2014

Town of Dumfries Comprehensive Plan

Chartered 1749
Incorporated 1961
Virginia's Oldest Town

July 8, 2014

OFFICIALS OF THE TOWN OF DUMFRIES, VIRGINIA

July 8, 2014

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TOWN OF DUMFRIES

COMPREHENSIVE PLAN

Certified by the Dumfries Planning Commission on April 7, 2014

Adopted by the Dumfries Town Council on July 8, 2014

Prepared by
Dumfries Planning Commission
Town of Dumfries, Virginia

This Comprehensive Plan replaces all previous versions and complies with § 15.2-2230 of the Code of Virginia five-year review requirement.

A note on the preparation of the 2014 Comprehensive Plan Update:

This update to the Town of Dumfries' Comprehensive Plan was a collaborative effort involving citizens, business leaders, community leaders, and other Town stakeholders. Previous Plan update efforts remain an important part of this Comprehensive Plan and contributions are attributed below.

Acknowledgements

Land Use Plan

Lou Cononico, Christopher Consultants Engineering
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O'Kelly Russell, Planning Commission
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Transportation Plan

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Historic & Cultural Resources Plan

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The Town of Dumfries wishes to express sincere appreciation for the past efforts of numerous Town officials including former Council and Planning Commission members; staff members from the Manager's office, and the Planning and Public Works Departments; along with the Prince William County Planning Department. Dumfries is a better place due to their significant contributions to the Town's ongoing planning process.

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INTRODUCTION

Welcome to the Town of Dumfries

The Dumfries Town Council, on behalf of its citizens, recognizes the importance of the policies that are embodied in this Comprehensive Plan. This Plan represents the vision and framework from which the Town serves its citizens and achieves their goals. A primary theme in this Plan is sustainable land use planning that incorporates economic development as a product of carefully crafted and implemented community design, zoning and development standards. The pursuit of the community's goals are measured against the Town's ability to provide a safe and livable community for its residents, provide needed services for its residents, protect the Town's environmentally sensitive resources, and enhance the Town's historic character while providing for future development.

Town Overview

The Town of Dumfries is a small, incorporated Town encompassing an area of approximately 1.63 square miles (1048 acres). The Town is located in the southeastern corner of Prince William County, approximately one mile west of the Potomac River, 35 miles south of Washington, D.C., and 20 miles north of the City of Fredericksburg. The Town is bordered on the west and northwest by Interstate 95, on the north and northeast by Dumfries Road (Route 234) and Dewey's Run, and on the east and south by Quantico Creek and a small unnamed tributary to Quantico Creek. U.S. Route 1, a major north/ south primary highway which runs parallel to I-95, bisects the Town and provides accessibility to the nearby areas of Prince William County around Woodbridge, Graham Park, Triangle, Montclair and Quantico.

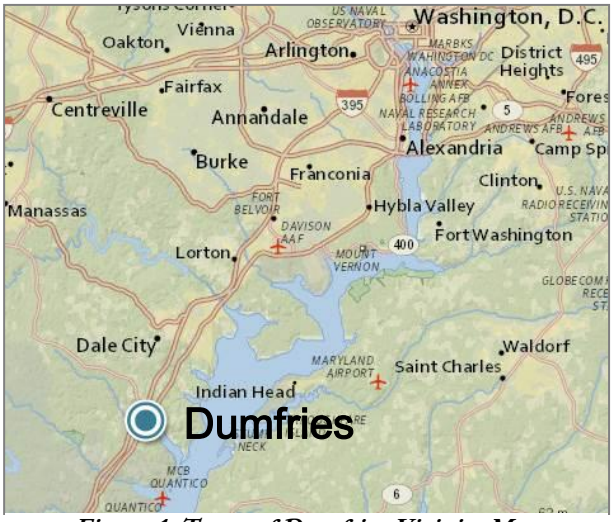


Figure 1: Town of Dumfries Vicinity Map

The Town of Dumfries has experienced significant changes since the time of its early settlement when agriculture and shipping industries formed its economic base. Today, the main highway corridor into the Town, Route 1, gives the immediate impression that the Town is comprised mainly of low-density commercial convenience, retail, and service establishments. In reality, however, the Town is predominantly residential, with most of this development occurring over the past 50 years. Single-family and townhouse development constitutes the largest percentage of housing stock, with a few scattered multi-family residential units and several older mobile home communities. The Town has a small percentage of land located east of the Route 1 corridor adjacent to Quantico Creek which is zoned for flex business-office that houses some industrial and manufacturing businesses including warehousing, an asphalt plant, and concrete mixing uses.

The Town's most prevalent natural resources are associated with the sensitive floodplains and wetlands along Quantico Creek and its tributaries. The protection of these environmentally critical resources is a consideration for the Town's future development.

The Town's proximity to nearby major retail commercial centers, important environmental assets such as the Potomac River and Prince William Forest Park, and major transportation infrastructure such as Routes 1 and 234 will continue to shape the Town's redevelopment, along with alternative transportation amenities such as mass transportation, trails, and sidewalks to reduce vehicular traffic. Additionally, practical, high quality development regulations are critical to ensure the community's long term viability.

Purpose and Scope of the Comprehensive Plan

The Comprehensive Plan (the "Plan") is required by state statute as a basis for zoning and includes goals and policies for future land use development and the development of transportation routes, places, land, structures and utilities. A comprehensive plan is also required by a number of state and federal grant programs in which the Town takes part such as Community Development Block Grants, Home Grants and other federal as well as state funding. However a comprehensive plan can be much more to a town. Preparation of a plan offers the opportunity for the public to work with Town leaders and staff to develop a vision for the development of the town.

The purpose of the Plan is:

- To improve the quality of the physical environment of the community in response to social, economic, and physical realities and forecasts;
- To provide for the well-being of the entire community, rather than advance the special interests of individuals or groups within the community;
- To act as a guide in the formation of additional plans;
- To promote community goals, objectives, and policies;
- To coordinate the political and technical aspects of community development in order to eliminate conflict or duplication of public and private projects;
- To insert long-range considerations of goals in decisions about short-range actions; and
- To enhance citizen participation in community development and provide citizens with a sense of security and civic pride.

Statutory Authority

Pursuant to Virginia law, the Town of Dumfries first adopted a comprehensive plan for the territory within its jurisdiction in 1980. Section 15.2-2230 of the Code of Virginia, requires that the comprehensive plan be reviewed at least once every five years and, where appropriate, amended. The Dumfries Comprehensive Plan was last reviewed and amended in 2012 and, prior to that, 1993. The five year review requirement is a mechanism to ensure that the Plan remains current and relevant.

The Town of Dumfries Comprehensive Plan is recommended by the Planning Commission to Town Council pursuant to the authority of §15.2-2223 which provides that:

> *The comprehensive plan shall be made with the purpose of guiding and accomplishing 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.*

As required by law, the Comprehensive Plan is general in nature, showing the Planning Commission's long-range recommendations for the general development of the territory with due consideration or inclusion of the statutorily enumerated elements of §15.2-2223.

Vision

DUMFRIES
"Small Town, Big Difference"

Our Town is . . .

- The oldest, continuously chartered town in Virginia with history in progress;
- A pedestrian friendly, accessible, diverse community that provides a safe, inclusive, interactive, and stimulating living environment;
- A relaxing, restorative, beautiful, green-minded town with abundant community benefits;
- A town that truly cares for community, where we work together and neighborliness prevails;
- A town that has a creative roadmap to its future.

By 2034, our town will include the following:

Nurturing Community
The Town of Dumfries is a community where neighbors care about each other. A wide array of programs and facilities serve the recreational and cultural needs of citizens of all ages. Concerts, festivals, and special events celebrate our community and embrace our rich cultural diversity. Our children thrive in a safe and healthy atmosphere. The Town offers a variety of housing choices for young adults, growing families and empty-nesters. Local shopping, banking, and restaurants enhance our feeling of community. Our citizens enjoy fine restaurants, activities in parks, and our revitalized waterfront. To live in Dumfries is to experience a rare slice of Americana.

Strong Foundation
Dumfries, Virginia's first town, continues to enhance its rich cultural traditions. Among the Town's attractions are the Weems-Botts Museum, the Henderson House, and the Williams Ordinary as well as Civil War encampments, and the Dumfries Cemetery containing gravesites from the late 1600s. A vibrant Main Street supports a pedestrian friendly shopping district with quaint stores, while traffic flows smoothly and effortlessly through and about the Town. Walkers, joggers, and cyclists move easily from place to place while transit provides an alternative for those so inclined. Town buildings present a solid and welcoming visage to citizens and visitors. Public spaces support a host of uses. Underground utilities, attractive street lighting, and appropriate signage and gateways support a pleasing image for all who enter or live here. You will better understand our nation's future by examining Dumfries' evolving past.

Environmental Commitment Enhances Our Beauty
Dumfries and its citizens have a compelling multilevel commitment to the environment, resulting in one of the healthiest and most beautiful towns in Virginia. Citizen commitment is the key to our growing success. Collaborative recycling programs divert the majority of materials from entering the waste stream and help to protect the Town's environment. Stormwater is handled in a sensitive manner, supporting the Town's strong environmental ethic. Dumfries is "green certified" by the State and enjoys a leadership role among state and county governments because of our well-established environmental commitment.

Come Play in Dumfries; Come Stay in Dumfries
The Town of Dumfries offers a wide range of events and services directed at providing opportunities for our youth, seniors, and the citizenry at large. Through public and private partnerships, a summer youth employment program and a targeted internship program offer work experience and vocational training. These partnerships also collaborate to offer college scholarships to high achieving high school seniors. Dumfries citizens are proud of the diversity and inclusiveness that encourage the active participation of all.

COMMUNITY PROFILE

The Town of Dumfries has become an increasingly diverse community racially, ethnically, and socially. This section of the Plan examines the demographic makeup of the Town and the forces that have shaped, and will continue to influence, the character of its residents. Understanding the demographics of a community helps to lay the foundation for equitable policies and strategies that are effective in achieving their vision.

Population

Population growth is a historically recent trend. From 1800 until 1950, there was little change in the Town's population. However, the period of time following World War II ushered in a new era in Town history, one characterized by four decades of continuous population growth and by important changes in the demographic profile of Town residents.

In 2011, there were an estimated 4,981 people living within the Town boundaries. Population growth of more than 15 percent has occurred since 1990 (then population of 4,282), with more than 3,000 people added to the Town's population during the past four decades.

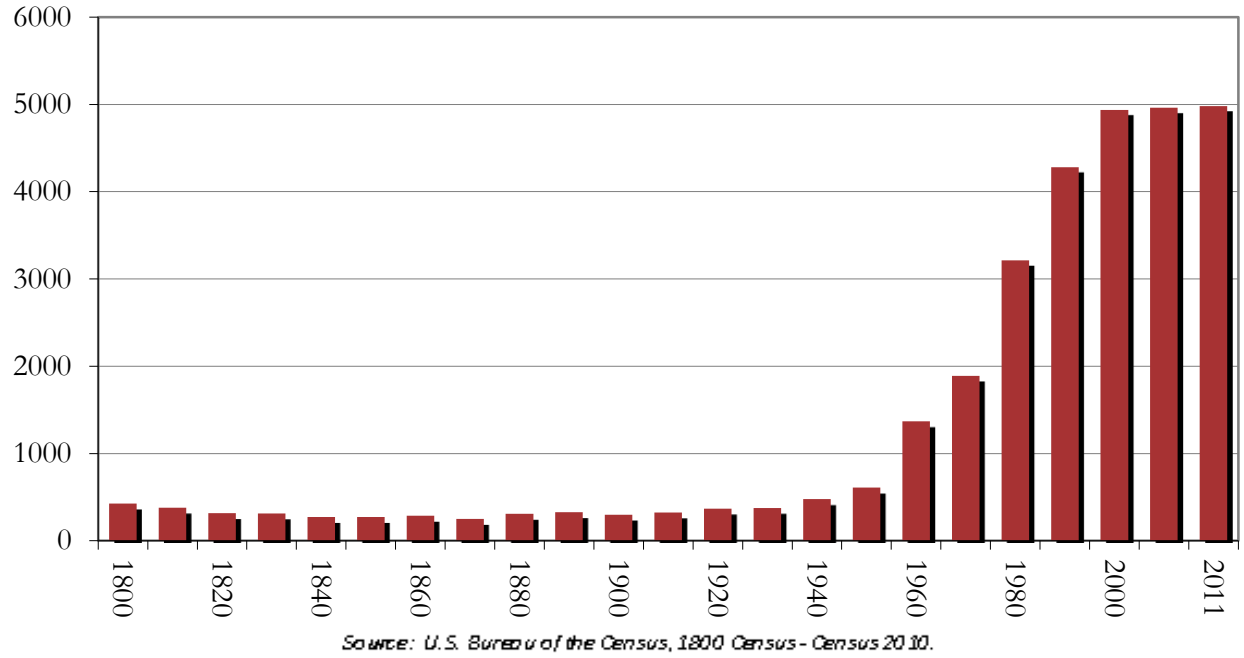


Figure 2: Town of Dumfries Population 1800-2011

Population gains can be attributed to several factors. First is the annexation of 1966. This action enlarged the Town boundaries from 0.19 to 1.63 square miles, which, in addition to adding more people, provided land to accommodate new growth.

A second contributing factor is the unprecedented development of Northern Virginia, a region that has emerged as one of the nation's liveliest suburban markets. The continued growth of the region places pressure on the Town in terms of transportation infrastructure, as well as continuing to provide services to a growing population.

Third is the proximity of the Town to U.S. Interstate 95, a major connector to expanding job markets, business sites and transportation routes located to the north and south. Some of the fastest growing counties in Virginia during the 1980s were located directly south of the Town along I-95 (i.e., Stafford and Spotsylvania Counties). Powerful forces are driving population and economic activity outward. As long as this economic activity continues, the I-95 corridor will remain a prime site for new growth. Related to this I-95 corridor growth is the BRAC related expansion of federal military, civil and related private civilian employment in and around the U.S. Marine Corps Base-Quantico, located approximately 1.5 miles south of Town, and Fort Belvoir, in southern Fairfax Co., approximately 15 miles north of Town.

A final major factor stimulating recent population gains is the affordability of housing. Based on the most recent American Community Survey (2011) estimates, the average home in the Town costs $197,600, significantly less than the average price of a home in Northern Virginia (about $320,000) and $81,000 less than one in Manassas.

Year	Population	Change	% Change
1800	427		
1810	380	-47	-11.0%
1820	316	-64	-16.8%
1830	313	-3	-0.9%
1840	273	-40	-12.8%
1850	273	0	0.0%
1860	288	15	5.5%
1870	250	-38	-13.2%
1880	308	58	23.2%
1890	329	21	6.8%
1900	300	-29	-8.8%
1910	325	25	8.3%
1920	368	43	13.2%
1930	377	9	2.4%
1940	478	101	26.8%
1950	610	132	27.6%
1960	1,368	758	124.3%
1970	1,890	522	38.2%
1980	3,214	1,324	70.1%
1990	4,282	1,068	33.2%
2000	4,937	655	15.3%
2010	4,961	24	0.5%

Figure 3: Town Population Change Since 1800

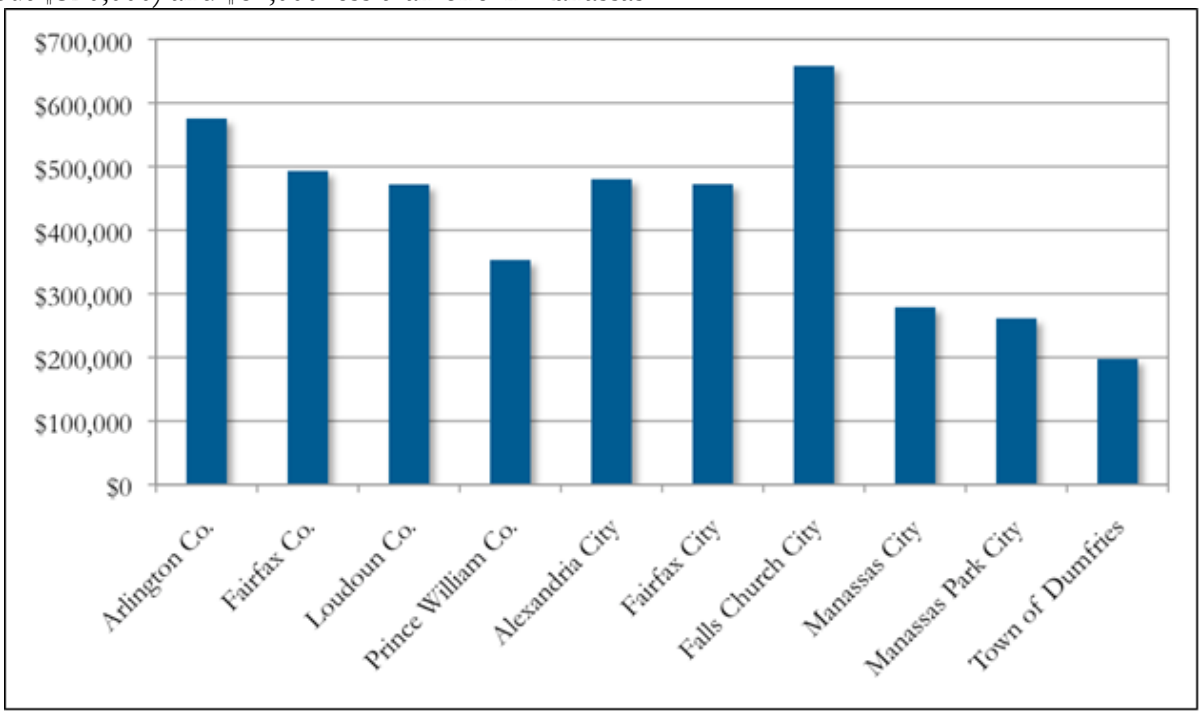


Figure 4: Average Home Price Estimate in Northern Virginia, 2011

Four of the basic elements – an expanding metropolitan economy, location along I-95, proximity to expanding military bases, and affordable housing – continue to serve as a magnet for future population growth. A major limiting constraint is the supply of vacant land for residential development. For the Town to grow beyond this constraint, existing developed sites in the Town must be redeveloped at higher densities than currently exist.

Demographics

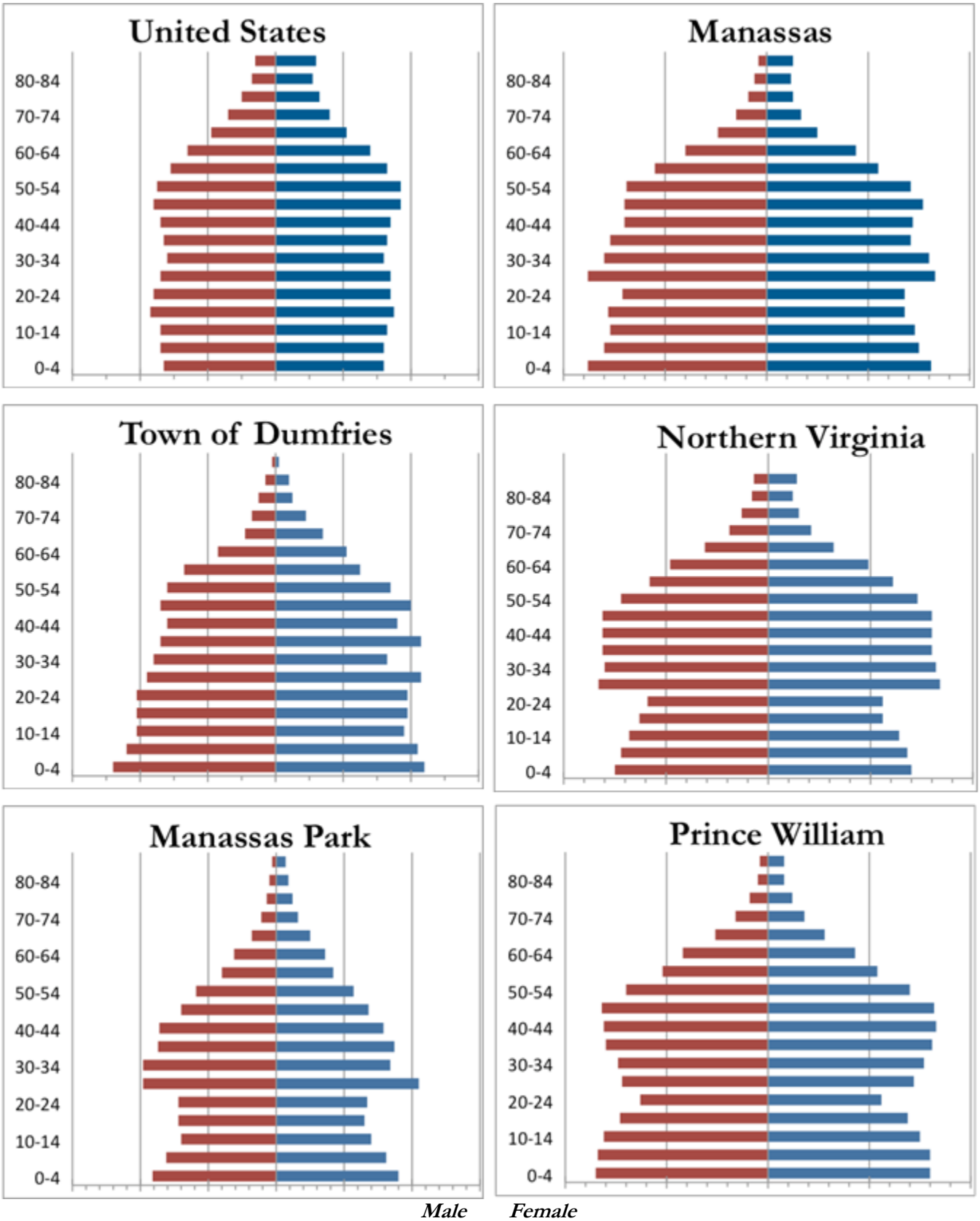
Numbers of people are one aspect of population. Equally important is the composition of people who live in a community – their age distribution, ethnicity, educational attainment, income levels, occupations and commuting patterns. A profile of Town residents reveals numerous unique and interesting characteristics.

The median age, which was 25 in the United States in 1960, in 2000 stood at 33, and currently is at 37 and expected to continue to rise. Like the nation, the age structure of the Town's population is edging upward, but at a considerably slower pace. In 1960 the median age of town residents was 22.3, with youth (ages 0 -18) comprising 44 percent of the population. By 2011, the median age had jumped to 29.4, and youth had shrunk to 34 percent of the population.

The aging of the population is a powerful national demographic trend affecting all communities. What makes the Town distinctive demographically is the degree to which its age structure lags behind the broader demographic trend (see Figures 6 and 7). The Town of Dumfries has a comparatively youthful population. This is reflected both in the low median age of the Town, six years below the national average, and in its high proportion of young people.

Over the last ten years, the Town has seen a dramatic change in its racial diversity. The Town has significantly more minorities in its population compared to other nearby jurisdictions, such as Prince William County and the Cities of Manassas and Manassas Park. In 1970, minorities comprised 8.2 percent of the Town's population. By 2010, that percentage had risen to almost 70 percent of the population. In comparison, approximately one half of the population in Northern Virginia today is a member of a racial/ethnic minority.

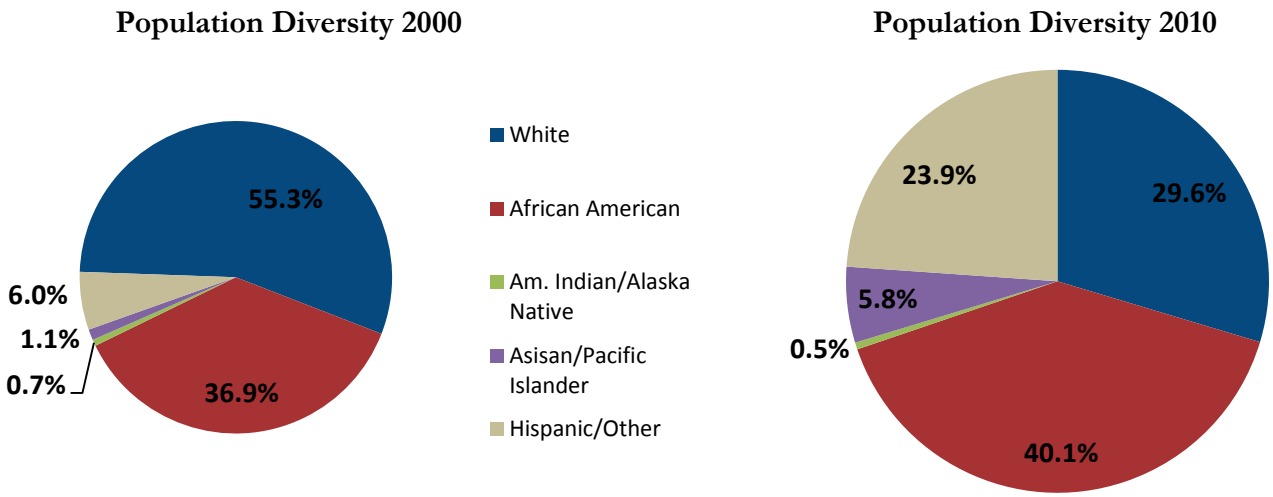
Minorities comprise a diverse group, ranging from African-Americans, Latinos and Hispanics, Asians, and other races and nationalities. Dumfries' minority population is prominently African-American (40.1%). Hispanics are the fastest growing segment of the community comprising 23.9 percent of the population, with Asians accounting for 5.8 percent of the population.



Each tick represents one percent of the population

Source: U.S. Bureau of the Census, Census 2010 Summary File 1

Figure 5: Age Distribution in Town and Surrounding Area



Source: U.S. Bureau of the Census, Census 2000 & 2010 Summary File 1.

Figure 6: Town Race and Ethnicity Identification

Race alone or in combination with one or more other races	2000	2010	Change	% Change
White	2,612	1,449	-1,163	-44.53%
Black / African American	1,741	1,962	221	12.69%
Am. Indian / Alaska Native	31	26	-5	-16.13%
Asian / Pacific Islander	53	283	230	433.96%
Hispanic / Other	283	1168	885	312.72%
Total	**4,937**	**4,981**	**168**	**3.40%**

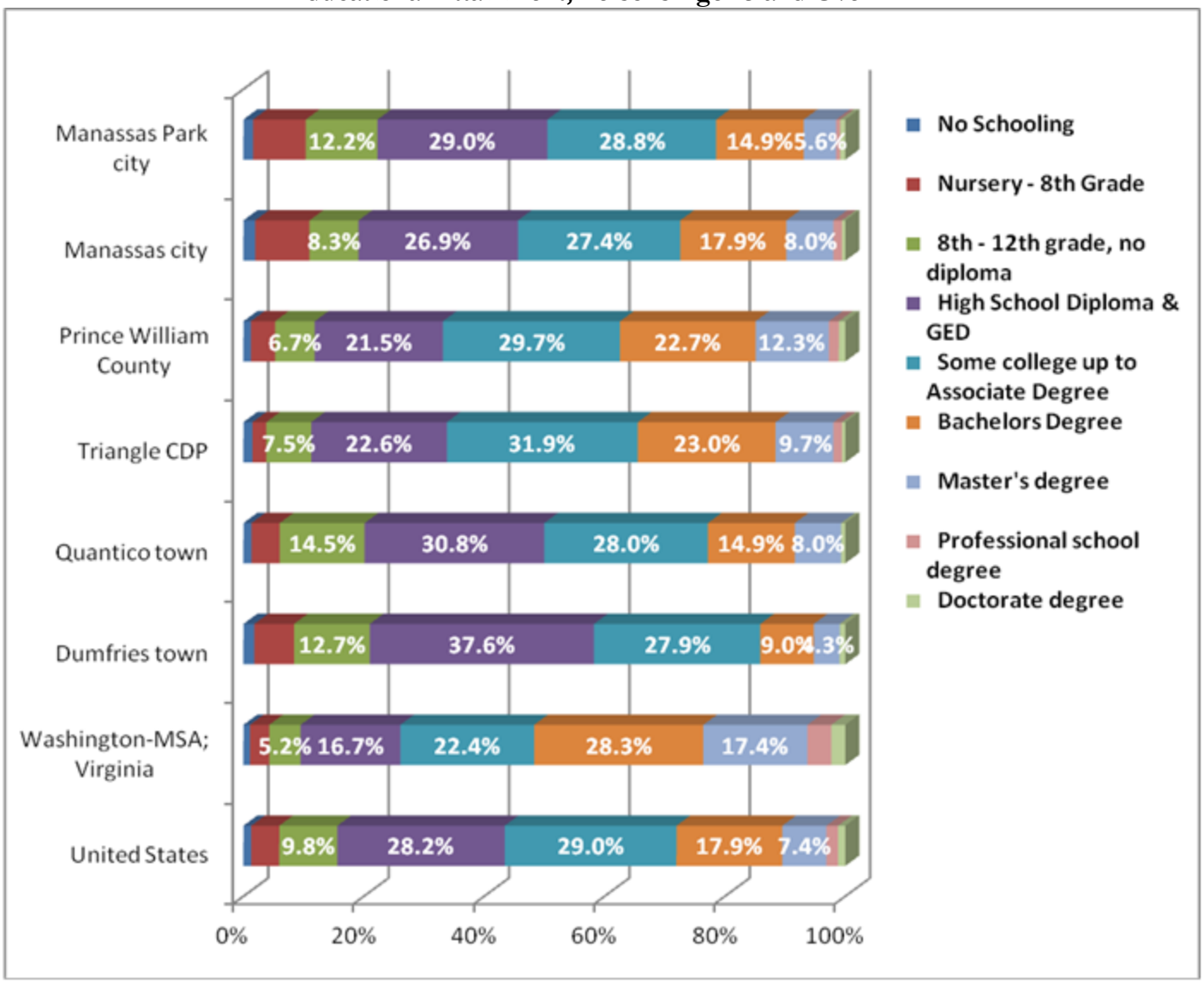
Figure 7: Population by Race and Ethnicity Change, 2000-2010

Educational Attainment

The Washington metro area economy revolves around an educated work force for high-paid, skilled jobs. For those who do not have college or technical degrees or specialized skills, job opportunities, wage rates, economic security, and upward mobility can be limited. The Town is influenced culturally, economically, politically, and socially by the educational background of its residents. Educational attainment is a widely-used demographic indicator because of its high correlation with occupation, income, buying habits, attitudes and opinions, political interest and involvement, lifestyle, social and residential mobility and a variety of other social and economic characteristics. The following table and graph detail the recent level of educational achievement for individuals in the Town age 25 and over, and the relative income level among individuals with varying levels of educational attainment in the Town.

The educational attainment level of the Town's workforce reflects a comparatively high percentage (37.6%) of high school graduates and persons with some college (27.9%), but lower shares of college-educated (bachelors: 9.0%) and advanced and professional degrees which command higher salaries in the work force.

Educational Attainment, Persons Age 25 and Over



Source: US Census Bureau, American Community Survey, 5 Year Estimates (2008-2012), Table **B15003: Educational Attainment for the Population 25 Years and Over.**

Figure 8: Educational Attainment for the Population 25 Years and Over

Estimates of median worker earnings by education attainment level demonstrate that average earnings increase with higher educational achievement. With the exception of workers with less than a high school education (which earn more than comparable average County worker earnings), Town workers earn less than County workers of equal education level. The gender-income gap at all education levels between male and female workers is also apparent in the following table in all areas.

Table 1: Comparative Educational Attainment for Individuals Age 25 and Over

Educational Attainment for Persons Age 25 and Over	United States	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA (part); Virginia	Dumfries town		Quantico town	Triangle CDP	Prince William County
	Percent	Percent	Estimate	Percent	Percent	Percent	Percent
Less than high school graduate	15.9%	9.6%	639	21.1%	20.8%	11.3%	11.9%
High school graduate	28.2%	16.7%	1,136	37.6%	30.8%	22.6%	21.5%
Some college or associate's degree	29.0%	22.4%	842	27.9%	28.0%	31.9%	29.7%
Bachelor's degree	17.9%	28.3%	271	9.0%	14.9%	23.0%	22.7%
Graduate/Professional Degree or higher	10.6%	23.7%	159	5.3%	8.7%	11.6%	15.0%

Source: Calculated by The Berkley Group based on Census Bureau, American Community Survey, Table B15003, Educational Atainment for Persons 25 Years and Over, 5-Year Estimates, 2007-2011.

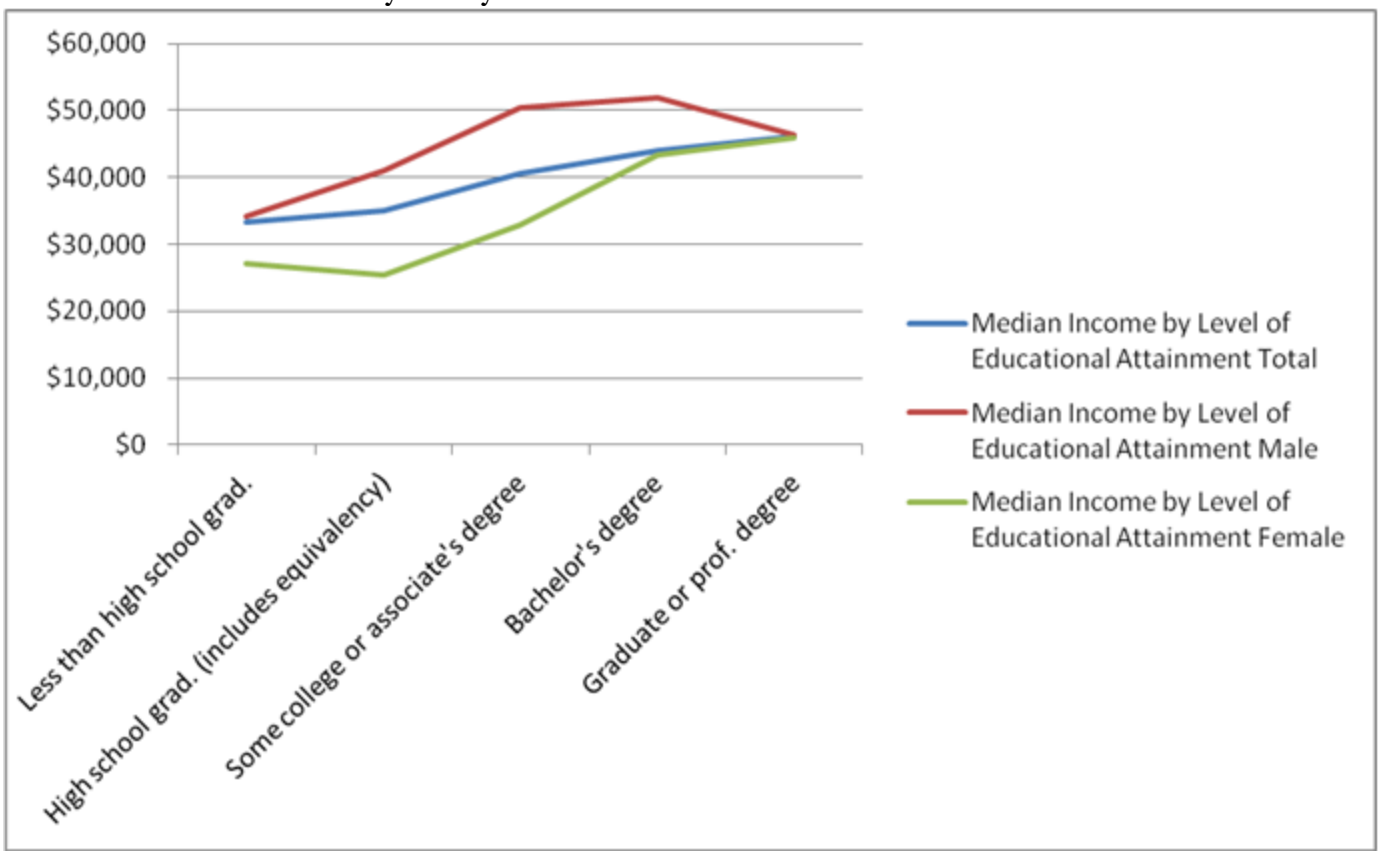
Table 2: Median Worker Earnings, by Sex, by Education Attainment Level

(2012 Inflation-Adjusted Dollars)

	United States	Washington DC MSA (VA part)	Dumfries town	Quantico town	Triangle CDP	Prince William County
Total:	**$ 35,522**	**$ 56,010**	**$ 35,991**	**$ 40,357**	**$ 49,124**	**$ 51,172**
Less than high school grad.	$ 19,642	$ 23,034	$ 33,358	$ 77,679	$ 33,750	$ 26,539
High school grad. (includes equivalency)	$ 27,607	$ 32,200	$ 35,122	$ 30,833	$ 31,086	$ 34,497
Some college or associate's degree	$ 33,857	$ 45,690	$ 40,673	$ 50,114	$ 50,295	$ 49,075
Bachelor's degree	$ 50,096	$ 69,613	$ 43,970	$ 75,750	$ 66,806	$ 69,677
Graduate or professional degree	$ 66,109	$ 96,575	$ 46,146	$ 39,886	$ 87,984	$ 90,286
Male:	**$ 42,015**	**$ 69,189**	**$ 40,769**	**$ 62,500**	**$ 59,524**	**$ 60,332**
Less than high school grad.	$ 22,728	$ 27,523	$ 34,107	$ 78,214	$ 35,893	$ 31,464
High school grad. (includes equivalency)	$ 33,048	$ 38,353	$ 41,058	$ 22,083	$ 31,944	$ 39,505
Some college or associate's degree	$ 41,749	$ 53,897	$ 50,438	$ 65,833	$ 61,771	$ 56,975
Bachelor's degree	$ 61,224	$ 85,977	$ 51,905	$ 80,000	$ 101,719	$ 89,003
Graduate or prof. degree	$ 83,141	$ 115,575	$ 46,250	$ 65,625	$ 109,972	$ 108,014
Female:	**$ 29,831**	**$ 46,190**	**$ 32,500**	**$ 35,667**	**$ 43,902**	**$ 42,976**
Less than high school grad.	$ 15,052	$ 17,604	$ 27,083	-	$ 16,250	$ 17,899
High school grad. (includes equivalency)	$ 22,137	$ 26,943	$ 25,319	$ 36,250	$ 27,321	$ 28,593
Some college or associate's degree	$ 28,324	$ 38,185	$ 32,813	$ 17,917	$ 42,742	$ 40,743
Bachelor's degree	$ 41,602	$ 54,971	$ 43,429	$ 40,625	$ 51,129	$ 53,452
Graduate or prof. degree	$ 55,344	$ 73,697	$ 45,865	-	$ 56,865	$ 66,510

Source: US Census Bureau, American Community Survey, 5-Year Estimates (2008-2012), Table B20004: Median Earnings in the Past 12 Months (in 2012 Inflation-Adjusted Dollars) by Sex by Educational Attainment for the Population Age 25 Years and over.

Median Income By Sex by Level of Educational Attainment: Town of Dumfries



Source: Ibid.

Figure 9: Median Income by Educational Level

Town Employment and Labor Force

Rapidly changing technology, global competition and a shift from a goods-producing to an information/high-tech/service-based economy are trends redefining the American workforce. Northern Virginia is at the forefront of this structural transition, a place where demographic, social and economic trends are playing themselves out at an accelerated pace. The Town's employment base is made up of all the jobs provided by employers located within the Town, while the Town's labor force is made up of all of its the residents of working age and includes the employed and unemployed that reside in the Town.

The Town exhibits both similarities and dissimilarities with broader regional labor market trends. Foremost among the similarities is the high proportion of the Town residents in the labor force. According to 2008-2012 ACS 5 –Year Estimates, seventy-four percent of the Town population, aged 16 and above, are in the labor force.

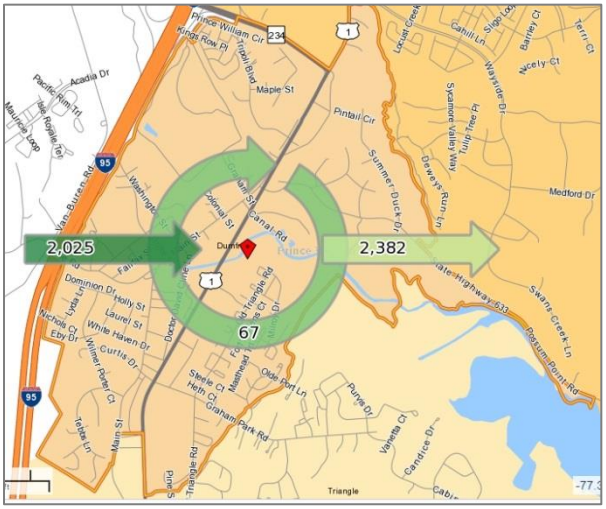


Figure 10: Commuting Patterns

Based on 2011 employment and labor force data summarized in the Census Bureau's "On the Map" data tool, the Town experienced an influx of 2,025 workers from outside the Town, 67 persons that live and work in the Town, and 2,382 residents that commuted to jobs outside the Town. From the adjacent figure, it is clear that the Town functions as a bedroom community for jobs located outside the community, with only 2.7 percent of the employed residents working at jobs located in Town. This near 100% daily turnover of the Town's working population results in changes in the community (between "daytime" and "nighttime" populations) summarized in the set of tables shown below and on the next pages.

Table 3: Home Area, Work Area and Net Employment Change Profile for Town of Dumfries

	Home Area 2011		Work Area 2011		Net Change 2011	
A. Total All Jobs	**Worker Count**	**Share**	**Worker Count**	**Share**	**Worker Difference**	**Pct of Home Area**
Total All Jobs	2,449	100.0%	2,092	100.0%	-357	-14.6%
B. Jobs by Worker Age	**2011**		**2011**		**2011**	
	Worker Count	**Share**	**Worker Count**	**Share**	**Worker Difference**	**Pct of Home Area**
Age 29 or younger	627	25.6%	522	25.0%	-105	-16.7%
Age 30 to 54	1,403	57.3%	1,186	56.7%	-217	-15.5%
Age 55 or older	419	17.1%	384	18.4%	-35	-8.4%
C. Jobs by Earnings	**2011**		**2011**		**2011**	
	Worker Count	**Share**	**Worker Count**	**Share**	**Worker Difference**	**Pct of Home Area**
$1,250 per month or less	556	22.7%	537	25.7%	-19	-3.4%
$1,251 to $3,333 per month	908	37.1%	728	34.8%	-180	-19.8%
More than $3,333 per month	985	40.2%	827	39.5%	-158	-16.0%
	Home Area		**Work Area**		**Net Change**	

D. Jobs by NAICS Industry Sector	2011 Home Area Worker Count	2011 Home Area Share	2011 Work Area Worker Count	2011 Work Area Share	2011 Net Change Worker Difference	2011 Net Change Pct of Home Area
Agriculture, Forestry, Fishing and Hunting	0	0.0%	0	0.0%	0	
Mining, Quarrying, and Oil and Gas Extraction	0	0.0%	0	0.0%	0	
Utilities	10	0.4%	0	0.0%	10	100.0%
Construction	162	6.6%	250	12.0%	88	54.3%
Manufacturing	50	2.0%	50	2.4%	0	0.0%
Wholesale Trade	55	2.2%	26	1.2%	-29	-52.7%
Retail Trade	332	13.6%	224	10.7%	-108	-32.5%
Transportation and Warehousing	83	3.4%	35	1.7%	-48	-57.8%
Information	52	2.1%	0	0.0%	-52	-100.0%
Finance and Insurance	80	3.3%	18	0.9%	-62	-77.5%
Real Estate and Rental and Leasing	34	1.4%	15	0.7%	-19	-55.9%
Professional, Scientific, and Technical Services	307	12.5%	496	23.7%	189	61.6%
Management of Companies and Enterprises	31	1.3%	3	0.1%	-28	-90.3%
Administration & Support, Waste Management and Remediation	188	7.7%	159	7.6%	-29	-15.4%
Educational Services	218	8.9%	10	0.5%	-208	-95.4%
Health Care and Social Assistance	309	12.6%	239	11.4%	-70	-22.7%
Arts, Entertainment, and Recreation	28	1.1%	18	0.9%	-10	-35.7%
Accommodation and Food Services	240	9.8%	318	15.2%	78	32.5%
Other Services (excluding Public Administration)	95	3.9%	183	8.7%	88	92.6%
Public Administration	175	7.1%	48	2.3%	-127	-72.6%

E Jobs by Worker Race	2011 Home Area Worker Count	2011 Home Area Share	2011 Work Area Worker Count	2011 Work Area Share	2011 Net Change Worker Difference	2011 Net Change Pct of Home Area
White Alone	1,393	56.9%	1,467	70.1%	74	5.3%
Black or African American Alone	873	35.6%	422	20.2%	-451	-51.7%
American Indian or Alaska Native Alone	21	0.9%	10	0.5%	-11	-52.4%
Asian Alone	108	4.4%	150	7.2%	42	38.9%
Native Hawaiian or Other Pacific Islander Alone	2	0.1%	5	0.2%	3	150.0%
Two or More Race Groups	52	2.1%	38	1.8%	-14	-26.9%

F. Jobs by Worker Ethnicity	2011 Home Area Worker Count	2011 Home Area Share	2011 Work Area Worker Count	2011 Work Area Share	2011 Net Change Worker Difference	2011 Net Change Pct of Home Area
Not Hispanic or Latino	1,985	81.1%	1,796	85.9%	-189	-9.5%
Hispanic or Latino	464	18.9%	296	14.1%	-168	-36.2%

G. Jobs by Worker Educational Attainment	2011 Home Area Worker Count	2011 Home Area Share	2011 Work Area Worker Count	2011 Work Area Share	2011 Net Change Worker Difference	2011 Net Change Pct of Home Area
Less than high school	300	12.2%	232	11.1%	-68	-22.7%
High school or equivalent, no college	440	18.0%	406	19.4%	-34	-7.7%
Some college or Associate degree	501	20.5%	425	20.3%	-76	-15.2%
Bachelor's degree or advanced degree	581	23.7%	507	24.2%	-74	-12.7%
Educational attainment not available (workers aged 29 or younger)	627	25.6%	522	25.0%	-105	-16.7%

Home Area | **Work Area** | **Net Change**

H. Jobs by Worker Sex	2011 Worker Count	2011 Share	2011 Worker Count	2011 Share	2011 Worker Difference	2011 Pct of Home Area
Male	1,138	46.5%	1,134	54.2%	-4	-0.4%
Female	1,311	53.5%	958	45.8%	-353	-26.9%

Source: US Census Bureau, "On the Map" data tool at: http://onthemap.ces.census.gov/[1]

From the above comparisons, some conclusions are:

- The local workers are slightly older than those that commute out of Town to work. (Table B)
- Local jobs produce lower incomes than those earned by out of town commuters. (Table C)
- Local employment is more heavily concentrated (as compared to jobs outside Town) in Construction; Professional, Scientific, and Technical Services; and Accommodations and Food Services. (Table D)
- Local jobs tend to be filled by more white workers, fewer black workers, and more Asian workers than the resident workers working outside the Town. (Table E)
- Local jobs are filled by a lower percentage of Hispanic workers than the community at large. (Table F)
- Educational attainment of local and commuting workers is quite comparable. (Table G)
- Local jobs are filled by a higher percentage of male workers, with females having a higher share of the out-of-town working population. (Table H)

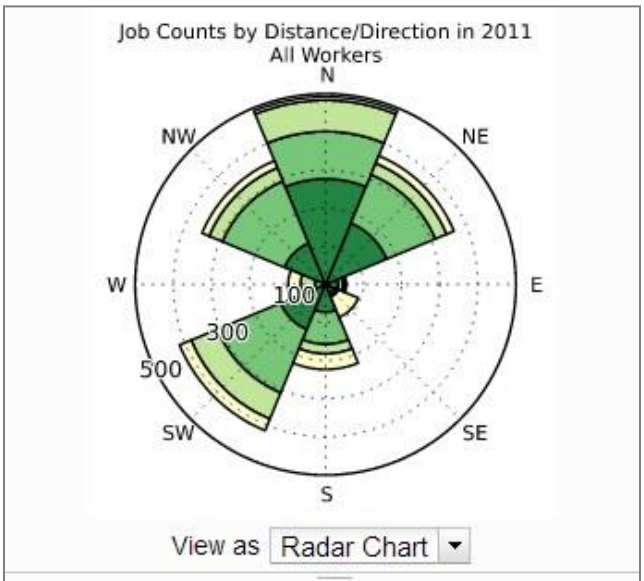
Direction/Distance of Commuting Population

Dumfries In-Commuting Patterns

For local and in-commuters working in the Town, the chart and table to the right summarize the directional orientation and average distances traveled to work in Dumfries. Forty percent of local workers travel less than 10 miles with the majority coming from residential origins north of Town. Slightly more than 35% travel 10-24 miles and almost 25% travel more than 25 miles to work in the Town.

