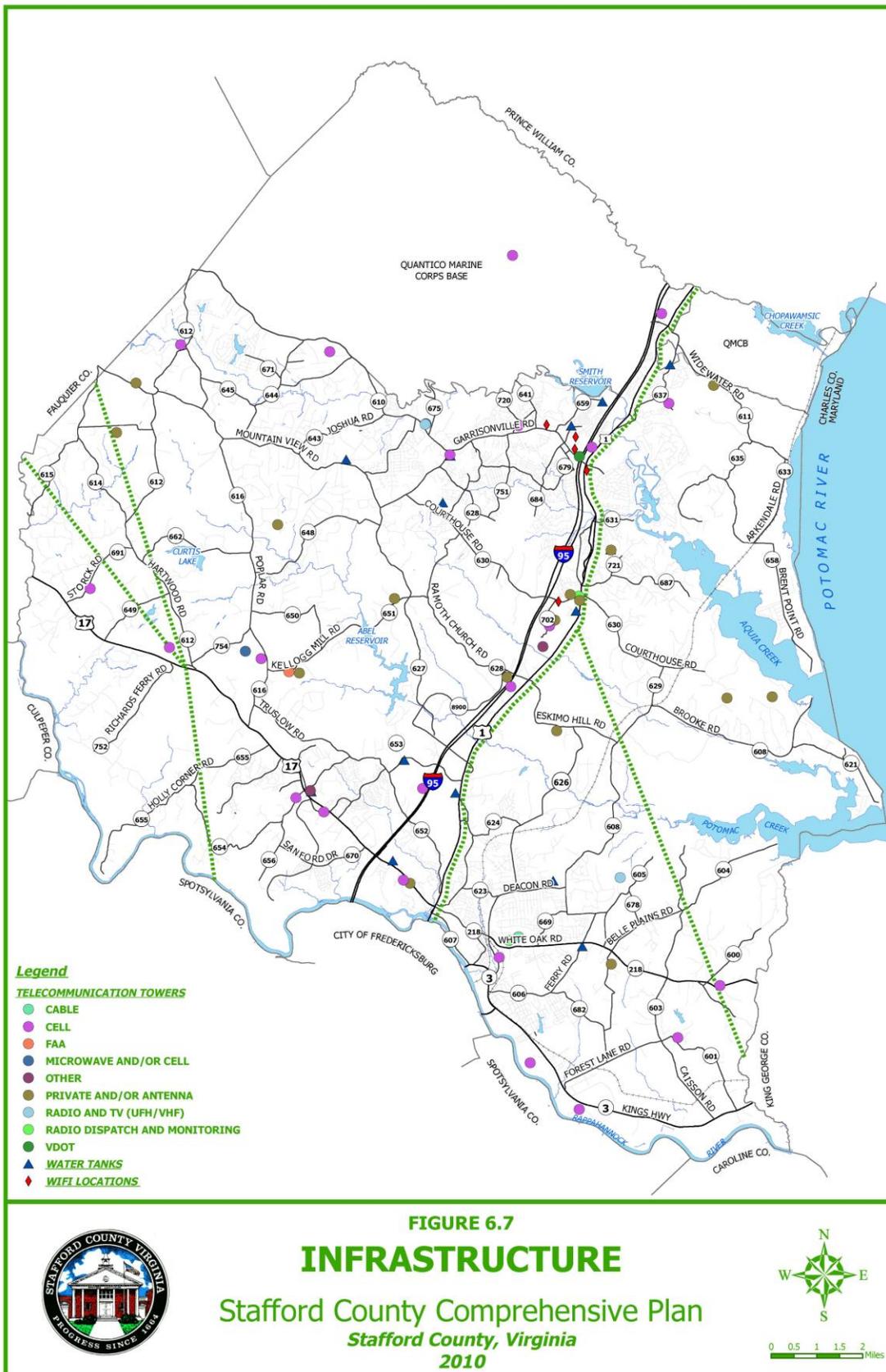
The Stafford County Department of Utilities (DOU), under the direction of the County Board of Supervisors, has provided public water and sewer services to many Stafford County residents for over two decades. During that time, the service area population and demand for services have more than quadrupled and continues to grow. The public utility customer base is currently increasing at an annual rate of 5%. The DOU provides services to over 25,000 residential customers and more than 700 non-residential customers. It operates as an enterprise fund that is separate from the County's General Fund and is funded solely by the revenues received from its customers.

#### **Infrastructure**

- Water and Sewer
- Stormwater Management
- Natural Gas
- Electric
- Telecommunications & Cable

Not all residents have access to public water and sewer services. The County only provides public water and sewer to the Urban Services Area (USA), which is the portion of the County that has been designated for residential, commercial and industrial development. The designation of USAs, which limit the location of sewer line expansion, serves to limit residential densities in rural areas. Outside the USAs, approximately 10,000 dwellings use private wells and septic tanks to meet their water and sewage disposal needs.

Public drinking water is obtained from two surface water reservoirs (Abel Lake and Smith Lake) and a third is under construction (Rocky Pen Run). Abel Lake Reservoir is located in central Stafford and Smith Lake Reservoir is located in North Stafford. The combined safe yield of these two reservoirs is about 13.8 million gallons a day (mgd). The County's annual average daily demand is 9.7 mgd and the peak 90-day average is 11.6 mgd.



Water treatment occurs at the Smith Lake Water Treatment Facility and the Abel Lake Water Treatment Facility. The Smith Lake facility supplies water to the northern region of Stafford, while Abel Lake supplies the southern region. The maximum daily capacity for the two facilities is 20 mgd. After treatment, the water from both facilities meets or exceeds Virginia Department of Health and the Federal Safe Drinking Water Act Amendments of 1986 standards. The DOU system also stores approximately 15.8 million gallons of water in two ground storage tanks, two standpipes and 10 elevated tanks. The system also includes five primary pumping stations, and six standby pumping stations.

Sewage treatment is provided at Little Falls Run Wastewater Treatment Facility and Aquia Wastewater Treatment Facility. They have permitted capacities of 4 mgd and 6.5 mgd, respectively. The Little Falls facility is located in the southeast part of the County and the Aquia facility is in the north. The wastewater collection and transmission system consists of approximately 383 miles of gravity sewers, 82 pump stations, and 53 miles of associated sewer force mains.

Several initiatives are planned, including the construction of the Rocky Pen Run Reservoir and Treatment Facility project, which has an estimated cost of \$77 million and a 2013 completion date. When completed, the Rocky Pen Run Reservoir will have a safe yield of 13.1 mgd. The new water treatment facility will be designed to have a capacity of 5-10 mgd by 2013. With the addition of these resources, the County anticipates being able to meet the needs of its residents in the USA to the year 2050.

### *6.7.2 Stormwater Management*

Stormwater Management is a mechanism for controlling water from rain or snowmelt that flows over the land surface and is not absorbed into the ground and urban and industrial stormwater that is discharged through conveyances, such as separate storm sewers, ditches, channels or other conveyances. The purpose of stormwater management is the mitigation of the adverse effects that land use changes and increased impervious land cover have on flooding and the aquatic environment. Adverse effects include downstream erosion, water quality degradation, and water channel flooding.

Stafford County's Stormwater Management Ordinance (Chapter 21.5 of the County Code) establishes minimum stormwater management requirements. All land development projects must comply with the requirements of this ordinance. Both the Stormwater Management Ordinance and the Zoning and Subdivision Ordinances encourage the use of Low Impact Development (LID). LID is an innovative stormwater management approach whose goal is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate and detain runoff close to its source.

Stafford County's stormwater infrastructure consists of more than 650 stormwater management facilities that fall into in the following general

categories: ponds; miscellaneous; manufactured/underground; infiltration trench; and filtration. Roughly 60% of the stormwater BMPs being used in the County are a type of pond. Overall, about 40% of the County's BMPs were classified as being in "Good" condition, 30% in "Fair" condition, and 15% in "Poor" condition. The condition of 15% of the BMPs was unknown because they could not be located or accessed.<sup>1</sup> Most facilities are under private or community association ownership. The County requires Maintenance Agreements to be recorded in the County's land records.

### 6.7.3 *Natural Gas*

Residents, businesses and industries in Stafford County are provided natural gas service by Columbia Gas of Virginia, a member of the Columbia Energy Group Company. Columbia Gas of Virginia is the third largest distributor of natural gas in the State. A major natural gas pipeline bisects the County.

### 6.7.4 *Electric*

Three companies provide electric power in Stafford County: Dominion Virginia Power; Rappahannock Electric Cooperative; and Northern Virginia Electric Cooperative.

Major high voltage power lines bisect the County, generally from north to south; one through the eastern half of the County and one through the west. Other undeveloped easements exist as well. Figure 6.8 identifies the location of major power and gas transmission lines.

Dominion Virginia Power is constructing a 230 kv underground power transmission line on an existing 300 foot easement from Aquia Harbor through several north Stafford neighborhoods to Mountain View Road north of Shelton Shop Road. Initially they proposed aboveground lines. Residents and the County were vocal in their opposition to the proposal. In the Spring of 2008, the State Corporation Commission ruled that the power lines would need to be buried.

### 6.7.5 *Telecommunications*

Residents and businesses in Stafford County have access to an array of telecommunications services including high-speed Internet access, cable and wireless services. Several major national and international phone carriers provide local and long distance service. Unfortunately, access to these services is not universal. Certain areas of the County have limited access to the various technologies.

To accommodate the needs of the telecommunications industry while protecting the public safety and welfare of its residents and the character and

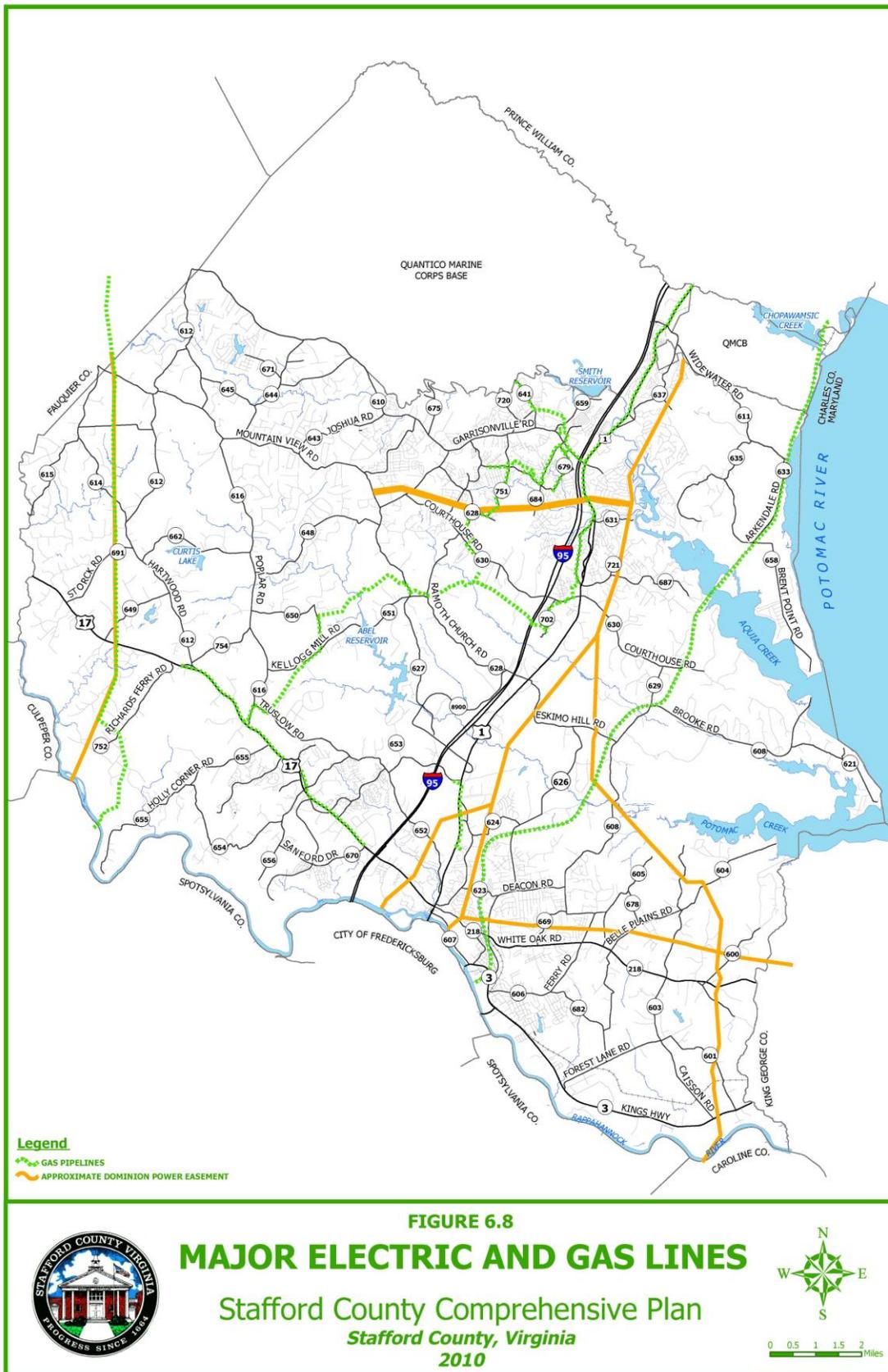
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<sup>1</sup> U.S. Army Corps of Engineers, Baltimore District. Stafford County, Virginia Stormwater Infrastructure and Watershed Management Study, July 2005.

aesthetics of the community, Stafford County encourages the co-location of new telecommunications facilities on existing structures. This reduces the need for the construction of new towers. When this is not possible, the preferred locations for new towers are within Virginia Department of Transportation rights-of-way near interchanges along I-95, within the existing right-of-way for overhead power lines, within the railroad right-of-way adjacent to industrial or agricultural districts, or on industrial, commercial and public lands that are suitably buffered from residential areas.

#### 6.7.6 Findings

- The Rocky Pen Run Reservoir and Treatment Facility is expected to be constructed by 2013 and these additional facilities are projected to meet the water needs of Stafford County residents until 2050
- 650 stormwater management facilities control surface runoff throughout the County
- The newest Dominion Virginia Power line located through north Stafford will be constructed underground
- Utilities and an array of telecommunications services are available in Stafford County but certain areas of the County still have limited access to these services





## 6.8 Parks and Recreation

Parks and Recreation amenities in the County are provided and managed by numerous entities. The County Department of Parks and Recreation maintains eighteen facilities countywide that offer sports, recreation and cultural activities for all ages. Curtis Park, Aquia Landing, Willowmere Park, Fritter Park, Duff McDuff Green Park, and Smith Lake Park are the largest facilities, providing the greatest variety of recreational opportunities. Smaller, more specialized facilities are located throughout the County. The County charges a user fee for the use of some facilities, and at some sites, charges more for non-Stafford residents. An 18-hole golf course, The Gauntlet, operated by Golf Course Specialists, Inc., is located at Curtis Park. Private organizations provide recreation facilities to their members. In addition to County facilities, the Fredericksburg and Spotsylvania National Military Park is located at Chatham Manor on River Road. Figure 6.9 shows the location of parks and recreation resources in the County.

In November 2009, County voters approved a bond referendum for \$29 million in General Obligation Bonds for park and recreation improvements and acquisitions. The specific facilities in the referendum include:

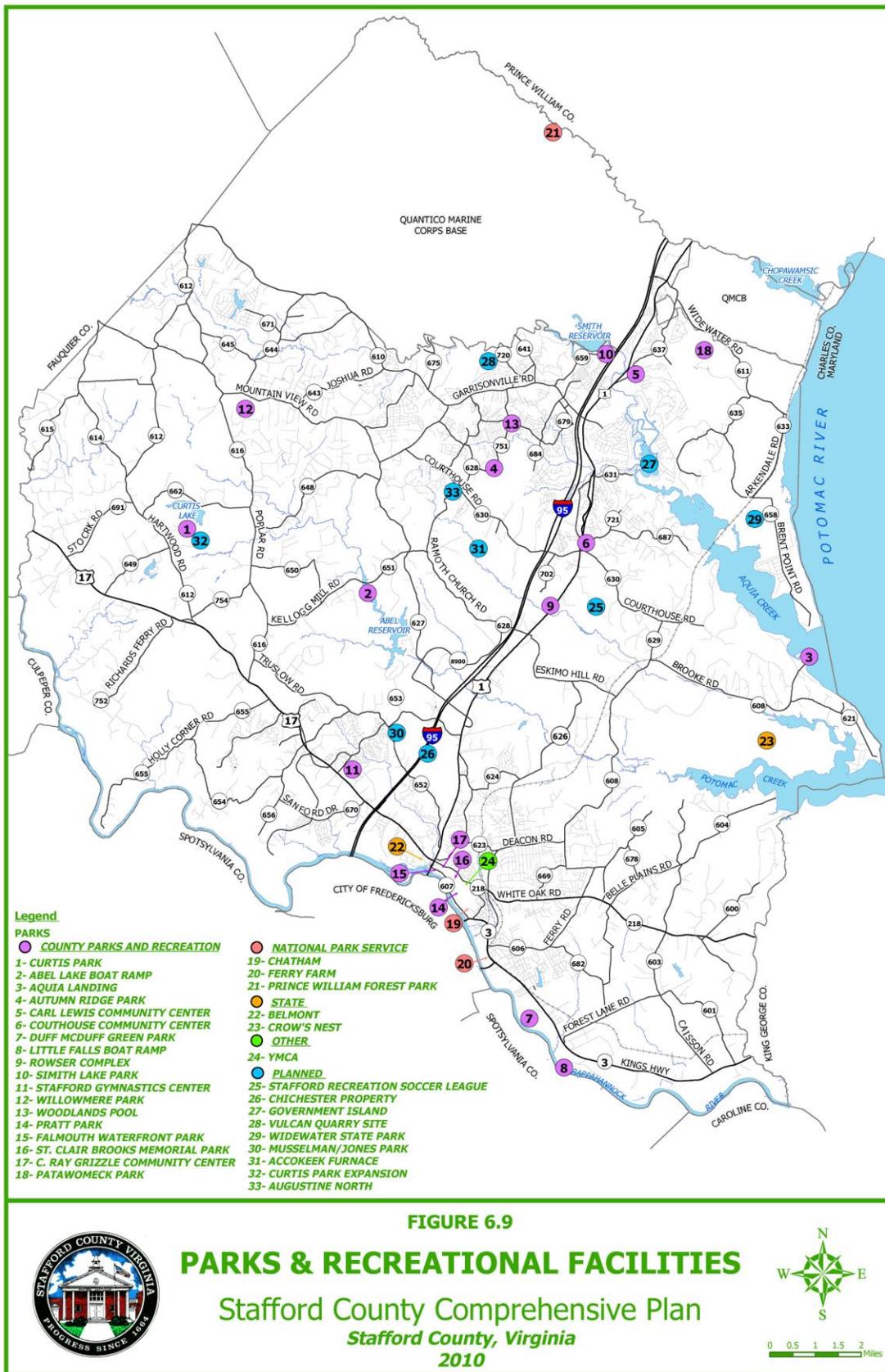
- Development of three (3) new park facilities
- Development of three (3) new trail systems
- Renovations at several parks
- Land acquisition for future parks

Bond referendums have been approved in the past for parks. In November, 1993, County voters approved a bond referendum for \$3.8 million in General Obligation Bonds for park facilities. The County issued the bonds during fiscal year 1995. Plans included the design and construction at Willowmere Park, Duff McDuff Green Park, and Woodlands Pool, and the design of Smith Lake Park. Development of these parks has greatly enhanced the array of facilities available within the County. In November, 2002, voters approved another bond referendum for \$11 million for additional park facilities.

**Table 6.23: Facilities Managed by the Department of Parks and Recreation**

<u>Abel Lake Reservoir</u>		<u>Curtis Park</u>		<u>Rowser Complex</u>	
1	Boat Ramp	1	Boat Ramp		Restrooms
		1	Fishing Pier	1	Kitchen
		1	18-Hole Golf Course	1	Meeting Room
	<u>Aguia Landing</u>	10	Mile Hiking Trails	1	Soccer Field
¼	Linear Beach	5	Mile Jogging Trails	1	Little League Field
15	Mile Bikeway	1	Swimming Pool	1	Gymnasium
1	Picnic Tables	100	Picnic Tables		
1	Open Play Area	1	Playground		<u>Smith Lake Park</u>
1	Concession Building	6	Tennis Courts	1	Open Play Area
3	Restroom Facilities	2	Volleyball Courts	1	Tot Lot / Playground
2	Picnic Shelters	1	Amphitheater	3	Soccer Fields
		1	Softball Field	3	Baseball/Softball Fields
	<u>Autumn Ridge Park</u>	1	Multipurpose Field	2	Restrooms
1	Soccer Field	8	Picnic Shelters	35	Parking Spaces
1	Baseball Field		Restrooms		
1	Picnic Shelter				<u>Stafford Gymnastics Center</u>
1	Tot Lot			1	Gymnasium
1	Basketball Court		<u>Duff McDuff Green Park</u>		Restrooms
			Scenic River Overlook		
		1	Open Play Area		
		2	Soccer Fields		<u>Willowmere Park</u>
	<u>Carl Lewis Field and Community Building</u>	3	Baseball/Softball	3	Soccer Fields
2	Little League Fields	2	Restrooms	3	Baseball Fields
1	Soccer Field	25	Parking Spaces	1	Restrooms/Concession Bldg
1	Meeting Room	2	Miles Hiking Trails	2	Picnic Shelters
1	Kitchen	4	Picnic Shelters	2	Miles Walking Trail
	Restrooms			1	Open Play Area
			<u>Falmouth Waterfront Park</u>		
			Beach		<u>Woodlands Pool</u>
		1	Restroom Facility	1	Indoor/Outdoor Pool
			<u>Little Falls Boat Ramp</u>	1	Bath House
		1	Boat Ramp		
			<u>John L. Pratt Park</u>		<u>Patawomack Park</u>
	<u>St. Clair Brooks Memorial Park</u>	0.35	Miles of Hiking Trail		
5	Miles of Hiking Trail	2	Playgrounds		
1	Playgrounds	2	Tennis Courts		
4	Basketball Courts	2	Basketball Courts		
1	Lighted Baseball Field	2	Picnic Shelters		
1	Lighted Little League Field	1	Restroom Facilities		
1	Lighted Softball Field				<u>C. Ray Grizzle Community Center</u>
1	Multipurpose Field				
3	Picnic Shelters				
1	Restroom Facilities				

Source: Stafford County Department of Parks and Recreation



### School Maintained Recreation Facilities

The County School Board maintains the playfields and other facilities at the County schools. Although these facilities were developed and primarily intended for the use of students, some of the fields, gymnasiums, and other facilities are available for public use. The County Parks and Recreation Department coordinates recreational programs in several sports which take place on School Board property.

Table 6.24 School Board Owned Recreational Facilities

School	Recreational Facilities
<b>Elementary Schools (PK-Grade 5)</b>	
Anthony Burns	1 Playground
Conway	1 Playground, 1 Basketball Court
Falmouth	2 baseball fields, 2 playgrounds, 1 soccer field, 2 basketball courts
Ferry Farm	1 playground, 1 little league field, 1 soccer field
Garrisonville	1-1/4 mile fitness trail, 2 playgrounds, 2 soccer fields, 1 little league field, 1 gymnasium
Grafton Village	1 playground, 1 soccer field
Hampton Oaks	1 Playground, 1 soccer field
Hartwood	1 playground, 2 softball fields, 1 football field, 2 basketball courts
Kate Waller Barrett	1 playground
Margaret Brent	1 playground
Anne E. Moncure	1 playground, 1 little league field
Park Ridge	1 playground, 1 soccer field 1 baseball field
Rockhill	1 playground
Rocky Run	1 soccer/softball field
Stafford	1 baseball field, 1 practice field, 2 soccer fields
Widewater	1 little league field, 2 soccer fields, 1 practice field
Winding Creek Elementary	1 playground, 1 softball/soccer field
<b>Middle Schools (Grades 6-8)</b>	
Dixon-Smith	1 gymnasium, 1 football field, 1 softball field, 1 soccer field, 4 tennis courts, ¼ mile track, auxiliary gym
Edward E. Drew	1/4mile track, 1 softball field, 1 football field, 4 tennis courts, 1 gymnasium, 1 indoor basketball court, 1 soccer field
T. Benton Gayle	1/4miletrack, 2 baseball/softball fields, 1 football field, 2 soccer fields, 1 gymnasium
H. H. Poole	1 softball field, 1 baseball field, 1 football field, 2 soccer fields, 1 open field, ¼ mile track, 1 gymnasium
Rodney Thompson	1 gymnasium, 1 auxiliary gym, 1 football field, 4 multi-purpose fields, ¼ mile track
Stafford	1 baseball field, 1 dual purpose field, 1 practice field, 1 playground, ¼ mile track, 1 indoor basketball court, 1 gymnasium
A. G. Wright	1 softball fields, 1 football fields
<b>High Schools (Grades 9-12)</b>	
Brooke Point	2 baseball fields, 1 softball field, 1 gymnasium, 1 football field, 2 soccer fields, 2 practice fields, ¼ mile track
Colonial Forge	1 gymnasium, 6 lighted multi-purpose fields, 1 lighted baseball field, 1lighted softball field, 3 softball/baseball fields, 5 soccer/field hockey fields, 6 tennis courts, 1 auxiliary gym
Mountain View	1 gymnasium, 1 lighted multi-purpose field, 1 lighted softball field, 1 baseball field, 5 soccer/field hockey fields, 6 tennis courts, 1 auxiliary gym
North Stafford	2-mile hiking trail, 1 baseball field, 1 softball field, 1 lighted multi-purpose field, 6 tennis courts, 2 practice fields, 1 gymnasium, ¼ mile track
Stafford	2-mile fitness trail, ¼ mile track, 1 lighted baseball field, 1 softball field, 1 lighted dual purpose field, 6 tennis courts, 1 gymnasium

Source: Stafford County Parks and Recreation Department

### 6.8.1 *National Parks*

#### Chatham Manor

Chatham Manor is the Fredericksburg and Spotsylvania National Military Park headquarters located at 120 Chatham Lane overlooking Fredericksburg. Chatham Manor is a former hospital for Union soldiers during the Civil War.

### 6.8.2 *Other Recreational Facilities and Organizations*

In addition to the recreation facilities that are owned and operated by Stafford County or the Stafford County School Board, there are other recreational resources that are available to residents. These include local creeks and rivers, hunting acreage on the Quantico Marine Base, various golf courses and marinas, recreation centers, and community swimming pools. Private organizations such as the American Legion, Girl Scouts of America and YMCA maintain private facilities. In addition, youth sports are organized by private organizations such as the Stafford Baseball League, Stafford Area Soccer Association, and the Stafford Youth Football Coaches Association.

### 6.8.3 *Future Park Facilities*

Stafford County has realized the importance of developing new parks as its population grows and the needs of its residents change. There are properties that the County has acquired or is pursuing in order to actively transform them into viable public parks. They include:

- Chichester Property,
- Crows Nest,
- Government Island,
- Musselman/Jones Property,
- proffered site on the Vulcan Quarry property.

In addition, there are properties owned by other entities that are proposed for park development or preservation of natural resources. These include:

- Stafford Recreational Soccer League property on Courthouse Road,
- Widewater State Park, and
- City of Fredericksburg owned riparian land along the Rappahannock River.

Stafford County is a fast growing community. There is a need for more parks in order to meet the population demands. Acquiring new park land is difficult but important to meet the changing recreational and athletic needs of county residents. The cost of property in Stafford County is increasing rapidly. Buying large (i.e. 100-200+ acres) parcels may be no longer financially feasible. It is recommended that smaller parcels be purchased (between 20-50 acres). These parcels should be designed as neighborhood parks that pedestrians can readily access without having to drive to the facility. The parcels should be located in the northern and southern ends of the County, but it is essential that they be close to Interstate 95 so residents can access them easily.

### 6.8.4 *Potomac Heritage National Scenic Trail*

In December 2006, the National Park Service designated three trails in Stafford as part of the Potomac Heritage National Scenic Trail. The Potomac National Scenic Trail is a 425-mile corridor between the Chesapeake Bay and the Allegheny Highlands. The National Park Service administers, designates and coordinates the trail and local jurisdictions manage their sections of the trail. The selected trails are expected to help boost tourism in the County, since they will be included in National Park Service literature and maps and promoted through the Service's website. The Stafford trails are:

- Government Island Trail – 1.5 miles in length on Government Island highlighting historic quarries, building foundation, roadbed and canal; stone quarried here was used to construct some of the nation's most prominent buildings, including the White House and US Capitol Building. The Trail will be completed in 2010.
- Belmont-Ferry Farm Trail – When it is finished, the Trail will connect Belmont to Chatham and Ferry Farm as well as the Historic Port of Falmouth and the Moncure Conway House which is designated in the National Underground Railroad Network to Freedom. The first 1.5 miles of trail were completed in 1998. There are 3.5 miles yet to be developed. That should happen in the next several years.
- Aquia Creek Water Trail – This trail, which is yet to be developed, will celebrate the unique Civil War history of the creek as well as the transportation history of Aquia Landing.

### 6.8.5 *Parks Analysis*

Area guidelines are used to determine the number of acres of recreational and park lands that are needed by a locality. The 2002 Virginia Outdoors Plan provides an area guideline for recreation and park sites in Virginia of 10 acres per 1,000 people in the population. This figure represents a minimum acreage that should be provided whenever possible. County-wide, the 10 acres per 1,000 population model is used.

Virginia's state guideline for parkland is 10 acres per 1,000 of population. However, Stafford's Parks and Recreation Commission has adopted a standard of twice this level, or 20 acres per 1,000 residents. Based upon this standard, Stafford should have approximately 2,360 acres of recreation and park space. Residents currently have access to 1,610 acres of County-owned and operated parkland. While this figure meets the needs of the existing population under the Virginia standard, it does not meet the Stafford standard. Additionally, the population is growing rapidly and additional park space will be needed in the near future.

