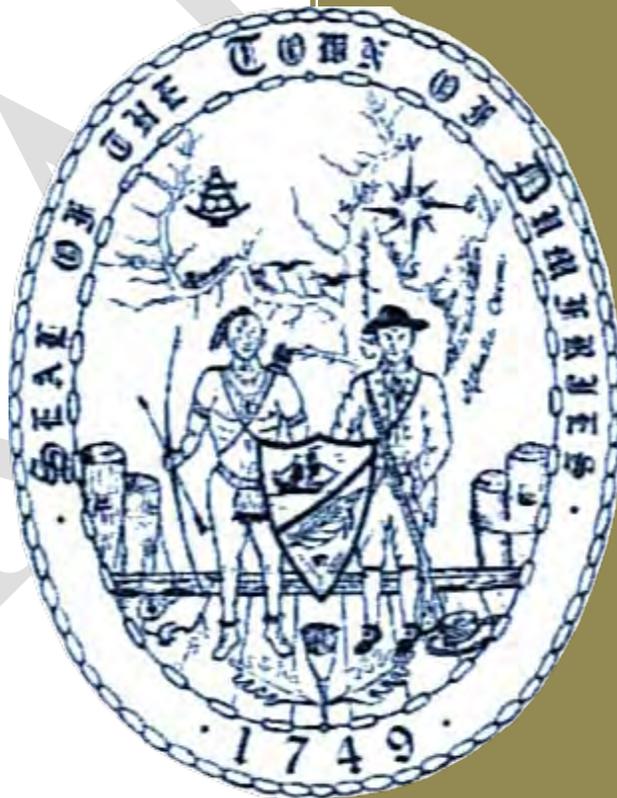


2011

Town of Dumfries Comprehensive Plan



Chartered 1749
Incorporated 1961
Virginia's Oldest Town

December 2011

(this page intentionally left blank)

DRAFT

OFFICIALS OF THE TOWN OF DUMFRIES, VIRGINIA

December, 2011

MAYOR

Fred E. Yohey, Jr.

TOWN COUNCIL

Nancy H. West, Vice-Mayor

Dorothea Barr

Gerald M. Foreman, II

Kristin W. Forrester

Michele Jurgensen

Willie J. Toney

TOWN PLANNING COMMISSION

Christopher A. Padberg, Chair

William O'Kelly Russell, Vice-Chair

Louis Praino, Secretary

James L. Vinson

Louise Waggy

John E. Webb

Gina Critchley

TOWN MANAGER

Daniel E. Taber

DIRECTOR OF COMMUNITY & ECONOMIC DEVELOPMENT

Debra Sandlin

DIRECTOR OF PUBLIC WORKS

Gregory M. Tkac

TOWN PLANNER / ZONING ADMINISTRATOR

David Moss

(this page intentionally left blank)

DRAFT

**COMPREHENSIVE PLAN FOR THE
TOWN OF DUMFRIES
VIRGINIA**

Certified by the Dumfries Planning Commission on November 7, 2011

Adopted by the Dumfries Town Council on December 6, 2011

**Prepared by
The Dumfries Planning Commission
Town of Dumfries, Virginia**

*Sections of previous Comprehensive Plan still contained in current version were written with assistance from the
Northern Virginia Regional Planning District Commission
7535 Little River Turnpike, Suite 100
Annandale, Virginia 22003*

*And funded in part by the
Chesapeake Bay Local Assistance Department*

(this page intentionally left blank)

DRAFT

A note on the preparation of the 2011 Comprehensive Plan Update:

This update to the Town's Comprehensive Plan was a collaborative effort involving, residents, businesses, developers, property owners, community leaders, and assistance from Prince William County's Planning Department.

Acknowledgements

Land Use Plan

Lou Cononico, Christopher Consultants Engineering

Don Little, Architectural Review Board

Dorothea Barr, Town of Dumfries Council Lady

O'Kelly Russell, Planning Commission

Marion Wall, Property Owner

Kimberly Alexander, (former) Town Manager

David Moss, Town Planner/Zoning Administrator

Debi Sandlin, Director of Community and Economic Development

Transportation Plan

Rick Canizales, Prince William County Transportation Department

Dorothea Barr, Town of Dumfries Council Lady

William O'Kelly Russell, Planning Commissioner

Greg Tkac, Director of Public Works

The Berkley Group, LLC

Historic & Cultural Resources Plan

Joann Baron, Weems Botts Museum

Mike Kitchen, Christopher Consulting

Brendan Hannifin, Prince William County Historic Preservation Department

Debi Sandlin, Director of Community and Economic Development

(this page intentionally left blank)

DRAFT

TABLES OF CONTENTS

TABLES OF CONTENTS	iii
LIST OF FIGURES	ix
LIST OF TABLES	x
PREAMBLE	xi
Chapter One: Introduction	13
BACKGROUND	3
Overview of the Town of Dumfries	3
Purpose and Scope of the Comprehensive Plan	5
Statutory Authority for the Comprehensive Plan	5
Organization of the Comprehensive Plan	6
Chapter Two: Existing Conditions & Resources Inventory	7
POPULATION	9
Introduction	9
Population Growth	9
A Comparatively “Youthful Population”	11
More Racially Diverse	15
Educational Attainment	16
Income	16
Labor Force	18
Mobility	22
HOUSING	23
Introduction	23
Residential Growth and Development	23
Future Development	24
Condition of Housing	28
Home Ownership	28
Value of Housing	28
Household Size and Composition	31

ECONOMIC & FISCAL RESOURCES	33
Introduction	33
Real Estate Property and Personal Property Taxes	33
Water Supply, Capacity, and Conservation	35
PUBLIC UTILITIES	35
Introduction	35
Prince William County Service Authority Utilities	35
Water	35
Water System Facilities	37
Water Quality	39
Sanitary Sewer	39
Energy Utilities (Natural Gas, Electricity)	40
Telecommunications Utilities	40
Recreational Facilities within the Town	41
Recreational Facilities outside the Town	41
PUBLIC/COMMUNITY FACILITIES AND SERVICES	41
Introduction	41
Recreation	41
Park Authority Planning	44
Schools	44
Libraries	46
Police	46
Fire and Rescue	47
Solid Waste	48
Health & Social Services	48
Climate	49
ENVIRONMENT	49
Introduction	49
Environmental Inventory	49
Topography	50
Geomorphology	52
Soils	54
Surface Hydrology	56

Groundwater	59
Wetlands	59
Environmental Habitats	62
Aquatic and Marsh Wildlife and Vegetation	62
Forest Vegetation and Wildlife.....	64
Chesapeake Bay Preservation Act	66
Environmental Constraints on Development	66
Topographic Constraints on Development	67
Sensitive Soils Features	67
Wetlands	76
Groundwater Protection	77
Flood Hazard Areas	78
Wildlife Protection.....	80
Underground Storage Tanks	81
Potential Sources of Pollution.....	81
Above Ground Storage Tanks.....	82
Non-Point Source Pollution	82
Point Source Surface Water Discharges	83
Malfunctioning Septic Drainfields.....	83
Landfill.....	84
Air Quality	85
Chapter Three: Goals, Policies & Strategies	87
Introduction	89
HOUSING	89
Housing Goal	89
COMMUNITY SERVICES AND FACILITIES	91
Community Services & Facilities Goal.....	91
ENVIRONMENT	93
Environment Goal	93
COMMUNITY DESIGN AND AESTHETICS.....	94
Community Design and Aesthetics Goal	94
LONG RANGE GROWTH.....	95
Long Range Growth Goal	95

Chapter Four: Future Plans.....	97
Introduction	99
HOUSING PLAN.....	99
Existing Housing	99
Future Housing Growth.....	100
COMMUNITY SERVICES AND FACILITIES PLAN.....	100
Recreation	100
Schools	101
Libraries	101
Police.....	101
Fire and Rescue	101
Solid Waste	101
Health and Social Services.....	102
ENVIRONMENTAL PLAN	102
Protection of Sensitive Environmental Features and Water Quality.....	102
COMMUNITY DESIGN AND AESTHETIC PLAN	104
LONG RANGE GROWTH PLAN	105
ECONOMIC AND FISCAL PLAN.....	105
CAPITAL IMPROVEMENTS PLAN	107
Land Use Plan.....	109
INTENT.....	111
TOWN AT A CROSSROADS.....	112
Historic Land Use Patterns	113
Segregation of Land Uses	113
EXISTING CONDITIONS	113
Introduction	113
Elements of Historic Town Development.....	113
Zoning Districts	114
Existing Zoning.....	114
Overlay Districts	116
General Development Patterns	117
Existing Land Use	117
Composition of Land Uses	119

Gross and Net Vacant Land	123
Composition of Net Vacant Land	123
Vacant Land and Development Potential.....	123
Existing Land Use and Zoning	125
Projection of Residential Buildout.....	125
Land Use and Zoning Adjacent to the Town	125
Planned Land Use Adjacent to the Town	126
GOALS, POLICIES, AND ACTION STRATEGIES	127
Main Street Goal	127
Waterfront Goal	128
Fraley Boulevard Goal	129
Mixed-Use Goal.....	130
Urban Design Goal.....	131
Residential Goal.....	131
Commercial Goal	132
Industry Goal.....	133
Redevelopment Goal.....	133
Neighboring Jurisdictions Goal.....	134
IMPLEMENTATION	135
Development Codes	135
Residential Uses	135
Main Street Commercial Corridor	136
General Business (Retail/service) Uses	136
Historic Commercial District	138
Mixed Use – Office/Commercial/Residential	138
Greenways/Open Space/Recreational	139
LAND USE TYPES	141
Mixed-Use Districts	141
High Density Districts.....	141
Medium Density Districts	141
Low-Density Residential.....	141
Employment Centers	142
Transitional Uses.....	142

Public Uses.....	142
Parks and Open Space.....	142
Density (FAR) and Units Per Acre	142
Existing Land Use Calculations.....	143
Transportation Plan.....	145
General Road System.....	147
INTENT.....	147
EXISTING CONDITIONS	147
Roadways	147
Street Maintenance & Construction.....	149
Traffic Circulation and Safety	150
Regional Access.....	150
Significant County Roadway Projects	151
Sidewalks	152
Alternative Transportation Facilities.....	152
Bicycle lanes	153
Greenway trails.....	153
Connectivity.....	154
Mass Transit.....	155
Rapid Transit.....	156
Local Transit.....	156
Parking Accommodations	156
GOALS, POLICIES, AND ACTION STRATEGIES	159
Roadways Goal	159
Alternative Transportation Facilities Goal.....	161
Mass Transit Goal	162
Parking Goal.....	163
IMPLEMENTATION	165
Historic & Cultural Resources Plan.....	166
INTENT.....	166
EXISTING CONDITIONS	166
The Rise and Fall of Dumfries	166
The Town of Dumfries as a Municipality	166

The Growth of the Town.....	166
Historic Resources	166
SIGNIFICANT HISTORIC AND CULTURAL RESOURCES	166
GOALS, POLICIES, AND ACTION STRATEGIES	166
Historic & Cultural Resources Goal	166

LIST OF FIGURES

Figure 1 - Town of Dumfries Vicinity Map.....	4
Figure 2 - Town of Dumfries Population 1800 - 2010	10
Figure 3 - Town of Dumfries Age Distribution of the Population	12
Figure 4 - Comparative Age Structures	13
Figure 5 - Town of Dumfries Racial Composition 1980-2010.....	14
Figure 6 - Minority Population 2010	15
Figure 7 - Proportion of Population with College Degree 2000.....	16
Figure 8 - Median Household Income 1999	17
Figure 9 - Distribution of Household Income 1999.....	17
Figure 10 - Town of Dumfries Employment Occupation and Industry 2000.....	19
Figure 11 - Town of Dumfries Mobility of Population	22
Figure 12 - Town of Dumfries Housing Stock	24
Figure 13 - Town of Dumfries Housing Construction Since 2000.....	26
Figure 14 - Existing Housing in 1993.....	27
Figure 15 - Comparative Housing Characteristics.....	29
Figure 16 - Town of Dumfries Value of Owner-Occupied Housing, 2000.....	30
Figure 17 - PWCSA Water Utility Map	36
Figure 18 - PWCSA Sewer Utility Map	38
Figure 19 - Recreational and Community Facilities	43
Figure 20 - Average Precipitation Per Month at Quantico Marine Corps Air Facility in Inches	50
Figure 21 - Topographic Map of Dumfries.....	51
Figure 22 - Hydrology of Prince William County	53
Figure 23 - Quantico Creek Shoreline Erosion Map	55
Figure 24 - Chesapeake Bay Overlay District	58
Figure 25 - National Wetlands Inventory Map - Quantico Quadrangle	60
Figure 26 - Town of Dumfries Restrictive Topography Map.....	68
Figure 27 - Highly and Moderately Erodible Soils in Dumfries	70
Figure 28 - Map of Specific Soil Locations and Soil Conservation Service Identification Numbers	72
Figure 29 - Prince William DRASTIC Map – Dumfries Area	79
Figure 30 - Existing Zoning as of October 21, 2011	115
Figure 31 - Existing Land Use - 1993.....	118

Figure 32 - Future Land Use Map.....	144
Figure 33 - Transportation Project Priorities Map.....	166
Figure 34 - Map of Historic Dumfries	166
Figure 35 - Weems-Botts House.....	166
Figure 36 - Henderson House	166
Figure 37 - Williams Ordinary.....	166
Figure 38 - Map of High Sensitivity Areas.....	166

LIST OF TABLES

Table 1 - Population by Race and Ethnicity Changes 1990-2000	15
Table 2 - Town of Dumfries Composition of Employment.....	20
Table 3 - Town of Dumfries Composition of Working Class	20
Table 4 - Comparative Labor Force Characteristics 2000	21
Table 5 - Town of Dumfries Inventory of Existing Residential Units	25
Table 6 - How Mix of Housing in Dumfries Compares with Other Places*	28
Table 7 - Change in Household Composition 1980 - 1990	32
Table 8 - Comparative Household Compositions 1990.....	32
Table 12 - Public Facilities In & Near the Town of Dumfries	42
Table 13 - Recreational Facilities In and Near Dumfries	45
Table 14 - Virginia Fishable Water Quality Standards for Class II and Class III Waters	57
Table 15 - Water Discharge, Sediment, and Temperature for Quantico Creek (1983 - 1985)#	57
Table 16 - Common Species of Aquatic and Marsh Wildlife and Vegetation	63
Table 17 - Common Species of Upland Wildlife and Vegetation	65
Table 18 - Summary of Soil Characteristics Relative to Potential Use Suitability in Dumfries	75
Table 19 - Underground Storage Tank Statistics for Dumfries	81
Table 20 - Town of Dumfries Acreage of Existing Zoning by Zoning District	116
Table 21 - Town of Dumfries Acreage of Existing Land Use.....	119
Table 22 - Town of Dumfries Land Development Potential Inventory.....	123
Table 23 - Town of Dumfries Inventory of Net Vacant Land by Zoning District.....	124
Table 24 - Town of Dumfries Inventory of Vacant Land by Zoning District and Parcel Size.....	124
Table 25 - Town of Dumfries Projection of Potential Residential Units Given Existing Zoning and Buildout of Vacant Land.....	125
Table 26 - Existing Land Use Calculations	143
Table 27 - Transportation Project Priorities.....	165

PREAMBLE

The citizens of the Town of Dumfries recognize the importance of the policies that have been developed and embodied in this Comprehensive Plan. This Plan represents the vision and framework by which the Town endeavors to perpetuate its long-term viability and stability. The means to achieve these goals will be through land use planning that encourages measured growth and economic development as a product of carefully crafted and implemented community design, zoning and development standards. The pursuit of these community goals will be measured in contrast to the Town's primary objectives which are to provide a safe and livable community for its residents, provide and foster the availability of needed services for its residents, protect the Town's environmentally sensitive resources and to enhance the Town's historic character while providing for future development.

(this page intentionally left blank)

DRAFT

2011

Chapter One: Introduction

DRAFT

(this page intentionally left blank)

DRAFT

BACKGROUND

Overview of the Town of Dumfries

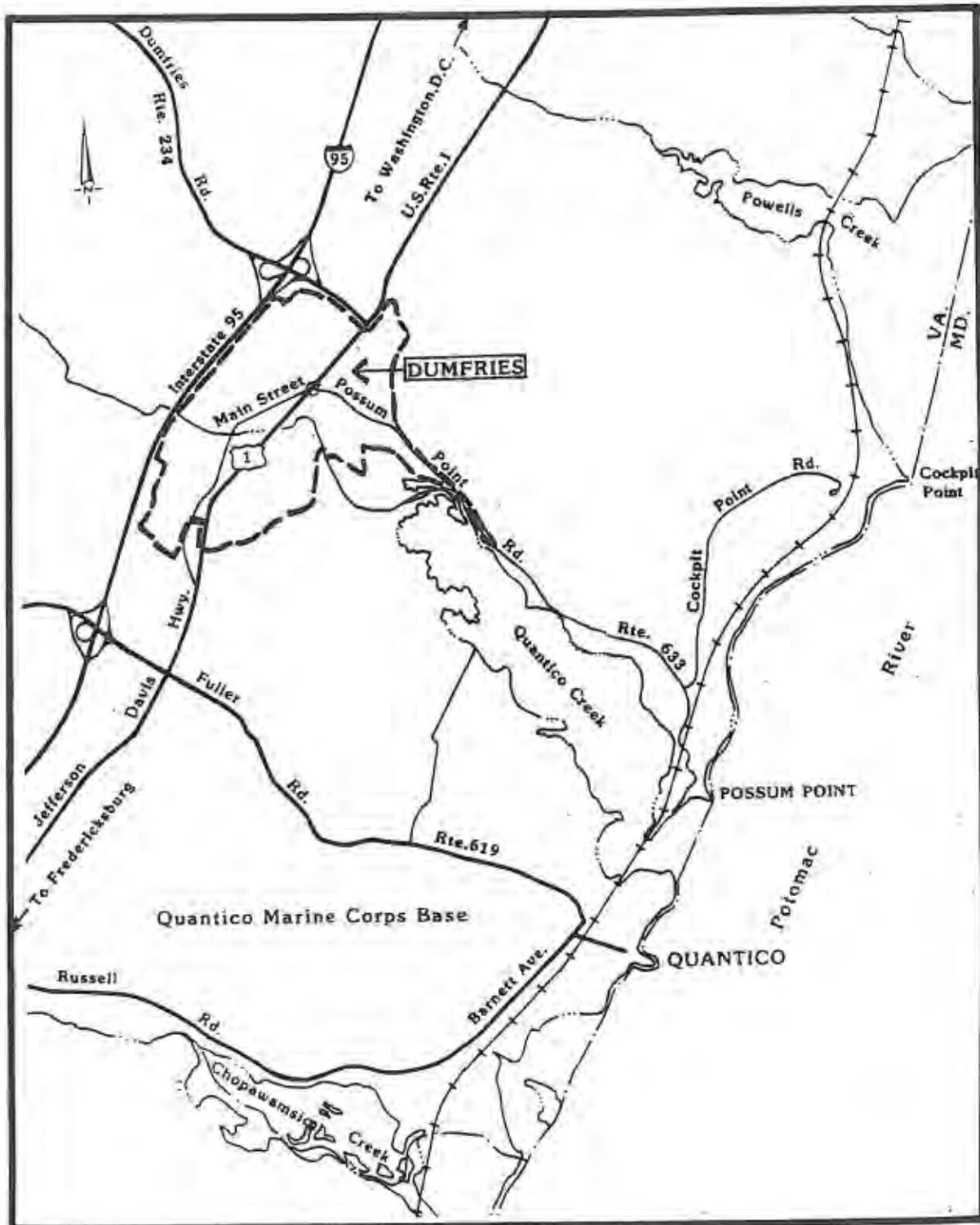
The Town of Dumfries is a small incorporated Town encompassing an area of approximately 1.63 square miles, or 1048 acres. The Town is located in the southeastern corner of Prince William County, approximately one mile west of the Potomac River, 35 miles south of Washington, D.C., and 20 miles north of the City of Fredericksburg (see Figure 1). 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 further accessibility to the nearby developing areas of Prince William County around Woodbridge, Dale City, Triangle and Quantico.

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 has developed over time to be predominantly residential, with most of this development having occurred since 1960. Single-family and townhouse development constitutes the largest percentage of the housing stock, with a few scattered multi-family residential units found in the Town. Several older mobile home communities are present throughout the Town. With regard to industrial and manufacturing sectors, 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. Industrial uses are currently located in this area and are limited to warehousing, an asphalt plant, and concrete mixing uses.

The Town's physical appearance and economic base has changed drastically from its early settlement. While the Town's historic beginning was tied predominantly to agricultural and shipping industries, the Town currently has no appreciable agricultural industry and no remaining port facilities. Due to the early depletion of the Town's agricultural resources, all that remains today of the once thriving port of the Town is the silted mud flat of Quantico Creek. Over time, development of the Town has left an estimated net vacant land area (less flood plains and other undevelopable land) of only about 104 acres. The Town's most prevalent remaining natural resources are associated with the sensitive natural floodplains and wetlands along Quantico Creek and its tributaries. The protection of these remaining environmentally critical resources will be a consideration in the future development of the Town.

The importance of sound and reflective planning for the Town is of utmost importance to assure its long term vitality and viability. The Town's proximity to nearby major retail commercial centers, to important environmental assets such as the Potomac River and Prince William Forest Park, and to major transportation corridors such as Interstate 95 and the commuter rail service into Washington, D.C., will significantly affect the redevelopment of the Town over the coming decades. Future land use issues will, therefore, focus on development of the Town's remaining vacant land, redevelopment, and the preservation and/or reclamation of sensitive environmental areas within the Town.

Figure 1 - Town of Dumfries Vicinity Map



Purpose and Scope of the Comprehensive Plan

The Dumfries Comprehensive Plan (the "Plan") is the policy document around which the Town endeavors to set a path for its future. Through this Plan, the Planning Commission, Town Council and citizens of Town of Dumfries have forged the policies which will provide direction for the long-term growth, development and redevelopment needs of their community. Of paramount importance to the citizens of Dumfries is not only the desire to maintain the existing quality of life, but also to improve the quality of life for its residents. The Town's overriding fundamental goal is to enhance both the stability and viability of the community.

To this end, as a policy document duly adopted by the Dumfries Town Council, this Plan serves as a guide for the future decisions and actions that will affect the physical, social and economic development of the Town. Two basic planning elements are embodied in the Plan: (1) to articulate clearly, for the benefit of the public and government officials, the goals and objectives for the future of the Town and (2) to recommend a coordinated strategy of policies and implementation measures designed to advance the stated goals and objectives. This linkage between community goals and objectives and the formulation of policy and implementation strategies is the fundamental purpose of the Plan. If viewed as an integral part of the community's adopted policy, the Plan can advance the ideals and address the needs of the community, while providing clear guidance on the priorities and the means to achieve its goals in the interest of public welfare and under applicable law.