Over 41% of local jobs are filled by working residents of Prince William County, and the second largest source (with 13%) of workers is Stafford County nearby to the South (below MCB-Quantico).

"Second-tier" communities (based on distance from Dumfries) like Fairfax and Spotsylvania Counties contribute another 17 percent of the local worker population.

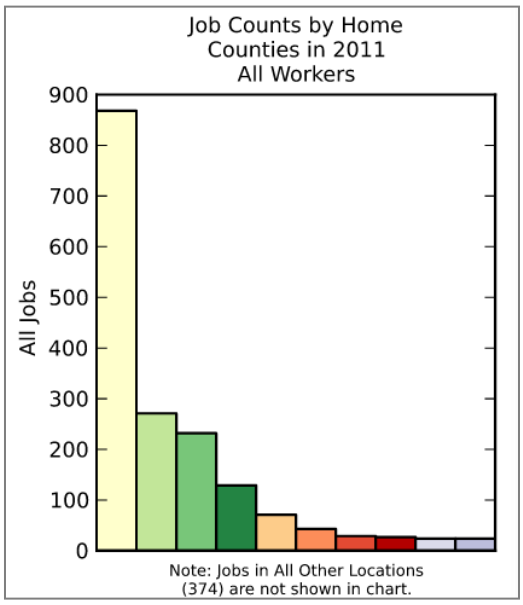


Jobs by Distance - Work Census Block to Home Census Block	2011 Count	2011 Share
Total All Jobs	2,092	100.0%
Less than 10 miles	836	40.0%
10 to 24 miles	740	35.4%
25 to 50 miles	300	14.3%
Greater than 50 miles	216	10.3%

Figure 11: In-Commuting Patterns

[1] Note: The federal "On the Map" system does not report federal uniformed military workers due to the non-participation of the U.S. Department of Defense in this federal statistical system to measure the total work force. Due to the Town's proximity to both MCB-Quantico and Fort Belvoir (as well as other military installations in Northern Virginia), the data reported here may understate the total worker population and military employment in the "Other Services" sector.

Jobs Counts by Counties Where Workers Live - All Jobs	2011	
	Count	Share
All Counties	2,092	100.0%
Prince William County, VA	868	41.5%
Stafford County, VA	271	13.0%
Fairfax County, VA	232	11.1%
Spotsylvania County, VA	129	6.2%
Loudoun County, VA	71	3.4%
Fauquier County, VA	43	2.1%
Manassas city, VA	29	1.4%
King George County, VA	27	1.3%
Culpeper County, VA	24	1.1%
Virginia Beach city, VA	24	1.1%
All Other Locations	374	17.9%



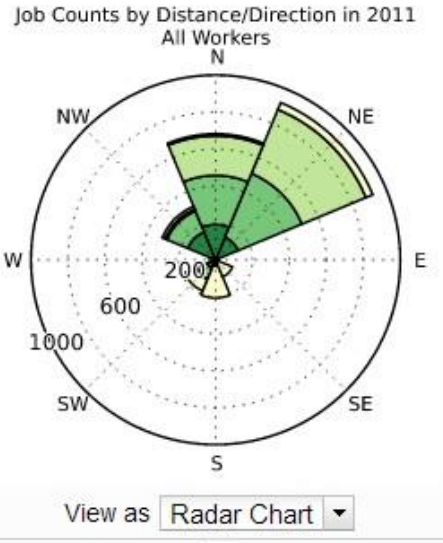
Source: U.S. Census Bureau, "On the Map" data tool at: http://onthemap.ces.census.gov/

Figure 12: Job Counts by Home County, 2011

Dumfries Out-Commuting Patterns

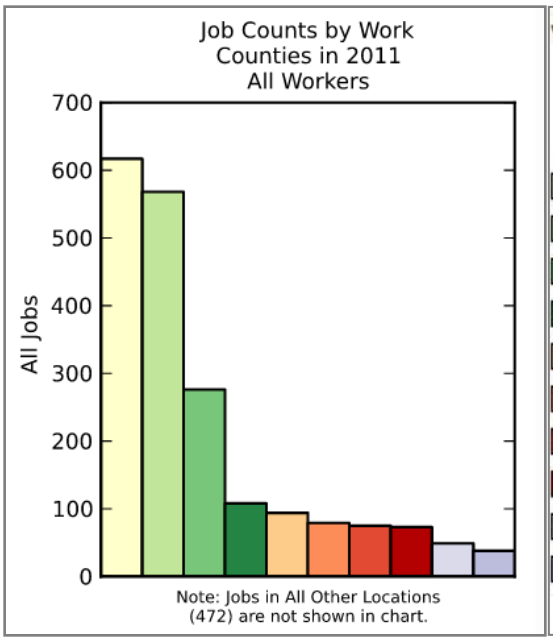
The dominance of the Washington DC MSA and Northern Virginia economy is clearly shown with a vast majority (nearly 77%) of Dumfries' resident working out-commuters travelling northward. It is notable that most of the longest distance (over 50 miles) commuters travel either northeast (i.e. along the U.S. Hwy 1 and Interstate 95 and VRE commuter rail corridors) or south-southwest to work locations (e.g. Henrico County) south of Caroline County or west of Spotsylvania Co (based on travel distances of over 50 miles).

Out of the top 10 localities as work trip destinations for Dumfries commuters, only Henrico County (with 3% of local workers) is not part of the Washington DC MSA economy



Jobs by Distance - Home Census Block to Work Census Block	2011	
	Count	Share
Total All Jobs	2,449	100.0%
Less than 10 miles	582	23.8%
10 to 24 miles	839	34.3%
25 to 50 miles	618	25.2%
Greater than 50 miles	410	16.7%

Figure 13: Out-Commuting Patterns



Jobs Counts by Counties Where Workers are Employed - All Jobs

2011

	Count	Share
All Counties	2,449	100.0%
Prince William County, VA	617	25.2%
Fairfax County, VA	568	23.2%
District of Columbia, DC	276	11.3%
Alexandria city, VA	108	4.4%
Arlington County, VA	94	3.8%
Loudoun County, VA	79	3.2%
Stafford County, VA	75	3.1%
Henrico County, VA	73	3.0%
Montgomery County, MD	49	2.0%
Manassas city, VA	38	1.6%
All Other Locations	472	19.3%

Source: U.S. Census Bureau, "On the Map" data tool at: http://onthemap.ces.census.gov/

Figure 14: Job Counts by Work County

Table 4: Travel Mode and Time for Journey to Work

Commuting to Work & Mean Travel Time to Work	United States	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	Dumfries town		Quantico town	Triangle CDP	Prince William County
	Percent	Percent	Estimate	Percent	Percent	Percent	Percent
Workers 16 years and over	100.0%	100.0%	2,428	100.0%	100.0%	100.0%	100.0%
Car, truck, or van -- drove alone	76.1%	65.9%	1,645	67.8%	63.4%	65.7%	72.7%
Car, truck, or van -- carpooled	10.0%	10.6%	502	20.7%	1.4%	17.3%	15.1%
Public transportation (excluding taxicab)	5.0%	14.1%	67	2.8%	6.9%	12.5%	5.6%
Walked	2.8%	3.2%	85	3.5%	9.7%	1.6%	1.7%
Other means	1.8%	1.5%	57	2.3%	3.2%	1.4%	1.1%
Worked at home	4.3%	4.7%	72	3.0%	15.3%	1.5%	3.8%
Mean travel time to work (minutes)	25.4	33.9	38.4		30.0	42.2	39.3

*CDP = Census-Designated Place

Source: US Census Bureau, American Community Survey, 5-year Estimates (2008-2012), Table DP03 Selected Economic Characteristics.

Dumfries commuters show a greater dependency (67.8%) on single-occupant vehicles for commuting than nearby places and the region as a whole, but less than the County and the nation. Home-based employment is seen to be lower in Dumfries than levels in Quantico, the County, the Metro area and the national average.

Employment Status

The Northern Virginia region has one of the highest labor force participation rates in the nation, which stems from an extremely large portion of females in the workforce. Northern Virginia has 67.9 percent of eligible females in the labor force, compared to 59.4 percent nationally. Prince William County has a 68.8 percent female labor force participation rate, with 67.9 percent in Dumfries. The Town average unemployment rate of 12.1 percent over the 5 year period is higher than national., regional, County or comparable places nearby.

Table 5: Employment Status

EMPLOYMENT STATUS	United States	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	Dumfries town		Quantico town	Triangle CDP	Prince William County
	Percent	Percent	Estimate	Percent	Percent	Percent	Percent
Population 16 years and over	100.0%	100.0%	3,755	100.0%	100.0%	100.0%	100.0%
In labor force	64.7%	73.2%	2,783	74.1%	66.9%	77.3%	75.7%
Civilian labor force	64.2%	72.2%	2,758	73.4%	57.6%	72.9%	73.1%
Employed	58.2%	67.3%	2,424	64.6%	55.5%	66.8%	68.9%
Unemployed	6.0%	4.8%	334	8.9%	2.0%	6.2%	4.2%
Armed Forces	0.5%	1.1%	25	0.7%	9.3%	4.3%	2.6%
Not in labor force	35.3%	26.8%	972	25.9%	33.1%	22.7%	24.3%
Civilian labor force	64.2%	72.2%	2,758	73.4%	57.6%	72.9%	73.1%
Percent Unemployed	9.3%	6.7%	334	12.1%	3.5%	8.5%	5.7%
Females 16 years and over	51.3%	51.9%	2,030	54.1%	44.2%	55.6%	50.8%
In labor force	59.4%	67.9%	1,379	67.9%	50.7%	71.2%	68.8%
Civilian labor force	59.3%	67.5%	1,369	67.4%	50.7%	70.8%	68.1%
Employed	54.1%	63.1%	1,196	58.9%	48.0%	63.9%	64.2%

Source: US Census Bureau, American Community Survey, 5-year Estimates (2008-2012), Table DP03 Selected Economic Characteristics.

Occupational Status

The Town's occupational profile stands in contrast to the evolving regional economy where managerial, professional and technical occupations have become the major occupational groups. Over half (50.9 percent) of the workforce in the Washington DC MSA region is employed in higher-paid, information-producing, knowledge-based occupations, whereas only 27.1 percent of the Town residents are engaged in these occupations.

Table 6: Occupational Status

OCCUPATION	United States	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	Dumfries town		Quantico town	Triangle CDP	Prince William County
	Percent	Percent	Estimate	Percent	Percent	Percent	Percent
Civilian employed population 16 years & over	100.0%	100.0%	2,424	100.0%	100.0%	100.0%	100.0%
Management, business, science, and arts occupations	35.9%	50.9%	656	27.1%	36.1%	44.5%	43.6%
Service occupations	17.8%	15.6%	405	16.7%	13.6%	14.8%	16.2%
Sales and office occupations	24.9%	21.0%	648	26.7%	30.4%	22.3%	23.6%
Natural resources, construction, and maintenance occupations	9.3%	6.9%	353	14.6%	14.1%	9.5%	9.7%
Production, transportation, and material moving occupations	12.1%	5.6%	362	14.9%	5.8%	8.9%	6.9%

Source: US Census Bureau, American Community Survey, 5-year Estimates (2008-2012), Table DP03 Selected Economic Characteristics.

The Town is a "worker's" town, a small pocket in Northern Virginia populated by middle-class and lower middle-class residents employed predominantly in blue-collar and administrative support occupations. Over the 5-year period of 2008-2012, the largest occupation categories in which the Town residents were employed (compared to the County share) included: Management, business, science, and arts occupations (27.1% vs. 43.6%), Sales and office occupations (26.7% vs. 23.6%), Service occupations (16.7% vs 16.2%) and Natural resources, construction, and maintenance occupations (14.6% vs 9.7%).

Class of Worker

The Town's work force has a higher share of government workers (21.3%) than other Prince William locations, but a lower share than the Washington MSA average (24.1%)

Table 7: Class of Worker

Class of Worker	United States	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	Dumfries town		Quantico town	Triangle CDP	Prince William County
	Percent	Percent	Estimate	Percent	Percent	Percent	Percent
Civilian employed population 16 years and over	100.0%	100.0%	2,424	100.0%	100.0%	100.0%	100.0%
Private wage and salary workers	78.7%	70.7%	1,836	75.7%	68.6%	68.8%	71.4%
Government workers	14.9%	24.1%	516	21.3%	27.7%	29.1%	24.2%
Self-employed in own not incorporated business workers	6.3%	5.0%	72	3.0%	3.7%	2.1%	4.4%
Unpaid family workers	0.1%	0.1%	0	0.0%	0.0%	0.0%	0.1%

Source: US Census Bureau, American Community Survey, 5-year Estimates (2008-2012), Table DP03 Selected Economic Characteristics.

Employment By Industry

The Dumfries resident work force is employed predominantly in Retail Trade (18.8%), Education and Health Care Services (18.1%), Construction (13.0%) and Public Administration (11.2%).

Table 8: Employment by Industry

INDUSTRY	United States	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	Dumfries town		Quantico town	Triangle CDP	Prince William County
	Percent	Percent	Estimate	Percent	Percent	Percent	Percent
Civilian employed population, 16 years & over	100.0%	100.0%	2,424	100.0%	100.0%	100.0%	100.0%
Agriculture, forestry, fishing and hunting, and mining	1.9%	0.3%	0	0.0%	0.0%	0.0%	0.3%
Construction	6.5%	6.4%	315	13.0%	27.7%	10.8%	9.1%
Manufacturing	10.6%	3.2%	181	7.5%	0.0%	0.8%	4.1%
Wholesale trade	2.8%	1.3%	39	1.6%	0.0%	0.6%	1.3%
Retail trade	11.6%	8.3%	456	18.8%	13.1%	10.6%	10.7%
Transportation and warehousing, and utilities	5.0%	3.6%	69	2.8%	0.0%	7.4%	4.3%
Information	2.2%	3.2%	29	1.2%	1.0%	1.4%	2.5%
Finance and insurance, and real estate and rental and leasing	6.7%	6.3%	77	3.2%	2.1%	4.8%	5.8%
Professional, scientific, and management, and administrative and waste management services	10.7%	20.5%	231	9.5%	19.4%	16.6%	18.6%
Educational services, and health care and social assistance	22.9%	19.1%	439	18.1%	1.6%	19.4%	17.5%
Arts, entertainment, and recreation, and accommodation and food services	9.2%	8.1%	207	8.5%	9.9%	8.3%	7.1%
Other services, except public administration	4.9%	6.3%	109	4.5%	0.5%	4.9%	5.3%
Public administration	4.9%	13.5%	272	11.2%	24.6%	14.4%	13.5%

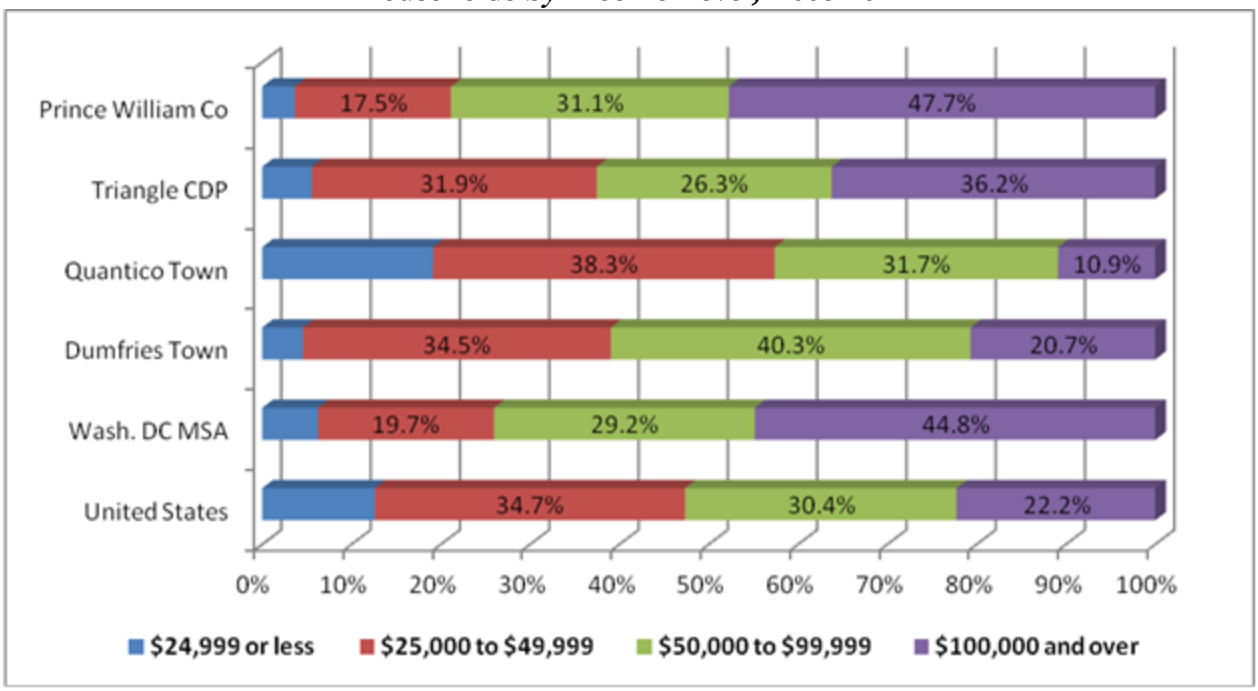
Source: US Census Bureau, American Community Survey, 5-year Estimates (2008-2012), Table DP03 Selected Economic Characteristics.

Income

The median household income of Town residents rose sharply in the last two decades, but continues to lag behind regional and State averages, based on 2008-2012 American Community Survey estimates developed by the Census Bureau. Median household income in the Town was $63,084 which is right at the state average ($63,303), but below that of Prince William County ($95,531) which is more reflective of the Northern Virginia median income level.

Similarly, the poverty rate for the Town at 16.3 percent is considerably higher than that of Prince William County (5.6%) and the State (10.7%).

Households by Income Level, 2008-2012

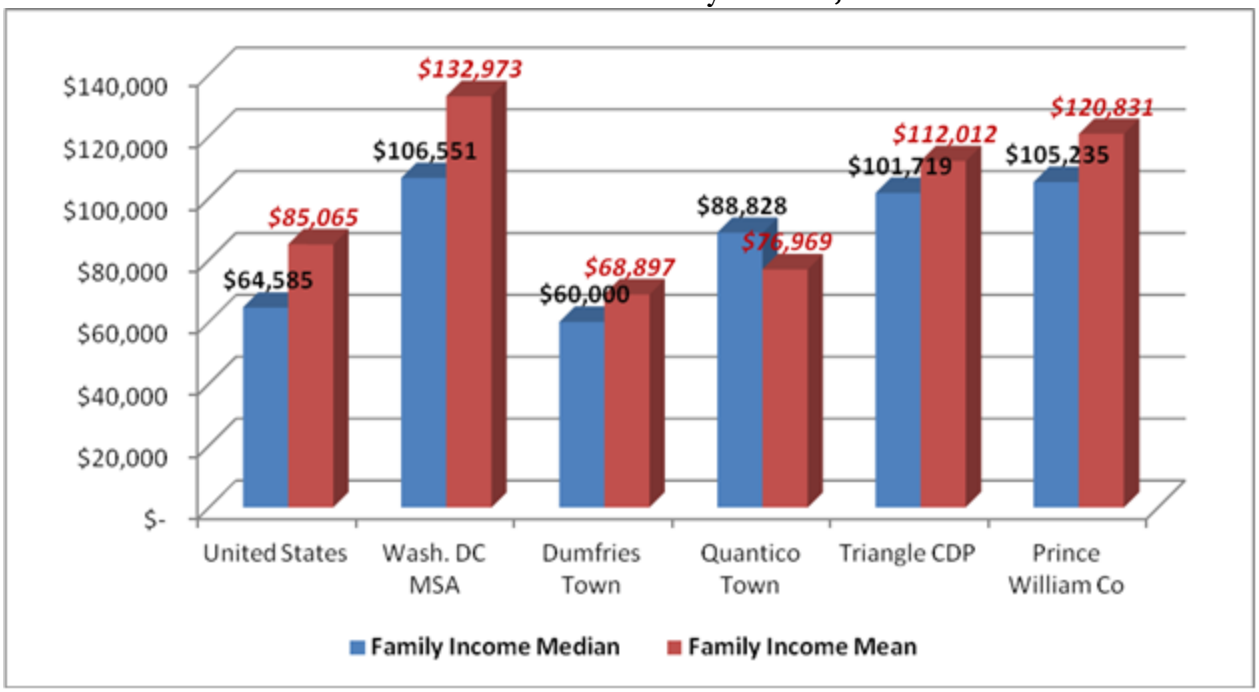


Source: Ibid.

Figure 15: Household Income Levels, 2008-12

The breakdown of households by income level illustrates the lower-moderate income level of Dumfries resident workers (more like the national average) compared to the other areas, with less than half the population share (20.7%) for the Town earning over $100,000 compared to the Washington DC MSA average (44.8%).

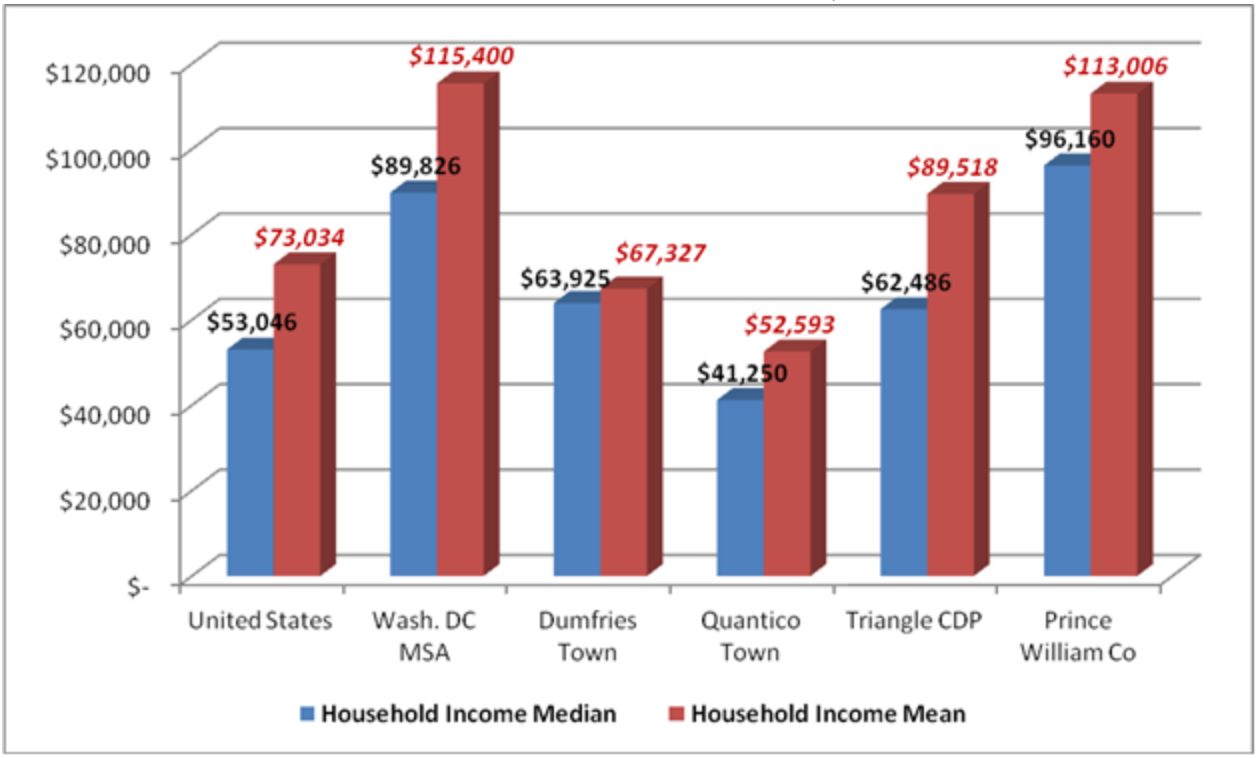
Median and Mean Family Income, 2008-2012



Source: Ibid.

Figure 16: Median and Mean Family Income, 2008-12

Median and Mean Household Income, 2008-2012



Source: Ibid.

Figure 17: Median and Mean Household Income, 2008-12

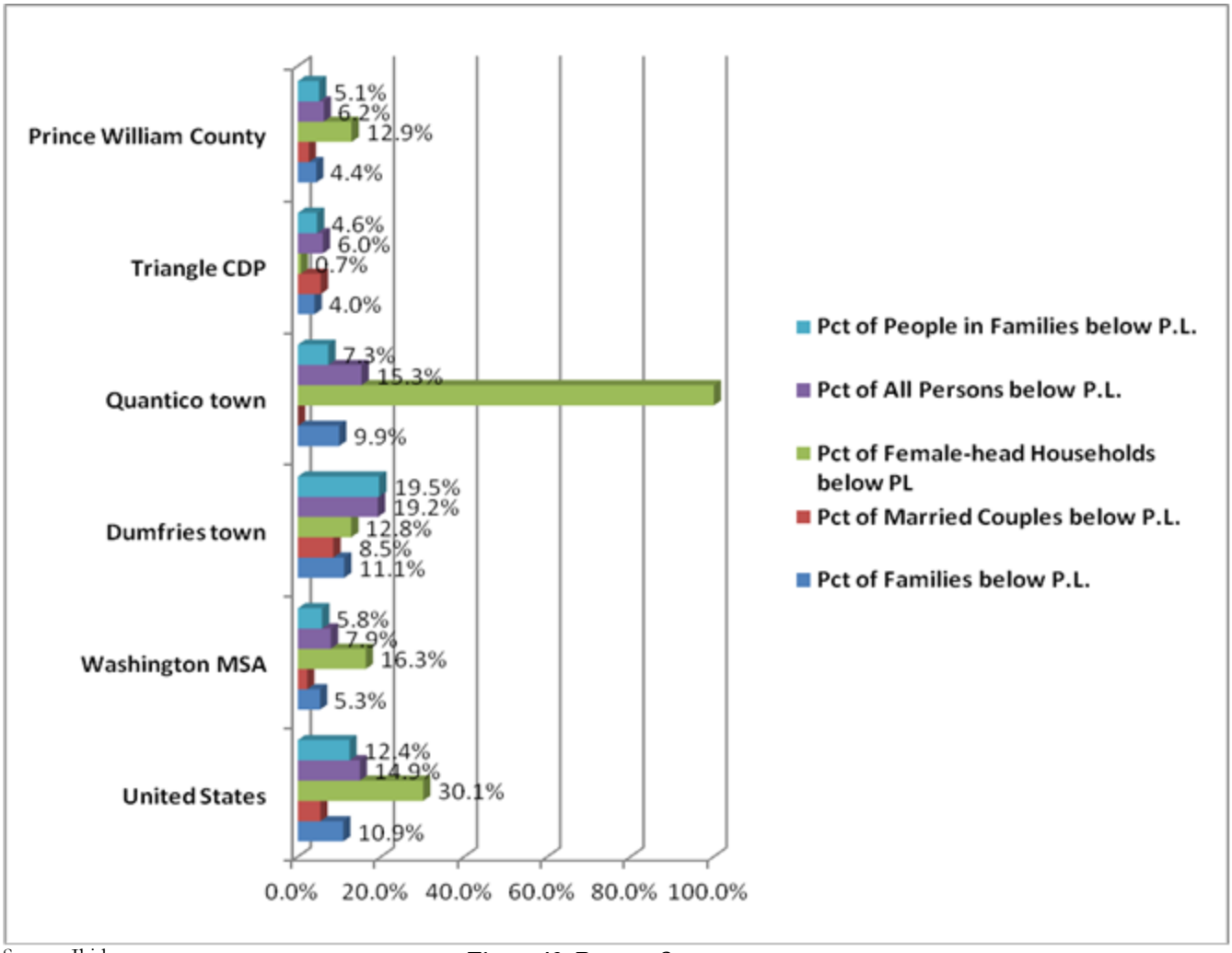
Median and mean family incomes are always higher than comparable household incomes due to the higher earnings associated of many 2-worker families; while median and mean household incomes are lower due to the number of single-person households earning lesser income or on fixed incomes (e.g. regular and disabled retirees), as well as households composed of unrelated individuals sharing the cost of the household through the support of single-worker incomes (e.g. college students, entry-level workers).

The median household income ($63,925) in Dumfries is higher than Quantico and Triangle CDP households , but lag significantly behind the Prince William median household income level of $96,160. This is due, in part, to the Town's higher percentage of households receiving Social Security income and the lower overall mean earnings of all Town households compared to the County's mean earnings per household.

Changing economic conditions are bringing a new mix of jobs to the metropolitan Washington area economy. New business formation in the area has been occurring in the fastest-growing sectors of the U.S. economy: telecommunications, research and development, computer applications, biotechnology, aerospace and all manner of health, consumer, business and government services. Good jobs in these fields require training and education beyond the high school level. Access to these jobs, both in terms of transportation mobility and competitive skill and education levels is important to enhance local incomes for Town residents.

Poverty Status

A comparison of several indicators of poverty status illustrates that Dumfries has a comparatively high percentage (19.5%) of people in families, 12.8% of female-headed households (with no spouse present), and 11.1% of all families below the poverty level.



Source: Ibid.

Figure 18: Poverty Status

The Importance of Context

Now that the Community Profile is known and better understood, the next chapters focus on a variety of topic areas that are as important to the Town as the people who live here. Each topic chapter will have an Implementation section to ensure that the values embodied in each section are realized by the community.

The importance of understanding who lives in the Town of Dumfries cannot be overstated. The citizens of the Town are the stewards of this Plan and the recommendations set forth herein reflect their values and will improve their overall quality of life.

While knowing your audience is a key to success, knowing where you are, and understanding the natural environment of a community is equally as important.

NATURAL ENVIRONMENT

Understanding Our Natural Resources

The characteristics of the natural environment can greatly influence the development of a community. For the Town of Dumfries, the broad expanse of Quantico Creek, its associated tidal flats and wetlands, and the surrounding arable soils have defined not only the layout of the Town but its economic history as well. From colonial seaport, to tobacco farming center, to today's suburban community, the natural environment continues to influence the redevelopment and history of the Town. This section presents an environmental inventory for the Town, the constraints those environmental resources place on future development, and potential and existing pollution sources within and surrounding the Town.

EXISTING CONDITIONS

The Town of Dumfries is rich in a variety of natural resources. To ensure that future development in the Town is compatible with the natural environment, it is necessary to understand the natural resources which exist in the Town. This section of the Plan summarizes the natural resources within Dumfries including its climate, topography, geomorphology, soils, surface water, groundwater, and wildlife resources.

Climate

The climate of Dumfries is temperate, with the average yearly temperature of 55°F with an annual rainfall of 42.45 inches. The Town is representative of the Commonwealth's average climate as well, with 55°F average temperature and 44.3 inches of precipitation.

The average annual temperature for Dumfries is 55° Fahrenheit, with a daily average high of 67° and a daily average low of 47°. The hottest month of the year is July with an average daily high of 88° while the coolest month of the year is January, which has a daily average high of 43°. The hottest recorded temperature is 105° which occurred on September 7, 1954 while the coldest recorded temperature is -5° which occurred on January 28, 1961.

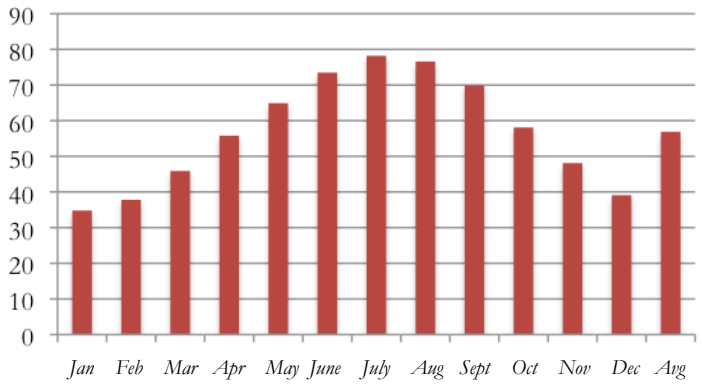


Figure 19: Average Monthly Temperature in °F

Long-term averages indicate that rainfall is well distributed throughout the year, though precipitation tends to peak in the Spring. The amount of rainfall, however, varies from year to year and deficient amounts of moisture during the growing season occurs on the average of one out of every three years. The wettest month of the year is August, with an average of 4.1 inches of precipitation while the driest month is February, with an average of 2.7 inches of precipitation. Figure 19 presents the average monthly precipitation for Dumfries as recorded at the Quantico Marine Corps Base Weather Monitoring Station. On an average of 112 days a year, there is a tenth of an inch of precipitation or greater. Average seasonal snowfall accumulation is 15 inches. The greatest total seasonal snowfall accumulation is 50 inches while the greatest single snowfall event recorded occurred on January 26, 1987 with an accumulation of 13 inches.

The average relative humidity in mid-afternoon is 55 percent. Humidity is higher at night and the average at dawn is 79 percent. The sun shines 70 percent of the time in summer and about 50 percent of the time in winter. The prevailing wind is from the northwest. Average annual wind speed is 6.9 miles per hour (06 kts) and is highest in February and March with an average wind speed of 9.2 mph (08 kts).

Topography

The terrain within the Town of Dumfries varies from a broad tidal estuary, with its companion alluvial plain, marshes, and wetlands in the southeastern portion of the Town, to rugged, hilly, sloping land rising from sea level to an elevation of over 170 feet[2]. The relatively flat areas of the Town are associated with the floodplain and alluvial deposits of Quantico Creek and its tributaries. Quantico Creek, a tributary of the Potomac River, bisects the Town, entering the Town from the northwest as a relatively narrow and turbulent stream and then, in the eastern portion of the Town, fanning out to an embayment with a broad, estuarine plain in the southeast. This estuarine plain is attributed, in large part, to the considerable erosion and siltation from area tobacco farming over the past two hundred years. This area has slopes ranging from 0 to 4% and comprises approximately 24.4% of the Town's land area. The lowest point in the Town is sea level and is associated with the tidal flats of Quantico Creek.

Several transitional areas of gently sloped land, which have slopes of approximately 2 to 15%, lie between the alluvial plain and the rugged terrain. It is in these areas that most of the past development within the Town has occurred and will most likely continue. Areas with slopes ranging from 2 to 7% comprise approximately 49.2% of the Town while areas with slopes ranging from 7 to 15% comprise approximately 6.3% of the Town.

The rugged, sloping areas are generally located around the northeastern, northwestern, and southwestern periphery of the Town. Steep slopes generally occur along the reaches of Quantico Creek, Cannonball Run, and Dewey's Creek, certain areas bordering the Quantico Creek tidal flats, and many areas surrounding the intermittent streams which traverse the Town. Steep slopes greater than 25% are defined as Resource Management Areas by the Town's Chesapeake Bay Preservation Area Overlay District. Areas with slopes ranging from 15 to 25% are recognized by the Town as sensitive and appropriate site specific measures to prevent erosion must be taken in these areas. Areas with slopes greater than 25% comprise approximately 11.1% of the Town and areas with slopes ranging from 15 to 25% comprise approximately 8.9% of the Town. The two highest elevations are located in the northern portion of the Town. The first point is known as Battery Hill and is located within the limits of the Potomac Landfill, Inc. The point is also noticeable due to the presence of a water tower at its peak. The second area is in the far northern corner of the Town in Grayson Village and is bounded by Virginia and Village Drives.

[2] United States Geological Survey, Quantico Quadrangle 7.5 Minute Series Topographic-Bathymetric. Reston, Virginia: 1983.

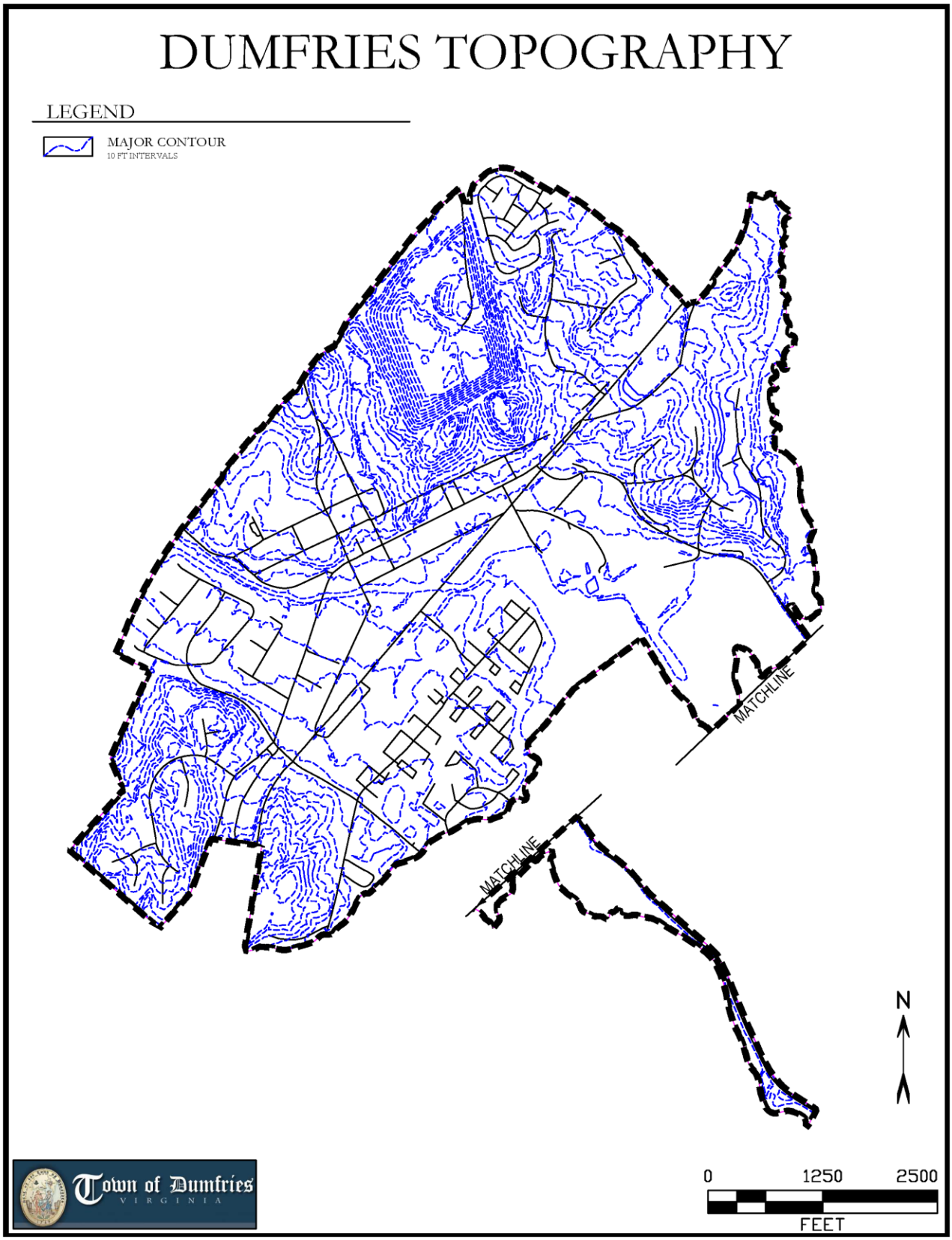


Figure 20: Topographic Map of Town

Geomorphology

Prince William County is divided into four basic physiographic regions. The major structural features of the area occur in a northeast-southwest direction, roughly paralleling the Appalachian Mountain trend. East of the Triassic Basin, the Piedmont extends for approximately 10 miles to the fall line. The fall line, which represents the boundary between the relatively flat Coastal Plain and the rolling to rugged Piedmont, is characterized by falls or rapids in transecting streams. The Town of Dumfries, like many other port cities, straddles the fall line because the fall line represents the furthest extent of navigable inland water ways. Therefore, the Town lies within both the Piedmont and the Coastal Plain Geologic Provinces. The Piedmont consists of an assemblage of plutonic (subterranean igneous) and metamorphic (highly deformed and folded materials due to heat and pressure) rocks formed during the Cambrian to Ordovician Periods, approximately 570 to 438 million years ago. The Coastal Plain deposits occur as a wedge of sediments overlying a basement of ancient Piedmont rocks.

The Piedmont within the Town consists of two geological formations, Quantico Slate and the Chopawamsic Formation. The Chopawamsic is geologically older than the overlaying Quantico Slate and is underlain by the Wissahickon Formation. While the Quantico Slate "overlies" the Chopawamsic Formation stratigraphically, the contacts are nearly vertical. The Chopawamsic Formation consists primarily of fine-grained, green to gray schist that was largely derived from metamorphosed volcanic ash and flow deposits, and sediments. The stratigraphic thickness of the unit is approximately 6,000 to 10,000 feet. The Chopawamsic Formation is found straddling a small area on the extreme mid-northwestern boundary of the Town.

Quantico Slate outcrops are very distinctive and can be found in the center of the Town, particularly across from Town Hall on the north side of Main Street. Quantico Slate is a dark-gray to black slate that contains abundant graphite and pyrite. It occurs along the eastern margin of the Piedmont, stratigraphically above the Chopawamsic Formation. Most of the slate is covered by overlapping Coastal Plain sediments, but several outcroppings are exposed in Prince William County's stream valleys including Quantico Creek. Soils which have been derived from Piedmont rocks in the Town include some Urban Land/Udorthents Complex, Elsinboro Sandy Loam, and Watt Channery Silt Loam.

The Coastal Plain within the Town is represented by the Patuxent Formation, which is part of the larger Potomac Group. The Coastal Plain consists of unconsolidated to poorly consolidated sand, silt, clay, and gravel deposits. The sediments thin to a feather edge near the fall line and thicken to 600 feet in an eastward direction. Sediments were deposited primarily during the early Cretaceous Period approximately 144 million years ago, although in some areas sediments are still being deposited. Soils which have been derived from the Coastal Plain in the Town include some Urban Land/Udorthents Complex, Dumfries Sandy Loam, Hatboro-Codorus Complex, Lunt Loam, Delanco Fine Sandy Loam, Quantico Sandy Loam, Featherstone Silt Loam, Marumsco Loam, Comus Loam, and Marr Very Fine Sandy Loam.

Soils

The respective properties and locations of soils within a jurisdiction define their appropriate use and management. Dumfries straddles the Coastal Plain Province and the Piedmont Province which are divided by the fall line. Dominant soils of the Coastal Plain range from well-drained to poorly-drained and are very deep. They are underlain by unconsolidated sediments of sand, silt and clay the depth of which ranges to several hundred feet to underlying bedrock. The shape of the landscape varies from broad, nearly level ridges to narrow rolling ridges with steep walled valleys. Loamy, clayey and alluvial soils typify the soils indigenous to this Coastal Plain region. Problems common to many of the soils of this region include a high content of shrink-swell clay, slope, and seasonal wetness. Significant areas of this region possess hydric soils which are soils that are saturated, flooded, or ponded long enough to develop anaerobic conditions in the

upper part of the soil. Dominant soils of the eastern Piedmont generally range from moderately-deep to very-deep, well-drained to somewhat-excessively-well-drained, and have a loamy to clayey-loam subsoil. Piedmont soils are formed in residuum of a variety of metamorphic rocks.