**6.8.6 Findings**

- Stafford residents have access to a wide variety of recreation facilities, both publicly and privately owned and operated
- Additional parkland will be required to meet the needs of Stafford's growing population
- There are eighteen County-owned recreational facilities within Stafford County
- Stafford County Board of Education's recreation facilities are also available to be used for community recreational programs
- The Parks and Recreation Department is currently updating its Comprehensive Countywide Facilities Master Plan which will address infrastructure concerns at existing facilities and create a maintenance plan to assure their continued use
- A number of potential future parks and recreation facilities have been identified
- Several private and nonprofit organizations also sponsor sports programs for youths in Stafford County

## 6.9 Natural Resources

Stafford County is characterized by a rolling landscape cut by winding streams and creeks. Bordered to the east by the Potomac River and to the south by the Rappahannock River, surface water is a significant natural feature in the County. In addition, the County's forestlands provide habitat for many different wildlife species. This natural environment provides a desirable place to live, for wildlife and residents.

The County's continued population growth and intense development pressures are threatening the natural resources. Development has caused increases in impervious surfaces, loss of forestlands, open space and farmland and increased transportation pressures. These development factors lead to increases in runoff, decreases in groundwater recharge, increases in carbon dioxide releases, displacement of wildlife and non-point source pollution.

The following section provides a basic understanding of what natural resources exist in the County and how they fit together to form the overall natural environment. This information can help guide efforts to maintain the air and water quality, preserve wildlife habitats and minimize the risk of natural hazards. A map on page 6-68 shows the County's natural resources and another on page 6-72 shows the watersheds.

### 6.9.1 Land Resources

#### Topography

The topography details the different elevations and describes the overall shape of the land. This information is relevant to understanding the flow of water across the land and determining appropriate land uses.

The topography of Stafford County generally consists of rolling hills with most slopes occurring at the County's rivers, streams and creeks. The elevation ranges from sea level to about 450 feet with higher elevations towards the western part of the County. The County's highest elevation is located at the northern tip of the County.

#### Geology

The geology of Stafford County describes earth's composition below the surface of the land. Knowledge of the geological makeup of the County is important to understanding how development will affect the land.

The geology of the County includes two physiographic provinces, the Piedmont province and the Coastal Plain province. These provinces are landform regions that have similar terrain and have been shaped by a common geological history. Figure 6.13 identifies the location of the geologic zones.

The Piedmont province is located in the western portion of the County, generally west of Interstate 95. This province has a generally rolling terrain

## The People and the Place

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that consists of bedrock that is made up of hard igneous and metamorphic rock. In the eastern portion of the County is the Coastal Plain, a terraced landscape consisting of unconsolidated sediments that are relatively soft compared to the igneous and metamorphic rock of the Piedmont province. These two provinces are separated by the Fall Line, a low east-facing cliff that extends from New Jersey to the Carolinas.

Several mining operations are present in the County, including sand and gravel, generally in the southeastern part of the County and a type of granite material in the northwestern portion of the County. Figure 6.14A identifies the location and type of mineral resources in the County. Figure 6.14B is the legend associated with the map that describes the resources. The data is from the Virginia Department of Mines, Minerals, and Energy.

### Soils

A familiarity with the soil composition is necessary to determine the suitability of various land uses such as farming, construction or septic systems. The compatibility with different land uses depends on several different soil characteristics including drainage and erodibility. Within Stafford County, there are 126 classifications of soil from the National Cooperative Soil Survey of the National Resource Conservation Service (NRCS), each with varying characteristics. The following soil information, gathered from the NRCS, gives a general review of the soil properties in the County as well as the compatible land uses with the County's soil.

The drainage of the soils depends on the percolation capacity of the soil, the topography of the land and the proximity to surface and groundwater discharge. It is important to look at soil drainage because it affects the transport of pollutants and the ability for plants to grow. If a soil drains rapidly, precipitation or irrigation water transports water-soluble pollutants through the soil, potentially affecting the quality of groundwater. Soils that are not drained well may become saturated making it difficult for plants to survive because the roots don't get enough oxygen. The NRCS data shows that though the majority of the County, 64%, is well drained, 12% of the land area of the County is classified as very poorly drained. The majority of this poorly drained area is located just west of the Interstate 95 as it travels through the northern portion of the County.



Table 6.25 Soil Drainage Capacity

Capacity	Acres	Percent
Somewhat Excessively Drained	3,689	2.0%
Well Drained	115,928	63.8%
Moderately Well Drained	21,304	11.7%
Somewhat Poorly Drained	3,981	2.2%
Poorly Drained	22,058	12.1%
Very Poorly Drained	1,340	0.7%
Not Rated	13,380	7.4%

Source: National Cooperative Soil Survey,  
National Resource Conservation Service,  
United States Department of Agriculture &  
design based planning, inc.

Erosion is the transport of soil by wind or water. Susceptibility of a type of soil to erosion is based on the composition of the soil as well as the slope and the vegetative cover of the land. Soil erosion can cause a loss of topsoil and create ruts and gullies in the land. Erosion also causes problems with the transport of materials, polluting downstream waters, clogging creeks, streams and other bodies of water as well as clogging drainage ditches.

Over ¾ of the County is either highly erodible or potentially highly erodible. This figure shows that soil erosion is a significant issue in the County and should be considered as development occurs.

Table 6.26 Soil Erodibility

Erodibility	Acres	Percent
Not Highly Erodible Land	28,508	15.7%
Potentially Highly Erodible	73,049	40.2%
Highly Erodible Land	69,865	38.5%
Not Rated	10,259	5.6%

Source: National Cooperative Soil Survey,  
National Resource Conservation Service,  
United States Department of Agriculture  
& design based planning, inc.

In addition to the soil characteristics, the following information from the NRCS provides what percentage of the County is suitable for dwellings, farming or septic systems. Land use suitability for dwellings, farming and septic systems are all determined by the NRCS based on a number of factors that affect these land uses. For example, suitability for septic systems is based on several factors including flooding, bedrock depth, slope, saturated hydraulic conductivity and other measures compiled for an overall measure of whether or not the area is suitable for traditional septic systems. The figures show that nearly all of the land is limited in some way; this causes potential competition for suitable lands.

Only a small portion of the County, 11%, is classified as not limited suitability for dwellings with basement. In addition, most of the County's soil is either somewhat limited or very limited for septic system suitability. Furthermore, east of the Fall Line most of the soil is very limited for septic system suitability. This area east of the Fall Line is also where there is little prime farmland.

Because the County has such a limited amount of land suitable for septic systems, an alternative type of septic system is being utilized to deal with land with this limitation. This alternative septic system uses a two-step process rather than the traditional one-step process.

Table 6.27 Land Use Suitability

<b>Suitability for Dwellings (with basement)</b>	<b>Acres</b>	<b>Percent</b>
Not Limited	20,668	11.4%
Somewhat Limited	65,277	35.9%
Very limited	82,356	45.3%
Not Rated	13,380	7.4%
<b>Farming Soils</b>	<b>Acres</b>	<b>Percent</b>
Areas of Prime Farmland	34,788	19.1%
Farmland of Statewide Importance	50,141	27.6%
Prime Farmland if Drained	2,308	1.3%
Not Prime Farmland	94,444	52.0%
<b>Suitability for Traditional Septic Systems</b>	<b>Acres</b>	<b>Percent</b>
Somewhat Limited	53,347	29.4%
Very Limited	100,496	55.3%
Not Rated	27,838	15.3%

Source: National Cooperative Soil Survey,  
National Resource Conservation Service,  
United States Department of Agriculture &  
design based planning, inc.

Another soil characteristic in the County is the acidity of the soils. The range for the median pH level is 4.3 to 6.8 showing that the soil is generally acidic. This is an important factor in development because the excavation of acidic soil can cause acidic levels in streams to rise, disturbing the stream ecosystem, as a result of runoff from the acidic soils entering the stream. Also, in highly acidic soils, vegetation is not able to grow and utility lines corrode.

The most important precaution for acidic soils is the knowledge that they exist in an area. This can be accomplished by testing for acidic soils before development occurs. Testing the soil can help prevent environmental disasters such as that of the County's airport where highly acidic soil that was excavated from the site was spread as fill for the site, preventing vegetation growth and damaging the local stream. Although the soil that is below the earth's surface a distance that doesn't reach full acidity until it is excavated, a sulfur test can be conducted to predict the acidity of the covered soil. This

knowledge can prevent the excavation and spread of acidic soils, benefiting both the environment and developers.

### 6.9.2 *Water Resources*

#### Watersheds

A watershed is an area of land where water drains downhill to a body of water. A watershed may include several sub-watersheds that drain into a larger watershed. In Stafford there are numerous sub-watersheds of both the Potomac River and Rappahannock River.

The Stafford County, Virginia Rappahannock Tributaries Watershed Planning Study found that “runoff from impervious cover and agricultural cover is the primary determinants of water quality in the tributaries (of the Rappahannock), and consequently, the primary parameters through which to address watershed management actions.” As a rapidly developing County, the Watershed Planning Study shows that the most pertinent watershed issue is the increasing amounts of impervious surfaces. Impervious surfaces are impermeable surfaces that include rooftops, parking lots, driveways, sidewalks, roads and other surfaces that prevent water infiltration and groundwater recharge. Also, instead of allowing precipitation to penetrate into the ground, impervious surfaces cause runoff to travel across the land collecting sediments, nutrients and toxics that are carried to streams and creeks of the watershed.

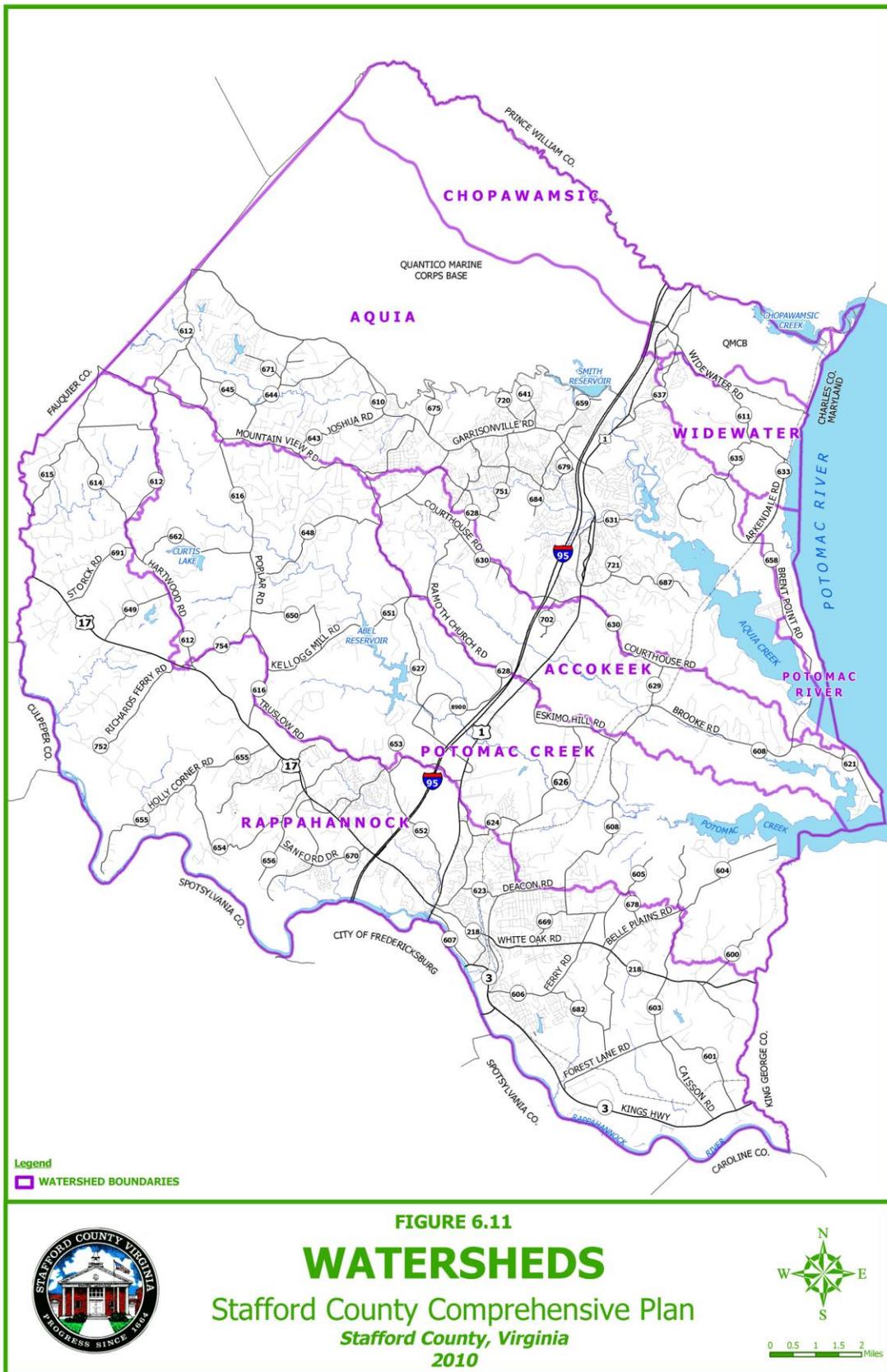


FIGURE 6.11

# WATERSHEDS

Stafford County Comprehensive Plan  
Stafford County, Virginia  
2010



Table 6.28 Stafford Watershed System

ID#	Major Water Shed	Minor Water Shed	Acres
2	Chopawamsic		12,903
3	Aquia	Beaverdam	11,066
4	Aquia		34,846
5	Potomac River	Potomac River	171
6	Widewater		2,656
7	Widewater	Tank	821
8	Rappahannock	Alcotti Run	4,560
9	Rappahannock	Deep Run	2,586
10	Potomac Creek	Potomac Run	6,719
11	Widewater	Potomac River	748
12	Aquia	Whitsons Run	1,493
13	Aquia	Austin Run	5,239
14	Accokeek		14,539
15	Potomac Creek	Long Branch	9,595
16	Potomac River	Potomac River	1,911
17	Rappahannock	Richland Run	3,979
18	Potomac Creek		20,547
19	Rappahannock	Rappahannock	15,922
20	Rappahannock	Horsepen Run	4,920
21	Rappahannock	Falls Run	4,209
22	Rappahannock	Rocky Pen Run	3,444
23	Accokeek	Potomac River	390
24	Rappahannock	Claiborne Run	4,242
25	Potomac Creek	Beaver Dam Run	2,036
26	Potomac Creek	Black Swamp Creek	852
27	Rappahannock	White Oak Run	5,238
28	Rappahannock	Little Falls Run	3,662

Source: Stafford County and design based planning, inc.

The level of stream impact relates to the percent of impervious cover in the watershed. An area with between 0 to 10% of watershed impervious area relates to low stream impact, an area between 10 to 25% of watershed impervious area relates to moderate stream impact, and an area 25% and higher of watershed impervious area relates to high stream impact. (EPA Center for Watershed Protection, 2005) Therefore, the protection of watersheds is essential to the preservation of water quality.

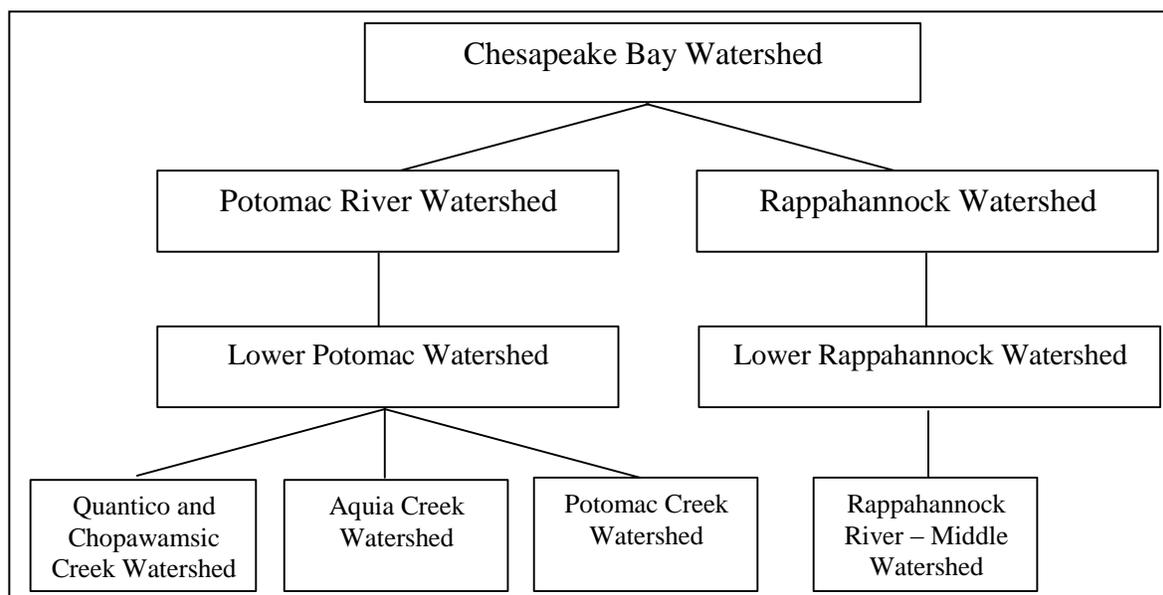
The sub-watersheds of the Potomac River, which consist of 70% of the land area in Stafford, are part of a much larger watershed that stretches across Maryland, Pennsylvania, Virginia and West Virginia covering about 14,679 square miles.

The range of undisturbed land in the County's sub-watersheds of the Lower Potomac River Watershed was reported in the County's Wildlife Habitat Protection Plan, published in 2000 and based upon 1995 data. The Plan stated that less than 50% of the Aquia Creek Watershed is undisturbed, less than 50% of the Accokeek Creek Watershed is undisturbed, 50 to 70% of the Potomac Creek Watershed is undisturbed and 70% of the Widewater Creek/Chopawamsic Creek Watershed (sub-watersheds of the Quantico and Chopawamsic Creeks Watershed) is undisturbed. Though the Widewater Creek/Chopawamsic Creek Watershed is the watershed with the greatest amount of undisturbed land, this is also where the Quantico Marine Corps Combat Development Command is located.

The sub-watersheds of the Rappahannock River are part of a larger watershed that crosses the southwestern edge of the County. The Rappahannock Watershed is much smaller than the Potomac River Watershed and is entirely in the State of Virginia traveling from the Blue Ridge Mountains to the Chesapeake Bay. The Watershed covers 2,715 square miles of land. According to the Chesapeake Bay Program, there is only one sub-watershed of the Rappahannock River in Stafford County, the Rappahannock River - Middle Watershed, which is part of the Lower Rappahannock Watershed. Sub-watersheds of the Rappahannock River - Middle Watershed include Horsepen Run, Alcott Run, Falls Run, Richland Run, Claiborne Run, England Run, Rocky Pen Run, Little Falls Run, White Oak Run and Muddy Creek.

Both the Potomac and the Rappahannock River Watersheds are part of the Chesapeake Bay Watershed, an expansive watershed that travels through six states. The watershed drains into the Chesapeake Bay, the largest estuary in the Country supporting 3,600 species of fish, animals and plants. The Chesapeake Bay Watershed is made up of eight sub-watersheds, with two of these sub-watersheds, the Potomac River Watershed and the Rappahannock Watershed, within Stafford County. The chart in Table 6.29 includes a hierarchy of the watersheds of the County.

Table 6.29 Major Watersheds Stafford County, VA



Source: Watershed Profiles, Chesapeake Bay Program (<http://www.chesapeakebay.net/>)

As part of the Chesapeake Bay Watershed, the County’s water impacts have repercussions to the water quality of the Chesapeake Bay. In 1988, the State of Virginia enacted the Chesapeake Bay Preservation Act to help improve the quality of the water in the Bay. Stafford County is included in the Chesapeake Bay Preservation Areas of the Act in which local governments are required to adopt programs “requiring the use of effective conservation planning and pollution prevention practices when using and developing environmentally sensitive lands.” The main goal of the Chesapeake Bay Preservation Act is to reduce nonpoint source pollution.

Nonpoint source pollution is a major threat to waterways. The source of this type of pollution is mainly stormwater runoff from a multitude of common urban, suburban and rural sites. The problem is that the runoff from these areas contains toxics, pathogens, nutrients and sediments that contaminate the water. This type of pollution is especially difficult to deal with because it comes from so many different sources, requiring the need for sound land use planning throughout the watershed.

Impacts from non-point sources of pollution include phosphorus pollution from fertilizers used by farmers and residents, e.coli contamination from poor agricultural practice and low pH levels when soils with low acidity are exposed during development.

### 6.9.3 *Floodplain*

A floodplain is an area that is susceptible to full and partial water inundation. Floodplains provide natural flood and erosion control, protect the water quality, offer areas for groundwater recharge and serve as a fish and wildlife habitat. Increased development in a floodplain can cause more severe natural disasters.

Within Stafford County, 12% of the land (20,918 acres) is in a 100-year flood hazard area. According to the Federal Emergency Management Agency (FEMA), the 100-year flood is the flood elevation that has a 1% chance of a flood being equaled or exceeded each year. The County regulates development activities in the flood way, the flood fringe and the 100-year floodplain to minimize natural hazards and development impacts. In addition, Stafford County entered the National Flood Insurance Program, a program of the FEMA. By actively protecting the floodplain, Stafford County is able to provide residents the ability to purchase flood insurance through the FEMA program that is administered by the United State Department of Housing and Urban Development. Residents within the 100-year floodplain are required to have flood insurance. This requirement applies to a just over 1,000 residential structures located within the County's 100-year floodplain.

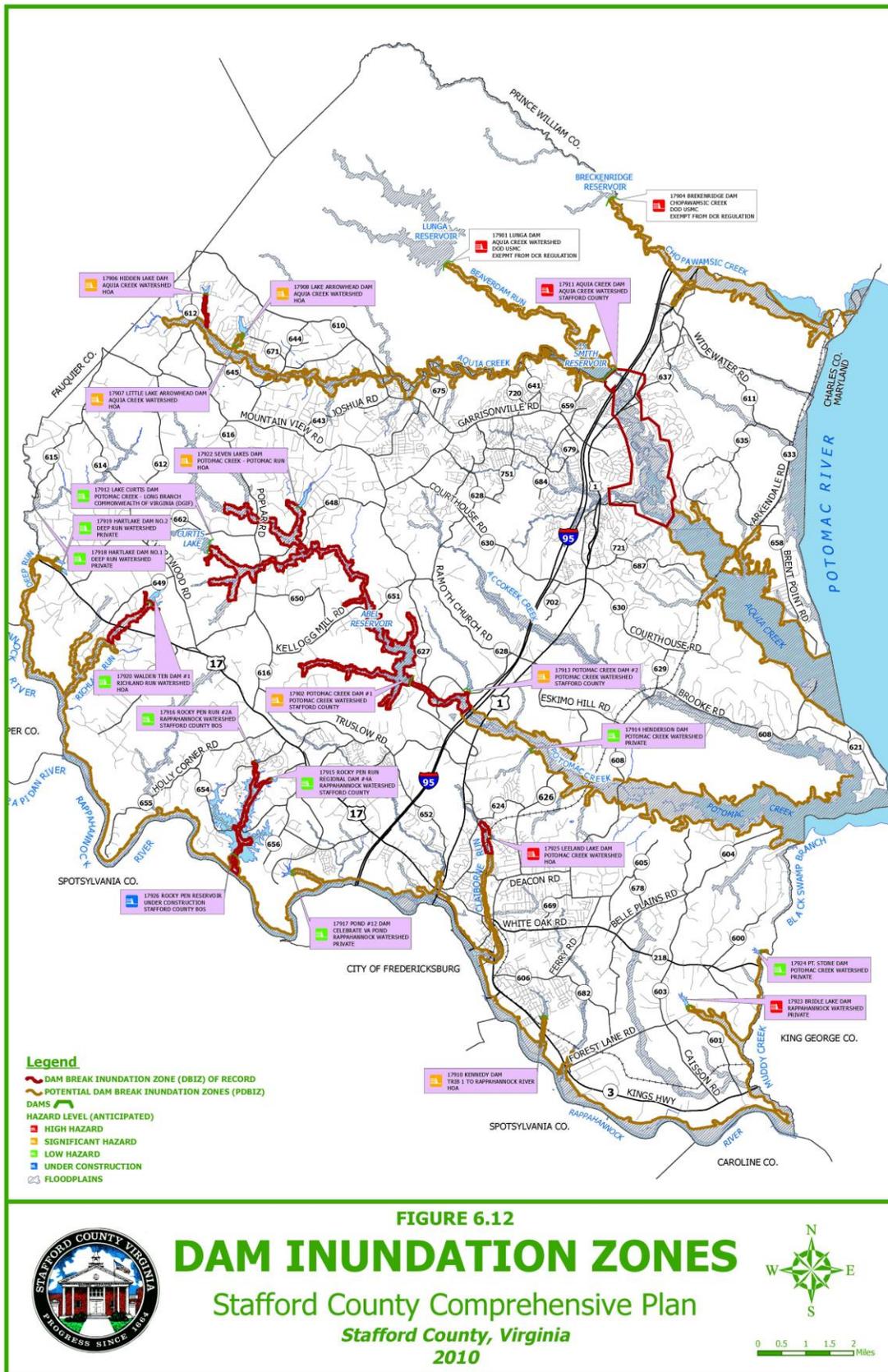
### 6.9.4 *Dam Inundation Zones*

A dam is a man-made structure, across or outside of a watercourse, used or to be used to retain or store waters or other material. The term includes (i) all dams that are 25 feet or greater in height and impound more than 15 acre-foot of water, and (ii) all dams that are six feet or greater in height and impound more than 50 acre-foot of water. A Dam Break Inundation Zone is the area downstream of a dam likely to be inundated or otherwise directly affected because of a dam failure. Any proposal to encroach the Dam Break Inundation Zone shall meet the requirements set forth in Sections 10.1-606.2 and 10.1-606.3 of the Code of Virginia.

There are 22 listed dams in Stafford County, of which 20 are subject to Department of Virginia Conservation and Recreation (DCR) regulations. Two dams located on the Quantico Marine Base are federally owned and not subject to DCR regulation. The list of dams is provided in Table 6.29 and the location of these dams and potential impact areas are identified in Figure 6.12.

Table 6.30 Regulated Dams in Stafford County

<b>No.</b>	<b>DCR Dam No.</b>	<b>Name of Dam</b>	<b>Hazard Potential Classification</b>
1	17901	Lunga Dam	High
2	17902	Potomac Creek Dam #1	Significant
3	17904	Breckinridge Dam	High
4	17906	Hidden Lake Dam	Significant
5	17907	Little Lake Arrowhead Dam	Significant
6	17908	Lake Arrowhead Dam	Significant
7	17910	Kennedy Dam	Significant
8	17911	Aquia Creek Dam	High
9	17912	Lake Curtis Dam	Low
10	17913	Potomac Creek Dam #2	Significant
11	17914	Henderson Dam	Low
12	17915	Rocky Pen Run Regional Pond #4 Dam	Low
13	17916	Rocky Pen Run #2A Dam	Low
14	17917	Celebrate VA Pond #12 Dam	Low
15	17918	Hartlake #1 Dam	Significant
16	17919	Hartland #2 Dam	Significant
17	17920	Walden Ten # 1 Dam	Low
18	17922	Seven Lakes Dam	Significant
19	17923	Bridle Lake Dam	High
20	17924	Pt. Stone Dam	Low
21	17925	Leeland Lake Dam	High
22	17926	Rocky Pen Run Reservoir Dam	High



### 6.9.5 *Wetlands*

According to the U.S. Army Corps of Engineers wetlands are “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, wet meadows and similar areas.” Wetlands provide important water quality controls by filtering pollutants, providing flood control and providing flood and sediment control. Wetlands also provide wildlife habitats.

The County has 17,450 acres of wetlands, about 10% of the County’s land area. Both tidal and non-tidal wetlands are located within the County. The County’s tidal wetlands are affected by the ebb and flow of the tide of the Atlantic Ocean by way of the Chesapeake Bay. The non-tidal wetlands occur inland along streams, lakes and ponds.

### 6.9.6 *Groundwater*

Groundwater is an available natural resource serving the County. The groundwater is recharged through the percolation of water through soil or through aquifer recharge areas. The quality and quantity of groundwater in Stafford County relate specifically to the two physiographic provinces. In the Piedmont province the groundwater supply relies on fractures in the bedrock. This source of groundwater is generally protected from surface impacts of pollution and runoff. Yet, a major issue for this source of groundwater is deep pumping and drought.

In the Coastal Plain province the groundwater supply relies on precipitation recharge and permeability of sands and gravels for storage. The groundwater of the Coastal Plain province is not as impacted by deep pumping and drought as in the Piedmont province, yet surface impacts such as pollution and runoff are a much greater threat in this area. The pollution of groundwater is especially harmful because, while surface water can somewhat be treated, once the groundwater is polluted it cannot be treated.

An important part of the County’s groundwater sources is the Coastal Plain Aquifer Recharge Area, which is also known as the Fall Zone. In this area the layers that make up the Coastal Plain aquifers slope upward to intersect the surface and the majority of the groundwater recharge occurs. The Aquifer Recharge Area, which is generally located along Interstate 95, is particularly at risk of contamination from surface impacts such as pollution and runoff as well as a decrease in recharge from increases in impervious surfaces. Also located over the Aquifer Recharge Area is the designated County Growth Area. This presents a major environmental issue because, while the purpose of the Growth Area is to condense growth and minimize the impacts of development on the land and the community, the location over the Aquifer Recharge Area

clusters growth and land cover over an area that should be preserved for the protection of groundwater.