Although the Plan must retain flexibility in order to accommodate changing conditions, it must also establish sufficient policies and standards to provide a meaningful guide for government officials in making sound and consistent land use and community development-related decisions. In this regard, the Plan states goals and recommends policies and strategies to guide local decisions and actions. Further, given the need for flexibility, the Plan shall not be viewed as would an ordinance. Instead, the Plan will serve as a guide for the Town in enacting, implementing and amending its zoning, subdivision and other ordinances. These ordinances, in turn, establish the regulatory framework for land use and development in the Town.

The policy maps of the Plan, particularly the land use map, are intended to be graphic representations of the policies set forth in the text of the Plan. These maps are not to be construed independently of, but in conjunction with, the written text of the Plan which defines the general locations for future consideration and planning of land uses, public facilities, and roads and other infrastructure.

Statutory Authority for the Comprehensive Plan

Pursuant to Virginia law, the Town of Dumfries, Virginia first adopted a comprehensive plan for the territory within its jurisdiction in 1980. Section 15.2-2230 of the Code of Virginia, as amended, 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 1993.

The Comprehensive Plan is made by the Planning Commission of the Town of Dumfries pursuant to the authority of Section 15.2-2223. Section 15.2-2223 provides in pertinent part that a comprehensive plan shall be made with the following purpose:

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 Section 15.2-2223.

Organization of the Comprehensive Plan

The Comprehensive Plan is a composite document of text and maps that is organized into several Plan elements. Chapter One is the introduction to the Plan that overviews the purpose and framework of the Plan. Chapter Two describes existing conditions and resources of the Town and details the current physical, social and economic characteristics of the Town. Chapter Three sets forth the Town's goals, policies and strategies that collectively provide the framework and direction for the future plan element, and provide the basis for future decision-making by community residents and Town officials. Chapter Four sets forth the planning elements, courses of action and implementation strategies for advancing the community's goal and objectives. The Land Use Chapter lays out the existing conditions and goals of land use in the Town. The Transportation Chapter analyzes the road networks in and around Town, in addition to other transportation issues such as sidewalks and transit. The Historic & Cultural Resources plan analyzes the resources around Town that should be preserved or celebrated as the Town redevelops and welcomes new development into the Town.

2011

Chapter Two: Existing Conditions &
Resources Inventory

DRAFT

(this page intentionally left blank)

DRAFT

POPULATION

Introduction

The 2000 Census provides a revealing portrait of the Town of Dumfries residents – of the mix of people living there, of how the population has been changing, and of how Town residents compare demographically with surrounding neighbors, Prince William County and the Cities of Manassas and Manassas Park, as well as to the region and nation as a whole. This section of the Plan will examine the demographic makeup of the Town and the forces that have shaped and will continue to influence the character of its population in years to come. When available, 2010 Census data has been used to supplement existing data. However, Summary Files 3 and 4 from the 2010 Census, which presents details of information about income, housing, and education, were not available for this 2011 update.

Population Growth

As of April 2010, there were 4,961 people living within the Town boundaries. This number is more than one and one-half times the population of 1970, more than 54 percent larger than in 1980, and more than 15 percent larger than in 1990. Altogether, more than 3,000 people have been added to the Town's population during the past four decades (see Figure 2). This trend has shown to be slowing, as only 24 residents were added between 2000 and 2010.

Population growth is a historically-recent trend. From 1800 until 1950, little numerical change occurred. The post-war years 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.

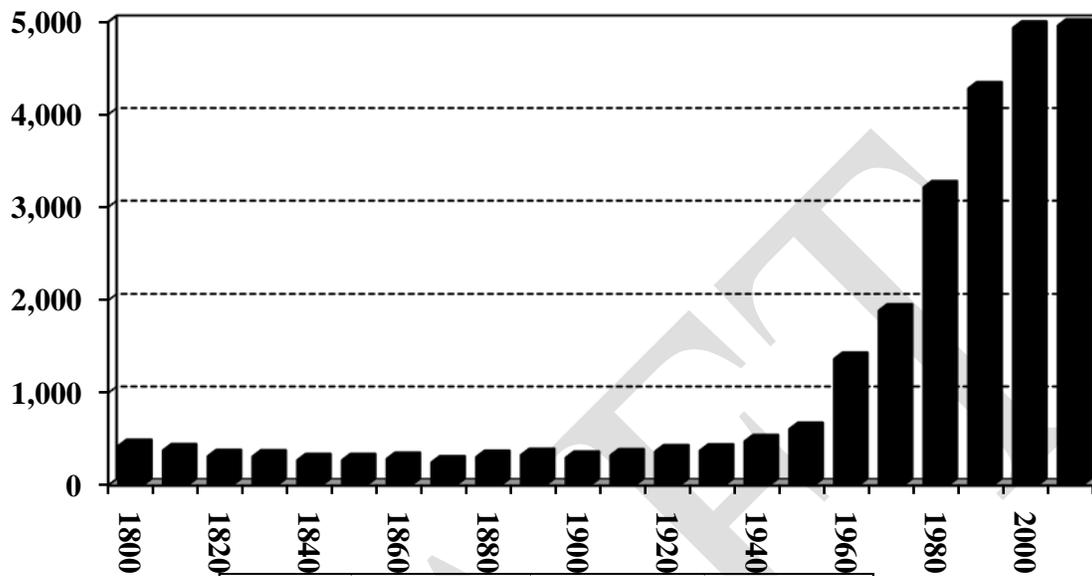
Recent population gains can be attributed to several factors. First is the annexation of 1966. This action enlarged the Town boundaries from 0.19 to 1.63 square miles, which, in addition to adding more people, provided land to accommodate new growth.

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. Between 1990 and 2000 Northern Virginia's population increased by 435,380 people, approximately a weekly average of almost 900 people. This infusion has brought newcomers to every corner of the region.

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.

And a fourth factor stimulating recent population gains is the affordability of housing. Based on the 2000 census, the average home in the Town costs less than half the average price of a home in Northern Virginia and about a third less of the price of one in Manassas City.

Figure 2 - Town of Dumfries Population 1800 - 2010



<u>Year</u>	<u>Population</u>	<u>Change</u>	<u>% Change</u>
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%

Source: U.S. Bureau of the Census, 1800 Census - Census 2010.

Three of the basic elements – an expanding metropolitan economy, location along I-95, and affordable housing – will continue to serve as a magnet for future population growth. A major limiting constraint will be the supply of vacant land for residential development. For the Town to grow beyond this constraint, one or both of the following scenarios would need to occur: (1) the Town’s average household size must increase; or (2) existing developed sites in the Town must be redeveloped at higher densities than currently exist.

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

A Comparatively “Youthful Population

Much is heard and written these days about how the country is no longer youth-oriented but is evolving into a middle aged society. Statistics bear witness to the trend. The median age, which was 25 in the United States in 1960, in 2000 stood at 33 and is projected to rise to 37 by the year 2020. Youth in 1960 comprised forty percent of the U.S. population; in 2000 they comprised twenty-three percent.

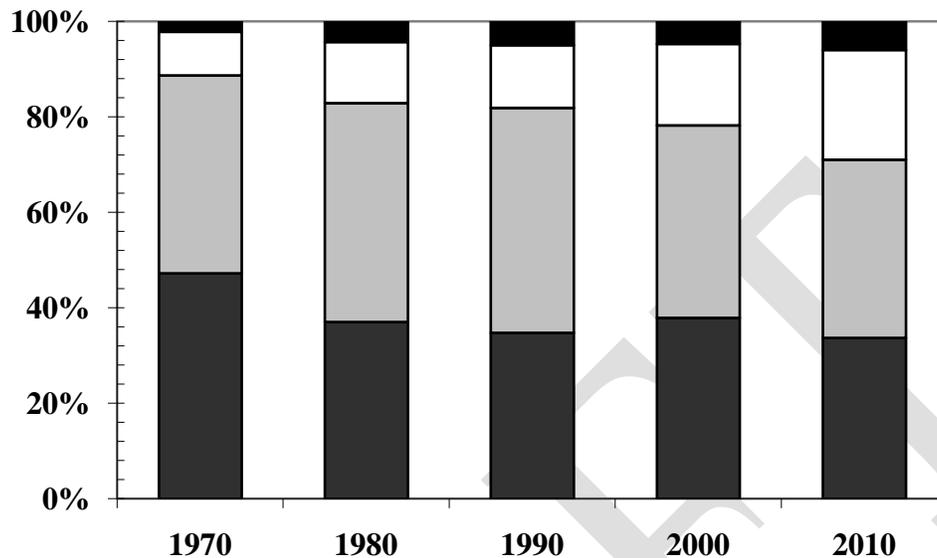
Like the nation, the age structure of the Town’s population is edging upward, but at a considerably slower pace. In 1960 the median age of town residents was 22.3, with youth comprising forty-four percent of the population. By 2000, the median age had jumped to 29, and youth had shrunk to thirty-eight percent of the population (see Figure 3).

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 current (see Figure 4).

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. About one in three Town residents (38%) in 2000 was eighteen years of age or under. This compares to twenty-six percent nationally, and twenty-seven percent regionally.

While census data do not permit analysis of the recent newcomers to the Town, studies have shown that affordable housing costs in outer areas of an expanding metropolitan region have a powerful pull on young families seeking their first or a bigger home. Also pointing to this conclusion is the considerably higher proportion of family households, children and owner-occupied units in the outer suburbs of Northern Virginia compared to that found closer in.

Figure 3 - Town of Dumfries Age Distribution of the Population

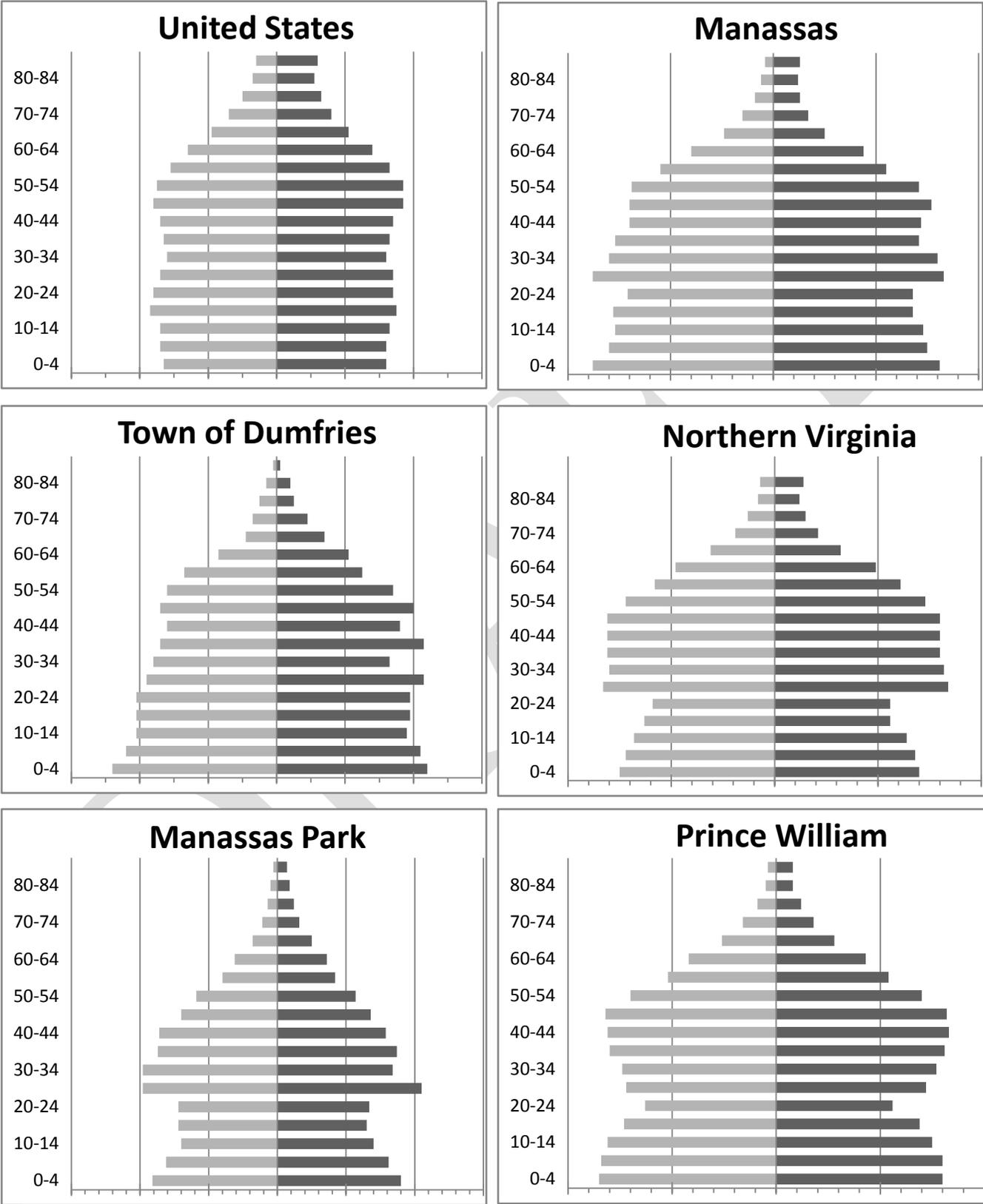


	<u>1980</u>		<u>1990</u>		<u>2000</u>		<u>2010</u>	
0-19 years	1,190	37.00%	1,490	34.80%	1,872	37.90%	1,671	33.68%
20-44	1,474	45.90%	2,020	47.20%	1,990	40.30%	1,855	37.39%
45-64	411	12.80%	560	13.10%	844	17.10%	1,138	22.94%
65+	139	4.30%	212	5.00%	231	4.70%	297	5.99%
	3,214		4,282		4,937		4,961	

<u>Age</u>	<u>2000</u>	<u>2010</u>	<u>Change</u>	<u>% Change</u>
0-4	504	454	-50	-9.92%
5-9	493	428	-65	-13.18%
10-14	467	395	-72	-15.42%
15-19	408	394	-14	-3.43%
20-24	333	393	60	18.02%
25-29	341	400	59	17.30%
30-34	375	343	-32	-8.53%
35-39	471	380	-91	-19.32%
40-44	470	339	-131	-27.87%
45-49	298	364	66	22.15%
50-54	248	328	80	32.26%
55-59	180	257	77	42.78%
60-64	118	189	71	60.17%
65-69	82	115	33	40.24%
70-74	81	81	0	0.00%
75+	68	101	33	48.53%
Total	4,937	4,961	24	0.49%

Source: U.S. Bureau of the Census, 1980 Census - Census 2010.

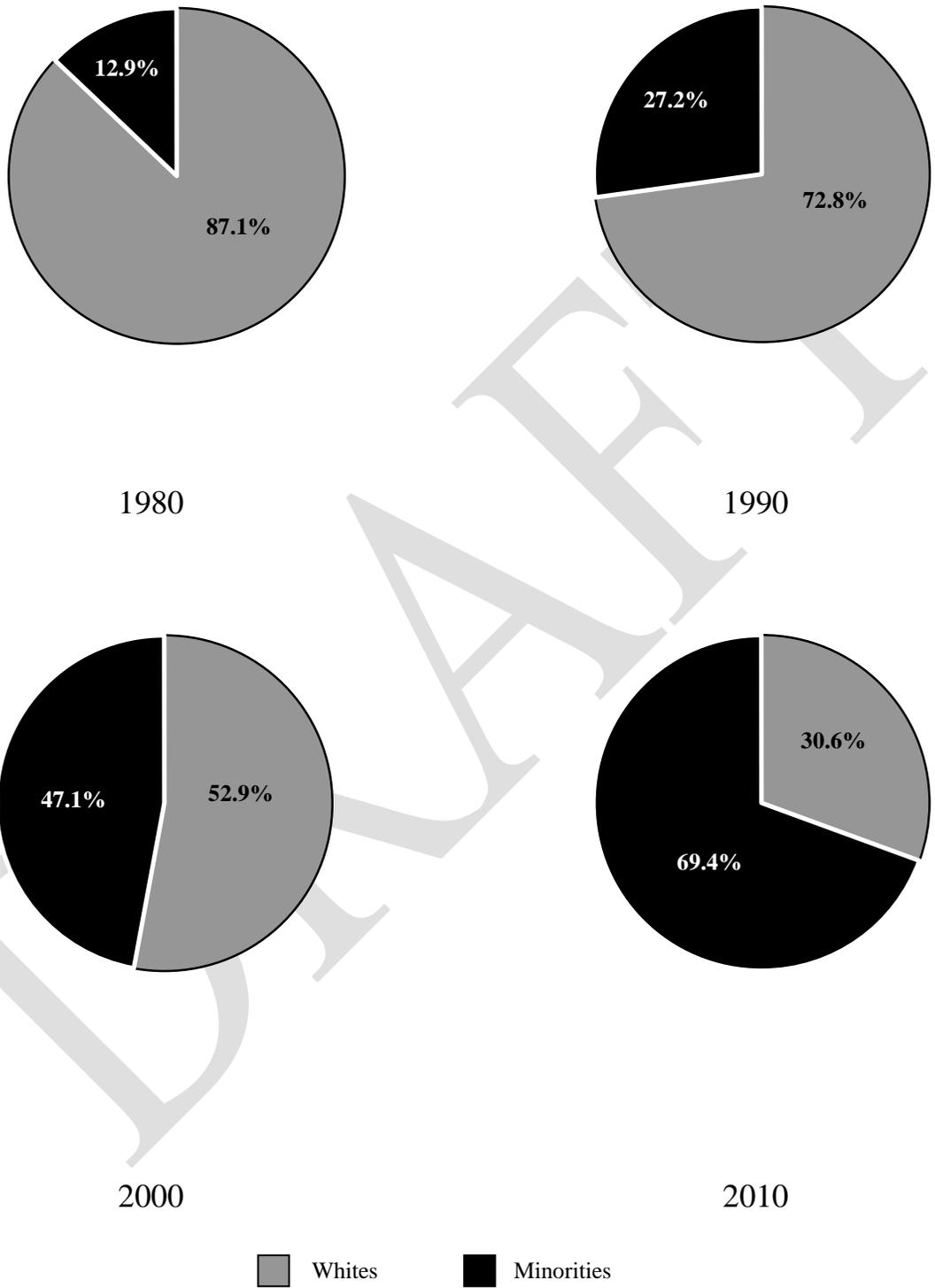
Figure 4 - Comparative Age Structures



Male Female

Each tick represents one percent of the population Source: U.S. Bureau of the Census, Census 2010 Summary File 1

Figure 5 - Town of Dumfries Racial Composition 1980-2010



Sources: U.S. Bureau of the Census, 1980 Census – Census 2010.

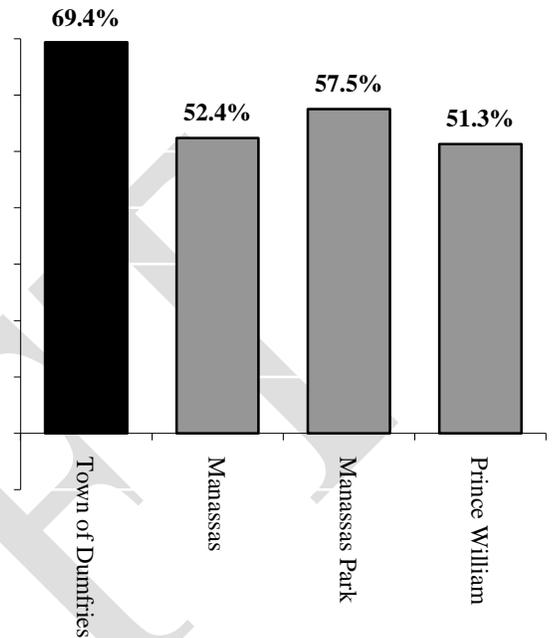
More Racially Diverse

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 (see Figure 6). In 1970, minorities comprised 8.2 percent of the Town’s population. By 2010 the percentage had risen to almost 70 percent, more than half 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 to people from the Middle East, Latin America, Asia, the Soviet Union, and other parts of the globe. Dumfries’ minority population is prominently black/African-American. Approximately thirty-five residents are black (35%). Asians and other minority groups account for 14.8 percent of the population. And Hispanics, an ethnic group which classifies itself primarily among the white racial category, comprise 27 percent.

The Town minority percentages began creeping upward in the early sixties, then shot up dramatically during the 1980s, when blacks in particular began moving into the town in search of affordable family housing. 134 percent of the net population gain between 1980 and 2000 came from black/African-American in-migration. Between 1990 and 2000 the non-white minority population of Hispanic origin increased by a dramatic 303 percent.

Figure 6 - Minority Population 2010



Percentages include all non-whites, including Hispanics who classified themselves racially as Black, Asian, American Indian, Other, or of two or more races.

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

Table 1 - Population by Race and Ethnicity Changes 1990-2000

	<u>2000</u> <u>Number</u>	<u>2010</u> <u>Number</u>	<u>Change</u>	<u>Percent</u> <u>Change</u>
Reporting One Race				
White	2,612	1,962	-650	-24.89%
Black / African American	1741	1,740	-1	-0.06%
Am. Indian / Alaska Native	31	73	42	135.48%
Asian / Pacific Islander	53	3	-50	-94.34%
Other	283	656	373	131.80%
Reporting Two or More Races	217	314	97	44.70%
Hispanic Origin (any race)	645	1328	683	105.89%
TOTAL	4,937	4,961	24	0.49%

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

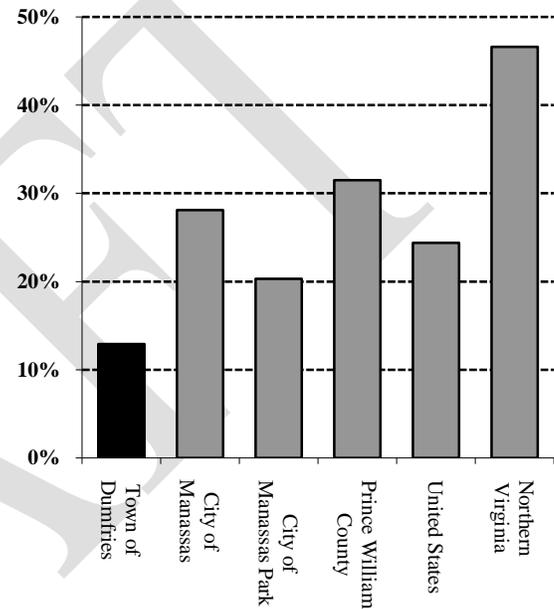
Educational Attainment

The Town is populated primarily by high-school graduates. Sixty-three percent of town residents aged 25 and above, have a high school degree or less. As shown in Figure 7, fewer than 15 percent graduated from college, a figure unchanged from when the last census was taken.

Nowhere is the demographic contrast between the Town and adjoining neighborhoods more striking than in the area of educational attainment. Northern Virginia contains the most highly educated populace in the nation: six of its nine localities rank in the top thirty in the country in the proportion of adults holding college degrees. Regionwide, approximately one of every two adults has a college degree. In Prince William County and the City of Manassas, the rate is more than one in four. The Town, in contrast, has close to 13 percent of adults with college degrees.