Soils in the Town of Dumfries are broadly classified as "loamy" by the *Soil Survey of Prince William County, Virginia*[3]. The term "loam" refers to a mixture of sand, silt, and clay particles (approximately 45% sand, 40% silt, and 15% clay) which exhibits both "light" and "heavy" properties. The terms light and heavy refer to the relative ease in which a soil can be worked. Sand, for instance, because it can be easily manipulated, is referred to as light, while clay, because it cannot be easily manipulated, is referred to as heavy. Individual soils may be classified as "silt loam" or "sandy loam" indicating that there is more of a proportion of that element. Silt loams tend to exhibit more heavy properties while sandy loams exhibit more light properties. Most soils of agricultural importance are some type of loam[4].

Surface Hydrology

The Town of Dumfries lies within the Quantico Creek watershed (which also includes Powells Creek and Chopawamsic Creek) and is located near the limit of tidal influence along Quantico Creek. The Quantico Creek watershed is a part of the larger Potomac River Basin, which includes portions of Virginia, West Virginia, Maryland, and Pennsylvania[5].

Quantico Creek, which is the Town's primary water course, bisects the Town, entering from the northwest as a relatively narrow and turbulent stream and then, in the southeastern portion of the Town, fanning out to an embayment with a broad, estuarine plain. The Town has two other streams which are identified as perennial by the USGS: Dewey's Creek, which forms the eastern boundary of the Town; and an unnamed tributary of Quantico Creek which forms the southern boundary of the Town. Both perennial streams are shallow with gravelly beds until they reach the influence of the Quantico Creek tidal flats where they become marshy. Cannonball Run, which is depicted as an intermittent stream on the USGS map, runs roughly parallel with Washington Street through the center of Town until it empties into Quantico Creek near Jefferson Davis Highway. Three other intermittent streams, all of which are tributaries to Quantico Creek, flow through the Town.

The water quality of Quantico Creek is monitored by the Virginia Water Control Board (VWCB) where Quantico Creek intersects with Jefferson Davis Highway (Ambient Water Quality Monitoring Station (AWQMS) QUA004.46). Quantico Creek is monitored as a Class II water body by the VWCB, which refers to all estuarine waters from the Tidal Water Coastal Zone to the fall line. Further upstream, Quantico Creek becomes a Class III water body, which refers to all non-tidal waters in the Coastal and Piedmont Zones. Under the federal Clean Water Act (CWA), all state waters are expected to be maintained to support recreational use and the propagation and growth of all aquatic life reasonably expected to inhabit them. These are known as the CWA fishable and swimmable goals. The parameters used to determine these are both minimum and daily average dissolved oxygen content, pH, maximum temperature, and fecal coliform bacteria level. Since fecal coliform is not tested for at the Quantico Creek monitoring station, data is only available for the CWA fishable goal. Quantico Creek is monitored monthly for metals and state fishable water quality standards.

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[3] United States Department of Agriculture, Virginia Agricultural Experiment Station, and Fairfax County, Virginia, Soil Survey of Fairfax County, Virginia. Washington, D.C.: 1963.

[4] Buckman, Harry O. and Nyle C. Brady, The Nature and Properties of Soils, Seventh Edition. The Macmillan Company, New York, New York: 1969.

[5] Virginia Water Control Board, Virginia Water Quality Assessment for 1992. (Information Bulletin #588) Richmond, Virginia: 1992.

Groundwater

Groundwater resources are an important and integral component of the environment. Groundwater is accumulated by the infiltration of precipitation into porous underground rock formations known as aquifers. Areas of impermeable rock and sediments which do not hold water are known as aquacludes. The water bearing rock units within the Town of Dumfries are the Patuxent Formation (Coastal Plain sediments), the Chopawamsic Formation, and Quantico Slate. Coastal Plain sediments, which are located to the east of the fall line, consist of poorly consolidated sand, silt, clay, and gravel deposits. The water bearing properties of the unconsolidated sand beds within the Coastal Plain are good where sediments are thick. However, due to the location of the fall line, the sediments within Dumfries tend to be thinner, and therefore are considered to have only a fair potential well water yield. The Chopawamsic Formation, which is found on the western side of the fall line, consists of schist, gneiss, and greenstone. This formation is considered to have poor to fair water bearing properties. Quantico Slate, which has outcrops in the bluffs at the center of the Town, consists of dark gray to black graphitic slate. This area is considered to be a very poor aquifer. According to the *Prince William County Groundwater Present Conditions and Prospects report*[6], groundwater availability within the Town ranges from poor (<10 gpm) to fair (10-25 gpm).

The chemical properties of groundwater in Dumfries vary according to the groundwater aquifer material. Generally, groundwater in the Town tends to be moderately hard. Coastal Plain sediments have an average pH of 6.7 and a range of 5.6 to 7.4, while groundwater from Piedmont schist and granite has an average of 6.7 and a range from 6.0 to 8.0 from schist and 6.1 to 8.0 from granite. With a pH of 7 being neutral, groundwater in Dumfries tends to be slightly acidic and may be corrosive to steel casing and copper pipes. Groundwater derived from both Coastal Plain sediments and Piedmont rocks contain a low to moderate amount of dissolved material; however, iron content is commonly excessive. Sodium, sulfate, chloride, and nitrate contents are low and may indicate local pollution if they appear high in water from a Piedmont well.

Groundwater is an integral part the hydrological system. The quality of groundwater is an important concern for the Town. Uncontaminated groundwater is generally lower in suspended solids and bacteria than surface water. An uncontaminated aquifer is a valuable source of clean, fresh groundwater for domestic, agricultural, or industrial purposes. When development occurs, the natural system is disrupted and measures must be taken to keep the system balanced. High topographic areas are generally groundwater recharge zones while low topographic areas are generally groundwater discharge zones. Removing vegetation and increasing the amount of impervious surface, such as roads, parking areas, and roofs, can result in increased surface discharge and decreased groundwater recharge. By providing recharge areas for stormwater, groundwater equilibrium can be maintained. Excessive groundwater withdrawal, such as for irrigation and industrial use, can lower the water table. Wells may go dry, base flow to streams is reduced, wetlands may shrink, and in coastal regions salt water intrusion may occur.

Groundwater is connected with many ecosystems providing base flow to rivers, streams, ponds, lakes and wetlands. Once contaminated, the usefulness of an aquifer as a resource may be limited or destroyed. In many cases it is impractical or impossible to restore a contaminated aquifer to its original level of purity. Common sources of groundwater contamination include leaking underground storage tanks, landfills, junk yards, chemical leaks and spills, illegal dumping practices or improper disposal, old or malfunctioning septic tanks, septic systems situated on improper soils, among others. In Prince William County, the most common type of groundwater contamination results from petroleum leaks and spills. Development within the Town should take into account groundwater protection measures and inappropriate land uses should be located away from areas with a high potential for groundwater contamination.

[6] Virginia Water Control Board, Prince William County Groundwater Present Conditions and Prospects. Richmond, Virginia: 1976.

Flood Hazard Areas

Land uses in flood prone areas are subject to provisions contained in the Town's flood hazard district section of the Zoning Ordinance. The flood hazard district outlines permitted uses, special use permits, and other regulations concerning development in flood areas. A floodplain district has been established that regulates and restricts uses. This zoning overlay district applies to those areas that are inundated by the 100-year frequency flood. The environmental management approach to land use planning precludes development within the 100 year flood plain except for flood control, recreation, and agriculture and wildlife management.

Figure 21: Town's 100 Year Floodplain

Most of the developed areas of Dumfries are located outside the 100 year flood plain. Areas of the Town which are in Zone A (100-year floodplain) or Zone B (500-year floodplain) are primarily associated with Quantico Creek and its tributaries. The remainder of the Town has been classified as being in an area of minimal flooding, Zone C.

Wetlands

Wetlands within and near the Town of Dumfries are largely associated with the tidal flats of Quantico Creek. Quantico Creek, which is a turbulent stream in its upper reaches, fans out to an embayment with a broad, estuarine plain in the southeast of the Town until it drains into the Potomac River. This estuarine plain is attributed, in large part, to the considerable erosion and siltation from area tobacco farming over the past two hundred years. The wetlands in the lower portion of Quantico Creek consist mainly of a number of small pocket, spit and fringe marshes. The upper portion of Quantico Creek is dominated by large creek marshes which are found to grade from yellow pond lily at the lowest elevations all the way to woody swamp at the highest elevations. Included in these marshes are several stands of American lotus which is considered rare in Virginia. According to the *Prince William County Tidal Marsh Inventory*[7], there are approximately 242 acres of tidal wetlands located along Quantico Creek. Non-tidal wetlands also occupy considerable areas in and around the Town along Dewey's Creek, Quantico Creek, and the unnamed tributary which makes up the southern boundary of the Town.

One of the primary criteria for defining wetlands is the presence of hydric soils. Hydric soils are either (1) saturated at or near the soil surface with water that is virtually lacking in free oxygen or (2) flooded frequently for long periods during the growing season. The National Wetlands Inventory (NWI)[8] identifies several different types of wetlands within the boundaries of the Town.

[7] Virginia Institute of Marine Science, Prince William County Tidal Marsh Inventory. Glouster Point, Virginia: 1975.
[8] United States Fish and Wildlife Service, Atlas of National Wetlands Inventory Maps of Chesapeake Bay. Annapolis, Maryland: 1986.

Environmental Habitats

The three most extensive wildlife habitats within the Town are wetlands, forested areas, and stream corridors. The Town has very diverse vegetation ranging from marsh flora in the coastal plain to the climax oak/hickory forest in the nearby Piedmont. The value of forest land in the Town is erosion control, watershed protection, reduction of noise and air pollution, aesthetics and wildlife habitat.

Both tidal and non-tidal wetlands play an important role in flood control and water quality protection, as well as providing important habitat for numerous organisms. Tidal and non-tidal wetlands function in water quality protection by acting as physical and biological filters of stormwater runoff. The eastern portion of Prince William County is bordered by the Potomac River and is characterized by an extensive system of tidal wetlands as Quantico Creek flows into the Potomac estuary. Each of the tributaries to the Potomac River containing tidal wetlands is surrounded by fairly large areas of palustrine forested broad-leaved deciduous and shrub-scrub non-tidal wetlands. Smaller areas of palustrine emergent non-tidal wetlands are also located adjacent to tidal wetlands in many of the tidal portions (creeks) of the Potomac tributaries. Contiguous non-tidal wetlands are protected because they and the tidal wetlands adjacent to them are part of the same hydrological and biological system.

Aquatic and Marsh Wildlife and Vegetation

The Quantico Creek estuary and its associated alluvial deposits and marshes are extremely rich in wildlife. It nurtures the delicate spawning of many marine species. It is home to the osprey and rare bald eagle, as well as supporting winter flocks of tundra swans, Canada geese and many other waterfowl, including the great blue heron, the greenback heron, and the wood duck. Muskrat, otter, and beaver live along the banks of the estuary as well. The Quantico Creek estuary also provides a habitat for many species of submerged aquatic vegetation and emergent marsh vegetation. Submerged aquatic vegetation includes muskgrass, pondweed, wildcelery, hydrilla, coontail, watermilfoil, and water-stargrass. Marsh vegetation includes pickerel weed-arrow arum, yellow pond lily, cattails, wild rice, marsh hibiscus, water hemp, common threesquare, jewel weed, iron weed, button brush, smart weed, soft rush, and big cordgrass in the tidal marshes and wax myrtle, red maple, green ash, sycamore, alder, black willow, sweet gum, river birch, and box elder in the non-tidal brush and forested wetlands.

All of the streams within Prince William County are classified as warm water habitats and have the potential to support warm water fisheries. However, fishermen utilization of warm water streams is generally severely limited by poor access and low summer flow. Also, many anadromous fish that spend the majority of their lives in the ocean or brackish water migrate to fresh water to spawn. These species have historically supported important sport and commercial fisheries, which have declined in recent years. Fish species which either populate or have the capacity to inhabit the streams of the Town include bass, herring, shad, pike, catfish, and carp.

In addition to the more common species of aquatic and marsh wildlife vegetation, the Town is also the home to several rare or endangered wildlife species. Historically, according to the Virginia Division of Natural Heritage[9], the hard-stemmed bulrush has occurred in the Town. There are no state or federal regulations protecting the hard-stemmed bulrush. The area is also home to the extremely rare and beautiful North American lotus.

[9] Written correspondence, Timothy J. O'Connel, Virginia Division of Natural Heritage, March, 1993.

Forest Vegetation and Wildlife

The extensive mature forests of Prince William County provide excellent habitat for numerous species of vegetation and wildlife. There are three major forest areas in Prince William County and many small, isolated and interconnected patches. The largest most contiguous area of forested land is in the southeastern portion of the county surrounding the tidal tributaries to the Potomac River, Quantico Marine Corps Base, Prince William Forest Park, and Locust Shade Park. Forested areas of the Town are generally located in the southwestern portion of the Town between Main Street and the Town's border with Prince William Forest Park. Other areas are scattered throughout the Town and include areas along Dewey's Creek and Cannonball Run. Forest vegetation is primarily deciduous with some evergreen.

The Piedmont's wildlife habitat is as varied and rich as that of the Quantico Creek estuary. The list below presents a list of those species most commonly found within the Town. A list of bird species that inhabit and breed within various Town habitats are found in Virginia's Breeding Birds: An Atlas Workbook[10].

Common Species of Upland Wildlife and Vegetation

Trees & Other Vegetation	Animals
Oak	Fox
Maple	Raccoon
Gum	Opossum
Sycamore	Ground Hog
Walnut	Squirrel
Beech	Rabbit
River Birch	Skunk
Pine	Chipmunk
Cedar	Mouse
Redbud	Turtle
Dogwood	Terrapin
Sassafras	Snake
Holly	Toads
Cherry	Frogs
Willow	Salamanders
Hemlock	
Locust	
Hickory	

Wildlife Protection

The preservation of forested areas for habitat, water quality protection, and aesthetic value is critical to maintaining environmental quality. The majority of forest loss is attributed to urban development pressures. As development occurs, it is important that forested lands be preserved with interconnecting forested stream corridors to preserve wildlife diversity. The benefits provided by forested land include watershed protection, soil preservation, air quality improvement, noise and visual buffers, areas for recreation and educational activities and habitat protection.

Wooded areas adjacent to streams serve as buffers for surface water by removing pollutants carried by surface runoff from urban, and disturbed areas, and reducing the impacts of these pollutants on surface water quality. Streams without riparian buffers are more susceptible to sedimentation, introduction of excess nutrients, and algal blooms. Connected forest patches often occur along steep drainage basins or in areas

[10] Virginia Society of Ornithology, Virginia's Breeding Birds: An Atlas Workbook. Richmond, Virginia: 1989.

with poor soils for development. Riparian corridors should be maintained in natural vegetation, preferably forest vegetation, to maximize environmental benefits. Wetlands and forest lands are commonly located on hydric soils which are unsuitable for development. These types of undeveloped lands have great potential for future parks and open space, groundwater recharge areas, and resource conservation areas.

Environmental Regulations

The natural resources of the Town should not be taken for granted and are recognized as finite. The quality of life and the aesthetically pleasing nature of the Town are dependent, to a large degree, on the natural resources of the Town. Forested lands as well as wetlands provide a natural habitat for a myriad of wildlife and plant species as well as recreation for the citizens of the Town. Further, many environmentally sensitive areas, if improperly managed during development, can have a significant negative impact on water quality. Natural habitats such as wetlands and vegetative cover provide a natural filter to pollutants generated by both natural and man-made sources, and therefore need to be preserved and protected.

Chesapeake Bay Preservation Act

The Chesapeake Bay Preservation Act establishes a program to protect sensitive environments that, when disturbed or developed incorrectly, lead to reductions in water quality in the Chesapeake Bay. The Act provides a framework for local government to identify these sensitive areas and to enact regulations to control land use activities on and around them. The Town's Chesapeake Bay Preservation Overlay District (which is part of the Town's Zoning Ordinance) encourages and promotes:

- Protection of existing high quality state waters and restoration of all other state waters to a condition or quality that will permit all reasonable public uses, and will support the propagation and growth of all aquatic life which might reasonably be expected to inhabit them;
- Safeguarding the clean waters of the Commonwealth from pollution;
- Prevention of any increase in pollution;
- Reduction of existing pollution; and
- Promotion of water resource conservation in order to provide for the health, safety, and welfare of the present and future citizens of the Commonwealth.

In accordance with the guidelines established by the Chesapeake Bay Preservation Area Designation and Management Regulations, Chesapeake Bay Preservation Areas were mapped for the Town and Prince William County and are now available electronically on the Prince William County Geographic Information Systems (GIS) mapping site (http://gisweb.pwcgov.org/webapps/CountyMapper/). The mapping of these areas, which includes Resource Protection Areas (RPAs) and Resource Management Areas (RMAs), was based on a natural resources inventory. This inventory included reviewing the U.S. Geological Survey (USGS) 7.5 minute topo-quadrangles, the U.S. Fish and Wildlife Service (FWS) National Wetlands Inventory Maps, the U.S. Soil Conservation Service soil surveys, among other technical sources.

Resource Protection Areas (RPAs)

Resource Protection Areas are lands at or near the shoreline containing components which are especially sensitive because of (1) the intrinsic value of the ecological and biological processes they perform which benefit water quality, or (2) the potential for impacts to them that may cause significant degradation to the quality of State waters.

Figure 22: Town of Dumfries RPAs

The RPAs defined include tidal wetlands, non-tidal wetlands connected by surface flow and contiguous to tidal wetlands or tributary streams, and tidal shores. This includes a 100-foot vegetated buffer area located adjacent to and landward of these components. In Dumfries, the RPA includes areas along Quantico Creek, including associated freshwater wetlands, and areas along the lower reaches of Dewey's Creek and an unnamed tributary which forms the southern boundary of the Town.

Resource Management Areas (RMAs)
Resource Management Areas include land types that, if improperly developed, have the potential for causing significant water quality degradation or for diminishing the functional value of the RPA.

Uses within the RMA are subject to compliance with other applicable local, state, and federal regulatory programs and the performance criteria included in the program regulations. The RMA is comprised of concentrations of the following land categories: floodplains; highly erodible soils, including steep slopes greater than 25 percent; highly permeable soils; non-tidal wetlands not included in the RPA; or other sensitive lands necessary to protect the quality of state waters. Due to the concentrations of these features, the Town has opted to become a jurisdiction-wide RMA.

To minimize water quality impacts from land use and development, Chesapeake Bay Preservation Areas have been delineated for Dumfries according to criteria established by the Chesapeake Bay Local Assistance Board. The criteria also are intended to establish policies that local governments should use in granting, denying or modifying requests to rezone, subdivide, or to develop land in the Preservation Areas. Implementation of the criteria is to be achieved through use of performance standards, Best Management Practices (BMPs), and with various planning and zoning tools.

Wetlands

Regulatory constraints on development include a variety of federal, state, and local laws. Regulations to consider when developing an area with potential wetlands include:

Federal
Federal laws include Section 404 of the Clean Water Act of 1977 (33 U.S. C. 1251) which addresses dredge and fill operations in wetlands and Section 10 of the Rivers and Harbors Appropriations Act of 1899 (33 U.S.C. 403) which addresses activities affecting navigation. The U.S. Army Corps of Engineers is assigned as the primary federal agency with regulatory authority for these laws. The Corps jurisdiction established by these laws includes waters of the U.S. and their adjacent wetlands.

State
Pertinent laws of the Commonwealth of Virginia include the Tidal Wetlands Act (Title 62.1, Chapter 1 of the Virginia Code). The Commonwealth's ownership of subaqueous land is established and the Virginia Marine Resources Commission (VRMC) is the regulating authority for the coastal resources included in these laws. Localities (i.e., counties, cities, and towns) which desire to regulate their own tidal wetlands have the option of adopting prescribed zoning ordinances and forming citizen Wetland Boards. VMRC retains an oversight and appellate role for localities which have adopted these coastal resources ordinances.

Section 401 of the Clean Water Act grants states the authority to certify that activities requiring a federal 404 permit meet applicable state water quality standards. If the state denies the water quality certification, the federal permit cannot be issued. The Virginia Water Control Board has since adopted regulations establishing the Virginia Water Protection Permit (VWPP) pursuant to Section 401 of the Clean Water Act. The regulation requires VWPP be issued for activities that result in a discharge to surface water, including wetlands, that requires a federal permit or license, and are not permitted under the Virginia Pollution Discharge Elimination System.

Local

Under the Chesapeake Bay Preservation Act (Chapter 25, Title 10.1 of the Code of Virginia) localities must establish a program to protect and delineate environmentally sensitive features. The Regulations pursuant to the Act direct local jurisdictions to establish Resource Protection Areas (RPAs), in which only water dependent development is permitted with very stringent environmental requirements. Non-tidal wetlands not included in the RPA may be included for consideration in a Resource Management Area (RMA). Due to the preponderance of sensitive environmental features within the Town, and that the water quality protection afforded by the use of Best Management Practices constitutes good land use management, all land within Dumfries has been designated as an RMA.

Pollution Sources

Point and non-point pollution sources have the effect of degrading surface and groundwater resources, the atmosphere, and the aesthetic character and usefulness of land areas within the Town. Ideally, sources of pollution within the Town should be eliminated. However, certain necessary human activities make the elimination of all pollution sources impossible. The pollution sources discussed in this section can provide a basis to establish a pollution mitigation plan.

Point Source Pollution

A point source of pollution is a single identifiable source of pollution. The following are common sources of point source water pollution in the Town.

Underground Storage Tanks

The Virginia Water Quality Assessment states that underground storage tanks are the primary source of groundwater contamination in Virginia. Underground storage tanks, while regulated through the Commonwealth, often pose a greater threat than other sources of pollution because a leak or spill may not be detected until it has already occurred. Further, many underground storage tanks exist that were installed prior to more stringent regulations. The location and condition of these tanks are often unknown. Because these tanks are underground, they have more potential to contaminate the groundwater. Since groundwater is in a dynamic state, groundwater contamination originating from one jurisdiction has the potential to severely impact another. The Town needs to work closely with Prince William County and the Virginia Water Control Board so that it is informed of these potential threats.

Above Ground Storage Tanks

Many residences and commercial businesses within the Town rely on fuel oil or kerosene for heating. While any individual tank may not pose a significant environmental hazard, the aggregate of tanks located within the Town may have the potential to pose a threat to the environment.

Individual tanks with a capacity of less than 660 gallons or multiple tanks with an aggregate capacity of less than 1,320 gallons are not currently regulated by the state or the federal government. Most home fuel oil tanks are typically only 200 to 660 gallons and are not regulated. It is therefore up to the individual owner to ensure that leaks and spills do not occur. To reduce the risk of an accidental spill, the homeowner or fuel oil company should inspect a tank before filling to ensure that it is sturdy and does not exhibit signs of corrosion. An owner should also have the capacity of the tank clearly marked on the tank and specifically indicate the filling cap location.

Point Source Surface Water Discharges

According to the Virginia Water Control Board, there are one major industrial and three municipal facilities that discharger into VWCB Hydrologic Unit A09, which includes Powells Creek, Chopawamsic Creek, and Quantico Creek. The major industrial discharger is Virginia Power - Possum Point Plant, which is located outside of the Town at the far end of Possum Point. There is one sewage disposal outfall within the Town which is identified on the USGS quadrangle map for Dumfries. The outfall is located in Town to the southeast of Williamstown Road and has been inactive for a number of years. There are no water quality monitoring stations along this segment of Quantico Creek.

Malfunctioning Septic Drainfields

Malfunctioning septic drainfields can be a significant source of groundwater pollution as well as a human health risk. Major causes of septic field failure are poor soils, prolonged overuse of the system, high water table, improper siting or construction of the septic system, and tree roots clogging the drainfield lines. The primary reason for minor failures, however, is a lack of proper maintenance by the homeowner, especially failure to have the septic tank pumped within the required five year period.

The H.L. Mooney Wastewater Treatment Plant is the primary provider of sanitary sewer services to the residents of Dumfries. All new development, and any significant redevelopment, in the Town is required to connect to the sanitary sewer system. Failing septic systems should be connected to the public sewer system.

Landfill

The Potomac Landfill Inc., presents a potential source of pollution if precautions are not taken to ensure proper maintenance and closure of the facility. The ultimate use of the facility should be considered as it nears its life span and prepares for closure. Uses are extremely limited on a closed landfill, and are reviewed by the Virginia Department of Environmental Quality as part of the closure requirements. The only use which the State has allowed on a closed landfill to date is passive recreational use, and care must be taken to avoid woody growth which could penetrate the cap. The steep slopes on the existing facility would require carefully engineered access, but the views offered by the proximity of the facility to the Potomac River could afford an opportunity unique to northern Virginia. The potential liabilities of Town ownership of such a recreational facility should be carefully considered. Recreational use of the closed landfill could be either a private or public facility. Examples should be researched of other such privately owned landfills being transferred to public ownership for park land.

The Town should work closely with the State to ensure any on-site or adjacent uses, such as the current residential uses surrounding the facility, are protected from exposure through adequate buffer provisions. While debris landfills are relatively benign, air and water quality monitoring can ensure the safety of the facility. A primary pollutant of concern is methane which can migrate beneath the surface and collect in basements.

Non-Point Source Pollution

The harmful effects of uncontrolled non-point source pollution generated from intense land uses is evident in the Town's history. The Town's location along the banks of Quantico Creek offered a safe harbor to early settlers and led to its emergence as a bustling tobacco port town of greater importance at one time than the City of Alexandria. The growth of the tobacco market meant large scale cultivation in the Quantico Creek watershed. That cultivation, along with deforestation and mining without replacing the resources or mitigating the adverse impacts, eventually filled the harbor moving the waterfront away from the town.

Since that time, urbanization has further increased runoff and pollution to nearby streams by disturbing the natural floodplain, removing vegetative cover, and increasing impervious surfaces. Runoff from urban areas carries surface pollutants including soil sediments, nutrients (such as phosphorus and nitrogen), heavy

metals, and hydrocarbons. In addition to transporting pollution, stormwater runoff increases stream flow during and immediately after periods of precipitation. Stream banks erode and release sediment to the stream when disturbed directly, along with excess runoff from upland development. Oil contamination, sediments, pesticides, metals, and other toxic substances kill fish and destroy aquatic life. This pollution is derived from both point and non-point sources, but because of their frequently low flushing rates, estuaries are particularly susceptible.

A major effect on local waterways is a general degradation and a phenomenon known as eutrophication. Eutrophic conditions are caused by excessive nutrients in the water and are characterized by low dissolved oxygen levels and high algal growth. A primary detrimental effect on water resources, particularly on large bodies of water such as the Quantico Creek estuary and the Chesapeake Bay, is algal blooms that block sunlight from aquatic life and deplete dissolved oxygen content during decay. Eutrophication also destroys the recreational use of a water resource and results in strong odor and undesirable taste. Hydrilla is another major side effect. This submersed herbaceous freshwater aquatic plant occurs in still or slow-moving fresh water and tolerates conditions unfavorable to most plants such as high salinity, low light, high sedimentation, and warm temperatures.

The Virginia Division of Soil and Water Conservation has designated the control of non-point source pollution as a medium priority for the Quantico Creek subwatershed (VWCB hydrologic unit A09). Controlling non-point source pollution is important because the Town of Dumfries lies within the Quantico Creek subwatershed which drains to the Potomac River and the Chesapeake Bay.

Non-point source pollution from urban areas can be reduced by minimizing the amount of impervious areas of a development site, minimizing the amount of land disturbance during development, and maximizing the retention of the indigenous vegetative cover. Best Management Practices (BMPs) should be used to mitigate the effects of development on water quality. BMPs operate by trapping stormwater runoff and detaining it until unwanted phosphorus, sediment, and other harmful pollutants are allowed to settle out or be filtered through the underlying soil. The trapped pollutants are then disposed of through periodic maintenance.

The impacts of non-point source pollution on the Town's ground and surface waters are significant and require new measures to protect such vital resource. Stormwater disposal needs must be met while considering recharge of groundwater and surface water pollution. As urban land continues to expand, this need is expected to increase.

Air Quality

Air pollution concerns have recently been brought to the forefront by the enactment of the 1990 Clean Air Act Amendments (CAAA). The CAAA requires that Virginia develop and implement a plan to reduce air pollution, especially in its several "non-attainment" areas, such as northern Virginia. The Town of Dumfries is located in the Washington D.C. metropolitan area which has been designated a "serious" non-attainment area (ranking from marginal, moderate, serious, severe, and extreme) for ozone violations. In the Washington metropolitan area, safe ozone levels are violated some of the time, usually on occasional summer days. The "serious" designation indicates that ozone levels have been detected at levels of more than 0.160 parts per million but not above 0.180 parts per million. While stratospheric ozone is beneficial as a vital screen of excessive harmful ultra-violet radiation, ozone in the lower atmosphere causes severe respiratory ailments, and in extreme cases, death. Approximately 80% of northern Virginia's low altitude ozone is a by-product of motor vehicle emissions, and therefore, the state plan relies heavily on more efficient transportation planning to accomplish the required reductions. Measures which may be implemented include stricter tailpipe standards and vehicle emissions, increased use of lower polluting fuels, expansion of mass transit service, diversion of transportation funding to develop safe bikeways, and an increased investigation into and use of telecommuting.

IMPLEMENTATION

Natural Environment Goal

Maintain and enhance the natural features of the Town, protect the environment from degradation, and foster public awareness of the environment and its natural beauty.

Environmental Policy 1

Protect the human and the natural environment from the impacts of development and urbanization.

Action Strategies:

E-1 Encourage creative design principles during the development process to provide more functional open space, preserve sensitive areas, maintain maximum indigenous tree cover, and minimize impervious land cover for the desired and permitted land use.

E-2 Support conservation of appropriate land areas in a natural state to preserve, protect, and enhance stream valleys, meadows, woodlands, wetlands, and plant and wildlife through the use of conservation easements, setback buffering, greenways, open space, and applicable Town ordinances.

E-3 Identify existing offensive or noxious land uses which pose a threat to water quality or other elements of the environment, either through point or non-point sources, and revise Town ordinances to phase out such uses.

E-4 Reduce impervious surfaces and require development to incorporate Best Management Practices (BMPs) when appropriate.

E-5 Develop a working relationship with the Virginia Water Control Board to correct pollution impacts from leaking underground storage tanks within, as well as surrounding, the Town.

Water Quality Goal

Maintain and enhance the natural features of the Town, protect the environment from degradation, and foster public awareness of the environment and its natural beauty.

Water Quality Policy 1

Protect both the human and natural environment, including water resources within and outside of the Town, from the impacts of development and urbanization.

Action Strategies:

WQ-1 Continue to enforce the Chesapeake Bay Preservation Area Overlay District (CBPA-OD) designed to protect the waters of the Town and the Chesapeake Bay from the adverse effects of urban development.

WQ-2 Encourage developers to pursue all opportunities for creative site design to reduce site imperviousness as provided by the performance criteria of the CBPA-OD.

WQ-3 Reference the most recent edition of the Northern Virginia BMP Handbook (published by the Northern Virginia Planning District Commission) where development requires the use of structural Best Management Practices as permitted under the performance criteria of the CBPA-OD.

WQ-4 Continue to enforce the Floodplain Overlay District to protect floodplains from inappropriate development, as well as to protect the health, welfare, economic, and real estate interests of the citizens of the Town.

WQ-5 Investigate water conservation tools that may be implemented by the Town through the building code or other permitted means.

Water Quality Policy 2
Protect the Town's surface and groundwater from degradation by discharge and infiltration of point source industrial and urban pollutants.

Action Strategies:

WQ-6 Continue to preserve undisturbed areas along stream corridors within the designated 100 foot buffer to naturally filter pollutants from urban sources. Areas designated as RPAs by the CBPA-OD and the Floodplain Overlay District are the primary implementation instruments.

WQ-7 Work with the Prince William County Cooperative Extension to conduct periodic citizen workshops to demonstrate techniques and aid residents in reducing the over-application of pesticides and fertilizers which subsequently runoff as non-point source pollution.

WQ-8 Request that the Virginia Water Control Board notify the Town of any underground storage tank leaks in areas surrounding the Town which may have an impact on the Town's groundwater supply.

WQ-9 Work with the Prince William County Health Department to identify and correct failing septic systems or improperly constructed or abandoned wells which may degrade the Town's groundwater resources.

Water Quality Policy 3
Implement Town Resolution R-2012-034, passed by Council on May 22, 2012, which designates the Town of Dumfries as a lead agency in dealing with issues concerning Quantico Creek, Port of Dumfries, Quantico Bay, and its tributaries.

Action Strategies:

WQ-10 Initiate discussions and organize stakeholders at all levels to work together to identify specific problems and potential solutions associated with Quantico Creek, Port of Dumfries, Quantico Bay, and its tributaries.

WQ-11 Adopt measures aimed at restoring Quantico Creek and reducing erosion.

WQ-12 Adopt measures to more effectively control hydrilla in the Quantico Creek, Port of Dumfries and Quantico Bay waterways.

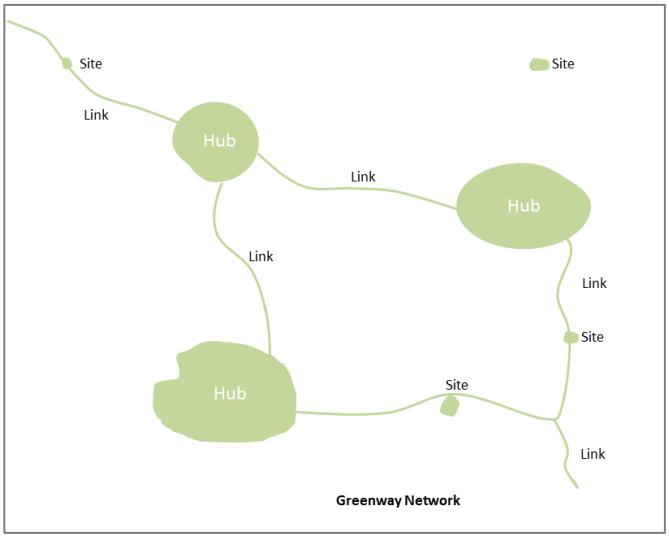
WQ-13 Identify funding to dredge the Town’s section of Quantico Bay.

WQ-14 Significantly reduce the sediment in Dewey’s Run through dredging and erosion control measures.

INFRASTRUCTURE

Building Blocks of the Community

The Town's natural environment is the canvass upon which development occurs. The robustness of the environment is matched in importance only by the strength of a locality's infrastructure. The least recognized component of a development's infrastructure is the land on which it is built. This green infrastructure is a vital component of all development, and the underlying foundation of land-use policy in the Town. Green infrastructure includes stormwater management and other development techniques that are sustainable and environmentally responsible, and are a fundamental component of well-planned development that respects the physical environment.



EXISTING CONDITIONS

The Town of Dumfries has solid infrastructure in both environmental and traditional terms. Water, sewer, transportation, telecommunications, stormwater, information technology, and open space are integral parts of the Town. A diverse mixture of uses and incomes within projects, along with the provision of green and traditional infrastructure, provide a positive economic benefit for taxpayers.

Infrastructure improvements are capital intensive and require significant funding, not only for the initial development but also for its continual maintenance and operation. It is increasingly difficult for communities to find adequate fiscal resources to pay for new or improved facilities, as well as maintain existing facilities. To provide facilities in a fiscally responsible and equitable manner, comprehensive planning is vital to ensure the highest benefit is provided to the citizens in exchange for the cost of providing these services. Sustainable and vibrant infrastructure is the result of careful planning, design, and implementation primarily by the development community, and with input and direction from the Town and other government agencies. As such, all infrastructure design should be done in accordance with the best available technologies and environmental practices.

The Town's capital improvement program (CIP) serves as the major financial planning guide for expenditures toward capital facilities and equipment. It guides development of large-scale projects for which costs exceed the amount normally available in the annual budgeting process, such as water and sewer, or government buildings. The CIP helps to ensure that major projects, considered together, are within the fiscal reach of the Town. Dumfries staff should continually reexamine the way it does business, uses cost/benefit analyses to evaluate proposed spending projects, and strive to achieve maximum efficiency and cost savings in operations.

Alternative transportation infrastructure and systems such as greenways, trails, bicycle lanes, sidewalks, and transit systems are a vital part of a healthy and diverse transportation system. Alternative transportation infrastructure through walkable, mixed use, mixed-income communities holistically addresses the needs of the citizenry within a small area. This critical infrastructure is examined in detail in the *Transportation* chapter.

Telecommunications and information technology are critical infrastructure for any modern community for daily living, as well as economic development. These systems are deployed and redeployed throughout the Town so that broadband, wireless, and emergency communications needs are met. Along with all other

infrastructure, this deployment is done in a responsible manner that will minimize the proliferation of towers. Stealth technology should be used whenever possible and permitted by-right in all zoning districts.

Green Infrastructure

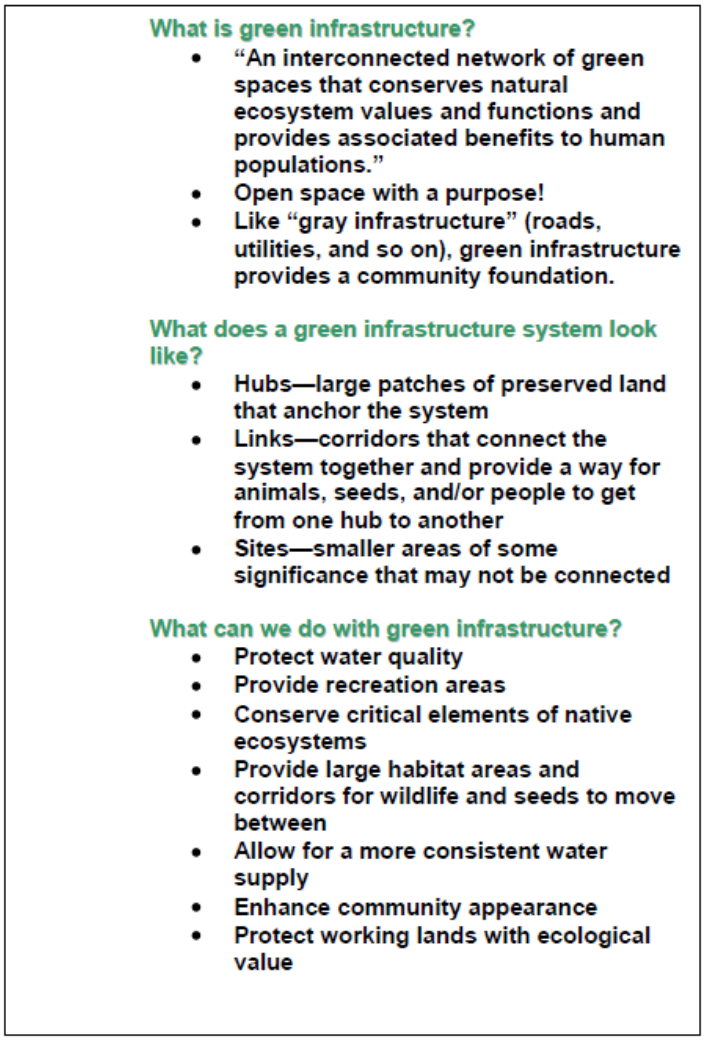


Figure 23: Green Infrastructure

The Town considers green infrastructure to be the effective and efficient utilization of the land upon which a development is proposed or built. The sensitive development of the land is critical to the sustainability of a project and its value to the community. Preservation of wetlands, wildlife corridors, and other sensitive habitats and environments not only lessens a project's environmental impact but also benefits the final development product. Subdivisions with open space such as greenways and parks are much more attractive and bring a higher market value than those developments without such amenities. Green infrastructure creates integrated neighborhoods and communities as opposed to isolated developments and subdivisions.

Other environmental techniques that are synonymous with green infrastructure include low-impact development (LID) and other stormwater management systems (e.g., rain gardens, green roofs, rain barrels, cisterns), alternative energy sources (e.g., geothermal, wind, and solar), porous pavement, and an increasing number of others. All of these techniques can be used in both residential and commercial/industrial development, and should either be strongly encouraged or required.

Energy Efficiency

In addition to green infrastructure, there is a growing green government movement that is promoting sustainability through energy efficiency. There are numerous reasons why increasing energy efficiency makes sense from environmental to economic considerations, particularly with the increasing rise in energy costs.

Economic development is a major reason cited for going green. As new technologies and services evolve, there is an opportunity for investment in job training programs and locating new businesses. As much as 30 percent of the energy consumed in commercial buildings, including government, is used inefficiently or unnecessarily. By diversifying the economic base of the Town and reducing direct energy costs, energy efficiency can save taxpayer dollars, create jobs, and improve the overall health of the local economy.

Environmental conservation is another primary reason to become more energy efficient. Energy use in commercial buildings and industrial facilities creates over 50 percent of all U.S. carbon dioxide emissions. Recycling and using renewable resources conserve natural resources. Water quality is another major benefit

to conserving natural resources. Reducing urban sprawl, using porous paving materials, using green infrastructure as natural stormwater buffers and filters, and maintaining healthy vegetative buffers around waterways all will help to protect our surface and groundwater resources (www.greencounties.org).

Local Government Facilities

Any effective and efficient local government is going to also manage its own facilities well. This requires planning and budgeting for periodic renovations, major capital repairs, asset replacement (vehicles, HVAC systems, and so on), and new facilities. Many of these items can be planned for well in advance, but maintaining existing infrastructure and facilities also requires rapid response to unexpected needs such as premature equipment or structure failure.

Public Safety

The Town's top capital priority is the location and construction of a new police station. This facility will ensure continuity of operations and accommodate the expansion of the police force as necessary. It should accommodate an emergency operations center (EOC) as well as have space for public meetings, if possible. A new police station will also enable the Town to be better positioned to meet Homeland Security objectives and recommendations.

Public Works

The maintenance of the Town's buildings, rights-of-way, and stormwater infrastructure, in compliance with federal and state regulations, is a primary function of the public works department and a dominant theme in the Town's capital improvement program (CIP). While many larger capital needs can be planned, some needs arise unexpectedly such as HVAC or roof failure. The Town has instituted a capital reserve program as part of its CIP for these unexpected, but anticipated capital needs.

Parks & Recreation

As outlined in the *Parks and Recreation* and *Historic & Cultural Resources* chapters of this Plan, the Town has invested in its history and its recreational facilities. The newest park addition, Ginn Memorial Park is yet another centerpiece to the Town's open space inventory. Future phases are planned for that park along with greenway trails throughout the Town in preserving green infrastructure for stormwater controls and recreational use.

Town Administration

The Town Hall will need to be replaced or expanded. Town staff is currently making the best of tight space and Council's meeting space is not adequate for effectively accommodating the public when more popular issues arise. ADA considerations should also be incorporated more effectively, along with information technology needs.

Information Technology

Commensurate with modern telecommunications, which is largely controlled by the private sector and market demand, the Town should continue to maintain a modern inventory of computers and other necessary technology for the implementation of effective government services. The Town lacks an updated geographic information system (GIS) which inhibits their ability to track land use permits, public works infrastructure, and perform other types of management analysis such as crime patterns, accident locations and frequencies, and so on. The Town's financial system is antiquated and should be updated to a more modern platform. Council chambers needs to be better equipped for the elected and appointed officials so that their computing devices can be more easily accommodated. The Town's information technology needs should be documented and planned out in the CIP as with any other capital need valued at $20,000 or more.

UTILITIES

Public utilities are the basic services that are essential to the quality of life within a community. Public utilities generally include water, sanitary sewer, energy and communication services, and may be supplied through both public and private providers. The availability of these services directly influences land development and growth within a community. While the Town of Dumfries has limited land available for new development or redevelopment, utilities that service the Town are an important basic need of the community's. This section of the Plan summarizes the utilities that provide service to the Town.

Prince William County Service Authority

The Prince William County Service Authority (PWCSA) is an independent public authority that provides potable water and sanitary sewer utilities to certain service areas within Prince William County, including the Town. The Town is located within the Dumfries/Triangle sub-district which is known as a "service level" of the PWCSA service area. The PWCSA owns, operates and maintains the water and sewer mains and trunk lines that service the Town and most of the eastern part of the county. Improvements and extensions of these primary facilities are planned through the PWCSA's annual CIP process which is developed in conjunction with the land development policies and plans of Prince William County's Comprehensive Plan. Likewise, extensions of primary mains and trunk lines to serve land development must also be consistent with the Prince William County's Comprehensive Plan policies, and must be constructed according to the Prince William County Design and Construction Standards Manual (DCSM).

Water Supply, Capacity, and Conservation

The Town is located within the eastern service area of the PWCSA. The PWCSA owns no water treatment facilities, but purchases potable water for the eastern service area through an agreement among PWCSA and the Fairfax County Water Authority (FCWA). FCWA's primary water supply for treated water is the Occoquan Reservoir which currently supplies the entire eastern FCWA service area, including parts of Fairfax County, all of eastern Prince William County and the City of Alexandria.

The FCWA's supply capacity agreement with the PWCSA for the eastern service area is for 37.4 million gallons per day (MGD). An additional 10 MGD is allocated for the privately owned Virginia American Water Company that services the Dale City area of eastern Prince William County.

While it is anticipated that potable water supplies will be more than adequate to meet future demand, water conservation is an important cost saving measure and water quality element which should be considered by the Town. The benefits of water conservation include decreased costs for the individual water user as well as decreased costs associated with the operation and expansion of water treatment and pumping facilities. From a water quality perspective, a reduction in water usage translates to a reduction in waste water effluent which needs to be treated at a sewage treatment plant. This minimizes waste water treatment costs as well as protects surface water quality.