The County's Groundwater Protection Plan provides recommendations of well protection prioritization such as protecting wells far removed from the water system while making wells in proximity to the water system less of a priority. The Plan also emphasizes the need to protect the groundwater recharge from pollution.

Potential mitigation tools the Plan mentions include identifying existing sources of potential pollution and ensuring that essential spill prevention and cleanup measures are in place as well as applying an overlay zoning district to ensure site plans for new development incorporate adequate pollution prevention measures. These measures have not yet been adopted by the County.

### *6.9.7 Forest and Wildlife Resources*

#### Forestland

In addition to being an important natural resource, the forestland of Stafford County is an essential part of protecting the environmental quality of the whole community. The forestland provides a habitat, nesting ground and food source for the area's wildlife. Forestland also provides an area for water recharge, prevents runoff and soil erosion and filters pollution, playing a prime role in the prosperity of Stafford's natural environment. An economic benefit from the forestland is the renewable resource it provides. The County forests harvest deciduous hardwoods, mixed soft woods and pine.

The majority of the County's forested lands are located on private lands. According to Stafford County's Wildlife Habitat Protection Plan using a 1985 report entitled "The Forest Resources of Stafford County", it is estimated that from 1985 to 2000 the County has lost 20,200 acres of forestland. The Wildlife Habitat Protection Plan also states that in 2000 the County was estimated to have 100,000 acres of forestland, 21,876 of which is located in Quantico Marine Corps Combat Development Command's boundaries. In just two years, from 1999 to 2001 the County lost about 1,400 acres of forested lands as a result of development. With the County's continued development, the current amount of forestland is likely to be substantially lower than the 100,000 acres estimate of the 2000 Wildlife Habitat Protection Plan.

#### Wildlife Habitat

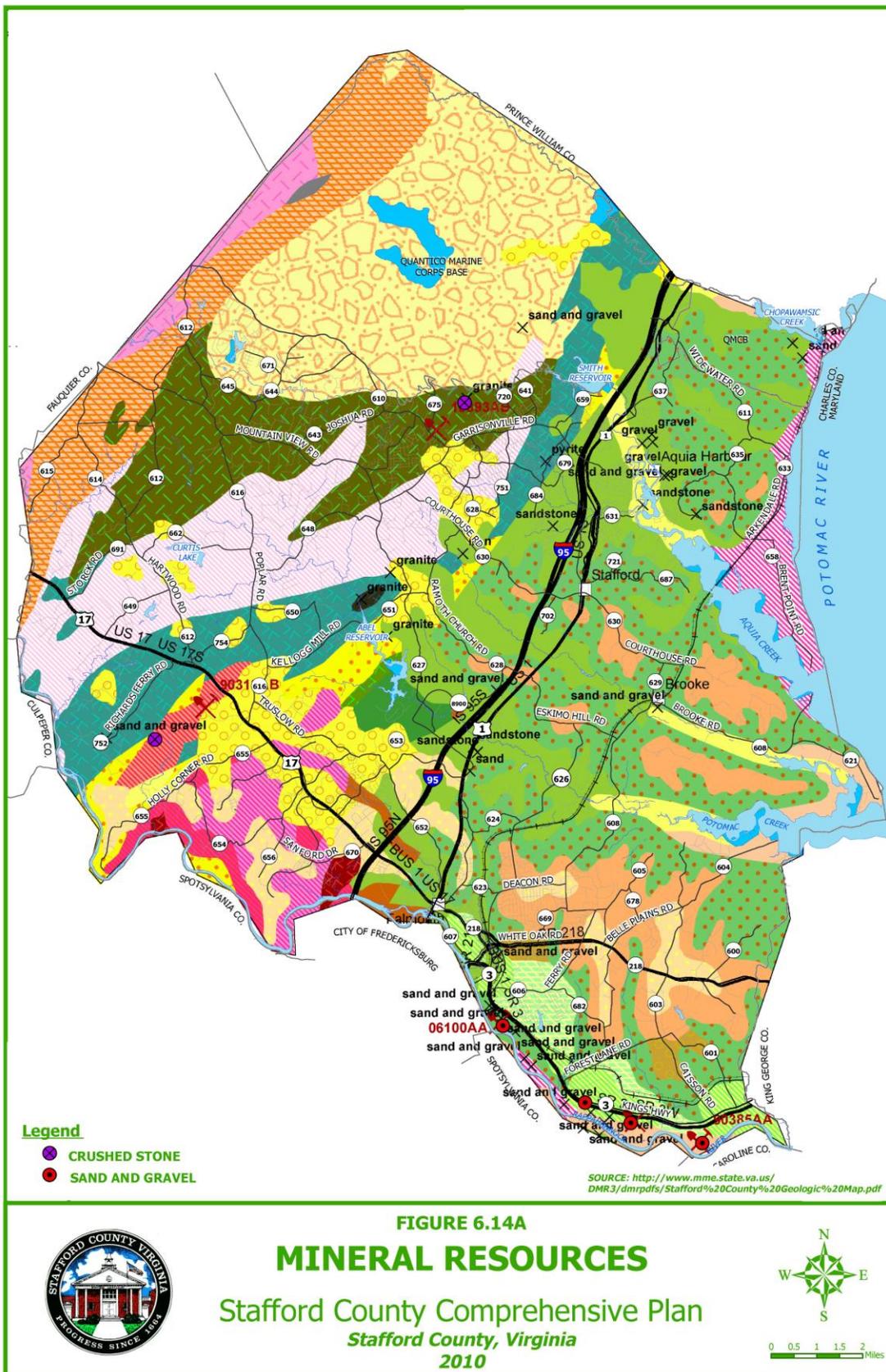
Within Stafford County, the Virginia Department of Game and Inland Fisheries identifies about 242 wildlife species. The wildlife is dispersed throughout the community finding shelter in different habitats of the County. Of the County's wildlife species, 101 are listed as wetland species, 26 are listed as beach species, 90 are listed as riparian area species, 108 are listed as water species and 80 are listed as urban area species (some species are listed in more than one area). The County is also home to a number of Federal and State listed endangered species.

In order to maintain the wildlife habitat the County needs to maintain the overall quality of natural resources. A successful wildlife habitat means protection of forestlands and water quality which means maintaining quality soils, floodplains, wetlands, etc. Overall protecting the wildlife habitat means minimizing impacts of development.

### *6.9.8 Findings*

- Stafford County consists of a rolling landscape with slopes along the County's waterways
- The County is made of two geological provinces, the hard bedrock of the Piedmont province and the soft sediments of the Coastal Plain, which are separated by the Fall Line that crosses the County generally along Interstate 95
- Stafford County is a Chesapeake Bay Preservation Area, meaning that the County must adopt programs that protect the quality of water through land use regulations
- 12% of the County's land area is located in a 100-year flood hazard area
- 10% of the County's land area is a tidal or non-tidal wetland
- The County has a substantial amount of groundwater resources east of Interstate 95, but this area is very susceptible to contamination. West of Interstate 95 the groundwater sources are less abundant, but are not as susceptible to contamination
- The Coastal Plain Aquifer Recharge Area, located along Interstate 95, is where most of the County's groundwater recharge occurs and where the groundwater is most susceptible to pollution
- The County's Growth Area is located over the Coastal Plain Aquifer Recharge Area
- From 1985 to 2000 the County lost 20,000 acres of forestlands
- The County has 242 wildlife species that depend on the natural resources





# GEOLOGY AND MINERAL RESOURCES OF STAFFORD COUNTY, VIRGINIA

## Mineral Resources

-  Active Mine (permit #)
-  Mineral Occurrence (commodity)

## Key

-  City or Town
-  Interstate
-  Primary roadway
-  Railway
-  water

## Geology (see expanded explanation)

### Piedmont

-  my - mylonite
-  PMf - Falmouth Intrusive Suite
-  Sf - Falls Run Granite Gneiss
-  Oq - Quantico Formation, slate and schist
-  Oqq - Quantico Formation, micaceous quartzite
-  OCgg - Goldvein pluton
-  OCpg - plagioclase tonalite
-  OCu - metasedimentary rocks, undivided
-  OCp - phyllite
-  Cl - Lunga Reservoir Formation, metadiamictite
-  OCTj - trondhjemite
-  Ccv - Chopawamsic Formation
-  Cta - Ta River Metamorphic Suite
-  Cg - amphibole metagabbro
-  CZg - Garrisonville Mafic Complex, amphibolite, etc.
-  CZh - Holly Corner Gneiss
-  dgn - quartz diorite gneiss
-  Ymd - porphyroblastic garnet-biotite gneiss

### Coastal Plain

-  al - alluvium (Holocene)
-  Qt - Tabb Formation
-  Qsh - Shirley Formation
-  Qcc - Charles City Formation
-  QTW - Windsor Formation
-  Tb1 - Bacons Castle Formation
-  Tc - Chesapeake Group
-  psg - sand and gravel (Pliocene)
-  msg - sand and gravel (Miocene)
-  Tl - Lower Tertiary deposits
-  Kp - Potomac Formation

## Data Sources:

Geology: Virginia Division of Mineral Resources (DMR), 2003, Publication 174, Digital Representation of the 1993 Geologic Map of Virginia, scale 1:500,000.

Active Mine Locations: Virginia Division of Mineral Mining, scale 1:24,000.

Mineral Occurrences: DGMR Mineral Resources of Virginia database, scale 1:24,000.

Virginia Department of Mines, Minerals, and Energy  
Division of Geology and Mineral Resources  
Charlottesville, VA  
06 October 2008

Figure 6.14B – Mineral Resources Legend

## 6.10 Transportation

The movement of people and goods around a community is determined by the effectiveness of its transportation network. To assess the existing transportation network in Stafford County and identify areas of deficiency, the following elements were examined: roads; bus service; rail service; air service; and bicycle and pedestrian circulation. Figure 6.15 on the following page shows the existing transportation network and street classifications. Figure 6.16 shows other transportation facilities in the County.

### 6.10.1 Road Network

#### Interstates

Interstate 95 passes through Stafford County. I-95 is a major north-south corridor along the east coast which stretches from New England to Florida. More regionally, I-95 provides access to Washington, DC and the state capital of Richmond. I-95 can be accessed at four interchanges in the County located at Garrisonville Road, Courthouse Road, Centreport Parkway and Warrenton Road.

#### US Routes

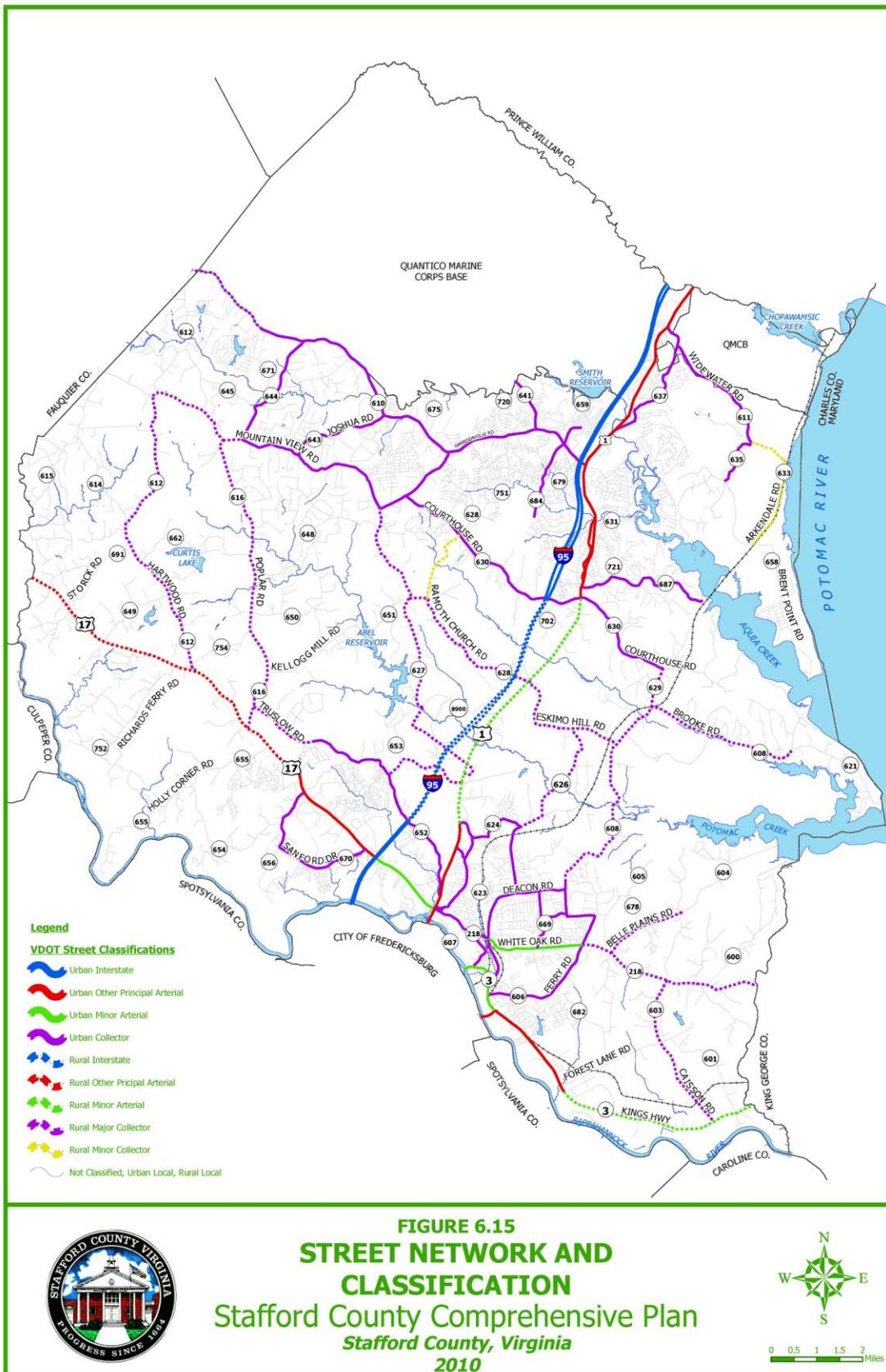
Jefferson Davis Highway / Cambridge Street (US-1) is a major north-south arterial which runs parallel to I-95 through the center of the County. Warrenton Road is a major east-west arterial that runs along the southwest boundary of the County north of Jefferson Davis Highway. Warrenton Road joins Jefferson Davis Highway / Cambridge Street as it exits the County into Fredericksburg.

#### Major State Routes

There are several state routes in Stafford County that provide connections to other counties, as well as function as arterials within the County. Kings Highway travels along the southern boundary of the County from just outside of the Falmouth area to King George County. The Butler Road / White Oak Road corridor is another east-west connection between Falmouth and King George County. Garrisonville Road is an east-west corridor along the northern boundary of the County that provides access between the interstate and Fauquier County.

#### Remaining Road Network

The remaining road network is made up of roads serving as collectors, and local roads in subdivisions. Collector roads often connect a number of local roads to arterials and help to form the major road network. These roads are primarily narrow roads and as traffic volumes increase, they often experience safety and traffic capacity problems.



### *6.10.2 Roadway Jurisdiction*

The Virginia Department of Transportation (VDOT) has the primary responsibility for maintaining all public roads in Stafford County. The County works with VDOT to identify necessary road improvements.

### *6.10.3 Traffic Volume*

Based on 2009 road counts from VDOT, I-95 carries between 136,000 and 147,000 vehicles daily through Stafford County. Jefferson Davis Highway carries between 13,000 and 29,000 vehicles on an average day. Depending on the section, Warrenton Road carries between 18,000 and 40,000 vehicles daily. Near the I-95 interchange, Garrisonville Road moves as many as 52,000 vehicles each day. Courthouse Road carries as many as 16,000 vehicles per day near the I-95 interchange. Near Shelton Shop Road, Courthouse Road carries 10,000 vehicles per day.

### *6.10.4 Traffic Safety*

Traffic accident records are kept by the Stafford County Sheriff's Office. Each accident is recorded using a Global Positioning System (GPS) to identify its location. When these points are plotted on a map, areas where there are high frequencies of accidents can be recognized.

#### Roadway Management and Improvement

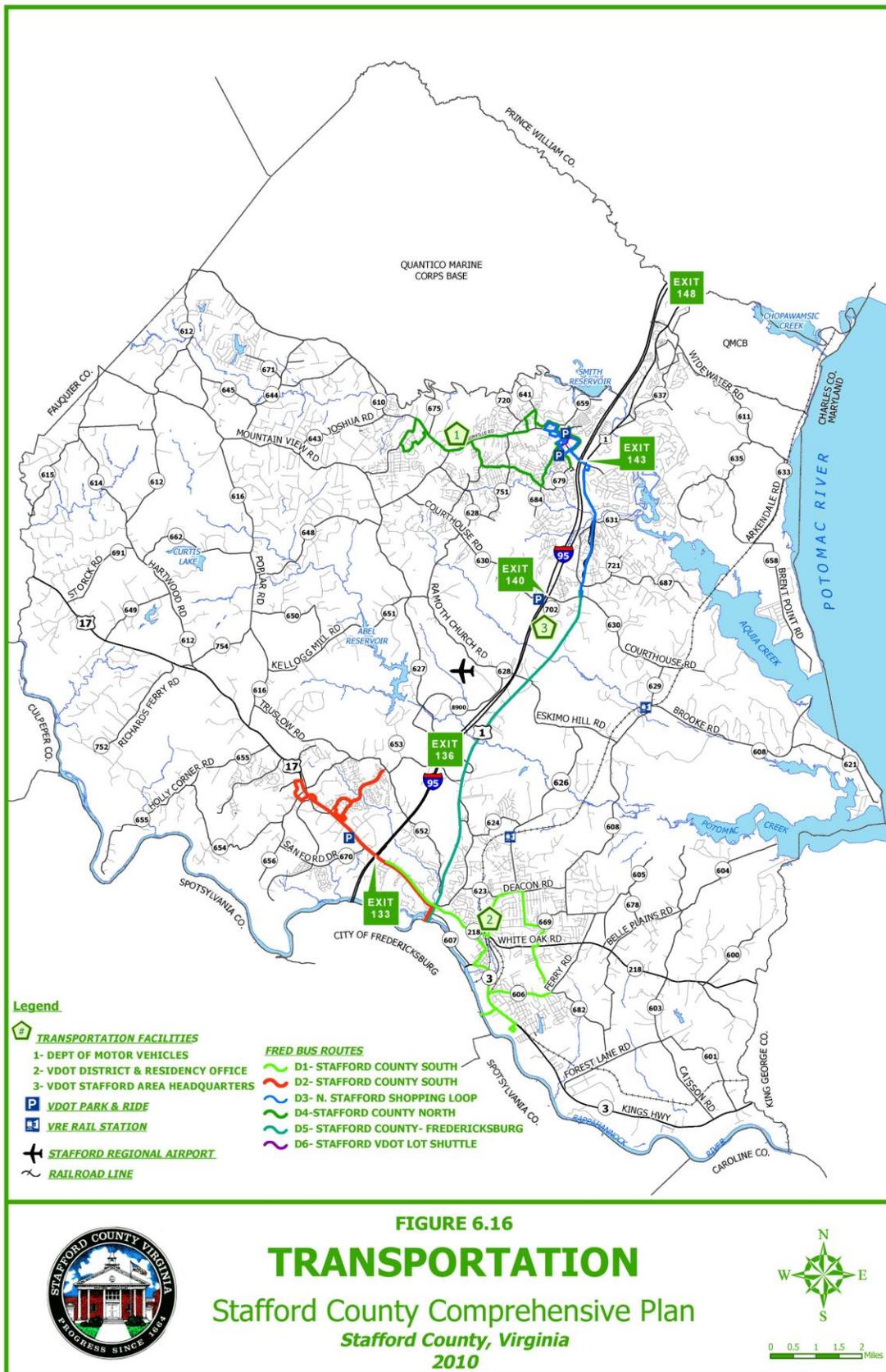
Stafford County actively coordinates with VDOT to promote access management for development. The County also works with FAMPO, our local Metropolitan Planning Organization, and the state to identify funding opportunities for transportation improvements. Stafford County seeks to work with new developers to reduce impacts to the roadway network and through proffers and impact fees to help off-set the cost of new development.

### *6.10.5 Bus Service*

The FREDericksburg Regional Transit (FRED) provides bus service to Stafford, Fredericksburg, and the surrounding area. Connections to Washington, D.C. are by private commuter bus.

### *6.10.6 Rail Service*

The Virginia Railway Express (VRE) operates two rail lines that carry commuters to Washington, D.C. The Fredericksburg Line extends from Fredericksburg to Washington, serving Stafford County. The Fredericksburg Line has two stops in Stafford County at Leeland Road and at Brooke Road. Commuters can also access the VRE at Fredericksburg and Quantico, just outside of the County. Park & Ride facilities are located at all of the stations.



### *6.10.7 Commuter Lots*

There are six commuter lots located within Stafford County. Two of them are operated by the Virginia Railway Express (VRE) in conjunction with the rail stations. The other four are maintained by VDOT and are in close proximity to Interstate 95. From these lots, people can take a train, bus, or car pool.

The two VDOT Park and Ride lots along Garrisonville Road are over capacity with limited ability for expansion. As several of the other lots are nearing capacity, it is clear that additional commuter parking capacity will be needed to meet the needs of the County over the next 20 years. This may be accommodated through the expansion of existing lots or development of new sites. To date, locations for new commuter lots have not been identified.

### *6.10.8 Air Service*

Stafford County has its own regional airport and is within a short drive from two major airports.

Stafford Regional Airport is centrally located in the County. An independent authority operates the airport with representatives from Stafford, Prince William, and the City of Fredericksburg. The facility is 550 acres with a 5,000-foot airstrip. The runway can accommodate private and business class jets with wingspans of up to 80 feet. There is no passenger service at this airport. The airport was built to accommodate up to 75,000 operations per year and is currently receiving an average of 800 aircraft a month (performing more than 2,500 flights), a third of which is corporate traffic.

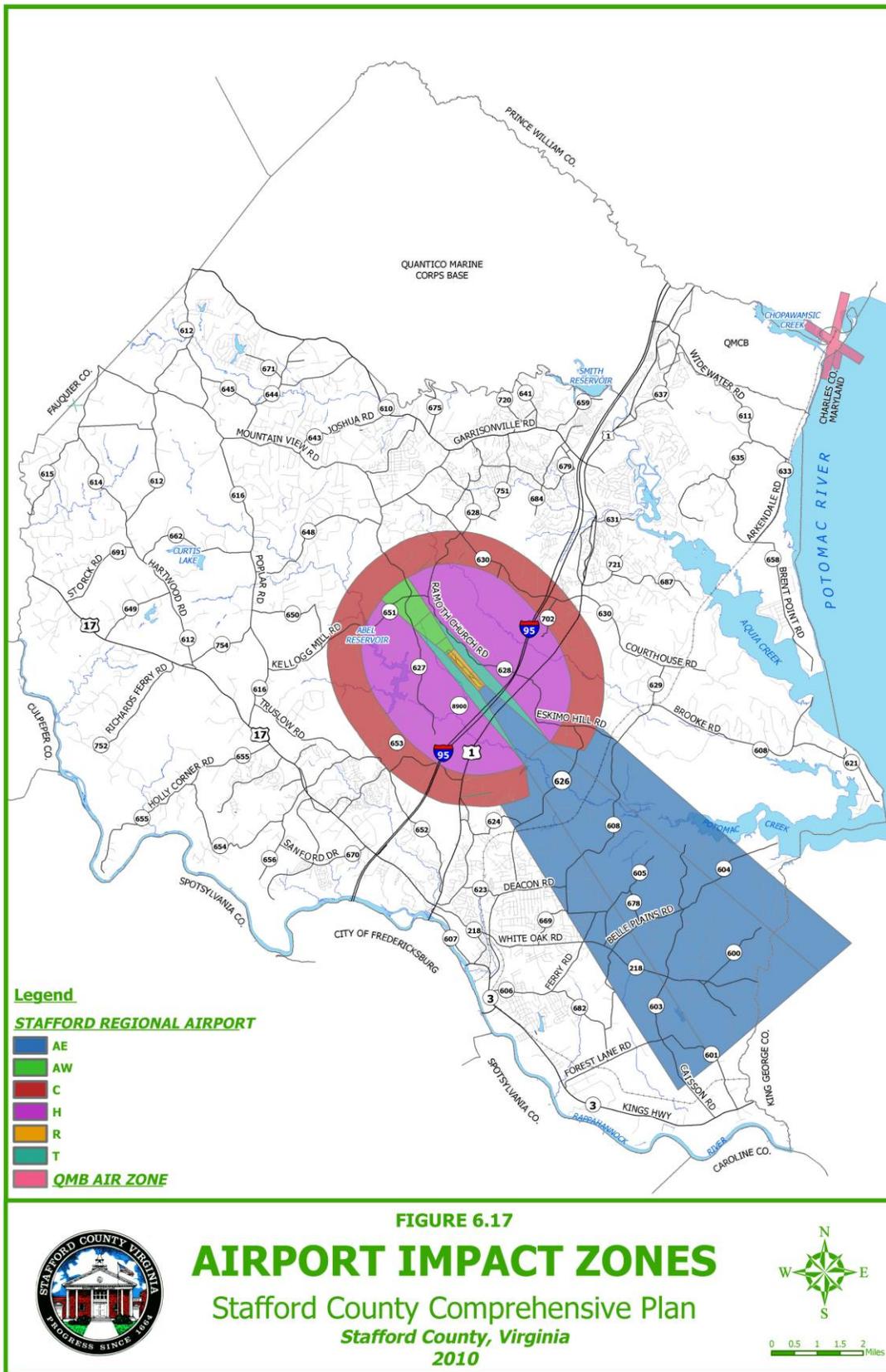
### *6.10.9 Bicycle and Pedestrian Facilities*

According to the 1996 Bicycle/Pedestrian Facilities Plan, Stafford County is lacking adequate facilities for bicycle and pedestrian transportation and recreation. Many of the roadways in the County are considered unsafe for bicycle and pedestrian needs due to width and line of sight. Some trails are available in County parks. The County is working toward establishing a countywide network of trails for bicycle and pedestrian use. The County is also working with the Fredericksburg Area Metropolitan Planning Organization (FAMPO) to create a regional network.

### *6.10.10 Findings*

- There are four interchanges on I-95 in Stafford County
- Increasing population negatively effects the existing roads network
- Safety is an issue on many of the narrow, winding roads
- The County works closely with many partners to provide funding for facility improvements.
- Bus service for Stafford County is provided by FREDericksburg Regional Transit (FRED)

- Rail service is available in the County and Quantico for commuters traveling to Northern Virginia and Washington D.C. on VRE
- The commuter lots in Stafford County are at or have exceeded their capacity.
- The County is served by a regional airport
- The County lacks a sufficient network for bicycle and pedestrian circulation.





## 7.0 Implementation Plan

This document spells out concrete actionable steps required in implementing the Comprehensive Plan. The actionable steps come in various forms. The Implementation Plan includes an Action List, Action Timeline, and Monitoring and Tracking Program.

The **Action List** categorizes tasks into main goal topics, including, but not limited to, Land Use, Transportation, and Housing. The goals objectives and policies in Chapter 2 of the Plan relate to the updating of **Comprehensive Plan elements**, amending **land development ordinances**, and carrying out **short term projects** and **ongoing programs** to implement the goals of the Plan.

The Plan includes an **Action List Timeline** that expands on the Action List by prioritizing the tasks with timing and completion dates, and identification of responsible parties.

A final but important step in Implementation is **Tracking and Measuring** the County's progress toward the established goals, objectives, and policies.

### **A. ACTION LIST**

#### **LAND USE (LU):**

##### LU1) Redevelopment Areas

- (a) Adopt the individual Redevelopment Area Plans for Boswell's Corner, Courthouse, Southern Gateway, and Falmouth (1.3.3)
- (b) Establish zoning districts that promote type, intensity, and form of development envisioned in each of the Redevelopment Area Plans.

##### LU2) Urban Development Areas

- (a) Area concept plans should be developed for each of the UDAs that follow the guiding principles in the policies and recommendations within the Land Use Plan. The order in which the Plans will be developed needs to be prioritized. (1.2.5 – 1.2.9, 1.7.1)
- (b) Establish zoning district standards for each UDA that promote compact, pedestrian oriented development and are tailored to meet the goals of each individual UDA as envisioned in the Comprehensive Plan and individual Concept Plans. (1.2.5)

- LU3) Traditional Neighborhood Developments –
- (a) Review and amend the Traditional Neighborhood Development Plan recommended goals and design guidelines to integrate with Urban Development Area and Redevelopment Area concepts.
  - (b) Examine performance zoning, incentive zoning, and form based codes (1.2.2, 1.2.5)
- LU4) Transfer of Development Rights (TDRs)
- (a) Amend the Comprehensive Plan to recommend TDR policies (1.2.2, 1.6.1)
  - (b) Amend the County Code to establish TDR standards, in accordance with the recommendations of the TDR Plan. (1.2.2, 1.6.1)
- LU5) Growth Management/Rural Preservation
- (a) Consider cluster regulations for Agricultural and Rural areas (1.6.5)
  - (b) Continue support of the County’s Purchase of Development Rights program (1.2.2, 1.6.2)
  - (c) Encourage private landowner dedication of conservation easements through the education of programs available and resultant benefits (1.6.3)
  - (d) Establish a program to monitor the effectiveness of development regulations in focusing residential development into the Urban Services Area by tracking the location of new development (1.2.11)
- LU6) Short-term Projects
- (a) Amend the Zoning Ordinance to clean up inconsistencies, bring into accordance with the State Code, and consider recommendations of the Comprehensive Plan. Amendments to the Zoning Ordinance may require a phased approach.
  - (b) Amend the Subdivision Ordinance to clean up inconsistencies and bring into accordance with the State Code.
  - (c) Establish standards for Impact Statements to be required for new development projects (2.5.1)
- LU7) Ongoing Programs
- (a) Review development proposals for compliance with goals of the plan (1.1.1 – 1.1.3)
  - (b) Notify Marine Corps Base Quantico on any proposed water and sewer line extensions outside the USA and within 5 miles of the Base (4.8.8)

**ENVIRONMENTAL (EN):**

- EN1) Create a Master Environmental Plan that consolidates the following planning documents (Objective 3.9):
- Regional SWM/Reservoir Protection Plan
  - Shoreline Area management plan

- Chesapeake Bay Preservation Area Plan
- Wildlife Habitat Protection Plan
- Groundwater Resource Protection Plan

EN2) SWM/Reservoir Protection

- (a) Amend and integrate the Regional SWM/Reservoir Protection plan into a Master Environmental Plan
- (b) Amend the Stormwater Management Ordinance (3.3.1)
- (c) Establish a Reservoir Overlay District Ordinance (4.2.4)
- (d) Amend the Erosion Control Ordinance to update erosion control methods and enforcement procedures as new technology becomes available. (3.3.5)
- (e) Study and evaluate the need for the establishment of a stormwater utility (3.3.1)
- (f) Retrofit older stormwater management facilities to improve the quality of stormwater runoff (3.3.6)
- (g) Establish reservoir pre-treatment monitoring programs (4.2.3)

EN3) Shoreline Area Management

- (a) Amend and integrate the Shoreline Area Management Plan into a Master Environmental Plan
- (b) Evaluate the need to amend the Wetlands Ordinance.