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 (and assumed causal connection) with occupation, income, buying habits, attitudes and opinions, political interest and involvement, lifestyle, social and residential mobility and a great variety of other characteristics.

Figure 7 - Proportion of Population with College Degree 2000



Income

Median household income of Town residents rose sharply last decade but continued to remain substantially lower than regional averages.

Median household income in the Town doubled between 1990 and 1999, climbing from \$37,404 to \$43,672, a 17 percent increase in real income after adjustment for inflation. Nationwide, the figure rose from \$30,056 to \$41,994, a 40 percent inflation-adjusted increase. The median household income of the Town is slightly more than median household income of the country, but substantially lower than other localities in the region (see Figure 8). Figure 8 compares the median household income of the Town with that of the Cities of Manassas and Manassas Park, Prince William County and Northern Virginia in 1999.

The 1980s were years of tremendous prosperity for Northern Virginia, a decade in which a rising tide lifted all local median income levels upward. Also rising sharply was the proportion of high-income households, leading the Washington Post in a recent article to describe the Washington area as “a region of the well-paid, with a swelling number of six-figure incomes.” Approximately 29.6 percent of households in Northern Virginia earned \$100,000 or more in 1999, compared to 12.3 percent nationally.

The Town, in contrast, contains only a handful of higher-income households, 8 percent, or roughly one of every thirteen households.

One unique aspect of the Town’s income profile, a pattern deviating from that found nationally and regionally, is a lack of variation in the mean income levels of different racial groups. Asian/Pacific Islanders, few in number within the Town, make less than half that of the typical Town household. But this is the only racial group exhibiting significant earning differences. The other racial groups – Whites, Blacks, and Other – recorded identical mean income amounts (mean household income levels in 1989: Whites, \$39,649; Blacks, \$39,440; and Other, \$39,373).

Figure 8 - Median Household Income 1999

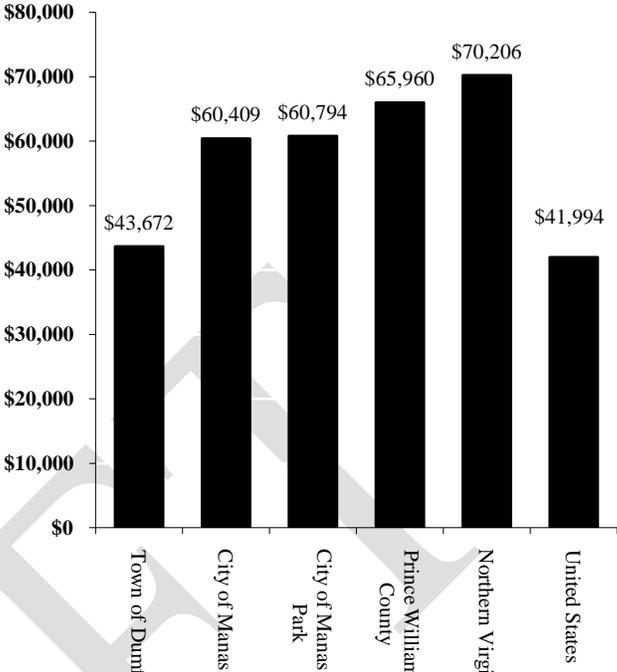
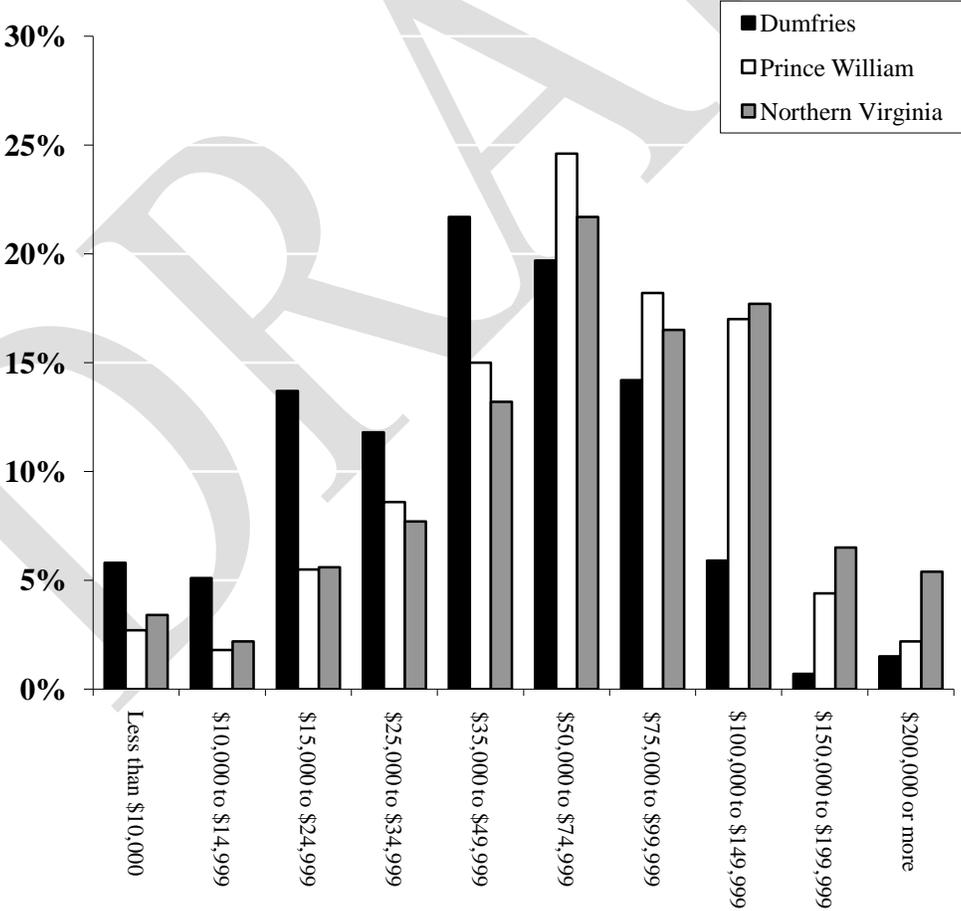


Figure 9 - Distribution of Household Income 1999



Labor Force

Rapidly changing technology, global competition and a shift from a goods-producing to an information/high-tech/service-based economy are redefining the American workforce. Northern Virginia is in the forefront of this structural transition, a place where demographic, social and economic trends are playing themselves out at an accelerated pace.

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. Seventy-two percent of the Town population, aged 16 and above, are in the workforce, compared to 73.8 percent regionally. The labor force participation rate for the Town's male population is 77 percent and for females it is 68 percent.

The high standard of living in Northern Virginia is partly attributable to a large proportion of working people. This region has one of the highest labor force participation rates in the nation, which stems from its extremely large number of women who work. Sixty-seven percent of eligible females in Northern Virginia are in the labor force, compared to 58 percent nationally.

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. Half of the workforce in Virginia is employed in higher-paid, information-producing, knowledge-based occupations, whereas only about a quarter of the Town residents are engaged in these occupations.

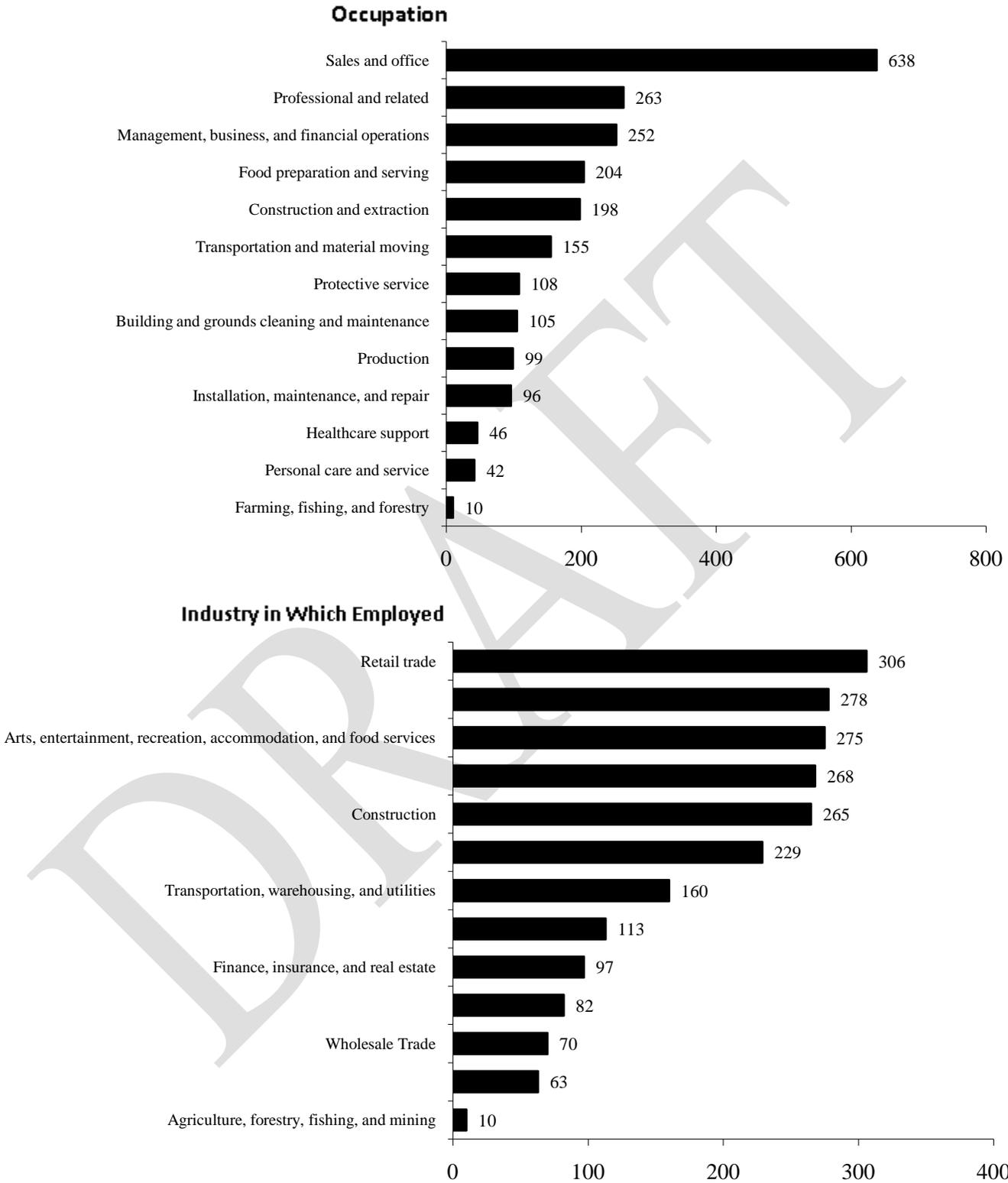
The Town is a "worker's" town, a small pocket in Northern Virginia populated by middle-class and lower middle-class residents employed predominantly in blue-collar and administrative support occupations. As shown in Figure 10, the four largest occupation categories in which the Town residents are employed are: sales and office (29%); professional and related (12%); management, business, and financial operations (11%); the combination of food preparation and serving and construction and extraction (19%).

Approximately 21 percent of the Town's workers in 2000 were employed in the public sector, down from 28 percent in 1990 and there was a substantial increase regionally in the percentage of private sector jobs (see Table 2). In 1990, one of 28 Town workers was a member of the Armed Services. By 2000 this ratio had dropped to one of 53.

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.

Increasingly, the Washington area economy revolves around people with education and high-paid skilled jobs. For those who do not have degrees or specialized skills, job opportunities, wage rates, economic security, and upward mobility can be limited.

Figure 10 - Town of Dumfries Employment Occupation and Industry 2000



Source: U.S. Census Bureau, Census 2000 Summary File 3.

Approximately 21 percent of the Town's workers are employed in the public sector, down from 28 percent in 1990 and there was a substantial increase regionally in the percentage of private sector jobs (see Table 2). In 1990, one of 28 Town workers was a member of the Armed Services. By 2000 this ratio had dropped to one of 53.

Table 2 - Town of Dumfries Composition of Employment

<u>Type of Employment</u>	<u>1990</u>		<u>2000</u>	
Private Salary Workers	1,422	64.70%	1,646	72.80%
Government				
Local government workers	240	10.90%	200	8.80%
State government workers	23	1.00%	35	1.50%
Federal government workers	372	16.90%	240	10.60%
Self-employed workers	60	2.70%	85	3.80%
Agriculture, forestry, fishing, mining	N/A	N/A	10	0.40%
Member of Armed Services	80	3.60%	44	1.90%

Sources: U.S. Census Bureau, 1990 Census STF3A; Census 2000 Summary File 3.

Changing economic conditions are bringing a new mix of jobs to the Washington 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.

Increasingly, the Washington economy revolves around people with education, highly-paid jobs and money. For those who do not have degrees or specialized skills, job opportunities, wage rates, economic security, and upward mobility can be limited.

Table 3 - Town of Dumfries Composition of Working Class

<u>Class of Worker</u>	<u>1990</u>		<u>2000</u>	
Private Salary Workers	1422	67.20%	1676	74.16%
Government	635	28.90%	475	21.02%
Self-employed workers	60	2.80%	65	2.88%
Member of Armed Services	80	3.80%	44	1.95%
Private Salary Workers	1422	67.20%	1676	74.16%

Sources: U.S. Census Bureau, 1990 Census STF3A; Census 2000 Summary File 3.

Table 4 - Comparative Labor Force Characteristics 2000

	Dumfries	Manassas	Manassas Park	Prince William	Northern Virginia
Labor Force Participation Rate	72.10%	74.30%	77.20%	77.10%	74.40%
Class of Worker					
Private wage and salary workers	70.90%	74.10%	74.90%	65.90%	69.10%
Government workers	20.10%	17.10%	16.90%	22.00%	20.60%
Self-employed workers in own not incorporated business	2.80%	4.10%	5.00%	3.90%	4.90%
Unpaid family workers	0.00%	0.10%	0.40%	0.20%	0.20%
Industry in Which Employed					
Agriculture, forestry, fishing and hunting, and mining	0.40%	0.20%	0.20%	0.30%	0.30%
Construction	11.20%	11.00%	16.70%	8.20%	5.90%
Manufacturing	3.50%	6.10%	3.60%	4.40%	3.60%
Wholesale trade	3.00%	2.00%	2.70%	2.00%	1.70%
Retail trade	12.90%	11.70%	13.30%	11.10%	8.60%
Transportation and warehousing, and utilities	6.80%	5.10%	6.20%	5.10%	3.90%
Information	2.70%	5.40%	5.60%	4.70%	6.60%
Finance, insurance, real estate, and rental and leasing	4.10%	5.00%	6.40%	5.20%	6.50%
Professional, scientific, management, administrative, and waste management services	11.30%	13.90%	11.90%	14.00%	19.40%
Educational, health and social services	11.80%	14.70%	14.10%	14.30%	13.60%
Arts, entertainment, recreation, accommodation and food services	11.60%	7.10%	4.80%	5.70%	6.60%
Other services (except public administration)	4.80%	5.00%	5.80%	4.90%	6.10%
Public administration	9.70%	8.20%	5.70%	12.10%	12.10%
Occupation					
Management, professional, and related occupations	21.80%	36.70%	29.70%	37.90%	50.70%
Service occupations	21.40%	13.20%	13.90%	12.40%	11.10%
Sales and office occupations	27.00%	25.90%	24.80%	25.60%	21.90%
Farming, fishing, and forestry occupations	0.40%	0.10%	0.00%	0.10%	0.10%
Construction, extraction, and maintenance occupations	12.40%	11.50%	18.20%	9.40%	6.10%
Production, transportation, and material moving occupations	10.70%	8.00%	10.60%	6.60%	4.90%

Source: U.S. Census Bureau, Census 2000 Summary File 3.

Mobility

Census data at the town level do not give precise answers to questions of population stability, of the length of time people have been living in the Town and of the number moving in and out yearly. Whatever the precise numbers, the Town, like any community experiencing rapid population growth, is comprised of many newcomers.

When the Census Bureau asked residents of the Town in 2000 where they were living five years earlier, 45 percent said they were living in the same house; 26 percent said they were living in a different house within the same county; and under a third said they were living outside the county (see Figure 11). In other words, somewhere between a third and two thirds of the population were not living in the Town as recently as five years earlier.

A question addressing the year the householder (i.e., head of the household) had moved into their current residence found a similarly high degree of population movement. Almost thirty percent of the Town's households had moved into their current residence within the past 15 months, and an additional thirty percent had moved in within the past four years.

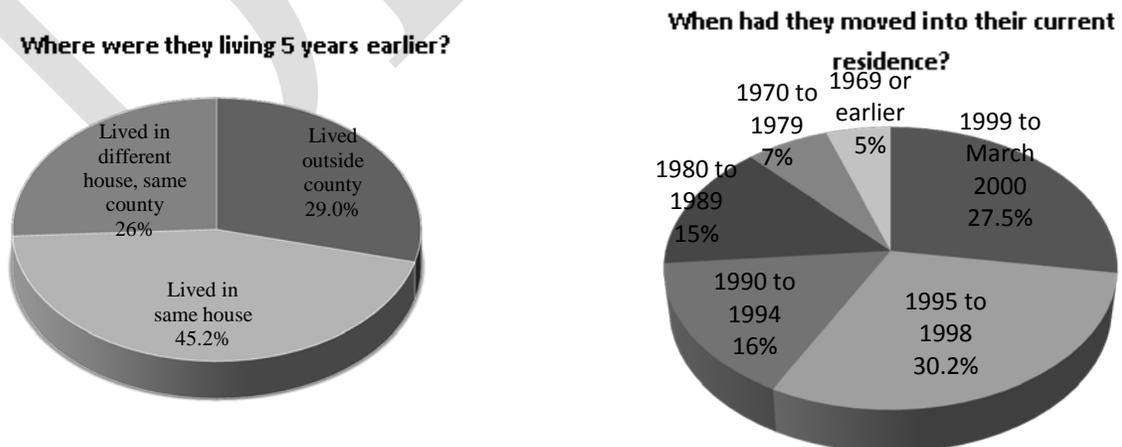
Residential mobility patterns can have a powerful impact of the demographic composition of a local population, on people's sense of identification with a neighborhood, and on the interest residents have in community affairs. Unlike past years, in which Town residents varied little from one decade to the next, today's population is constantly changing and recomposing itself.

Figure 11 - Town of Dumfries Mobility of Population

In April, 2000, the Census Bureau asked Dumfries residents:

- 1) Where they were living five years earlier? and
- 2) When had they moved into their current residence?

Here's how they answered:



HOUSING

Introduction

Housing is receiving increased attention these days because of a growing awareness of the role it plays in attracting different types of people to a community. The nature of the local housing stock, both existing units and those being built, influences the size and makeup of a local population. Housing and demography are inextricably linked. This section will examine the growth and characteristics of housing in the Town of Dumfries.

Residential Growth and Development

Between 1970 and 1992, the number of housing units within the Town increased by 1,144 units: by 531 units during the 1970s and by an additional 613 units during the 1980s- bringing the total housing count to 1,673 units (see Figure 12 and Table 5). This amounts to a tripling of the housing stock within a twenty year period.

Three-fourths of the new housing units built between 1970 and 2000 were townhouses, but this trend has come to an end. Since 2000, most of the new housing units built have been single-family homes (see Figure 13). Townhouse development has been concentrated primarily to the east of U.S. Route 1 in two subdivisions: Williamstown/South Cove (455/216 units) and Port-O-Dumfries (190 units). Of the remaining 281 new housing units built since between 1970 and 2000, 122 were single family detached units, 2 were single family attached duplex units, 155 were mobile homes and 4 were apartment units. The single family detached structures were built in Knolls of Dumfries (102 units), located to the southwest of Route 1 and in the Rose Hill subdivision (20 units), located north of Williamstown. New mobile homes were located to the north of the landfill in Grayson Village. The general location of existing housing within the Town by general type is shown in Figure 14.

Townhouses are the predominant housing type within the Town, comprising fifty-two 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.

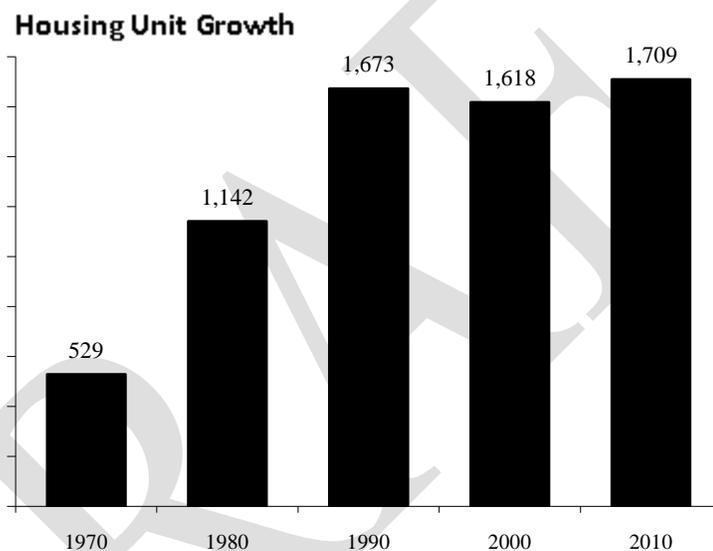
The mix of housing within the Town contrasts with that found locally. Two-thirds of the Town's housing stock is either townhouse or mobile home housing. By way of comparison, only a quarter of the homes in Prince William County are of these two types, while fifty-six percent are single family detached. Table 6 displays comparative data on the mix of housing for selected jurisdictions within Northern Virginia.

Future Development

Two areas within the Town remain undeveloped and have potential for future residential growth. These areas include:

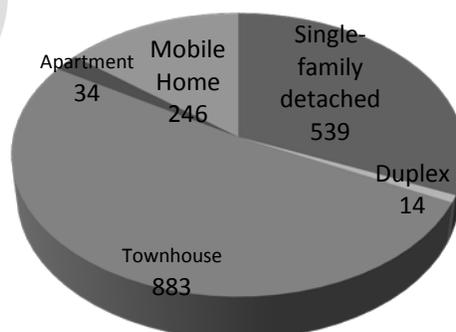
- Southbridge development, a 43 acre site adjacent to Dewey Run Creek in the Northeast quadrant of the Town, which has been approved for 48 single-family detached units;
- Approximately 25.5 acres of land, zoned for 105 single family detached units, scattered throughout the Town.