The *Chesapeake Bay Preservation Act* (§ 10.2-2107.), as part of its water quality mandate, calls for the promotion of water resource conservation in order to provide for the health, safety, and welfare of the present and future citizens of the Commonwealth. In addition, the *Uniform Statewide Building Code* (§ 36-99.10.) provides localities with the authority to require the installation and utilization of water conservation devices and techniques as part of their building code. The Town should examine ways to promote water conservation either through amendments to the Town's building code or through the use of public education.

Water System Facilities

The PWCSA operates an integrated system of transmission and distribution mains, booster or pump stations and storage facilities that provide water to eastern Prince William County and the Dumfries/Triangle area. The eastern service area receives water through 24" and 36" transmission mains from the Occoquan treatment plant which is owned and operated by FCWA. The primary main providing water to the Town runs along Route 1 with a second main connecting to water storage facilities located east of the Town in the Montclair service area. There are also two water storage facilities that serve the Dumfries/Triangle area: (1) the Battery Hill tank located in the Town just east of I-95, and (2) the Nob Hill tank located just south of the Town.

According to the PWCSA the existing transmission mains serving the Dumfries area are sized to accommodate both existing and future water supply demands. However, the PWCSA has noted the need to improve water storage flow for fire protection services in the Triangle and Graham Park Shores area located southeast of the Town. To accomplish this, as part of its CIP, the PWCSA has plans to construct a new water storage facility to replace the undersized Nob Hill tank. The PWCSA also plans to extend the existing 12" water main on Route 1/Fraley Boulevard to the Triangle and Graham Park Shores area.

Water Quality

While the available supply of treated water is important to the Town and other areas serviced in eastern Prince William County, the quality of the water supply source is also important to consider. As previously noted, the Occoquan Reservoir is the primary water supply source that serves not only eastern Prince William County and the Dumfries/Triangle area, but also other areas of Fairfax County and nearby jurisdictions. Protection of the Occoquan Reservoir has been the focus of extensive study, analysis and litigation concerning land use and regulatory policies that are necessary to protect the quality of the water in the reservoir. The Occoquan Policy, originally adopted by the Virginia Water Control Board in 1971, establishes a policy within the Occoquan watershed that addresses specific pollution concerns regarding advanced wastewater treatment (AWT) facilities within the watershed and incorporates monitoring and implementation strategies. Further, as a result of a 2008 planning study that was performed by the Northern Virginia Planning District Commission between 1976 and 1978, a multi-jurisdictional Occoquan Basin Nonpoint Pollution Management Program was established in 1978. The on-going objectives of the program have been to foster inter-jurisdictional cooperation to minimize risk of irreversible water quality degradation through (1) implementation of cost-effective nonpoint pollution mitigation techniques during early stages of urbanization, and (2) reduction of nonpoint pollution loading from agricultural activities. This program is administered by the Northern Virginia Regional Commission (NVRC). Every five years, NVRC performs an assessment of changes in land uses in the watershed to update the model and to help localities determine whether additional land management efforts need to be undertaken. The Town is encouraged to review and assess any of these potential land use changes as they occur.

Wastewater Treatment

Unlike water service utilities, the PWCSA does own and operate sewage treatment facilities that service eastern Prince William County and the Dumfries/Triangle service area. The H.L. Mooney Wastewater Treatment Plant is the primary treatment facility that serves eastern Prince William County, including the Occoquan, Woodbridge and Dumfries/Triangle area. The Mooney Plant is located north of the Town on lower Neabsco Creek. The Mooney Plant services a large area outside of the Neabsco watershed through an integrated system of lift stations and sewer mains. Effluent from the Dumfries/Triangle area is transported to the Mooney Plant through 24" and 30" sewer mains that parallel Route 1. Six lift stations force effluent not only from the Town, but also from the Triangle and Graham Shores area southeast of the Town.

According to the PWCSA, the Mooney Plant is currently operating at an average flow of 18 million gallons per day (MGD) with a maximum treatment capacity of 24 MGD for the entire area it services both north and south of the treatment facility in the County. The most recent improvement to the facility occurred in 2010, when the Service Authority completed a $131.7 million upgrade that improved nitrogen and phosphorus removal and increased treatment capacity levels.

While the Mooney Plant has the capacity to serve the entire Town, there are still a number of active septic systems in and around the Town that pre-date the current system. It is Town policy that all new development and significant redevelopment is required to connect to the sanitary sewer system and that when possible, existing systems should be connected to the sewer system when they exhibit signs of failure.

Municipal Solid Waste (MSW) and Recycling

The Town's solid waste removal is handled by a private solid waste hauler. The Town previously began collecting its own household waste in the 1990's, but reverted to a private carrier when it was determined that overall savings were not worth the differences in service and management.

The Town continues to try to reduce its solid waste removal costs through municipal collection and recycling. The Town also coordinates with Prince William County on solid waste and recycling matters.

Energy (Natural Gas & Electric)

Commonwealth Gas Services, Inc., a subsidiary of Columbia Gas Systems, provides natural gas to the Town. Commonwealth Gas Services constructs, owns and maintains its distribution system. The Briar Trunk Line, the major distribution pipeline for natural gas in Prince William County, runs from Gainesville in western Prince William County through the Town to its terminus in the Town of Quantico.

From its nearby power generation station on Possum Point Road in Prince William County, Virginia Power, a private utility, provides electrical power to the Town. Virginia Power constructs, owns and maintains its transmission and distribution lines and systems, including the major transmission line that runs through the Town, parallel to northbound Route 1/Fraley Boulevard.

Telecommunications

Several private telecommunications firms including Verizon, Comcast, Cox, Cavalier, RCN, and Sprint, provide telephone and related telecommunications services to the Town. Cable television services are available from a wide variety of providers.

The Town should amend its zoning ordinance to permit stealth telecommunication antennas by-right in all zoning districts. The definition of stealth should be carefully tailored, however, and the final determination should be the Zoning Administrator's with the appeal to the Board of Zoning Appeals.

IMPLEMENTATION

A viable, fiscally responsible, and environmentally sustainable infrastructure is contingent on implementing the following goals and strategies.

Infrastructure Goal

Protect the Town's natural and historic resources and critical wildlife habitats by the effective utilization of green infrastructure in all development projects.

Infrastructure Policy 1

Work with developers to minimize the impact of development.

Action Strategies:

I-1 Preserve wildlife corridors, wetlands, and other sensitive areas through the creation of greenways, trails, parks, and other open spaces.

I-2 Partner with developers to receive land dedications, as appropriate, to be owned and operated by the Town as public parks and greenways.

I-3 Require that open-space dedications that are to be privately maintained are adequately protected and may not be further developed as part of the associated project, or without further public or legal discussion and formal action.

I-4 Encourage and support renewable energy generation (windmills, solar panels, biofuel production, and so on) by allowing such facilities in the zoning ordinance.

I-5 Build new and remodeled Town buildings to an established energy efficiency standard such as Energy Star or LEED (Leadership in Energy and Environmental Design).

Municipal Solid Waste Goal

Maintain a comprehensive, long-range solid waste management program.

Municipal Solid Waste Policy 1

Continue the annual collection of household hazardous waste and publicize the importance of the program.

Action Strategies:

MS-1 Promote an education program on the advantages of waste reduction, recycling, and reuse, as well as the continued use of the recycling center at the landfill site.

Telecommunications Goal

Facilitate the deployment of a comprehensive communications network that ensures the reliability of public safety, wireless, and broadband services.

Telecommunications Policy 1

Adopt a comprehensive telecommunications master plan that establishes location criteria that reflects the priorities and goals of Town's residents and stakeholders.

Action Strategies:

T-1 Increase access to high-speed broadband for residences and businesses throughout the county.

T-2 Give priority for towers on publicly owned land.

T-3 Install conduit in the ground for future fiber-optic lines or other high-tech cable uses whenever and wherever the installation of other utility lines is under way, particularly main lines that connect major businesses and public facilities.

Fiscal Impact Goal

Evaluate private developments and public investments, such as capital improvement projects, within a fiscal framework as approved by Town Council.

Action Strategies:

FI-1 Provide a fiscal impact statement, including an examination of alternative solutions and their costs and benefits, for all capital improvements over $100,000.

FI-2 Analyze capital project costs, including the debt service over the life of the loan period to accurately project the financial (tax) impact.

FI-3 Amend the Comprehensive Plan as needed to include all projects that are projected in the capital improvement program (CIP).

FI-4 Adopt a system of cash proffers, impact fees, level-of-service standards, or some combination thereof, and collect at the earliest possible time while allowing for feasible implementation of the project.

HISTORIC & CULTURAL RESOURCES

Discovering Our Cultural Heritage

The intent of this chapter is to enhance the awareness of the historic and cultural resources of the Town of Dumfries and the importance of preserving properties that are significantly linked with that history while celebrating the contemporary cultural resources that have become a part of the community's fabric. This Plan's mission is to facilitate and encourage the identification and protection of the Town's significant historic and cultural resources (i.e., architectural, archaeological, and historic sites). A map of the Town's historic area is included in this plan.

The Town of Dumfries is a community, rich in tradition. It takes pride in its past and is a community with a well-defined character. The Town promotes identification, evaluation, and protection of historic and cultural resource sites throughout the Town, as well as the tourism opportunities these sites present. As a result, residents and visitors have an enhanced awareness of the important links of present-day Town with its rich heritage and significant historic resources - historic buildings, archaeological sites, historic sites and cemeteries and gravesites.

Figure 24: Williams Ordinary

The Town recognizes the importance of its historic resources and supports and encourages preservation efforts by private owners, non-profits and local governments. In their efforts to ensure the cultural history and identity of the Town, a Historical Overlay district and Architectural Review Board (ARB) were created in 1987. The ARB ensures that future improvements and developments do not adversely affect the historic identity of the Town. However, the Town's overriding fundamental goal is to enhance the stability and viability of the community.

The current Historic and Cultural Resources Plan (HCRS) sets out the goal and policies of the Town of Dumfries as they relate to historic and cultural resources. It also presents action strategies to implement each policy. The policies and action strategies are intended to guide the Town's boards, residents, development community, commissions, and staff. The Town's significant historic and cultural resources are highlighted later in this plan.

The Historic and Cultural Resources Plan expands on the cultural resource sites land use classification included in the Town's Long-Range Land Use Plan. Therein is described the CHRS land use classification, and the Long-Range Use Map shows the location of significant historic and cultural resource properties.

Consequently, this Plan encourages dialogue and communication among internal and external agencies dedicated to furthering the preservation and conservation of historic, prior to recorded town history, and cultural resources, as well as, those who don't necessarily have the Town's goal in mind. Developers are encouraged to consult with the Zoning Administrator to determine the appropriate extent of an historic and cultural resource study area.

It should be noted that although the Town is rich in historic resources, there are also cultural resources that, while not historic in nature, should still be taken into consideration with future Town plans.

EXISTING CONDITIONS

Historic resources include the architecture of structures and their sites, community landmarks, archaeological and cultural sites, and the historic environment in which they exist. The historic fabric of the Town serves as the foundation for the community and is instrumental in weaving together the past with our future. It is important to understand that historic events shaped the patterns of the Town's current development and should be integrated into future development. Preservation of these resources makes it possible for them to continue to play an integral and vital role in shaping the future development in the community.

The preservation and the reuse of historic structures can also attract tourism and promotes a quality of life that industry, new business, and residents find attractive in communities.

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A Historical Perspective

Dumfries history began as early as 1690 when Richard Gibson erected a gristmill on Quantico Creek. A customhouse and warehouse followed in 1731, and many others cropped up along the estuary by 1732. Prince William County was formed and took its name from Prince William Augustus, the second son of King George II of England.

Captain John Smith first saw the fair harbor of Dumfries, on Quantico Creek, when he and his crew of explorers sailed up the Potomac River in 1608. About fifty years passed, during which handy pioneers and land speculators were active in claiming land by patent. By 1658, all river front land from Chopawamisc Island to Anacostia Island, on the west shores of the river, had been surveyed and patents issued. It should be noted that most "surveying" had been done from the safety of a vessel, without benefit of going ashore, due to the fear of Indian activity in the area.

The Town of Dumfries was formally established on 60 acres of land at the head of the harbor of Quantico Creek, provided by John Graham. He named the town after his birthplace, Dumfrieshire, Scotland.

After much political maneuvering, the General Assembly established Dumfries as the first of seven townships in the county. Dumfries received its charter on May 11, 1749- making it the oldest continuously chartered town in Virginia.

Figure 25: Captain John Smith

When Dumfries became the second leading port in Colonial America receiving tobacco from the upland, it rivaled New York, Philadelphia and Boston. Dumfries peaked in size and importance in 1763. For about 15 years Dumfries was a thriving port when several factors brought about its demise: the Revolutionary War, erosion and siltation, and the shift in the main shipping commodity (from tobacco to wheat and sugar).

The Town thrived and peaked in size and importance with its finest year being 1763, and for the next ten years, it remained static with little change. The following decade saw a slowdown, and after 1785 the Town's importance continued to wane. Several disastrous fires took a toll on the numerous wood frame buildings and left the Town a mere shell of what it once had been. Much of its commerce, and thus its merchants, had moved to Alexandria and other locations, where the gamble of highly competitive business would not be as significantly affected by the causes of nature, such as the silting of a harbor.

About 1796, the remaining merchants of Dumfries realized they could no longer compete with other river ports where shipments were loaded directly from the docks onto deep hulled, ocean going vessels. Siltation of Dumfries Harbor prevented direct loading of ships and required handling of shipments twice – first from the docks to a shallop and then to a ship in deep water. In an effort to overcome this limitation, the merchants decided to build a canal and thus formed the Quantico Creek Navigation Company which sold shares of stock at fifty dollars each. This venture was successful for a time, until a severe storm in the Quantico Creek watershed caused the canal banks to give way, leaving several boats stranded in the mud, and the company abandoned the project. In 1819, after one of the large fires in the Town, a fire protection company was formed, with the most able-bodied men in the Town as members.

The post-revolutionary period did not improve, and found the Town trustees selling land for delinquent taxes. Parson Mason Locke Weems, a citizen of the Town, established a book store at the turn of the century, but in 1802 sold the property to Benjamin Botts for use as a law office and residence. The Church of England in America, whose properties had been confiscated after the revolution, reorganized as the Episcopal Church, and shortly thereafter other new denominations were to be found in the area.

For the fourth time, the Prince William County court was moved. As result of a shift in population, to Brentsville, and Dumfries lost its lucrative trade of court days and the numerous law offices associated therewith. From 1822 until the Civil War, the Town again, "fell asleep," with the economy being largely agricultural, primarily the growth of wheat.

The Civil War brought many changes in military occupation with the Potomac batteries offering much excitement in the fall of 1861, before General Lee moved his line south to the Rappahannock River. This blockade of the Potomac River brought many troops into the area, not only to man the gun emplacements, but to protect the batteries' rear from a Union flanking movement.

Record and account books of mercantile establishments of this period, due to the growth of the railroads, show the prime economy to be hand-hewn oak railroad ties. These were traded via a credit receipt, similar to the tobacco economy on the 1700's, to the store keeper, for food and other sundry items. Fishing and fish processing and ships biscuits were also a boon to the economy. These new trades were taken up by the owner of the old plantations, where the odor of drying and salt fish would not create a problem with their neighbors. Salt for the salt fish process came up river in scallops, after unloading from the West Indian traders, in the bay. The ties were taken to First Landing, on Quantico Creek, where they were loaded aboard small ocean-going vessels for distribution up and down the east coast. In 1872 when the Richmond and Potomac Railroads joined at Aquia, railroad ties were then shipped via railroad, thereby making the First Landing dock at Dumfries a ghost shipping point.

By the latter part of the 1800's, as a consequence of the loss of major railroads and shipping industries, Dumfries once again slept with its status and importance as a prominent governing body never to be again realized after this time. The Town's main street was a mud hole, and with the advent of the motor car, some members of the community made a living using their farm teams to pull automobiles out of the mud after rain storms. In the 1920s, the old Potomac Path of pre-colonial time – also known as the Kings Highway of the colonial period, the Telegraph Road of the Civil War period, and known today as Main Street and U.S. Highway No. 1 – was realigned and surfaced. Route 1 became a major north-south transportation corridor and, to some extent, this brought back the hustle and bustle the Town had formerly known; that is until the construction of I-95 in the early 1960's which provided a new high-speed north-south highway.

Figure 26: Henderson House (modified)

Dumfries as a Town

The geographic area often identified as Dumfries by early settlers of the area was actually much larger than the area that was originally chartered as Dumfries. The magistrates, trustees, and other officials of the Town and county were members of the vestry board of the established church in Dumfries. For this reason, many of these individuals who lived in the outer reaches of the geographic area surrounding the Town for several miles claimed as their address the Town of Dumfries. Subsequently, in 1761, the Town was enlarged by the trustees – John Tayloe, Presley Thornton, John Champe, Richard Henry Lee, Richard Lee, Henry Lee, John Moncure, James Scott, Alan Macrae, John Baylis, James Douglas, Foushee Tebbs, Thomas Lawson, and William Carr.

From a municipal standpoint, the next action by the legislative body in Richmond was the incorporation of the Town. This occurred on March 22, 1872 under House Bill #150. officers of the Town were to consist of seven trustees who were to constitute the Mayor and Council as follows: Albert Keys, H.C. Brawner, C.W.C. Dunnington, William Calvert, J.F. Wheat, D.C. Garrison, and Thomas Chapman.

In the year 1880 the charter was again amended on March 4 under House Bill #175. This was a general amending of the charter with the following persons appointed as councilmen: George M. Ratcliffe, W.H. Brawner, R.F. Merchant, M.J. Keys, Robert Waters, A.L. McInteer (clerk), and J.R. King (Town sergeant).

By an Act of the Assembly on May 21, 1887, the Act of Incorporation, 1872, was amended with the following men appointed to the council: George M. Ratcliffe, W.H. Brawner, R.F. Merchant, A.L. McInteer, Robert Waters, J.E. Brawner (clerk), and W.H. Keys (Town sergeant).

On March 2, 1964, House Bill #266 was enacted to amend and re-enact a portion of the Act of Assembly of 1872, which incorporated the Town of Dumfries. The amended portions dealt with a new section, relating to the council, officers and employees of the Town. The following persons were appointed to fill the mayor and council positions until their successors were duly elected and qualified: Mayor: Edward M. Fraley; and Council Members: Nick Katsarelis, Ruel W. Waters, Ceil W. Garrison, Wilmer Porter, Guy R. Reynolds, Randolph S. Brawner, George Schlegel, and Alvin Kettlebar.

On May 2, 1969, House Bill #19 was enacted to amend and re-enact a portion of the Act of Assembly of 1872, as amended, which incorporated the Town of Dumfries. This amendment dealt with a new section relating to the Town's police, court, and justice.

On March 9, 1973, House Bill #1185 was enacted to amend and re-enact a portion of the Act of Assembly of 1872, as amended. The amended portions dealt with the election and taking office of the mayor and council of the Town. On March 4, 1974 House Bill #42 was enacted to amend and re-enact a portion of the Act of Assembly of 1872, as amended. The amended portion dealt with the offices of mayor and councilmen.

Since the chartering of the Town in 1749, the size of the Town has twice been enlarged from its original sixty acres. The first of these important events occurred in 1761, and more than doubled the size of the Town. Some of the annexed area had been filled, at the water's edge, and due to silting now became usable land. Shortly thereafter Colonel William Grayson removed from the Town his twelve lots which were west of Cameron Street, between Graham and Hedgman Street.

The second annexation was taken from Dumfries Magisterial District under law #2285 by action of the Circuit Court of Prince William County. The request was filed on January 23, 1962, with an amended petition filed September 14, 1966. The case came before the court on December 29, 1966 and was ordered entered in the record on December 30, 1966. This action increased the Town size from .19 square miles by 1.44 square miles for a total of 1.63 square miles. A significant factor in this action was the twelve lots, William Grayson removed in 1786 were now returned to the Town. This plan contains a map of the Town of Dumfries today with its Historic District related to the present Town layout.

Historic Resources

The Town has a rich, established heritage dating back to colonial times; however, with the exception of three historic structures that have been preserved and maintained, there is little of this physical colonial heritage remaining today. Three of the most prominent historic structures are the Henderson House, Williams Ordinary, and Weems-Botts House. Each of these structures is registered on the National Register of Historic Places. Within the Town, there is a non-profit organization, the Historic Dumfries Virginia, Inc., which has been organized by citizens of the Town interested in researching and preserving the history of the Town and its environs.

In an effort to preserve the remaining natural heritage area of the Town, the Town adopted a historic overlay zone encompassing the area comprising the original 1761 expanded Town boundaries. With the exception of the three historic structures the historic significance of the area is not readily apparent at first glance. This plan later identifies the present Town's Significant Historic & Cultural Resources.

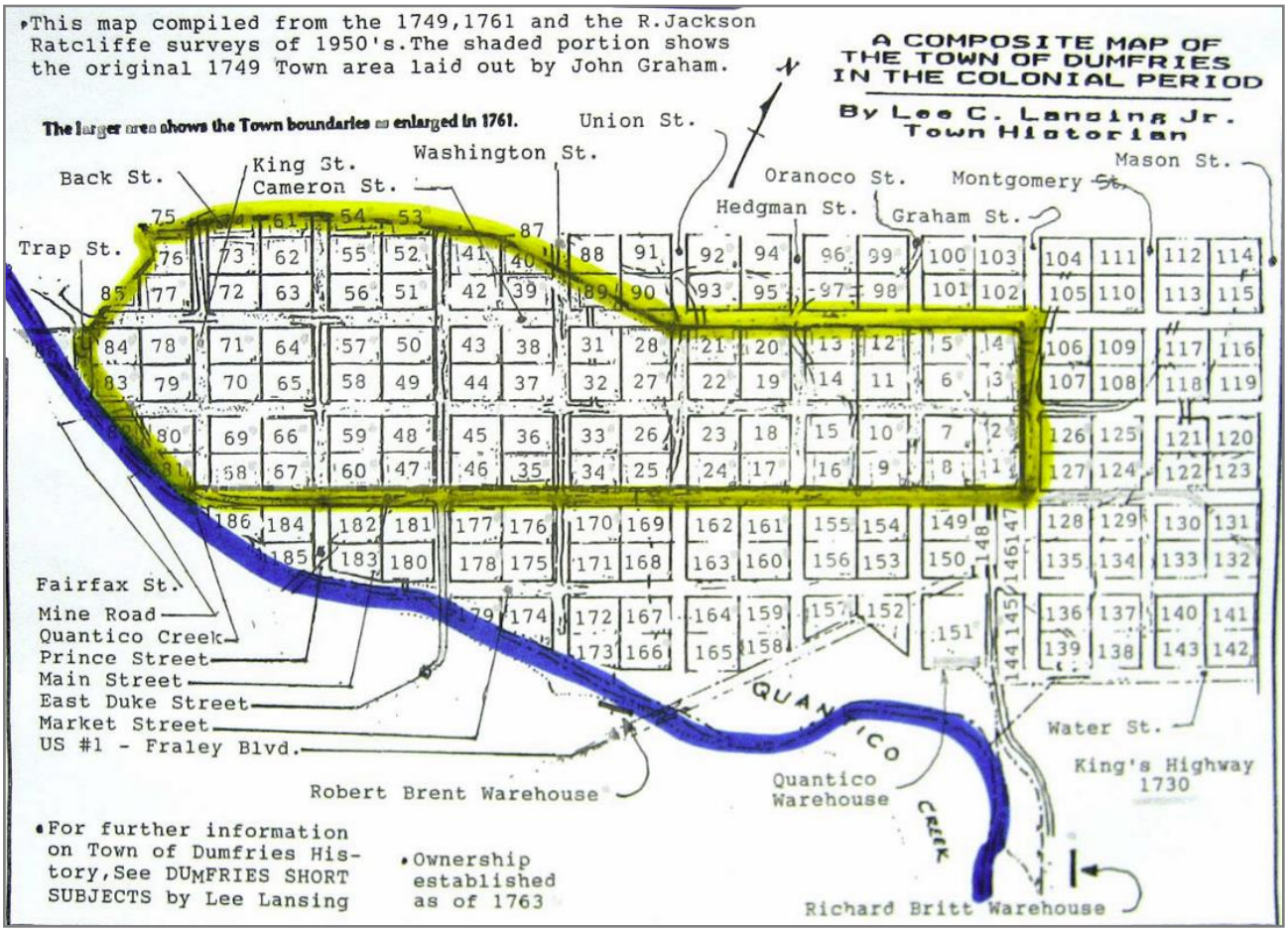


Figure 27: Map of Historic Dumfries

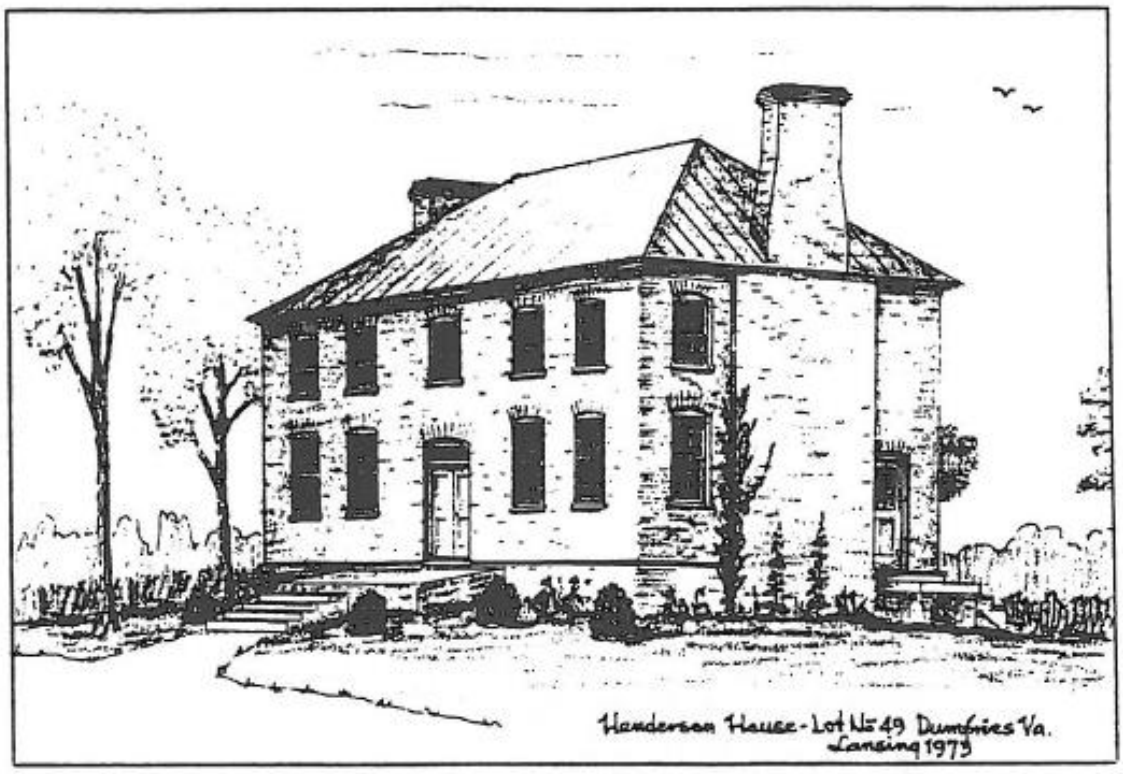
Significant Cultural & Historic Resources

Weems-Botts House	
Location:	3944 Cameron Street
Ownership:	Town of Dumfries
Acres:	0.4959
Primary Use:	Museum
Analogous Land Use Classification:	Public
Surrounding Land Use Classifications:	Public, Institutional, Single-family

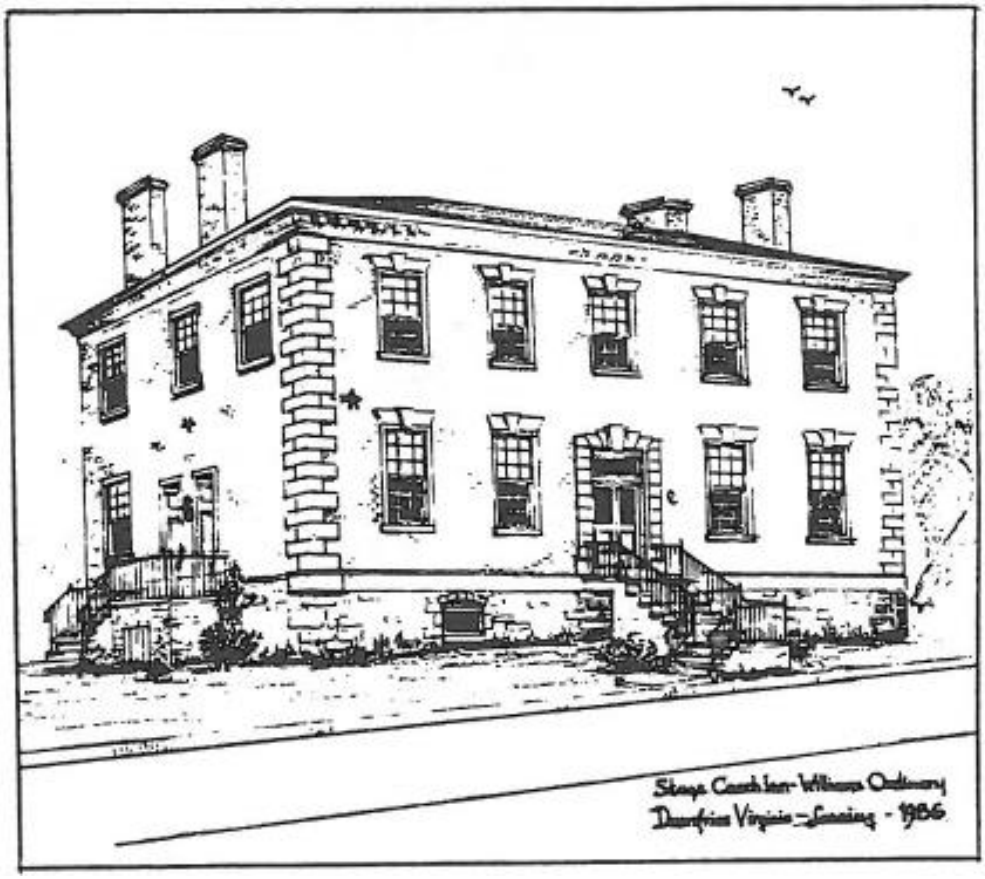
The Weems-Botts House is one of the oldest surviving structures in Dumfries built in 1747. The original building comprised of two rooms that make up the shorter section of the house (the east/left side of the structure). It is believed that the building was used as a vestry house for Quantico Church and was confiscated by the town during the American Revolution. In the late 1790's, Parson Mason Locke Weems, the first biographer of George Washington and the author of the cherry tree story, purchased the building as a bookshop and depot in 1798. Benjamin Botts, a prominent attorney from Dumfries, purchased the house from Weems in 1802. His reputation was also well established in Fredericksburg and in Richmond where he became conspicuous on the team of lawyers providing defense for Aaron Burr in his famous treason trial. The building served as his law office until his death in the Richmond Theater fire of 1811.

The building passed through many hands over the next fifty years, but remained unoccupied until the Merchant family purchased it in 1869. They built a two story addition on the western (right) side of the house in the 1870's and added a back room (kitchen) and summer bedroom (on the first floor) in the 1890's. The house was occupied by descendants of the Merchant family until 1968 but slowly fell into disrepair. The approach of America's bicentennial prompted local residents to rally and save the house from destruction in 1974. Volunteers devoted countless hours of labor to restore the house and create the adjoining park (Merchant Park). The house opened as a museum in 1975 and has operated as such ever since.

Henderson House	
Location:	3904 Fairfax Street
Ownership:	Private
Acres:	.6874
Primary Use:	Residence
Analogous Land Use Classification:	Single-family
Surrounding Land Use Classifications:	Single-family, Multifamily
A large, two-story, red, brick building with a metal-covered hip roof, this building was built by Alexander Henderson in the mid-1780s. Henderson came to Virginia from Scotland in 1756. He was an officer under George Washington during the American Revolution, a large land owner, a merchant, and the father of Archibald Henderson, the fifth Commandant of the U. S. Marine Corps, who held the position longer than any other person. It is claimed that Henderson was the father of the American chain store, having established businesses in Dumfries, Colchester, Occoquan, and Alexandria. The Henderson House has served as a residence in Dumfries for over 225 years. The Henderson House is reported to have been damaged during the Civil War.	



Williams Ordinary	
Location:	17674 Main Street
Ownership:	Prince William County
Acres:	0.2869
Primary Use:	office
Analogous Land Use Classification:	Public, Institutional
Surrounding Land Use Classifications:	Commercial, Single-family, Vacant
Built in the form of an eighteenth-century mansion (ca. 1765), Williams Ordinary, is a two story, rectangular, brick structure with a façade of five bays. The building is the only extant Georgian building featuring all-header bond brickwork in Dumfries. William's Ordinary is crowned by a fully molded wood cornice and has four interior chimneys. There are notable stone quoins in the corners and around the doorway. Unfortunately, the interior of the building has been altered extensively. The building was originally known as Williams Ordinary and subsequently as Love's Tavern, Stagecoach Inn and the Old Hotel, when Dumfries was a busy seaport. The Inn undoubtedly housed many notables, among them George Washington, Thomas Jefferson, the Comte de Rochambeau, and the Marquis de Lafayette.	



Prince William County Courthouse (Fourth) and Jail site	
Location:	3901 Fairfax Street
Ownership:	Private
Acres:	1.23
Primary Use:	Open Lot
Analogous Land Use Classification:	Vacant
Surrounding Land Use Classifications:	Single-family, Vacant
The creation of Fauquier County from Prince William in 1759 made it necessary to move the Prince William County seat for the third time. The Town of Dumfries on Quantico Creek was selected not only because it was the county's population center but because it was a leading commercial center as well. The Dumfries courthouse and jail were built between 1760 and 1762 by Benjamin Topkins on a site overlooking Quantico Creek. The Dumfries courthouse was a brick, Georgian building, almost square in plan, with a hip roof and trimmed with Aquia sandstone or "freestone." It was the meeting place on June 6, 1774 of a gathering of Prince William County citizens who supported a set of resolutions known as the Prince William Resolves. This document was a direct reaction to the Boston Tea Party and the subsequent closing of Boston Harbor by the British, proposed revolutionary actions. Prince William delegates then carried these resolves with them to the first Virginia Convention on August 1, 1774. In the late eighteenth century, Dumfries population and prosperity declined with the decline of the tobacco trade. This combined with a rise in population further inland, led to the relocation of the county seat to Brentsville in 1822. The old courthouse in Dumfries was converted for use as a church and abandoned by 1857. All that remains of the building is its foundation, which is buried underground and a few bricks that were used to create a monument at the corner of Fairfax and Duke Street. The site of the courthouse was commemorated in 1941 with the erection of a brick marker made from stones from the foundation of the third courthouse.	

Quantico Church Site and Dumfries Cemetery	
Location:	17821 Mine Road
Ownership:	Private
Acres:	5
Primary Use:	*Cemetery*
Analogous Land Use Classification:	Public, Institutional
Surrounding Land Use Classifications:	Single-family, Vacant, and Institutional
Quantico Church, possibly not the early eighteenth-century building, but a frame building on the same site during the Civil War, measured thirty- six feet by forty-eight feet and had an eight-foot porch on the front. According to some sources, the original structure, the Chapel of Ease of Overwharton Parish, was the Church of England's first church in northern Virginia. The Reverend Alexander Scott, who owned Dipple Plantation, served as rector from 1701 to 1738. Quantico Church became a chapel of Hamilton Parish in 1731 when a new parish was created from Overwharton Parish. The church may have been destroyed during the Civil War, possibly having been unused for many years before the war. A frame church was built in 1889. It is interesting to note the interior of this church was paneled with boards twelve to fourteen inches wide, all of different timbers native to the region. This last church burned down in 1924.	

Tebbs-Mundy House Site	
Location:	17660 Colonial Street
Ownership:	Prince William County
Acres:	0.6974
Primary Use:	office
Analogous Land Use Classification:	Single-family
Surrounding Land Use Classifications:	Public, Vacant, Single-family
During the time of prosperity for Dumfries, James Wrem designed the Tebbs-Mundy house about 1760. The third Court House in Prince William County. It belonged to Major Fouchee Tebbs who rented his home out while the fourth Dumfries Courthouse was being constructed. In 1774, Fouchee Tebbs was elected as one of nine members of a committee formed in Dumfries to correspond with Committees from other colonies or provinces within America to decide what measures could be taken to protest and revoke the "Intolerable Acts" which closed Boston Harbor and affected other colonies as well. Fouchee Tebbs was elected as delegate to the First Virginia Convention held in Williamsburg in August 1771. Later he became Justice of the Peace, Sheriff of Dumfries and Justice of the Court of Appeals of the United States. In addition to this he served as the Assistant Inspector of Tobacco at Dumfries. The Tebbs-Mundy house was destroyed in 1933 when a hurricane like storm hit the town. Today its foundation is the foundation for a ca. 1940s stone veneer residence.	

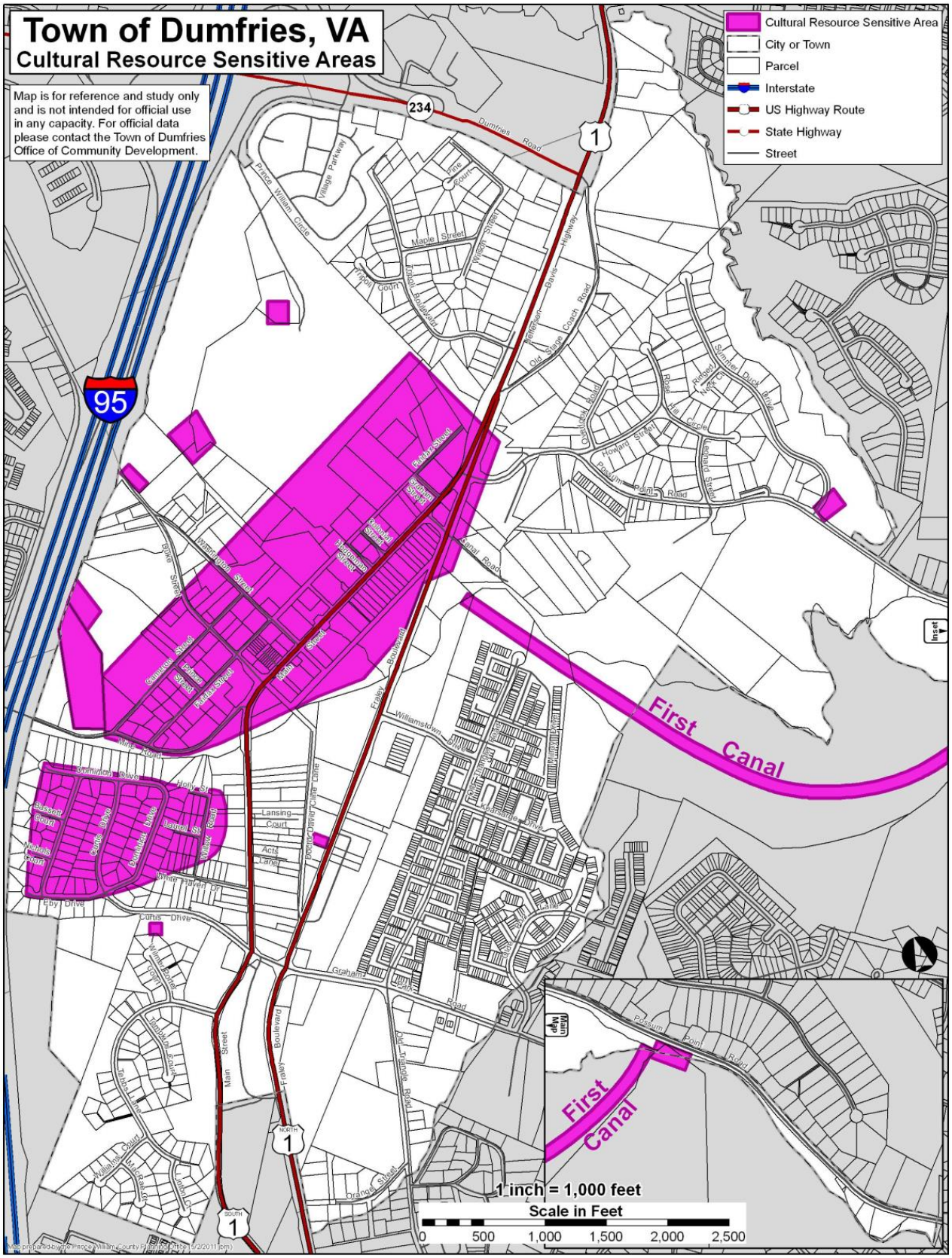


Figure 28: Map of Cultural Resource Sensitive Areas

IMPLEMENTATION

Historic & Cultural Resources Goal

Identify and protect Town of Dumfries significant historical, architectural, and other cultural resources – including those significant to the Town's minority communities – for the benefit of all the Town residents and visitors.

Historic & Cultural Resources Policy 1

Identify the significant historic and cultural resources in the Town.

Action Strategies:

HCR-1 Continue efforts to identify and update the Town's inventory of significant pre-historic and historic resources, and cemeteries and gravesites and make the information available to all Town departments and the public.

HCR-2.1 Conduct studies of potential sites for the significant historic and cultural resources listing, and identify the most important features and historic values of each site.

HCR-2.2 Conduct an inventory to identify cultural resource sites that are of significance to the Town's minority communities and integrate the preservation or treatment of these sites into the overall program to protect and preserve the Town of Dumfries heritage.

HCR-3 Request that Phase I level archaeological/cultural studies by applicants seeking to develop or redevelop in areas that are identified as historic sensitive. Where a Phase I level study deems it appropriate, require Phase II evaluation or intensive level survey. If sites are determined to be significant, a treatment plan should be completed in consultation with the Town in advance of the final site plan approval.

HCR-4 Work with homeowners to nominate sites and structures that meet the appropriate criteria to the National Register of Historic Places (NRHP) and Virginia Landmarks Register.

HCR-5 Work with the Prince William County Preservation Division's archaeological laboratory to process and curate artifacts found as a result of the Town's public archaeological projects.

HCR-6 Continue to develop sensitivity maps for pre-historic or historic sites and historic viewsheds.

Historic & Cultural Resources Policy 2

Protect and preserve historic resources that are important for documenting or demonstrating the prehistory or history of the Town.

Action Strategies:

HCR-7 Examine existing zoning requirements to assure their consistency with the goal of historic preservation.

HCR-8 Continue to maintain existing Dumfries Historic Overlay District as defined in the Zoning Ordinance for the purposes of preserving the historical integrity of important area and sites.

HCR-9 Pursue funds from private and public sources for acquisition, protection, restoration and operation of historic properties.

HCR-10 Encourage preservation groups to educate the public on the historic character of the Town and the benefits of preserving it.

HCR-11 Encourage owners of Town historic properties to participate in Prince William County's Historic Building Plaque Program.

HCR-12 Ensure the policies, ethics, standards, and procedures concerning preservation and protection of the Town's historical and archaeological collections are followed in all instances in which collections are exhibited, stored, interpreted or otherwise utilized.

Historic & Cultural Resources Policy 3
Enhance and promote the Town's historical character to increase visitation and commerce throughout the Town.

Action Strategies:

HCR-13 Encourage research projects and studies that inform and educate Town residents and visitors about the Town's past.

HCR-14 Invite universities and colleges to conduct research studies and report on the Town's history and prehistory.

HCR-15 Support a cultural resources intern program in coordination with local universities and colleges.

HCR-16 Distribute historic and cultural resource reports prepared in conjunction with development applications in the Town, including Phase I, Phase II, Phase III level studies, and Army Corps of Engineers Reports, to appropriate repositories and libraries, including the VDHR and the Prince William County Planning office and regional libraries.

HCR-17 Continue to support the preparation of brochures that provide visitors with information on the Town's history and significant cultural resources.

HCR-18 Continue to preserve, develop, and support the Weems Botts Museum, Merchant Park, Williams Ordinary, Prince William County Courthouse (Fourth) and Jail site, Quantico Church Site and Dumfries Cemetery, Tebbs-Mundy House Site, and other sites identified by the Town through ongoing education and promotion.

HCR-19 Conduct cultural and natural resource management of town-owned historic sites and heritage parks.

HCR-20 Encourage landowners and archaeologists who have collected and catalogued artifacts found in the Town to curate such artifacts with the Town for the purpose of displaying them for education and tourism.

HCR-21 Develop a "Preserve a Site" program in which citizens and businesses pledge to preserve and properly manage an archaeological, architectural, or cemetery site.

HCR-22 Develop a Town of Dumfries walking map to emphasize historic structures and sites.

Historic & Cultural Resources Policy 4
Encourage developers to incorporate architectural features that celebrate the Town's Historic Character.

Action Strategies:

HCR-23 Create a streetscape design theme for Main Street that builds on a historic theme.

HCR-24 Implement phased streetscape improvements in accordance with the Main Street Plan.

HCR-25 Create wayfinding signage along the gateway corridors to the Town of Dumfries.

HCR-26 Continue to support Weems Botts Museum and Merchant Park to promote tourism.

HCR-27 Use a historic naming convention to identify bike trails, pedestrian pathways, and programs.

Historic & Cultural Resources Policy 5
Preserve, protect, and maintain known or discoverable cemeteries and gravesites – marked or unmarked.

Action Strategies:

HCR-28 Document any unmarked gravesites placed on the perimeter of existing cemeteries, whose markings may have since been destroyed.

HCR-29 Discourage owners and developers of land planned for development from relocating cemeteries and gravesites to another location.

HCR-30 Revise the permitting process to require a check for the presence of a cemetery on a property proposed for grading or construction and in compliance with the Federal Cemetery Preservation Requirement Act.

Historic & Cultural Resources Policy 6
Promote growth and redevelopment that incorporates the historical character of the Town.