EN4) Chesapeake Bay Preservation Area

- (a) Amend and integrate the Chesapeake Bay Preservation Area Plan into a Master Environmental Plan
- (b) Reevaluate the Chesapeake Bay Ordinance and implement all recommendations within the Chesapeake Bay Plan, including, but not limited to additional protection of streams as allowed under the state code. (3.4.2)
- (c) Create an Environmental Quality Corridor (3.6.2)

EN5) Groundwater Resources

- (a) Amend and integrate the Groundwater Resource Protection Plan into a Master Environmental Plan
- (b) Establish a Groundwater Management ordinance (4.2.2)
- (c) Create monitoring program for surface and groundwater resources (3.3.8)

EN6) Other development standards

- (a) Establish tree cover requirements for new development (3.5.1)
- (b) Establish lighting guidelines and ordinance standards for development (3.8.1-3.8.4)
- (c) Adopt Rappahannock and Potomac River overlay districts to protect sensitive environmental resources.

- EN7) Explore programs and funding opportunities that would allow for the permanent protection of the remaining land on Crow’s Nest peninsula that is not publicly owned (3.7.2)
- EN8) Provide ongoing education to the public about “green programs” and federal and state mandates (3.1.2)

**TR - TRANSPORTATION:**

- TR1) Transportation Implementation Plan
  - (a) Adopt a Transportation Implementation Plan as an element of the Comprehensive Plan that includes the recommended transportation improvements needed to accommodate the projected growth reflected in the Land Use Plan.
  - (b) Update the County’s traffic model and utilize in the development of the Transportation Implementation Plan
- TR2) Bike and Pedestrian Facilities Plan
  - (a) Update this element of the Comprehensive Plan to identify new pedestrian networks and identify intra- and inter-county bike networks (6.3.3)
  - (b) As part of the development of the Plan, explore the potential for bicycle and pedestrian trails to be located in pipeline, electrical, or other easements to provide connectivity between open space and neighborhoods (6.3.5)
- TR3) Corridor Design Guidelines
  - (a) Establish corridor design guidelines that integrate land use with future transportation improvements in a manner that provides functionality with development that occurs in a manner that does not compromise the cultural landscape and historical development patterns (6.5.2)
  - (b) Evaluate the existing US-1 Corridor Plan element of the Comprehensive Plan and consider amendments or integration into County wide corridor design guidelines.
- TR4) Multi-modal Transportation
  - (a) Amend the County’s development regulations to establish incentives for development proposals that support alternative modes of transportation (6.2.1)
  - (b) Support the expansion of transit in the USA and UDAs (6.2.2)
  - (c) Support and promote regional rideshare and para-transit programs (6.2.4)
- TR5) Ongoing Programs
  - (a) Maintain the county-wide traffic model for use in evaluating any potential amendments to the Land Use Plan or future comprehensive updates.
  - (b) Conduct transportation impact assessments on any new or expanded roads proposed outside of the USA to evaluate their potential for increased development as result of the improvement (1.8.3)
  - (c) Support alternative routes to relieve congested corridors (6.4.5)

**UTILITIES (U):**

- U1) Update the Master Water and Sewer Plan to determine the need for modifications or additions to projected future water and sewer facilities based on the future growth patterns envisioned in the land use plan
- U2) Evaluate the need to amend the Water Supply Study element of the Comprehensive Plan in conjunction with the update to the Master Water and Sewer Plan
- U3) Evaluate the need to amend the Utilities Ordinance for compliance with the goals, objectives, and policies in the Comprehensive Plan.

**OTHER COMMUNITY FACILITIES AND INFRASTRUCTURE (CF):**

- CF1) Telecommunications Plan
  - (a) Update the Plan to ensure the provision of wireless services with minimal impact to residents while accommodating current and developing technology needs
  - (b) Amend the County Code to incorporate recommended development standards.
- CF2) Amend the Parks and Recreation Facilities Master Plan element of the Comprehensive Plan to plan for the current and projected facility needs(4.7.4). Amendments should consider incorporation of natural areas and low-impact uses (3.7.1), and identification of gaps in park locations (4.7.1)
- CF3) Review and adopt the Capital Improvement Program on an annual basis
- CF4) Review, modify and/or expand on the Level of Service Standards that are included as part of the “Comprehensive Plan 2010-2030”.
- CF5) Educate citizens that areas outside the USA may have limited services

**HOUSING (H):**

- H1) Affordable Housing
  - (a) Create an Affordable Housing Task Force (5.1.1)
  - (b) Establish incentives in the zoning ordinance for the development of affordable housing, including density bonuses, etc. (5.2.1)
  - (c) Modify proffer guidelines to provide credits for affordable housing, the provision of affordable housing with development projects or the contribution of funds towards construction of affordable housing (5.1.2)
  - (d) Identify publicly owned lands that could be redeveloped as public housing for public employees (5.2.2)
- H2) Ongoing Programs
  - (a) Maintain and update population and housing data
  - (b) Promote housing choice by encouraging the inclusion of Universal Design features into new residential uses (5.3.4)

**PUBLIC SAFETY (PS):**

- PS1) Amend the Public Safety Plan element of the Comprehensive Plan to reflect the current needs of the community.
- PS2) Amend the Zoning Ordinance to establish a military impact overlay district with regulations pertaining to density of development, noise reduction and disclosure and height of structures (4.8.2-4.8.5)
- PS3) Amend the Zoning Ordinance to establish land use compatibility standards in approach patterns to airports to minimize land use conflicts regarding safety and noise (4.9.1)
- PS4) Establish engineering requirements for development to minimize geotechnical hazards (4.3.2)
- PS5) Resource Sustainability
  - (a) Encourage active agriculture uses through land use management practices such as TDRs, PDR's, conservation easements, and cluster development. (4.1.1)
  - (b) Promote creation of a farmer's market, agri-tourism and community gardens (4.1.2)
  - (c) To ensure adequate energy resources, educate the public on energy conservation measures (1.4.3)
- PS6) Ongoing Programs
  - (a) Work with utilities to mark easements and educate the public regarding safety measures (4.5.2 – 4.5.3)
  - (b) Educate the public on flooding awareness, tidal water rise and storm surge (4.4.1)
  - (c) To protect drinking water resources, educate the public regarding proper use of fertilizers and pesticides (4.2.6)

**FISCAL RESPONSIBILITY (FR):**

- FR1) Financial Impact Model
  - (a) Adopt a Financial Impact Model as a new element of the Comprehensive Plan (2.4.1)
  - (b) Prepare an annual update to the Financial Impact Model (2.4.1)
- FR2) Proffers
  - (a) Evaluate the need to modify monetary proffer methodology.
  - (b) Recalculate proffer guidelines on a regular basis (2.7.5)
- FR3) Transportation Impact Fees
  - (a) Recalculate transportation impact fees on an annual basis (2.7.5)
  - (b) Continue collection of Transportation Impact Fees (2.7.2)
- FR4) Maintain an up-to-date assessment of the capital costs of development (2.7.1)
- FR5) Base Annual CIP decisions on the Public Facilities Plan and proximity to the USA and UDA

**CULTURAL RESOURCES (CR):**

- CR1) Cultural Resources Management
  - (a) Adopt a Cultural Resources Master Plan as an element of the Comprehensive Plan (9.1.1)
  - (b) Establish a Historic Preservation Ordinance that incorporates the recommendations of the Cultural Resources Master Plan (9.1.3)
  - (c) Place protective easements on County owned property with cultural resources (9.2.3)
  - (d) Establish a long term management and stewardship program for county-owned property with cultural resources (9.2.1)
  - (e) Educate citizens about federal state and local incentives for the long term preservation of heritage resources (9.1.7)
- CR2) Update the Falmouth Plan element of the Comprehensive Plan
- CR3) Update the Cemetery Ordinance (9.1.6)
- CR4) Update design guidelines for historic districts and historic gateway corridors (9.1.8)
- CR5) Maintain and update the county-wide cultural resources inventory as resources are discovered (9.1.2)

**ECONOMIC DEVELOPMENT (ED):**

- ED1) Economic Development Plan
  - (a) Update the Economic Development Plan element of the Comprehensive Plan to reflect the latest market trends and goals for the County.
  - (b) In updating the Economic Development Plan, establish targets for commercial growth such as 25% of land area for new development (7.1.1)
  - (c) Incorporate land use incentives into the Economic Development Plan to promote alternative rural economic development (7.3.1)

## **B. ACTION LIST TIMELINE**

This section serves to prioritize all of the recommended actions in the Plan. Projects are categorized in either the short term (year 1 or 2), mid-term, long term, or a combination. The corresponding action number is included before each action for reference.

\* See Key to abbreviations on page x.

<b>Action Number</b>	<b>Action Task - Plan Elements</b>	<b>Responsible Entity*</b>	<b>Short Term</b>		<b>Mid Term</b>			<b>Long Term</b>	<b>Complete by:</b>	
			<b>Year 1 (2011)</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6 +</b>		
<b>LAND USE</b>	LU1)(a)	Adopt the individual Redevelopment Area Concept Plans (1.3.3)	County Staff / PC / PRCF / BOS	XXXX						6/30/2011
	LU1)(b)	Establish zoning districts in each of the Redevelopment Areas	Econ Dev / P&Z / PC / BOS	XXXX	XXXX					12/31/2012
	LU2)(a)	Adopt Individual Urban Development Area Concept Plans (1.2.5 – 1.2.9, 1.7.1)	P&Z / PRCF / PC / BOS	XXXX	XXXX	XXXX				12/31/2013
	LU2)(b)	Zoning - establish new districts for UDAs	P&Z / PC / BOS / Consultant		XXXX	XXXX	XXXX			12/31/2014
	LU3)(a)	Review and amend TND Plan Goals	P&Z / PC / BOS		XXXX					6/30/2012
	LU3)(b)	Zoning - examine alternative zoning methods (as part of comprehensive zoning ordinance rewrite)	P&Z / PC / BOS		XXXX					6/30/2012
	LU4)(a)	Incorporate policies for Transfer of Development Rights into Comp Plan (1.2.2, 1.6.1)	P&Z / PC / BOS	XXXX						12/31/2011
	LU4)(b)	Zoning - Establish TDR standards	P&Z / PC / BOS	XXXX						12/31/2011
	LU5)(a)	Zoning - Consider A-1 and A-2 Cluster regulations (as part of comprehensive zoning ordinance rewrite)	P&Z / PC / PRCF / BOS	-	XXXX					6/30/2012
	LU5)(b)	Support the County PDR program	Co Admin / P&Z / Ag Comm/BOS	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	Ongoing

Action Number	Action Task - Plan Elements	Responsible Entity*	Short Term		Mid Term			Long Term	Complete by:
			Year 1 (2011)	Year 2	Year 3	Year 4	Year 5	Year 6 +	

LAND USE	LU5)(c)	Educate Landowners on land conservation programs	P&Z / COR / Public Information		XXXX		XXXX		XXXX	Ongoing -every other year
	LU5)(d)	Track location of new development to Monitor effectiveness of regulations	P&Z/PW	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	Ongoing
	LU6)(a)	Zoning Ordinance - Comprehensive re-write	P&Z / PC / BOS		XXXX	XXXX				12/31/2013
	LU6)(b)	Amend the Subdivision Ordinance	P&Z / PC / BOS		XXXX	XXXX				12/31/2013
	LU6)(c)	Establish standards for Impact Statements	P&Z / PC / BOS		XXXX					9/30/2012
	LU7)(a)	Review development proposals for compliance with the Plan	P&Z / PC / BOS	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	Ongoing - as needed
	LU7)(b)	Notify MCB Quantico of water and sewer extensions	P&Z	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	Ongoing - as needed

ENVIRONMENT	EN1)	Create a Master Environmental Plan (Obj 3.9)	P&Z / PW / PRCF / PC / BOS		XXXX	XXXX				6/30/2013
	EN2)(a)	Amend the Regional SWM Plan and integrate into the Master Env. Plan	P&Z / PW / PRCF/ PC / BOS		XXXX	XXXX				6/30/2013
	EN2)(b)	Amend the SWM Ordinance and evaluate the need for a stormwater utility	P&Z / Public Works / PC / BOS			XXXX				12/31/2013
	EN2)(c)	Zoning - Adopt a reservoir overlay district	P&Z / Utilities Dept / PRCF / PC / BOS	XXXX						12/31/2011
	EN2)(d)	Amend the Erosion Control Ordinance	P&Z / Public Works / PC / BOS			XXXX				12/31/2013
	EN2)(e)	Evaluate the need for a stormwater utility	PW/Finance/ BOS		XXXX					12/31/2012
	EN2)(f)	Retrofit SWM facilities to improve water quality	PW/BOS			XXXX	XXXX	XXXX	XXXX	Initial 2013 & Ongoing

Action Number	Action Task - Plan Elements	Responsible Entity*	Short Term		Mid Term			Long Term	Complete by:
			Year 1 (2011)	Year 2	Year 3	Year 4	Year 5	Year 6 +	

ENVIRONMENT	EN2)(g)	Establish reservoir pre-treatment programs	Utilities Dept.		XXXX	XXXX	XXXX	XXXX	XXXX	Initial 6/30/2012 & Ongoing
	EN3)(a)	Amend the Shoreline Area Management Plan and integrate into the Master Env. Plan	P&Z / PRCF / PC / BOS		XXXX	XXXX				6/30/2013
	EN3)(b)	Evaluate need to amend the Wetlands Ordinance	P&Z/PC/BOS				XXXX			6/30/2014
	EN4)(a)	Amend the Chesapeake Bay Preservation Plan and integrate into the Master Env. Plan	P&Z / PW / PRCF / PC / BOS		XXXX	XXXX				6/30/2013
	EN4)(b)	Zoning - Amend the Chesapeake Bay Overlay district	P&Z / PW / PC / BOS				XXXX			12/31/2014
	EN4)(c)	Zoning - Create an Environmental Quality Corridor	P&Z / PRCF/ PC / BOS				XXXX			12/31/2014
	EN5)(a)	Amend the Groundwater Resource Protection Plan and integrate into the Master Env. Plan	P&Z/PC/BOS		XXXX	XXXX				6/30/2013
	EN5)(b)	Establish Groundwater Management Ordinance	P&Z / PC / BOS	XXXX						12/31/2011
	EN5)(c)	Create surface and groundwater monitoring program	P&Z / PW / BOS					XXXX		12/31/2015
	EN6)(a)	Zoning - Establish tree cover requirements (as part of comprehensive zoning ordinance rewrite)	P&Z / PRCF / PC / BOS		XXXX	XXXX				12/31/2013
	EN6)(b)	Zoning - Establish lighting guidelines (as part of comprehensive zoning ordinance rewrite)	P&Z / PC / BOS		XXXX	XXXX				12/31/2013
	EN6)(c)	Adopt Rappahannock and Potomac River Overlay districts	P&Z / PC / BOS	XXXX						12/31/2011
	EN7)	Explore programs and funding to protect Crows Nest	P&Z / BOS		XXXX					12/31/2012
	EN8)	Provide education about "green programs" and federal and state mandates	P&Z / PW / PRCF / BOS		XXXX		XXXX		XXXX	Ongoing - every other year

Action Number	Action Task - Plan Elements	Responsible Entity*	Short Term		Mid Term			Long Term	Complete by:
			Year 1 (2011)	Year 2	Year 3	Year 4	Year 5	Year 6 +	

<b>TRANSPORTATION</b>	TR1)(a)	Adopt the Transportation Implementation Plan	PW / P&Z / PRCF / PC / BOS / Consultant	XXXX							9/30/2011	
	TR1)(b)	Update the County's traffic model and utilize in developing the Transportation Implementation Plan	PW / P&Z / PC / BOS / Consultant	XXXX							9/30/2011	
	TR2)(a)	Update the Bike and Pedestrian Facilities Plan	P&Z / PRCF / PC / BOS		XXXX	XXXX						12/31/2013
	TR2)(b)	Explore the potential for bicycle and pedestrian trails to be located in pipeline, electrical, or other easements	P&Z / PRCF		XXXX	XXXX						12/31/2013
	TR3)(a)	Establish corridor guidelines that integrate transportation with land use	PW / P&Z / PC / BOS		XXXX							12/31/2012
	TR3)(b)	Amend the US Route 1 Corridor Plan	PW / P&Z / PC / BOS		XXXX							12/31/2012
	TR4)(a)	Establish incentives for development proposals that support alternative modes of transportation	PW / P&Z / PC / BOS		XXXX							12/31/2012
	TR4)(b)	Support the expansion of transit in the USA and UDAs	PW / P&Z / PC / BOS	XXXX		Ongoing						
	TR4)(c)	Support and promote regional rideshare and para-transit programs	PW / BOS	XXXX		Ongoing						
	TR5)(a)	Maintain the county-wide traffic model for use in evaluating any potential amendments to the Land Use Plan	PW / P&Z	XXXX		Ongoing - Annual update						
	TR5)(b)	Conduct transportation impact assessments on any new or expanded roads proposed outside of the USA to evaluate their potential for increased development	PW / P&Z / PC / BOS	XXXX		Ongoing - as needed						
	TR5)(c)	Support alternative routes to relieve congested corridors	PW / P&Z / PC / BOS	XXXX		Ongoing - as needed						

Action Number	Action Task - Plan Elements	Responsible Entity*	Short Term		Mid Term			Long Term	Complete by:
			Year 1 (2011)	Year 2	Year 3	Year 4	Year 5	Year 6 +	

UTILITIES	U1)	Update the Master Water and Sewer Plan	Utilities Dept / PRCF / PC / BOS / Consultant	XXXX	XXXX						3/31/2012
	U2)	Amend Water Supply Study element of the Comp Plan	Utilities Dept / PRCF / PC / BOS / Consultant	XXXX						XXXX	12/31/2011 5-year update: 12/31/2016
	U3)	Evaluate need to amend the Utilities Ordinance	Utilities Dept / PC / BOS	XXXX							12/31/2011

OTHER COMMUNITY FACILITIES AND INFRASTRUCTURE	CF1)(a)	Update the Telecommunications Plan	P&Z/ Telecom Comm / PC / BOS	XXXX							9/30/2011	
	CF1)(b)	Amend the County Code to incorporate telecommunication facility standards	P&Z/ Telecom Comm / PC / BOS		XXXX							6/30/2012
	CF2)	Amend the Parks and Recreation Facilities Master Plan	PRCF / P&Z / PC / BOS / Consultant							XXXX	Start: 7/1/2020 Finish: 6/30/2022	
	CF3)	Review and adopt the Capital Improvement Program on an Annual Basis	Budget / Co Admin / Coord. w/ other Depts. / BOS	XXXX	Annual							
	CF4)	Review and amend Level of Service Standards	P&Z / Coord. w/ other Depts. / PC / BOS			XXXX					12/31/2013	
	CF5)	Inform citizens that areas outside of the USA may have limited services	P&Z / Public Information	XXXX	Ongoing							

HOUSING	H1)(a)	Create an affordable housing taskforce	Co Admin / P&Z / Soc. Serv. / BOS			XXXX					6/30/2013
	H1)(b)	Establish incentives for providing affordable housing	P&Z / PC / BOS				XXXX				12/31/2014

Action Number	Action Task - Plan Elements	Responsible Entity*	Short Term		Mid Term			Long Term	Complete by:
			Year 1 (2011)	Year 2	Year 3	Year 4	Year 5	Year 6 +	

HOUSING	H1)(c)	Modify proffer guidelines to incentivize affordable housing	P&Z / PC / BOS				XXXX			12/31/2014
	H1)(d)	Identify publicly owned lands that could be redeveloped as public housing	P&Z				XXXX			12/31/2014
	H2)(a)	Maintain and Update population and housing data	P&Z / PW	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	Ongoing
	H2)(b)	Encourage universal design in new housing	P&Z / PW		XXXX	XXXX	XXXX	XXXX	XXXX	ongoing

PUBLIC SAFETY	PS1)	Amend the Public Safety Plan element of the Comprehensive Plan	F&R / Sheriff / P&Z / BOS	XXXX	XXXX	XXXX				6/30/2013
	PS2)	Zoning - Create a Military Impact Overlay District (as part of the comprehensive zoning ordinance rewrite)	P&Z / PC / BOS		XXXX	XXXX				12/31/2013
	PS3)	Zoning - Establish compatible land use standards around airports (as part of the comprehensive zoning ordinance rewrite)	P&Z / PC / BOS		XXXX	XXXX				12/31/2013
	PS4)	Establish requirements to minimize geotechnical hazards	P&Z / PW / PRCF / PC / BOS				XXXX			6/30/2014
	PS5)(a)	Encourage active agriculture activities	Econ Dev / Va Coop Ext / Ag. Comm. / BOS	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	Ongoing
	PS5)(b)	Promote farmer's markets, agritourism, and community gardens	Econ Dev / PRCF / Va Coop Ext / Ag. Comm. / BOS	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	Ongoing
	PS5)(c)	Encourage energy conservation measures	P&Z / PW / Public Info / BOS			XXXX	XXXX	XXXX	XXXX	Establish by: 6/30/2013 & Ongoing
	PS6)(a)	Mark utility easements and educate the public on safety measures	P&Z / Public Info / Utility Providers			XXXX	XXXX	XXXX	XXXX	Establish by: 6/30/2013 & Ongoing
PS6)(b)	Educate the public on flooding awareness, tidal water rise and storm surge	P&Z / Public Info			XXXX	XXXX	XXXX	XXXX	Establish by: 6/30/2013 & Ongoing	

Action Number	Action Task - Plan Elements	Responsible Entity*	Short Term		Mid Term			Long Term	Complete by:
			Year 1 (2011)	Year 2	Year 3	Year 4	Year 5	Year 6 +	

PS6)(c)	Educate the public regarding proper use of fertilizers and pesticides	PW/PRCF/Tri-County SWCD / Coop Ext / Public Info			XXXX	XXXX	XXXX	XXXX	Establish by: 6/30/2013 & Ongoing
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<b>FISCAL RESPONSIBILITY</b>	FR1)(a)	Develop and adopt a Financial Impact Model as an element of the Comprehensive Plan	P&Z / Finance / PC / BOS	XXXX	XXXX					3/31/2012
	FR1)(b)	Prepare an annual update to the FIM	P&Z / Finance / PC / BOS	-	-	XXXX	XXXX	XXXX	XXXX	Ongoing
	FR2)(a)	Evaluate the need to modify monetary proffer methodology	P&Z / Finance	XXXX						9/30/2011
	FR2)(b)	Modify proffer guidelines on a regular basis	P&Z / Finance / Coord. w/ other Depts. / BOS		XXXX	XXXX	XXXX	XXXX	XXXX	Ongoing
	FR3)(a)	Recalculate Transportation Impact Fees on an annual basis	PW / P&Z / BOS	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	Ongoing
	FR3)(b)	Continue collection of Transportation Impact Fees	PW / P&Z	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	Ongoing
	FR4)	Maintain an up-to-date assessment of the capital costs of development	P&Z / Coordinate w Other Depts.		XXXX		XXXX		XXXX	Every other year.
	FR5)	Base CIP on Public Facilities Plan and proximity to USA and UDA	Budget / Co Admin / BOS	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	Ongoing

<b>CULTURAL RESOURCES</b>	CR1)(a)	Adopt a Cultural Resources Master Plan as an element of the Comprehensive Plan	P&Z / PRCF / PC / BOS			XXXX				12/31/2013
	CR1)(b)	Establish an Historic Preservation Ordinance	P&Z / PRCF / PC / BOS				XXXX			12/31/2014
	CR1)(c)	Place easements over county owned cultural resources	P&Z / PW / PRCF / BOS					XXXX		12/31/2015
	CR1)(d)	Establish a management and stewardship program for county-owned cultural resources	P&Z / PW / PRCF / BOS					XXXX		12/31/2015
	CR1)(e)	Educate citizens about incentives for the preservation of cultural resources	COR / P&Z / Public Info.		XXXX	XXXX	XXXX	XXXX	XXXX	Establish: 6/30/2012 & Ongoing

Action Number	Action Task - Plan Elements	Responsible Entity*	Short Term		Mid Term			Long Term	Complete by:
			Year 1 (2011)	Year 2	Year 3	Year 4	Year 5	Year 6 +	

CULTURAL RESOURCES	CR2)	Update Falmouth Plan element of the Comp Plan	P&Z / PC / BOS			XXXX				12/31/2013
	CR3)	Update the Cemetery Ordinance	P&Z / PC / BOS				XXXX			12/31/2014
	CR4)	Update historic design guidelines	P&Z / PRCF / PC / BOS				XXXX			12/31/2014
	CR5)	Maintain the Cultural Resources Inventory	P&Z / PRCF	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	Ongoing

ECONOMIC DEVELOPMENT	ED1)(a)	Update the Economic Development Plan element of the Comp Plan	Econ Dev. / P&Z / PC / BOS	XXXX	XXXX					6/30/2012
	ED1)(b)	Establish targets for commercial growth in the Plan Update	Econ Dev. / P&Z / PC / BOS	XXXX	XXXX					6/30/2012
	ED1)(c)	Include incentives in the Plan to promote alternative rural economic development	Econ Dev. / P&Z / PC / BOS	XXXX	XXXX					6/30/2012

Key to Abbreviations under Responsible Entity:

- |                                   |  |
|-----------------------------------|--|
| Ag Comm - Agricultural Commission | PRCF - Parks, Recreation & Community Facilities        |
| BOS - Board of Supervisors        | PW - Public Works                                      |
| Co Admin - County Administration  | Public Info - Public Information                       |
| COR - Commissioner of the Revenue | P&Z - Planning and Zoning                              |
| Econ Dev - Economic Development   | Soc Serv - Social Services                             |
| F&R - Fire and Rescue Department  | Tri-County SWCD - Soil and Water Conservation District |
| PC - Planning Commission          | Va Coop Ext - Virginia Cooperative Extension           |

## **C. MONITORING AND TRACKING**

As this Plan and specific Actions are being implemented, it will be important to evaluate the progress toward meeting the recommended priorities and timelines. To measure progress, a process to annually review and report of the Implementation Plan and methods for measuring progress should be established.

The following options are provided as possible methods to oversee evaluation and reporting:

- Include status update as part of the Planning Commission's annual report to the Board of Supervisors
- Place oversight of the evaluation and reporting with the Board of Supervisor's Community and Economic Development Sub-Committee.
- Establish a standing Planning Commission Comp Plan Committee to oversee the evaluation and reporting on progress.
- A combination of these efforts.

Methods for evaluating progress can be accomplished in multiple ways. The tasks that include scheduling and deadlines can be regularly evaluated. Ongoing projects may require the use of indicators. These may include the following:

- Amount of sidewalks and bicycle facilities
- Roadway indicators, incl. Levels of Service, accident data
- Housing affordability indicators
- School capacity
- Public Safety response times
- Water quality indicators
- Transit ridership
- Employment data
- Number of lots retired through TDR, PDR, and other conservation easements
- Track location of new development
- Proffer and Impact Fee tracking

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# **APPENDIX**

- A. Methodology for Calculating Capital Costs**
- B. Public Facilities Plan**
- C. Land Use Compatibility Background for Range  
Compatibility Use Zones**
- D. UDA Countywide Acreage Needs**
- E. Affordable Housing Study**
- F. Public Input Summary**
- G. Transportation Plan Background Information**



## A. Methodology for Calculating Capital Costs (by Residential Dwelling Unit Type)

### **Parks and Recreation**

Recommended level of Service for Parks:

20 acres of usable land per 1000 citizens

Cost per Acre:

\$170,396 to acquire and develop one acre of County Parkland  
 Used Patawomeck Park  
 Phase I cost information

Source: Stafford County Parks and Recreation Department

Cost per Housing Unit Type:

	A	B	C	(AxBxC)=D
Type of Housing Unit	Housing Unit Size	County Parkland per Capita	Cost/Acre to acquire and develop new parkland	Gross Cost per Housing Unit
Single Family	3.13	0.02	\$170,396	\$10,667
Townhouse	2.91	0.02	\$170,396	\$9,917
Multi-Family	2.57	0.02	\$170,396	\$8,758
Mobile Homes	1.89	0.02	\$170,396	\$6,440

Total Monetary Impact per Housing Unit:

Single Family :	\$10,667
Townhouse:	\$9,917
Multi-Family:	\$8,758
Mobile Home:	\$6,440

**Schools**

Cost per Student

Elementary:	\$15,224,000	/	950	students	=	\$16,025
Middle:	\$26,280,000	/	1100	students	=	\$23,891
High:	\$55,650,000	/	1800	students	=	\$30,917

Source: Stafford County      Public      Schools

Cost per Housing Unit Type:

Facility + Land	Cost Per Student	Single Family Detached Student Generation	Cost for Single Family Detached by Education Level	Townhouse Student Generation	Cost for Townhouse by Education Level	Multi-Family Student Generation	Cost for Multi-Family by Education Level	Mobile Home Student Generation	Cost for Mobile Home by Education Level
Elementary	\$16,025	0.26	\$4,167	0.31	\$4,968	0.18	\$2,885	0.26	\$4,167
Middle	\$23,891	0.16	\$3,823	0.14	\$3,345	0.06	\$1,433	0.12	\$2,867
High	\$30,917	0.24	\$7,420	0.18	\$5,565	0.08	\$2,473	0.13	\$4,019
<b>TOTAL</b>			\$15,410		\$13,878		\$6,791		\$11,053

Monetary Impact per Housing Unit:

Single Family :	\$15,410
Townhouse:	\$13,878
Multi Family:	\$6,791
Mobile Home:	\$11,053

**Libraries**

Recommended Level of Service is defined as land, building square footage and material (books, furnishings, and equipment) needed in order to meet county standards.