Figure 12 - Town of Dumfries Housing Stock



Source: 1970- 1990 data: REDI Real Estate Information Service; 2000 & 2010 data: Town records

Composition of Housing



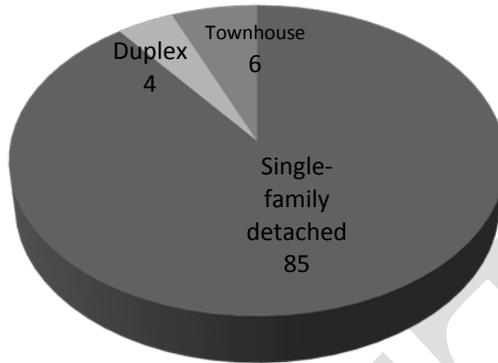
Source: Town records

Table 5 - Town of Dumfries Inventory of Existing Residential Units

<u>Development</u>	<u>Units</u>	<u>Approximate Year Built</u>
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
Nonsubdivision 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

Figure 13 - Town of Dumfries Housing Construction Since 2000



<u>Development</u>	<u>Units</u>	<u>Year built</u>	<u>Type of unit</u>
Tucci	1	2002	Single-family
Diamond Point	3	2002-3	Single-family
Sunshine	1	2004	Single-family
White Haven	9	2004-5	Single-family
Potomac Cove	25	2004-11	Single-family
Hampstead Landing	32	2005-7	Single-family
Rose Hill	7	2005-2011	Single-family
Escalante development	3	2006-7	Single-family
Triangle Estates	4	2007	Duplex
Metts	1	2007	Single-family
The Point	6	2008	Townhouse
Northeast development	2	2008	Single-family
Tripoli Heights	1	2008	Single-family

Source: Town records

Table 6 - How Mix of Housing in Dumfries Compares with Other Places*

	<u>Single Family</u>		<u>Mobile</u>	<u>Other</u>
	<u>Detached</u>	<u>Townhouse</u>	<u>Home</u>	
Dumfries	31.60%	45.30%	16.90%	0.70%
Manassas	43.40%	29.80%	2.00%	24.80%
Manassas Park	70.60%	27.70%	0.10%	1.60%
Prince William	56.30%	24.00%	2.10%	17.60%
Northern Virginia	46.90%	19.90%	0.70%	32.50%

**For comparability purposes, percentages are derived from 1990 census data which differ slightly from information obtained from REDI (Real Estate Information Service). Census data is based upon a respondent's determination of housing unit type.*

Condition of Housing

The fact that two-thirds of the housing stock has been constructed within the past four decades means that there are no large areas of substandard housing. Some of the older housing, however, is in poor condition. The Town's 1987 Comprehensive Plan assessed the problem as follows:

There are pockets of substandard housing in a number of locations, while individual structures that are unsightly and in a state of disrepair are scattered throughout the area. Many homes are tiny, deteriorating, one or two unit structures that are poorly constructed and built of poor quality materials.

24 years later, the same assessment applies.

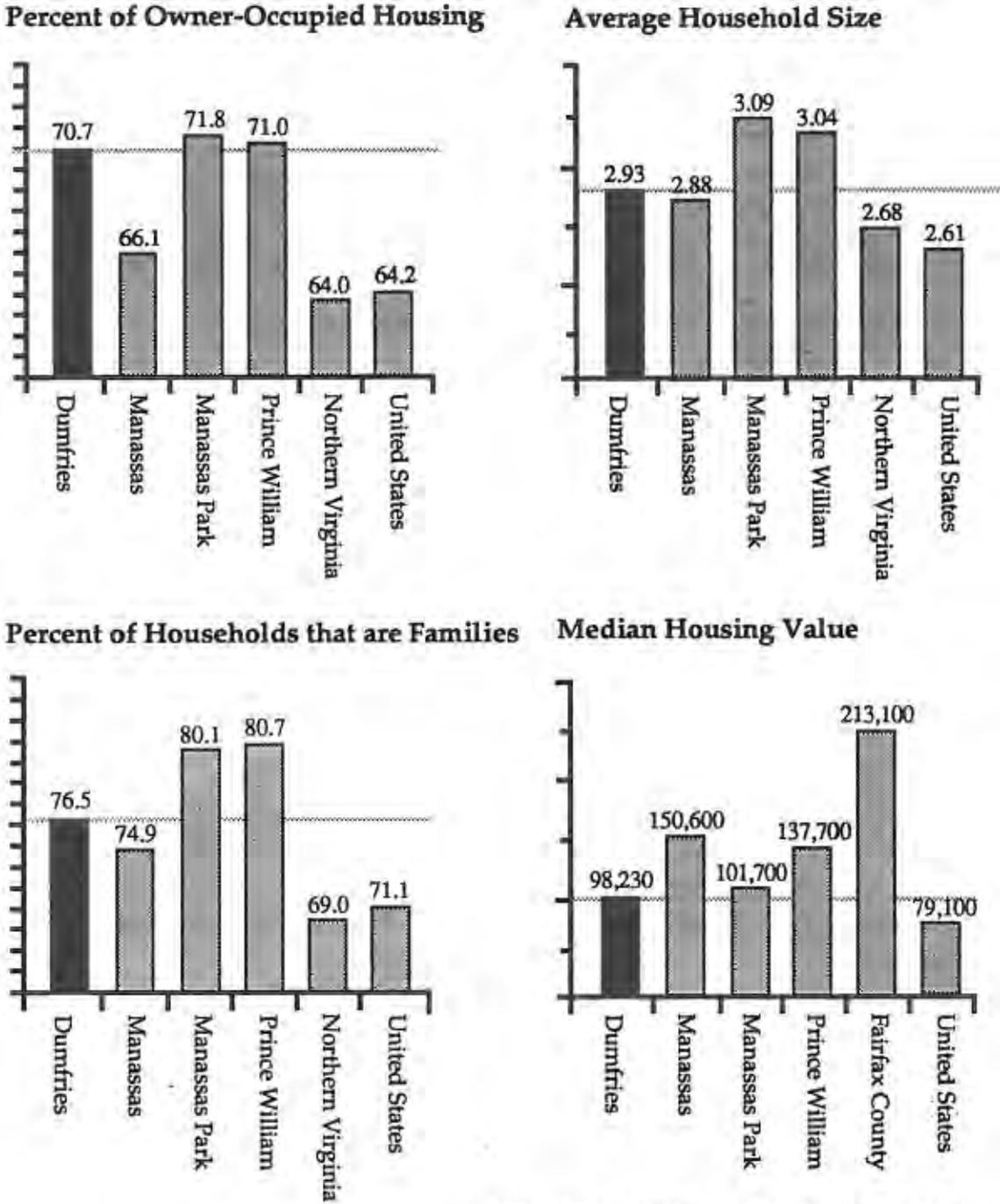
Home Ownership

A distinctive characteristic of the Town's housing is its relatively high owner-occupied rate (see Figure 15). Seventy-one percent of the housing in the Town is owner-occupied, a home ownership rate more than six percent above the national and regional average (64%).

Value of Housing

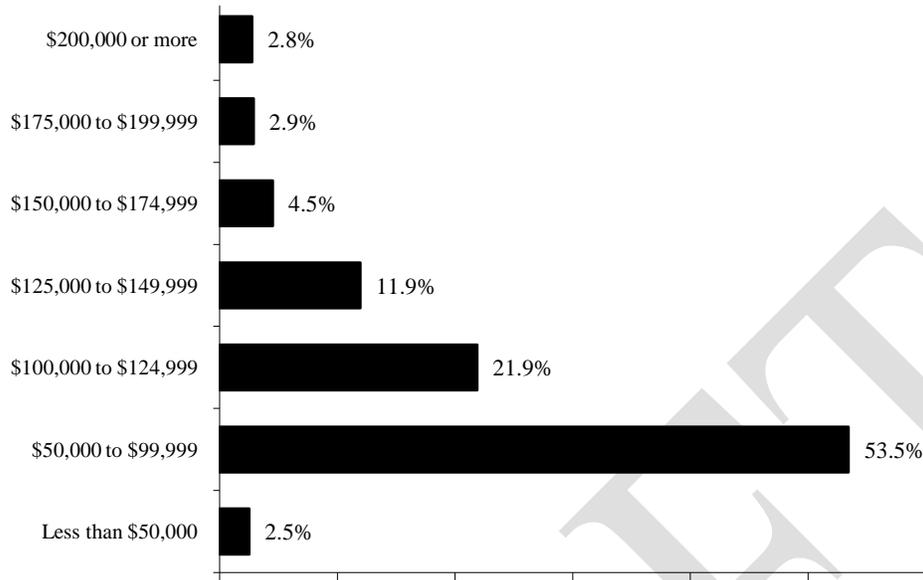
As noted previously, the median housing value in the Town in 1990 was \$98,230 (see Figure 15). Only four census tracts in Northern Virginia, from a total of 316 census tracts in which housing units are located, reported a lower median housing value.

Figure 15 - Comparative Housing Characteristics



** Note: Median housing values for Northern Virginia are not yet available. Fairfax County, due to its size, provides a good approximation to the regional average.*

Figure 16 - Town of Dumfries Value of Owner-Occupied Housing, 2000



<u>Housing Value</u>	<u>Number</u>	<u>%</u>
Less than \$40,000	7	0.88%
\$40,000 to \$49,999	13	1.64%
\$50,000 to \$59,999	26	3.27%
\$60,000 to \$69,999	64	8.05%
\$70,000 to \$79,999	115	14.47%
\$80,000 to \$89,999	131	16.48%
\$90,000 to \$99,999	89	11.19%
\$100,000 to \$124,999	174	21.89%
\$125,000 to \$149,999	95	11.95%
\$150,000 to \$174,999	36	4.53%
\$175,000 to \$199,999	23	2.89%
\$200,000 to \$249,999	12	1.51%
\$250,000 to \$299,999	6	0.75%
\$300,000 to \$399,999	4	0.50%
Total	795	100.00%

Although these figures are based on subjective opinions - i.e., on what homeowners thought they might receive if they sold their house - they provide a basis for concluding that housing costs, perhaps more than any other factor, lie behind the recent growth and recomposition of the Town's population. The Northern Virginia housing market has become 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 blue-collar workers and lower-income households in particular, the Town has become one of a dwindling number of places within the region where they can buy into the "American Dream" of home ownership.

Approximately two-thirds of the housing, according to the 2000 census, was valued at between \$75,000 and \$125,000, a price range clearly at the low end of the Northern Virginia residential market (see Figure 16).

A statistic frequently used to measure affordability is the ratio of median household income to median housing value. The median household income of Town residents was approximately 38 percent of the median housing value in 1990, the same ratio found in Prince William County and in the nation as a whole.

Household Size and Composition

Because it is highly visible, relatively permanent and immobile, and listed on local tax assessor's roles, housing provides a reliable foundation for estimating and projecting local populations. However, while housing units may be easy to count, people come and go, household compositions change, 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 households.

The average size and composition of the Town's households changed little in the decade from 1980 to 1990. Average household size remained at 2.93 persons, unchanged from 1980, while families continued to comprise three of every four Town households (see Table 7). The only changes of note last decade were a decline in "married-couple households with children" which dropped from forty-two to thirty-five percent of households, and an increase in "married-couple households without children" which increased from eighteen to twenty-two percent.

The outer suburbs of Northern Virginia, in contrast to closer-in areas, are characterized by more family households and children. The Town's profile is consistent with this general pattern.

Table 7 - Change in Household Composition 1980 - 1990

<u>Type of Household</u>	<u>1980</u>		<u>1990</u>	
1 person	176	17.70%	256	17.60%
Married couple				
<i>with children</i>	418	42.00%	515	35.40%
<i>without children</i>	175	17.60%	325	22.30%
Single-parent with children	137	13.80%	204	14.00%
Other family (no children)	27	2.70%	70	4.80%
Other non-family	62	6.20%	86	5.90%
Family households	757	76.10%	1114	76.50%
Non-family households	238	23.90%	342	23.50%
Average household size	2.93		2.93	

Table 8 - Comparative Household Compositions 1990

<u>Type of Household</u>	<u>Dumfries</u>	<u>Manassas</u>	<u>Manassas Park</u>	<u>Prince William</u>	<u>Northern Virginia</u>
1 person	17.60%	17.00%	13.10%	13.20%	23.20%
Married couple					
<i>with children</i>	35.40%	36.90%	38.10%	42.60%	28.90%
<i>without children</i>	22.30%	24.80%	24.10%	26.20%	27.30%
Single-parent with children	14.00%	8.40%	11.40%	8.00%	6.40%
Other family (no children)	4.80%	4.70%	4.30%	2.40%	3.30%
Other non-family	5.90%	8.10%	6.90%	3.10%	9.10%
Family households	76.50%	74.90%	80.10%	80.70%	67.70%
Non-family households	23.50%	25.10%	19.90%	19.30%	32.30%
Average household size	2.93	2.88	3.09	3.04	2.68

ECONOMIC & FISCAL RESOURCES

Introduction

The fiscal and economic resources of any municipality are a direct indicator of the overall health and stability of the community. A community's desire or need for a strong revenue base must often strike a balance between factors such as divergent community goals and needs, and land use policies that encourage new and different forms of growth and development. Fiscal planning and land use planning ultimately seek to weigh the community's demands for needed services while accommodating the reality and need for economic growth. This section of the Plan provides a general overview of the Town of Dumfries' fiscal condition based on available independent auditor financial statements. The last update for this section of the plan was based on fiscal years 1988-91. This section has been deleted because of the outdated information.

Real Estate Property and Personal Property Taxes

The Town currently collects real estate property taxes each year at a rate of \$0.33/\$100. This rate was changed following the economic downturn and recession of the late 2000's. The revenue sources and demands in the Town have remained proportionately constant given the level of services provided by the Town. Prince William County also collects real estate property taxes for property in the Town, but at a higher base rate of \$1.28/\$100 which is needed to cover the variety of services which the County provides to the Town.

The Town has no personal property tax, but has the option to levy such taxes. This too is another potential revenue source that the Town may find need to pursue in the future. In addition, with the future development of Southbridge/Cherry Hill just north and east of the Town, the Town should consider its future land use and economic development plans with consideration of the potential impacts and benefits associated with development of these major projects.

(this page intentionally left blank)

DRAFT

PUBLIC UTILITIES

Introduction

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 Utilities

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 subdistrict 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 County's Plan policies, and must be constructed according to the Prince William County Design and Construction Standards Manual (DCSM).

Water

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.

Figure 17 - PWCSA Water Utility Map



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. According to PWCSA estimates included in the water element of the 1990 Prince William County Comprehensive Plan, the 1990 water demand for the eastern service area is 8.94 MGD or 23% of the available supply. Projected demand for this area is 24.12 MGD or 65% of the available supply—a demand that the PWCSA indicates is "... more than adequately met by the existing supply agreement." Further, with FCWA's planned expansion of its other water treatment facilities located in northern Fairfax County, there will be a reduced dependence on the Occoquan Reservoir from other jurisdictions which will increase surplus supply that is available to Prince William County by the year 2000. This surplus water supply is estimated to increase from between 41 and 62 MGD by the year 2000.

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 will serve to minimize waste water treatment costs as well as to protect surface water quality.

The Chesapeake Bay Preservation Act (§ 10.1-2107.), 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 in which it can 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. Figure 17 shows the general location and respective sizes of the existing water facilities that serve area in and around 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/Fraleley 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 208 planning study that was performed by the Northern Virginia Planning District Commission between 1976 and 1978, a multi-jurisdictional Nonpoint Pollution Management Program was established in 1978. The on-going objectives of the program have been to foster interjurisdictional 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 Planning District Commission.

Sanitary Sewer

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. Figure 18 shows the general location and respective sizes of the existing sanitary sewer facilities that serve area in and around the Town.

According to the PWCSA, the Mooney Plant is currently operating at an average flow of 9.5 MGD with a maximum treatment capacity of 12 MGD for the entire area it services both north and south of the treatment facility. To serve the future development that is planned for eastern Prince William County, the PWCSA has included plans in its current CIP to expand the Mooney Plant. Bids are currently being received for improvement of the treatment facility from its current 12 MGD capacity to ultimately 24 MGD with an interim expansion to 18 MGD.

The PWCSA has also planned for the expansion other infrastructure that will accommodate future development of areas south of the Mooney Plant. According to the PWCSA, the sewer mains along Route 1 that serve the Dumfries/Triangle and Cherry Hill areas are sized at a capacity of 16 MGD to accommodate future development; however, the lift station at Powells Creek has a capacity of 3 MGD. The PWCSA has plans to improve the Powells Creek lift station to 16 MGD to correspond to the capacity of the sewer mains along Route 1. According to the PWCSA, the series of lift stations that transmit effluent from the Dumfries/Triangle area to the Powells Creek lift station are sized to accommodate the projected additional growth in and around the Town.

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.

Energy Utilities (Natural Gas, Electricity)

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 Utilities

Several private telecommunications firms, including GTE, MCI, and Sprint, provide telephone and related telecommunications services to the Town. Cable television services are available from Prime Cable Television Services, Inc.



PUBLIC/COMMUNITY FACILITIES AND SERVICES

Introduction

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. 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 will evaluate the public services and facilities available to Town residents and will articulate areas of need which may be incorporated into the Town's planning process.

Recreation

Recreational Facilities within the Town

The availability of public recreational facilities within the Town is limited to two park sites—Cecil Garrison Park and Merchants Park. The Merchants Park site is oriented around the historic Weems-Botts House Museum which is on the National Register of Historic places. The park is approximately one and one-half acres in size and has limited use for recreational purposes except for passive picnicking use. Alternatively, the three and one-third acre Cecil Garrison Park does not appear to have potential for further recreational facility development. The presence of a few private recreational facilities within the Town does provide some recreational options for Town residents. Private recreational facilities have been developed in the Grayson Village Mobile Park, the Williamstown development and the Boys and Girls Club at the Old American Legion Post. Figure 19 and Table 12 provide an inventory of the public and private recreational facilities that are located within the Town. Ginn Memorial Park, once fully builtout, will provide a great resource for all of the Town, and especially for the Townhouse communities adjacent to the site on Graham Park Road.

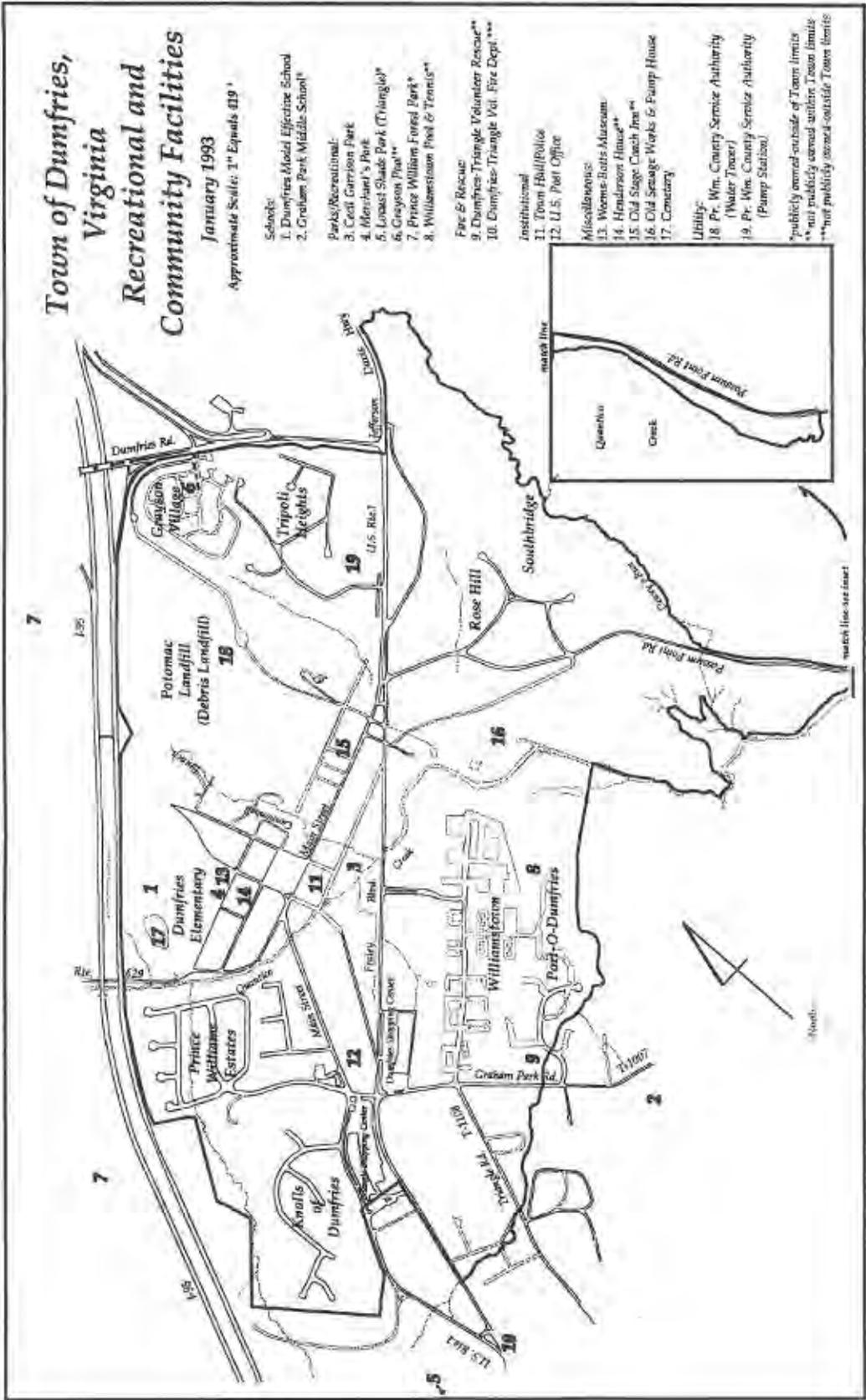
Recreational Facilities outside the Town

For the most part, the recreational needs of the Town are largely served through Prince William County Park Authority facilities and organized 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 also is nearby a number of schools that have recreational facilities, such as Dumfries Model Effective School within the Town, and 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 through Park Authority Programs that are coordinated with the Prince William County School Board. Figure 19 identifies the locations of recreational facilities both in the Town and within approximately 1/2 mile of the Town. Table 12 also includes a summary of all the recreational facilities that are within two miles of the Town, in addition to those facilities previously identified within the Town.

Table 9 - Public Facilities In & Near the Town of Dumfries

<u>Public/Community Facility Sites Within the Town of Dumfries</u>	
<u>Facility</u>	<u>Acres</u>
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 (vacant)	0.18
Prince William County (vacant)	0.27
Prince William County (vacant)	0.31
Prince William County (vacant)	0.23
Prince William County (vacant)	0.36
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 (future)	<u>2.4</u>
Total Acres	35.0
<u>Private/Community Facility Sites Within the Town of Dumfries</u>	
<u>Facility</u>	<u>Acres</u>
Grayson Pool	~.92
Williamstown Pool/Tennis	9.25
Henderson House	<u>0.68</u>
Total Acres	10.9
<u>Public and Private Community Facilities and Services Within Two Miles of the Town of Dumfries</u>	
<u>Facility</u>	<u>Acres</u>
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 Co.	0.5
Fuller Heights Park (future)	<u>42.3</u>
Total Acres	18,843.2

Figure 19 - Recreational and Community Facilities



Park Authority Planning

The planning for recreational needs for Prince William County is the responsibility of the Prince William County Park Authority. The Park Authority conducts long range planning and needs assessment and has progressively approached meeting the County's park needs through the adoption of a ten year park comprehensive plan. Facility planning generally falls into one of four categories as defined by the Park Authority: neighborhood parks, community parks, regional parks and special use. Additionally, the Park Authority has developed detailed standards for determining facility needs. Based on these standards, the recreational facilities serving the Dumfries area has been deemed inadequate.