Action Strategies:

HCR-31 Build upon the Town's historical character as the foundation for future development.

HCR-32 Develop local incentives, such as tax credits, to maintain and strengthen the Town's historic character as part of the development process.

HCR-33 Continue to work with private sector investment in preservation and renovation projects.

HCR-34 Educate NRHP or Virginia Historic Landmarks Register owners on the benefits of historic preservation, such as the availability of property tax incentives.

PARKS AND RECREATION

A Master Plan for Tomorrow

The Town of Dumfries values parks and recreation as an important local public service and recognizes the vital role they play in providing a quality of life that attracts residents, businesses, and economic activities to a community. The Parks and Recreation Plan is intended to help meet the needs of current and future residents by building on the community's existing assets and identifying new opportunities. Parks and open spaces do more than provide recreational opportunities for our residents; they also represent a cultural identity and a natural legacy. This Plan is an analysis of where we are now, how we envision our parks and open spaces in the future, and what challenges and opportunities we face in implementing our vision.

This Plan includes recommendations about the overall parks and recreation needs within the community. However, it also recognizes these recommendations are long-term initiatives and even if they cannot all be implemented in the short term, they need to remain a priority in the Town's future vision. The Parks and Recreation Plan is not site-specific. It does not adopt any "Local Park Master Plan" for any individual park properties, which requires review and adoption through a separate process. The Plan is meant to be a general guide to promote and enhance the Town's parks and recreation programs, services and facilities.

The process used to develop this Plan included the collaboration of a Parks and Recreation Commission, and was facilitated by planning staff.

The Park and Recreation Plan provides an inventory of existing parks; creates goals, objectives, and policies; and identifies potential funding sources.

Purpose

The purpose of the Parks and Recreation Plan is to serve as a general guide in identifying and creating more recreational opportunities to meet the needs of the citizen groups in the Town and to improve and enhance existing facilities and parks. The successful implementation of this Plan, through a strong commitment to its use as a guide and future checklist, will improve the quality of life for Town residents for years to come.

This Plan is an analysis of where we are now, how we envision our parks and open spaces in the future, and what challenges and opportunities we face in implementing our vision. The components of the plan include the overall goals and policies, including identification of community-wide needs, including the types of parks, park and recreation uses, programs, and service levels. The strategic components:

- Provide an action plan to identify how to achieve the goals including recognition of limited resources as well as opportunities to work with potential partners.
- Present new directions for the Town to explore.
- Encourage continued commitment to provide and improve access to Parks and Recreational space in the Town of Dumfries.

Goals

The goals, objectives and policies of this plan are intended to provide direction and implementation strategies designed to promote, encourage and facilitate both passive and active recreation opportunities for all citizenry of the community. Four primary goals were identified through the process to include:

1. Recreation Goal
2. Park Design & Connectivity Goal
3. Quality of Life Goal
4. Funding Strategy Goal

EXISTING CONDITIONS

Dumfries Recreational Facilities

The availability of public recreational facilities within the Town is currently limited to Merchants Park and Ginn Memorial Park.

Merchants Park

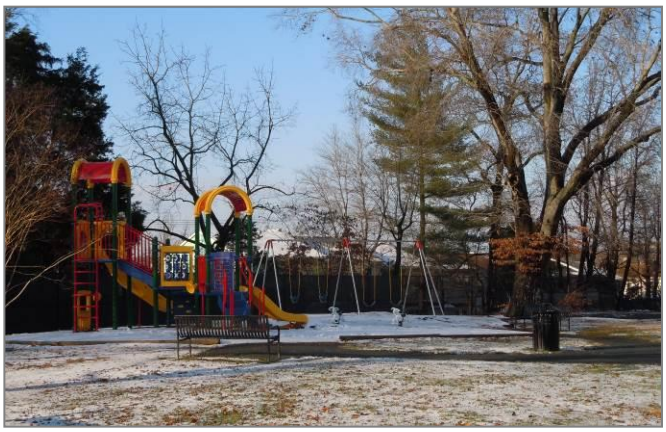
Merchants Park surrounds the historic Weems-Botts House Museum which is on the National Register of Historic places. The park is an acre and a half with passive recreational amenities including a large pavilion, a kitchen building, restroom facilities, and a gazebo. It is well landscaped with areas to walk or sit.

Ginn Memorial Park

Ginn Memorial Park is located on Graham Park Road near the Williamstown and Port-of-Dumfries townhouse developments and is the Town's newest park.

The park includes:

- parking
- unpaved trails
- full-sized basketball court
- a multi-purpose field (football sized)
- a play area (ages 5-12 unit with spring animals, a two bay swing set with toddler bucket swings and belt swings
- picnic tables and grills



Future amenities may include:

- restrooms
- shelter
- tot lot (ages 2 – 5)
- other amenities as deemed appropriate for the park's size

Garrison Park

Cecil Garrison Park is a passive recreation park with no formal amenities. The park has floodplains and resource protection areas, and is well suited for passive recreational uses such as a greenway trail with shelters. The park hosts festivals and restrooms facilities are available.

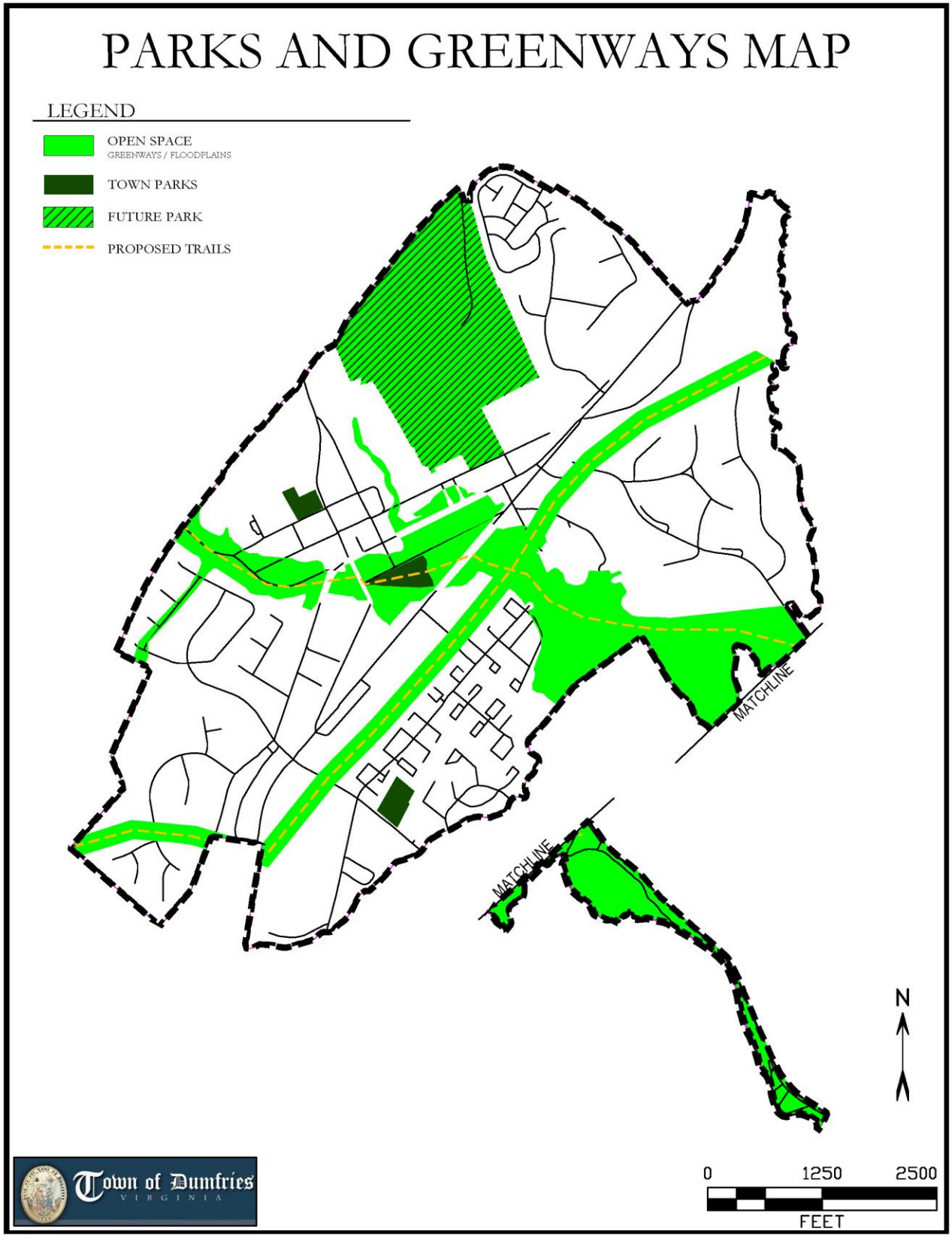


Figure 29: Parks and Greenways Map

Private Recreational Facilities

The presence of a few private recreational facilities within the Town provides additional recreational options for residents. Private recreational facilities have been developed in the Grayson Village Mobile Home Park, the Williamstown development, and the Boys and Girls Club.

Boys & Girls Club

The General Heiser Branch of the Boys & Girls Clubs of Greater Washington offers recreational opportunities and structured programs. The Old Stage Coach Road site has a playground and a multi-purpose court for basketball and other games, a carpet gymnasium and a multi-purpose game room. The club offers before and after school care, programs for teens, a summer camp, and a sports clinic.

Private Gymnasiums

The town is limited in private recreational facilities to a single gymnasium located on Possum Point Road. The current Zoning Ordinance does not recognize a gymnasium or other private recreational facility such as a karate studio, dance studio, or similar establishment. The only use allowed by the Town Zoning Ordinance is a Public Recreational Facility, and this use is only allowed in the B-2, Neighborhood Business and FB/O-1, Flex Business/office zoning districts. The Town should review the Zoning Ordinance to possibly allow for a greater range of recreational facilities, and to possibly expand the zones in which these activities are allowed.

Prince William County Recreational Facilities

Larger scale recreational needs are largely served through Prince William County Park Authority facilities and activities. The Town is fortunate to be located near and have access to large county and federal parks like Locust Shade and Prince William Forest Park. The Town is nearby a number of schools that have recreational facilities, such as Dumfries Elementary School, Graham Park Middle School and Potomac High School. However, as general policy, public use of the school system recreational facilities for non-school related activities is generally permitted only through programs that are coordinated with the Prince William County School Board.

The Prince William County Park Authority currently has nine parks within five miles of Town. These parks contain various active and passive recreational opportunities within a short drive.

Brittany Park	C. Lacey Compton Neighborhood Park
Anne Moncure Wall Park	Graham Park Pool
Cloverdale Park	Forest Greens Golf Club
Birchdale Recreation Center/Turley Fields	Locust Shade Park
Rippon Landing Park	Fuller Heights Park (future)

Prince William County Forest Park

Prince William County Forest Park is a national park with approximately 17,000 acres run by the National Park Service. Park amenities include a variety of active and passive recreational uses. Recreational opportunities at this park include: playgrounds, a multi-purpose field, a volleyball pit, a horseshoe pit, a pavilion, picnic areas, an amphitheater, fishing, walking trails, biking trails, camping, fire pits, Ranger-led programs, and cabins.

IMPLEMENTATION

Recreation Goal
Provide recreational opportunities for all ages of residents within the Town of Dumfries.

Recreation Policy 1
Develop programs that encourage active participation in recreational activities, team sports, and educational programs in order to promote individual and social development.

Action Strategies:

R-1 Provide locations for residents, visitors, and businesses to engage in active recreational activities.

R-2 Provide equipment for both youth and adult activities.

R-3 Promote and encourage existing programs for all ages.

R-4 Develop new programs to encourage team sports and the development of individual skills.

R-5 Provide multi-purpose trails for walking, running, and biking.

Recreation Policy 2
Develop opportunities for passive recreation and social and cultural engagement throughout the Town to include parks, trails, entertainment venues, and places to relax.

Action Strategies:

R-6 Provide venues to promote cultural arts and entertainment opportunities for residents.

R-7 Provide venues for family gatherings and social events.

R-8 Provide and maintain open space and natural trails for areas to sit or stroll.

R-9 Require any mixed-use development projects with medium-to-high density to incorporate a plaza to encourage civic and social engagement.

Park Design & Connectivity Goal
Develop a system of parks and trails that are designed to engage the citizens with the natural environment and connect them to recreational opportunities.

Park Design & Connectivity Policy 1
Maximize the use of existing parks and identify locations for future parks which provide for the needs of the community.

Action Strategies:

PD&C-1 Analyze the use of existing parks and project future needs.

PD&C-2 Design new parks to accommodate projected needs and incorporate an appropriate balance of active and passive recreational uses.

PD&C-3 Reprogram parks over time based on changes in use and citizen input.

PD&C-4 Examine existing Town properties for possible use as pocket parks.

PD&C-5 Encourage community gardens in park locations near residential neighborhoods.

Park Design & Connectivity Policy 2
Provide safe and improved connections between sites to encourage active & passive engagement in recreational opportunities throughout the town.

Action Strategies:

PD&C-6 Identify connections to include sidewalks, trails, crosswalks, and bike paths.

PD&C-7 Provide widespread access to active and passive recreational opportunities throughout the town.

PD&C-8 Improve and enhance connections to existing sites.

PD&C-9 Design parks to promote and encourage orientation towards adjacent neighborhoods and connect to other Town resources.

Recreational Quality of Life Goal
Promote & encourage healthy lifestyles through passive & active recreational opportunities.

Recreational Quality of Life Policy 1
Establish and cultivate partnerships with diverse groups and organizations to provide educational, recreational, and cultural opportunities to enhance the overall quality of life for the community.

Action Strategies:

RQL-1 Encourage and engage community stakeholders as partners in the promotion of a higher standard of community health and well-being.

RQL-2 Provide programs that facilitate healthy lifestyles for all ages.

RQL-3 Introduce and encourage participation in diverse cultural programs to enrich the lives of residents.

Parks & Recreation Funding Goal
Identify resources to establish permanent and ongoing funding for parks and recreation in the Town.

Parks & Recreation Funding Policy 1
Incorporate changes into the Town budget to dedicate funding for Parks & Recreation within the Town.

Action Strategies:

P&RF-1 Create a category within the annual budget consisting of multiple line items including capital costs as programmed in the CIP, operating and maintenance costs.

P&RF-2 Identify Federal, State, and local grant opportunities, and pursue those that will accomplish realistic expectations that can be achieved with existing Town Resources.

P&RF-3 Create a Parks and Recreation grant revenue line item to include potential grant revenue.

Parks & Recreation Funding Policy 2
Identify additional funding sources to augment the Town budget and grant applications.

Action Strategies:

P&RF-4 Identify public, private, and non-profit resources to offset costs associated with providing recreational opportunities for the Town.

P&RF-5 Establish a proffer policy for dedication of land for future parks or monetary contributions related to all rezonings.

P&RF-6 Allow applicants requesting a Conditional Use Permit to contribute land or money for parks as a way to mitigate the impact of development on the Town.

P&RF-7 Establish policies and standards for the negotiation of naming rights for future parks.

P&RF-8 Establish an adopt-a-bench program to provide areas to sit and relax throughout the Town.

P&RF-9 Establish an annual adopt-a-park program for organizations, businesses, and individuals who want to donate money towards a park project or recreational activity.

COMMUNITY FACILITIES

Taking Care of the Town's Assets

The availability of public services and facilities is a common need that is shared by all communities. For smaller town governments and municipalities, like the Town of Dumfries, the ability to provide for a wide range of public services is limited by economic realities. Given the size of the Town and its status as an incorporated Town within Prince William County, it has most of its services such as schools, libraries fire and rescue, and health and social service provided through the county. Providing for services is therefore usually narrowed to only essential services such as trash removal and police protection. The Town is not unlike other similarly sized towns in that the vast majority of needed and available services and facilities are provided through adjoining larger county governments. In this regard, this section of the Plan evaluates the public services and facilities available to Town residents and articulates areas of need which may be incorporated into the Town's planning process. It is the Town's goal to assure the public services provided by both the Town and Prince William County are adequate to meet the needs of its residents.

EXISTING CONDITIONS

Education System

Public education for the children residing in the Town is provided by the Prince William County School System. The School Board has three schools located near the Town which serve the Dumfries area. Dumfries Elementary School is centrally located in the Town just east of I-95. Graham Park Middle School is located just outside of the eastern boundary of the Town, and Potomac High School is located approximately one mile north of the Town just east of I-95. According to the School Board, enrollment at each school was as follows:

Figure 30: Dumfries Elementary School

	2013	2006	1995
Dumfries Elementary School	540	515	495
Graham Park Middle School	880	650	787
Potomac High School	1513	1529	1485

All three schools are fully accredited and while the elementary and middle schools are slightly over capacity, the high school can accommodate up to 2,357 students without exceeding planned capacity.

Libraries

Library services for the Town are provided through Prince William County. There are nine libraries located throughout the county. For the southeastern section of the county near the Town, Prince William County has no established regional libraries. Prince William County has located a mini-library in the Town within the Dumfries Shopping Center on Route 1, and similar mini library facilities are located in Dale City and Independent Hill at the George Hellwig Memorial Park. There is a current and growing need for a full service library facility in the southeastern section of the county which would serve not just Dumfries, but also the developing areas located immediately north and east of the Town. The Town will continue to work with Prince William County in the development of its service plan for library facilities serving Town residents.

Table 9: Community Facilities

Community Facilities within the Town of Dumfries

Public Facilities	Acres
Dumfries Elementary School	10
Dumfries Cemetery	5
Cecil Garrison Park	3.35
Merchants Park (Weems Botts Museum)	1.59
Town Hall	0.62
U.S. Post office	1.25
Prince William County (5 vacant sites)	1.35
Pr. Wm. Co. Service Authority (Water Tower)	2.31
Dumfries - Triangle Volunteer Rescue Squad	2.68
Town of Dumfries (old sewage works)	4.14
Williams Ordinary	0.28
Dumfries Library (within Dumfries Shopping Center)	0.06
Ginn Memorial Park	2.4
Total Acres	**35.0**

Private Facilities	Acres
Grayson Pool	~.92
Williamstown Pool/Tennis	9.25
Henderson House	0.68
Total Acres	**10.9**

Community Facilities Within Two Miles of the Town

Public & Private Facilities	Acres
Graham Park Middle School	22.5
Locust Shade Park (Triangle)	777.9
Russell Elementary School	--
Triangle Elementary School	--
Potomac High School	--
Quantico High School	--
Prince William Forest Park	18,000
Dumfries-Triangle Volunteer Fire Dept.	0.5
Fuller Heights Park (future)	42.3
Total Acres	**18,843.2**

Police Services

The Dumfries Police Department is committed to providing professional, effective, and courteous public service by working in partnership with the community under the rule of law to create a safe environment and improve the quality of life for all citizens in an atmosphere of mutual understanding, cooperation, respect, and integrity. They strive for excellence and make every effort possible to earn and maintain the confidence and trust of the community.

The Department is involved in a number of organized community programs such as neighborhood watch, community oriented public safety programs, a school resource officer, and police outreach activities. The Department has identified long range law enforcement goals in the following areas:

- Build stronger neighborhood and business programs with emphasis on participation and cooperation between citizens and community groups.
  - Increase foot patrol activity and non-enforcement contact within the residential and business communities.
  - Increase enforcement of traffic laws to decrease traffic crashes and unsafe driving behavior.
  - Increase the percentage of calls for service handled by the police department.

- Increase the safety of motorists and pedestrians within the town.
  - Expand the Department's Community Policing initiative by including a primary focus on designing and implementing programs that address identified community needs.
  - Continue efforts to work within the community to identify concerns and establish directed patrols to address these issues.
  - Establish new and continuing current mentoring programs targeting juveniles within the Town through positive interactions.

- Maintain a professional and effective police department responsive to the needs of the public.
  - Create informative safety pamphlets for distribution to the citizens regarding personal, residential and business tips.
  - Apply for State and Federal traffic safety and enforcement grants.
  - Provide staff with training opportunities that will result in better services to the community and maintain a professional department responsive to a diverse community.

The Town will continue to promote the training and upgrading of its Police Department. This includes the Town's development of a service plan for meeting the short term and long term law enforcement service needs of community as well as address Homeland Security and emergency disaster response needs. The service plan is reviewed annually and addresses projected demands for service and the need for expansion of law enforcement programs in the community.

Fire and Rescue

Fire and rescue emergency services to the Town are provided through the Prince William County Fire and Rescue Services which is supplemented by a volunteer personnel system. The fire and rescue stations that provide service to the Town are located at the southern end of the Town.

The Dumfries-Triangle Rescue Squad (DTRS) was formally organized on January 8, 1957 and began operations with one ambulance donated by Cope Ford of Triangle. The men who had organized DTRS were sharing space and affiliated with the Dumfries Triangle Volunteer Fire Department (DTVFD) at that time.

The DTRS is located just inside the Town on Graham Park Road and has a 3-4 minute response time for calls in the Town. The rescue squad has between 40-50 volunteers with paid daytime personnel. Calls for service average over 200 calls per month with slight annual increases. The service area for the station is approximately a five mile radius.

The Dumfries-Triangle Volunteer Fire Department (DTVFD) has two stations – 503 on Jefferson Davis Highway just south of town and 517 on Hollyside Drive in Montclair. The fire department has a three to four minute response time for calls in the Town and has a response radius of approximately five miles. Station 503 has six different main apparatus, including two engines, a ladder truck, a brush truck, and a tanker. Station 517 has two engines.

The mission of the Dumfries-Triangle Volunteer Fire Department, Inc. is to provide fire and rescue services to the citizens of Southeastern Prince William County in conjunction with the Prince William County Fire and Rescue Department. This combination of volunteer and career personnel is intended to be an effective, cost efficient means of providing this essential service to our community.

Maintenance of these emergency services, and their level of service, is an important interest of the Town and its citizens. The Town's coordination and involvement with fire and rescue officials in the planning of future emergency services for the Dumfries area is essential to fulfill the long term needs of the Town. The Town works with the Prince William County Fire and Rescue Services to address mutual issues and concerns. The Town should seek input from Prince William County as part of its development review process which would include both public and private projects, including Homeland Security and emergency/disaster response plans.

Health & Social Services

Health and social services to residents of the Town are generally provided through the Prince William County Health Department and Prince William County Department of Social Services. In addition to the wide range of public services provided through the county, there are also numerous private and non-profit agencies that provide additional services to the Dumfries area. Two examples of these agencies are the Action in Community Through Service (ACTS) Shelter that provides family and single adult emergency housing, and the Prince William United Way that provides human care services. Information regarding these services can be found in the Directory of Human Services for Northern Virginia which is compiled by the Northern Virginia Planning District Commission. The Town's contact with these various agencies is essential to provide on-going input concerning the community's needs.

For hospital facilities serving the Town, both Potomac Hospital, in Woodbridge, and Prince William Hospital, in Manassas, are non-profit facilities that provide full service in-patient and out-patient care.

IMPLEMENTATION

Community Services & Facilities Goal
Promote a coordinated system of community facilities and services to maintain and enhance the quality of life in the Town.

Community Services & Facilities Policy 1
Develop recreational and cultural facilities and support police, fire and rescue professionals in their mission to protect and serve the community.

Action Strategies:

CS&F-1 Develop a trail system plan that is coordinated with the pedestrian circulation plan to provide public access linkages to recreational facilities both within and adjacent to the Town.

CS&F-2 Continue to develop a plan for law enforcement programs in the community with emphasis on juvenile issues and community policing.

CS&F-3 Create a working relationship with PRTC to expand bus service within town to encourage citizens to commute from Town.

CS&F-4 Expand recreation programs within the Town though grant and CIP funding.

CS&F-5 Continue to pursue the development and build out of Ginn Memorial Park in order to provide passive and active recreation facilities in a centralized area of Town.

Figure 31: Ginn Memorial Park Open Space

LAND USE

Planning for the Future

The location, quality, and mixture of future development is essential to the economic sustainability of the Town. Shaping future land use policies is one of the primary roles of government. Balancing the needs of residents, while identifying the best and highest uses for future growth, is difficult to accomplish. This chapter considers central land use issues regarding current and future uses, such as compatibility, density, connectivity, pedestrian-scale development, transportation infrastructure, and best uses to maximize development and redevelopment in strategic areas of Town. The goals, policies, and strategies contained in this plan are a guide for future land development and provide a framework for making sound decisions. The core of this plan is based on creating job opportunities, encouraging quality development, improving the quality of life for residents and businesses, and ensuring the long-term economic sustainability of the Town.

Figure 32: Transportation Public Hearing

The land use designations shown on the Future Land Use Map (FLUM) may differ from the zoning, and the type of development at that location. The designated land use is intended to guide the rezoning of property, but does not change how the land is used nor guarantee a land use change will occur.

The discussion and recommendations in this chapter are derived from public input, past trends, and identified future needs. The goals, policies, and strategies form a framework for future land use decisions, high-quality design, and a healthy mixture of density that creates a quality place with lasting economic benefits.

The primary objectives for the land use recommendations are:

- Create walkable places to live with connections to convenient services.
- Create distinctive places with integrated uses that are sustainable and improve the Town's vitality.
- Provide aesthetic retail services near residential areas as an important amenity to residents.
- Preserve the rural characteristics of the community, including landscapes and roadways.
- Develop complete streets and pedestrian plazas where appropriate.
- Create connectivity between places and reduce congestion to improve the function of the street network.
- Create attractive streets that move traffic more safely and efficiently.
- Provide alternative transportation opportunities throughout the community.

Figure 33: Main Street Sidewalk (Typical Section)

The Town has reached a critical point in its history. Economic development incentives are instrumental in attracting new residential and office development, but they must be compatible with best land use practices and community aesthetics for the long-term sustainability of the community. The Comprehensive Plan's land use goals, principles and policies should guide future development decisions.

EXISTING CONDITIONS

Evaluating the land use conditions that have shaped the Town's identity is important for developing effective goals, policies, and strategies to guide future development appropriately.

Historic Town Development

Historic Land Use Patterns

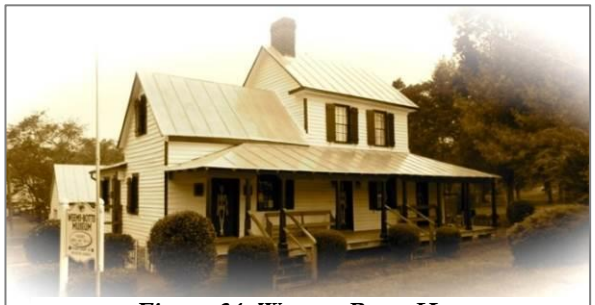


Figure 34: Weems-Botts House

Today there are few remnants of the Town's early harbor town beginnings, but there is some evidence of the Town's early settlement pattern. Early twentieth century settlement patterns concentrated around cities and towns facilitating the subdivision of smaller parcels of land for both residential and commercial uses. The configuration and character of early land division was long, narrow land parcels typically 50' wide and 100' - 300' in length. This pattern of subdivision occurred when there were little or no building code or land use regulations.

This early development pattern is found in some of the older sections of Town, predominantly in the commercially zoned area adjacent to Main St. (U.S. 1 south), and in a small residential section that borders the eastern boundary of the Prince Williams Estates subdivision. Many of these parcels, and the structures on them, do not comply with current zoning standards such as lot width or setbacks. This pattern of land division, in addition to the separate ownership of these small parcels, is an obstacle to redevelopment. The Town's economic development goals should consider incentives and policies that will encourage new and attractive forms of redevelopment that are an appropriate scale and character.

Separation of Land Uses

In 1979, the Town adopted its Zoning Ordinance which was the first application of modern regulatory controls on the character and location of land uses in Town. The Zoning Ordinance utilizes Euclidean zoning, the standard zoning principle that aggregates similar land uses into a distinct zoning district. These districts are generally defined within broader use categories such as residential, business, and industrial. This method of aggregating land uses often separates potentially compatible land uses, encouraging a homogeneous land use pattern that provides little or no flexibility for siting coexisting, complimentary uses.

Existing Land Use

General Development Patterns

Understanding the Town's general land use categories is essential to evaluating the composition of existing land uses. Established patterns can be observed by considering historical development patterns, and by examining residential, commercial and industrial land uses. While there is a general consistency between the location of land use designations and existing zoning, nonconforming uses do occur in some zoning districts. The general locational patterns are:

Residential

Almost 40 percent of the Town is in residential use generally surrounding the Route 1 business/commercial core. The residential uses consist primarily of single family detached (SFD) and townhouse/single family attached (SFA) dwellings. While single family residential use comprises the largest percentage of residential land area, townhouse units are the largest percentage of housing units because of higher permitted densities. Only a small percentage of the Town's residential land area (<5%) is made up of apartments and mobile home uses.

While the majority of single family residential uses are located within established subdivisions, there are numerous single family residential uses that exist in the older historic residential sections of Town, and scattered along the Main Street/Route 1 corridor within commercial zoning districts. There are isolated single family dwellings in these older sections that are substandard or in disrepair. Townhouse development is predominantly located within the Williamstown and Port-O-Dumfries developments, and the largest aggregation of mobile home housing is located within the Grayson Mobile Home Park. There are also isolated townhouse sections that are aging and in various states of disrepair.

Commercial

Commercial uses in the Town account for approximately 12% of the land area. General commercial uses can be broken down into office (1.2%) and retail/service (10.3%) categories. This composition of commercial uses indicates limited employment opportunities and economic growth potential. Professional office buildings comprise about a half dozen sites in the commercial corridor with even fewer coexisting office and retail/service locations. In addition, limited manufacturing and industrial development also limits employment opportunities within the Town. There no obvious nonconformities where commercial uses were located in residentially zoned areas.

The Town's retail- and service-oriented commercial base is evident upon visual investigation of the Route 1 and Route 234 corridors. While zoning undoubtedly has encouraged this pattern of commercial development, the early development of Route 1 as a commercial corridor is closely linked to the historic significance of Route 1 as a major north/south highway dating to colonial times. These corridors consist primarily of typical free standing strip commercial uses such as convenience stores, car washes, fast food restaurants, repair garages and sales establishments. The Town's current zoning regulations are not structured to effectively discourage that same commercial development pattern. The age of many of the existing structures and the lack of design uniformity and detail contributes to the need for aesthetic improvements within the Route 1 commercial corridor.

More recent Route 1 commercial development has been characterized by traditional strip commercial uses and structures, but the Town has been unable to attract major anchor retailers to these neighborhood shopping centers, including the Triangle Shopping Center and Dumfries Shopping Center. Market conditions that attract major retail businesses to Town should be evaluated and encouraged.

Industrial

Existing industrial uses are limited to less than 3% of the Town. The composition of these existing industrial uses include a concrete mixing plant, and a few warehouse and storage facilities and uses. Industrial development has been isolated to areas zoned for industrial uses which is limited to two areas east of northbound Route 1. One area is south of Possum Point Road and north of the Williamstown development in the lower Quantico Creek Watershed. The second industrially zoned area is located adjacent to the northeast boundary of the Town just east of the Route 234 and Route 1 intersection. The early development of industrial uses in the Town focused heavy industrial and manufacturing uses

in areas with buffers such as utility easements, floodplains and streams (i.e., Quantico Creek and Dewey's Run). As development continues, the impact of industrial uses should be further evaluated.

Civic

Civic uses constitute less than 10% of the Town's land area. Public and quasi-public sites are included such as the Town Hall, Federal Post office, Dumfries Model Effective School, Town cemetery, parks, the Weems-Botts House, and streets with associated right-of-way.

Utilities

Land area used for utility purposes constitutes approximately 6% of the land area in Town. The most prominent utility affecting the Town, and comprising the largest portion of land area, is the Dominion Virginia Power transmission line and right-of-way that bisects the Town north and south just east of Route 1. A few small parcels were identified which were either owned by the Town or the Prince William County Service Authority.

Landfill

The area associated with the Potomac Debris Landfill property is a legally non-conforming use comprising almost 10% of the Town. Portions of the Potomac Landfill property do include a number of vacant parcels which are generally located along the southern and eastern borders of the aggregated landfill property. These vacant parcels will help to mitigate the landfill impacts on adjacent properties and fulfill the requirements for closure of the facility.

Land Use and Zoning Adjacent to the Town

Existing Land Use and Zoning

The area that surrounds the corporate limits of the Town has historically been the subject of limited development until recently. The location of Prince William Forest Park, located just west of the Town across I-95, is a development buffer west of Town. A small area adjacent to I-95 has been zoned by Prince William County for medium density residential (4 d.u./ac), general business and planned business district zoning; however, minimal development has occurred due to limited availability of sewer to the area.

Those areas located southeast of the Town have experienced moderate development. The Triangle area located just southeast of the Town has been developed primarily into medium density single family housing as permitted under zoning at 4 d.u./acre. The Graham Park Shores, Melrose Gardens and Barnette Forest residential communities are a few of the residential neighborhoods that have been developed in this area. Along the Route 1 corridor, south of Town, some low density commercial uses have been developed. The area located northeast of the Town has some areas of medium to higher density zoning near the Route 1 corridor; however, only minimal development has occurred. The Southbridge development, which is partially located within the northeast boundary of the Town, until recently, was the largest project planned for development near the Town with 1,400 residential units. The Cherry Hill Peninsula area, just east of the Southbridge project, has been rezoned for medium density residential, recreation, and a mixed-use Center of Community.

LAND USE DESIGNATIONS

The Town needs to accommodate a mix of uses not usually found in Euclidean Zoning. The following land use designations represent a hybrid between traditional and mixed-use zoning designations.

Residential Densities

Low Density Residential
Designates areas for single family residential development at a maximum density of 5.0 dwelling units per acre. This classification is mainly intended for detached single family dwellings, but attached single family and accessory dwelling units may be permitted.

Corresponding Town zoning districts include:

R-1: Residential, Limited District
Low density, suburban single family, residential uses with ancillary uses such as churches, public utilities and home occupations permitted. Minimum lot size is 15,000 square feet (sq. ft.) or a maximum density of 2.9 dwelling units (d.u.) per acre.

R-2: Residential, General District
Medium density, suburban single family, residential uses with ancillary uses such as churches, public utilities and libraries permitted. Uses such as park and playgrounds, schools, philanthropic and two-family dwellings are permitted with a conditional use permit. Minimum lot size is 10,000 sq. ft. or a maximum density of 4.3 d.u. per acre.

Medium Density Residential
Designates areas of attached single family and multifamily unit developments. This designation would allow for dwelling units ranging from 5.1 – 12.0 dwelling units per acre. Development in this classification may include small lot or clustered single family development, accessory dwelling units, or townhouse type development.

Corresponding Town zoning districts include:

R-3: Residential, Condominium District
Higher density residential uses permitting townhouse and patio type condominiums. Ancillary uses such as recreational facilities, public utilities and home occupations are also permitted. Maximum gross density is 8 d.u. per acre.

Multi-Family Residential
Designates areas for multifamily developments. This designation would allow for dwelling units such as apartments, condominiums, and townhome complexes of 12.1 units per acre or more. Well designed and integrated higher densities and building heights encourages walkability and provides housing near goods and services. No multi-family residential is designated on the Future Land Use Map (FLUM) or currently zoned within the Town. A FLUM amendment along with a rezoning application is advised for any proposed multi-family projects.

Corresponding Town zoning districts include:

R-4: Residential, Multi-Family District
The R-4 zone permits high-density residential uses: apartments or condominiums. Ancillary uses such as recreational facilities and public utilities are permitted. Maximum gross density is 15 d.u. per acre.

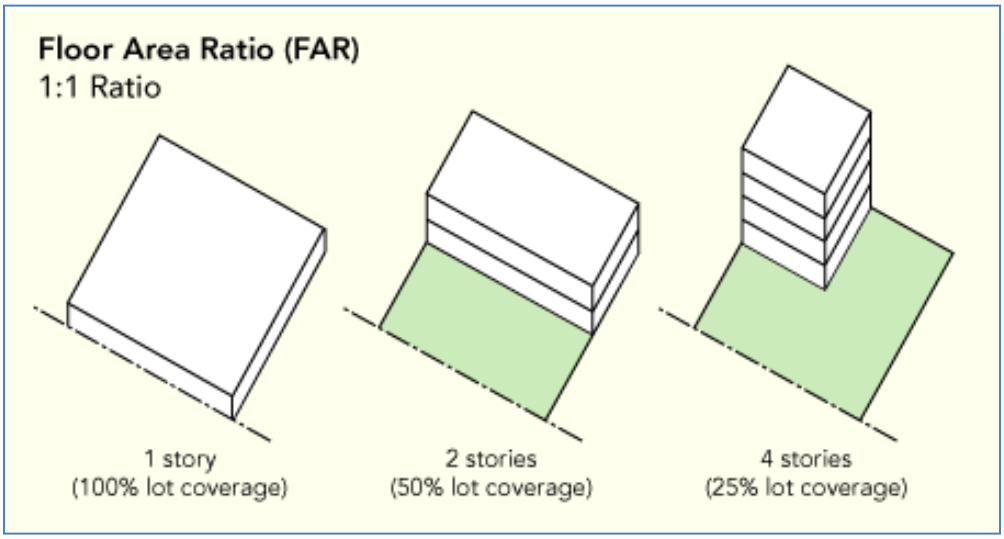
Non-Residential Densities

Floor Area Ratios (FARs)

The Comprehensive Plan establishes floor area ratios as the measure for nonresidential intensity in Town. The floor area ratio is a computation determined by dividing the total gross building floor area (square feet) by the land area of the lot. In cases where a project site encompasses several buildings on several lots, the floor area ratio may be combined and averaged over the entire project site.

To calculate the maximum floor area ratio, the FAR is multiplied by the lot square footage. The total gross floor area (square feet) of all floors of the building shall not exceed this amount.

Floor Area Ratio (FAR) Calculation Example:
FAR = 0.50
Lot size: 20,000 square feet
0.50 x 20,000 = 10,000 maximum building size



Source: Los Angeles Housing and Community Investment Department. (2013). Building Health Communities 101. Retrieved from: lahd.lacity.org.

Figure 35: Floor Area Ration (FAR) Example

Higher densities promote vibrancy and allow more people to access community amenities, employment centers, and services without relying on a personal automobile. A primary way to increase development densities is to increase the allowable FAR. The commercial and industrial FAR should be at least 1.0 and in office and mixed-use areas it should be at least 1.25.

Mixed-Use

Mixed-Use areas are designed to create a 24-hour live/work environment designed to enhance the Town's non-residential tax base, create a walkable environment and typically weaves together a careful balance of land uses, jobs, housing options, restaurants and shopping within a compact area. To be successful, mixed use development must utilize both vertical (multiple floors) and horizontal (adjacent buildings) development. Mixed Use development incorporates interconnected street networks that enhance the opportunities for pedestrians and cyclists and allows users to park once they have arrived and walk between uses. This category provides for a dense category of commercial and residential land uses.

Corresponding Town zoning districts include:

FB/O-1: Flex Business/office District
The FBO-1 district provides a limited range of flex business, flex office, and commercial uses including uses permitted in B-1 and B-2.

Employment Centers
Employment Centers are primarily composed of office uses and related services. This designation is intended to attract defense contracting companies to support the needs of Quantico Marine Corps Base, technology companies, medical offices and secondary support services to provide needed employment, community investment, and tax revenues. Employment centers should also encourage a fair degree of mixed-use elements, including restaurants, retail, some multifamily residential, and businesses of all sizes. This mixed-use quality is important for the establishment of a desirable workplace, and its relationship to surrounding development.

Commercial
Designates areas primarily for retail and dining establishments with supporting or complementary office uses in any mix. Residential uses are not permitted on the ground floor.

office
Designates areas primarily for office, professional, and institutional uses. Ancillary retail and dining may be permitted. This classification includes large scale office/business parks as well as small professional office spaces. Residential uses are not permitted on the ground floor.

Industrial
Designates areas for industrial and manufacturing activities, preferably occurring within an enclosed building. This could include research and development facilities.

Corresponding Town zoning districts include:

B-1: Business, General District
The B-1 zone permits a wide variety of commercial and service activities that serve a wide area. Uses such as banks, gas stations, retail stores and offices exemplify the businesses that are permitted. Uses such as manufacturing and processing, public storage and rental businesses, to name a few, are permitted by conditional use permit. Minimum lot area is 10,000 sq. ft.

B-2: Business, Neighborhood District
The B-2 zone Permits a limited range of retail, commercial and convenience uses that serve the public need at the neighborhood level. Uses such as pharmacy, child care, grocery store, professional offices and other service establishments exemplify the businesses that are permitted. Minimum lot area is 10,000 sq. ft.

M-1: Industrial, Limited District
The M-1 zone permits a wide range of industrial uses including manufacturing, fabrication, processing and assembly uses, wholesale businesses, warehouse and outdoor storage yards, and typical heavy industrial operations such as sheet metal and foundry casting uses.

Open Space

Designates areas precluded from development except for parks, plazas and open space owned and maintained by the Town or other agencies. This classification includes lands reserved for open space uses such as lakes, trails, and organized recreation space. This classification also includes significant geological formations and sensitive ecological systems on public land. If land is designated as Open Space and such land is part of a parcel or on a parcel that is being developed as part of a larger development, the location of the open space maybe be changed so long as the amount of open space designated is not reduced.

The Town has one special purpose district and three overlay districts that address open space in an historic and environmental context.

SP-1: Special Purpose District

The SP-1 zone recognizes the existing construction/demolition/debris (CDD) landfill operation in the Town, and that the residential zoning existing prior to the adoption of this district is not appropriate to assure the health, safety and general welfare of existing and future residents of the town. The goal of the district is to promote recreational, open space and/or public uses to meet the environmental, social, transportation and economic development needs of the town with high development standards including environmental management, traffic and parking management, and landscaping requirements.

FP-1: Floodplain District

The floodplain overlay district restricts uses and development in flood prone areas that are inundated by the 100 year floodplain as defined by the flood insurance study prepared by the Federal Emergency Management Agency (FEMA). This district is an overlay on underlying zoning districts and its provisions supplement underlying district requirements. The floodplain overlay district prohibits structures in the main floodway district and permits only passive uses. The overlay district differentiates the main floodway district from the flood-fringe and approximate floodplain areas and permits uses or activities permitted in the underlying zoning district in these areas provided that flood-proofing measures are taken.

H-1: Historic Overlay District

The historic overlay district was established to "protect against the deterioration or destruction of or encroachment upon such areas, structures and premises" which the Town has designated as having historic or architectural significance. Within the overlay distinct, any new construction, alterations, renovations or repairs to structures must be reviewed by the Architectural Review Board (ARB). The ARB reviews and advises the Town Council, Planning Commission and Zoning Administrator on the appropriateness of structural and use changes within the historic context of the district.

CBPA - OD: Chesapeake Bay Preservation Area

The CBPA overlay district establishes Resource Protection Areas (RPAs) and Resource Management Areas (RMAs). Only water dependent uses and redevelopment are allowed in the RPAs within established buffers around streams, wetlands and non-tidal wetlands that are Chesapeake Bay tributaries. The Town's RMAs constitute all areas outside of the RPA. Development and redevelopment in the RMAs is regulated by performance standards designed to reduce erosion and land disturbing activity, reduce impervious surface area, reduce toxics and nutrient runoff, require incorporation of Best Management Practices (BMPs) in site development, and may require detailed site plan review and water quality studies for development.

POLICY FOCUS AREAS

Main Street Commercial Corridor

In order to pursue the Town's goals to promote the economic viability of its commercial and historic resources on Main Street, a holistic, uniform approach is needed. The Town should commission a Main Street Plan that is coordinated with other economic development initiatives. The Main Street Plan is intended to address the community's land use, aesthetic and design goals for the historic, general business and mixed use areas along Main Street, as well as the need for transition between each of these areas which are intended to be different in character. The Main Street Plan should provide specific recommendations regarding building heights and setbacks, building architecture and site design, signage, landscaping, parking, lighting, vehicle and pedestrian access, and infrastructure installation. The Main Street Plan will provide a base line to evaluate needed ordinance amendments that achieve the Town's stated land use, historic preservation, and economic development goals.

<u>General Business (Retail/Service) Uses</u>

1. The Town has a valuable revenue resource with commercial demand from the high volume traffic on Route 1. Consistent with the Town's goals to improve and maintain its commercial tax base, commercial, office, and mixed uses are promoted through the Future Land Use Map (Figure 38). Rezoning applications should pay close attention to, and be consistent with, the land use recommendations set forth in this Plan.

2. Subsequent to the completion of the Main Street Plan, the Town should amend the B-1 and B-2 zoning districts to achieve the stated community goals for the Main Street Plan. Amendments to the zoning districts may include new standards for building heights and setbacks, architecture and site design, signage, landscaping, parking, lighting, vehicle and pedestrian access, and infrastructure.

3. Town staff should evaluate the allowable uses within the B-1 and B-2 zoning districts to better control potentially adverse uses and to more effectively enhance economic development efforts.

Historic Commercial District

The Town has an historic overlay district that supports mixed commercial and residential development that is compatible with the historic fabric once found along the Route 1/Main Street corridor.

The following initiatives are recommended:

1. Pursuant to the completion of a Main Street Plan, the Town should evaluate and amend the B-2 zoning district and the historic overlay district to establish standards for the appropriate design and mix of uses that are compatible with the historic character of the original Main Street. The Town should continue to encourage upper-floor residential uses for infill commercial development along Main Street as exemplified by the Town Centre development.

2. The Town should evaluate the potential impacts of the landfill to the residential and business areas within the historic overlay district due to its close proximity, and consider implementing measures to mitigate the impacts.

Mixed Use – office/Commercial/Residential

The Town has developed a mixed use zoning district, FBO-1 District, which integrates compatible land uses and details specific guidelines for design and mix of uses. This district is intended to further the Town's economic development and aesthetic goals by providing an alternative to the strip commercial development which has developed along the Route 1 corridor. The B-1 and B-2 zoning districts have fostered this form of commercial development contributing to the isolation of retail and service uses from residential and other business uses. Well-designed mixed-use development that integrates residential, employment, and commercial uses can serve as a catalyst to attract businesses to the Town.