Square feet of Library floor area per capita =	1.00
(1) Standard building size (in square feet) =	30,488
( 2) Approximate Building Cost of New Library Facility (includes FF&E) =	\$10,300,000
Ideal acreage for one facility =	3.0
Cost Breakdown:	
Square feet/capita =	1.00
Building cost/ square foot =	\$338
Building cost/ capita =	<u>\$338</u>
Number of people served by one Library Facility =	30,000
Acres/capita =	0.000100
(3) Cost/acre =	\$100,000
Acre Cost/capita =	<u>\$10</u>
<b>Subtotal to acquire land and construct a new library facility per capita</b>	<b><u>\$348</u></b>
(4) Approximate Capital Equipment (books, materials, furnishings, technology) Cost =	\$1,500,000
Approximate equipment cost per square foot per capita =	<u>\$49</u>
<b>Gross Cost per Capita</b>	<b><u>\$397</u></b>

Type of Housing Unit	Housing Unit Size	Cost of Library and Materials per Capita	Cost Per Housing Unit
Single Family	3.13	\$397	\$1,243
Townhouse	2.91	\$397	\$1,155
Multi-Family	2.57	\$397	\$1,020
Mobile Home	1.89	\$397	\$750

**Monetary Impact per Housing Unit:**

Single-Family :	\$1,243
Townhouse:	\$1,155
Multi-Family:	\$1,020
Mobile Home:	\$750

- (1) Actual size of Falls Run Library
- (2) Approximate building cost of Falls Run Library
- (3) Approximated land cost for Aquia Library (Falls Run Library site was proffered)
- (4) Approximate opening day collection cost for Falls Run Library - 75,000 books/materials

**Fire and Rescue**

Recommended Level of Service is defined as land, building square footage, and equipment needed in service Stafford County.

Total Population of Stafford County as of July 1, 2009	124,166
Total Square Footage for all F&R Facilities =	131,422
Square Feet of Fire and Rescue Building Needed (per capita) =	1.058
(1) Actual building size (in square feet) =	15,833
(2) Approximate Construction Cost (per station) =	\$5,273,000
Building cost/square foot =	\$333
Building Cost/capita =	<u>\$353</u>
Total acres all F&R Facilities are located on =	31.44
Ideal acreage for one facility =	3.0
Acres/capita =	0.00025
(3) Cost/acre =	\$166,667
Acre Cost/capita =	<u>\$42</u>
(4) Approximate Capital Equipment Cost (per station) =	\$1,750,000
Approximate equipment cost/square foot =	\$111
Total Equipment Cost for all F&R Facilities =	\$14,525,895
Equipment Cost/capita =	<u>\$117</u>
Total Square Footage of the Public Safety Building =	114,960
Square Footage Designated to the F & R Department =	24,176
Utilized Square Footage by the F & R Department =	20,062
Utilized Square Footage by the F&R Department (per capita) =	0.162
Approximate Construction Cost (of utilized square footage) =	\$6,369,720
Building cost/ utilized square foot =	\$318
Building Cost/ capita =	<u>\$51</u>
<b>Gross Cost Per Capita</b>	<b><u>\$563</u></b>

Type of Housing Unit	Housing Unit Size	Cost of Fire and Rescue Facility and Equipment per Capita	Gross Cost Per Housing Unit
Single Family	3.13	\$563	\$1,762
Townhouse	2.91	\$563	\$1,638
Multi-Family	2.57	\$563	\$1,447
Mobile Home	1.89	\$563	\$1,064

Monetary Impact per Housing Unit:

Single Family :	\$1,762
Townhouse:	\$1,638
Multi-Family:	\$1,447
Mobile Home:	\$1,064

- (1) Fire/Rescue Station 2 (2) Approximate Construction Cost for Fire/Rescue Station 2  
 (3) Approximate Land Cost for Fire/Rescue Station 14  
 (4) Approximate Equipment Cost for Fire/Rescue Station 14

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## **Transportation**

### Road Impact Guideline Formula

# Units Proposed X (# Secondary Road Lane Miles) X Average Cost of One Lane Mile = Impact of New Project  
# Units in County

OR

1 New Unit X (1,100-0) X \$1,800,000 = \$44,572  
44,423 Existing Units as March 31, 2010

Source: Transportation Pre-Scoping Worksheet (Medium Cost for one Mile on Two-Lane Rural Road: \$3,600,000)

Single Family : 10.0 vehicle trips/ day  
Townhouse : 7.0 vehicle trips/ day  
Multi-Family : 4.0 vehicle trips/ day  
Mobile Home : 4.8 vehicle trips/day

### Monetary Impact per Housing Unit

Single Family : \$44,572  
Townhouse : \$31,200  
Multi-Family : \$17,829  
Mobile Home : \$21,395

## **Law Enforcement**

Public Safety Building (final contract cost) = 36,500,000

Total Population of Stafford County as of July 1, 2009 124,166

Total Square Footage of the Public Safety Building = 114,960

Square Footage Designated to the Sheriff's Office = 90,784 79.0%

Utilized Square Footage by the Sheriff's Office = 90,784 100.0%

Utilized Square Footage by the Sheriff's Office (per capita) = 0.731

Approximate Construction Cost (of utilized square footage) = \$28,824,078

Building cost/ utilized square foot = \$318

Building Cost/ capita = \$232

Service Level Provided: Stafford County currently has one deputy for every 1,100 citizens.

Number of Law Enforcement Officers = 112

Capital Equipment Associated per Officer (police cruiser, laptop, etc.) = \$45,000

Total Equipment Cost for all Officers = \$5,040,000

Equipment Cost per Capita =	<u>\$41</u>	
Total Projected Population of Stafford County as of July 1, 2030 (from VEC) =	218,772	
Gross Total of Future Population Growth from 2010 to 2030 =	82,966	37.9%
911 Communications System (building cost		
from CIP) =	30,000,000	
Building Cost Attributed to Future Population Growth =	\$11,377,050	
Cost/ new capita =	<u>\$137</u>	
Square Footage of Animal Shelter Building Provided =	6,000	
Square Footage of Animal Shelter Building Provided (per capita) =	0.048	
Estimated Building Cost Per Square Foot for an Animal Shelter Building =Building cost/square foot =		
	\$250	
Building cost/ capita =	<u>\$12</u>	
Number of Animal Control Officers =	5	
Capital Equipment Associated per Officer (animal control truck, laptop, etc.) =	\$37,000	
Total Equipment Cost for all Officers =	\$185,000	
Equipment Cost per Capita =	<u>\$1</u>	
<b>Gross Cost Per Capita</b>	<b><u>\$423</u></b>	

Type of Housing Unit	Housing Unit Size	Gross Cost of Law Enforcement per Capita	Gross Cost Per Housing Unit
Single Family	3.13	\$423	\$1,325
Townhouse	2.91	\$423	\$1,231
Multi-Family	2.57	\$423	\$1,087
Mobile Home	1.89	\$423	\$799

Monetary Impact per Housing Unit:

Single Family :	\$1,325
Townhouse:	\$1,231
Multi-Family:	\$1,087
Mobile Home:	\$799

**General Government**

Building Cost (projects from the CIP)

Courthouse Addition = \$21,700,000  
 Community Development Service Center \$500,000  
**\$22,200,000**

Source: Stafford County Budget Department

124,166 = 2009 population estimate (U.S. Census Bureau)

Cost/ capita = \$179

**Gross Cost per Capita \$179**

Type of Housing Unit	Housing Unit Size	Cost of General Government per Capita	Gross Cost per Housing Unit
Single Family	3.13	\$179	\$560
Townhouse	2.91	\$179	\$521
Multi-Family	2.57	\$179	\$460
Mobile Home	1.89	\$179	\$338

Monetary Impact per Housing Unit:

Single-Family : \$560  
 Townhouse: \$521  
 Multi-Family: \$460  
 Mobile Home: \$338



## **B. Public Facilities Plan**

### **Fire and Rescue**

#### Location Criteria:

- Future Fire and Rescue Stations will be located within the existing Urban Services Area (USA). Exceptions may be made when the only way to meet LOS Standards is to locate the station outside the USA.
- Fire/rescue stations should be located at points with quick and easy access to a major arterial or at an intersection of two arterials to gain both east-west and north-south access.
- Fire/rescue stations should be located near or part of mixed-use centers like Urban Development Areas (UDAs) and redevelopment areas where possible based on key site planning consideration such as access, safety and response time (locations of intense and dense anticipated growth)
- Response areas for each station should be established for areas in the USA and outside the USA

#### Site Selection/Design Criteria:

- Consideration should be given to co-locating fire and rescue for maximum efficiency. Consider co-locating with other public facilities like the Sheriff's Office. Coordination with other county agencies is recommended to provide more efficient services.
- Acquire sites between three to five usable acres to allow for providing co-location with other public facilities and possible future expansion. Slight variation in lot size may be necessary based upon the anticipated needs and building size construction of Fire and Rescue facilities.
- Encourage sites to be large enough to accommodate equipment storage and to allow maneuverability of the equipment to either pull-through or be backed into the garage bays without hindering traffic flows in the public right-of-way.
- Select and design sites to minimize the adverse impact of sirens and other noise on residential areas.
- Buildings should be a minimum of 15,000 square feet in size and accommodate one, two or three-bay designs depending on the needs within the service area.
- The standard capital equipment for each Fire and Rescue facility should be provided as follows: one engine and one ambulance. However, this does not exclude the need for additional equipment which is based on the location and need of each Fire and Rescue facility.

- Consider additional training facilities for the County F & R services (either on a regional or County level)

Facility Recommendations/Timing:

1.058 = Square feet provided per capita as of July 1, 2009  
 15,000 = Standard F&R Station Building Size (in square feet)

Year	Total Population Annually	Increase in Population Annually	Accumulating Population Increase	Additional F&R Building Square Footage Needed for this Year	Accumulating F&R Building Square Footage Needed	Total # of Facilities	New Facilities Needed
2006	118,450	n/a	n/a	n/a		14	0
2007 (1)	120,803	0	0	0		15	1
2008 (2)	122,090	0	0	0	0	16	0
2009 (3)	124,166	0	0	0	0	15	0
2010	135,806	11,640	11,640	12,320	12,320	15	0
2011	139,670	3,864	15,504	4,090	16,410	15	0
2012 (4)	143,644	3,974	19,478	4,206	20,616	15	0
2013	147,731	4,087	23,565	4,326	24,942	15	0
2014	151,935	4,203	27,769	4,449	29,391	16	1
2015	156,258	4,323	32,092	4,576	33,967	16	0
2016	160,149	3,891	35,983	4,119	38,086	16	0
2017	164,138	3,989	39,972	4,222	42,308	16	0
2018	168,226	4,088	44,060	4,327	46,635	17	1
2019	172,416	4,190	48,250	4,435	51,069	17	0
2020	176,710	4,294	52,544	4,545	55,615	17	0
2021	180,729	4,019	56,563	4,254	59,868	18	1
2022	184,839	4,111	60,673	4,351	64,219	18	0
2023	189,044	4,204	64,878	4,450	68,669	18	0
2024	193,343	4,300	69,177	4,551	73,220	18	0
2025	197,741	4,398	73,575	4,655	77,875	19	1
2026	201,779	4,038	77,613	4,274	82,148	19	0
2027	205,899	4,120	81,733	4,361	86,509	19	0
2028	210,103	4,204	85,937	4,450	90,959	20	1
2029	214,394	4,290	90,228	4,541	95,500	20	0
2030	218,772	4,378	94,606	4,634	100,135	20	0
-	-	-	<b>Totals</b>	<b>100,135</b>	-	-	<b>5</b>

US Census Bureau: Annual July 1<sup>st</sup> Population Estimate (2006-2009)  
 Historical Census Bureau Data With VEC Official Population Projections (2010-2030)

The draft FY2011-2016 CIP shows funding for FRD Station 14 (permanent) in FY2011 and 2012.

- (1) In 2007, Berea FRD Station #12 came online, the total number of FRD facilities increased to 15.
- (2) In 2008, a temporary FRD Station 14 was built to address ISO ratings increasing the total number of FRD facilities to 16.
- (3) In 2009, Stafford FRD Station #2 came online. FC #2 and RS #1 came offline reducing the total number of FRD facilities to 15.
- (4) In 2012, FRD Station 14 - North Stafford is projected to come online as a permanent facility.

## **Schools**

### Site Selection/Location Criteria:

- Future school sites will be located within the existing Urban Services Area (USA). Exceptions may be made when the only way to meet LOS Standards is to locate the school outside the USA.
- Provide locations for new schools that minimize travel distances for current as well as future students
- Elementary schools may be located within residential neighborhoods
- Elementary schools should be located with direct access to a collector road
- Middle and High schools site design should minimize impacts of the recreational areas on adjacent residences; sports facilities and their parking areas should be buffered from nearby homes
- Middle and High schools should be located with direct access to at least one major arterial road
- Pursue acquisition of school sites in projected growth areas of the County as identified on the Land Use Map
- Continue to coordinate school site planning and development with the Parks and Recreation Department in order to maximize community recreational facilities

### Design Criteria:

#### Elementary Schools

- Recommended Site Acreage: At least 20 acres;
- Recommended Capacity: Maximum of 950 students;
- Recommended Classroom Size:
  - a. Special Ed - 10
  - Pre-K -18
  - Kindergarten -20
  - Grades 1-2 -22
  - Grades 3-5 -23
- Buildings should be a minimum of 88,000 square feet;
- Buildings should be constructed at a maximum height no greater than two stories;
- Other facility elements include a multi-use/gymnasium facility that should be provided at each elementary school sized to accommodate a regulation basketball court, bleachers, restroom facilities and storage rooms; and
- Grading for outdoor facilities to include the following community use facilities:
  - a. One (1) Little League/Softball Field with a 200-foot playing area with fences for a backstop and dugouts;

- b. One (1) Soccer/Football Field with minimum dimensions of 65 x 120 yards;
- c. Restroom access;
- d. Public Access Playground; and
- e. Parking adjacent to all facilities.

### Middle Schools

- Recommended Site Acreage: At least 40 acres;
- Recommended Capacity: Maximum of 1,100 students;
- Recommended Classroom Size: 25 students;
- Buildings should be a minimum of 146,000 square feet;
- Buildings should be constructed at a minimum height no less than two stories;
- Other facility elements include a multi-purpose room/gymnasium facility that should be provided at each middle school sized to accommodate a regulation basketball court, bleachers, restroom facilities, storage room and locker rooms; and
- Grading for outdoor facilities to include the following community use facilities:
  - a. Two (2) Little/Softball Fields with a 200-foot playing area with fences for a backstop and dugouts;
  - b. Two (2) Soccer/Football Fields with minimum dimensions of 70 x 130 yards. One (1) Field with lights;
  - c. Access to restrooms;
  - d. Tennis Courts/Basketball Courts;
  - e. A Public Access Track; and
  - f. Parking adjacent to all facilities.

### High Schools

- Recommended Site Acreage: At least 70 acres
- Recommended Capacity: Maximum of 1,800 students
- Recommended Classroom Size: 25 students
- Buildings should be a minimum of 265,000 square feet
- Buildings should be constructed at a minimum height no less than two stories
- Other facility elements include in addition to the main gymnasium, a second gymnasium (auxiliary gymnasium), that should be provided at each high school sized to accommodate a regulation basketball court, bleachers, restroom facilities, storage room and locker rooms.
- Grading for outdoor facilities to include the following community use facilities:
  - a. Two (2) Regulation Baseball Fields with fully enclosed playing area. One (1) Field with lights;
  - b. Two (2) Softball Fields with fully enclosed playing area. One (1) Field with lights;

- c. One (1) Regulation Football/Soccer Field with stadium;
- d. Three (3) Multi-Purpose Football/Soccer Fields with minimum dimensions of 70x 130 yards;
- e. Access to restrooms;
- f. Tennis Courts/Basketball Courts;
- g. A Public Access Track; and
- h. Parking adjacent to all facilities

Facility Recommendations/Timing:

Elementary Schools:

The methodology that was applied used a minimum threshold of 90 percent of design capacity usage in order to trigger the need for a new elementary school to be built.

Average Students per Dwelling Type		
0.26	0.31	0.18

Year	S.F.	T.H.	M.F.	Total Elementary Students	Cumulative Elementary Students	Students Relationship to Capacity	Design Capacity Usage %	New Elem School Needed	Cumulative Elem Schools Needed
2006									
2007	0	0	0	0					
2008	0	0	0	0					
2009	0	0	0	0		-3,075	78.6%		
2010	748	160	88	995	995	-2,080	85.6%		
2011	248	53	29	330	1,326	-1,749	87.9%		
2012	255	55	30	340	1,666	-1,409	90.2%		
2013	262	56	31	350	2,015	-2,010	86.9%	1	1
2014	270	58	32	359	2,375	-1,650	89.2%		
2015	278	59	33	370	2,745	-1,280	91.7%		
2016	250	53	29	333	3,077	-1,898	88.4%	1	2
2017	256	55	30	341	3,419	-1,556	90.5%		
2018	263	56	31	350	3,768	-2,157	87.5%	1	3
2019	269	58	32	358	4,126	-1,799	89.6%		
2020	276	59	32	367	4,494	-1,431	91.7%		
2021	258	55	30	344	4,837	-2,038	88.8%	1	4
2022	264	56	31	352	5,189	-1,686	90.7%		
2023	270	58	32	360	5,549	-2,276	88.1%	1	5
2024	276	59	33	368	5,916	-1,909	90.0%		
2025	282	60	33	376	6,292	-2,483	87.6%	1	6
2026	259	55	31	345	6,638	-2,137	89.4%		
2027	265	57	31	352	6,990	-1,785	91.1%		
2028	270	58	32	360	7,350	-2,375	88.7%	1	7
2029	276	59	32	367	7,717	-2,008	90.5%		
2030	281	60	33	374	8,091	-2,584	88.3%	1	8
<b>Totals</b>								<b>8</b>	

Middle Schools:

The methodology that was applied used a minimum threshold of 90 percent of design capacity usage in order to trigger the need for a new middle school to be built.

Average Students per Dwelling Type		
0.16	0.14	0.06

Year	S.F.	T.H.	M.F.	Total Middle School Students	Cumulative Middle School Students	Students Relationship to Capacity	Design Capacity Usage %	New Middle Schools Needed	Cumulative Middle Schools Needed
2006									
2007	0	0	0	0					
2008	0	0	0	0					
2009	0	0	0	0		-2,011	75.8%		
2010	460	72	29	562	562	-1,449	82.6%		
2011	153	24	10	186	748	-1,263	84.8%		
2012	157	25	10	192	940	-1,071	87.1%		
2013	162	25	10	197	1,137	-874	89.5%		
2014	166	26	11	203	1,340	-671	91.9%		
2015	171	27	11	209	1,548	-1,563	83.4%	1	1
2016	154	24	10	188	1,736	-1,375	85.4%		
2017	158	25	10	192	1,929	-1,182	87.4%		
2018	162	25	10	197	2,126	-985	89.5%		
2019	166	26	11	202	2,328	-783	91.7%		
2020	170	27	11	207	2,535	-1,676	84.1%	1	2
2021	159	25	10	194	2,729	-1,482	85.9%		
2022	162	26	10	198	2,927	-1,284	87.8%		
2023	166	26	11	203	3,130	-1,081	89.7%		
2024	170	27	11	207	3,338	-873	91.7%	1	3
2025	174	27	11	212	3,550	-1,761	84.8%		
2026	160	25	10	195	3,745	-1,566	86.5%		
2027	163	26	10	199	3,943	-1,368	88.2%		
2028	166	26	11	203	4,146	-1,165	90.0%		
2029	170	27	11	207	4,353	-2,058	83.8%	1	4
2030	173	27	11	211	4,564	-1,847	85.5%		
<b>Totals</b>								<b>4</b>	

High Schools:

The methodology that was applied used a minimum threshold of 90 percent of design capacity usage in order to trigger the need for a new high school to be built.

Average Students per Dwelling Type		
0.24	0.18	0.08

Year	S.F.	T.H.	M.F.	Total High School Students	Cumulative High School Students	Students Relationship to Capacity	Design Capacity Usage %	New High Schools Needed	Cumulative High Schools Needed
2006									
2007	0	0	0	0					
2008	0	0	0	0					
2009	0	0	0	0		-109	98.8%		
2010	690	93	39	822	822	-1,087	90.1%	1	1
2011	229	31	13	273	1,095	-1,914	84.1%	1	2
2012	236	32	13	281	1,376	-1,633	86.4%		
2013	242	33	14	289	1,664	-1,345	88.8%		
2014	249	34	14	297	1,961	-1,048	91.3%		
2015	256	35	15	305	2,266	-2,543	81.6%	1	3
2016	231	31	13	275	2,541	-2,268	83.6%		
2017	236	32	13	282	2,823	-1,986	85.6%		
2018	242	33	14	289	3,112	-1,697	87.7%		
2019	248	33	14	296	3,407	-1,402	89.9%		
2020	255	34	14	303	3,711	-1,098	92.1%		
2021	238	32	14	284	3,994	-2,615	83.3%	1	4
2022	244	33	14	290	4,285	-2,324	85.1%		
2023	249	34	14	297	4,582	-2,027	87.0%		
2024	255	34	14	304	4,885	-1,724	89.0%		
2025	261	35	15	311	5,196	-1,413	91.0%		
2026	239	32	14	285	5,481	-2,928	83.2%	1	5
2027	244	33	14	291	5,772	-2,637	84.9%		
2028	249	34	14	297	6,069	-2,340	86.6%		
2029	254	34	14	303	6,372	-2,037	88.3%		
2030	260	35	15	309	6,681	-1,728	90.1%		

**Totals**

**5**

## **Parks and Recreation**

### Location/Site Selection Criteria:

- All parks should be co-located with other public facilities where appropriate.
- Acquisition of parkland adjacent to existing parks, athletic complexes and historic sites should be acquired for creation of buffers and to allow park expansion.
- Consider public/private partnerships or any other joint opportunities in the delivery of park and recreation service delivery.
- Encourage Virginia Department of Transportation (VDOT) to construct bicycle lanes and/or paths in conjunction with road widening projects.
- Locate sites adjacent to existing or planned residential areas to promote non-vehicular access and shorten drive time.
- Sites with athletic components requiring high water and/or sewage disposal must be located within the existing USA.
- Location of historical sites and natural area parks will be determined by the presence of historical and cultural resources, environmental features, the significance of wildlife habitat, the presence of endangered, threatened or state-listed flora and fauna, and the potential for educational, interpretive and low-impact recreational activities.

Facility Recommendations/Timing:

- 1,610 = Existing Acres of County Parkland
- 0.013 = Acres of Existing County Parkland/Capita
- 20 = Acres per 1,000 people (County Standard)
- 2,483 = Needed Acres of Parkland as of the July 1, 2009 Population Estimate
- 873 = Deficit of County Parkland that exists as of July 1, 2009
- \$170,396 = Cost to acquire and develop one acre of new County Parkland in 2009
- 8.0% = Annual Inflation Rate

Year	Population	Change in Population	Accumulating Population Increase	Acres of Parkland/Capita Per Year	Total Parkland Needed at this Year
2006	118,450	n/a	n/a	n/a	n/a
2007	120,803	0	0	0	0
2008	122,090	0	0	0	0
2009	124,166	0	0	0	2,483
2010	135,806	11,640	11,640	233	2,716
2011	139,670	3,864	15,504	77	2,793
2012	143,644	3,974	19,478	79	2,873
2013	147,731	4,087	23,565	82	2,955
2014	151,935	4,203	27,769	84	3,039
2015	156,258	4,323	32,092	86	3,125
2016	160,149	3,891	35,983	78	3,203
2017	164,138	3,989	39,972	80	3,283
2018	168,226	4,088	44,060	82	3,365
2019	172,416	4,190	48,250	84	3,448
2020	176,710	4,294	52,544	86	3,534
2021	180,729	4,019	56,563	80	3,615
2022	184,839	4,111	60,673	82	3,697
2023	189,044	4,204	64,878	84	3,781
2024	193,343	4,300	69,177	86	3,867
2025	197,741	4,398	73,575	88	3,955
2026	201,779	4,038	77,613	81	4,036
2027	205,899	4,120	81,733	82	4,118
2028	210,103	4,204	85,937	84	4,202
2029	214,394	4,290	90,228	86	4,288
2030	218,772	4,378	94,606	88	4,375
<b>Totals</b>				<b>1,892</b>	

**Total Needed in addition to deficit**

**1,892**

**Total Needed including deficit**

**2,765**

US Census Bureau: Annual July 1<sup>st</sup> Population Estimate (2006-2009)  
 Historical Census Bureau Data With VEC Official Population Projections (2010-2030)

## **Libraries**

### Location Criteria:

- Provide new facilities to adequately and equitably serve all areas of the County. Schedule library acquisition and/or construction to respond to both current unmet demand and new growth when it occurs.
- Future library sites shall be located within the existing Urban Services Area (USA). Exceptions may be made when the only way to meet LOS Standards is to locate the library outside the USA.
- Sites should be located along main travel corridors with consideration of minimizing users' drive time. The site should be chosen to support the mission of providing library material and services to the greatest number of people.
- Generally library sites should be at least six (6) acres in size to allow for a full size branch with adequate parking.
- An alternative to construction of new facilities is to establish new libraries in leased commercial spaces such as shopping centers. In Fredericksburg and other locations, public libraries serve as anchor stores and can draw one to two thousand citizens a day. Branches could be located within the Redevelopment Areas.

### Site Selection/Design Criteria:

- Convenience and accessibility to the maximum number of users, direct access to a major arterial road.
- Preferred sites should have both north/south and east/west access.
- High visibility from major vehicular and pedestrian access routes.
- Proximity to compatible traffic-generating land uses, with evaluation similar to the needs for commercial retail business.
- Provide drive times 15 minutes or less to most parts of the service area.
- Accommodate a facility of at least 30,000 square feet.
- Provide parking at the rate of 4 spaces per 1,000 square feet of building space.
- Be incorporated into a variety of settings, including neighborhoods, adjacent to schools, or co-location with other public facilities as feasible, with relief to some criteria for co-location sites as determined by the Central Rappahannock Regional Library (CRRL).

Facility Recommendations/Timing:

- 39,907 = Existing square feet of Library building as of July 1, 2009
- 0.321 = Square feet per capita as of July 1, 2009
- 124,166 = Needed Square footage of Library building as of the July 1, 2009 Population Estimate
- 1.00 = Square feet of Library building per capita (County Standard)
- 84,259 = Deficit of Square footage of Library building that exists as of July 1, 2009
- 30,000 = Square feet for Library building (County Standard)

Year	Total Population Annually	Change in Population Annually	Accumulating Population Increase	Additional Library Square Footage Needed for this Year	Total Library Square Footage Needed at this Year	Total # of Libraries	New Facilities Needed
2006	118,450	n/a	n/a	n/a	n/a	2	2
2007	120,803	0	0	0	0	2	0
2008	122,090	0	0	0	0	2	0
2009	124,166	0	0	0	0	2	0
2010 (1)	135,806	11,640	11,640	11,640	11,640	3	0
2011	139,670	3,864	15,504	3,864	15,504	3	0
2012	143,644	3,974	19,478	3,974	19,478	3	0
2013	147,731	4,087	23,565	4,087	23,565	3	0
2014	151,935	4,203	27,769	4,203	27,769	3	0
2015	156,258	4,323	32,092	4,323	32,092	4	1
2016	160,149	3,891	35,983	3,891	35,983	4	0
2017	164,138	3,989	39,972	3,989	39,972	4	0
2018	168,226	4,088	44,060	4,088	44,060	4	0
2019	172,416	4,190	48,250	4,190	48,250	4	0
2020	176,710	4,294	52,544	4,294	52,544	4	0
2021	180,729	4,019	56,563	4,019	56,563	4	0
2022	184,839	4,111	60,673	4,111	60,673	5	1
2023	189,044	4,204	64,878	4,204	64,878	5	0
2024	193,343	4,300	69,177	4,300	69,177	5	0
2025	197,741	4,398	73,575	4,398	73,575	5	0
2026	201,779	4,038	77,613	4,038	77,613	5	0
2027	205,899	4,120	81,733	4,120	81,733	5	0
2028	210,103	4,204	85,937	4,204	85,937	5	0
2029	214,394	4,290	90,228	4,290	90,228	6	1
2030	218,772	4,378	94,606	4,378	94,606	6	0
			<b>Totals</b>	<b>94,606</b>			<b>3</b>

US Census Bureau: Annual July 1<sup>st</sup> Population Estimate (2006-2009)  
 Historical Census Bureau Data With VEC Official Population Projections (2010-2030)

(1) In the Fall of 2010, Falls Run Library is projected to come online, the total number of Library facilities will increase to 3.