The first deficiency identified by the Park Authority is in neighborhood park facilities. Secondly, the current supply of community park acreage is also below the recommended standards. The Park Authority plan does not identify any deficiencies for regional parks and special use facilities in the Dumfries area. The Park Authority has delineated a plan to meet recreational facility needs which includes additional development of the Brittany Neighborhood Park, located west of I-95 on Route 234, and the Locust Shade Park. Also, the Park Authority has identified long range needs for three new community parks near the Town: I-95 Community Park, Possum Point Community Park, and Triangle Community Park. The Cherry Hill Sector Plan element of the Prince William County Comprehensive Plan has identified the need for two neighborhood park sites and one community park site to served planned development on the Cherry Hill Peninsula. The Town will need to work with the Park Authority to provide input and assistance where possible in planning facilities in the Dumfries area.

Schools

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, 1995 and 2006 enrollment at each school was as follows:

	<u>2006</u>	<u>1995</u>
Dumfries Elementary School	515	495
Graham Park Middle School	650	787
Potomac High School	1529	1485

The elementary school figure includes preschool, headstart and "even start" programs. The 1995 reduction in Potomac High School enrollment is based on reduction of a percentage of students due to the opening of Hylton High School. Some students that would have been transferred to the new school completed their education at Potomac High School in 1995. The School Board does not project any immediate increases in enrollments but has plans for new facilities in the area over the next year given development that is occurring north and east of the Town.

The Cherry Hill Sector Plan element of the Prince William County Comprehensive Plan has identified the need for two elementary school sites and one middle school site to served planned residential development on the Cherry Hill Peninsula.

Town officials should annually coordinate with School Board officials to maintain an on-going assessment and communication of needs and trends.

Table 10 - Recreational Facilities In and Near Dumfries

<u>Recreational Facilities in Dumfries</u>	<u>Recreational Facilities near Dumfries</u>
<u>Dumfries Elementary Sch. (Sch. Bd. Prop.)</u>	<u>Russell Elem. School (School Board Property)</u>
1 - playground/recreation area 2 - Little League baseball field	1 - playground
<u>Cecil Garrison Park (Town Property)</u>	<u>Triangle Elem. School (School Board Property)</u>
1 - basketball court 1 - baseball field 1 - playground/recreation area	1 - baseball field 1 - Little League baseball field
<u>Merchants Park (Town Property)</u>	<u>Graham Park Mid. Sch.(School Board Property)</u>
1 - picnic facilities	1 - baseball field 1 - 0.3m fitness/hike trail 1 - football field 1 - gymnasium 1 - Little League baseball field 2 - soccer fields 3 - tennis courts
<u>Grayson Pool (Private Property)</u>	<u>Potomac High School (School Board Property)</u>
1 - pool	2 - baseball fields 1 - 0.3m fitness/hike trail 1 - football field 2 - gymnasiums 2 - softball fields 8 - tennis courts
<u>Williamstown Pool/Tennis (Private Property)</u>	<u>Quantico H.S. (Marine Base Property)</u>
1 - pool 2 - tennis court 1 - playground	2 - baseball fields 1 - football fields 2 - tennis courts
<u>The Boys and Girls Club</u>	<u>Locust Shade Park (County Property)</u>
1 - basketball court	2 - softball fields 2 - soccer/football fields 1 - driving range 1 - miniature golf course 1 - fitness trail 1 - nature trail 4 - playground/recreation area 1 - fishing/boating facility 6 - tennis courts 1 - volley ball court

	2 - horse shoe pits 7 - picnic areas 9 - picnic shelters 85 - picnic tables
	<u>Prince William Forest Park (Federal Property)</u> 112 - camping sites 2 - amphitheaters - historic sites - picnic and shelter areas - multi-purpose trails

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, the County has no established regional libraries. The County has located a mini-library in the Town within the Dumfries Shopping Center on Route 1, and similar mini libraries 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 to serve the developing areas located immediately north and east of the Town. The Town should work with Prince William County in the development of new facilities which will serve the Town residents.

Police

The Town has a full-time professional Police Department and recently underwent a reorganization process. The Department is comprised of ten officers: a chief, a sergeant, and eight patrol officers. The Department has shifts that run during the day Monday through Friday and at night Monday through Saturday. According to the Department, calls for service during the summer months averages slightly higher than the winter months.

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

- Participate in area-wide narcotics task forces
- Initiate bicycle patrols
- Establish training for community oriented policing
- Automate records for cases, traffic summonses and evidence control
- Join the law enforcement training network

The Town strives to both maintain and continue to upgrade its law enforcement services which are a basic service provided by the Town. Provisions for this service will need to be evaluated on an annual basis given the future trends of development and redevelopment in and around the town and as special service needs are identified.

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 Triangle Volunteer Rescue Squad (3R) 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 and two paid daytime personnel. Calls for service have averaged approximately 200 calls per month in the past year with a slight increase in calls over the last three years. The station has four ambulances with advanced life support, one heavy rescue truck, two utility vehicles and one boat. The service area for the station is approximately a five mile radius.

The Triangle Volunteer Fire Company (3F) is located just outside of the Town near the southern split of Route 1 at the intersection of Main Street and Fraley Boulevard/Jefferson Davis Highway. The fire company also has a three to four minute response time for calls in the Town and has a response radius of approximately five miles. The fire company has approximately 10-15 volunteers and four paid daytime personnel. Calls for services per month over the last year have ranged between 140-170 calls. The station has two pumpers, one attach pumper, one ladder truck and one brush truck.

While the Town is fortunate to have convenient accessibility to fire and rescue emergency units, growing demands from development in and around the Town will place increased demands on these volunteer assisted services. To serve development planned on the Cherry Hill Peninsula, the Cherry Hill Sector Plan element of the Prince William County Comprehensive Plan has identified the need for an additional fire station facility on the Peninsula.

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 official in the planning of future emergency services for the Dumfries area is essential to assure the long term needs of the Town are met.

Solid Waste

The Town's solid waste removal is handled by a private solid waste hauler. The Town previously began collecting its own trash 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.

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. The County Health Department has a branch office located on Fraley Boulevard in the Town. 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. A few examples of these agencies are Acts Shelter—ACTS (provides family and single adult emergency housings) and Prince William United Way (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 services in-patient and out-patient care.

ENVIRONMENT

Introduction

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 will continue to influence the redevelopment and history of the Town. This section will present (A) an environmental inventory for the Town, (B) the constraints that these environmental resources place on future development within the Town, and (C) potential and existing pollution sources within and surrounding the Town.

Environmental Inventory

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 Town 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 annual rainfall of 39.0 inches¹. Long term averages indicate that rainfall is well distributed throughout the year. The amount of rainfall, however, will vary from year to year and deficient amounts of moisture during the growing season will occur 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 20 presents the average monthly precipitation for Dumfries as recorded at the Quantico Marine 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.

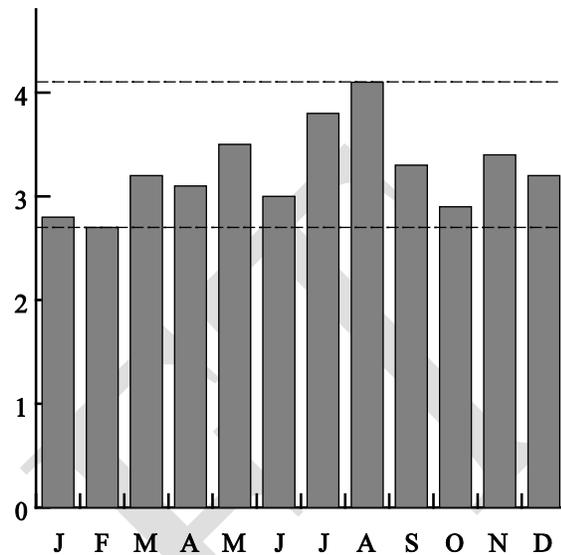
The average annual temperature for Dumfries is 57° Fahrenheit, with a daily average high of 67° and a daily average low of 47°. The hottest month of the year is July with an average daily high of 87° while the coolest month of the year is January, which has a daily average high of 44°. In June, two years in 10 will have at least four days with a maximum temperature equal to or higher than 94°. In January, two years in 10 will have at least four days with a minimum temperature equal to or lower than 13°. 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.

¹ United States Marine Corps, Marine Corps Air Facility, Personal Communication, D.E. Jones, MSGT USMC. Quantico, Virginia

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 windspeed is 6.9 miles per hour (06 kts) and is highest in February and March with an average windspeed of 9.2 mph (08 kts).

Figure 20 presents the average annual precipitation per month for the rain gauge at Marine Corps Base Quantico Air Facility.

Figure 20 - Average Precipitation Per Month at Quantico Marine Corps Air Facility in Inches



Source: Marine Corps Air Facility, Quantico, Virginia, 1993

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 feet². 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.

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

Figure 21 - Topographic Map of Dumfries



Source: USGS Quantico Quadrangle Map

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 Debris Land Fill. 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.

Refer to Figure 21 for a topographic map of the 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. Figure 22 presents a map of geologic provinces and formations within the Town.

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, Marumsclo Loam, Comus Loam, and Marr Very Fine Sandy Loam.

Soils

The respective properties and locations of soils within a jurisdiction will 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 defined as soils that are saturated, flooded, or ponded long enough during anaerobic conditions in the upper part of the soil and can support hydrophytic vegetation. 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 dark 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 will tend to exhibit more heavy properties while sandy loams will exhibit more light properties. Most soils of agricultural importance are some type of loam⁴.

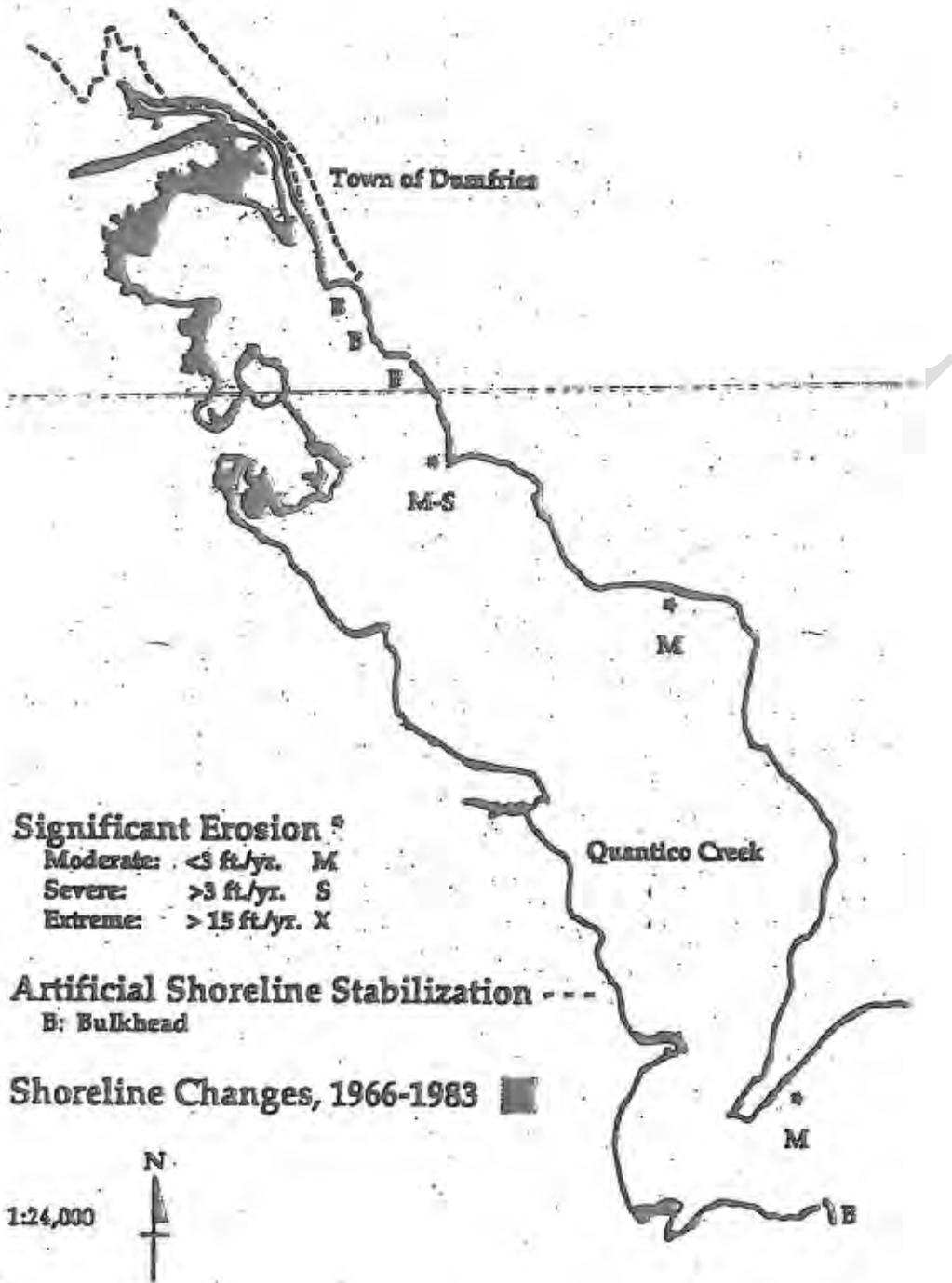
There are six major groups of soils within the Town of Dumfries. These are Urban Land/Udorthents Complex (42.07% of the Town), Dumfries Sandy Loam (15.90% of the Town), Hatboro-Codorus Complex (14.12% of the Town), Lunt Loam (8.79% of the Town), Delanco Fine Sandy Loam (7.75% of the Town), and Quantico Sandy Loam (7.24% of the Town). Other soils which occur within the Town but with less overall significance include Featherstone Silt Loam (0.99% of the Town), Marumsclo Loam (0.87% of the Town), Comus Loam (0.68% of the Town), Marr Very Fine Sandy Loam (0.56% of the Town), Elsinboro Sandy Loam (0.56% of the Town), and Watt Channery Silt Loam (0.48% of the Town)⁵.

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 NVPDC planimeter of *Soil Identification Map of Fairfax County, Virginia*. Fairfax, Virginia: 1991.

Figure 23 - Quantico Creek Shoreline Erosion Map



Source: Northern Virginia Planning District Commission, 1992

Each soil is assigned an identifying number by the Soil Conservation Service (SCS). Within each of these groups, soils are also defined by the slope which the soil occurs on. An "A" after the SCS number indicates a slope of 0-2%, a "B" refers to a slope of 2-7%, a "C" refers to a slope of 7-15%, a "D" refers to a slope of 15-25%, and an "E" refers to a slope of 25% or greater.

Refer to Figure 28 for the location and SCS identification number of specific soils.

Surface Hydrology

The Town of Dumfries lies within the Quantico Creek watershed (VWCB Hydrologic Unit A09, 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 Pennsylvania⁶.

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. Table 14 presents the minimum standards for water quality of Class II waters (for which Quantico Creek was tested) and for Class III waters (for which the upper reaches of Quantico Creek should be maintained).

Quantico Creek is monitored monthly for metals and state fishable water quality standards. For the reporting period July 1989 to June 1991, no violations of the state fishable water quality standards were reported for Quantico Creek. Testing for metals revealed violations for concentrations of manganese, iron, and zinc. However, these violations were not confirmed by other sampling and therefore remain inconclusive. Within the last reporting period, one pollution-caused fish kill was reported for Quantico Creek on May, 2, 1990. The pollutant type, the pollutant source, and the number of fish killed are unknown. The types of fish affected were primarily carp and catfish.

⁶ Virginia Water Control Board, Virginia Water Quality Assessment for 1992. (Information Bulletin #588) Richmond, Virginia: 1992.

Table 11 - Virginia Fishable Water Quality Standards for Class II and Class III Waters

Water Quality Component	Virginia Water Quality Standard	
	II	III
Minimum Dissolved Oxygen Content (mg/l)	4.0	4.0
Daily Average Dissolved Oxygen Content (mg/l)	5.0	5.0
pH	6.0-9.0	6.0-9.0
Maximum Temperature (°C)	--	32

Water discharge rates are also measured for Quantico Creek and provide an interesting glimpse of the varying cycles that the water body experiences through the seasons. According to records taken by the USGS from 1983 to 1985 (at a monitoring station 50 feet north of its convergence with South Fork), water discharges are highly variable and dependent on seasonal and yearly climatological patterns. The high water discharge level during the period was 430 cubic feet per second on March 29, 1984. Quantico Creek ran dry during periods in 1983. Suspended sediment rates also tended to be highly variable but less dependent on seasonal patterns. Table 15 presents general water data for Quantico Creek for the period from 1983 to 1985⁷.

Table 12 - Water Discharge, Sediment, and Temperature for Quantico Creek (1983 - 1985)#

Water Year	Total Discharge	Mean Discharge	Maximum Discharge*	Minimum Discharge*	Mean Temp.	Maximum Temp.	Mean Sediment	Maximum Sediment
1983**	Incomp.	Incomp.	Incomp.	Incomp.	Incomp.	Incomp.	5 mg/l	5/mg/l
1984	4090.72 cf	11.2 cf/s	238 cf/s	0.10 cf/s	14.09° C	24.5°C	14.36 mg/l	96 mg/l
1985	1483.65 cf	4.06 cf/s	98 cf/s	0.15 cf/s	Incomp.	Incomp.	41.89 mg/l	219 mg/l

#Records by USGS taken according to the water year which spans from October to September.

*Maximum and minimum discharge refers to the daily maximum and minimum mean for cubic feet per second.

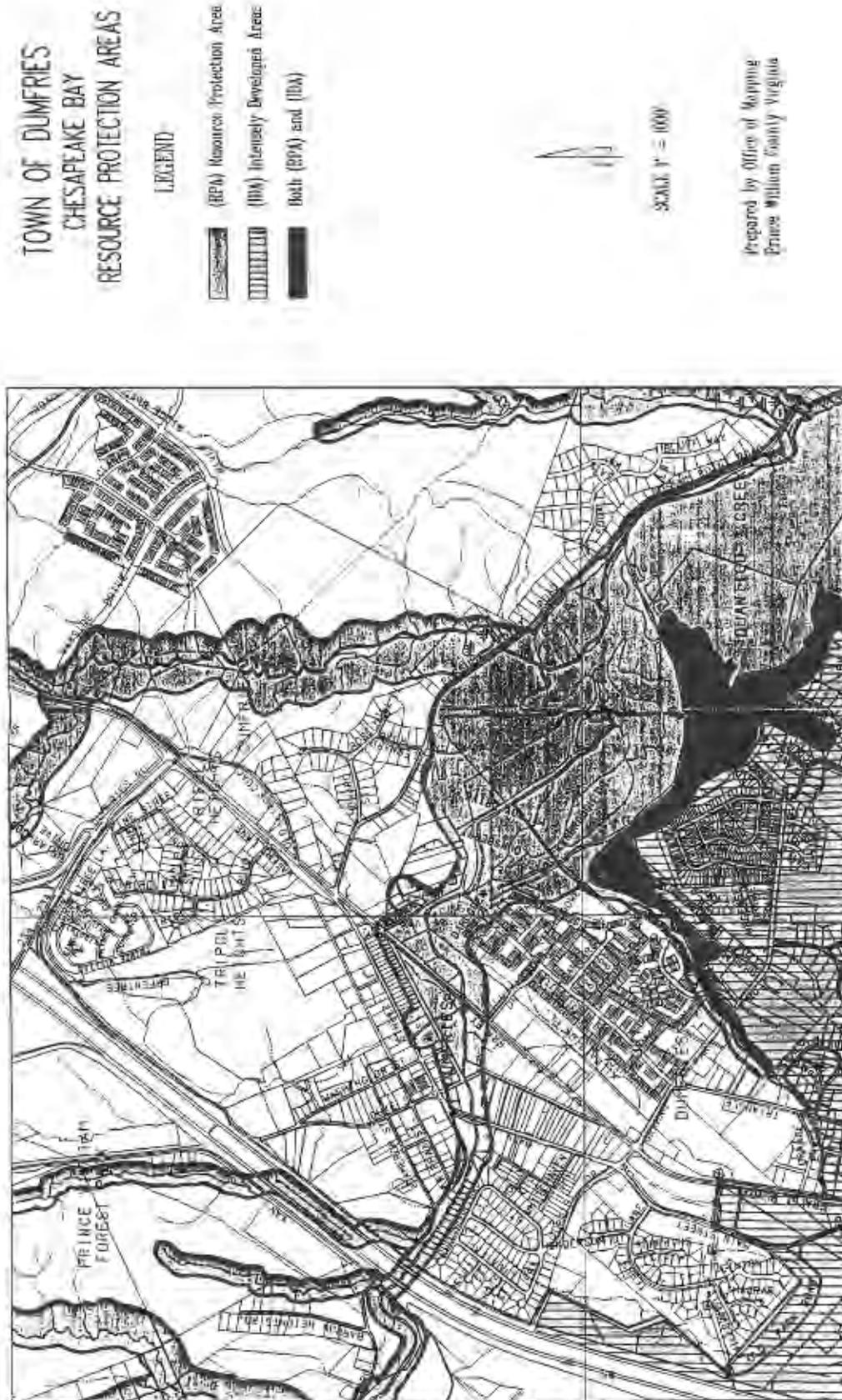
**Data reflects from May to September only.

There are no reaches of Quantico Creek within the Town that have been identified as experiencing significant erosion problems. However, it should be noted that moderate (<3 feet/year) to severe (3 to 15 feet/year) erosion has been identified on the north bank of Quantico Creek to the southeast of the Town. Artificial shoreline stabilization, in the form of bulkheads, exists on the north shores of Quantico Creek within the extreme southeastern reach of the Town along Possum Point Road. According to *Tidal Shoreline Erosion in Northern Virginia*⁸, other areas of erosion and accretion occur along the marshes in Quantico Creek; however, these areas are a result of shifting marsh shorelines attributed to vegetation changes and meandering channels rather than large sediment fluxes. Refer to Figure 23 for a map of shoreline erosion areas and shoreline stabilization structures in Quantico Creek.

⁷ United States Geological Survey, Water Resources Data - Virginia Water Year 1985. Springfield, Virginia: 1985.

⁸ Northern Virginia Planning District Commission, Shoreline Erosion in Northern Virginia. Annandale, Virginia: 1992.

Figure 24 - Chesapeake Bay Overlay District



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 aquicludes. 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*⁹, groundwater availability within the Town ranges from poor (<10 gpm) to fair (10-25 gpm). A 1992 report entitled *Prince William County Water and Sewer Areas of Concern*¹⁰ identifies three sites around the Town which have experienced poor well water quality and/or poor well water yields. These areas are located on Forestburg Lane and Joplin Road to the west of the Town and on Mine Road to the northwest of the Town.

The chemical properties of groundwater in Dumfries vary according to the groundwater aquifer material. Generally, groundwater in the Town tends to be moderately hard (60-120 ml/l CaCO₃). 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.