Multiple mixed use areas are depicted on the Future Land Use Map (Figure 38) to indicate where the Town would like to see areas transform from a singular use – either commercial or residential – to a healthy mixture of uses that would strengthen the local economy and enhance housing opportunities. Two such areas are highlighted below with Small Area Plans. These two areas are the northern and southern gateways into Town.

Graham/Fraley Small Area Plan

The southern entrance into Town has two strip commercial developments. These areas have great potential for more intensive commercial and office uses along with a mixture of above ground residential units. As indicated in the Graham/Fraley Small Area Plan, traditional commercial and office areas can be enhanced with the mixed use areas which will add additional residential units along with a mixture of commercial and office uses. New mixed use development in these areas will improve the aesthetic entrance into Town and provide a destination for some of the traffic on Fraley Boulevard that would not typically shop in the corporate limits. These areas create new opportunities for people to live, work and play without having to travel by vehicle, and mitigates the impact of Rt.1 traffic through the Town.

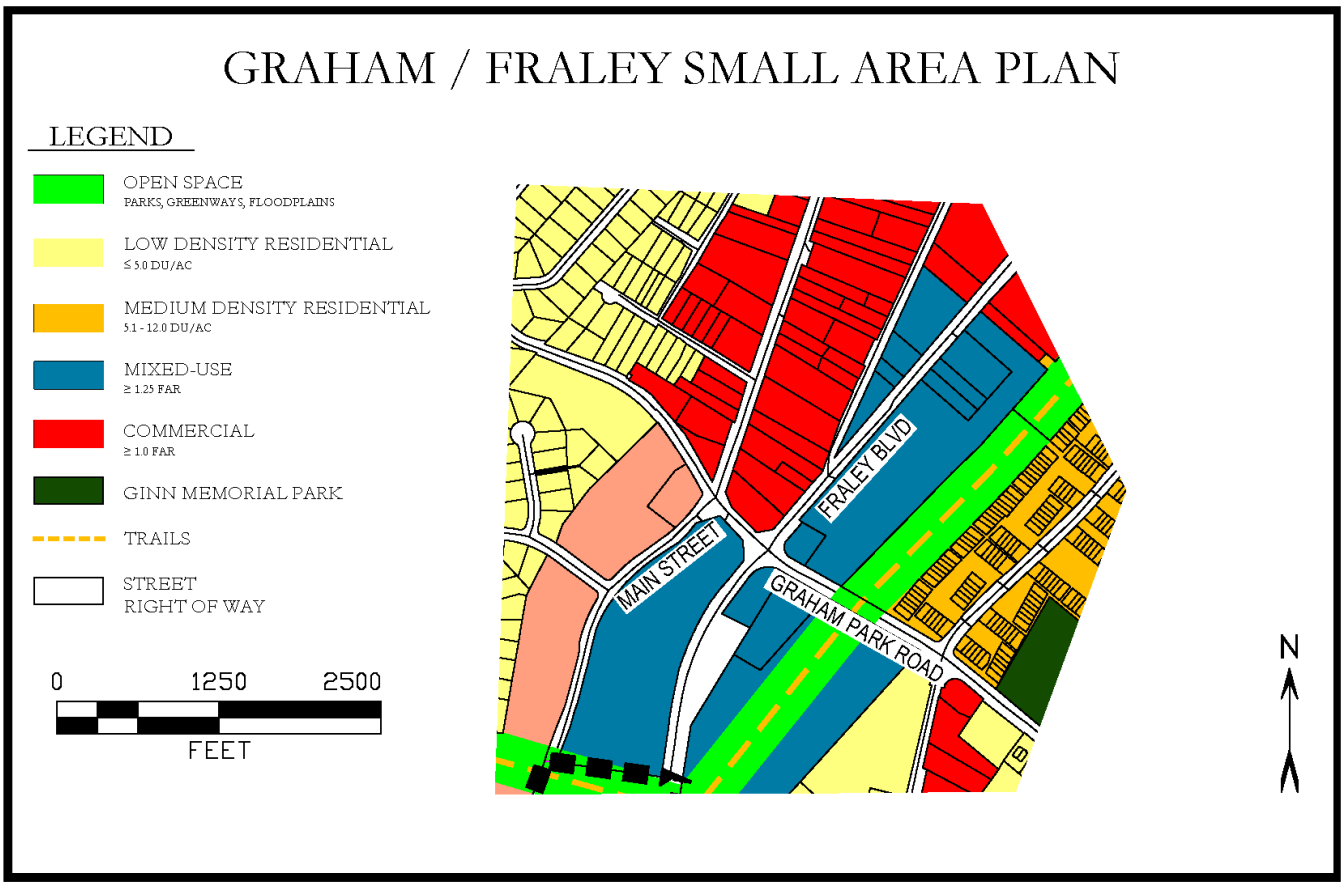


Figure 36: Graham / Fraley Small Area Plan

Route 234 Small Area Plan

Similar to the Graham/Fraley area, the Rt. 234 corridor offers an opportunity to enhance the northern gateway into Town. Two areas to highlight in this small area plan are the mobile home park along 234 and the northern most section of Town along Jefferson Davis Highway (Rt. 1). These areas can improve significantly by providing a variety of housing, retail, and office uses that will enhance adjacent uses and take advantage of the significant traffic volumes. Utilizing a mixture of uses in this manner improves the livability of Town residents and captures the economic development potential of Routes 234 and U.S 1.

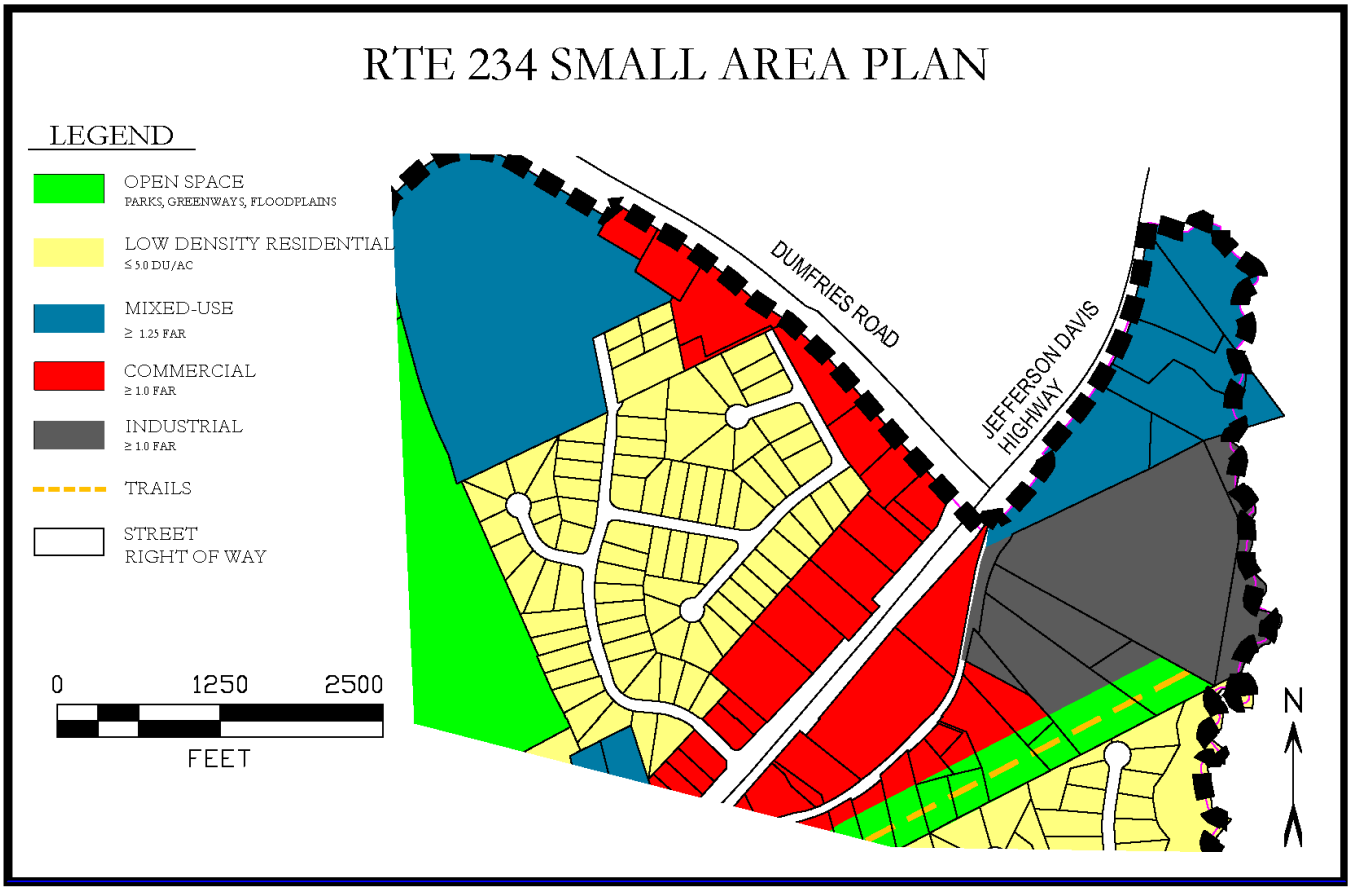
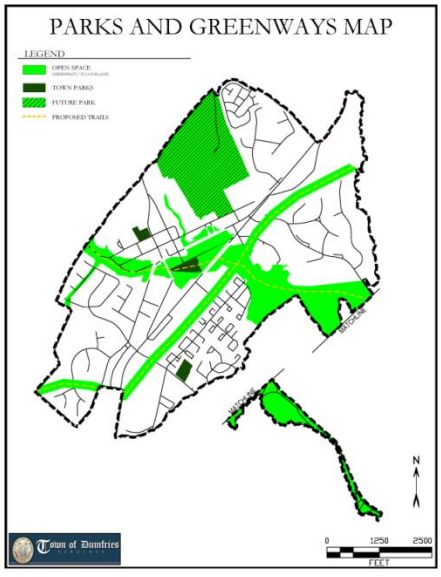


Figure 37: Route 234 Small Area Plan



Greenways/Open Space/Recreational

Numerous environmentally sensitive areas have been identified associated with Quantico Creek and its tributaries. While constrained from development due to natural factors such as poor soils, steep slopes, flooding, and the Chesapeake Bay Resource Protection Areas (RPAs) regulations, these areas present opportunities to meet the environmental, recreational and aesthetics goals of the Town. The *Natural Environment*, *Parks and Recreation* and *Infrastructure* chapters highlight the many opportunities for utilizing the Town's green infrastructure to mitigate stormwater and erosion impacts, enhance wetlands and provide recreational and alternative transportation amenities for citizens. The Open Space shown on the Future Land Use Map indicates the importance of these areas to the Town and weaves the various other land use designations together for once cohesive community.

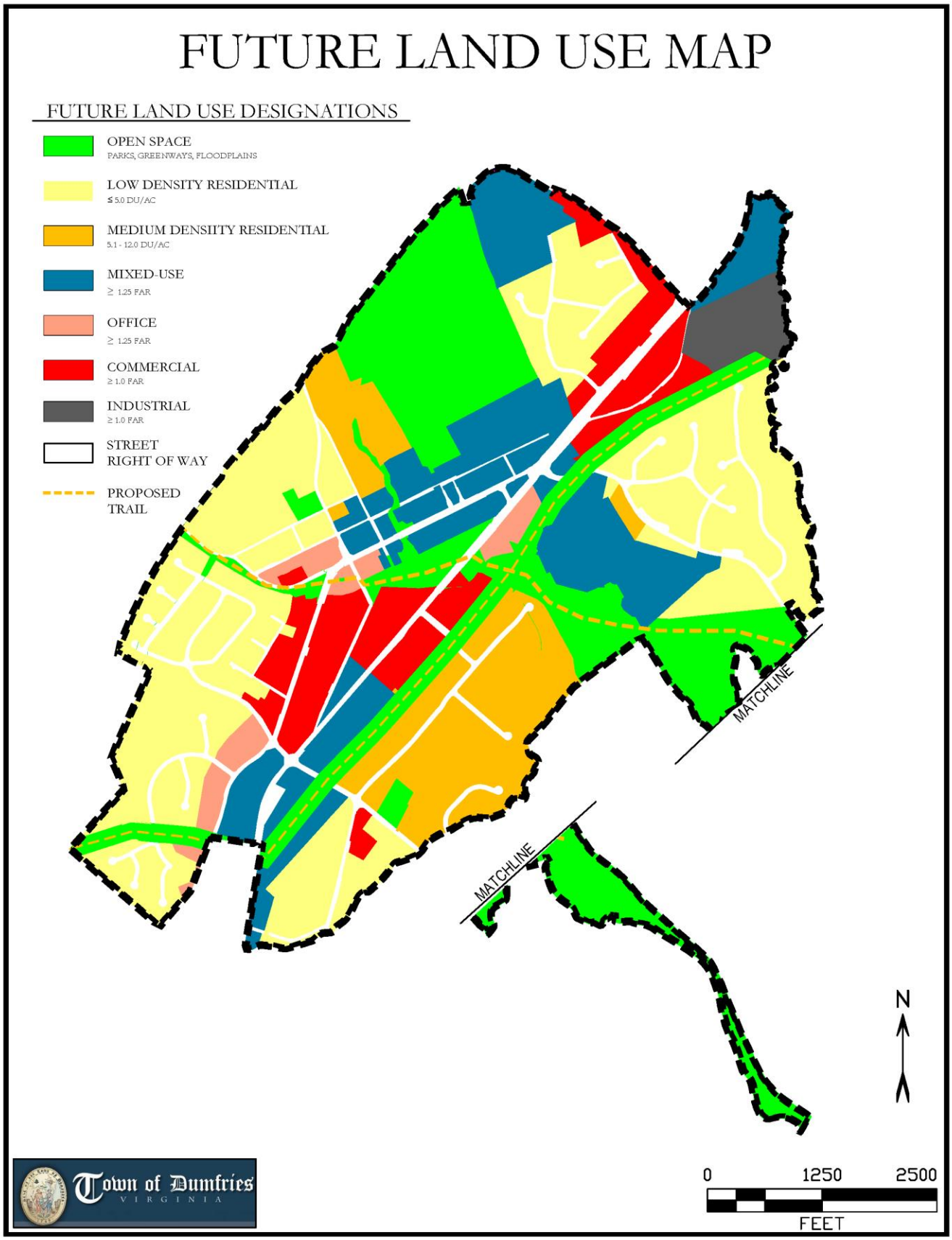


Figure 38: Future Land Use Map

IMPLEMENTATION

Main Street Goal

Create a medium density mixed-use environment integrating complimentary uses with an emphasis on preserving existing neighborhoods; and enhancing the vibrancy, attractiveness and economic well-being of the Main Street area.

Main Street Policy 1

Commission a Main Street Plan that supports this area as a unique part of the Town and strengthens the identity, cohesiveness and pride of the community.

Action Strategies:

LU-MS-1 Develop a Main Street Plan to address the community's land use, aesthetic and design goals for the historic, general business and mixed use areas along Main Street. The plan should:

- Emphasize the redevelopment of the Main Street area as a pedestrian oriented, mixed-use, neighborhood serving center.
- Integrate medium density buildings with retail/office on the first floor with residential above.
- Identify neighborhood services and uses with an emphasis on encouraging a walkable community.
- Include a mix of commercial, office and residential uses while preserving the scale and historical character of the Town.
- Include small-scale neighborhood supporting retail uses, such as cafes, delis, on the ground level in buildings with three or more stories.
- Balance building height with respect to the proximity of nearby residential neighborhoods.
- Place an emphasis on pedestrian scaled building entrances.
- Encourage multi-modal accessibility and connectivity.
- Integrate streetscape design concepts to include, tree-lined street frontage, landscaped road frontage, wide sidewalks, outdoor seating, trashcans, street lighting, etc.

LU-MS-2 Amend the Zoning Ordinance to permit or require buildings be built to the street with parking in the rear, or as part of a consolidated parking district.

LU-MS-3 Zone for a mixture of both high and medium density living and working areas to improve the economic vibrancy of the area and to create a sense of community that enhances the identity, cohesiveness and pride of the Town for its Main Street area.

Waterfront Goal

Incentive the restoration of Dumfries' waterfront as the centerpiece for a vibrant, high density mixed-use community.

Waterfront Policy 1

Promote the development of a Planned Mixed Use District to redevelop and revitalize the waterfront, and to foster a diversity uses that weave together a variety of activities.

Action Strategies:

LU-W-1 Promote a balanced mix of residential, commercial, and office uses that encourage and support the integration of activities, employment opportunities, entertainment venues, and civic and open spaces.

LU-W-2 Develop a plan that demonstrates the feasibility of a waterfront development in a floodplain area.

LU-W-3 Encourage waterfront oriented activities/access.

LU-W-4 Integrate pedestrian connectivity to encourage walking and recreational uses.

LU-W-5 Encourage public transportation infrastructure in developments to reduce car trips.

LU-W-6 Permit the development of a waterfront activity center with higher density buildings.

LU-W-7 Integrate parking as a part of the whole development plan, rather than individual parcels and buildings, so as to minimize conflict with water views and pedestrian connectivity.

LU-W-8 Require streetscaping in the overall design of the development project with an emphasis on pedestrian features to include wide sidewalks, plazas and/or gathering places.

Fraley Boulevard Goal

Encourage the development of a well-planned, mixed-use employment center to create higher income jobs, generate economic growth and improve the overall tax base of the Town.

Fraley Boulevard Policy 1

Encourage a boulevard themed mixed-use employment center incorporating pedestrian features on both the east and west side of Fraley Boulevard (Rt. 1).

Action Strategies:

LU-FB-1 Establish an integrated and coordinated boulevard streetscape to create an attractive pedestrian environment for residents, businesses and visitors.

LU-FB-2 Design a balanced and coordinated multi-modal transportation system with convenient, safe and physically attractive pedestrian access, and efficient vehicular circulation.

LU-FB-3 Achieve good architectural and urban design practices with buildings that relate well to one another and to the street.

LU-FB-4 Integrate multi-story buildings with frontage on sidewalks with attractive landscaping, furnishings, and relegated parking lots (in the rear of the building).

LU-FB-5 Encourage tree-lined streets with pedestrian features.

LU-FB-6 Develop an Access Management Plan with well-defined pedestrian crossways at intersections as defined by the Access Management Plan.

LU-FB-7 Permit higher density buildings fronting Fraley Boulevard with transitional densities that compliment adjacent residential neighborhoods.

LU-FB-8 Plan and build safe, convenient, aesthetic, multi-modal trails.

LU-FB-9 Incorporate a parallel road along the Dominion Power easement to access properties fronting Fraley Boulevard.

Mixed-Use Goal

Strengthen the Zoning Ordinance to permit high quality mixed use development.

Mixed-Use Policy 1

Establish a mixed use zoning district to facilitate the viability of:

- Increased density
- Town Center type development
- Pedestrian friendly multi-use development

Action Strategies:

LU-MU-1 Amend the Zoning Ordinance to permit or require the design standards set forth in the Comprehensive Plan.

LU-MU-2 Amend the Zoning Ordinance to establish urban design standards that reflect quality design and good land use principles that control the height, scale, and massing of new development.

Urban Design Goal

Encourage complimentary building height, scale, design and character.

Urban Design Policy 1

Encourage development of buildings, structures and landscapes that complement the character and scale of their setting and relate to the human scale where a more defined sense of place is created.

Action Strategies:

LU-UD-1 Building design should be consistent with the Comprehensive Plan.

LU-UD-2 Parking lot location, configuration, access points and screening should balance vehicular and pedestrian connectivity.

LU-UD-3 Parking lots and structures should be designed and screened to mitigate visual intrusion or incompatibility with the adjacent residential neighborhoods.

LU-UD-4 Explore incorporating an alternate regulatory format such as a form-based code to guide future land use development and to create more options for developers.

Residential Goal
Preserve the integrity of existing residential areas and encourage a harmonious mix of residential uses for all socioeconomic levels.

Residential Policy 1
Maintain existing stable neighborhood relationships.

Action Strategies:

LU-R-1 Maintain existing residential zoning for established neighborhoods in order to preserve these stable, developed residential areas.

LU-R-2 Encourage mixed-use, high density residential uses to maximize the best and highest uses in areas prime for development and redevelopment to ensure the Town remains economically self-sufficient.

Residential Policy 2
Encourage a compatible mix of residential uses with retail and commercial uses.

Action Strategies:

LU-R-3 Encourage ground-floor commercial uses to incorporate upper-floor residences in new infill buildings along the Main Street Corridor.

Commercial Goal
Promote the development of commercial retail, service and convenience uses within the Town that provide economic benefits to the community.

Commercial Policy 1
Encourage commercial development that meets the needs of the community.

Action Strategies:

LU-C-1 Develop and implement a concept plan for the desired design of commercial uses.

Industry Goal
Diversify the Town's industrial base and promote appropriate industrial redevelopment that is consistent with the urbanized character of the Town.

Industry Policy 1
Encourage the conversion of existing heavy industrial uses to light industrial uses that have less adverse impacts, and are more visually attractive.

Action Strategies:

LU-I-1 Develop specific requirements for site design, landscaping, architectural and bulk standards that facilitate improvement of the Town's industrial sector.

Redevelopment Goal
Encourage the redevelopment of existing strip commercial development that fosters economic development and encourages a mix of compatible uses which are attractive and well designed.

Redevelopment Policy 1
Encourage the redevelopment of existing strip commercial development to promote walkability and high quality aesthetics.

Action Strategies:

LU-RE-1 Strengthen the mixed use zoning district to emphasize pedestrian activity with recommended design guidelines.

LU-RE-2 Incorporate within the mixed-use district design and architectural controls that further the aesthetic goals of the district.

Neighboring Jurisdictions Goal
Maximize the positive impact of outside development on the Town's economic growth.

Neighboring Jurisdictions Policy 1
Monitor land development planned near the Town to determine potential positive impacts.

Action Strategies:

LU-NJ-1 Coordinate with Prince William County on planning and review of major projects near the Town to mutually address potential impacts from development.

Community Design and Aesthetics Goal
Enhance the overall visual appearance and attractiveness of the community through aesthetically pleasing architectural design.

Community Design and Aesthetics Policy 1
Develop plans for the aesthetic improvement of the Town that reflect community ideals.

Action Strategies:

CDA-1 Develop a beautification plan for the Main Street Corridor through cooperative Town, citizen and business input, which emphasizes the Town's goals and historic character.

CDA-2 Identify potential beautification improvements that may be accomplished by the Town as part of its Capital Improvements Program (CIP).

CDA-3 Establish design guidelines for the Town's commercial zoning districts.

CDA-4 Adopt minimum landscaping and public facility requirements for each zoning district.

CDA-5 Develop detailed design and construction standards as part of a facilities standards manual.

CDA-6 Amend the zoning and subdivision ordinances to reduce entrances onto northbound and southbound Route 1 and require provisions for inter-parcel access connections.

CDA-7 Develop an overlay district along Route 1 and Route 234 with specific aesthetic and design standards for buildings and site development.

TRANSPORTATION

Pathways Through Town

The Town of Dumfries provides an integrated, sustainable, multi-modal transportation system that is accessible, safe, efficient, and environmentally responsible, while complementing the Town's land use policies.

STATE CODE REQUIREMENTS

The Code of Virginia, section 15.2-2222.1, states specific requirements for the development of a transportation plan as it relates to comprehensive plans:

B.1. 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 (VDOT) shall, upon request, provide localities with technical assistance in preparing such transportation plan.

B.2. The transportation plan shall include a map that shall show road 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.

This chapter addresses all of these Code of Virginia requirements, as well as new VDOT administrative requirements, and recognizes the integral link between transportation and land-use planning. New requirements are outlined below and discussed in further detail as appropriate within this chapter:

- Traffic impact analysis regulations – 24VAC30-155 – sets forth procedures and requirements governing VDOT's review of and submission of comments regarding comprehensive plans and amendments to comprehensive plans, rezoning proposals, and subdivision plats, site plans and plans of development and the accompanying traffic impact analyses. While this regulation may promote the identification of existing or projected off-site transportation system deficiencies, it does not enforce the construction of off-site improvements by the development community.
- Access Management Regulations – 24VAC30-72 and 24VAC30-73 – which are intended to reduce traffic congestion, enhance public safety by reducing conflicting traffic movements, reduce the need for new highways and road widening by maximizing the performance of existing state highways, support economic development by promoting the efficient movement of goods and people, preserve the public investment in new and existing highways, and ensure that private property is entitled to reasonable access to the highways.

BACKGROUND

The Dumfries transportation system is comprised of various elements including principal arterial highways, a local road system consisting of urban streets, a nearby interstate, sidewalks, bicycle facilities, mass transit and parking. All of these elements require constant maintenance, upgrades, replacement and additions in order to best serve the community. Each of these elements is also complementary to the others and serves the community as a network. Increasing usage on one element will likely cause a decreased impact on another. A well-functioning transportation network is essential to provide for the efficient movement of people, providing a good quality of life and economic development opportunities.

To promote the best quality of life in Dumfries, the Town is committed to providing viable transportation options for the motorized vehicle, with alternative transportation facilities seamlessly integrated into the road network. The successful creation of a cohesive transportation plan requires cooperation from both Prince William County and the Virginia Department of Transportation (VDOT).

This transportation plan provides the basic framework to meet the existing and future needs of the Town of Dumfries. Additionally, it should be used as a guide for cooperation with Prince William County, the Potomac and Rappahannock Transportation Commission (PRTC), and regional and state agencies.

Vehicle Availability

Vehicle availability for Town residents is not a significant issue, except for the 3.5 percent of households without a vehicle, slightly better than the County average and much better than conditions at national, regional or other local community levels.

Table 10: Households with Vehicles

Households with Vehicles Available	United States	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	Dumfries town	Quantico town	Triangle CDP	Prince William County	Manassas city	Manassas Park city
	Percent of Total							
Occupied housing units	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
No vehicles available	9.0%	10.1%	3.5%	29.6%	8.5%	3.2%	7.9%	6.4%
1 vehicle available	33.7%	33.2%	27.6%	47.4%	38.2%	24.4%	29.4%	25.5%
2 vehicles available	37.6%	36.3%	40.8%	18.3%	35.1%	43.4%	38.9%	41.3%
3 or more vehicles available	19.7%	20.4%	28.1%	4.8%	18.2%	29.0%	23.8%	26.8%

Source: US Census Bureau, American Community Survey, 2008-2012 5-Year Estimates, Table DP04: Selected Housing Characteristics, 2013.

Roadways

General Road System: The Town road network consists of multiple street classification types that correspond to traffic volumes and design criteria. VDOT classifies streets as arterial, collector or local. Arterials are designed for consistently heavy volumes of traffic. While these arterials comprise a smaller percentage of the street network, they support the heaviest traffic volumes identified as vehicle miles traveled. Interstate 95 and Routes 1 (Fraley Boulevard/Main Street) and 234 (Dumfries Road) are the arterials in or near the Town.

Main Street, Dumfries, 1936, looking north. Williams' Ordinary is in the center of the picture to the left of the roadway.

Interstate 95 (I-95) lies along the Town's western corporate limits and is an important inter- and intra-regional transportation facility for the Washington Metropolitan Area, as well as the entire east coast. Dumfries can be accessed from I-95 by Exits 150 and 152. Route 1 is a primary arterial that parallels Interstate 95 and is a major commuter route for the region, often serving as an alternate route as well as the principle diversion route for the interstate during incidents that either close or restrict travel. Route 1 is a bifurcated facility throughout most of town. Fraley Boulevard is a one way, two-lane roadway that serves as Route 1 northbound, whereas Main Street has two lanes dedicated to Route 1 southbound. Both Fraley Boulevard and Main Street approximately a half mile south of the southern corporate limits at Bradys Hill Road and becomes a median divided, six-lane facility. Main Street is the original thoroughfare through the historic district of Dumfries. It currently serves southbound US Route 1 traffic. The four-lane facility has two southbound lanes, a center turn lane and one northbound lane between Graham Park Road and Possum Point Road. While the function of this roadway is primarily to accommodate traffic related to Route 1, it is also an important north-south roadway for local traffic as the road serves local businesses and residential communities.

Aside from Route 1 which is a principal arterial, Graham Park Road, Possum Point Road, and Mine Road are considered collector streets; the remainder of the Town's street inventory is comprised of local streets. Street and right of way widths are relatively narrow in the areas platted and developed early in the Town's history. Future street widening is unlikely to occur with local, neighborhood streets, except in some cases the addition of sidewalks.

The Route 1 Fraley Boulevard Widening Project is the largest and most regionally significant transportation project facing the Town. VDOT has conducted a corridor and transit study which resulted in an adopted typical section. This typical section includes a six lane roadway, a planned multi-use trail on the southbound side of the facility, and a sidewalk on the northbound side of the facility. This general design concept needs to be updated and advanced to reflect the community's current priorities and place the Town in a position for funding opportunities. A primary community priority includes safe pedestrian crossings at key crossings, such as a pathway under the bridge at Quantico Creek that connects the Williamstown community to Garrison Park, as well as providing pedestrian accommodations parallel with Fraley Boulevard linking communities south of Quantico Creek with amenities on the north side of the Creek. Other priorities include limiting the number of vehicular access points to Fraley Boulevard and planning for frontage roads running parallel to the Route 1 corridor and serve local land uses on either side of the Boulevard. Another item to consider in an expanded Route1 design is incorporation of a dedicated transit lane within the designated right-of-way.

Route 1
Right of way width:
minimum 143'-2"

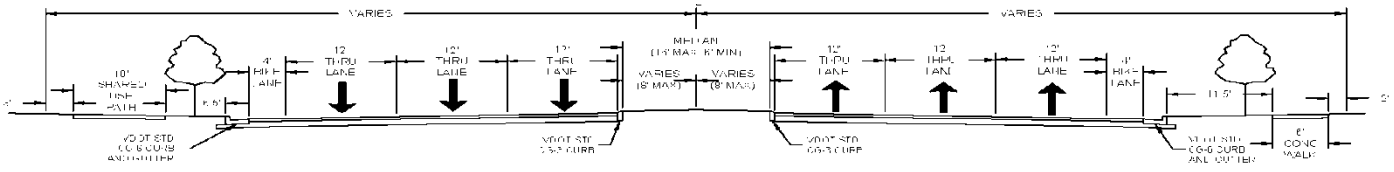


Figure 39: Route 1 Typical Section (as desired)

Dumfries Road (Route 234) is a primary arterial with its eastern terminus at the northern town corporate limits. The highway known as Dumfries Road serves many residential communities to areas north and west of the town and provides a direct connection to the Cities of Manassas and Manassas Park, and Interstate 66.

Collector streets are intended to support moderate to heavy levels of traffic, routing traffic from - and sometimes through - residential areas, employment centers, and shopping areas. Possum Point Road is a collector road that serves the Possum Point Power Plant Station, owned and operated by Dominion Power, and is the only access point to the power station. The power plant is located at the confluence of Quantico Creek and the Potomac River. This two-lane road also serves residential communities and single family residences. Other important collectors that serve traffic throughout the Town include Graham Park Road, which extends from Route 1 eastward serving residential communities, as well as the Prince William County Park Authority's Graham Park Pool and Prince William County's Graham Park Middle School, both of which are located east of the Town's corporate limits. Mine Road is one of the few roads that provide access across Interstate 95. After exiting the town limits on the western side of Interstate 95, Mine Road intersects Van Buren Road, which provides an alternate link to Route 234.

Local streets are assigned a speed limit of 25 miles per hour unless otherwise posted. The Town has a variety of differing widths for local streets. In the older, colonial-based portion of town, streets are narrow and sometimes have curb and gutter, and on other occasions have a more rural ditch-section street. Many of the subdivisions constructed beginning in the 1960s, such as Prince William Estates, have a traditional suburban street network with curb and gutter streets with cul-de-sacs. Private streets and parking lots that provide access to many multi-family areas, including the Williamstown Community, rely on few local streets in the publicly maintained network.

Accepted public streets, in order to receive maintenance funds, must meet Town and VDOT design criteria. Unaccepted, or private, streets receive restricted Town services as they are not maintained by the Town for typical maintenance needs, such as repaving, storm drain maintenance and snow removal. The Town also has a number of "paper" streets, which are streets that are platted but unconstructed. Many of the paper streets are not recorded by plat and deed, and have variable widths.

Table 11: 2012 Traffic Counts – VDOT Jurisdiction Reports

Street Name	*From*	*To*	*Length (miles)*	*AADT**
Fraley Boulevard	South Corporate Limits	Possum Point Road	1.35	13,000
Jefferson Davis Hwy	Possum Point Road	North Corporate Limits	0.38	32,000
Main Street	South Corporate Limits	Fraley Boulevard Intersection	1.45	17,000
Possum Point Road	Fraley Boulevard	East Corporate Limits	1.51	860
Graham Park Road	Fraley Boulevard	East Corporate Limits	0.34	7,600
Old Triangle Road	Graham Park Road	South Corporate Limits	0.29	3,800
Old Stage Coach Rd	North Corporate Limits	US 1/Route 234	0.43	320
Leonard Street	Possum Point Road	Rose Hill Circle		130

*AADT = Annual Average Daily Traffic. This is the total volume of vehicle traffic on a highway for a year divided by 365 days, expressed in vehicles per day (vpd). Numbers provided by VDOT's Traffic Data Publications.

Street Maintenance & Construction Funding: In the Commonwealth of Virginia, incorporated localities with a population of 3,500 or greater are considered "urban" and are responsible for maintaining their own streets. Even though the Town maintains its own street network, VDOT retains responsibility for Route 1 through the Town.

The Commonwealth provides two primary transportation funding sources for the Town - the Highway Maintenance & Operating Fund (HMOF) for urban localities based on a dollar formula per lane mile, and funding for new construction projects through the Urban Construction Program (UCP). The HMOF is funded through state gasoline tax proceeds. Payments are made to urban localities on a quarterly basis. The HMOF rates are set each year by the Commonwealth Transportation Board (CTB) and has historically grown each year. Most recently, the CTB has developed policy to tie annual increases to the Consumer Price Index (CPI). The Town of Dumfries' allocation for maintenance payments for FY14 is $243,314.60. The UCP is allocated through a per capita formula system. The Commonwealth's UCP has undergone significant decreases due to the economic climate at the state level. The Town competes for state and federal funding with other localities in the Northern Virginia District through VDOT's Six Year Improvement Program (SYIP). Like most urban communities around the Commonwealth, the Town's funding for its UCP has been eliminated along with other urban communities statewide. The last time the Town received urban funding was in FY 2009 at a rate of approximately $127,000 annually.[11] With recent legislation at the state level, it appears this program may be funded again starting in FY17, however, this will be achieved only through available funds at that time. VDOT's FY14-FY19 Six Year Improvement Program only indicates an allocation of $40,000, with small increases in subsequent fiscal years. It should be anticipated that the UCP will remain unstable and unreliable, leaving localities to fund local priorities either through innovative means or local tax revenues.

Table 12: Dumfries Maintenance System in FY14

	Centerline Mileage	*Lane Mileage*
Principal Arterials	0.00	0.00
Minor Arterials	0.00	0.00
Collectors	2.20	5.20
Locals	8.41	16.98
Total	**10.61**	**22.18**

House Bill 2313 significantly overhauled the tax structure for transportation funding. The bill imposes additional state taxes and a fee in Planning Districts meeting certain population, motor vehicle registration, and transit ridership criteria. The additional taxes and fee are a retail sales tax of 0.70%, a 2.1% tax on wholesale distributors of motor fuels, a 2.0% transient occupancy tax, and a fee on grantors of real property equal to $0.15 per $100 of the value of the real property sold by such persons. The transient occupancy tax and grantor's fee currently applies only in the Northern Virginia Planning District. The retail sales tax currently applies in both the Northern Virginia and Hampton Roads Planning Districts. The additional revenues generated in the Northern Virginia Planning District are deposited into a Northern Virginia Transportation Authority Fund, with 30% of the funds being distributed to the member localities for use on transportation projects, and the remainder to be used for regional transportation projects.

From a programmatic standpoint, the Town of Dumfries is a member of VDOT's Urban Construction Initiative (UCI) Program where urban cities and towns elect to manage their own urban construction program. The Program is not directly linked to maintenance or urban formula funding mentioned above, however, UCI communities traditionally have an increased awareness of VDOT policy and pragmatics.

[11] From VDOT's *Six Year Program*.

Involvement in the UCI allows a direct voice at the table with VDOT to craft policy reform and streamlining. Historically, cities and towns identify construction projects in the SYIP which VDOT then designs, obtains right of ways, constructs at a locality's behest and then turns over to the locality for perpetual maintenance responsibilities. Involvement in the UCI program streamlines VDOT oversight by allowing project decisions to reside at the local level and assume significant responsibility, acting on the behalf of VDOT, to ensure that all state and federal guidelines are followed and met.

Traffic Circulation and Safety: The Town of Dumfries is divided throughout the community by major north-south arterial streets – I-95, Main Street, and Fraley Boulevard – along with a number of other significantly busy roadways – Graham Park Road, Curtis Drive, Route 234, and others. The volumes experienced on these streets is significant due to the amount of regional commuting experienced by the Town's residents and others who are commuting through the community. The physical location and traffic characteristics of Route 1 make traversing across and through the Town a challenge on a daily basis. Frequent diversion of interstate traffic to Route 1 and the regional significance that Route 1 plays, results in many residential communities being isolated from one another.

Periodically analyzing the Town's traffic volumes, patterns, intersections, and accident locations (and types) results in better planning and design of future transportation infrastructure throughout the locality. Having or developing the most current information is vitally important to ensure the best utilization of the Town's extremely limited transportation funds.

Regional Access: Dumfries is adjacent to Interstate 95 (I-95), which serves as the major north-south transportation corridor along the East Coast from Maine to Florida. This interstate serves as a primary commuting corridor between Dumfries and Washington, D.C. and in 2009 carried an average of 157,000[12] vehicles per day.

Route 1 is an important regional and intra-regional transportation route. The original major north-south route was replaced by I-95 in the 1960s. Route 1 serves as an alternative to the often congested I-95, particularly during commuting times and when traffic incidents close portions of the interstate. The Route 1 corridor has many reminders of a once important inter-regional transportation route that now serves a myriad of commercial and industrial uses within the Town and supports over 30,000 vehicles per day.

Route 234, or Dumfries Road, has been rooted in the community for the better part of a century since its original addition to the state transportation system in the 1920s. Dumfries Road serves approximately 32,000 vehicles per day and is a major connector to Manassas, I-66, and other points west. Even though not located within the Town's limits, it is an important transportation facility that provides regional connections (e.g., Exit 152 next to the Town's northwest boundary). A Park & Ride commuter parking lot is located at its intersection with Route 1.

[12] From VDOT's *Traffic Data by Jurisdiction*

Significant County Roadway Projects:

Jefferson Davis Highway/Route 1 (Fairfax County to Stafford County –currently excluding the Town of Dumfries) – Jefferson Davis Highway functions as a multi-modal principal arterial carrying both intra and inter-county traffic. As I-95 gets more congested, traffic volumes will continue to increase on Route 1 and increasing the need for grade-separated interchanges along the Route 1 corridor. The recommended right-of-way corresponds to the typical sections included in the adopted Route 1 Location Study. The 140' right-of-way is being proposed from Fairfax County to the Joplin/Fuller intersection (excluding the area associated with the designed Route 1/Route 123 interchange) and the 150' right-of-way is being proposed for the section between the Joplin Road/Fuller Road intersection and Stafford County. Right of way widths throughout Prince William County are a minimum 140' in width. This significant widening on either end of the Town creates a choke point within the Town where the road way will be narrow and bifurcated within the Town limits. Every effort should be made to expedite the Town's proposed Route 1 (Fraley Boulevard) transportation project.

Potomac Shores Parkway (Jefferson Davis Highway/Route 1 to Cherry Hill Road) – This roadway will extend existing Dumfries Road (Route 234) east of Route 1 in order to provide access to the Cherry Hill area of the County, including the proposed Cherry Hill Virginia Railway Express (VRE) station. The proposed roadway will be a controlled access facility, and as such curb cuts and median breaks are discouraged. The recommended right-of-way is planned to be 121' wide, corresponds with the right-of-way approved as a part of the Harbor Station development proposal. The Parkway is planned to extend as far east as the Marina Access Road. This project will extend Route 234 through the northeast quadrant of Dumfries bisecting several parcels on the eastern side of the road. The ultimate design should address access from Harbor Station Drive to these frontage parcels without undermining the overall functionality of the parkway.

Potomac Shores Parkway (Cherry Hill Road to River Heritage Boulevard / Marina Access Road) – This section of Harbor Station Parkway connects the marina area of Cherry Hill to the town center area of the Potomac Shores development. A reduced and modified minor arterial section was allowed with the Harbor Station development because traffic volumes did not generate the need for a principal arterial section.

Bradys Hill Road (Jefferson Davis Highway/Route 1 to Kerill Road) – This road provides access from Route 1 to the eastern areas of Dumfries and Triangle. As generally outlined in the Potomac Communities Plan, Bradys Hill Road is expected to be extended eastward from its existing terminus to provide a third east-west collector street in the area (in addition to Graham Park Road and Fuller Heights Road). The proposed alignment would generally follow the northern edge of the proposed Fuller Heights Park and would terminate in the vicinity of Kerill Road.

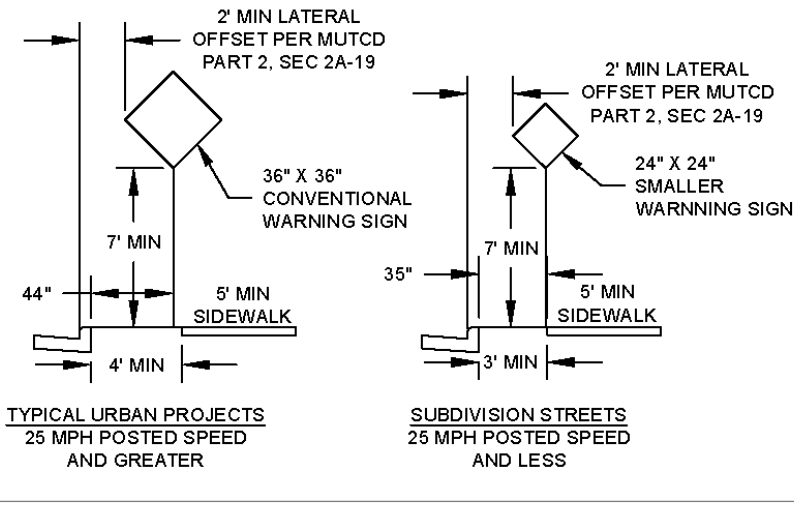
Van Buren Road – South (Dumfries Road/Route 234 to Mine Road) – Paralleling I-95, this roadway provides access to and from the Town of Dumfries. This road will allow an alternate route and can remove local traffic from I-95.

Alternative Transportation Facilities

There are a number of facilities that comprise a disjointed transportation system for bicyclists and pedestrians. The need to expand and connect the existing sidewalk and bikeway system is essential to effectively provide all the transportation needs of the community. Pedestrian, bicycle and greenway facilities include sidewalks, bicycle lanes, and off-road trails such as the East Coast Greenway and the Potomac Heritage Trail. The importance of the connectivity of these alternative transportation facilities cannot be overstated. A cohesive, multi-modal alternative transportation system is an integral component to the Town's transportation plan.

Consistent with this plan, and in communities across the country, is the "Complete Streets" concept. States, cities and towns are asking their planners and engineers to build road networks that are safer, more livable, and welcoming to all transportation modes. Instituting a "Complete Streets" policy ensures that transportation planners and engineers consistently design and operate the entire roadway with all users in mind including bicyclists, public transportation, and pedestrians of all ages and abilities, as well as motorists.

Sidewalks: Sidewalks complement the other components of the alternative transportation network by increasing the safety of pedestrians and offering an alternate and practical mode of transportation, thus encouraging people to walk to their destinations. Sidewalks serve a variety of functions in the community. They separate pedestrian and vehicular traffic, thereby facilitating better traffic flow, affording enhanced safety to pedestrians; they allow for circulation within residential areas and provide pedestrian access to schools, recreational areas, commercial areas, and the downtown. Sidewalks also provide safer areas for disabled citizens to travel and for children to travel to play areas and parks. Many residential communities lack pedestrian facilities.



All design features of sidewalks should conform to the most recent version of the Road Design Manual and the latest ADA Guidelines.

Figure 40: Sidewalk Typical Section

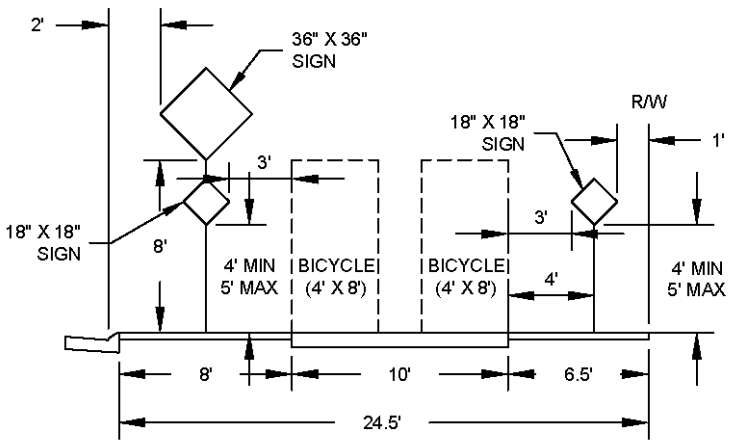
Sidewalk planning consists of the prioritization of projects in the Capital Improvements Program and modifications to the Subdivision and Zoning Ordinances. There are two main methods of financing sidewalks in Town. The first is the inclusion of sidewalks in new developments, where the developer incurs all of the costs. This is most effectively achieved through a clear and robust Subdivision and Zoning Ordinance or through proffers achieved in a rezoning process. It should be noted that these tools are obviously contingent on the development or redevelopment process, thus limiting their effectiveness in that context. The second method of financing sidewalk projects is through Town installation, whereby all of the costs are borne by the Town. The primary limitations of this method are both political and financial. The town would have to commit to a budgeted amount of funds to achieve a certain number of sidewalk projects per year.