## **Government and Judicial**

### Facility Recommendations/Timing:

- 193,125 = Existing square feet of Government building as of July 1, 2009  
 1.56 = Square feet per capita as of July 1, 2009 (County Standard)  
 \$179 = Cost of New Government building (per square footage)  
 8.00% = Annual Inflation Rate

Year	Population	Change in Population	Accumulating Population Increase	Additional Gov't Building Square Footage Needed for this Year	Total Gov't Square Footage Needed at this Year
2006	118,450	n/a	n/a	n/a	n/a
2007	120,803	0	0	0	0
2008	122,090	0	0	0	0
2009	124,166	0	0	0	0
2010	135,806	11,640	11,640	18,105	18,105
2011	139,670	3,864	15,504	6,010	24,115
2012 (1)	143,644	3,974	19,478	6,181	30,296
2013	147,731	4,087	23,565	6,357	36,653
2014	151,935	4,203	27,769	6,538	43,191
2015 (2)	156,258	4,323	32,092	6,724	49,915
2016	160,149	3,891	35,983	6,052	55,968
2017	164,138	3,989	39,972	6,204	62,171
2018	168,226	4,088	44,060	6,358	68,530
2019	172,416	4,190	48,250	6,517	75,046
2020	176,710	4,294	52,544	6,679	81,726
2021	180,729	4,019	56,563	6,251	87,977
2022	184,839	4,111	60,673	6,394	94,370
2023	189,044	4,204	64,878	6,539	100,909
2024	193,343	4,300	69,177	6,688	107,597
2025	197,741	4,398	73,575	6,840	114,437
2026	201,779	4,038	77,613	6,280	120,717
2027	205,899	4,120	81,733	6,409	127,126
2028	210,103	4,204	85,937	6,540	133,665
2029	214,394	4,290	90,228	6,673	140,338
2030	218,772	4,378	94,606	6,810	147,148
			<b>Total</b>	<b>147,148</b>	

US Census Bureau: Annual July 1<sup>st</sup> Population Estimate (2006-2009)  
 Historical Census Bureau Data With VEC Official Population Projections (2010-2030)

- (1) In 2012, The Community Development Service Center is projected to come online, but will not add sq. ft. to the Gov't Building total.  
 (2) In 2015, the Courthouse Addition is projected to come online adding approximately 40,000 sq. ft. to the Gov't Building total.

## C. Land Use Compatibility Background for Range Compatibility Use Zones

**Table C-1 Suggested Land Use Compatibility in Noise Zones**

Land Use		Suggested Land Use Compatibility						
		Noise Zone 1 (DNL or CNEL)		Noise Zone 2 (DNL or CNEL)		Noise Zone 3 (DNL or CNEL)		
SLUCM NO	LAND USE NAME	< 55	55-64	65-69	70-74	75-79	80-84	85+
	<b>Residential</b>							
11	Household units	Y	Y <sup>1</sup>	N <sup>1</sup>	N <sup>1</sup>	N	N	N
11.11	Single units: detached	Y	Y <sup>1</sup>	N <sup>1</sup>	N <sup>1</sup>	N	N	N
11.12	Single units: semidetached	Y	Y <sup>1</sup>	N <sup>1</sup>	N <sup>1</sup>	N	N	N
11.13	Single units: attached row	Y	Y <sup>1</sup>	N <sup>1</sup>	N <sup>1</sup>	N	N	N
11.21	Two units: side-by-side	Y	Y <sup>1</sup>	N <sup>1</sup>	N <sup>1</sup>	N	N	N
11.22	Two units: one above the other	Y	Y <sup>1</sup>	N <sup>1</sup>	N <sup>1</sup>	N	N	N
11.31	Apartments: walk-up	Y	Y <sup>1</sup>	N <sup>1</sup>	N <sup>1</sup>	N	N	N
11.32	Apartments: elevator	Y	Y <sup>1</sup>	N <sup>1</sup>	N <sup>1</sup>	N	N	N
12	Group quarters	Y	Y <sup>1</sup>	N <sup>1</sup>	N <sup>1</sup>	N	N	N
13	Residential hotels	Y	Y <sup>1</sup>	N <sup>1</sup>	N <sup>1</sup>	N	N	N
14	Mobile home parks or courts	Y	Y <sup>1</sup>	N	N	N	N	N
15	Transient lodgings	Y	Y <sup>1</sup>	N <sup>1</sup>	N <sup>1</sup>	N <sup>1</sup>	N	N
16	Other residential	Y	Y <sup>1</sup>	N <sup>1</sup>	N <sup>1</sup>	N	N	N
<b>20</b>	<b>Manufacturing</b>							
21	Food and kindred products; manufacturing	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
22	Textile mill products; manufacturing	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
23	Apparel and other finished products; products made from fabrics, leather, and similar materials; manufacturing	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
24	Lumber and wood products (except furniture); manufacturing	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
25	Furniture and fixtures; manufacturing	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
26	Paper and allied products; manufacturing	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
27	Printing, publishing, and allied industries	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
28	Chemicals and allied products; manufacturing	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
29	Petroleum refining and related industries	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N

(Continued on next page)

**Table C-1 Suggested Land Use Compatibility in Noise Zones (Continued)**

Land Use		Suggested Land Use Compatibility						
		Noise Zone 1 (DNL or CNEL)		Noise Zone 2 (DNL or CNEL)		Noise Zone 3 (DNL or CNEL)		
SLUCM NO	LAND USE NAME	< 55	55–64	65–69	70–74	75–79	80–84	85+
<b>30</b>	<b>Manufacturing (continued)</b>							
31	Rubber and misc. plastic products; manufacturing	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
32	Stone, clay, and glass products; manufacturing	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
33	Primary metal products; manufacturing	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
34	Fabricated metal products; manufacturing	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
35	Professional, scientific, and controlling instruments; photographic and optical goods; watches and clocks	Y	Y	Y	25	30	N	N
39	Miscellaneous manufacturing	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
<b>40</b>	<b>Transportation, communication, and utilities</b>							
41	Railroad, rapid rail transit, and street railway transportation	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
42	Motor vehicle transportation	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
43	Aircraft transportation	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
44	Marine craft transportation	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
45	Highway and street right-of-way	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
46	Automobile parking	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
47	Communication	Y	Y	Y	25 <sup>5</sup>	30 <sup>5</sup>	N	N
48	Utilities	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
49	Other transportation, communication, and utilities	Y	Y	Y	25 <sup>5</sup>	30 <sup>5</sup>	N	N
<b>50</b>	<b>Trade</b>							
51	Wholesale trade	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
52	Retail trade—building materials, hardware and farm equipment	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
53	Retail trade—shopping centers	Y	Y	Y	25	30	N	N
54	Retail trade—food	Y	Y	Y	25	30	N	N

(Continued on next page)

**Table C-1 Suggested Land Use Compatibility in Noise Zones (Continued)**

Land Use		Suggested Land Use Compatibility						
		Noise Zone 1 (DNL or CNEL)		Noise Zone 2 (DNL or CNEL)		Noise Zone 3 (DNL or CNEL)		
SLUCM NO	LAND USE NAME	< 55	55-64	65-69	70-74	75-79	80-84	85+
<b>50</b>	<b>Trade (Continued)</b>							
55	Retail trade—automotive, marine craft, aircraft and accessories	Y	Y	Y	25	30	N	N
56	Retail trade—apparel and accessories	Y	Y	Y	25	30	N	N
57	Retail trade—furniture, home furnishings and equipment	Y	Y	Y	25	30	N	N
58	Retail trade—eating and drinking establishments	Y	Y	Y	25	30	N	N
59	Other retail trade	Y	Y	Y	25	30	N	N
<b>60</b>	<b>Services</b>							
61	Finance, insurance, and real estate services	Y	Y	Y	25	30	N	N
62	Personal services	Y	Y	Y	25	30	N	N
62.4	Cemeteries	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4,11</sup>	Y <sup>6,11</sup>
63	Business services	Y	Y	Y	25	30	N	N
63.7	Warehousing and storage	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
64	Repair services	Y	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
65	Professional services	Y	Y	Y	25	30	N	N
65.1	Hospitals, other medical facilities	Y	Y <sup>1</sup>	25	30	N	N	N
65.16	Nursing homes	Y	Y	N <sup>1</sup>	N <sup>1</sup>	N	N	N
66	Contract construction services	Y	Y	Y	25	30	N	N
67	Government services	Y	Y <sup>1</sup>	Y <sup>1</sup>	25	30	N	N
68	Educational services	Y	Y <sup>1</sup>	25	30	N	N	N
69	Miscellaneous	Y	Y	Y	25	30	N	N
<b>70</b>	<b>Cultural, entertainment, and recreational</b>							
71	Cultural activities (churches)	Y	Y <sup>1</sup>	25	30	N	N	N
71.2	Nature exhibits	Y	Y <sup>1</sup>	Y <sup>1</sup>	N	N	N	N
72	Public assembly	Y	Y <sup>1</sup>	Y	N	N	N	N
72.1	Auditoriums, concert halls	Y	Y	25	30	N	N	N
72.11	Outdoor music shells, amphitheaters	Y	Y <sup>1</sup>	N	N	N	N	N
72.2	Outdoor sports arenas, spectator sports	Y	Y	Y <sup>7</sup>	Y <sup>7</sup>	N	N	N
73	Amusements	Y	Y	Y	Y	N	N	N
74	Recreational activities (golf courses, riding stables, water recreation)	Y	Y <sup>1</sup>	Y <sup>1</sup>	25	30	N	N
75	Resorts and group camps	Y	Y <sup>1</sup>	Y <sup>1</sup>	Y <sup>1</sup>	N	N	N
76	Parks	Y	Y <sup>1</sup>	Y <sup>1</sup>	Y <sup>1</sup>	N	N	N
79	Other cultural, entertainment, and recreation facilities	Y	Y <sup>1</sup>	Y <sup>1</sup>	Y <sup>1</sup>	N	N	N

(Continued on next page)

**Table C-1 Suggested Land Use Compatibility in Noise Zones (Concluded)**

Land Use		Suggested Land Use Compatibility						
		Noise Zone 1 (DNL or CNEL)		Noise Zone 2 (DNL or CNEL)		Noise Zone 3 (DNL or CNEL)		
SLUCM NO	LAND USE NAME	< 55	55-64	65-69	70-74	75-79	80-84	85+
<b>80</b>	<b><i>Resource production and extraction</i></b>							
81	Agriculture (except livestock)	Y	Y	Y <sup>8</sup>	Y <sup>9</sup>	Y <sup>10</sup>	Y <sup>10,11</sup>	Y <sup>10,11</sup>
81.5	Livestock farming	Y	Y	Y <sup>8</sup>	Y <sup>9</sup>	N	N	N
81.7	Animal breeding	Y	Y	Y <sup>8</sup>	Y <sup>9</sup>	N	N	N
82	Agriculture-related activities	Y	Y	Y <sup>8</sup>	Y <sup>9</sup>	Y <sup>10</sup>	Y <sup>10,11</sup>	Y <sup>10,11</sup>
83	Forestry activities	Y	Y	Y <sup>8</sup>	Y <sup>9</sup>	Y <sup>10</sup>	Y <sup>10,11</sup>	Y <sup>10,11</sup>
84	Fishing activities	Y	Y	Y	Y	Y	Y	Y
85	Mining activities	Y	Y	Y	Y	Y	Y	Y
89	Other resource production or extraction	Y	Y	Y	Y	Y	Y	Y

**Key:**

SLUCM Standard Land Use Coding Manual, U.S. Department of Transportation.

Y (Yes) Land use and related structures compatible without restrictions.

N (No) Land use and related structures are not compatible and should be prohibited.

Y\* (Yes with Restrictions) Land use and related structures are generally compatible. However, see note(s) indicated by the superscript.

N\* (No with Exceptions) Land use and related structures are generally incompatible. However, see notes indicated by the superscript.

NLR Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.

25, 30, or 35 The numbers refer to NLR levels. Land use and related structures generally are compatible; however, measures to achieve NLR of 25, 30, or 35 must be incorporated into design and construction of structures. Measures to achieve an overall noise reduction do not necessarily solve noise difficulties outside the structure, and additional evaluation is warranted. Also, see notes indicated by superscripts where they appear with one of these numbers.

DNL Day Night Average Sound Level.

CNEL Community Noise Equivalent Level (Normally within a very small decibel difference of DNL).

Ldn Mathematical symbol for DNL.

**Notes:**

1.

a) Although local conditions regarding the need for housing may require residential use in these zones, residential use is discouraged in DNL 65-69 and strongly discouraged in DNL 70-74. The absence of viable alternative development options should be determined and an evaluation should be conducted locally prior to local approvals, indicating that a demonstrated community need for the residential use would not be met if development were prohibited in these zones.

b) Where the community determines that these uses must be allowed, measures to achieve an outdoor to indoor NLR of at least 25 dB in DNL 65-69 and NLR of 30 dB in DNL 70-74 should be incorporated into building

codes and be in individual approvals; for transient housing, an NLR of at least 35 dB should be incorporated in DNL 75–79.

c) Normal permanent construction can be expected to provide an NLR of 20 dB; thus, the reduction requirements are often stated as 5, 10, or 15 dB over standard construction and normally assume mechanical ventilation, upgraded Sound Transmission Class (STC) ratings in windows and doors and closed windows year-round. Additional consideration should be given to modifying NLR levels based on peak noise levels or vibrations.

d) NLR criteria will not eliminate outdoor noise problems. However, building location and site planning, design, and use of berms and barriers can help mitigate outdoor noise exposure, particularly from ground-level sources. Measures that reduce noise at a site should be used wherever practical in preference to measures that protect only interior spaces.

**Notes (Continued):**

2. Measures to achieve NLR of 25 must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
3. Measures to achieve NLR of 30 must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
4. Measures to achieve NLR of 35 must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
5. If project or proposed development is noise sensitive, use indicated NLR; if not, land use is compatible without NLR.
6. No buildings.
7. Land use compatible provided special sound reinforcement systems are installed.
8. Residential buildings require NLR of 25.
9. Residential buildings require NLR of 30.
10. Residential buildings not permitted.
11. Land use not recommended, but if community decides use is necessary, hearing protection devices should be worn.

**Source:**

OPNAVINST 11010.36B, 2002.

**Table C-2 Suggested Land Use Compatibility in Range Safety Zones**

Land Use	Range Safety Zones		
	A	B	C
Residential — Single Family, Duplex, Mobile Homes	Incompatible	Incompatible	3
Residential — Multiple Family			5
Transient Lodging			5
School Classrooms, Libraries, Churches			5
Hospitals, Nursing Homes			5
Auditoriums, Concert Halls			2
Office Buildings — Personal Business, Professional			
Commercial, Retail, Manufacturing, Utilities			
Playgrounds, Neighborhood Parks			2
Golf Courses, Riding Stables, Water Recreation, Cemeteries			Incompatible
Outdoor Spectator Sports	Incompatible	2	
Industrial, Warehouse, Supplies		Compatible	
Livestock, Farming, Animal Breeding	1	Compatible	
Agriculture (Except Livestock), Mining, Fishing	1	Compatible	
Recreational, Wilderness Area		2	Compatible

**Notes:**

1. RSZ B is an area of armed overflight. Land uses that have the potential to attract congregations of people are not compatible. For scored targets, no development should be permitted within 500 feet either side of the run-in centerline. For tactical targets, further analysis is required. Factors to be considered are labor intensity and structural coverage.
2. Incompatible when the training mission requires low-altitude overflight (below 500 feet). Height of structures is limited to 50 feet.
3. Suggested maximum density in RSZ C is less than one dwelling unit per 10 acres.
4. Clubhouses, chapels, and other facilities where people congregate are not compatible with RSZ B.
5. Noise-sensitive uses should be avoided.

	Incompatible
	Conditionally Compatible
	Compatible

## D. UDA County-wide Acreage Needs

This table represents the minimum acreage that Stafford County would need to designate for Urban Development Areas based on a generalized county-wide evaluation given the alternatives that provide varying degrees of development intensity. This information is based on the methodology presented during a session on Urban Development Areas at the 2010 CPEAV Zoning Law Seminar on July 23, 2010 in Charlottesville, Virginia

Land Use	UDA Alternatives		
	Low Density Alternative	Medium/Mixed Densities	High Density
	All Single Family Dwellings (14,661)	1/3 Single Family, 1/3 Townhouse, 1/3 Multi-family (4,887 units each)	All Multi-family Dwellings (14,661)
	Acres	Acres	Acres
Residential	3,665	2,443	1,222
Commercial/Employment	574	574	574
<b>Total</b>	<b>4,239</b>	<b>3,017</b>	<b>1,796</b>

Note: The ultimate area should be adjusted to account for public land and right of way.

### Assumptions

10-year projections (2010 - 2020):

40,904 new residents

14,661 dwelling units (revised estimate, as of August 12, 2010)

Commercial / Employment based on County estimate of 1 million square feet of floor area per year, or 10 million square feet over 10 years.

Conversion to acreage:  $10,000,000 / 0.4 \text{ (FAR)} / 43,560 \text{ (sq ft/ac)} = 573.92 \sim 574 \text{ Acres}$

Densities:

Single Family: 4 du/acre

Townhouse: 6 du/acre

Multi-family: 12 du/ac



## E. Affordable Housing Study

*(Presented to the Comprehensive Plan Steering Committee on September 25, 2006)(updated June 2010)*

### **Introduction: Affordable Housing**

**Affordable Housing (Workforce Housing)** is safe, decent housing where costs (mortgage or rent plus utilities) does not exceed 30 % of gross household income. One quarter of middle class Americans exceed this amount. (HUD)

**Workforce:** 50% to 120% of median family income (\$89,536 in Stafford County) therefore: \$44,768 to \$107,443 (2008)

Homeownership expands individual opportunities to accumulate wealth, enables a family to exert greater control over its living environment, creates incentives for households to better maintain their homes, and may benefit children of homeowners. Homeownership also benefits local neighborhoods because owner-occupiers have a financial stake in the quality of the local community. (HUD 2005)

**Communities that have had success producing more Affordable Housing have developed the attitude that Affordable Housing is part of the Economic Development Infrastructure.** It is more than just a quality of life issue. Citizens who work in the communities where they live spend more of their incomes in their communities thus dramatically increasing tax revenues for their localities.

In virtually all communities nationwide, the magnitude of the housing need is likely to dwarf available resources. (The Brookings Institution, 2003)

### **Special Challenges of Low Income Housing:**

Fact: Someone who makes the current minimum wage of \$5.15 per hour and allocates no more than 30% of annual income for housing should not have to pay more than \$257.50 per month in rent and utilities. The average monthly cost of a reserved parking space in downtown Washington, D.C., is \$280. (Designing An American Asset 2004)

Over two million workers in America earn minimum wage or less. (U.S. Department of Labor, 2004)

In the suburbs, local governments are politically dominated by homeowners, who comprise a majority of residents and are the most vocal. The major asset of most homeowners is their home. They have strong incentives to want the market values

of homes to rise. So they oppose any policies they believe might reduce home values. They think letting more affordable units into their communities would do that and might also lower the quality of local schools and raise property taxes. So very few want to permit new low-cost housing near them, or to accept low-income neighbors. (Brookings Institution, 2003)

### **Rationale for Creating Affordable Housing:**

Families who pay more than 30 percent of their income for housing are considered cost burdened and may have difficulty affording necessities such as food, clothing, transportation and medical care. An estimated 12 million renter and homeowner households now pay more than 50 percent of their annual incomes for housing, and a family with one full-time worker earning the minimum wage cannot afford the local fair-market rent for a two-bedroom apartment anywhere in the United States. (HUD) (2006)

Everyone needs a place to live, regardless of age, job, race, disability, income or station in life. Although housing has often been cast as a "social" issue, it is in fact a broader concern, cutting across many disciplines, including economics, social work, and public health, in addition to urban planning. A 1999 report by the U.S. Department of Housing and Urban Development (HUD) finds that "despite six years of unprecedented economic growth, millions of families still struggle to secure decent affordable housing." The report goes on to relate how more Americans than ever before find themselves in "worst-case" housing situations, paying more than half their incomes for rent, or occupying unsafe or overcrowded dwellings. Of over 12.5 million persons with worst case needs, nearly 1.5 million are elderly and 4.5 million are children, according to the HUD report. Another 1.1 to 1.4 million worst case households includes adults who experience disabilities. (American Planning Association, 1999)

### **Trends in Federal Funding:**

Despite recent increases in Congressional appropriations to HUD, the past two decades have seen significant erosion of federal commitment to the development of affordable housing. Evidence of this retreat can be clearly seen in decreasing funding for development subsidies, curtailment of project-based rental subsidies, and repeal of tax incentives for affordable housing, and a dwindling supply of housing affordable to many working families. Ironically, the economic growth of recent years has contributed to the housing pinch. HUD cites the strong economy as "...a key factor (in) pushing rent levels to new record highs. Rather than benefiting from the surging economy, low-income renters are left to compete for the dwindling supply of affordable housing available on the private market. Many of the most vulnerable low-income renters spend years waiting in vain to obtain needed rental housing assistance in the form of housing vouchers or public housing units." At the same time, Federal housing policy has undergone what HUD terms an "historic reversal", by placing a freeze on new housing vouchers, the principal form

of assistance that allows low-income renters to access privately owned housing. (American Planning Association, 1999)

### **State and Community Trends:**

The Federal government has shifted more of the burden for Affordable Housing without adequate funding.

Just since the year 2000, U.S. house prices have increased more than twice as fast as the growth of personal income. (Richard F. Syron Chairman and CEO, Freddie Mac, 2005)

Many communities are suffering from their own success. They have succeeded in attracting employers and jobs, but regulatory barriers, public opposition to multifamily housing, and land use policies have prevented developers from adding enough supply to keep up with the growing demand for housing. (Joint Center for Housing of Harvard University, 2005)

### **Consequences of Affordable Housing Shortages:**

A common measure of community-wide affordability is the number of homes that a household with a certain percentage of median income can afford. For example, a community might track the percentage of its housing that is affordable to households earning 60% of median income. In addition to the distress it causes families who cannot easily find a place to live, lack of affordable housing is considered by many urban planners to have negative effects on a community's overall health.

### **Demographics:**

As of 2004, the white homeownership rate was 76 percent while African-American and Hispanic homeownership rates remained below 50 percent, and the Asian rate was 60 percent. At the same time households with very-low income had a homeownership rate that was 37 percentage points below the rate for high-income households. (HUD 2005)

### **Implications for Affordable Housing initiatives:**

Affordable housing is the hardest form of real estate to make viable in the long run, because it maintains a dual mission: (1) be financially healthy, and (2) provide affordability to low income residents. These two goals are diametrically opposite — almost every decision involves trading one off against another.

To be viable at both missions, affordable housing requires the injection of government financial resources to fill the gap between what the market requires for

quality, and what poor people can afford. It is a mistake to start an affordable housing initiative with too little government resource — all the financial wizardry imaginable may disguise but will not prevent its inevitable, and expensive, failure. (Affordable Housing Institute, 2006)

### **Federal Programs for Low and Affordable Housing:**

- Low Income Housing Tax Credits (LIHTCs) and Historic Tax Credits
- HUD/FHA multifamily loans insured under all applicable sections of the National Housing Act
- HUD’s Section 8 rental assistance programs
- Public housing, including privatization and revitalization of public housing under HUD’s HOPE VI and mixed finance programs
- Tax-exempt bonds for housing and community development
- Representing local, regional and national non-profit developers, lenders and intermediaries in connection with acquisition, development, management and financing of housing projects
- Fannie Mae and Freddie Mac multifamily loan and investment programs
- Community and economic development programs, including Community Development Block Grants (CDBG) and related Section 108 and Economic Development Initiative programs, as well as Empowerment Zones and Enterprise Communities

Housing assistance from the federal government for lower income households can be divided into three parts.

- “Tenant based” subsidies given to an individual household, known as the Section 8 program
- “Project based” subsidies given to the owner of housing units that must be rented to lower income households at affordable rates, and
- Public Housing, which is usually owned and operated by the government. (Some public housing projects are managed by subcontracted private agencies.)

### **Sample Stafford County Employee Salaries (2010):**

**24 hr - Fire & Rescue Technician I** - average salary: \$42,086 for 7 employees -  
**Grade A06; min \$38,480 mid \$48,089 max \$59,663**

**Deputy Sheriff I - Field Operations** - average salary: \$39,600 for 61 employees -  
**Grade A05; min \$34,985 mid \$43,721 max \$54,204**

**Administrative Assistant** - average salary: \$27,319 for 5 employees -  
**Grade A01; min \$24,377 mid \$29,868 max \$40,227**

**Human Resources Analyst** - average salary: \$49,973 for 3 employees -  
**Grade A07; min \$41,496 mid \$52,894 max \$64,313**

**Parks Maintenance Worker I** - average salary: \$37,716 for 3 employees - **Grade A01; min \$24,377 mid \$29,868 max \$40,227**

**First Year Teacher:** \$36,322, Teacher with ten years experience: \$46,269

NOTE: All salaries are for full-time employees

### **Market Trends: Stafford County Home Costs (2009)**

Average Sold Price - \$244,769

- 17% decrease from 2008

Median Sold Price - \$229,000

- 16.1% decrease from 2008

Average days on the market - 89

- 28.8% decrease from 2008

## Breakdown of sample house costs in Stafford County (2006):

Below is an example of a Closing Cost estimate to help you understand what these fees cover when you buy a home in Stafford County, Virginia.  
Source: Stafford County Real Estate – Homefinders.com

PRICE OF HOME	\$350,000
LOAN TYPE	Conventional
LOAN TERM	5 years
AMORTIZATION	30 years
DOWN PAYMENT (5%)	17,500
LOAN AMOUNT	332,500
INTEREST RATE	5.75%
REAL ESTATE TAXES	1,700
EARNEST MONEY DEPOSIT	3,000
LOAN RELATED FEES	
Appraisal Fee	\$350
Credit Report Fee	60
Misc. Lender Fees	500
Tax Service Fee	75
Flood determination	11
PREPAIDS OR ESCROW ITEMS	
Prepaid Interest (Per Diem)	\$970 (15 days)
Hazard Insurance (1 year)	450
Hazard Insurance Escrow	75
Prepaid RE Taxes (4 months)	566
PMI not included, available in mortgage	
TITLE CHARGES	
Settlement Fee (legal)	650
Title Insurance (includes lender and owner)	(\$5.30 per \$1,000 approx.) 1855
GOVERNMENT RECORDING AND TRANSFER FEES	
Recording Fees	100
City/County/State Tax Stamps	approx 1855
ADDITIONAL SETTLEMENT FEES	
Survey	275

Pest Inspection	50
TOTAL CLOSING COSTS	\$ 8,987
DOWN PAYMENT (10%)	\$17,500
TOTAL MONEY NEED TO BUY	\$26,487
LESS EARNEST MONEY DEPOSIT OF	3,000
CASH NEEDED AT SETTLEMENT	\$23,487

Cash from the buyer at settlement is by Bank Check, Wired Funds or other certified funds. Personal checks will not be accepted by the tile company because they cannot record a deed unless they have the funds on deposit.

ESTIMATED MONTHLY  
PAYMENT

Principal & Interest	\$1,838 @ 5.75%
1 Month RE Taxes	141
1 Month Hazard Insurance (\$804 annum)	38
MONTHLY PAYMENTS	\$2,017

All financial information is estimated and may vary from buyer to buyer based on PMI, Interest rates, Insurance, lender fees and other actual costs

### **What Other Communities Have Done To Address the Problem:**

1. Affordable Housing Ordinance - requires a percentage of new development to include affordable housing units. This ordinance must include incentives for developers or it actually increases the cost of housing instead of reducing it.
2. Forgive cash proffers on affordable housing units
3. Density bonus for developments that include a pre-determined number of Affordable Housing Units
4. Cash Proffers for Affordable Housing for Rezoning
5. Dedicating One Cent from Property Taxes to Address Funding of Affordable Housing
6. Participate in Partnerships with Business Community and Other Stakeholders to establish a non-profit entity to purchase and manage sale of affordable housing units
7. Use of County-Owned Surplus Land to Contribute to Affordable Housing Units
8. Seek Major Employer Contributions to Affordable Housing Fund
9. Determine the number of Affordable Housing Units currently in the community and take steps to conserve those units.
10. Set up Affordable Housing Taskforce with community stakeholders to determine what steps listed above will work for locality.

## **F. Public Input Summary**

### **Introduction**

This section of the Plan summarizes the various public input techniques used for the Stafford County Comprehensive Plan. The public input process for the Stafford County Comprehensive Plan included "vision sessions" held with staff and directors, the Steering Committee and the Planning Commission; focus groups, small groups brought together by invitation to discuss particular elements of the Plan; public workshops and a community survey randomly distributed to residents of the Stafford County.

A more detailed account of the public input received during the Plan process is in the Public Input document which is a companion volume to the Comprehensive Plan.

### **1.1 Vision Sessions**

#### *1.1.1 Staff and Directors*

Staff and directors gathered on March 23, 2006 for a Vision Session with the consultant facilitating. A number of additional staff members who were unable to attend the March 23 meeting submitted their written responses at a later date.

Staff and directors see Stafford as a fast-growing place that is rapidly evolving. They see its identity at risk, "a mix of old and new" that is "politically divided as to how to deal with inevitable growth." "We want growth, but we want to discourage it and what comes with it," one writer responded. They see the County struggling to meet its obligations and the demands of its residents.