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*¹¹, 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.

⁹ Virginia Water Control Board, *Prince William County Groundwater Present Conditions and Prospects*. Richmond, Virginia: 1976.

¹⁰ Prince William County Department of Engineering and Wastewater, *Prince William County Water and Sewer Areas of Concern*. Prince William, Virginia: 1992.

¹¹ Virginia Institute of Marine Science, *Prince William County Tidal Marsh Inventory*. Gloucester Point, Virginia: 1975.

Figure 25 - National Wetlands Inventory Map - Quantico Quadrangle



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 Soil Conservation Service indicates that both the Hatboro-Codorus Complex and Featherstone Silt Loam are hydric in nature. Together, these soils comprise over 15% of the Town.

The National Wetlands Inventory (NWI)¹² identifies several different types of wetlands within the boundaries of the Town. These wetlands are listed in order of approximate land area covered within the Town and include wetland classifications PFO/SS1R, E2EMP6, PEME, PSS1E, PFO1R, R2OWH, and PFO1A.

- PFO/SS1R

This indicates a palustrine system (P), a broad-leaved deciduous forested and scrub-shrub wetland class (FO/SS1), and a tidal, seasonally flooded water regime (R). Examples of dominant wetland plant communities for this classification include wax myrtle, red maple and green ash. Areas of occurrence include most of the Quantico Creek tidal flat ending just prior to the intersection of Quantico Creek with Jefferson Davis Highway. This area is represented primarily by the hydric Hatboro-Codorus Complex soils group.

- E2EMP6

This indicates an estuarine inter-tidal system (E2), an emergent wetland class (EM), an irregularly flooded non-tidal water regime (P), and an oligohaline water chemistry (6). Common plant life includes narrow leafed cattail and giant cordgrass. Areas of occurrence include the portion of the Quantico Creek tidal flat straddling the southeastern boundary of the Town. This area is represented by the hydric Featherstone soils group.

- PEME

This indicates a palustrine system (P), an emergent wetland class (EM), and a non-tidal seasonally flooded or saturated water regime (E). Common plant vegetation includes rice cutgrass, soft rush, broad-leaved cattail and reed. Areas of occurrence are a small area where the unnamed tributary of the southern border is adjacent to the tidal flats as well as a small area surrounding Quantico Creek located between Jefferson Davis Highway and Main Street.

- PSS1E

This indicates a palustrine system (P), a broad-leaved deciduous scrub-shrub wetland class (SS1), and a non-tidal, seasonally flooded-saturated water regime (E). Common plant life includes willows, alder, red maple, and buttonbush. The only area of occurrence is at the marshy intersection of Dewey's Creek with the Quantico Creek tidal marsh.

- PFO1R

This indicates a palustrine system (P), a broad-leaved deciduous forested wetland class (FO1), and a tidal seasonally flooded water regime (R). Common plant vegetation includes red maple and green ash. Areas of occurrence are a small area where the unnamed tributary of the southern border is adjacent to the tidal flats just upstream from the PEME.

¹² United States Fish and Wildlife Service, Atlas of National Wetlands Inventory Maps of Chesapeake Bay. Annapolis, Maryland: 1986.

- R2OWH

This indicates a riverine lower perennial system (R2), an open water/unknown bottom wetland class (OW), and a non-tidal permanently flooded water regime (H). Areas of occurrence are a small segment of Quantico Creek above the PFO/SS1R and below the intersection with Jefferson Davis Highway.

- PFO1A

This indicates a palustrine system (P), a broad-leaved deciduous forested wetland class (FO1), and a temporarily flooded water regime (A). Common plant vegetation includes sycamore, black willow, sweet gum, red maple, river birch, green ash, and box elder. Areas of occurrence are along the upper reaches of Dewey's Creek before it leaves the confluence of the Town.

Figure 25 presents the NWI wetlands map for the Town of Dumfries.

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 the approximately 190 acres 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. Hydrilla, which is notorious for choking waterways in the upper Potomac near Alexandria, has historically been of little concern in Quantico Creek¹³. 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.

¹³ United States Geological Survey, Hydrilla Verticillata in the Tidal Potomac River, Maryland, Virginia, and the District of Columbia. Reston, Virginia: 1985.

Table 13 - Common Species of Aquatic and Marsh Wildlife and Vegetation

Birds	Fish	Vegetation	Animals
Great Blue Heron	Bass	<u>Tidal Marsh</u>	Snakes
Green Backed Heron	Herring	Pickereel Weed	Frogs
Canada Goose	Shad	Arrow Arum	Toads
Wood Duck	Pike	Yellow Pond Lilly	Lizards
Mallard Duck	Catfish	Cattails	Otters
King Fisher	Carp	Wild Rice	Water Turtles
Marsh Wren		Marsh Hibiscus	Beavers
Red Shoulder Hawk		Water Hemp	Muskrats
Red Tailed Hawk		Threesquare	
Song Sparrow		Jewel Weed	
Red Winged Blackbird		Iron Weed	
Osprey		Button Bush	
		Water Willow	
		Smart Weed	
		Soft Rush	
		Big Cordgrass	
		<u>Non-Tidal Marsh</u>	
		Wax Myrtle	
		Red Maple	
		Green Ash	
		Sycamore	
		Alder	
		Black Willow	
		Sweet Gum	
		River Birch	
		Box Elder	

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.

Table 16 provides an overview of the common species of aquatic and marsh wildlife and vegetation within the Town. Bird species and vegetation are those which have been observed within the limits of the Town. Fish and animal species are those which could reasonably be anticipated to inhabit the wildlife habitat within the Town.

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 Heritage¹⁴, the hard-stemmed bulrush has occurred in the Town, but its presence has not been verified recently. In Virginia the hard-stemmed bulrush has a natural heritage ranking of S2 which identifies it as very rare. However, it is given a global rank of G5, which indicates that it is very common and demonstrably secure under present conditions. 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. Another rare and endangered species which has been seen within and around the Town is the bald eagle. However, there are no known nests within the Town.

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 Base, Prince William Forest Park, and Locust Shade Park. The Town of Dumfries has within its boundaries approximately 190 acres of forest land. 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 wildlife habitat of the Piedmont is as varied and rich as that of the Quantico Creek estuary. Table 17 presents a list of those species of wildlife and vegetation which are most commonly found within the Town. A complete list of bird species which inhabit and breed within the various habitats of the Town can be found in Virginia's Breeding Birds: An Atlas Workbook¹⁵.

¹⁴ Written correspondence, Timothy J. O'Connell, Virginia Division of Natural Heritage, March, 1993.

¹⁵ Virginia Society of Ornithology, Virginia's Breeding Birds: An Atlas Workbook. Richmond, Virginia: 1989.

Table 14 - Common Species of Upland Wildlife and Vegetation

Trees and Other Vegetation	Common Birds	Animals
Oak Maple Gum Poplar Sycamore Walnut Beech River Birch Pine Cedar Dogwood Redbud Sassafras Holly Cherry Willow Hemlock Locust Hickory	Bobwhite Turkey Vulture Mourning Dove Owl Chimney Swift Yellow Bellied Cuckoo Hummingbird Woodpecker Grebe House Wren Killdeer Northern Flicker Eastern Wood-Pewee Eastern Kingbird Purple Martin Swallow Blue Jay Crow Carolina Chickadee Tufted Titmouse Wren White Breasted Nuthatch Gnatcatcher Eastern Bluebird Wood Thrush American Robin Gray Catbird Northern Mockingbird Brown Thrasher European Starling Northern Parula Warbler Ovenbird Common Yellowthroat Scarlet Tanager Northern Cardinal Indigo Bunting Rufous-Sided Towhee Sparrow Common Grackle Brown Cowbird Oriole Finch	Fox Raccoon Opossum Ground Hog Squirrel Rabbit Skunk Chipmunk Mouse Turtle Terrapin Snake Toads Frogs Salamanders

Environmental Constraints on Development

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 to a large degree dependent 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 the quality of waters in and around the Town. Many 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, (Chapter 25, Title 10.1 of the Code of Virginia) establishes a program to protect environmentally sensitive features which 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 resulting Chesapeake Bay Preservation Overlay District (which is part of the Town's Zoning Ordinance), because it encompasses a number of significant environmentally sensitive features, is outlined below and referenced in the following sections for each of the individual environmental constraints. Under the regulations, local programs are to encourage and promote:

- 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 (Refer to 24). The mapping of these areas, which include 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)

RPAs 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.

The RPAs delineated in Figure 24 includes 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)

RMAs include land types that, if improperly developed, have the potential for causing significant water quality degradation or for diminishing the functional value of the Resource Protection Area.

Uses within the Resource Management Area are subject to compliance with other applicable local, state, and federal regulatory programs and the performance criteria included in the program regulations. The Resource Management Area 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, and various planning and zoning concepts.

Topographic Constraints on Development

Topographic constraints on development consist of areas of steep slopes. Land with steep slopes between 15 to 25% are identified as sensitive by the County of Prince William and steps should be taken to avoid erosion, sedimentation, and related water quality problems. Further, steep slopes may also be prone to slippage and slump which has the potential to result in structural damage to homes and businesses. The Town's Chesapeake Bay Preservation Overlay District identifies slopes that are greater than 25% as part of the Town's RMA component and that are subject to the water quality controls prescribed within the Ordinance. Areas with steep slopes are presented in Figure 26. Currently these areas are mostly undeveloped. Further development of these areas should be discouraged because development of steep slopes can lead to the loss of soil stability and increased stormwater runoff and erosion.

Sensitive Soils Features

Soil is one of the most important natural resources. Natural processes over time have resulted in a variety of soil types with different characteristics. These characteristics determine the suitability of soil types for different uses, such as farming, forestry, and development for residential and commercial use. Surface and ground water quality is commonly dependent upon the wise use and treatment of soils. Good management of our land helps to control the amount of suspended solids and dissolved chemicals that run off the land and contaminate our small streams, rivers and ultimately, the Chesapeake Bay.

Figure 26 - Town of Dumfries Restrictive Topography Map



Source: USGS Quantico Quadrangle Map and Soil Survey of Prince William County, Virginia

It is because soils are so important that soil characteristics within the Town of Dumfries present a significant natural constraint to development. Specific soils identified as RMAs in the Towns Chesapeake Bay Preservation Overlay District which impact development potential include highly permeable soils and highly erodible soils including those with steep slopes over 25%. Soils which have the aforementioned characteristics identified by the Overlay District are to be subject to water quality controls as provided for by the Overlay District. Figure 27 present areas within the Town that have been identified by the Soils Survey of Prince William County, Virginia as being highly erodible. Approximately 27% of the Town's land area consists of highly erodible soils. There are no mapped units of highly permeable soils in the Town.

Other soils characteristics which will limit the potential for growth include a high shrink-swell potential, wetness, flooding, depth to bedrock, high water table, and hydric tendencies. These will impact on whether or not a site is suitable for the use of a septic field and or whether the soil can adequately support a single family home or commercial footing or a local road.

The following paragraphs describe each of the Town's soil engineering suitabilities and the variability within each in the order of land area covered within the Town. In general, a rating of "good" indicates that the soil has few problems when used for a particular purpose. Well suited, suitable, or slight limitations are terms that may be substituted for the term "good." A rating of "fair" indicates that the soil has some problems that need to be considered when used for a particular purpose. Questionable, marginal, or moderate limitations are terms that may be substituted for the term "fair." A rating of "poor" indicates that the soil has major problems that need to be considered when used for a particular purpose. Unsuitable or severe limitations are terms that may be substituted for "poor." Engineering suitabilities are taken from the Soils of Prince William County, Virginia.

Figure 28 presents the location and SCS identification number of specific soils within the Town to be used with the following section dealing with the soil specific engineering suitabilities.

- Urban Land/Urban Soils Complex (54B)

The dominant soil unit within the Town is the Urban Land/Urban Soils Complex which consists of areas where 85% or more of the surface layer is covered by asphalt, concrete, or other impervious surfaces. Much of the Town of Dumfries is already built-out, thereby accounting for the high percentage of "Urban Land" cover type, as shown in Figure 28. Urban Land within Dumfries exhibits gentle slopes and is, with few exceptions, suitable for redevelopment. The permeability, runoff, and available water capacity of this unit are variable. The erosion hazard is slight. An on-site investigation is needed to determine the suitability and limitations of the unit for any use.

- Dumfries Sandy Loam (61 C, D, E)

Dumfries Sandy Loam, which is the second most predominant soil unit, is generally very deep and well drained. The soils are on narrow ridges and side-slopes and half-slopes ranging from 7 to 50%. The surface layer is typically a dark grayish-brown.

61C is fair to good for many engineering uses. It is fair to good for home sites, normal footings, fill material, basements, and septic tank drainfield areas. Side walls in deep cuts are subject to slumping. Strata of clay in the substratum in some areas cause slow internal drainage.

Figure 27 - Highly and Moderately Erodible Soils in Dumfries



61D is fair to poor for many engineering uses. It is fair for home sites, normal footings, road fill material, basements, sanitary landfills, septic tanks drainfields, and other similar uses. It is poor for lawns, shrubs and fill materials for dams. It is also a poor source of topsoil for finish grading. Slope, droughtiness, and high content of feldspathic sand are the main problems with engineering use suitability. In places, clay layers in the substratum are poor for septic tank drainfield areas. Side walls in deep cuts are subject to slumping.

61E is fair- to poorly-suited for most engineering uses. Slope and droughtiness are the main problems that affect its use stability. Slopes from 25 to 50% commonly limit and control the usefulness of this soil for home sites, septic drainfield areas, lawns, and other uses. This soil is best suited for forest and commonly should be left in native woodland as buffer zones and for aesthetic appeal.

- **Hatboro-Codorus Complex (27A)**

The Hatboro-Codorus Complex is the third most predominant soil within the Town and consists of very deep, nearly level soils on narrow to wide floodplains of creeks and rivers. Often, these soils are found adjacent to stream channels and often cover a long, narrow, and winding area. The Hatboro-Codorus Complex is poor for most engineering uses. They are unsuited for home sites, basements, normal footings, septic tank drainfields, roadfills, sanitary landfills, and other similar uses. Flood hazard, high water table, moderately high organic matter and variable texture are the main factors that affect their use stabilities. The Hatboro-Codorus Complex is best suited for agricultural lands, forest lands, or otherwise left undisturbed as a stream buffer. Adequate design should be used to protect installations. Hatboro soils are considered to be hydric, which usually indicates the presence of a wetland habitat.

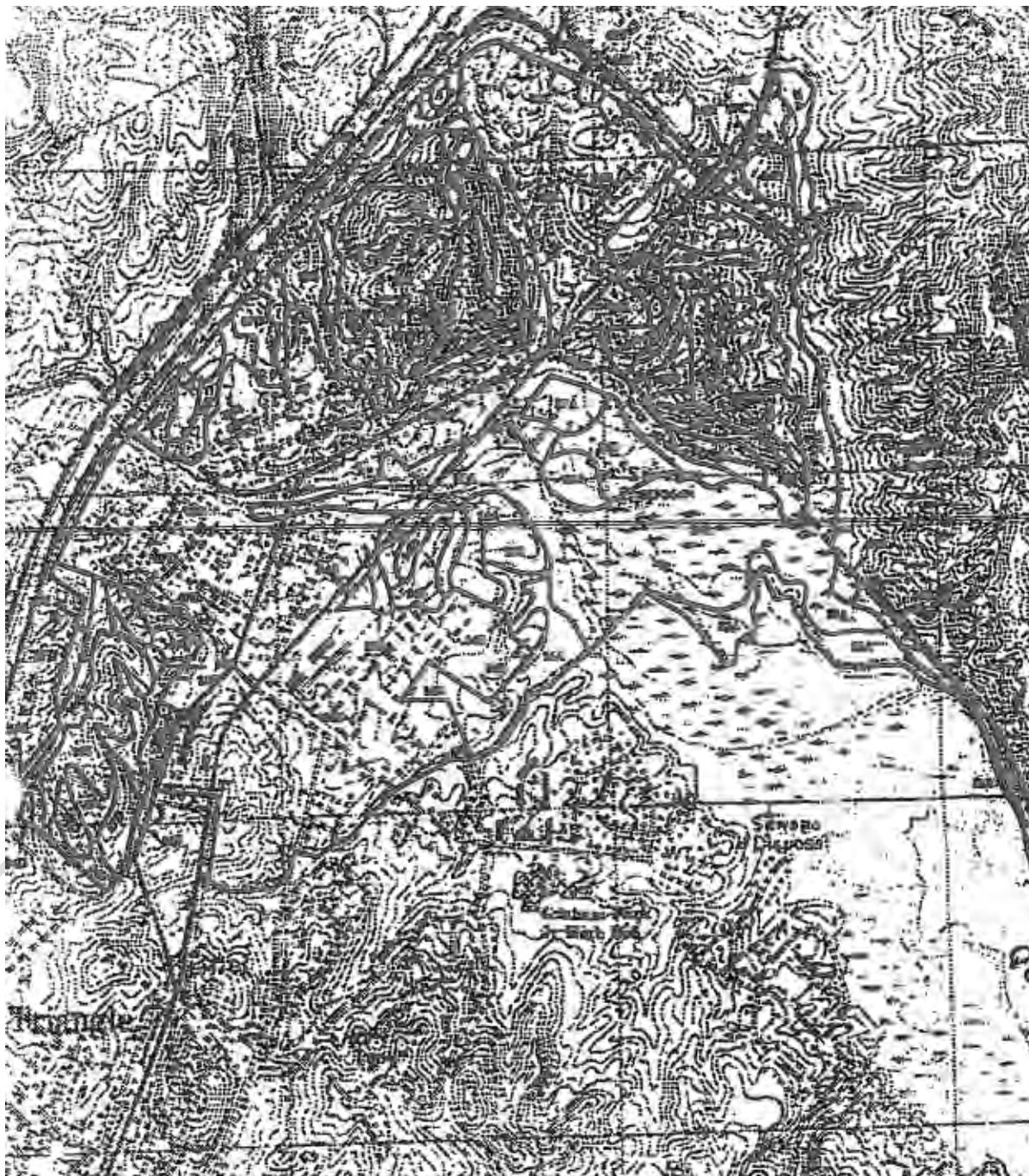
- **Lunt Loam (34B, C, D)**

Lunt Loam is very deep and well drained. They are located on ridges, side slopes and toe slopes and range from slopes of 2 to 25%. The surface is usually dark grayish-brown to dark brown. Lunt Loam is fair to poor for many engineering uses. It is fair to poor for home sites, basements and normal footings, and poor for septic tank drainfields areas and fill material. It is fair to good for lawns and shrubs. The surface layer is thin but fair for topsoil material for finish grading. The main problems affecting the use suitability of this soil is a moderately high content of shrink-swell clay in the subsoil layer, seasonally perched water table, and slow permeability. Side walls for 34B and 34C are commonly unstable in deep excavations. Sidewalls for 34D are unstable in deep cuts or excavations. When used for roads, building sites and similar uses, the clayey subsoil should be replaced with good quality compacted fill material. Adequate drainage should be provided for basements, lawns, and shrubs. Footings in 34C and 34D should be placed on firm material.

- **Delanco Fine Sandy Loam (16A)**

Delanco soils are very deep, nearly level to gently sloping and moderately well drained. They are found on low stream terraces and were formed in alluvium materials. Typically the surface layer is a very dark grayish-brown fine sandy loam on the surface. Delanco soils are fair to poor for many engineering uses. They are fair for road fill materials, normal footings, and fill material for dams and poor for home sites, basements, sanitary landfills, and septic tank drainfield areas. They are good for lawns and shrubs and the surface layer is good topsoil for finishing grade. Seasonal water table and occasional flood hazard are the main problems that affect its use suitability.

Figure 28 - Map of Specific Soil Locations and Soil Conservation Service Identification Numbers



- Quantico Sandy Loam (47B, C, D)

The soils of the Quantico series are very deep and well drained. They formed in stratified sediments of sand silt and clay and are located on uplands of the northern part of the Coastal Plain. The surface layer is typically brown to dark brown to one inch and light yellowish-brown from one to thirteen inches.

47B and 47C are fair for many engineering uses. They are good for home sites and are fair for basements, septic tank drain areas, normal footings, sanitary landfills, road fill materials, and fill material for dams. The surface layer is good for topsoil materials and should be saved at construction sites for finish grading. The main problems in using 47B are high clay content, moderate to moderately slow permeability, and low strength. The main problems in using 47C are high clay content, slow permeability, and low strength. Slopes of 7 to 15% are also a problem for some uses. For both 47B and 47C, the substratum in many places is permeable and suitable for septic tank drainfield areas.

47D is fair to poor for engineering uses. It is fair for home sites, basements, septic tank drain areas, normal footings, sanitary landfills, road fill materials, and fill material for dams. The substratum in many places is permeable and suitable for septic tank drainfield areas. The main problems are high clay content, moderate to moderately slow permeability, moderately steep slopes, and low strength. Adequate drainage should be provided for basements and other excavated uses. The surface layer is fair to good for topsoil material and should be saved at construction sites for finishing grading.

- Featherstone Silt Loam (22A)

Featherstone Silt Loam is very deep, level to nearly level, and very poorly drained. It is located on floodplains at an elevation of less than 2 feet and formed from Coastal Plain sediments. The areas are not flooded daily but are subject to high seasonal tides and storm tides. Typically, the surface layer is very dark grayish-brown mucky silt loam. Featherstone soils are unsuited for most engineering uses such as home sites and related uses. Pilings are commonly used to support bridges and other structures on this unit. Where roads and other similar uses are made on these areas, compacted fill materials can commonly be used to bridge over and stabilize the surface for trafficability. Featherstone Silt Loam is considered to be a hydric soil which is usually indicative of a wetland.

- Marumsclo Loam (37A)

Marumsclo Loam is very deep, nearly level and gently sloping, and moderately well drained and somewhat poorly drained. This soil formed from stratified marine sediments of the lower Coastal Plain sediments. Typically, the surface layer of the soil is very-dark grayish-brown loam one inch thick and pale brown six inches thick. Marumsclo Loam is poorly suited to many engineering uses. It is poor for home sites, basements, normal footings, sanitary landfills, septic tank drain field areas, and fill material. It is fair for lawns and shrubs. The surface layer is fair to poor for topsoil finishing grading. The main problems affecting use suitability of this soil is high seasonal water table, slow permeability, and high content of shrink-swell clay. Adequate drainage should be provided when used for building sites, lawns, shrubs, and other uses. Low elevation in the landscape commonly limits good drainage for basements and other similar uses.

- Comus Loam (15A)

Comus Loam is very deep, level to nearly level, and well-drained. It is on broad, low floodplains along the larger streams in the County. This soil formed in alluvium washed from soils developed

from material weathered predominantly from acid crystalline rocks of the Piedmont Plateau. The areas are commonly elongated and follow the course of the adjacent stream. Typically the surface layer is brown to dark brown loam. Comus Loam is poorly suited for most engineering uses. They are unsuited for home sites, basements, normal footings, septic tank drainfields, sanitary landfills, and other similar uses. They make poor road fill materials and fill materials for dams. They are a good source for topsoil material. Flood hazard, moderately high content of organic matter, and variable nature of the alluvial sediments are the main factors that affect their use suitabilities Comus Loam is best suited as agricultural lands, forest land, or otherwise left undisturbed as stream buffer zones. Where used for commercial or industrial sites, adequate design should be used to protect buildings and other installations from flooding and other hazards.