Funding for these projects can be from a variety of sources such as the Capital Improvements Program, the VDOT Revenue Sharing programs, or other state and federal grant opportunities. These funds have been increasingly scarce and the competition in grant programs has responded accordingly. The Town has made

strong efforts to retrofit streets through Congestion Mitigation for Air Quality (CMAQ) funds in recent years. The CMAQ program is a federally funded program first established in 1990 and is available through VDOT. Through the program, funding is set aside for alternative transportation opportunities for communities that are located in areas where air quality standards do not meet federal ambient air quality requirements.

Bicycle lanes & Pathways: It is recognized that many citizens enjoy riding bicycles, walking, or jogging on multi-purpose trails that are independent of roads and automobile traffic. It is also recognized that many citizens enjoy riding bicycles on existing roads, particularly ones designated as bicycle routes or with bike lanes that are separate from vehicular traffic lanes. Bicycle lanes are particularly desired as part of future improvements to Route 1, Main Street, Graham Park Road, and Old Triangle Road.

The Town's focus is to develop a comprehensive bicycle system that provides for access between the off-road and on-road paths with smooth transitions. The planning and design of new transportation routes that include sidewalks, bike routes and lanes, and off-road trails in addition to the roadway are essential to the success of a multi-modal alternative transportation system. A primary challenge to achieving such an integrated system is recognizing the significant topographical changes and main arterial road barriers within the Town.



All design features of multi-use paths should conform to the most recent version of the Road Design Manual and the latest ADA Guidelines.

Figure 41: Shared-use Trail Typical Section

Greenway trails: Greenways are linear stretches of open space that include recreational, cultural, and natural areas such as parks, trails, and other "green" spaces. Greenways are part of a community's green infrastructure, providing natural buffer areas to improve water, soil and air quality; serving as wildlife habitat and corridors; reducing the impacts of flooding; and adding aesthetic and viewshed protection. Greenways typically follow natural or man-made features such as streams, railways, or roads and are used for transportation, recreation, education, and environmental protection.

Greenways can benefit the Town of Dumfries in many ways and should be considered an essential community feature. Greenways promote economic development and tourism and increase the beauty of neighborhoods, as well as the value of surrounding properties. These corridors enhance the social and psychological well-being of citizens by providing them with enjoyable activities and settings in which to spend their leisure time. Greenways provide areas for hiking, biking, and picnicking and serve as automobile-free pathways connecting areas of interest. Conservation benefits are also derived from the preservation of greenway corridors through maintaining the integrity of scenic vistas and watersheds, protecting water quality in streams and underground aquifers, and preserving natural habitats and wildlife.

Greenways link neighborhoods, schools, parks, businesses, and people along multi-use trails for walkers and cyclists on a recreational ride or for a daily commute. A comprehensive greenway trail system should be planned through the Town to be a valued component in Dumfries' alternative transportation system. The development and use of the greenway system needs to be an outgrowth of community interest focused on the conservation of natural resources, exercise and outdoor recreation, and a viable alternative to motorized transportation. Better utilization of the Town's existing rights-of-way, and paper streets could expedite the creation of such an integrated system of paths throughout town. Prioritized connections are indicated in either the Town's adopted Comprehensive Plan or the Capital Improvements Plan (CIP). The Town's prioritized Fairfax Trail connection will provide alternative connections between the Weems-Botts Museum and Williams Ordinary on Main Street.

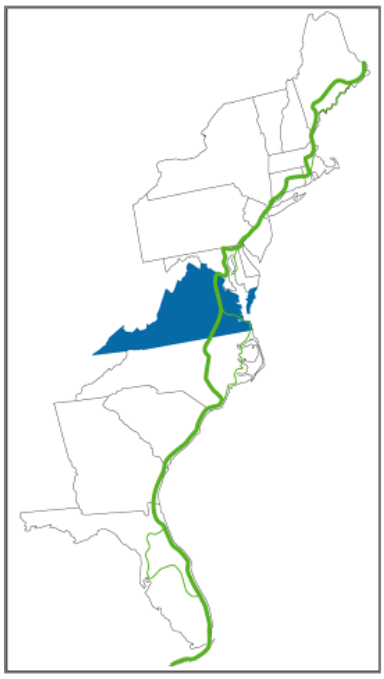


Figure 42: East Coast Greenway

Two notable greenways in the area are the East Coast Greenway and the Potomac Heritage Trail. The East Coast Greenway (ECG) is a developing trail system, spanning nearly 3,000 miles stretching from Canada to Key West, linking the major cities of the eastern seaboard. The ECG enters Virginia along the Mount Vernon Trail, which follows the Potomac River and George Washington Parkway south to Mt. Vernon. From Mt. Vernon, the ECG continues on road to Fredericksburg along the route of the Potomac Heritage Trail. From Fredericksburg, the ECG continues south to Richmond, where the Greenway divides into two routes: the spine route, which continues south to North Carolina's Piedmont region, and the alternate Historic Coastal Route, which heads southeast through Jamestown and Williamsburg before aiming south toward Wilmington, N.C.

The Potomac Heritage Trail is an 800-mile trail network, which begins outside of Pittsburgh, is supported through the National Park Service in partnership with many other local and regional trail facilities. Locally, the trail link is located within the National Park Services' Prince William Forest Park, which comprises 15,000 acres and is located on the western side of Interstate 95 southwest of the Town's corporate limits. There are 37 miles of hiking trails and 21 miles of biking trails within the park, but there is currently no direct access to the park from the Town.

Connectivity: Providing transportation choices for Town residents that connect residential, commercial, and professional destinations improves the quality of life for residents, and assists in reducing motorized vehicle congestion. Efforts must be made to implement a truly multi-modal approach that ties pedestrian, bicycle, transit and parking facilities and places them on appropriate alignments that will be are accessible and convenient to users. The challenge of the Town's topography and the barriers that arterial roads (e.g., Route 1 and Main Street) create must be addressed in creative and economically efficient ways.

The proximity of Dominion's Possum Point Power Station, located on Quantico Creek, results in substantial overhead utility distribution and high transmission lines that travel through the Town. These private rights-of-way are owned by Dominion and are currently heavily under-utilized from a land-use perspective. These types of easements commonly restrict mobility options and separate neighborhood communities. To provide increased connectivity in the most direct routes, the Town desires to utilize these easements to provide both recreational and commuter trail facilities. In turn, these trails would provide better access for Dominion to access their tower structures and overhead lines.

Additionally, the Town has a number of "paper streets", which are streets that have been platted, but remain unbuilt. Paper streets can also be utilized for providing access and land for trail connections, particularly where there may not be sufficient right-of-way for street construction, or where topographic challenges exist that preclude either the Town or private developers from constructing streets to Town or VDOT standards.

Over the past century, there have been occasional encroachments on these paper street rights-of-way, and in some cases buildings are located within the right-of-way. These significant rights-of-way should be effectively utilized by the Town to enhance the connectivity between modes of transportation within the community.

Mass Transit

The Potomac & Rappahannock Transportation Commission (PRTC) is a multi-jurisdictional agency that provides commuter bus service to points north (OmniRide and MetroDirect) and local bus services throughout Prince William County (OmniLink and Cross County Connector). The PRTC also offers OmniMatch, a free ridesharing service. In FY09, PRTC had over 130 buses in its active fleet and carried more than 3.2 million passengers. PRTC has developed a strategic plan to measure service growth needs to improve services to member localities.

The OmniLink bus service provides rides for the Dumfries community starting at the Quantico Terrace Apartments in the southeast area of Town. The route serves neighborhood areas along the Route 1 corridor as far north as Dale City including the Potomac Mills shopping center. Service runs six days a week Monday through Saturday beginning just after 5 AM and running until 10:30 PM, except for certain holidays throughout the year. There is one Transfer Point located at the PRTC Transit Center on Dale Boulevard which enables further service to the Pentagon, Crystal City, Washington DC, Rosslyn, Tysons and metro stations. The Prince William-Metro Direct which can be accessed at the PRTC Transit Center connects Dumfries with the Franconia-Springfield Metro Station.

Fares to ride vary according to need and ability. The local day pass is good for travel within Prince William County, Manassas and Manassas Park for the day the pass is issued. Children five and under are free up to two (2) children per paying adult. PRTC does provide service on-demand for uses up to ¾ mile from a standard route when there is time available in the schedule, but riders are assessed a surcharge. On demand stops can be scheduled with up to two hours' notice, but PRTC encourages riders requesting this service to schedule a stop one or two days in advance. The on-demand service has the flexibility to reach dependent riders that are not within walking distance to stops, but mitigates the cost of operating a stand-alone paratransit service.

Rapid Transit: Prince William County conducted a bus rapid transit (BRT) feasibility study to improve services along the Route 1 corridor. The study examined financial implications and improvements to the transportation network, extending also to Intelligent Transportation Systems (ITS) to better serve all transportation users. One significant recommendation is the need for higher land use densities to justify a rapid transit system. This land use pattern should be encouraged, particularly in conjunction with the Fort Belvoir Base Realignment and Closure (BRAC) that will add approximately 21,000 military and civilian employees and their families to the area from Dumfries to Woodbridge. Prince William County has also indicated a need to provide higher quality employment opportunities along with higher residential density to attract higher end retail, making the area a destination, not merely a corridor that people pass through.

Traffic impact analysis anticipates a 45 percent increase in overall volumes by 2030 providing the basis for the widening efforts of Route 1 by VDOT, Prince William County and the Town of Dumfries. Increased travel times will require more resources to meet current and future transit needs for users along the corridor.

The BRT feasibility study recommended that:

- Land use densities and mixed-use densities should be planned that would justify a BRT system.
- Higher investments should be made in pedestrian amenities to connect destinations with the transit route stops.

Overall, the study found that by the horizon year of 2030, more frequent transit services will be warranted, but the current projected conditions do not justify the substantial investment in a full BRT system.

Local Transit: Public transportation offered through the PRTC is the only option for Town residents aside from local taxi services. Due to the size of PRTC which includes Spotsylvania, Stafford, Prince William and Fairfax Counties, local adjustments to routes due to changing social or economic realities are difficult to achieve. Primarily located on the eastern side of the Town, the Williamstown community relies largely on transit options. In 2000, the Town's average household income was 45 percent below the Northern Virginia average (e.g., Prince William County's average was $94,000 versus the Town's $42,000). Dumfries is home to a significant low income population, estimated at 10-17 percent according to the 2000 Census. Additionally, a significant percentage of Town households have no vehicles. More sensitivity to changes in shopping options, particularly when shopping centers close or relocate, is needed in the provision of transit services since traditionally, timely adjustments to transit routes are rare.

Parking Accommodations

Adequate parking facilities that are attractively constructed and conveniently located are a significant element of Dumfries' alternative transportation system. Many people commute on a daily basis and should be able to Park and Ride at designated lots or find parking spaces that are connected to the alternative transportation network. Additionally, paramount to redevelopment opportunities in the "downtown core", there is a need for appropriately placed and context sensitive parking facilities to attract mixed-use development opportunities.

The Town has recently encouraged economic development in the downtown core by sharing parking requirements between public and private properties. This enabled the developer to maximize the density on the private property and achieved the Town's goal for much needed parking. As the Town continues to encourage mixed-use development throughout the community, creative and innovative parking facilities, such as permitting private development parking requirements to be provided on public properties, creating a parking district, and parking structures, should be encouraged to ensure that adequate parking is provided to sustain the economic viability of developments. This necessitates that the classic shopping center concept be transformed to avoid excessive and underutilized parking lots that require substantial private maintenance and are incompatible with aesthetic and environmental priorities. While the Town is interested in exploring innovative and flexible parking requirements, it will rely on private development to finance the construction of parking structures and lots. Any cost-sharing that might be considered with the Town would be on a limited, case-by-case basis. Parking provision agreements should not financially obligate the Town to participate in the construction of parking facilities (e.g., deck structures).

The Town requires parking for all uses in accordance with the Zoning Ordinance, but parking can be constructed that is environmentally responsible and has a minimal impact to the aesthetic viewshed (e.g., incentivizing pervious pavement for parking areas). Dumfries is responsible for managing stormwater through its MS-4 Permit so the creation of additional parking facilities, whether structures or surface lots, need to have a minimal impact per those regulations. The Town is interested in incentivizing regional stormwater facilities. in partnership with local developers, and consider the inclusion of privately maintained stormwater management facilities in lieu of traditional detention.

Located at the intersection of Routes 234 and Route 1, a commuter lot serves the Dumfries community. This facility supports 843 parking spaces and is usually full by 7 AM on weekday mornings. The parking facility also includes bicycle amenities for bike commuters and is supported by the two regional bus routes: OmniRide South Route 1 and OmniRide Montclair. OmniRide commuter buses provide service to major commuter lots in both eastern Prince William County and the Manassas area. This parking facility also supports "sluglines." "Slugging" is a term used to define a unique commuting method, which is also known as "Instant Carpooling" or "Casual Carpooling." Commuters meet at specific locations and pair with cars needing additional passengers to meet the three person, high occupancy vehicle (HOV) requirement to travel in HOV lanes.

ASSUMPTIONS

The Town recognizes the link between transportation and land use, including items such as economic development, housing, commerce, and infrastructure, both existing and planned. These factors can directly influence the community's demand for transportation.

In order to view the impact of population to the Town's transportation network, the greater region must be considered as well. Prince William County's population is anticipated to continue growing in the coming decades, along with the remainder of Northern Virginia. As the surrounding area continues to become more metropolitan in nature, the Town of Dumfries will continue to be impacted by regional transportation issues.

Population Projections

Year	*Prince William County*	*% Increase*	*Town of Dumfries*	*% Increase*
2000	280,813		4,937	
2010	358,000	27.5%	4,961	0.5%
2020	487,768	36.2%	5,285	6.5%
2030	573,535	17.6%	5,647	6.9%
2040	659,301	15.0%	6,075	7.6%

** Weldon-Cooper Center for Public Service Population Estimates for PWC; Town population estimates from US Census Bureau*

The Town is a "worker's" town, a small pocket in Northern Virginia populated by middle-class and lower middle-class residents employed predominantly in blue-collar and administrative support occupations. Over the 5-year period of 2008-2012, the largest occupation categories in which the Town residents were employed (compared to the County share) included: Management, business, science, and arts occupations (27.1% vs. 43.6%), Sales and office occupations (26.7% vs. 23.6%), Service occupations (16.7% vs 16.2%) and Natural resources, construction, and maintenance occupations (14.6% vs 9.7%). Approximately 21.7% of the Town's population is engaged in higher-paid, information-producing, knowledge-based occupations. The Town's average unemployment rate over a five-year period between 2008 and 2012 is 12.1%, which is a higher than the 9.3% national rate for the same period.

Dumfries In-Commuting Patterns

For local and in-commuters working in the Town, the chart and table to the right summarize the directional orientation and average distances traveled to work in Dumfries. Forty percent of local workers travel less than 10 miles with the majority coming from residential origins north of Town. Slightly more than 35% travel 10-24 miles and almost 25% travel more than 25 miles to work in the Town. Over 41% of local jobs are filled by working residents of Prince William County, and the second largest source (with 13%) of workers is Stafford County nearby to the South (below MCB-Quantico). "Second-tier" communities (based on distance from Dumfries) like Fairfax and Spotsylvania Counties contribute another 17 percent of the local worker population.

This Plan discusses the Town's demographics in much greater detail in the *Community Profile* chapter and *Housing* chapters.

While the Town's growth is projected to remain relatively stable, with moderate increases in the coming decades, there are many factors that will influence the need for transportation improvements in the Town. The majority of motorists traveling through the Town on a daily basis are not residents.

NEEDS ASSESSMENT

The Town's transportation network includes 10.61 miles (22.18 lane miles) of collector and local streets. These are primarily narrow, local streets serving neighborhoods and local businesses. With growth projections trending upward in the coming decades, the consolidation and widening of Route 1 is of paramount importance to the Town. Most town streets have relatively low traffic volumes, however, there are key collector streets that will require improvements to meet existing and planned traffic demand. There is a great need for implementation of a broad pedestrian network throughout the town, connecting residential communities with shopping and commercial uses; and public amenities (e.g., schools, parks, Boys & Girls Club, etc.).

There are limited opportunities for pedestrians to cross Fraley Boulevard or Main Street safely. With heavy traffic volumes on each of these streets, pedestrians have difficulty finding gaps in vehicular traffic during the majority of the day. Crosswalks and pedestrian signals should be included at all existing and planned signalized intersections. With land use policies shifting toward mixed use, town center and neotraditional development patterns, installing multimodal facilities throughout the town to reduce vehicular trips is critical.

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Now that the Town's transportation system has been outlined, the next section focuses on the implementation of four main objectives and the recommended policies and strategies for achieving those objectives – Roadways, Alternative Transportation Facilities, Mass Transit, and Parking Accommodations.

The success of implementing transportation improvements rests on developing a fiscally constrained short-term plan. The town has limited resources through its own general fund and state funding opportunities. These funds should be leveraged to achieve systematic priorities.

Table 13: Transportation Project Priorities

Project #	*Projects in Urban Program*	*Cost Estimate*	*Priority to receive funding*
1	Route 1 Widening (Fraley Boulevard) (VDOT UPC 90339): design and widen Route 1 throughout the Town to accommodate a six lane, median divided facility with a sidewalk on the northbound shoulder and a shared-use path adjacent to the southbound lanes. Includes rebuilding bridge over Quantico Creek.	$65 million	1
2	Tripoli Boulevard Improvements (VDOT UPC 78836): install curb & gutter and stormwater conveyance system from Route 1 to western terminus.	$1.9 million	2
3	Graham Park Road/Fraley Blvd/Main St/Curtis Drive Intersection Reconstruction (VDOT UPC 81517): reconstruct, widen and improve the intersection to accommodate existing and planned traffic volumes and provide better turning movement accommodations.	$2.6 million	3
4	Possum Point Road (VDOT UPC 104056): improve drainage facilities along Possum Point Road, including upgrades to box culvert at Deweys Run.	$610,000	4
	Other Priority Projects		
5	Main Street Streetscape Project: underground aerial utilities, replace sidewalks, install decorative street lighting, enhanced pedestrian crosswalks and decorative traffic signals.		
6	Route 234/U.S. 1 Interchange: identified in SYIP for Prince William County.		
7	Connection to Potomac Heritage Trail: in partnership with Prince William County, the National Park Service and VDOT, provide a trail connection directly to the Prince William Forest Park and its trail system.		
8	Quantico Creek Greenway: construct a linear greenway following Quantico Creek from western corporate limits to eastern corporate limits.		
9	Whiskey Street Extension: extend Whiskey Street to align with Fraley Boulevard at Williamstown Drive.		
10	Market Street Extension: extend from the intersection of Mine Road/Main Street southward to the north side of Quantico Creek.		
11	Potomac Shores Parkway: extend Route 234 east of Route 1 serving the Potomac Shores development in Prince William County.		
12	Tripoli Boulevard Extension: extend Tripoli Boulevard on the east side of Route 1 to connect with the proposed Potomac Shores Parkway.		

All road projects should include bike lanes, trails, sidewalks and other amenities as called for in this plan.

Over the years, there have been other projects identified by the Town that are included in VDOT's Six Year Improvement Program (SYIP).

Once the Town establishes its short-term transportation priorities, other priorities can be identified beyond a five- or ten-year horizon, but they should be carefully considered in a fiscal context as well.

Additionally, the Virginia State Code requires comprehensive plans to include a map that shall show road improvements and transportation improvements. This map should include the cost estimates of such road and transportation improvements as available from the Virginia Department of Transportation, and take into account the current and future needs of residents in the locality. The current and future needs of the locality's planning district should also be taken into consideration.

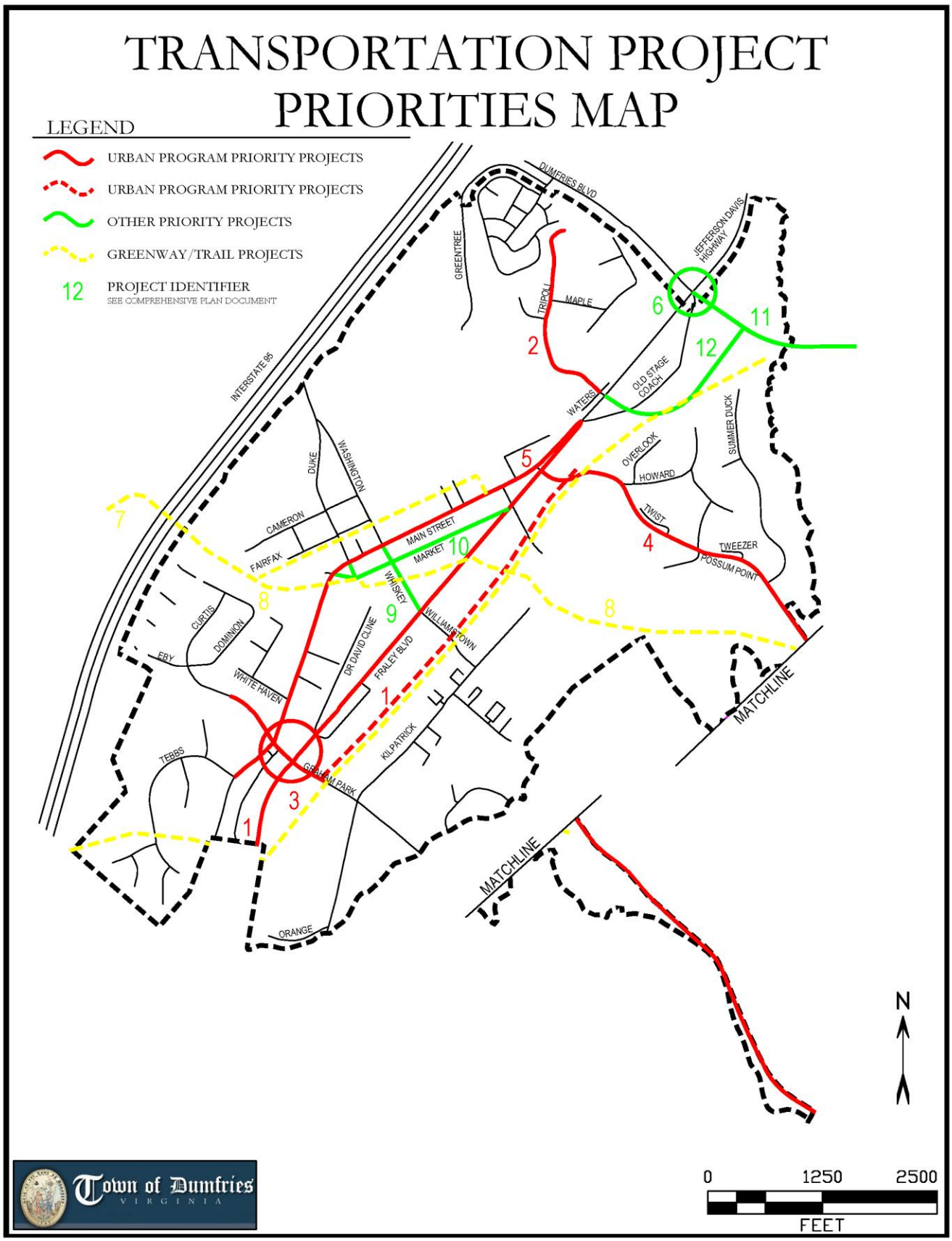


Figure 43: Transportation Project Priorities Map

IMPLEMENTATION

Roadways Goal

Improve and expand the Town's street network so that the arterial primary, collector, and local roads that serve the community are integrated into an effective multi-modal transportation system.

Roadways Policy 1

Develop and pursue an integrated strategy to fund the Town's transportation priorities.

Action Strategies:

T-R-1 Coordinate the Town's Capital Improvements Plan (CIP) with Prince William County's Comprehensive Plan and evaluate transportation data (e.g., traffic patterns and traffic counts) on a regular basis so the Town can have an accurate needs assessment for development, regional growth, funding sources, and other identified priorities.

T-R-2 Actively seek funding opportunities, including federal/state funds and grants, to achieve transportation goals that minimize general fund impacts.

T-R-3 Improve lobbying efforts and increase information sharing by closely collaborating with the Planning District Commission and VDOT District on planned road priorities to maximize the political and financial capital for identified projects.

T-R-4 Require residential and commercial development to provide right-of-way for the widening of planned road improvement projects.

T-R-5 Adopt a Proffer Policy that accounts for external development impacts on Town services to enable the Town to negotiate proffers associated with conditional rezonings resulting in improvements to the Town's transportation system.

T-R-6 Adhere to Prince William County's Design and Construction Standards to guide new development/redevelopment that addresses requirements for public facilities relative to streets and pedestrian/bicycle facilities, water/sewer, parking, and stormwater management.

Roadways Policy 2

Maintain and manage a transportation network that is safe for all users.

Action Strategies:

T-R-7 Maintain storm drainage facilities on a regular basis to ensure that roadways are not structurally undermined by flooding or erosion.

T-R-8 Prioritize the repaving of streets throughout the Town based on pavement inspection by Town staff or their designees.

T-R-9 Coordinate traffic signals to optimize signal timing along roadways with signalized intersections and roadway corridor segments.

T-R-10 Limit driveway and commercial access points along major arterials and collectors streets, thus increasing safety and traffic efficiency.

T-R-11 Evaluate lane markings and consider adjustments where possible to accommodate traffic efficiency or provide for additional users such as bicycle lanes.

T-R-12 Integrate traffic calming concepts into new neighborhood developments and major redevelopments.

Roadways Policy 3
Provide a road network that accommodates multiple modes of transportation.

Action Strategies:

T-R-13 Plan for all road projects to accommodate multi-modal features for transit, pedestrian and bicycle access.

T-R-14 Begin design for widening Fraley Boulevard to be compatible with multi-modal elements consistent with VDOT's typical section south and north of the Town. This will position the Town for future funding, and assist in understanding right-of-way impacts to partner with land-owners and developers to obtain right-of -way or proffers for rezonings.

T-R-15 Adopt a downtown streetscape plan that utilizes the existing pavement width to provide landscaping opportunities and a pedestrian-friendly atmosphere to encourage redevelopment on a mixed-use downtown or "town center" nature.

Roadways Policy 4
Actively support all improvement to Interstate 95 that reduces through traffic in Town.

Action Strategies:

T-R-16 Promote VDOT and FHWA initiatives to construct additional capacity on I-95, without financially impacting Town residents.

T-R-17 Promote planning and construction of additional HOV lanes south of Exit 152 in order to relieve spillover traffic that clogs Town roads when I-95 is backed up.

T-R-18 Promote the use of high occupancy vehicle (HOV) lanes, as well as carpooling and vanpooling, through incentives for destinations (commercial, office, other) that accommodate ridesharing programs.

Alternative Transportation Facilities Goal
Develop an integrated, multi-modal pedestrian and bicycle network that enhances the Town's roadway system.

Alternative Transportation Facilities Policy 1
Enhance and implement the Town's Multi-modal Plan to create an alternative transportation network.

Action Strategies:

T-ATF-1 Construct all sidewalks to a minimum of five feet in width and incorporate a four foot utility strip between curb and sidewalk wherever possible.

T-ATF-2 Finance and construct the Multi-modal Plan's sidewalk priorities.

T-ATF-3 Provide appropriate markings and identifications including, but not limited to, road striping, bicycle lane designations, signage, and way-finding reference points.

T-ATF-4 Using the inventory and existing databases of bus routes within the county, identify bus stop locations within Town limits that are lacking adequate pedestrian access and prioritize the installation of pedestrian improvements.

T-ATF-5 Continue to apply for appropriate state, regional, and federal funding assistance in developing a safe and effective pedestrian and bicycle network.

T-ATF-6 Require the inclusion of sidewalks in all development and redevelopment.

Alternative Transportation Facilities Policy 2
Implement the "Complete Streets" concept within walkable communities and town centers.

Action Strategies:

T-ATF-7 Update Town ordinances that encourage "Complete Streets" design.

T-ATF-8 Integrate wider sidewalks where necessary to accommodate pedestrian movements in community and commercial centers.

T-ATF-9 Seek non-motorized connections to community and commercial centers, regional destinations, and sites of interest; such as cultural, historic, and park facilities.

T-ATF-10 Develop street standards for a project as appropriate to the project and in accordance with Traditional Neighborhood Design standards.

Alternative Transportation Facilities Policy 3
Identify and preserve the existing rights-of-way throughout the Town that provide future transportation facilities.

Action Strategies:

T-ATF-11 Identify paper streets that are appropriate for future roadway right-of-way.

T-ATF-12 Identify paper streets that have encroachments or are otherwise more appropriate as future alternative transportation routes that enhance the connectivity of the overall Town transportation system.

Mass Transit Goal
Integrate transit services to link jobs, housing, commerce, and recreation within the Town and immediate area.

Mass Transit Policy 1
Enhance the connectivity of inter- and intra-county transit systems.

Action Strategies:

T-MT-1 Promote an efficiently designed bus feeder network to connect commuter rail stations, commuter lots and other transit centers as an integral part of a broader access plan to curtail single occupancy vehicle (SOV) access.

T-MT-2 Require the provision of transit facilities and services with conditional use permit (CUP) applications and rezonings, as appropriate.

T-MT-3 Coordinate transit provisions with development and site plan proposals. Add specific transit facilities (e.g., shelters, appropriate lighting, sidewalk access, etc.) to development checklists when reviewing plans.

Mass Transit Policy 2
Work with adjacent jurisdictions to develop support for joint alternative transit projects.

Action Strategies:

T-MT-4 Determine what the needs are for mobility impaired populations.

T-MT-5 Coordinate an efficient and effective intra- and inter-transit system to ensure sufficient bus connections and access to and between community and commercial centers. This requires close cooperation with adjacent jurisdictions, federal, state and regional, transportation agencies such as but not limited to VRE, PRTC, VDOT, and WMATA.

T-MT-6 Work with Prince William County to more effectively lobby state and federal government for additional transit funding streams.

T-MT-7 Consider the location of mobility impaired populations and their travel needs (i.e., doctor, hospital, shopping, social activities, etc.) when deciding on the placement of bus route locations, and examine ways to provide transportation alternatives to those populations that don't have access to PRTC or VRE services (e.g., taxicabs, local transit service, etc.).

Parking Goal
Integrate adequate parking to sustain economic development in an ecologically and aesthetically attractive manner.

Parking Policy 1
Integrate parking facilities into the surrounding environment as seamlessly as possible, and while minimizing the amount of under-utilized impervious pavement.

Action Strategies:

T-P-1 Develop new parking standards and incorporate them into Town ordinances.

T-P-2 All parking lots and structures must be designed and screened to eliminate visual intrusion or incompatibility with the adjacent residential neighborhoods, historic or conservation.

T-P-3 Provide multi-modal access between park and ride lots and surrounding uses.

T-P-4 For certain Traditional Neighborhood Development proposals, encourage parking requirements to be met in a variety of ways, including the use of publicly owned parking, thereby allowing more effective use of developable land.

T-P-5 Coordinate parking policies with transportation demand management policies and strategies (i.e., the provision for reserved spaces for carpools).

T-P-6 Encourage structured parking associated with transit facilities and services, as appropriate, such as with parking districts.

HOUSING

Quality Homes for Everyone

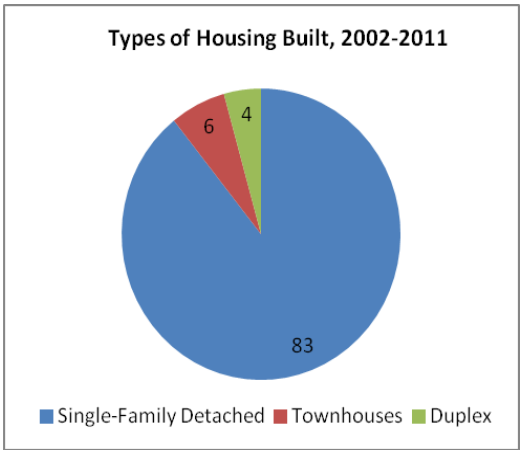
Housing is a family's number one cost and central to the stability of a community. The nature of the local housing stock, both existing and planned, influences the character and diversity of the population. Housing affordability was only partially achieved by the "Great Recession" and remains a challenge. As one of the most affordable communities in Northern Virginia, the Town of Dumfries has unique challenges.

EXISTING CONDITIONS

Residential Growth and Development

In the 30 years between 1970 and 2000, the number of housing units within the Town more than tripled. Three-fourths of the new housing units were townhouses, resulting in smaller home sizes and a more affordable community. Since 2000, most housing units have been single-family homes. Townhouse development has been concentrated primarily east of U.S. Route 1 in two subdivisions: Williamstown/South Cove and Port-O-Dumfries.

Townhouses are the predominant housing type within the Town, comprising over 50 percent of the residential inventory. About a third of the housing is single family detached, a sixth is mobile homes, and less than four percent is multi-family or apartment. By way of comparison, only a quarter of the homes in Prince William County are either townhouses or mobile homes.



Source: Town Records

Figure 44: Types of Housing Built

Table 14: Housing Types

Development	Units	Approximate Year Built
Single Family Detached & Duplexes		
Knolls of Dumfries	106	1985-1999
Prince Williams Estates	111	1959-1969
Rose Hill	47	1948-2011
Tripoli Heights	85	1950-2008
Whitehaven	32	1930-2005
Non-subdivision Units	172	
Townhouses/Single Family Attached		
Williamstown	455	1974-91
Port-O-Dumfries	190	1974-88
South Cove	217	1988-92
Lil' General	15	1966
The Point	6	2008
Apartments/Multi Family		
Cedar Knolls	4	1971
Boarding House	14	1933
Sunny Croft Apartments	16	1965
Garden Apartments	6	1940
Garden Apartments	8	1940-1950
Mobile Homes		
Grayson Village Mobile Home Park	155	1971
Quantico-Triangle Mobile Home Park	29	1930
Cedar Knolls Mobile Home Park	17	1940
Chandlers Mobile Home Park	3	1940
Phillips Mobile Home Park	19	1945

Source: Town records

Future Development

Land area is very limited for new development within Town but the number of redevelopment opportunities is significant. Three areas with great potential for a mixture of commercial and office uses along with medium to high density residential dwellings are in the Mixed Use designated areas along Fraley Boulevard near the Graham Park Road intersection as well as in the vicinity of the Rt. 234 intersection. Another mixed use area is designated around the future Open Space designation which is currently the landfill. These areas are discussed in the Land Use chapter in more detail.

Composition of Housing Stock

Table 15: Units in Structure

Units in Structure	United States	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	Dumfries town	Quantico town	Triangle CDP	Prince William County	Manassas city	Manassas Park city
	Percent of Total							
1-unit, detached	61.70%	46.70%	39.10%	14.70%	51.10%	56.20%	44.00%	53.00%
1-unit, attached	5.80%	19.70%	50.40%	12.20%	14.30%	26.80%	29.50%	28.70%
2 units	3.80%	0.90%	0.80%	13.80%	3.60%	0.40%	0.80%	0.20%
3 or 4 units	4.40%	2.30%	0.90%	22.50%	0.60%	1.10%	2.30%	0.20%
5 to 9 units	4.80%	4.90%	0.00%	24.10%	4.20%	2.60%	4.90%	0.30%
10 to 19 units	4.50%	9.60%	0.00%	4.70%	15.00%	8.90%	11.80%	5.40%
20 or more units	8.40%	15.10%	0.00%	6.60%	10.20%	3.30%	4.30%	12.30%
Mobile home	6.50%	0.70%	8.80%	1.60%	0.90%	0.80%	2.30%	0.00%
Boat, RV, van	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Source: US Census Bureau, American Community Survey, 2008-2012 5-Year Estimates, Table DP04: Selected Housing Characteristics, 2013.

The Town's housing stock lacks the greater diversity, in terms of a range in numbers of units in structure, found in most other communities. Almost 90 percent of the Town's housing stock is found in single-family units, either attached or detached.

Figure 45: Detached Single-Family Home (Good Condition)

Condition and Age of Housing

With almost 84 percent of the Town's housing stock built before 1990, housing condition and maintenance and repair needs are likely to be of concern to most Town residents. Some of the older housing is in poor condition. Older homes typically can have undetected energy loss from leaky air ducts, drafty windows and doors and may also have undetected home health and safety issues (e.g. flue gas leaks and possible combustion backdrafting issues, mold and undetected asbestos used in insulation and flooring materials)

Table 16: Year Structure Built

Year Structure Built	United States	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	Dumfries town	Quantico town	Triangle CDP	Prince William County	Manassas city	Manassas Park city
	Percent of Total							
2010 or later	0.3%	0.4%	0.0%	0.0%	0.6%	0.7%	0.2%	0.0%
2000 to 2010	14.2%	15.0%	9.0%	15.9%	23.6%	30.1%	7.5%	28.2%
1990 to 2000	14.0%	14.3%	7.4%	4.1%	10.0%	18.0%	17.6%	19.5%
1980 to 1990	14.0%	16.5%	28.1%	2.5%	15.7%	20.8%	37.0%	10.1%
1970 to 1980	16.1%	15.3%	26.8%	3.1%	16.0%	16.3%	16.9%	9.6%
1960 to 1970	11.2%	13.3%	14.9%	9.1%	16.5%	9.0%	12.3%	10.1%
1950 to 1960	11.1%	10.5%	7.8%	30.9%	10.8%	2.9%	3.9%	22.4%
1940 to 1950	5.6%	6.1%	2.7%	13.4%	4.0%	0.9%	1.6%	0.0%
<1940	13.7%	8.7%	3.4%	20.9%	2.8%	1.3%	3.1%	0.2%

Source: Ibid.

Further evidence of the relative condition of the Town's housing stock is shown in the following table.

Table 17: Selected Housing Characteristics

Selected Housing Characteristics	United States	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	Dumfries town	Quantico town	Triangle CDP	Prince William County	Manassas city	Manassas Park city
	Percent of Total							
Occupied housing units	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Lacking complete plumbing facilities	0.50%	0.3%	0.0%	0.0%	1.4%	0.3%	0.5%	1.0%
Lacking complete kitchen facilities	0.90%	0.6%	0.0%	0.9%	1.4%	0.5%	0.8%	0.5%
No telephone service available	2.50%	1.7%	0.9%	3.5%	0.3%	1.8%	1.6%	0.4%

Source: Ibid.

Home Ownership

A distinctive characteristic of the Town's housing is its relatively high owner-occupancy rate. An estimated 64.6 percent of the housing in the Town is owner-occupied, a home ownership rate roughly 1 percent less than the national and nearly equal to the regional average, but below the Prince William County average.

Table 18: Housing Tenure

Housing Tenure	United States	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	Dumfries town	Quantico town	Triangle CDP	Prince William County	Manassas city	Manassas Park city
	Percent of Total							
Owner-occupied	65.5%	64.8%	64.6%	13.9%	49.4%	72.8%	65.3%	65.8%
Renter-occupied	34.5%	35.2%	35.4%	86.1%	50.6%	27.2%	34.7%	34.2%

Source: Ibid.

Value of Housing

Housing, in general, became more affordable as a result of the Great Recession (2006-2011) when the housing market bubble burst and many homes went into foreclosure. Housing in Dumfries has been, and still is, among the most affordable in Prince William County, and all of the Northern Virginia region as well. Single family and two-family homes are the most common housing types. The value of housing in the Northern Virginia region will continue to rise and the affordability issue will become more difficult. Creating a more walkable, connected community will help keep household costs down by reducing the need to travel as much for amenities. Lower housing costs combined with reduced transportation costs increases the livability, and desirability, of the community.

Table 19: Value of Owner Occupied Units

Value of Owner Occupied Units	United States	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	Dumfries town	Quantico town	Triangle CDP	Prince William County	Manassas city	Manassas Park city
	Percent of Total							
Less than $50,000	8.6%	1.4%	6.1%	0.0%	1.3%	1.5%	4.5%	1.2%
$50,000 to $99,999	15.2%	1.3%	13.8%	3.1%	3.7%	1.5%	3.7%	6.7%
$100,000 to $149,999	15.8%	3.1%	23.6%	6.3%	3.6%	5.2%	8.4%	15.7%
$150,000 to $199,999	15.0%	6.4%	15.5%	6.3%	6.2%	8.7%	20.4%	17.3%
$200,000 to $299,999	18.5%	19.9%	22.3%	65.6%	12.9%	25.7%	25.1%	25.6%
$300,000 to $499,999	16.1%	36.1%	16.5%	0.0%	54.7%	41.1%	32.7%	32.4%
$500,000 to	8.7%	26.9%	2.3%	0.0%	17.7%	15.5%	4.2%	1.2%

Value of Owner Occupied Units	United States	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	Dumfries town	Quantico town	Triangle CDP	Prince William County	Manassas city	Manassas Park city
$999,999								
$1,000,000 or more	2.2%	4.8%	0.0%	18.8%	0.0%	0.8%	1.0%	0.0%
Under $200,000	**54.6%**	**12.2%**	**59.0%**	**15.7%**	**14.8%**	**16.9%**	**37.0%**	**40.9%**

Source: Ibid.

The more affordable housing stock in Dumfries with almost 60 percent of the owner-occupied units valued at under $200,000, compared to the regional and more local comparison communities, indicates the Town's attraction to those looking for affordable housing in the metro area.

Table 20: Value of Rent for Rental Units

Value of Gross Rent for Renter-Occupied Units	United States	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	Dumfries town	Quantico town	Triangle CDP	Prince William County	Manassas city	Manassas Park city
	Percent of Total							
Occupied units paying rent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Less than $200	1.8%	1.5%	0.0%	0.0%	0.0%	0.4%	0.4%	0.0%
$200 to $299	3.3%	1.7%	5.8%	0.0%	1.0%	1.0%	0.0%	0.0%
$300 to $499	8.2%	2.3%	0.0%	0.0%	0.4%	0.9%	0.9%	10.1%
$500 to $749	22.6%	4.8%	0.0%	22.9%	10.4%	2.6%	3.4%	4.8%
$750 to $999	24.2%	10.9%	13.8%	35.4%	44.1%	9.6%	12.2%	1.1%
$1,000 to $1,499	25.7%	36.4%	43.9%	17.2%	26.9%	41.2%	54.1%	46.1%
$1,500 or more	14.2%	42.4%	36.5%	24.5%	17.2%	44.3%	29.1%	37.8%

Source: Ibid.

High rental costs are common throughout the Washington MSA illustrating the high cost of living for the area as compared to national averages.

Figure 46: Townhouse Units

Table 21: Selected Monthly Owner Costs

Selected Monthly Owner Costs As a Percentage of Household Income (SMOCAPI)	United States	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	Dumfries town	Quantico town	Triangle CDP	Prince William County	Manassas city	Manassas Park city
	Percent of Total							
Housing units with a mortgage *	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Less than 20.0 percent	34.9%	34.4%	20.2%	8.3%	28.4%	32.9%	32.9%	23.4%
20.0 to 24.9 percent	16.1%	16.7%	10.5%	33.3%	11.0%	17.8%	22.4%	10.6%
25.0 to 29.9 percent	12.2%	13.1%	21.2%	16.7%	20.0%	13.7%	12.8%	11.1%
30.0 to 34.9 percent	8.8%	9.2%	10.9%	0.0%	13.8%	9.5%	5.6%	18.6%
35.0 percent or more	28.0%	26.5%	37.2%	41.7%	26.8%	26.1%	26.4%	36.4%
Percent at or below 30% of household income	63.2%	64.2%	51.9%	58.3%	59.4%	64.4%	68.1%	45.1%

Source: Ibid.

Selected Monthly Owner Costs As a Percentage of Household Income (SMOCAPI)	United States	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	Dumfries town	Quantico town	Triangle CDP	Prince William County	Manassas city	Manassas Park city
	Percent of Total							
Housing unit without a mortgage*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Less than 10.0 percent	39.6%	47.3%	39.2%	100.0%	54.6%	51.1%	33.9%	33.1%
10.0 to 14.9 percent	20.0%	18.8%	15.4%	0.0%	17.6%	19.7%	15.3%	33.3%
15.0 to 19.9 percent	12.2%	10.7%	39.6%	0.0%	5.4%	10.7%	14.1%	17.5%
20.0 to 24.9 percent	7.7%	6.3%	0.0%	0.0%	12.7%	5.4%	12.8%	2.3%
25.0 to 29.9 percent	5.1%	3.7%	0.0%	0.0%	0.0%	3.4%	2.3%	4.2%
30.0 to 34.9 percent	3.5%	2.6%	0.0%	0.0%	0.0%	1.8%	4.1%	0.0%
35.0 percent or more	12.0%	10.6%	5.8%	0.0%	9.8%	7.9%	17.6%	9.6%
Percent at or below 30% of household income	84.6%	86.8%	94.2%	100.0%	90.3%	90.3%	78.4%	90.4%

*(excluding units where SMOCAPI cannot be computed) Source: Ibid.

Housing affordability is typically measured by the relationship between housing costs and total household income where housing costs at or below 30 percent of total household income are considered "affordable". For Town resident home-owners with a mortgage, nearly 52 percent are considered to have "affordable housing", much lower than national, regional or local comparisons. For homeowners with no mortgage payment, over 94 percent of Dumfries homeowners have payments below 30 percent of household income.