If there were no constraints, including time and money, staff and directors see a Stafford County 20 years from now that has overcome its struggle with growth and that successfully preserves its rural character while accommodating growth. They see a well-planned transportation system and a mix of office oriented employment, commercial development and "top quality development." They see a sustainable community, "a balance of green and commercial," "THE model for fast-growing communities around the state."

Stafford's top strengths are its location, schools and people. Its proximity to the nation's capital and to Richmond, access to waterways, I-95 and proximity to the Quantico Marine Corps base and its natural beauty and diverse physical environment were all mentioned specifically.

Stafford's most important constraints, according to the staff and directors, are its issues related to growth and traffic congestion, funding and budgeting issues and systemic issues such as state laws, Dillon's Rule, "no at-large representation," "political discord" and lack of a long-range vision were all specifically noted.

At the end of the sessions, participants were asked to list the issues they felt were important to raise. Their responses included the need for public, government, staff and rural landowners “buy in” on the Comprehensive Plan. Staff and directors are not all completely optimistic about the future: “There is an opportunity to create a place,” wrote one participant, but another said, “there is no Stafford.” Another noted a fundamental disconnect in development: “There is a great divide between long-time residents and newcomers; rural landowners want to stop growth but still want to be able to develop their land.” Participants also raised the cost of living in Stafford, with one noting: “I can count on one hand the number of my staff who can (afford to) live in here.”

### *1.1.2 Steering Committee*

The Comprehensive Plan Steering Committee met for a Vision Session on April 17, 2006 with an outside consultant facilitating. The Steering Committee members were posed questions identical to those asked of the staff and directors.

When asked to describe Stafford County, many of the participants used words that indicate change: suburbanizing, transforming, growing and changing. Stafford is “a community of change,” wrote one respondent. “Growing too fast,” wrote another. Several mentioned the County’s cultural, historic and natural resources. Stafford is “a community of change transforming from a rural to an urban to a suburban community. The rate of change is causing difficulties,” wrote on participant.

When asked for their visions of the future of Stafford, barring all constraints including time and money, the Steering Committee members described a place boasting a clean environment with open space, town centers and diversity in terms of tax base and demographics. A “tax structure that will allow young and old to live here,” wrote one participant. “Affordable for all income levels,” wrote another.

When asked to identify the County’s top strengths, most participants responded in terms of opportunities and no clear consensus emerged on either side. Those who identified strengths identified the County’s location, natural resources and its educated population as strengths. The opportunity to improve the transportation system was cited among important opportunities for the County, as were the potential to design areas before subdividing them, bring more jobs to the County and to “harness growth properly.”

The leading constrains or obstacles facing the County the Steering Committee members identified were mostly related to growth and change: transportation, the County’s increasing population and the transient nature of the population, lack of resources to address problems and affordable housing. Steering Committee members also identified the lack of tools for coping with the rate of change as constraints. Stafford residents “haven’t reoriented and readjusted to the changing nature of Stafford – still operating and thinking as a rural county,” wrote one member. “(The) governing tools we have are of a rural county and many times we can’t address areas like Garrisonville Road. If we are a city, we can build our own

roads, etc.," wrote another. "Not being given the legislative tools to address our own problems," wrote a third.

Issues the committee members identified were so-called "big picture" items: climate change and global warming, to regional issues like regional planning, and more local issues such as the Outer or Leesburg connector, preservation of the County's rural character and the need for public input as part of the planning process.

### *1.1.3 Planning Commission*

A Vision Session was held with the Planning Commission on July 17, 2006 with the outside consultant facilitating. The Commission members were asked questions identical to those asked of the Steering Committee and the staff and directors.

Planning Commission members' opinions of the character of Stafford were varied and seemed to depend somewhat on the character – or lack of it – of their own neighborhood. "In my neighborhood, I know everyone," wrote one. But another said, "my neighbors know more about Jerry Seinfeld than (they do about) me." Many responses noted the lack (or loss) of a sense of place in Stafford. "There's no sense of place," wrote one. "You don't tell people what town you live in, you tell them what subdivision or street." One Commission member summed up the divergent opinions well: "Rural, urban suburban with no sense of place; beautiful historical place growing like topsy."

Planning Commission members' visions for Stafford include a sustainable Stafford with rural and suburban areas. "Anyone that wants to live here will find some living space that fits their wants and needs," wrote one. They envision more local employment and protection of the County's historic, cultural and natural resources. But one Commission member noted expectations and visions may not align: "Having participated in these sessions for some 18 years, I expect we'll look a lot like Fairfax County."

Stafford's most important assets include its location, including specific sites like Government Island, Crows Nest and Marlborough Point, as well as its location vis a vis the Washington, DC and along the northeast corridor. Other assets are its schools, its population and its history and culture.

As with the previous sessions, Stafford's Planning Commissioners cites transportation as the most important constraint facing the County. Budget constraints and taxes were also cited as constraints.

Equity was a theme of other issues the Planning Commissioners raised as was the need for personal involvement and investment in the community. In terms of equity, Commission members saw a need for more affordable housing and a more equitable approach to land use that would allow for preservation as well as development and open space. "People forget that you don't start out with a

\$500,000 house when you're just barely making it," said one. "Where is our open space going to be," asked another.

Throughout the session, the Commission members engaged in a brief but lively side discussion about public input for the Comprehensive Plan: The need for the public's input and the likelihood they wouldn't get as much as they wish for unless there was a clear threat or issue. "How do you get people to care? Asked one Commission member, "I wish I could answer that."

## 1.2 Focus Groups

There were three Focus Group sessions held as part of the planning process. Focus Groups are much like the Vision Sessions – they are facilitated discussions on a limited number of questions. The questions posed to the Focus Group participants were much like those employed during the Vision Sessions. With the help of the Steering Committee, participants were identified for each group, and they were invited to sessions held on July 18, 2006.

### 1.2.1 *Economic Development and Housing*

There were six participants at the Economic Development and Housing Focus Group out of 38 identified invitees and 17 who indicated they would attend.

Like participants in the Vision Sessions, the Economic Development and Housing Focus Group Participants characterized Stafford as a place undergoing transformation. Stafford is "a community undergoing major transitions that are largely due to circumstances beyond its control," wrote one participant. "Properly managed growth is the challenge," wrote another. "Stopping growth is not an option and the problems of growth are better than the problems of no growth."

The participants were asked what should be the County's economic development and housing focus over the next 20 years. They cited the need for an improved transportation system in the County, including the widening of smaller two-lane roads to make them safer; defining areas of the County for growth and open and preservation, including implementing the transfer of development rights; and economic development focus on recruiting jobs at a variety of levels and the housing to accommodate those workers.

"Lower the growth rate in some areas of the County," said one participant. "Focus on economic development that contributes more to the County than costs the County," said another. Transfer of development rights "doesn't devalue the farmer's land" said another participant, since the density credits can be applied in a growth area.

When asked to name the most important opportunities or potentials for economic development and housing in Stafford, the group mentioned making the most of being a bedroom community for Washington, DC and developing appropriate transportations hubs, rail capacity and mixed-use town centers. Other potentials

included promoting economic development efforts that would recruit more jobs to Stafford and developing the Widewater area.

"Growth is looked at as a negative and it's an opportunity," said one. "People are wanting to come here ... preserve what the people who come here like and the reasons people are coming here." There are "realities that need to be acknowledged," said another. "People travel to DC because jobs are tied to Capitol Hill. Instead of moving jobs to Stafford, make it a unique bedroom community rather than cover it with McMansions." But another disagreed: "bringing jobs here and keeping families here will be the more dramatic impacts Stafford would enjoy. People here are recruited to Washington – reverse the situation."

Local government decision-making, the ability to effectively manage growth and land use issues were among the top challenges the group listed. They said that decision-making is hamstrung locally partly because supervisors do not run at large as well as regionally. Transportation solutions they suggested included the potential for tolls roads, atoll bridge over the Rappahannock, a car tax and fuel tax increases.

When asked to name additional issues they felt are important to the Comprehensive Planning process, the group reiterated many of the potentials and challenges already raised. Among the issues they raised were a perceived undue influence of the development community on planning in Stafford, the need for affordable housing and the need for environmental protection.

### *1.2.2 Environment, Parks and Culture*

There were 13 participants in the Environment, Parks and Culture Focus Group out of 41 identified invitees and 24 who indicated they would attend.

Stafford's unique historic, cultural and natural resources are central defining features of its character, but its rapid growth is threatening that character. Stafford is "evolving from mostly rural to become a residential community and as a result having growing pains, rising land costs, development issues and difficult traffic problems," said one participant. "Stafford is a county with a rich history, extensive cultural resources, high quality environmental resources faced with the challenges of maintaining those resources in the face of rapid growth," said another.

Participants suggested that the environment, parks and culture focus of the County over the next 20 years include inventory, protection and interpretation of the County's historic, cultural and natural resources including its waterways, acquiring parks and open spaces and environmental protection.

The opportunities the group sees for environment, parks and culture preservation of the Rappahannock and Potomac rivers, Crow's Nest, streams and other waterways, as well as recreation initiatives such as lighted soccer fields and a Stafford sports park. They also suggested cooperation and coordination with state and federal agencies to protect and preserve historic, cultural and natural resources. "Use our history wisely," one suggested. "People will come to visit the important sites of we

promote them adequately, such as the Falmouth Historic District.” Buy land now; it will be more expensive later,” said another.

A lack of funding, understanding, personnel and existing land use regulations are some of the main threats to the County’s environment, parks and culture, the group said. One cited outdated zoning in particular: “we weren’t thinking about strip malls 20 years ago. Now we have a ton of strip malls.” Another said, “lack of pre-identified list of sites and resources the County agrees it wants to preserve is a main threat.”

Additional issues participants cited as important to the planning process included concern that the County is underfunded and understaffed to address important issues, that a commuter and military culture have eroded community understanding and ownership, need for public transportation, trails and bike paths and conservation and protection of critical areas.

One participant accused the County of acting in its own self interest to the detriment to of resident. “Many long-time residents have been forced to move due to taxes rising and housing costs,” the participant said. Another said: “We have discussed what needs to be acquired/preserved, but I believe individual property rights must be considered and respected.”

### *1.2.3 Transportation and Community Services*

There were 13 participants in the Transportation and Community Services Focus Group out of 34 identified invitees and 21 who indicated they would attend.

Like participants in the other two Focus Groups and Vision Sessions participants, the Transportation and Community Services Focus Group participants identified the County’s growth as among its characteristic features. Unlike the others, however, members of this group see Stafford as becoming integral part of the National Capital Region and that it is losing its identity to growth.

Stafford is “beginning to experience growth and urbanized development and merge into the DC region,” said one participant. Stafford is “another Loudoun County,” said another. Stafford “doesn’t have historic town centers, too big of a population to do that. (It) lacks focal points for people to come to do the things that create community and the old agricultural community is lost,” said a third participant. “(The) sense of community existed by default in the past,” said another. “But now we need a place.”

The main transportation and community services issues to be addressed over the next 20 years include road system deficiencies including the county’s outdated and dangerous road system, and the life of the landfill.

"Roads need to be updated, not necessarily changed," said one participant. While several agreed the narrow curving roads are a hazard, they didn't necessarily want to see them straightened out. One participant would "like to see the roads improved, but I don't want to see them changed. I like the curvy roads." Need for additional north/south and east/west routes were cited. "Transportation needs have been identified and documented many times," wrote a participant. "The remaining issue which has not been resolved is funding."

Transportation and community services opportunities that participants cited included increasing the numbers of roads and the capacities of existing roads but also public transportation, increased capacity on the Virginia Rail Express and FRED bus service. Participants also worry that the lack of affordable housing is making it difficult to recruit young people to live in the County to work as police officers and emergency medical technicians. "We've lost the service sector because there is not anyplace to live that they can afford," said one participant.

Participants see the threats to transportation and community services as a lack of planning and planned development resulting in sprawl and unmanaged growth, public apathy, affordability and loss of identity. One participant listed several of these issues, adding: "studying the things to death and not taking land preservation seriously."

Additional issues important to the Comprehensive Planning process listed by participants included the need to prioritize. One participant pointed out the need to recognize "that everything that needs to be done in the County may not get done, so there is a tremendous need to prioritize and stick to those priorities."

## **1.3 Survey Results**

### *1.3.1 Introduction*

The participation of residents in the Comprehensive Plan is important, as decisions made upon the completion of the Plan will have a direct effect on the lives of residents. A community survey was completed in Stafford County in June of 2006. The survey was intended to measure the public opinion with respect to various issues and conditions that exist in the community. In addition, the survey was intended to provide residents with the opportunity to state their visions and goals for the future of the community.

The survey questions were divided into the following sections: Community and Government Services, Community Identity and Design, Land Use, Culture and History, Environment, Recreation, Transportation and Circulation and Economy and Business Services. The survey also asked for some demographic data and other information about respondents including their ages, how long they have lived in Stafford, etc.

The survey was distributed randomly to a total of 670 households. A total of 128 surveys were returned completed, representing a response rate of 19%. An effort

was made to distribute the surveys proportionally between renters and homeowners. However, the response rate was much lower for renting households. A response rate of 19% is not generally considered excellent for a survey of this type although it is not unusual. Due to the size of the community, the sample size created by the number of people who responded to survey exhibits a margin of error of  $8.6\pm\%$  with a confidence interval of 95%. The margin of error is based on a random sample.

While the survey was randomly distributed, the respondents generally are not a random representation of the County. With all mail-back surveys, there is a certain degree of sample bias, in that a segment of the population chooses not to respond. People who respond to this type of survey tend to be better educated and/or politically motivated. It should also be considered that those that responded to the survey have demonstrated a greater interest in the future of Stafford.

### *1.3.2 Survey Results: Summary*

Community services and identity:

- 76% of responders agree that they feel safe in the county and 3% disagree
- 50% are satisfied with the cost of government services and 16% are not satisfied
- 23% agree that Stafford county is doing a sufficient job managing growth and 57% disagree

Land use:

- 73% agree that protecting open space from future development should be a priority and of those 50% strongly agree. 11% disagree.

Culture and History:

- 80% agree that that Stafford's historical legacy should be preserved and 7% disagree.
- 68% agree that the County should promote the attraction of cultural interests such as theater, music and art. 8% disagree.

Transportation and Circulation:

- 96.8% feel that traffic on Rt. 610 is a significant problem, and of those 82% strongly agree. 0% disagreed or strongly disagreed.
- 94.2% felt that the Rt.1/Rt. 17 intersection was a significant problem and of those 81% strongly agree. 0.8% disagree.
- Strong majorities felt that Rt 630, Rt. 17 and Rt1 1 are significant problems.
- Strong majorities ranging from 70% to 76% agree that the County should increase funding for things like sidewalks to connect neighborhoods, greenways, FRED, VRE.

- 83% agree that an alternate north-south route west of Rt. 95 is needed and 4% disagree.
- 78% agree that the county should explore options to divert traffic around major intersections. 12% disagreed.

#### Environment:

- 85% agree that protecting environmentally sensitive lands should be a priority. 4% disagree.
- 85% agree that development should be planned to preserve woodlands, forests and trees. 4% disagree.
- Majorities ranging from 37%-40% to 13%-24% believe that county is doing a sufficient job with erosion control, noise, light and air pollution.
- A small majority—35% disagree to 33% agree that the county is doing a sufficient job with litter control.

#### Recreation:

- 74% agree that more active recreation opportunities are required. 9% disagree.
- 62% agree that additional parks are needed. 12% disagree.

#### Economic and Business:

- 70% agree that Stafford should increase business development to generate additional taxes. 13% disagree.
- 81% agree that Stafford should adopt measures that allow rural landowners to preserve their land in its natural state. 6% disagree
- Note: 90% of responders own their own homes. 70% have lived in Stafford more than 5 years and 38% have lived here more than 15 years.

### *1.3.3 Survey Results: Community and Government Services*

Survey respondents were first asked to indicate their overall satisfaction with community and government services on a scale of one to five from very satisfied to dissatisfied. Overall the survey respondents indicated a high level of satisfaction with their community and government services. More than 90 percent are at least satisfied with fire and rescue services and the sheriff's office; more than 80 percent of respondents were at least satisfied with the schools, parks and recreation and public communications.

Survey respondents were asked to indicate their level of agreement, also on a scale of one to five, on other community and government services issues. While 50 percent of respondents agreed or strongly agreed that they were knowledgeable about county services and offices, another 37 percent neither agreed nor disagreed that they were knowledgeable. Similarly, 50 percent of respondents indicated they agree or strongly agree that they are satisfied with the cost of government services

in Stafford. Another 34 percent neither agreed nor disagreed that they were satisfied with the cost of services. More than three-quarters of respondents agree or strongly agree that they feel safe in Stafford.

#### *1.3.4 Survey Results: Community Identity and Design*

Respondents to the survey are generally supportive of or ambivalent about development of all kinds with the distinct exception of residential development. Overall more than half of respondent strongly agree or agree that Stafford should encourage retail, light industrial/technical, office parks and multi-use town centers. Those neither agreeing nor disagreeing about the need for retail, light industrial/technical, office parks, residential and multi-use town centers were between 20 and 25 percent. The only marked difference among responses was in the attitude regarding residential development. While in all the other categories 20 to 22 percent either disagreed or strongly disagreed that development should be encouraged, 41 percent disagreed or strongly disagreed that residential development should be encouraged; 21 percent were ambivalent and 38 percent thought residential development should be encouraged.

There is also marked ambivalence about connectedness to community in Stafford – an issue that also came out in the Vision Sessions and Focus Groups. While 56 percent of respondents said they feel connected to Stafford and have a long-term commitment to the community, fully one-third neither agreed nor disagreed and the balance disagreed or strongly disagreed. These results somewhat mirror the responses to a question about the County’s sense of identity. More than one-third (37 percent) were ambivalent about the county’s sense of identity while 40 percent agreed or strong agreed it has a strong sense of identity.

The County is not doing a good job of managing growth, according to survey respondents, 58 percent of whom said they disagreed or strongly disagreed that the County is doing a sufficient job of managing growth. There were 23 percent affirmative responses and 19 percent were ambivalent. Of the growth that has already taken place, a larger proportion of respondents felt the character and aesthetics of the residentially built environment was pleasing (54 percent) than felt that way about the commercially built environment (46 percent).

#### *1.3.5 Survey Results: Land Use*

Stafford residents overwhelmingly want open space protected, according to the survey results. There were 73 percent affirmative responses asking if protecting open space from development should be a priority, while 15 percent of respondents were ambivalent on this issue. Nearly 50 percent of respondents disagreed that Stafford provides a broad range of housing types while 29 percent think sufficient diversity and affordability of housing types exist. A third of respondents are ambivalent about their familiarity with the County zoning code, and a little more than half are also ambivalent about the code’s effectiveness. At the same time, 43 percent admit they’re not familiar with the code. More than 50 percent of

respondents disagreed that the location and density of new residential development is appropriate.

### *1.3.6 Survey Results: Culture and History*

An overwhelming majority (80 percent) of respondents agreed that the County's rich historic legacy should be preserved. At the same time, 49 percent agreed that they are familiar with the County's history and historic sites. There were 69 percent who agreed that the County should promote the attraction of cultural interests such as theater, music and art.

Satisfaction with library facilities was only fair, with 47 percent of respondents agreeing they are sufficient and 24 percent expressing ambivalence. Just 28 percent of respondents agreed that the County is reaching its tourism potential, and 35 percent disagreed.

### *1.3.7 Survey Results: Transportation and Circulation*

Stafford residents are all for the County spending money on measures to mitigate traffic issues including sidewalks (73 percent), greenways (77 percent), FRED bus system (73 percent) and VRE (70 percent). Nearly two-thirds (64 percent) disagreed that the quality and safety of the road system is adequate for the current population and future growth and 59 percent agreed that pedestrian safety is an issue. Among roads that were named as significant problems in the survey 97 percent agreed that Garrisonville Road is a problem, followed by Falmouth Bridge (94 percent), Warrenton Road (89 percent), Jefferson Davis Highway (76 percent) and Courthouse Road (71 percent).

When asked to set three priorities for funding for over the next three to five years, respondents said Garrisonville Road, Falmouth Bridge and Warrenton Road should be the priorities. When asked where pedestrian safety is a problem in an open-ended questions, answers included "everywhere" as well as Garrisonville Road (21 responses), Warrenton Road (eight) and others.

Survey respondents also support an alternative route west of I-95 (83 percent agreed) and other options including toll roads, traffic mounds at intersections and diverting traffic around intersections (78 percent)

### *1.3.8 Survey Results: Environment*

Survey respondents did not generally express much strong agreement that the county is doing a sufficient job of addressing erosion, noise pollution, light pollution, air pollution and litter control and more expressed ambivalence in these areas than agreement of disagreement. This suggests that the County's efforts to address pollution are not well known or understood. Similarly just over half (52 percent) neither agreed nor disagreed that appropriate steps are being taken to address pollution of surface and ground water resources. Majorities of respondents agreed that development should follow the contours of the land, that environmentally

sensitive lands should be protected and that development should be planned to preserve woodlots, forests and trees with more than half strongly agreeing that environmentally sensitive lands should be preserved (57 percent) and that forests and trees should be preserved (60 percent).

### *1.3.9 Survey Results: Recreation*

Stafford residents are interested in participating in more active recreational activities, with 74 percent evenly split between agreeing and strongly agreeing that the County needs more of these activities such as hiking, biking, camping, boating, fishing, golf. When it comes to passive recreational activities, similar proportions of respondents agreed (41 percent) neither agreed nor disagreed that more passive recreational activities are needed. These include bird watching and nature watching. Almost half (48 percent) neither agreed nor disagreed that there is adequate waterfront access and a third (34 percent) disagreed that adequate access to waterfront exists. While just over a quarter (26 percent) of respondents neither agreed nor disagreed that parks are needed, but most of the remaining respondents (62 percent) agreed that more parks are needed.

When asked in an open-ended question where additional parks should be located, respondents named North Stafford, South Stafford, Courthouse area and Crow's Nest.

### *1.3.10 Survey Results: Economy and Business Services*

While 74 percent of survey respondents either agreed or strongly agreed that they shop in Stafford, almost the same proportion (75 percent) shop in the suburban Fredericksburg area including Spotsylvania Mall, Central Park and Massaponax. When asked in an open-ended question what other places they shop, respondents named Northern Virginia, Potomac Mills, Woodbridge and Quantico.

Respondents were fairly evenly split on the need for additional retail centers in Stafford – 40 percent agreed or strongly agreed and 38 percent disagreed or strongly disagreed and the balance neither agreed nor disagreed. While they may not be able to agree on whether they want more retail shopping opportunities, the majority (71 percent) think that Stafford should increase business development as a way of increasing tax generation. At the same time, they also agree (81 percent) that there should be measures available for rural landowners to preserve their land in its natural state.

### *1.3.11 Survey Results: Additional Comments*

Survey respondents were asked how long they plan to stay in Stafford and the majority (53 percent) plan to stay 15 years or longer. When asked in an open-ended question if they were to leave and why, respondents named jobs and retirement, but they also named traffic congestion, taxes and cost of living as influencing their decisions to leave.

## 1.4 Public Workshops

Public workshops were held June 6 and 7 2006 and October 11 and 12, 2006. The June workshops were designed to help participants identify issues. In October, the participants worked with the issues identified in June to prioritize the issues identified.

### 1.4.1 June Workshops

Approximately 100 persons attended the four identical workshops held in June 2006. The format of the workshops included individual and group input. The individual input is summarized below.

#### INDIVIDUAL INPUT

Table F-1 Public Issue Identification: Individual Input

<b>Land Use</b>	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
The County should consider preserving unique natural features and areas to protect open space and encourage public access.	64.1%	18.8%	14.1%	3.1%	0.0%
Stafford County needs to encourage the development of low-cost housing choices	12.9%	40.3%	22.6%	21.0%	3.2%
The overall look and aesthetic quality of residential and commercial development in the County should be better.	22.2%	44.4%	25.4%	6.3%	1.6%
Mixed-use developments with both commercial and residential components should be encouraged in Stafford.	29.5%	39.3%	9.8%	13.1%	8.2%

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
<b>Circulation</b>					
I am concerned with the volume of traffic in the County	82.3%	12.9%	1.6%	3.2%	0.0%
Pedestrian Safety is an issue in Stafford and there is a need for more sidewalks.	40.3%	30.6%	19.4%	8.1%	1.6%
There is a need for official bike lanes in the County	20.6%	39.7%	23.8%	7.9%	7.9%
A comprehensive recreational trail system is needed in the County	27.0%	34.9%	20.6%	14.3%	3.2%
Additional Roads are needed in the County	49.2%	16.4%	26.2%	6.6%	1.6%

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
<b>Economy</b>					
There is a need for additional Commercial Development	31.7%	31.7%	20.0%	11.7%	5.0%
There is a need for additional Industrial Development	30.0%	35.0%	18.3%	11.7%	5.0%
Opportunities for tourism development should be identified and pursued	23.3%	40.0%	30.0%	6.7%	0.0%
Historic resources enhance Stafford County's quality of life	40.0%	40.0%	18.3%	1.7%	0.0%

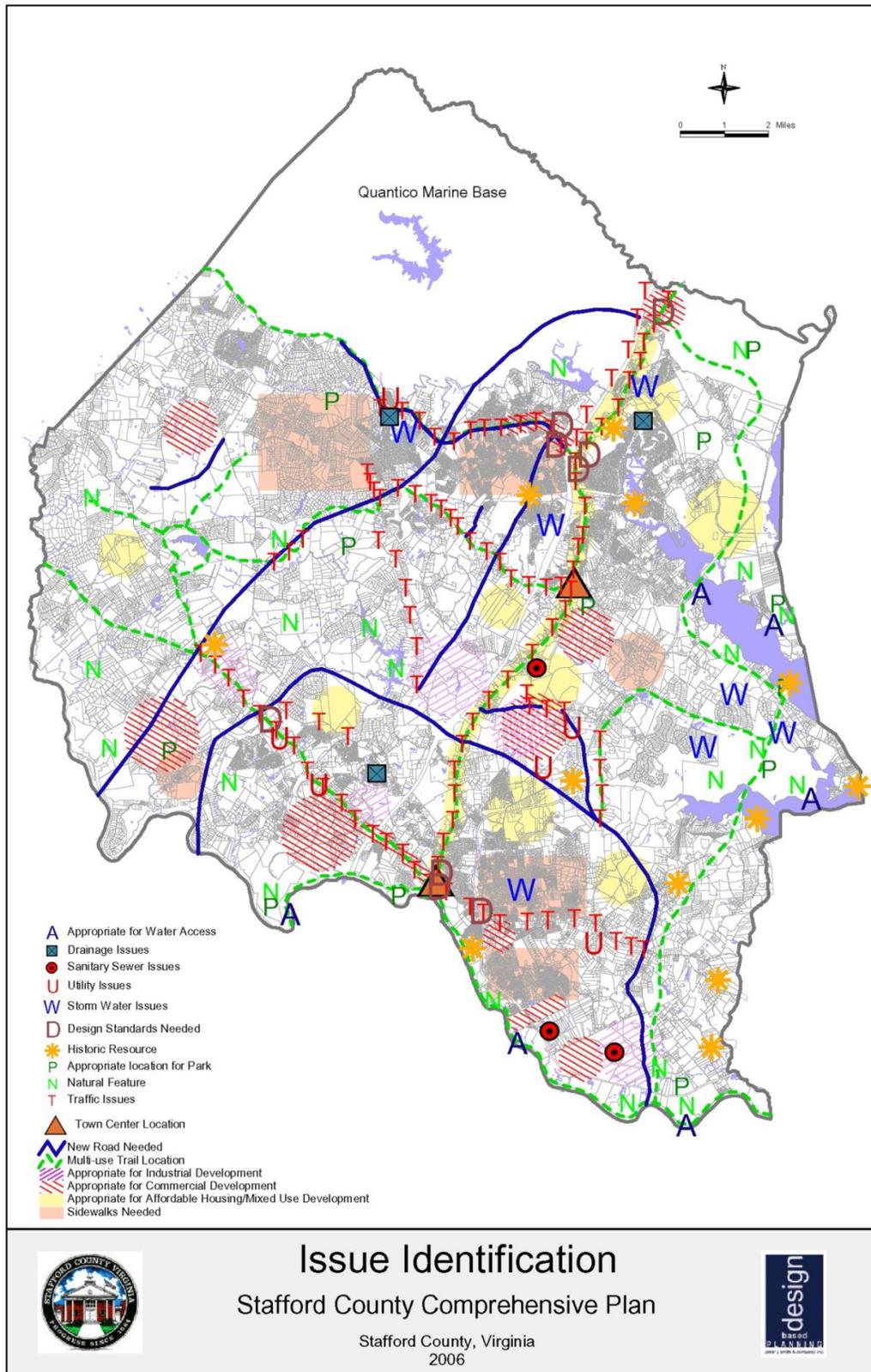
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
<b>Community Services</b>					
Stafford County's infrastructure is adequate for current and future needs	11.7%	15.0%	33.3%	23.3%	16.7%
Stafford County should identify areas for parks, open space and water access	48.3%	33.3%	15.0%	1.7%	1.7%
Stafford County has distinct neighborhoods that should be preserved	23.7%	30.5%	30.5%	11.9%	3.4%
Stafford County has an identifiable "downtown" or center	6.7%	18.3%	18.3%	21.7%	35.0%

<b>Community Character</b>	Urban	Suburban	City	Villages	Hamlets	Rural
Describe Stafford's Existing Character	4%	70%	0%	5%	0%	21%
Describe Stafford's Future Character	18%	61%	2%	11%	2%	7%
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	
There are adequate shopping opportunities in Stafford	27.4%	29.0%	17.7%	14.5%	11.3%	
Adequate cultural activities are available in Stafford	3.4%	10.2%	27.1%	30.5%	28.8%	
Stafford's community character is changing too quickly because of development pressure	56.7%	10.0%	16.7%	6.7%	10.0%	

#### 1.4.1.1 Group Input

Participants in the public workshop were asked to indicate issue areas on maps provided at the workshop. A synthesis of the Issue Identification mapping exercise appears on the following page.