- Marr Very Fine Sandy Loam (36E)

Marr Very Fine Sandy Loam is very deep, steep, well drained and is located on side slopes. The areas are generally long and winding and typically the surface layer is dark grayish-brown very fine sandy loam two inches thick and light yellowish brown very fine sandy loam between two to eleven inches thick. Marr soils are poor for most engineering uses. Slopes from 25 to 55% commonly limit and control the usefulness of this soil for home sites, septic tank drain field areas, lawns, and other uses. It is good for road fill material. This soil is best suited for permanent forest cover and commonly should be left in native woodland as buffer zones or for aesthetic appeal. Where disturbed at construction sites, this soil is highly erosive and should be protected.

- Elsinboro Sandy Loam (20B)

Elsinboro Sandy Loam is very deep, gently sloping and well drained, and is located on low stream terraces. Typically the surface layer is dark yellowish-brown sandy loam nine inches thick. This soil is poor to good for engineering purposes. It is poor for home sites, basements, and sanitary landfills where flood hazards are likely. It is good for lawns, shrubs, road fill materials, fill for dams and the surface soil is good topsoil material. Seasonal water table may interfere on some areas for basements and other deeply excavated uses. It has fair potential for septic tank drainfield use.

- Watt Channery Silt Loam (55E)

Watt Channery Silt Loam is moderately deep, steep and very steep, and somewhat excessively drained. They are located on side slopes. Shallow and moderately deep drainage ways cross the areas at frequent intervals. This soil formed in materials weathered from graphic schist or graphic phyllite in the Piedmont. Typically the surface is very dark grayish-brown silt loam one inch thick and dark grayish brown silt loam 6 inches thick. Also included within the area are small areas that are very shallow to rock or have rock outcrop, and small areas that have little or no subsoil. A few areas have moderately deep to deep gullies. One outcrop of Watt Channery soils is located within the Town at the northeastern corner of the intersection of Interstate 95 and Quantico Creek. Other areas which exhibit rock outcrops associated with the Watt Channery soils but are now classified as Urban Land are located in the steep terrain north of Main Street across from the Town Hall. The rock outcrops are known as part of the Quantico Slate formation.

Watt Channery soils within the Town are poorly suited to most engineering uses. It is poorly suited for home sites, basements, sanitary landfills, road materials, septic tank drainfield areas, fill materials for dams, lawns, and shrubs. Steep slopes, shallowness to bedrock, droughtiness, high silt content, and high content of sulfur are main problems. Water wells are commonly high in content of sulfur and other undesirable minerals. Concrete structures placed at the surface are subject to severe corrosion due to the high sulfur content.

Table 15 - Summary of Soil Characteristics Relative to Potential Use Suitability in Dumfries

<u>Soil</u>	<u>Percent of Town</u>	<u>General Development with Central Water and Central Sewer</u>	<u>Constraint for Development with Central Water and Central Sewer</u>
Urban Land/Udorthents (54B)	42.07%	Variable	Variable
Dumfries Sandy Loam (18C)	0.60%	Fair	Slope and droughtiness are main problems; slumping of sidewalls in excavations common.
Dumfries Sandy Loam (18D)	5.25%	Fair to Poor	Slope, droughtiness, and slumping of sidewalls in excavations.
Dumfries Sandy Loam (18E)	10.06%	Poor	Steep slopes.
Hatboro-Codorus Complex (27A)	14.12%	Poor	Subject to flood hazard and seasonal high water table.
Lunt Loam (34B)	4.41%	Fair to Poor	Moderately high content of shrink-swell clay; seasonal water table; low strength; slumping of walls where undercutting is done.
Lunt Loam (34C)	2.74%	Fair to Poor	Moderately high content of shrink-swell clay; seasonal water table; low strength; slope; slumping in cuts.
Lunt Loam (34D)	1.63%	Fair to Poor	Moderately steep slopes; moderately high content of shrink-swell clay; seasonal water table; slope; slumping in cuts.
Delanco Fine Sandy Loam (16A)	7.75%	Poor	Flood hazard; and seasonal water table.
Quantico Sandy Loam (47B)	2.19%	Good	Moderately slow permeability in subsoil and substratum.
Quantico Sandy Loam (47C)	2.98%	Fair	Slope; moderately slow permeability.
Quantico Sandy Loam (47D)	2.07%	Fair to Poor	Slope; moderately slow permeability.
Featherstone Silt Loam (22A)	0.99%	Poor	Tidal areas; flooding at unusually high tides.
Marumsc F. Sandy Loam (37A)	0.87%	Poor	Seasonal water table; high content of shrink swell clay.
Comus Loam (15A)	0.68%	Poor	Subject to flood hazard.
Marr V. Fine Sandy Loam (36E)	0.56%	Poor	Steep slopes.
Elsinboro Sandy Loam (20B)	0.56%	Fair to Poor	Infrequent to occasional flood hazard; seasonal water table for deeply excavated uses. These soils at high elevations are good for many uses.
Watt Channery Silt Loam (55E)	0.48%	Poor	Shallowness to rock; steep slopes; droughty. High silt content; sulfur, and coarse fragments.

As demonstrated in Table 18, nearly 53% of the Town is poorly-suited or fair- to poorly-suited for general development with central water and sewer. Further, according to data from the Soils Survey of Prince William County, Virginia, nearly 57% of the Town has severe restrictions to septic drainfields and local roadways. These percentages do not include the urban land areas; however, they are generally suited for development and do not rely on on-site septic systems for waste water disposal.

Wetlands

Wetlands provide a variety of benefits including environmental, socio-economic, and fish and wildlife habitat. Wetlands filter water as it passes through which reduces sediment flows into open water and removes nutrients and chemical and organic pollutants. Wetlands also assist with flood control and also protect upland areas from erosion. Socio-economic values include groundwater discharge and recharge, the production of timber, commercial and sport fishing, and the preservation of scenic and archaeological opportunities. Wetlands also serve as fish and wildlife habitat. They provide spawning and nursery grounds for a variety of fin and shell fish, birds, and other animals. Thirty five percent of all animals on the federal list of rare and endangered species depend heavily on wetlands for food and shelter. Wetlands can also create a hazard if improperly used. These hazards include potential problems due to flooding and soil erosion, soils that are unstable for supporting buildings, and problems with waste disposal. Figure 25 presents the NWI wetland delineations for the Town of Dumfries.

Regulatory constraints on development associated with wetlands include a variety of local ordinances as well as state and federal laws. Formal laws to be taken into consideration when developing an area with potentially sensitive land areas include:

- **Federal**

Federal laws include Section 404 of the Clean Water Act of 1977 (33 U.S. C. 1251) which addressed 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.

Pertinent laws of the Commonwealth of Virginia include the Tidal Wetlands Act (Title 62.1, Chapter 1 of the Virginia Code). The Commonwealths ownership of subaqueous land is established in Title 62.1, Chapter 1 of the Virginia Code. The Virginia Marine Resources Commission (VMRC) 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. Areas which are required to be designated as RPAs include tidal wetlands, non-tidal wetlands connected by surface flow and contiguous to tidal wetlands or tributary streams, tidal shores, and a 100-foot vegetated buffer area located adjacent to and landward of these components. In Dumfries, the RPA is located along Quantico Creek, including associated freshwater wetlands as well as the lower reaches of Dewey's Creek and the unnamed tributary stream which comprises the Town's southern border. Non-tidal wetlands not included in the RPA may be included for consideration in a Resource Management Area. Due to the preponderance of sensitive environmental features within the Town, and due to the belief 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.

Although some development exists within the alluvial area of the Town, current federal, state and local wetlands regulations and the Town's Chesapeake Bay Preservation Overlay District will substantially restrict further development or redevelopment within the area.

Groundwater Protection

Groundwater is an integral part of the earth's hydrological system and generally exists in dynamic equilibrium. 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. In addition, the loss of hydrostatic pressure in an over-pumped unconsolidated aquifer (such as the Coastal Plain aquifers) can cause compaction of the pore spaces resulting in a permanent loss of groundwater storage in the aquifer.

The quality of groundwater is an important concern for the Town of Dumfries. Although the groundwater supply in the Coastal Plain has been determined to be inadequate to support existing demand as a public supply source, its protection has been recognized by the Commonwealth of Virginia when the General Assembly passed the Groundwater Act of 1973. This legislation was enacted "...in order to conserve, protect and beneficially utilize the groundwater of this State and to ensure the preservation of the public welfare, safety and health..." 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. Groundwater is also intimately connected with many ecosystems as it provides base flow to rivers, streams, ponds, lakes and wetlands. Once contaminated, the usefulness of an aquifer as a resource may be limited or destroyed depending on the toxicity of the contaminant and the effort, time and money involved in clean-up. In most cases it is impractical and sometimes impossible to restore a contaminated aquifer to its original level of purity. The time involved in restoring the damage from groundwater contamination depends on the type and severity of contamination as well as the rate and direction of groundwater movement. Common sources of groundwater contamination include: leaking underground storage tanks, landfills, junk yards, chemical leaks and spills, illegal dumping practices or improper disposal, high densities and/or old or malfunctioning septic tanks, septic systems situated on improper soils, among others. In Prince William County, the most common type of groundwater contamination on record with the

Virginia Water Control Board results from petroleum leaks and spills. This type of contamination may be more well-documented than other types because the problem is often easily recognized.

The Patuxent formation, which underlies most of the Town, has been recognized by the Virginia State Water Control Board as an important Coastal Plain aquifer requiring special protection along its recharge zone. The recharge zone occurs where the unit is at or near the surface and runs approximately parallel to the fall line. In many places, this area is also desirable land for development, making groundwater protection policies even more critical. The potential for groundwater degradation in the Patuxent aquifer can be reduced through careful land use planning.

While there is presently no indication of widespread groundwater contamination within the Town, groundwater contamination potential is a significant factor in determining groundwater protection strategies. According to the Virginia Water Control Board's DRASTIC mapping project, the Town lies within the limits of groundwater pollution potential designations 8D3-127, 10Ab2-164, 10Ba-182, and 10C-168. The DRASTIC Index indicates the relative pollution potential of the groundwater and is useful as a tool for directing inappropriate land uses away from areas which have a high potential for groundwater pollution. (DRASTIC is an acronym for the groundwater parameters used to determine relative pollution potential. These parameters are (D)epth to water table, net (R)echarge, (A)quifer media, (S)oil media, (T)opography, (I)mpact on the vadose zone, and hydraulic (C)onductivity.)

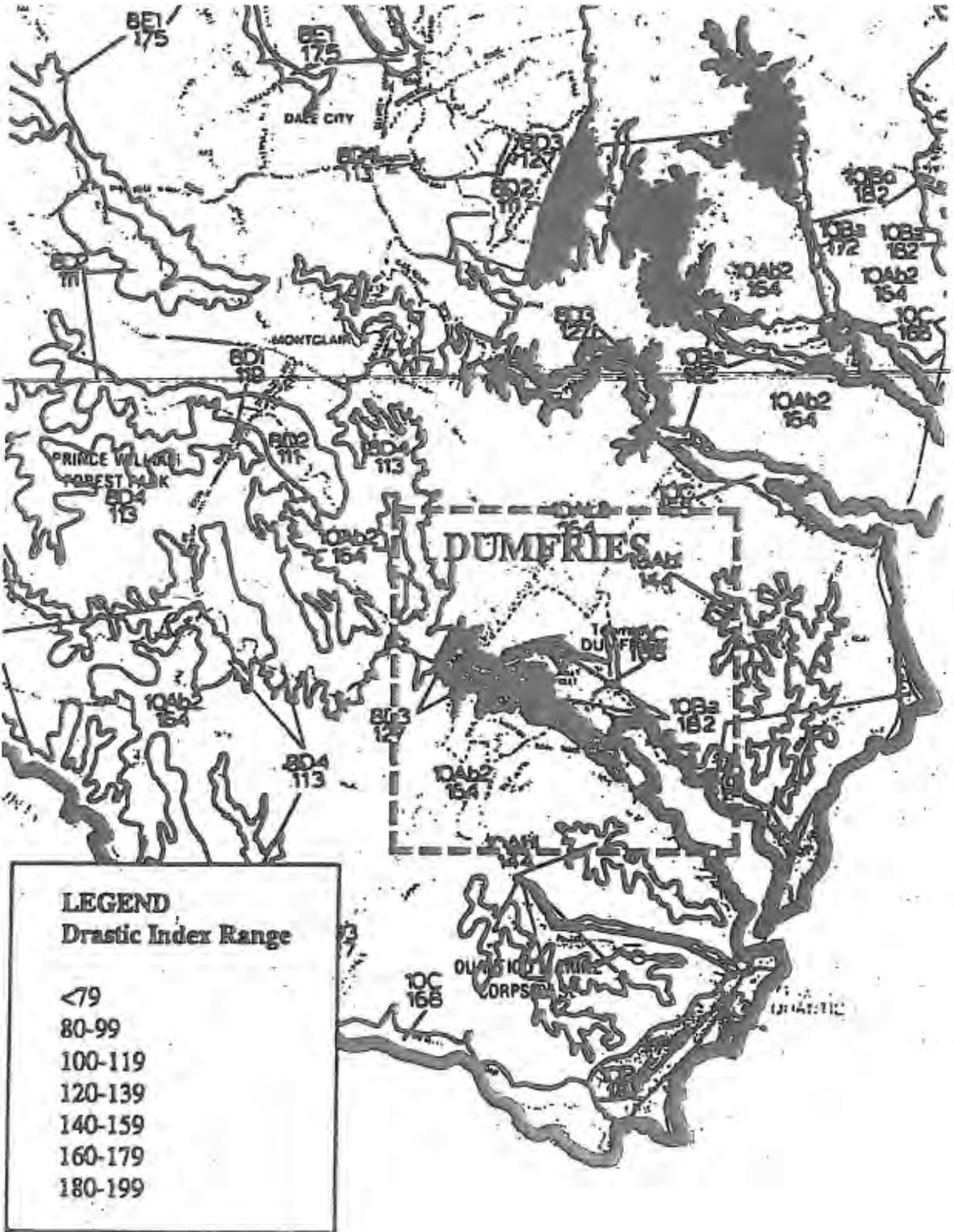
The number is broken into two parts, the first of which defines the hydrogeologic setting and the second of which defines the DRASTIC Index. Designations 8D3-127, 10Ba-182, and 10C-168 are generally associated with the areas surrounding Quantico Creek from its upper reaches within the Town to where it becomes a tidal estuary respectively. Surrounding areas in the southwestern and northeastern parts of the Town are designated as 10Ab2-164. The DRASTIC Index, which for the Town of Dumfries is represented by (127), (164), (182), and (168), is the relative measure of groundwater pollution potential. The Index, which ranges from less than 79 to 199, provides only a relative look at groundwater pollution potential. Dumfries, by its place on the scale has a higher than average groundwater pollution potential. An Index of 127 ranks in the middle of the scale, while an Index of 164 and 168 rank second from the highest category. A rank of 182 is placed in the highest pollution potential category. The Index assignment of 182 is due primarily to sandy soils and high groundwater associated with the Quantico Creek.

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. Figure 29 presents the DRASTIC Map for the Town of Dumfries.

Flood Hazard Areas

Several areas in Prince William County along the major streams are subject to flooding. All identified flood-prone areas in the County are presently participating in the National Flood Insurance Program. 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 uses, restricts uses and protects individuals from developing, using or buying land that is subject to flooding. This zoning 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 limit except for flood control, recreation, and agriculture and wildlife management.

Figure 29 - Prince William DRASTIC Map – Dumfries Area



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, by the U.S. Army Corps. Figure 24 depicts 100-year and 500-year floodplains for the Town.

Wildlife Protection

The preservation of forested areas for their habitat, water quality protection, and aesthetic value is most critical to maintaining environmental quality. Some 17 diverse forest cover types are found in varying degree within Prince William County. The majority of forest loss is attributed to urban development pressures, which are expected to continue in future years. As development occurs, it is extremely important that forested lands be preserved with interconnecting forested stream corridors to preserve wildlife diversity and abundance within the County.

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 woodlands are more susceptible to sedimentation, introduction of excess nutrients, and algal blooms. It is desirable in watersheds to maximize the amount of forested area to help maintain high quality runoff. Most streams in the eastern portion of the county are surrounded by a wooded buffer. Connections among forested patches most often occur along drainage basins too steep or with soils ill suited for development. Preservation of forest lands is the most beneficial method of providing such areas while protecting soil, water and air quality. These corridors should be maintained in natural vegetation, preferably forest vegetation to achieve these environmental benefits.

Forested lands provide important habitat for numerous species. According to the Department of Game and Inland Fisheries, the quality of the remaining forested areas supporting game species is declining rapidly due to the encroachment of urban growth. One of the major effects of the reduction in forested lands is that wildlife species are being pushed into the few large remaining forested areas as urban development occurs. As development occurs within the Town, it is extremely important that forested lands be preserved with interconnecting forested stream corridors to preserve wildlife diversity and abundance within the town, and that the cores of forest interior areas remain undisturbed. Besides, 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.

Potential Sources of Pollution

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 inventory presented in this section provides the Town a basis on which to establish a pollution mitigation plan. Potential and actual sources of pollution within the Town include underground storage tanks, non-point source pollution, point source surface water discharges, malfunctioning septic fields, and air quality.

Underground Storage Tanks

The Virginia Water Quality Assessment for 1992 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, there exist many underground storage tanks which were installed before more stringent regulations were applied. The location and condition of these tanks are often unknown. Because these tanks are underground, they have more potential to contaminate the groundwater.

According to the VWCB records, there are eleven registered businesses or residences with underground storage tanks within the Town of Dumfries. All totaled between these owners, there are 23 underground storage tanks in the Town. Table 19 presents underground storage tank statistics for the Town.

Table 16 - Underground Storage Tank Statistics for Dumfries

Total Number of Tanks	23		
Average Age of Tanks/	8.9 years		6 (1-5 years)
Break Down of Age			7 (6-10 years)
			9 (11-15 years)
			0 (16-20 years)
Average Capacity of Tanks/	6,925.65 gallons		1 (290 gallons)
Break Down of Capacity			1 (1,000 gallons)
			7 (4,000 gallons)
			2 (5,000 gallons)
			2 (6,000 gallons)
			1 (8,000 gallons)
			4 (10,000 gallons)
Construction of Tank	15 Steel	8 Fiberglass	0 Unknown
Exterior Tank Protection	8 Painted	8 Other	7 Unknown
Contents of Tank	11 Gasoline	1 Kerosene	11 Diesel

As of 1992 there are no open cases of reported underground tank spills within the limits of the Town. The most recent reported spill occurred at the Dumfries Elementary School in 1991. In this case, which involved a hydrocarbon spill, the underground storage tanks were removed and the surrounding dirt was removed. No contamination of the groundwater occurred as a result of the spill.

While there are no immediate threats of groundwater contamination within the Town from underground storage tanks, several underground storage tank failures have been reported around the periphery of the Town, in particular at Possum Point and the area around the Interstate 95-Dumfries Road exchange. Three of these cases are currently open. 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 of Dumfries 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 serious 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.

According to the VWCB, approximately 90 percent of releases from individual tanks are as a result of overfill or the tipping over of the tank. Overfill can occur if the driver/filler is not paying attention or if it is not known what the capacity of a tank is. 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.

Non-Point Source Pollution

The harmful effects of not controlling non-point source pollution generated from intense land uses is no more evident than in the history of the Town of Dumfries. The Town's location along the banks of the 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 accented growth of the tobacco market meant large scale cultivation in the Quantico Creek watershed. This expansive soil tilling, with no regard towards erosion control, eventually filled the harbor with topsoil and became the downfall of the Town in the years to come.

The process of urbanization generally increases runoff and pollution to nearby streams by disturbing the natural floodplain of the stream, by removing the vegetative cover from the land surface, and by increasing the amount of impervious land surface. Runoff from urban areas tends to carry with it surface pollutants including soil sediments, nutrients (such as phosphorus and nitrogen), heavy metals, and hydrocarbons. In rural areas, runoff commonly contains increased concentrations of nutrients. In addition to transporting pollution, increased runoff also increases stream flow during and immediately after periods of precipitation. Stream banks can be eroded and can release sediments to the stream if

disturbed directly, or subject to excess runoff from upland development. Oil contamination, sediments, pesticides, metals, and other toxic substances can kill fish and destroy bottom life. This pollution is derived from both point and non-point sources. But, because of their frequently low flushing rates, estuaries are particularly susceptible.

The effect on local waterways is a general degradation of the quality of the waterways and a phenomenon known as eutrophication. Eutrophic conditions, which are caused by excessive nutrients in the water, are characterized by low dissolved oxygen levels and high algal growth. The 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, which blocks sunlight from aquatic life and depletes the dissolved oxygen content during decay. Eutrophication also destroys the recreational use of a water resource and results in strong odor and undesirable taste.

Because the Town of Dumfries lies within the Quantico Creek subwatershed which drains to the Potomac River and eventually the Chesapeake Bay, controlling non-point source pollution is an important aspect of this plan. 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).

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), which 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, should be used to mitigate the effects of development on water quality after development has taken place only if it was not possible to perform the aforementioned criteria. These trapped pollutants are then disposed of through periodic maintenance.

In any urbanizing jurisdiction such as Dumfries, water quality is of utmost importance. The impacts of non-point pollution on the Town's ground and surface waters are significant and require new measures to protect such a priceless and vital resource. The control of non-point pollution sources is needed for effective management of water quality. Therefore, stormwater disposal needs must be met while considering recharge of groundwater and surface water pollution. As urban land continues to expand, this need can only be expected to increase.

Point Source Surface Water Discharges

According to the Virginia Water Control Board, there is one major industrial and three municipal facilities dischargers into VWCB Hydrologic Unit A09, which includes Powells Creek, Chopawamsic Creek, and Quantico Creek. The major industrial discharger is the Virginia Power - Possum Point Plant, which is located outside of the Town boundaries at the far end of Possum Point. There was one sewage disposal outfall within the Town which is identified on the USGS quadrangle map for Dumfries. The outfall was located in the Town to the southeast of Williamstown Road and has been inactive for a number of years. There are no AWQM stations to monitor water quality at 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 in Northern Virginia, 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 are required to connect to the sanitary sewer system.** However, there are still a number of active and inactive but improperly closed septic fields in and around the Town. According to *Septic Systems Impacts in Northern Virginia, An Assessment of Two Study Areas*, there is a density of ten known installed septic systems within Prince William County Tax Map Grids 6 and 11, in which most of the Town is located. The low number reflects the fact that sanitary sewer has been available in the area for a number of years. Within these Tax Map Grids, the average year of septic system installation is prior to 1970. The combination of the age of the septic systems and the generally unsuitable soils characteristics within the Town would generally indicate a high risk of potential septic system failure, although as of 1989, no failures had been reported within these two Tax Grid Maps. **In general, it is Town policy that failing septic systems should be connected to the public sewer system when feasible.**

According to a 1992 publication entitled *Prince William County Water and Sewer Areas of Concern*, there are three occurrences of endemic on-site sewage system failures near the Town. These occurred on Forestburg Lane and Joplin Road to the southwest of the Town, and Forest Park on Mine Road to the west of the Town. The Prince William County Service Authority has proposed to resolve these problems by eventually connecting them to public sanitary sewer services.