Table 22: Gross Rent as a Percentage of Household Income

Gross Rent as a Percentage of Household Income (GRAPI)	United States	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	Dumfries town	Quantico town	Triangle CDP	Prince William County	Manassas city	Manassas Park city
	Percent of Total							
Occupied units paying rent *	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
< 15.0 percent	11.7%	11.0%	11.0%	17.8%	8.3%	10.8%	6.3%	5.7%
15.0 to 19.9 percent	12.1%	13.3%	18.1%	5.7%	9.7%	12.6%	10.4%	17.2%
20.0 to 24.9 percent	12.5%	14.2%	2.2%	27.6%	18.2%	13.0%	12.2%	16.4%
25.0 to 29.9 percent	11.6%	12.9%	13.4%	10.9%	12.3%	14.0%	12.2%	10.6%
30.0 to 34.9 percent	9.1%	10.0%	7.4%	2.3%	6.6%	10.9%	12.7%	8.3%
35.0 percent or more	43.0%	38.5%	47.9%	35.6%	44.9%	38.7%	46.3%	41.8%
Percent at or below 30% of household income	47.9%	51.4%	44.7%	62.0%	48.5%	50.4%	41.1%	49.9%

Source: Ibid. *(excluding units where GRAPI cannot be computed)

Housing costs, perhaps more than any other factor, lie behind the recent growth and demographic composition of the Town's population. The Northern Virginia housing market is one of the most expensive in the nation. Four Northern Virginia localities rank among the top thirty in the country in median housing value. For many middle and lower-income households, the Town is one of the few places within the region feasible for home ownership.

Table 23: Year Householder Moved Into Unit

Year Householder Moved Into Unit	United States	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	Dumfries town	Quantico town	Triangle CDP	Prince William County	Manassas city	Manassas Park city
	Percent							
Occupied housing units	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2010 or later	10.8%	11.4%	13.3%	27.0%	17.5%	11.3%	12.5%	9.7%
2000 to 2009	51.7%	55.4%	55.2%	64.8%	65.6%	63.5%	55.8%	65.5%
1990 to 1999	18.5%	17.2%	16.2%	3.5%	9.2%	14.1%	16.3%	12.0%
1980 to 1989	8.7%	8.5%	6.7%	3.9%	4.4%	7.2%	11.3%	5.4%
1970 to 1979	5.7%	4.4%	7.2%	0.9%	2.1%	2.8%	2.4%	3.9%
1969 or earlier	4.7%	3.1%	1.4%	0.0%	1.1%	1.2%	1.7%	3.4%

Source: Ibid.

About 13 percent of Town residents have moved into their unit since 2010, more than regional and national averages, but lower than nearby areas (Quantico and Triangle), but higher than other County comparative communities.

Household Size and Composition

Due to its relatively permanent and immobile nature, housing provides a reliable foundation for estimating and projecting local populations. However, while housing units may be easy to count, people relocate, household composition changes, and alternative housing structures attract different types and sizes of households. A statistical measure widely used to summarize and track internal household changes is average household size, a figure derived by dividing the number of people living in households by the total number of occupied housing units or households. Dumfries' average household size in 2010 was 3.23 persons compared to Virginia's average of 2.54 persons.

Comparative Trends in Average Household Size
(Persons per Household)

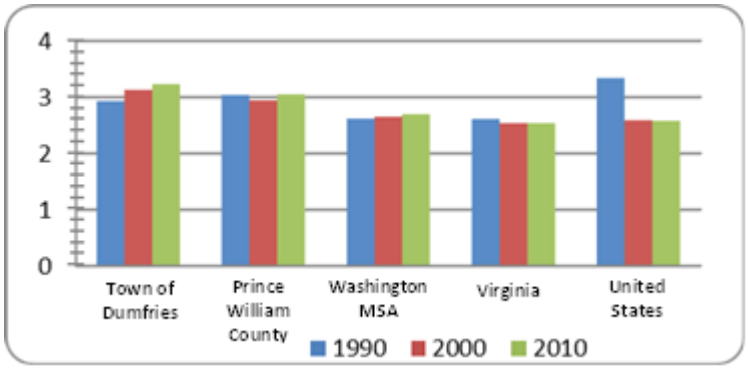


Figure 47: Persons per Household (by jurisdiction)

While the average household size for the Nation and Virginia have shown a steady decline over the last three decades, the average household size in the Town of Dumfries shows an opposite increasing trend, greater than the average for Prince William County or the Washington MSA. For a small community with little room for additional growth, an increasing average household size helps generate a growing population that represents growing consumer demand that can support local businesses.

Jurisdiction	Persons per Household		
	1990	2000	2010
Town of Dumfries	**2.93**	**3.13**	**3.23**
Prince William County	3.04	2.94	3.05
Washington MSA*	2.62	2.65	2.70
Virginia	2.61	2.54	2.54
United States	3.34	2.59	2.58

Source: Census Bureau, Decennial Census of Population and Housing:2000, 2010, Summary File 1; 1990, General Population Characteristics.

Figure 48: Large Single-Family Detached Home

Household Composition Trends

Total households in the Town declined from 2000-2010, compared to increases at the county, state and national levels. Other household composition in the Town reflect some national and state trends. The percent of all households as family households has been declining in the Town, as well as county, state and national levels. Within this trend, however, there has been a more noticeable decline in the share of husband-wife family households, indicating that a greater share of "family households" have become increasingly non-traditional, single parent households with children or other family members. In the more detailed table on the next page, we see that female-headed households (with no husband present) is significantly higher in Dumfries (22.7%) than seen at the national, state or local county level.

Virginia and Prince William County have a rising share of single-person (living alone) households, contrary to national trends. The percent of households with persons living alone in the Town declined from 1990-2000, and remained stable from 2000-2010.

Table 24: Household Composition

Family Households: Percent of Total				
Year	**US**	**Virginia**	**Prince William Co**	**Dumfries**
1990	70.2%	71.1%	80.7%	76.5%
2000	68.1%	68.5%	76.9%	76.2%
2010	66.4%	67.0%	76.9%	74.9%
Husband-Wife Family: Percent of Total				
Year	**US**	**Virginia**	**Prince William Co**	**Dumfries**
1990	55.1%	56.8%	68.9%	57.7%
2000	51.7%	52.8%	61.3%	44.5%
2010	48.4%	50.2%	59.7%	44.5%
Persons Living Alone: Percent of Total				
Year	**US**	**Virginia**	**Prince William Co**	**Dumfries**
1990	24.6%	22.9%	13.2%	17.6%
2000	25.8%	25.1%	17.1%	16.5%
2010	26.7%	26.0%	17.7%	16.5%

Source: See source notes for detailed table on next page.

Type of Home Heat

Most Town residents rely on electricity (58.5%), utility gas (37.1%) and bottled/LP gas, fuel oil or kerosene (3.9% combined) for heating their homes. The general universal dependency on fossil fuels for home heating, combined with the age of the housing stock, suggests a likely community-wide need and opportunity for holistic home performance energy conservation programs that could help reduce home heating (and cooling) energy costs which can account for up to 56 percent of all home energy use.[13] Typical home performance conservation efforts can reduce home energy costs by 20-25 percent. Moreover, these programs often reveal health hazards in the home due to undetected mold, combustion flue gas pollution or the discovery of friable asbestos commonly used in insulation and flooring products from the 1970's and 1980's era of construction.

Table 25: Home Heating Type

House Heating Fuel	United States	Washington DC-VA-MD-WV MSA	Dumfries town	Quantico town	Triangle CDP	Prince William County	Manassas city	Manassas Park city
	Percent of Total							
Occupied housing units	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Utility gas	49.40%	52.5%	37.1%	70.4%	53.1%	57.2%	41.6%	75.9%
Bottled, tank, or LP gas	5.00%	2.4%	0.9%	0.4%	1.1%	2.7%	1.4%	1.0%
Electricity	35.50%	39.0%	58.5%	28.3%	41.6%	36.3%	55.4%	22.8%
Fuel oil, kerosene, etc.	6.50%	4.8%	3.0%	0.9%	3.9%	2.9%	1.3%	0.0%
Coal or coke	0.10%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Wood	2.10%	0.7%	0.6%	0.0%	0.3%	0.6%	0.3%	0.3%
Solar energy	0.00%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other fuel	0.40%	0.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
No fuel used	0.90%	0.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%

Source: Ibid.

Table 26: Household Composition Trends, 1990-2010

Household Composition, 2010	United States		Virginia		Prince William County		Dumfries town	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Households	**116,716,292**	**100.0%**	**3,056,058**	**100.0%**	**130,785**	**100.0%**	**1,531**	**100.0%**
Increase since 2000	11,236,191	10.7%	356,885	13.2%	36,215	38.3%	-42	-2.7%
Family households:	77,538,296	66.4%	2,047,188	67.0%	100,598	76.9%	1,146	74.9%
Husband-wife family	56,510,377	48.4%	1,534,844	50.2%	78,037	59.7%	682	44.5%
Other family:	21,027,919	18.0%	512,344	16.8%	22,561	17.3%	464	30.3%
• **Male householder, no wife present**	5,777,570	5.0%	133,142	4.4%	6,782	5.2%	117	7.6%
• **Female householder, no husband present**	15,250,349	13.1%	379,202	12.4%	15,779	12.1%	347	22.7%
Nonfamily households:	39,177,996	33.6%	1,008,870	33.0%	30,187	23.1%	385	25.1%
Householder living alone	31,204,909	26.7%	795,117	26.0%	23,144	17.7%	278	18.2%
Householder not living alone	7,973,087	6.8%	213,753	7.0%	7,043	5.4%	107	7.0%

[13] Source: http://energy.gov/public-services/homes/heating-cooling

Household Composition, 2000	United States		Virginia		Prince William County		Dumfries town	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Households	**105,480,101**	**100.0%**	**2,699,173**	**100.0%**	**94,570**	**100.0%**	**1,573**	**100.0%**
Increase since 1990	13,532,691	14.7%	407,343	17.8%	24,861	35.7%	117	8.0%
Family households:	71,787,347	68.1%	1,847,796	68.5%	72,737	76.9%	1,198	76.2%
Husband-wife family	54,493,232	51.7%	1,426,044	52.8%	57,957	61.3%	767	48.8%
Other family:	17,294,115	16.4%	421,752	15.6%	14,780	15.6%	431	27.4%
• **Male householder, no wife present**	4,394,012	4.2%	101,462	3.8%	4,154	4.4%	121	7.7%
• **Female householder, no husband present**	12,900,103	12.2%	320,290	11.9%	10,626	11.2%	310	19.7%
Non-family households:	33,692,754	31.9%	851,377	31.5%	21,833	23.1%	375	23.8%
Householder living alone	27,230,075	25.8%	676,907	25.1%	16,164	17.1%	260	16.5%
Householder not living alone	6,462,679	6.1%	174,470	6.5%	5,669	6.0%	115	7.3%

Household Composition, 1990	United States		Virginia		Prince William County		Dumfries town	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Households	**91,947,410**	**100.0%**	**2,291,830**	**100.0%**	**69,709**	**100.0%**	**1,456**	**100.0%**
Family households:	64,517,947	70.2%	1,629,490	71.1%	56,289	**80.7%**	1,114	**76.5%**
Husband-wife family	50,708,322	55.1%	1,302,219	56.8%	48,005	**68.9%**	840	**57.7%**
Other family:	13,809,625	15.0%	327,271	14.3%	8,284	**11.9%**	274	**18.8%**
• **Male householder, no wife present**	3,143,582	3.4%	72,165	3.1%	2,410	**3.5%**	72	**4.9%**
• **Female householder, no husband present**	10,666,043	11.6%	255,106	11.1%	5,874	**8.4%**	202	**13.9%**
Non-family households:	27,429,463	29.8%	662,340	28.9%	13,420	**19.3%**	342	**23.5%**
Householder living alone	22,580,420	24.6%	523,770	22.9%	9,180	**13.2%**	256	**17.6%**
Householder not living alone	4,849,043	5.3%	138,570	6.0%	4,240	**6.1%**	86	**5.9%**

Sources:
US Census Bureau, 2010 Census of Population, American Factfinder, SF2, Table DP02: Selected Social Characteristics.
US Census Bureau, 2000 Census of Population, American Factfinder, Table DP1: Profile of General Demographic Characteristics
US Census Bureau. 1990 Census of Population, CP2: Social and Economic Characteristics

IMPLEMENTATION

Housing Goal
Promote the development of decent, safe and affordable housing.

Housing Policy 1
Identify substandard and/or deteriorating housing and pursue avenues for upgrading and renovating, to assure that housing is available to a broad range of income groups.

Action Strategies:

H-1 Conduct a windshield inventory of substandard and/or deteriorating housing.

H-2 Encourage development of single-family attached units and age restricted condominiums in order to balance the housing stock to match the changing population composition in the Town.

H-3 Develop a community home performance energy conservation program, such as the Home Performance with Energy Star program, to benefit older homes and uncover potential health and safety issues (i.e., mold, asbestos and flue gas emissions/backdrafting problems).

Housing Policy 2
Preserve the housing stock of the Town.

Action Strategies:

H-4 Encourage and assure uniform maintenance of housing in residential neighborhoods through enforcement of property maintenance and building codes.

H-5 Review and amend ordinance provisions to address standards for manufactured housing.

IMPLEMENTATION

Maintaining the Vision

COMPREHENSIVE PLANNING PROCESS

Five-Year Update

Every five years, the Comprehensive Plan will be reviewed and updated to ensure that it is consistent with the overall community vision. This review will also provide an opportunity to assess changes in the community and to update background data and implementation strategies. The following is an outline of the general process to be followed by the Planning Commission and staff when updating the plan:

- Gather up-to-date population, income, employment, and other data to assess trends and compare with projections.
- Compile progress reports from previous annual implementation plans.
- Assess progress toward implementation of the action strategies in the current Comprehensive Plan.
- Collect and address user comments regarding problems with the previous document.
- Update existing land-use maps and background data to reflect current information.
- Assess progress toward implementation of land-use visions for each planning area.
- Host a series of community meetings to reaffirm or adjust the long-term vision and to address any new issues that have arisen over the past five years.
- Revise projections and targets as appropriate.
- Update implementation strategies by incorporating those from the previous plan that were not implemented, and include new items that have emerged as a result of the review process.
- Prioritize the new set of strategies for implementation.

The vision of the plan is intended to remain focused over a period of approximately twenty years for planning purposes. The Planning Commission will continue to work with staff to develop policies and methodologies that allow Town officials to better analyze growth and development in terms of new public costs.

Amendment Procedure

Anyone may request amendments to the Comprehensive Plan. Applicants should set up a meeting with Planning Department staff prior to submitting an application. Amendment applications are accepted with submittal of the appropriate form, fee, and any supplemental information that may be required. For a Comprehensive Plan amendment application to be accepted, one or more of the following criteria must be met:

- The request must be a creative idea or concept that will benefit the community and that was unforeseen during the planning process for the comprehensive plan.
- The subject property or concept was misinterpreted or overlooked in the comprehensive plan.
- Conditions have changed substantially since the last comprehensive plan update, necessitating a change (e.g., changes in surrounding land use or economic conditions)
- An undue hardship exists that substantially limits the use of the subject property.
- The amendment will effectively aid in the implementation of other goals of the comprehensive plan or the community vision.

Amendment applications are considered based on the preceding qualifications. All amendment applications are forwarded to the Planning Commission for consideration. The Commission determines which requests will be considered. The Planning Commission will hold a public hearing on the applications under consideration, and provide its recommendation to Town Council. Any amendment considered by Town Council will go through a public hearing process. The Council or Commission retains the right to initiate an amendment to the Comprehensive Plan at any time. Any amendment must be determined to be consistent with the goals of the Plan.

IMPLEMENTATION

Annual Implementation Plan

The Comprehensive Plan will be reviewed annually to track progress on the implementation of the strategies and to set an annual implementation plan of action for the upcoming year. All action strategies are intended to be addressed at some level within five years. This process will begin each November and conclude in February to precede the capital improvement program update and budget process. The Planning Commission will oversee the process in conjunction with planning staff. The annual review process and implementation plan will consist of the following:

- Review and report of progress toward the implementation of the Comprehensive Plan strategies.
- Prioritization of the remaining strategies for implementation during the upcoming year.
- Designation of who is responsible for implementation of each strategy.
- Descriptions of steps to be taken, and expected progress to be made, on the strategies in the upcoming year.
- Indication of whether items are to be included in the annual budget or capital improvement program.
- Descriptions of measurable indicators that gauge progress toward implementation and that are to be included in the annual budget.

This process will result in an annual implementation plan and serve as a guide for projects that are to be included in the capital improvement program and annual budget. The process will be repeated annually until the next five-year update of the Comprehensive Plan.

Action Strategies

The key to the effective implementation of the Comprehensive Plan is the implementation of the action strategies. The Plan's vision will not be achieved if the goals are not obtained, and the goals will not be realized unless the strategies are implemented. The following table is a consolidated listing of all of the goals and strategies as enumerated in each of the chapters. This table is intended to make tracking the strategies, and cross-referencing strategies between chapters, more efficient and user-friendly. As each year passes, more and more strategies should be under way until most are either in process or completed by the five-year review of the Plan.

The Implementation Matrix is intended to be a dynamic tool and therefore has assigned stakeholders, timeframes, and a comments section. The timeframes are divided into short, medium and long-term categories, subject to vary depending on available funds and staff time. Short-term *Action Strategies* are targeted for completion within five years, medium-term is roughly within a 10-year horizon, and long-term strategies will be completed as funding and time allows, and may extend beyond the scope of this Comprehensive Plan.

Table 27: IMPLEMENTATION MATRIX

ACTION STRATEGIES IMPLEMENTATION

Goals	Action Strategies	Responsible Party	Timeframe	Implementation Comments
Natural Environment				
Natural Environment Goal Maintain and enhance the natural features of the Town, protect the environment from degradation, and foster public awareness of the environment and its natural beauty.	E-1 Encourage creative design principles during the development process to provide more functional open space, preserve sensitive areas, maintain maximum indigenous tree cover, and minimize impervious land cover for the desired and permitted land use.			
	E-2 Support conservation of appropriate land areas in a natural state to preserve, protect, and enhance stream valleys, meadows, woodlands, wetlands, and plant and wildlife through the use of conservation easements, setback buffering, greenways, open space, and applicable Town ordinances.			
	E-3 Identify existing offensive or noxious land uses which pose a threat to water quality or other elements of the environment, either through point or non-point sources, and revise Town ordinances to phase out such uses.			
	E-4 Reduce impervious surfaces and require development to incorporate Best Management Practices (BMPs) when appropriate.			
	E-5 Develop a working relationship with the Virginia Water Control Board to correct pollution impacts from leaking underground storage tanks within, as well as surrounding, the Town.			

Water Quality Goal Maintain and enhance the natural features of the Town, protect the environment from degradation, and foster public awareness of the environment and its natural beauty.	WQ-1	Continue to enforce the Chesapeake Bay Preservation Area Overlay District (CBPA-OD) designed to protect the waters of the Town and the Chesapeake Bay from the adverse effects of urban development.			
	WQ-2	Encourage developers to pursue all opportunities for creative site design to reduce site imperviousness as provided by the performance criteria of the CBPA-OD.			
	WQ-3	Reference the most recent edition of the Northern Virginia BMP Handbook (published by the Northern Virginia Planning District Commission) where development requires the use of structural Best Management Practices as permitted under the performance criteria of the CBPA-OD.			
	WQ-4	Continue to enforce the Floodplain Overlay District to protect floodplains from inappropriate development, as well as to protect the health, welfare, economic, and real estate interests of the citizens of the Town.			
	WQ-5	Investigate water conservation tools that may be implemented by the Town through the building code or other permitted means.			

	WQ-6	Continue to preserve undisturbed areas along stream corridors within the designated 100 foot buffer to naturally filter pollutants from urban sources. Areas designated as RPAs by the CBPA-OD and the Floodplain Overlay District are the primary implementation instruments.			
	WQ-7	Work with the Prince William County Cooperative Extension to conduct periodic citizen workshops to demonstrate techniques and aid residents in reducing the over-application of pesticides and fertilizers which subsequently runoff as non-point source pollution.			
	WQ-8	Request that the Virginia Water Control Board notify the Town of any underground storage tank leaks in areas surrounding the Town which may have an impact on the Town's groundwater supply.			
	WQ-9	Work with the Prince William County Health Department to identify and correct failing septic systems or improperly constructed or abandoned wells which may degrade the Town's groundwater resources.			
	WQ-10	Initiate discussions and organize stakeholders at all levels to work together to identify specific problems and potential solutions associated with Quantico Creek, Port of Dumfries, Quantico Bay, and its tributaries.			
	WQ-11	Adopt measures aimed at restoring Quantico Creek and reducing erosion.			

	WQ-12 Adopt measures to more effectively control hydrilla in the Quantico Creek, Port of Dumfries and Quantico Bay waterways.			
	WQ-13 Identify funding to dredge the Town's section of Quantico Bay.			
	WQ-14 Significantly reduce the sediment in Dewey's Run through dredging and erosion control measures.			
Infrastructure				
Infrastructure Goal Protect the Town's natural and historic resources and critical wildlife habitats by the effective utilization of green infrastructure in all development projects.	I-1 Preserve wildlife corridors, wetlands, and other sensitive areas through the creation of greenways, trails, parks, and other open spaces.			
	I-2 Partner with developers to receive land dedications, as appropriate, to be owned and operated by the Town as public parks and greenways.			
	I-3 Require that open-space dedications that are to be privately maintained are adequately protected and may not be further developed as part of the associated project, or without further public or legal discussion and formal action.			
	I-4 Encourage and support renewable energy generation (windmills, solar panels, biofuel production, and so on) by allowing such facilities in the zoning ordinance.			
	I-5 Build new and remodeled Town buildings to an established energy efficiency standard such as Energy Star or LEED (Leadership in Energy and Environmental Design).			

Municipal Solid Waste Goal Maintain a comprehensive, long-range solid waste management program.	MS-1	Promote an education program on the advantages of waste reduction, recycling, and reuse, as well as the continued use of the recycling center at the landfill site.			
Telecommunications Goal Facilitate the deployment of a comprehensive communications network that ensures the reliability of public safety, wireless, and broadband services.	T-1	Increase access to high-speed broadband for residences and businesses throughout the county.			
	T-2	Give priority for towers on publicly owned land.			
	T-3	Install conduit in the ground for future fiber-optic lines or other high-tech cable uses whenever and wherever the installation of other utility lines is under way, particularly main lines that connect major businesses and public facilities.			
Fiscal Impact Goal Evaluate private developments and public investments, such as capital improvement projects, within a fiscal framework as approved by Town Council.	FI-1	Provide a fiscal impact statement, including an examination of alternative solutions and their costs and benefits, for all capital improvements over $100,000.			
	FI-2	Analyze capital project costs, including the debt service over the life of the loan period to accurately project the financial (tax) impact.			
	FI-3	Amend the Comprehensive Plan as needed to include all projects that are projected in the capital improvement program (CIP).			

	FI-4 Adopt a system of cash proffers, impact fees, level-of-service standards, or some combination thereof, and collect at the earliest possible time while allowing for feasible implementation of the project.			
Historic & Cultural Resources				
Historic & Cultural Resources Goal Identify and protect Town of Dumfries significant historical, architectural, and other cultural resources – including those significant to the Town's minority communities – for the benefit of all the Town residents and visitors.	HCR-1 Continue efforts to identify and update the Town's inventory of significant pre-historic and historic resources, and cemeteries and gravesites and make the information available to all Town departments and the public.			
	HCR-2.1 Conduct studies of potential sites for the significant historic and cultural resources listing, and identify the most important features and historic values of each site.			
	HCR-2.2 Conduct an inventory to identify cultural resource sites that are of significance to the Town's minority communities and integrate the preservation or treatment of these sites into the overall program to protect and preserve the Town of Dumfries heritage.			

	HCR-3	Request that Phase I level archaeological/cultural studies by applicants seeking to develop or redevelop in areas that are identified as historic sensitive. Where a Phase I level study deems it appropriate, require Phase II evaluation or intensive level survey. If sites are determined to be significant, a treatment plan should be completed in consultation with the Town in advance of the final site plan approval.			
	HCR-4	Work with homeowners to nominate sites and structures that meet the appropriate criteria to the National Register of Historic Places (NRHP) and Virginia Landmarks Register.			
	HCR-5	Work with the Prince William County Preservation Division's archaeological laboratory to process and curate artifacts found as a result of the Town's public archaeological projects.			
	HCR-6	Continue to develop sensitivity maps for pre-historic or historic sites and historic viewsheds.			
	HCR-7	Examine existing zoning requirements to assure their consistency with the goal of historic preservation.			
	HCR-8	Continue to maintain existing Dumfries Historic Overlay District as defined in the Zoning Ordinance for the purposes of preserving the historical integrity of important area and sites.			

	HCR-9 Pursue funds from private and public sources for acquisition, protection, restoration and operation of historic properties.			
	HCR-10 Encourage preservation groups to educate the public on the historic character of the Town and the benefits of preserving it.			
	HCR-11 Encourage owners of Town historic properties to participate in Prince William County's Historic Building Plaque Program.			
	HCR-12 Ensure the policies, ethics, standards, and procedures concerning preservation and protection of the Town's historical and archaeological collections are followed in all instances in which collections are exhibited, stored, interpreted or otherwise utilized.			
	HCR-13 Encourage research projects and studies that inform and educate Town residents and visitors about the Town's past.			
	HCR-14 Invite universities and colleges to conduct research studies and report on the Town's history and prehistory.			
	HCR-15 Support a cultural resources intern program in coordination with local universities and colleges.			

	HCR-16 Distribute historic and cultural resource reports prepared in conjunction with development applications in the Town, including Phase I, Phase II, Phase III level studies, and Army Corps of Engineers Reports, to appropriate repositories and libraries, including the VDHR and the Prince William County Planning office and regional libraries.			
	HCR-17 Continue to support the preparation of brochures that provide visitors with information on the Town's history and significant cultural resources.			
	HCR-18 Continue to preserve, develop, and support the Weems Botts Museum, Merchant Park, Williams Ordinary, Prince William County Courthouse (Fourth) and Jail site, Quantico Church Site and Dumfries Cemetery, Tebbs-Mundy House Site, and other sites identified by the Town through ongoing education and promotion.			
	HCR-19 Conduct cultural and natural resource management of town-owned historic sites and heritage parks.			
	HCR-20 Encourage landowners and archaeologists who have collected and catalogued artifacts found in the Town to curate such artifacts with the Town for the purpose of displaying them for education and tourism.			

	HCR-21 Develop a "Preserve a Site" program in which citizens and businesses pledge to preserve and properly manage an archaeological, architectural, or cemetery site.			
	HCR-22 Develop a Town of Dumfries walking map to emphasize historic structures and sites.			
	HCR-23 Create a streetscape design theme for Main Street that builds on a historic theme.			
	HCR-24 Implement phased streetscape improvements in accordance with the Main Street Plan.			
	HCR-25 Create wayfinding signage along the gateway corridors to the Town of Dumfries.			
	HCR-26 Continue to support Weems Botts Museum and Merchant Park to promote tourism.			
	HCR-27 Use a historic naming convention to identify bike trails, pedestrian pathways, and programs.			
	HCR-28 Document any unmarked gravesites placed on the perimeter of existing cemeteries, whose markings may have since been destroyed.			
	HCR-29 Discourage owners and developers of land planned for development from relocating cemeteries and gravesites to another location.			

	HCR-30 Revise the permitting process to require a check for the presence of a cemetery on a property proposed for grading or construction and in compliance with the Federal Cemetery Preservation Requirement Act.			
	HCR-31 Build upon the Town's historical character as the foundation for future development.			
	HCR-32 Develop local incentives, such as tax credits, to maintain and strengthen the Town's historic character as part of the development process.			
	HCR-33 Continue to work with private sector investment in preservation and renovation projects.			
	HCR-34 Educate NRHP or Virginia Historic Landmarks Register owners on the benefits of historic preservation, such as the availability of property tax incentives.			
Parks and Recreation				
Recreation Goal Provide recreational opportunities for all ages of residents within the Town of Dumfries.	R-1 Provide locations for residents, visitors, and businesses to engage in active recreational activities.			
	R-2 Provide equipment for both youth and adult activities.			
	R-3 Promote and encourage existing programs for all ages.			
	R-4 Develop new programs to encourage team sports and the development of individual skills.			
	R-5 Provide multi-purpose trails for walking, running, and biking.			

	R-6	Provide venues to promote cultural arts and entertainment opportunities for residents.			
	R-7	Provide venues for family gatherings and social events.			
	R-8	Provide and maintain open space and natural trails for areas to sit or stroll.			
	R-9	Require any mixed-use development projects with medium-to-high density to incorporate a plaza to encourage civic and social engagement.			
Park Design & Connectivity Goal Develop a system of parks and trails that are designed to engage the citizens with the natural environment and connect them to recreational opportunities.	PD&C-1	Analyze the use of existing parks and project future needs.			
	PD&C-2	Design new parks to accommodate projected needs and incorporate an appropriate balance of active and passive recreational uses.			
	PD&C-3	Reprogram parks over time based on changes in use and citizen input.			
	PD&C-4	Examine existing Town properties for possible use as pocket parks.			
	PD&C-5	Encourage community gardens in park locations near residential neighborhoods.			
	PD&C-6	Identify connections to include sidewalks, trails, crosswalks, and bike paths.			
	PD&C-7	Provide widespread access to active and passive recreational opportunities throughout the town.			
	PD&C-8	Improve and enhance connections to existing sites.			

	PD&C-9	Design parks to promote and encourage orientation towards adjacent neighborhoods and connect to other Town resources.			
Recreational Quality of Life Goal Promote & encourage healthy lifestyles through passive & active recreational opportunities.	RQL-1	Encourage and engage community stakeholders as partners in the promotion of a higher standard of community health and well-being.			
	RQL-2	Provide programs that facilitate healthy lifestyles for all ages.			
	RQL-3	Introduce and encourage participation in diverse cultural programs to enrich the lives of residents.			
Parks & Recreation Funding Goal Identify resources to establish permanent and ongoing funding for parks and recreation in the Town.	P&RF-1	Create a category within the annual budget consisting of multiple line items including capital costs as programmed in the CIP, operating and maintenance costs.			
	P&RF-2	Identify Federal, State, and local grant opportunities, and pursue those that will accomplish realistic expectations that can be achieved with existing Town Resources.			
	P&RF-3	Create a Parks and Recreation grant revenue line item to include potential grant revenue.			

	P&RF-4	Identify public, private, and non-profit resources to offset costs associated with providing recreational opportunities for the Town.			
	P&RF-5	Establish a proffer policy for dedication of land for future parks or monetary contributions related to all rezonings.			
	P&RF-6	Allow applicants requesting a Conditional Use Permit to contribute land or money for parks as a way to mitigate the impact of development on the Town.			
	P&RF-7	Establish policies and standards for the negotiation of naming rights for future parks.			
	P&RF-8	Establish an adopt-a-bench program to provide areas to sit and relax throughout the Town.			
	P&RF-9	Establish an annual adopt-a-park program for organizations, businesses, and individuals who want to donate money towards a park project or recreational activity.			

Community Facilities					
Community Services & Facilities Goal Promote a coordinated system of community facilities and services to maintain and enhance the quality of life in the Town.	CS&F-1	Develop a trail system plan that is coordinated with the pedestrian circulation plan to provide public access linkages to recreational facilities both within and adjacent to the Town.			
	CS&F-2	Continue to develop a plan for law enforcement programs in the community with emphasis on juvenile issues and community policing.			
	CS&F-3	Create a working relationship with PRTC to expand bus service within town to encourage citizens to commute from Town.			
	CS&F-4	Expand recreation programs within the Town though grant and CIP funding.			
	CS&F-5	Continue to pursue the development and build out of Ginn Memorial Park in order to provide passive and active recreation facilities in a centralized area of Town.			

Land Use				
Main Street Goal Create a medium density mixed-use environment integrating complimentary uses with an emphasis on preserving existing neighborhoods; and enhancing the vibrancy, attractiveness and economic well-being of the Main Street area.	LU-MS-1 Develop a Main Street Plan to address the community's land use, aesthetic and design goals for the historic, general business and mixed use areas along Main Street. The plan should: ➢ Emphasize the redevelopment of the Main Street area as a pedestrian oriented, mixed-use, neighborhood serving center. ➢ Integrate medium density buildings with retail/office on the first floor with residential above. ➢ Identify neighborhood services and uses with an emphasis on encouraging a walkable community. ➢ Include a mix of commercial, office and residential uses while preserving the scale and historical character of the Town. ➢ Include small-scale neighborhood supporting retail uses, such as cafes, delis, on the ground level in buildings with three or more stories. ➢ Balance building height with respect to the proximity of nearby residential neighborhoods. ➢ Place an emphasis on pedestrian scaled building entrances. ➢ Encourage multi-modal accessibility and connectivity. ➢ Integrate streetscape design concepts to include, tree-lined street frontage, landscaped road frontage, wide sidewalks, outdoor seating, trashcans, street lighting, etc.			

	LU-MS-2	Amend the Zoning Ordinance to permit or require buildings be built to the street with parking in the rear, or as part of a consolidated parking district.			
	LU-MS-3	Zone for a mixture of both high and medium density living and working areas to improve the economic vibrancy of the area and to create a sense of community that enhances the identity, cohesiveness and pride of the Town for its Main Street area.			
Waterfront Goal Incentive the restoration of Dumfries' waterfront as the centerpiece for a vibrant, high density mixed-use community.	LU-W-1	Promote a balanced mix of residential, commercial, and office uses that encourage and support the integration of activities, employment opportunities, entertainment venues, and civic and open spaces.			
	LU-W-2	Develop a plan that demonstrates the feasibility of a waterfront development in a floodplain area.			
	LU-W-3	Encourage waterfront oriented activities/access.			
	LU-W-4	Integrate pedestrian connectivity to encourage walking and recreational uses.			
	LU-W-5	Encourage public transportation infrastructure in developments to reduce car trips.			
	LU-W-6	Permit the development of a waterfront activity center with higher density buildings.			

	LU-W-7	Integrate parking as a part of the whole development plan, rather than individual parcels and buildings, so as to minimize conflict with water views and pedestrian connectivity.			
	LU-W-8	Require streetscaping in the overall design of the development project with an emphasis on pedestrian features to include wide sidewalks, plazas and/or gathering places.			
Fraley Boulevard Goal Encourage the development of a well-planned, mixed-use employment center to create higher income jobs, generate economic growth and improve the overall tax base of the Town.	LU-FB-1	Establish an integrated and coordinated boulevard streetscape to create an attractive pedestrian environment for residents, businesses and visitors.			
	LU-FB-2	Design a balanced and coordinated multi-modal transportation system with convenient, safe and physically attractive pedestrian access, and efficient vehicular circulation.			
	LU-FB-3	Achieve good architectural and urban design practices with buildings that relate well to one another and to the street.			
	LU-FB-4	Integrate multi-story buildings with frontage on sidewalks with attractive landscaping, furnishings, and relegated parking lots (in the rear of the building).			
	LU-FB-5	Encourage tree-lined streets with pedestrian features.			
	LU-FB-6	Develop an Access Management Plan with well-defined pedestrian crossways at intersections as defined by the Access Management Plan.			

	LU-FB-7	Permit higher density buildings fronting Fraley Boulevard with transitional densities that compliment adjacent residential neighborhoods.			
	LU-FB-8	Plan and build safe, convenient, aesthetic, multi-modal trails.			
	LU-FB-9	Incorporate a parallel road along the Dominion Power easement to access properties fronting Fraley Boulevard.			
Mixed-Use Goal Strengthen the Zoning Ordinance to permit high quality mixed use development.	LU-MU-1	Amend the Zoning Ordinance to permit or require the design standards set forth in the Comprehensive Plan.			
	LU-MU-2	Amend the Zoning Ordinance to establish urban design standards that reflect quality design and good land use principles that control the height, scale, and massing of new development.			
Urban Design Goal Encourage complimentary building height, scale, design and character.	LU-UD-1	Building design should be consistent with the Comprehensive Plan.			
	LU-UD-2	Parking lot location, configuration, access points and screening should balance vehicular and pedestrian connectivity.			
	LU-UD-3	Parking lots and structures should be designed and screened to mitigate visual intrusion or incompatibility with the adjacent residential neighborhoods.			
	LU-UD-4	Explore incorporating an alternate regulatory format such as a form-based code to guide future land use development and to create more options for developers.			

Residential Goal Preserve the integrity of existing residential areas and encourage a harmonious mix of residential uses for all socioeconomic levels.	LU-R-1	Maintain existing residential zoning for established neighborhoods in order to preserve these stable, developed residential area			
	LU-R-2	Encourage mixed-use, high density residential uses to maximize the best and highest uses in areas prime for development and redevelopment to ensure the Town remains economically self-sufficient.			
	LU-R-3	Encourage ground-floor commercial uses to incorporate upper-floor residences in new infill buildings along the Main Street Corridor.			
Commercial Goal Promote the development of commercial retail, service and convenience uses within the Town that provide economic benefits to the community.	LU-C-1	Develop and implement a concept plan for the desired design of commercial uses.			
Industry Goal Diversify the Town's industrial base and promote appropriate industrial redevelopment that is consistent with the urbanized character of the Town.	LU-I-1	Develop specific requirements for site design, landscaping, architectural and bulk standards that facilitate improvement of the Town's industrial sector.			
Redevelopment Goal Encourage the redevelopment of existing strip commercial development that fosters economic development and encourages a mix of compatible uses which are attractive and well designed.	LU-RE-1	Strengthen the mixed use zoning district to emphasize pedestrian activity with recommended design guidelines.			
	LU-RE-2	Incorporate within the mixed-use district design and architectural controls that further the aesthetic goals of the district.			

Neighboring Jurisdictions Goal Maximize the positive impact of outside development on the Town's economic growth.	LU-NJ-1	Coordinate with Prince William County on planning and review of major projects near the Town to mutually address potential impacts from development.			
Community Design and Aesthetics Goal Enhance the overall visual appearance and attractiveness of the community through aesthetically pleasing architectural design.	CDA-1	Develop a beautification plan for the Main Street Corridor through cooperative Town, citizen and business input, which emphasizes the Town's goals and historic character.			
	CDA-2	Identify potential beautification improvements that may be accomplished by the Town as part of its Capital Improvements Program (CIP).			
	CDA-3	Establish design guidelines for the Town's commercial zoning districts.			
	CDA-4	Adopt minimum landscaping and public facility requirements for each zoning district.			
	CDA-5	Develop detailed design and construction standards as part of a facilities standards manual.			
	CDA-6	Amend the zoning and subdivision ordinances to reduce entrances onto northbound and southbound Route 1 and require provisions for inter-parcel access connections.			
	CDA-7	Develop an overlay district along Route 1 and Route 234 with specific aesthetic and design standards for buildings and site development.			

Transportation					
Roadways Goal Improve and expand the Town's street network so that the arterial primary, collector, and local roads that serve the community are integrated into an effective multi-modal transportation system.	T-R-1	Coordinate the Town's Capital Improvements Plan (CIP) with Prince William County's Comprehensive Plan and evaluate transportation data (e.g., traffic patterns and traffic counts) on a regular basis so the Town can have an accurate needs assessment for development, regional growth, funding sources, and other identified priorities.			
	T-R-2	Actively seek funding opportunities, including federal/state funds and grants, to achieve transportation goals that minimize general fund impacts.			
	T-R-3	Improve lobbying efforts and increase information sharing by closely collaborating with the Planning District Commission and VDOT District on planned road priorities to maximize the political and financial capital for identified projects.			
	T-R-4	Require residential and commercial development to provide right-of-way for the widening of planned road improvement projects.			
	T-R-5	Adopt a Proffer Policy that accounts for external development impacts on Town services to enable the Town to negotiate proffers associated with conditional rezonings resulting in improvements to the Town's transportation system.			

	T-R-6	Adhere to Prince William County's Design and Construction Standards to guide new development/redevelopment that addresses requirements for public facilities relative to streets and pedestrian/bicycle facilities, water/sewer, parking, and stormwater management.			
	T-R-7	Maintain storm drainage facilities on a regular basis to ensure that roadways are not structurally undermined by flooding or erosion.			
	T-R-8	Prioritize the repaving of streets throughout the Town based on pavement inspection by Town staff or their designees.			
	T-R-9	Coordinate traffic signals to optimize signal timing along roadways with signalized intersections and roadway corridor segments.			
	T-R-10	Limit driveway and commercial access points along major arterials and collectors streets, thus increasing safety and traffic efficiency.			
	T-R-11	Evaluate lane markings and consider adjustments where possible to accommodate traffic efficiency or provide for additional users such as bicycle lanes.			
	T-R-12	Integrate traffic calming concepts into new neighborhood developments and major redevelopments.			
	T-R-13	Plan for all road projects to accommodate multi-modal features for transit, pedestrian and bicycle access.			

	T-R-14 Begin design for widening Fraley Boulevard to be compatible with multi-modal elements consistent with VDOT's typical section south and north of the Town. This will position the Town for future funding, and assist in understanding right-of-way impacts to partner with land-owners and developers to obtain right-of -way or proffers for rezonings.			
	T-R-15 Adopt a downtown streetscape plan that utilizes the existing pavement width to provide landscaping opportunities and a pedestrian-friendly atmosphere to encourage redevelopment on a mixed-use downtown or "town center" nature.			
	T-R-16 Promote VDOT and FHWA initiatives to construct additional capacity on I-95, without financially impacting Town residents.			
	T-R-17 Promote planning and construction of additional HOV lanes south of Exit 152 in order to relieve spillover traffic that clogs Town roads when I-95 is backed up.			
	T-R-18 Promote the use of high occupancy vehicle (HOV) lanes, as well as carpooling and vanpooling, through incentives for destinations (commercial, office, other) that accommodate ridesharing programs.			

Alternative Transportation Facilities Goal Develop an integrated, multi-modal pedestrian and bicycle network that enhances the Town's roadway system.	T-ATF-1	Construct all sidewalks to a minimum of five feet in width and incorporate a three foot utility strip between curb and sidewalk wherever possible.			
	T-ATF-2	Finance and construct the Multi-modal Plan's sidewalk priorities.			
	T-ATF-3	Provide appropriate markings and identifications including, but not limited to, road striping, bicycle lane designations, signage, and way-finding reference points.			
	T-ATF-4	Using the inventory and existing databases of bus routes within the county, identify bus stop locations within Town limits that are lacking adequate pedestrian access and prioritize the installation of pedestrian.			
	T-ATF-5	Continue to apply for appropriate state, regional, and federal funding assistance in developing a safe and effective pedestrian and bicycle network.			
	T-ATF-6	Require the inclusion of sidewalks in all development and redevelopment.			
	T-ATF-7	Update Town ordinances that encourage "Complete Streets" design.			
	T-ATF-8	Integrate wider sidewalks where necessary to accommodate pedestrian movements in community and commercial centers.			

	T-ATF-9 Seek non-motorized connections to community and commercial centers, regional destinations, and sites of interest; such as cultural, historic, and park facilities.			
	T-ATF-10 Develop street standards for a project as appropriate to the project and in accordance with Traditional Neighborhood Design standards.			
	T-ATF-11 Identify paper streets that are appropriate for future roadway right-of-way.			
	T-ATF-12 Identify paper streets that have encroachments or are otherwise more appropriate as future alternative transportation routes that enhance the connectivity of the overall Town transportation system.			
Mass Transit Goal Integrate transit services to link jobs, housing, commerce, and recreation within the Town and immediate area.	T-MT-1 Promote an efficiently designed bus feeder network to connect commuter rail stations, commuter lots and other transit centers as an integral part of a broader access plan to curtail single occupancy vehicle (SOV) access.			
	T-MT-2 Require the provision of transit facilities and services with conditional use permit (CUP) applications and rezonings, as appropriate.			

	T-MT-3 Coordinate transit provisions with development and site plan proposals. Add specific transit facilities (e.g., shelters, appropriate lighting, sidewalk access, etc.) to development checklists when reviewing plans.			
	T-MT-4 Determine what the needs are for mobility impaired populations.			
	T-MT-5 Coordinate an efficient and effective intra- and inter-transit system to ensure sufficient bus connections and access to and between community and commercial centers. This requires close cooperation with adjacent jurisdictions, federal, state and regional, transportation agencies such as but not limited to VRE, PRTC, VDOT, and WMATA.			
	T-MT-6 Work with Prince William County to more effectively lobby state and federal government for additional transit funding streams.			
	T-MT-7 Consider the location of mobility impaired populations and their travel needs (i.e., doctor, hospital, shopping, social activities, etc.) when deciding on the placement of bus route locations, and examine ways to provide transportation alternatives to those populations that don't have access to PRTC or VRE services (e.g., taxicabs, local transit service, etc.).			

Parking Goal Integrate adequate parking to sustain economic development in an ecologically and aesthetically attractive manner.	T-P-1	Develop new parking standards and incorporate them into Town ordinances.			
	T-P-2	All parking lots and structures must be designed and screened to eliminate visual intrusion or incompatibility with the adjacent residential neighborhoods, historic or conservation.			
	T-P-3	Provide multi-modal access between park and ride lots and surrounding uses.			
	T-P-4	For certain Traditional Neighborhood Development proposals, encourage parking requirements to be met in a variety of ways, including the use of publicly owned parking, thereby allowing more effective use of developable land.			
	T-P-5	Coordinate parking policies with transportation demand management policies and strategies (i.e., the provision for reserved spaces for carpools).			
	T-P-6	Encourage structured parking associated with transit facilities and services, as appropriate, such as with parking districts.			

Housing				
Housing Goal Promote the development of decent, safe and affordable housing.	H-1 Conduct a windshield inventory of substandard and/or deteriorating housing.			
	H-2 Encourage development of single-family attached units and age restricted condominiums in order to balance the housing stock to match the changing population composition in the Town.			
	H-3 Develop a community home performance energy conservation program, such as the Home Performance with Energy Star program, to benefit older homes and uncover potential health and safety issues (i.e., mold, asbestos and flue gas emissions/backdrafting problems).			
	H-4 Encourage and assure uniform maintenance of housing in residential neighborhoods through enforcement of property maintenance and building codes.			
	H-5 Review and amend ordinance provisions to address standards for manufactured housing.			

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