Figure F-1 – Synthesis Map – Issue Identification



### 1.4.2 Public Workshops, October 11 and 12, 2006

A second round of public workshops was held October 11 and 12, 2006. These workshops were designed to help participants express their priorities on issues that were identified in the first round of input. As with the first round of workshops, there were individual and group input sessions. The following table shows the rankings participants provided during the individual input portion of the program.

Table F-2 Priority Setting: Individual Input

<b>Circulation Question #1</b>	<b>Rank</b>
Increase Capacity of Existing Roads	1
Develop Mixed Use Transit-oriented Developments	2
Build New Roads	3
Increase job opportunities in Stafford	4
Develop Trail System for Alternative Vehicle Use	5
Do Nothing	6
<b>Circulation Question #2</b>	<b>Rank</b>
Concentrate Residential Development away from Rural Areas	1
Require Traffic Studies for Proposed Developments	2
Better Standards for Internal Circulation	3
Adopt stronger requirements for multi-point ingress/egress	4
Connect new Residents with Businesses in Stafford	5
Do Nothing	6
<b>Land Use &amp; Housing Question #1</b>	<b>Rank</b>
Establish Standards of Sustainability	1
Provide incentives for sustainable Development	2
Review developments outside UGA based on demand	3
Make decisions in the Context of Comp Plan	4
Allow Rural Land Owners to Trade Density	5
Do Nothing	6
<b>Land Use &amp; Housing Question #2</b>	<b>Rank</b>
Require Developers to Integrate Affordable Housing	1
Identify Areas for Higher Density	2
Set Aside Areas for Affordable Housing	3
Fund Agencies that Specialize in Affordable Housing	4
Relax Housing Proffer Guidelines	5
Do Nothing	6
<b>Environment &amp; Infrastructure Question #1</b>	<b>Rank</b>
Expand Low-impact Development Ideals	1
Adopt Strict Setback Requirements	2
Strictly enforce stormwater laws	3
Acquire Sensitive Land for Protection	4
Require Air Quality & Noise Impact Studies	5
Do Nothing	6

<b>Environment &amp; Infrastructure Question #2</b>	<b>Rank</b>
Direct New Development to Areas with Adequate Infrastructure	1
Adopt Public Infrastructure Standards	2
Add Residential Units where infrastructure is available	3
Limit Infrastructure Development Outside UGA	4
Limit the number of By-right Residential Units	5
Do Nothing	6
<b>School Question #1</b>	<b>Rank</b>
Adjust Teachers Salaries	1
High Priority in Budget	2
Assure Class Sizes at All Levels	3 (Tie)
Develop School Sites with Multi Purpose Uses	3 (Tie)
Explore ways to Creatively Finance	5
Encourage the Development of Neighborhood Schools	6
Continue the Policy of No Portable Classrooms	7
Do Nothing	8
<b>School Question #2</b>	<b>Rank</b>
Integrate 21st Century Technology	1
Train Teachers on Techniques for Integrated Technology	2
Continue to Develop CTE Program	3
Create Free Standing CTE	4
Initiate an IB Program	5
Develop Lap-Top Program	6
Do Nothing	7
<b>Parks, Open Space Question #1</b>	<b>Rank</b>
Identify and Acquire Land for Parks Now	1
Use Proffers to Acquire Land	2
Acquire Land for Conservation and Recreation at the Same Time	3
Identify and Acquire Land for Parks As Needed	4
Pay an Annual Fee to Fredericksburg	5
Do Nothing	6
<b>Parks, Open Space Question #2</b>	<b>Rank</b>
Create Stafford County Legislation to Identify and Protect Resources	1
Acquire Culturally Significant Property	2
Sponsor More Public Education Ops	3
Establish Additional Volunteer Groups	4
Fund Protection of Cultural Resources	5
Hire Additional Cultural Staff	6
Do Nothing	7

#### 1.4.2.1 Group Input

Participants were asked to indicate priorities on maps that represented the issues they had identified during the previous round of input sessions. The results are indicated on the map below.

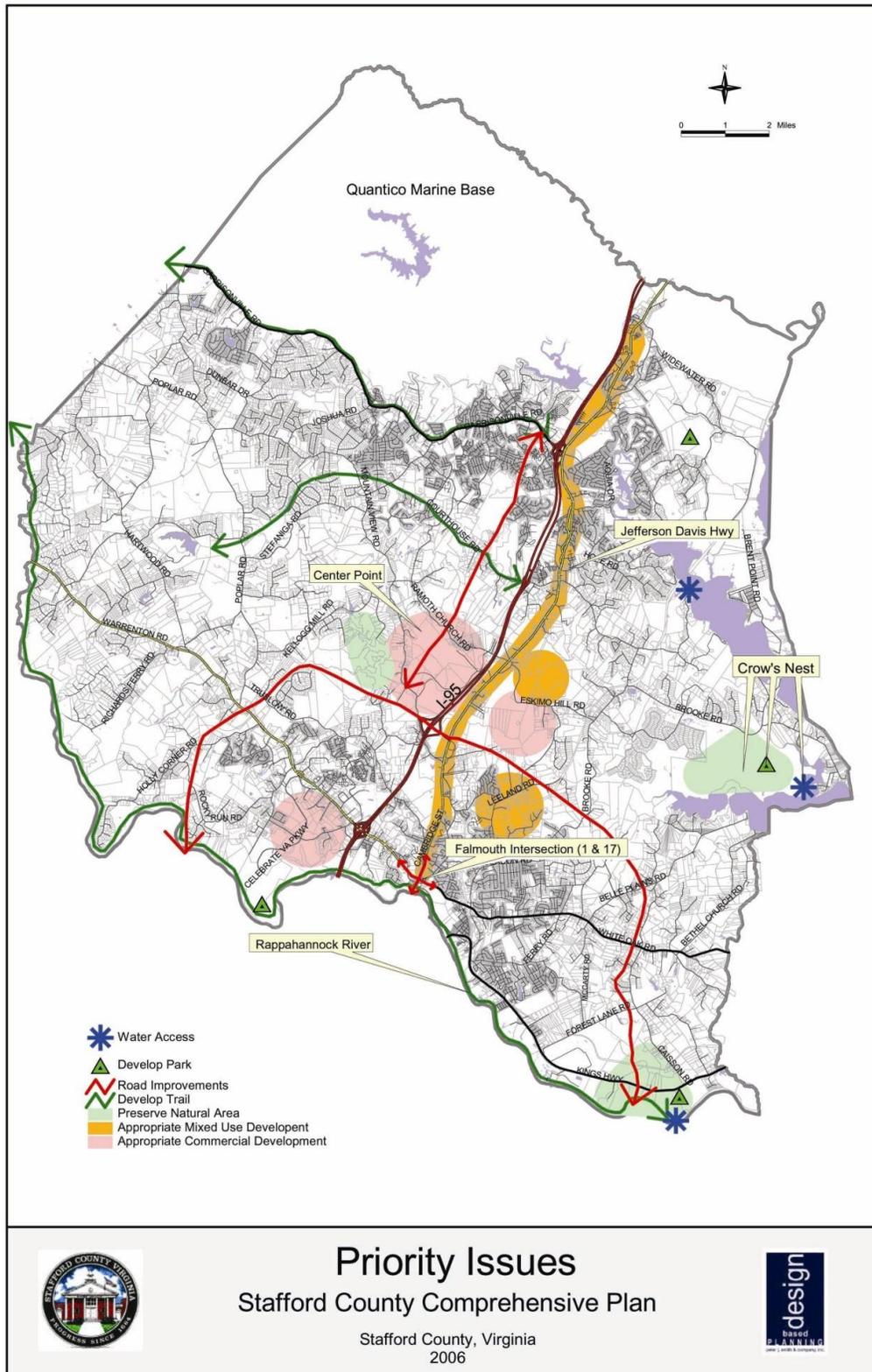


Figure F-2 – Synthesis Map – Priority Issues



## G. Transportation Plan Background Information

### Road Improvements Sorted by Route Number

Route	Road Name	From	To	Future	R/W	Urban /Rural	Cost (in millions)
1	Cambridge Street / Jefferson Davis Highway	Fredericksburg County Line	Accokeek Creek Bridge	6	160	Urban	\$135.72
1	Jefferson Davis Highway	Accokeek Creek Bridge	Hope Road	6	120	Urban	\$31.49
1	Jefferson Davis Highway	Hope Road	Prince William County Line	6	160	Urban	\$156.43
17	Warrenton Road	Interstate 95	Berea Church Road	8	160	Urban	\$108.11
17	Warrenton Road	Berea Church Road	Truslow Road Extended	6	145	Urban	\$53.87
212	Butler Road	Cambridge Street	Chatham Heights Road	4	110	Urban	\$18.98
218	White Oak Road	Deacon / Cool Springs Road	Caisson / Newton Road	4	110	Urban / Rural	\$55.13
218	White Oak Road	Caisson / Newton Road	King George County Line	2	60	Rural	\$7.06
600	Bethel Church Road	White Oak Road	King George County Line	2	60	Rural	\$9.90
601	Forest Lane Road	Kings Highway	Caisson Road	2	60	Urban / Rural	\$9.22
601	Hollywood Farm Road	Caisson Road	Kings Highway	2	60	Rural	\$8.84
602	Chapel Green Road	White Oak Road	King George County Line	2	60	Rural	\$5.58
603	Caisson Road	Kings Highway	White Oak Road	2	60	Rural	\$11.88
603	Newton Road	White Oak Road	Belle Plains Road	2	60	Rural	\$5.38
604	Belle Plains Road	White Oak Road	End of State Maintenance	2	60	Rural	\$15.05
604	McCarty Road	Forest Lane Road	White Oak Road	2	60	Rural	\$8.98
605	New Hope Church Road	White Oak Road	End of State Maintenance	2	60	Rural	\$9.57
606	Ferry Road	Kings Highway	White Oak Road	2	60	Urban	\$12.43
607	Deacon Road	Leeland Road	Brooke Road	4	110	Urban	\$18.14
608	Brooke Road	New Hope Church Road	End of State Maintenance	2	60	Urban / Rural	\$38.19
610	Garrisonville Road	Fauquier County Line	Joshua Road	2	60	Urban / Rural	\$19.03
610	Garrisonville Road	Joshua Road	Shelton Shop Road	4	110	Urban	\$28.56
610	Garrisonville Road	Shelton Shop Road	Jefferson Davis Highway	6	135	Urban	\$72.93
611	Widewater Road	Telegraph Road	Arkendale Road	2	60	Urban / Rural	\$13.93
612	Hartwood Road	Poplar Road	Warrenton Road	2	60	Rural	\$23.40

<b>Route</b>	<b>Road Name</b>	<b>From</b>	<b>To</b>	<b>Future</b>	<b>R/W</b>	<b>Urban / Rural</b>	<b>Cost (in millions)</b>
612	Heflin Road	Poplar Road	Tacketts Mill Road	2	60	Rural	\$3.96
614	Cropp Road	Spotted Tavern Road	Fauquier County Line	2	60	Rural	\$3.47
614	Spotted Tavern Road	Cropp Road	Hartwood Road	2	60	Rural	\$8.42
615	Skyline Drive	Cropp Road	Hartwood Road	2	60	Rural	\$5.94
616	Poplar Road	Warrenton Road	Fauquier County Line	2	60	Urban / Rural	\$33.04
621	Marlborough Point Road	Brooke Road	End of State Maintenance	2	60	Rural	\$8.42
624	Layhill Road	Forbes Street	Cambridge Street	4	110	Urban	\$2.52
624	Morton Road	Leeland Road	Primmer House Road	2	60	Urban	\$4.44
626	Leeland Road	Deacon Road	Morton Road	4	110	Urban	\$25.70
626	Leeland Road	Morton Road	Potomac Run Road	2	60	Urban / Rural	\$1.90
626	Potomac Run Road	Eskimo Hill Road	Leeland Road	2	60	Rural	\$7.69
627	Forbes Street	Cambridge Street	Layhill / Morton Road	2	60	Urban	\$9.61
627	Mountain View Road	Poplar Road	Choptank Road	2	60	Urban / Rural	\$11.77
627	Mountain View Road	Choptank Road	Stefaniga Road	4	120	Urban	\$20.83
627	Mountain View Road	Stefaniga Road	Centreport Parkway	2	60	Urban / Rural	\$14.76
628	Ramoth Church Road	Woodcutter Road extended	Interstate 95	4	110	Urban	\$38.30
628	American Legion Road	Interstate 95	Jefferson Davis Highway	4	110	Urban	\$5.54
628	Eskimo Hill Road	Jefferson Davis Highway	Brooke Road	2	60	Urban / Rural	\$9.97
628	Winding Creek Road	Courthouse Road	Shelton Shop Road	2	60	Urban	\$8.87
629	Andrew Chapel Road	Courthouse Road	Brooke Road	2	60	Urban / Rural	\$3.20
630	Courthouse Road	Spartan Drive	End of State Maintenance	2	60	Rural	\$11.25
630	Courthouse Road	Shelton Shop Road	Austin Ridge Drive	4	135	Urban	\$64.51
631	Bells Hill Road	Jefferson Davis Highway South	Jefferson David Highway North	2	60	Urban	\$7.76
633	Arkendale Road	Widewater Road	Brent Point Road	2	60	Rural	\$6.93
635	Decatur Road	Widewater Road	End of State Maintenance	2	60	Rural	\$9.74
637	Telegraph Road	Interstate 95	Woodstock Lane	2	60	Urban	\$10.40
639	Woodstock Lane	Telegraph Road	Jefferson Davis Highway	2	60	Urban	\$0.83

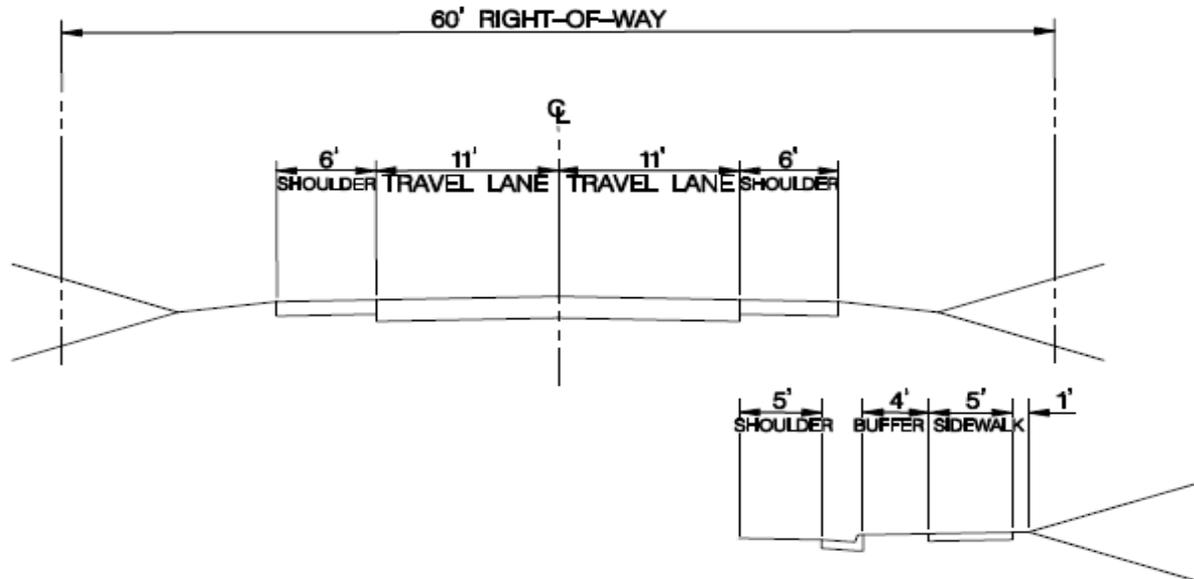
<b>Route</b>	<b>Road Name</b>	<b>From</b>	<b>To</b>	<b>Future</b>	<b>R/W</b>	<b>Urban / Rural</b>	<b>Cost (in millions)</b>
641	Onville Road	Garrisonville Road	Quantico Marine Corp Base	2	60	Urban / Rural	\$4.83
642	Barrett Heights Road	Garrisonville Road	Onville Road	2	60	Urban	\$3.23
643	Joshua Road	Garrisonville Road	Mountain View Road	2	60	Urban / Rural	\$8.47
644	Rock Hill Church Road	Mountain View Road	Garrisonville Road	2	60	Rural	\$9.04
645	Dunbar Road	Tacketts Mill Road	Rock Hill Church Road	2	60	Rural	\$4.95
646	Tacketts Mill Road	Poplar Road	Fauquier County Line	2	60	Rural	\$9.90
628	Ramoth Church Road	Woodcutter Road	Courthouse Road	2	60	Rural	\$7.43
640	Porter Lane	Enon Road	End of State Maintenance	2	60	Urban	\$1.06
648	Shelton Shop Road	Mountain View Road	Garrisonville Road	4	110	Urban	\$33.43
648	Stefaniga Road	Poplar Road	Mountain View Road	2	60	Rural	\$11.78
649	Richland Road	Warrenton Road	Hartwood Road	2	60	Rural	\$6.27
650	Mount Olive Road	Poplar Road	Kellogg Mill Road	2	60	Rural	\$9.21
651	Kellogg Mill Road	Poplar Road	Ramoth Church Road	2	60	Rural	\$14.06
652	Truslow Road	Poplar Road	Cambridge Street	2	60	Urban	\$31.23
654	Berea Church Road	Truslow Road	Warrenton Road	2	60	Urban	\$6.14
654	Rocky Run Road	Holly Corner Lane	River Acres Lane	2	60	Rural	\$4.85
654	Rocky Run Road	Greenbank Road	Burgess Lane	2	60	Rural	\$2.38
655	Holly Corner Road	River Ridge Lane	Warrenton Road	2	60	Urban / Rural	\$14.30
656	Greenbank Road	Warrenton Road	End of State Maintenance	2	60	Urban / Rural	\$8.32
658	Brent Point Road	Decatur Road	End of State Maintenance	2	60	Rural	\$16.43
670	Sanford Drive	Greenbank Road	Paul Lane	2	60	Urban / Rural	\$5.99
670	Sanford Drive	Paul Lane	Warrenton Road	4	110	Urban	\$11.26
682	Colebrook Road	Ferry Road	McCarty Road	2	60	Urban / Rural	\$6.39
684	Staffordboro Boulevard	Garrisonville Road	Sunningdale Drive	4	110	Urban	\$2.69
684	Staffordboro Boulevard	Sunningdale Drive	Pike Place	2	60	Urban	\$0.96
687	Hope Road	Jefferson Davis Highway	End of State Maintenance	2	60	Urban / Rural	\$12.86
691	Stony Hill Road	Hartwood Road	Poplar Road	2	60	Rural	\$9.57
691	Storck Road	Warrenton Road	Hartwood Road	2	60	Rural	\$6.86

Route	Road Name	From	To	Future	R/W	Urban / Rural	Cost (in millions)
721	Olde Concord Road	Hope Road	End of State Maintenance	2	60	Urban	\$5.17
753	Enon Road	Porter Lane	Jefferson Davis Highway	4	110	Urban	\$3.53
753	Enon Road	Hulls Chapel Road	Truslow Road	4	110	Urban	\$6.89
753	Enon Road	Porter Lane	Hulls Chapel Road	2	60	Urban	\$1.57
754	Shackelford Well Drive	Hartwood Road	Poplar Road	2	60	Rural	\$6.01
1264	Parkway Boulevard	Garrisonville Road	Kimberly Lane	2	60	Urban	\$5.61
1706	Plantation Drive	Lichfield Boulevard	Truslow Road	4	110	Urban	\$19.15
2140	Pine View Drive	Centreport Parkway	Enon Road	2	60	Urban	\$2.91
8900	Centreport Parkway	Ramoth Church Road	Berea Parkway (new)	4	110	Urban	\$50.74

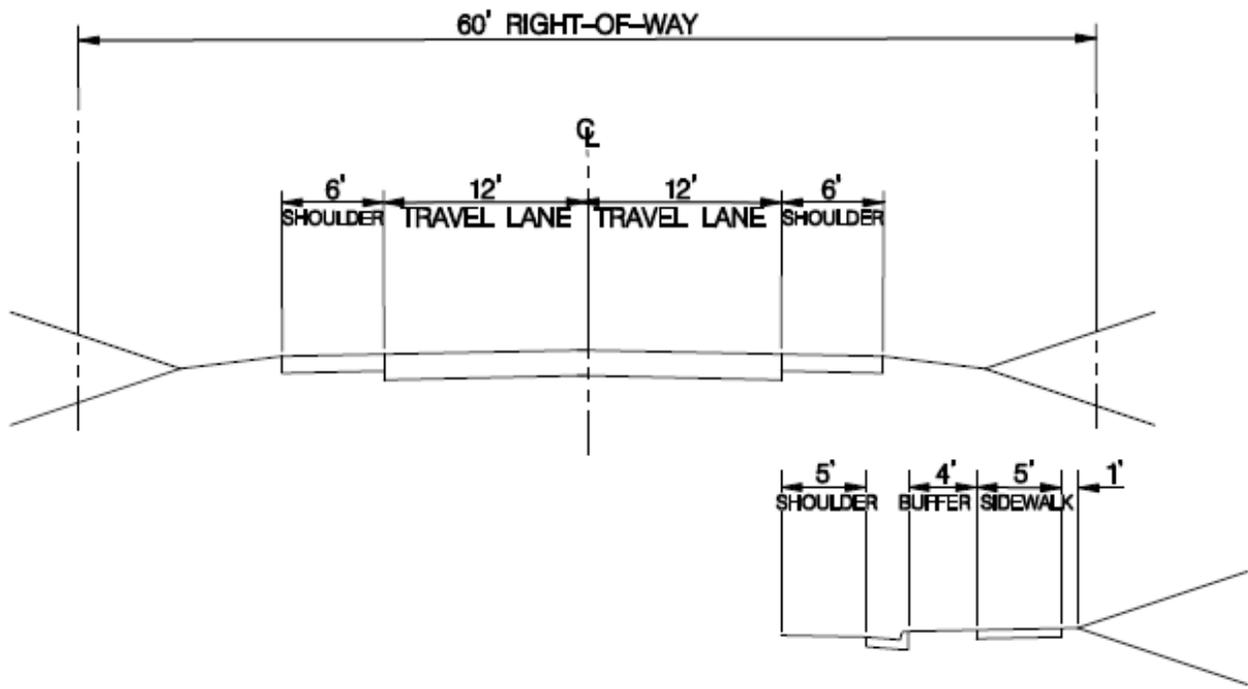
## New Roads

Road Name	From	To	Future	R/W	Urban / Rural	Cost (in millions)
New I-95 Connector East	US-1	Courthouse Road East	4	110	Urban	Unknown
Mine Road Extension	Austin Ridge Drive	Ramoth Church Road	4	110	Urban	\$96.77
Mine Road Extension	Centreport Parkway	Enon Road	4	110	Urban	\$20.43
Woodcutter Road	Courthouse Road	Kellogg Mill Road	4	110	Urban	\$35.75
Woodcutter Extended	Kellogg Mill Road	Ramoth Church Road	4	110	Urban	\$6.99
Austin Ridge Drive Extended	Eustace Road	Parkway Boulevard	2	60	Urban	\$12.10
Embrey Mill Road extended East	Embrey Mill Road	Mine Road	2	60	Urban	\$6.05
Embrey Mill Road extended West	Embrey Mill Road	Walpole Street	2	60	Urban	\$2.87
Eskimo Hill Connector	Jefferson Davis Highway	Eskimo Hill Road	2	60	Urban / Rural	\$7.75
Kellogg Mill Road extended	Woodcutter Road	Mine Road extended	2	60	Urban	\$17.39
Truslow Road Connector	Truslow Road	Jefferson Davis Highway	2	60	Urban	\$7.56
Warrenton Road Parallel Road	Sanford Drive	Stafford Lakes Parkway	2	60	Urban	\$14.52
Truslow Road extended	Poplar Road	Warrenton Road	4	110	Urban	\$10.75
New I-95 Interchange at Courthouse Road	Courthouse Road West	Jefferson Davis Highway	TBD	TBD	Urban	Unknown

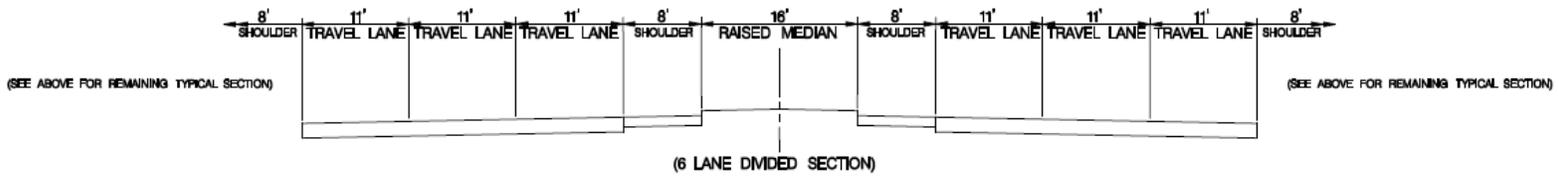
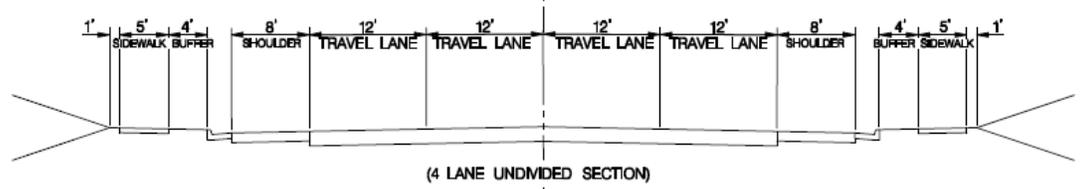
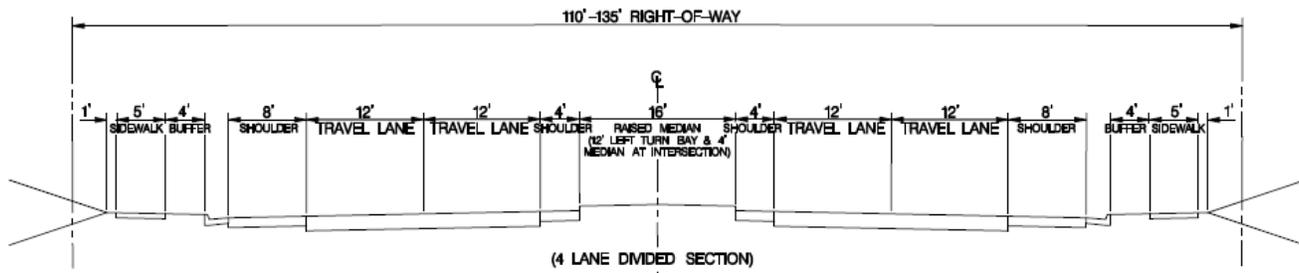
## Typical Roadway Sections



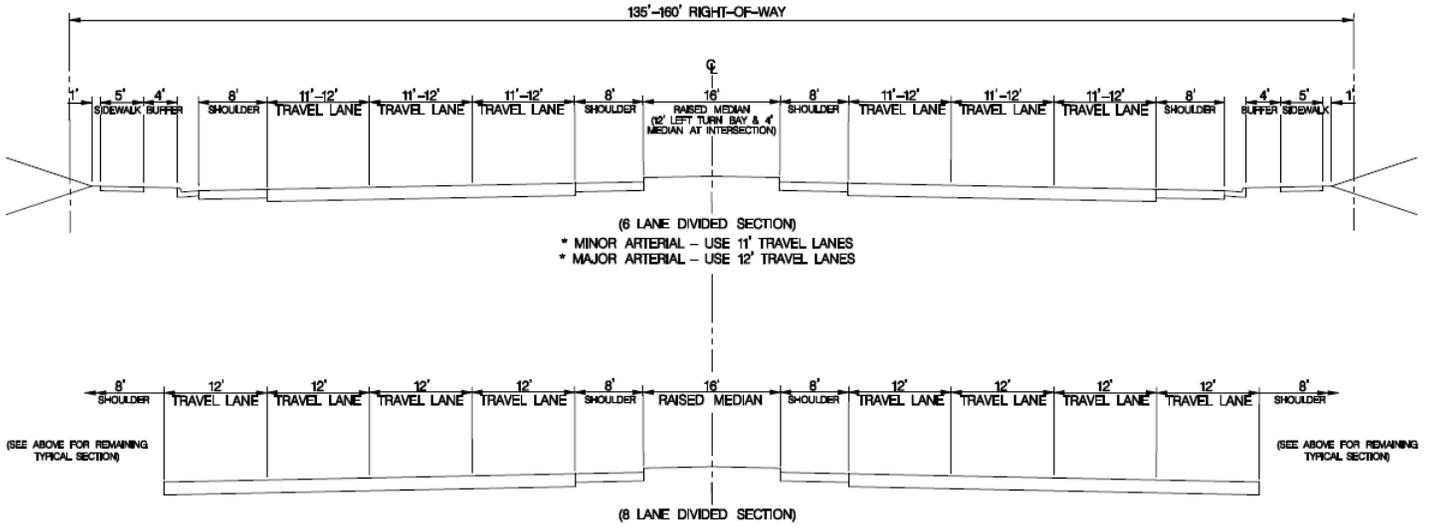
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**MINOR COLLECTOR**  
 SCALE: 1" = 10'



**MAJOR COLLECTOR**  
SCALE: 1" = 10'



MAJOR MINOR ARTERIAL  
SCALE: 1" = 10'