Landfill

The Potomac Debris Landfill presents a potential source of future pollution if proper precautions are not taken to ensure proper closure and maintenance of the facility. 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.

Such recreational use of the closed landfill can either be a private facility, or granted by easement of the Town. The potential liabilities of Town ownership of such a recreational facility should be carefully considered. Examples should be researched of other such privately owned landfills being transferred to public ownership for park land. The ultimate use of the facility should be considered as it nears its life span and prepares for closure.

While closure requirements for debris landfills include strict capping and ongoing monitoring requirements to protect public health and safety, the Town should evaluate the potential liability for taking ownership of the closed facility. The closure regulations are administered by the **Department of Environmental Quality**, and 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, be protected from exposure through adequate buffer provisions. While debris landfills are relatively benign, air and water quality monitoring can ensure the safety of the closed facility. The primary pollutant of concern is methane which can migrate beneath the surface and collect in basements.

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 will rely 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.

(this page intentionally left blank)

DRAFT

2011

Chapter Three: Goals, Policies & Strategies

DRAFT

(this page intentionally left blank)

DRAFT

Introduction

The goals, objectives and strategies element of the Plan provides the framework from which the Town of Dumfries can formulate policy initiatives that address both short range and long range growth and development in the Town. This section of the Plan together with the Future Plan element, establishes the basis for the community's vision and direction for the Town's future.

HOUSING

Housing Goal

H-GOAL: Promote development of housing of sufficient number, size, diversity and quality to assure every resident of the Town a decent, safe and affordable place in which to live.

H-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-1.1 Conduct an inventory of housing in the Town to assess the presence of substandard and/or deteriorating housing.
- H-1.2 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-POLICY 2: Expand as well as preserve the housing stock of the Town.

ACTION STRATEGIES:

- H-2.1 Encourage and assure uniform maintenance of housing in residential neighborhoods through enforcement of property maintenance and building codes.

(this page intentionally left blank)

DRAFT

COMMUNITY SERVICES AND FACILITIES

Community Services & Facilities Goal

CS&F-GOAL: Promote a coordinated system of community facilities and services which will maintain and enhance the quality of life in the Town.

CS&F-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-1.1 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-1.2 Continue to develop a plan for law enforcement programs in the community with emphasis on juvenile issues and community policing.
 - CS&F-1.3 Consider expanded bus service within the Town to serve as a feeder to bus and rail service outside of the Town's limits.
 - CS&F-1.4 Expand recreation programs within the Town though grant and CIP funding.
 - CS&F-1.5 Continue to pursue the development and buildout of Ginn Memorial Park in order to provide passive and active recreation facilities in a centralized area of Town.
-

(this page intentionally left blank)

DRAFT

ENVIRONMENT

Environment Goal

E-GOAL: To 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-POLICY 1: Protect the human and the natural environment, from the impacts of development and urbanization.

ACTION STRATEGIES:

- E-1.1 Encourage creative design principles during new development and in particular redevelopment 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-1.2 Support conservation of appropriate land areas in a natural state in order 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 including the Floodplain Overlay District and Chesapeake Bay Preservation Overlay District.
 - E-1.3 Identify existing offensive and/or noxious land uses which pose a threat to water quality or other interrelated elements of the environment, either through point or non-point sources, and pursue revisions to Town ordinances that will phase out such uses.
 - E-1.4 Reduce impervious surfaces, and require new development and redevelopment to incorporate Best Management Practices (BMPs) when appropriate.
 - E-1.5 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.
-

E-POLICY 2: Protect the environment and the properties adjacent to the construction demolition debris (CDD) landfill from potential contamination and health hazards.

ACTION STRATEGIES:

- E-2.1 Work with the Virginia Department of Environmental Quality to identify the specific potential hazards associated with the operation of the existing construction demolition debris (CDD) landfill.
- E-2.2 Evaluate the potential reuse and closure alternatives or the existing CDD landfill and potential liabilities associated with the site.

COMMUNITY DESIGN AND AESTHETICS

Community Design and Aesthetics Goal

CD&A-GOAL: To enhance the overall visual appearance and attractiveness of the community through aesthetically pleasing architectural design.

CD&A-POLICY 1: Develop plans for the aesthetic improvement of the Town that reflect community ideals.

ACTION STRATEGIES:

- CD&A-1.1 Develop a beautification plan for the Main Street Corridor through cooperative Town, citizen and business input, which emphasizes the Town's goals and traditional historic character.
- CD&A-1.2 Identify potential beautification improvements that may be accomplished by the Town as part of its CIP.
- CD&A-1.3 Establish design guidelines for the Town's commercial zoning districts.

LONG RANGE GROWTH

Long Range Growth Goal

LRG-GOAL: To provide for the future growth needs of the Town.

LRG-POLICY 1: Identify future options that will permit continued long range growth and development of the Town.

ACTION STRATEGIES:

LRG-1.1 Conduct a long range fiscal analysis of the Town's economic condition with an emphasis placed upon evaluating development of new revenue resources.



(this page intentionally left blank)

DRAFT

2011

Chapter Four: Future Plans

DRAFT

(this page intentionally left blank)

DRAFT

Introduction

The goals, objectives and strategies element of the Plan provides the framework from which the Town of Dumfries can formulate policy initiatives that address both short range and long range growth and development in the Town. This section of the Plan together with the Future Plan element, establishes the basis for the community's vision and direction for the Town's future.

HOUSING PLAN

Existing Housing

The primary housing goal identified by the Town is the need to move the condition of the existing housing stock. The condition of the Town's housing stock was identified in the 1987 Town Comprehensive Plan which noted that "there are [isolated] pockets of substandard housing... or deteriorating [housing]" found, throughout the Town, which may be found in older historic sections of Town, in some older townhouse and mobile home developments. As a means to achieve the goal to improve the condition of housing in the Town, the Plan promotes the following policy and initiatives:

1. The Town will conduct a detailed housing survey to determine the degree to which the Town's housing stock is substandard and deteriorating.
2. In conjunction with Prince William County, the Town will develop a housing improvement plan which includes identification of potential public and private sector avenues for improving housing, such as Town or County administered Community Development Block Grants (CDBG) or other housing grant program, and potential non-profit housing organizations that provide financial and/or construction assistance to qualified residents.
3. The Town will assess the need for enforcement of building code requirements where repair and maintenance are not feasible, and where health and safety are of immediate concern.
4. To address the replacement of houses and construction of new houses in the Town, the Town will review and amend, as appropriate, ordinance provisions to address standards for manufactured housing. These standards may include minimum Housing and Urban Development (HUD) construction standards, unit standards governing appearance and construction materials, and lot siting requirements.

Future Housing Growth

1. The Town's stated goal is to encourage a balanced mix of residential housing that will attract a broad range of socioeconomic classes. The current housing mix in the Town is comprised of only 30% single family detached units with 56% of the housing being single family attached and multifamily units. The Town's potential for development of additional single family detached residential units is limited. However, the Town will pursue options to encourage new single family detached residential development as part of evaluating the feasibility of incorporating additional land into the Town.
2. As previously recommended in sections 4.1 D & E, the Town will encourage the development of residential uses within the historic commercial areas along the Main Street corridor and within a proposed mixed use district. Residential uses in these areas should be permitted as appropriate to meet stated Plan goals for land use composition in each of these policy areas.

COMMUNITY SERVICES AND FACILITIES PLAN

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. It is the Town's goal to assure the public services provided by both the Town and County are adequate to meet the needs of its residents. To achieve this goal, the Town will pursue the following initiatives.

Recreation

1. The Town will develop its own public services plan for its existing park sites in order to assess the recreational needs of the Town residents, and to plan for and manage needed maintenance and improvements to the parks.
2. The Town will coordinate its public services, parks and recreation plan with Prince William County to assure coordination of efforts to work jointly toward meeting the needs of the community.
3. The Town will develop a plan to provide a variety of options for public access linkages to all park facilities that are in the Town and adjacent to the Town within pedestrian or biking distance. This plan will evaluate potential access options to the proposed Potomac River greenways and bikeways.
4. The Town will plan for long range improvements needed to its park facilities and will account for these improvements as part of the Town's capital improvements plan (CIP).

5. Because of the severe constraints on development within RPA and floodplain areas, these areas provide a valuable resource for establishing greenways, trails and bikeways. As part of developing a trail system and pedestrian access plan, the Town will incorporate plans for linkages with stream coders. For areas that are not purchased or proffered to the Town for park or trail use, the Town will investigate acquisition of easements for public access. Park, greenway and trail areas should be managed in such a way as to encourage an aesthetic and environmentally sound habitat for wildlife. Riverfront areas may be proffered to the Town at the time of development to provide waterfront access.

Schools

The Town will coordinate with the Prince William County School Board in the evaluation of development projects that are of mutual interest and concern.

Libraries

The Town will work with Prince William County in the development of its service plan for library facilities, and will strive to work with the County to meet the library facility needs of Town residents.

Police

The Town will continue to promote the training and upgrading of its Police Department. This will include 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 will be reviewed annually and will address current land projected demands for service and needs for expansion of law enforcement programs in the community.

Fire and Rescue

The Town will work closely with the Prince William County Fire and Rescue Services to address mutual issues and concerns. As part of the development of various service plans, including Homeland Security and emergency/disaster response plans, the Town will seek input from the County as part of its development review process which would include both public and private projects.

Solid Waste

The Town will continue to pursue its progressive course to reduce its solid waste removal costs through municipal collection and recycling. The Town will continue to coordinate with Prince William County on solid waste and recycling matters.

Health and Social Services

The Town will work closely with the Prince William County Health Department, Department of Social Services and other public and private social services agencies to communicate the changing needs and problems of the community.

ENVIRONMENTAL PLAN

Protection of Sensitive Environmental Features and Water Quality

The citizens of the Town and the Commonwealth of Virginia are dependent upon the economic benefits that are derived from the proper management of all of the Commonwealth's natural resources, including water and soil resources, and especially the Chesapeake Bay. Certain lands have intrinsic water quality value and therefore should be protected. Other lands, if improperly developed, will have the impact of causing significant environmental degradation or reducing the effectiveness of lands that have intrinsic water quality value. The quality of life within the Town depends to a large extent upon the successful integration and protection of sensitive natural resources with appropriate and well planned economic growth and development. To satisfy these desires, the Town has identified as its environmental goal to 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.

The Town has identified the objective to protect both the human environmental and the natural environment, including water resources within and outside of the Town, from the impacts of development and urbanization. To this end, the Town will pursue the following initiatives:

1. The Town has adopted and will enforce its Chesapeake Bay Preservation Area Overlay District (CBPA-OD). The Town's CBPA-OD is designed to protect the waters of the Town and the Chesapeake Bay from the adverse effects of urban development by designating environmentally sensitive lands and lands with intrinsic water quality value as unsuitable for certain high density land uses. In all cases, using the CBPA-OD and other applicable sections of the Town's Zoning Ordinance, the Town will actively seek to ensure that inappropriate land uses are avoided in Resource Protection Areas, which includes a 100 foot buffer located adjacent to and landward of tidal wetlands, non-tidal wetlands connected by surface flow and contiguous to tidal wetlands or tributary streams, and tidal shores. The Town will also actively seek to ensure that land uses in Resource Management Areas, which includes floodplains, highly erodible soils, steep slopes of greater than 25 percent, highly permeable soils, non-tidal wetlands not included in the RPA, and other sensitive lands necessary to protect state waters, are planned and managed in a manner consistent with the performance standards set forth in the CBPA-OD.
2. The Town has adopted and will enforce its Chesapeake Bay Preservation Area Overlay District in all situations when allowable and appropriate development is to take place in a Resource Management Area or Resource Protection Area. In all instances, the Town will encourage the developer to investigate all opportunities for creative site design to reduce site imperviousness as

provided by the performance criteria of the CBPA-OD. Site design should include provisions to maximize open space, preserve the indigenous vegetative cover, utilize grid or modular pavement when appropriate, and minimize the impervious cover used for parking areas.

3. The most recent edition of the Northern Virginia BMP Handbook (published by the Northern Virginia Planning District Commission) shall be used in all instances in which development requires the use of structural Best Management Practices as allowed for under the performance criteria of the CBPA-OD. The use of structural BMPs should only be considered after it has been determined that the proposed development is appropriate for the land area and all efforts have been made to comply with the performance criteria of the CBPA-OD in proactive nonstructural manners.
4. The Town has adopted and will enforce its Floodplain Overlay District in order to protect floodplains within the Town from inappropriate development as well as to protect the health, welfare, economic, and real estate interests of the citizens of the Town.
5. The Planning Commission shall investigate in a systematic manner existing offensive and/or noxious land uses which may adversely impact the natural or man-made environment of the Town and pursue amendments to the Zoning Ordinance or the adoption of new ordinances to adequately address these land uses.
6. The Planning Commission will investigate various water conservation tools which may be implemented by the Town. Possibilities include public education and/or the incorporation of water conservation measures into the Town's building code. The Town may work with the Virginia Water Resources Research Center (VWRRC) to obtain information and materials regarding water conservation education. Amendments to the Town's building code are authorized by the Code of Virginia and are outlined in the Uniform Statewide Building Code. The Town has the option to adopt all, some, or none of these standards depending upon local needs.

The Town has identified the objective to protect the Town's surface and groundwater from degradation by discharge and infiltration of point source industrial and urban pollutants. To this end, the Town will pursue the following initiatives:

1. The Town will preserve in a natural state undisturbed areas within the stream corridors of the Town as well as undisturbed areas within the 100 foot buffer located adjacent to and landward of tidal wetlands, non-tidal wetlands connected by surface flow and contiguous to tidal wetlands or tributary streams, and tidal shores as buffers in order to naturally filter pollutants from urban sources. Areas which are designated as RPAs by the Town's CBPA-OD and the Floodplain Overlay District are to be considered as the primary implementation instruments of this plan.
2. Arrange with the Prince William County Cooperative Extension to work with the Planning Commission and the Town Council to set up periodic citizen workshops to demonstrate techniques and aid the residents of the Town in reducing the incidence of over-application of pesticides and fertilizers which subsequently runoff as non-point source pollution. The Town Council and/or the Planning Commission will arrange with the PWCCES, within the next year, to present to the Town Council and/or the Planning Commission its ongoing educational programs available.

3. Arrange 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 as well as within the Town. The Town should investigate with the Virginia Water Control Board public education initiatives regarding the proper maintenance of private above ground fuel oil storage tanks.
4. Arrange to work with the Prince William County Health Department to identify and correct failing septic systems or improperly constructed or abandoned wells which have the potential to degrade the Town's groundwater resources.

The Town has identified the objective to ensure that new development either avoids problem soil areas, or implements appropriate engineering measures to protect existing and new structures from unsuitable soils. TO this end, the Town will pursue the following initiatives:

1. The Town will utilize its Erosion and Sediment Control Ordinance to ensure that development within the Town either avoids problem soil areas not identified in the Town's CBPA-OD, or implement appropriate engineering measures to protect existing and new structures from unsuitable soils. The Town will encourage low density development on areas of sensitive soils when this option is viable for the permitted land use.

COMMUNITY DESIGN AND AESTHETIC PLAN

1. In accordance with the Town's stated goal to improve design quality and aesthetics within the community, the Town will develop and adopt minimum landscaping and public facility requirements for all existing and proposed new zoning districts. Landscaping and design standards may include requirements for types and density of plant materials, berming and coverage. Public facilities standards may include requirements for sidewalks and pedestrian access, street lighting and utility placement. With the Town's increased role in administering public works, such as road and drainage maintenance, the Town should develop detailed design and construction standards as part of an adopted facilities standards manual.
2. The Town's zoning and subdivision ordinances should be evaluated to incorporate standards that reduce entrances onto northbound and southbound Route 1 and require provisions for inter-parcel access connections. These standards may also be developed as part of a Town facilities design and construction standards manual.
3. For the commercially zoned areas within the Town along Route 1 and Route 234, specific aesthetic and design standards for buildings and site development should be developed as part of a commercial highway overlay district. These standards could be developed in conjunction with general standards that apply to all zoning districts, but should also address specific requirements in commercial zoning districts for pedestrian access and circulation, landscaping, lighting, signage, setbacks, placement of utilities and architectural standards. Review and approval of architectural and facade improvement plans could be administered by an Architectural Review Board (ARB) or similar review board. Administration of this process must be given careful consideration to avoid lengthy, overly burdensome, or inappropriate requirements which would deter desirable economic growth.

LONG RANGE GROWTH PLAN

Through the Plan's analysis of existing conditions, it has identified the need to evaluate options to accommodate future growth. The Town's current level of build-out has shown that there is limited vacant land available for development and limited aggregated land available for potential redevelopment. In addition, the following unique limiting factors negatively affect to the Town's growth potential.

- Significant areas of 100 year floodplain associated with Quantico Creek and its tributaries (Cannonball Branch Creek, Dewey's Run Creek and others unnamed);
- Significant areas of Chesapeake Bay Resource Protection Area (RPA) as mandated by the State's Chesapeake Bay Preservation Act;
- Substantial area impacted by Virginia Power transmission lines; and
- Presence of large debris landfill and impacts to adjacent lands.

The impacts of these constraints to development present particular difficulty for the Town to expand its tax base to meet the growing demand for services. The fiscal responsibilities of the Town have increased significantly during FY 03, particularly for providing services such as public work infrastructure maintenance, solid waste disposal, and upgrading of law enforcement services. To plan for the Town's growth needs, the Plan promotes the following initiatives:

1. The Town should pursue a detailed economic analysis of its long range fiscal condition which projects revenues and expenditures for the Town, and which considers the level of potential new revenue resources which may be needed by the Town.
2. The Town should evaluate potential areas and options for the logical incorporation of adjacent land into the Town. The Town should initiate discussions with Prince William County officials concerning the feasibility of a joint agreement to incorporate territory from the County into the Town.

ECONOMIC AND FISCAL PLAN

The Town's goals for economic development are focused on promoting commercial development and the appearance of the Town's commercial corridors. Commercial taxes, such as transient and meals taxes, represent an important revenue source for the Town and should be fostered and maintained within the Town's larger economic development goals. However, the diversity and available of certain types of commercial businesses like large retail anchor stores, grocery stores and professional offices, is limited in the Town. The attraction of these types of businesses to the Town would support a number of employment, economic and shopping needs for Town residents.

To achieve the stated economic development goals which will promote desirable commercial growth, the Town recognizes that numerous interrelated factors will influence the attraction of both businesses and their patrons. Physical improvements to the commercial sector, such as streetscape and building

improvements, can enhance the sense of place and attraction. A sound business and customer base in turn contributes to a sound fiscal base for the community.

To achieve its economic development goals, the Town will pursue the following initiatives:

1. Analyze (1) the economic needs and trends of the community, (2) an appropriate mix of businesses for the Town, (3) new market niches that will assist in developing the proposed mixed use and historic commercial districts (for example, restaurants and specialty shops). Such a study should be a priority of the Town which will more clearly define a strategy for economic development.
2. Formation of a merchants' association to coordinate, among other things, business promotions through promotional campaign and activities, business and streetscape improvements where appropriate, and the recruitment of new businesses.
3. Implement a street tree and streetscape improvement program for the commercial district, taking advantage of state and private technical and financial resources.
4. Continue to cooperate with local organizations to attract people to the business district through promotional activities such as a farmers' market, annual community yard sale, heritage festivals, barbecues and fish fries.
5. Sponsor informational programs for local businesses, in conjunction with state and other economic development organizations that demonstrate how building and site improvements contribute to the health and market attraction of businesses.
6. Define the entrances to the Town on both ends of Route 1 and on Route 234 through attractive gateway signage and landscaping, funded and maintained by civic groups, such as garden clubs, Town capital improvements and operating funds or a combination of both.
7. Support programs that invite continued civic involvement in the community while enhancing the quality of the community, particularly the business district, such as Adopt-a Highway litter control programs, park maintenance programs, Town festivals and holiday parades.
8. Investigate alternative funding sources, beyond the Town's CIP program, for commercial district improvements. Alternate sources of funding and assistance may include:
 - a. Merchants' association dues;
 - b. Special assessment district for physical improvements;
 - c. Federal transportation monies for "transportation enhancement activities" such as streetscaping and pedestrian amenities and for commuter lots;
 - d. Public/private partnerships;
 - e. State grants and technical assistance, and
 - f. Private grants and assistance, such as street tree program assistance from the National Arbor Day Foundation.
9. Focus on attracting and retaining retail and service businesses that people patronize regularly (e.g., grocery, drug store, dry cleaner, shoe repair, hardware, video store) as well as specialty retail and service businesses.

10. Developing a phased program to revitalize the commercial corridor. Implementation should include projects that yield immediate results, such as facade and landscaping improvements, as well as long-term strategies

CAPITAL IMPROVEMENTS PLAN

The capital improvements plan for the Town is currently being developed as a separate detailed policy and implementation document and will be incorporated into the Plan by amendment and reference at such time as the improvements plan has been adopted by the Town Council. As part of the CIP, the Town will identify and prioritize infrastructure improvements and other capital improvements which improve the community and address its service needs. These improvements may include, but are not necessarily limited to, the following:

- Road widening and resurfacing;
- Installation of curb, gutters and sidewalks;
- Drainage and stormwater management improvements;
- Street lighting and traffic signal needs; and
- Recreational and park improvements.

(this page intentionally left blank)

DRAFT

2011

Land Use Plan

*Area reserved for
photos/graphics
in final version*

(this page intentionally left blank)

DRAFT

INTENT

Quality, diversity, and opportunity are essential to the future economic sustainability of the Town. The shaping of the Town's future land use policies is one of the primary roles of the elected leadership. Striking the right balance between the current needs of residents, while developing a blueprint for identifying the best and highest uses for future growth, is not an easy task to accomplish.

The update to the amended Land Use Plan considers important land use issues relevant to current and future uses, such as compatibility and density, connectivity, pedestrian scaled development, transportation infrastructure (current and future), and identifying the best uses to maximize developable and prime redevelopment areas of the Town.

The goals, objectives, policies and strategies contained in this amended plan were developed to serve as a guide in future land use and development cases and to provide the Town Council with a framework for making sound and well thought-out 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 for years to come.

It should be noted the categories of the Future Land Use and Development Plan may differ from what exists on the ground today. This does not change how the land is currently being used nor guarantee the land use change will occur. The land use change will only occur if the existing landowner sells or develops the land as something other than what exists today.

*Area reserved for
photos/graphics
in final version*

Discussion and recommendations in this amended section are built on public input, past trends and identified future needs. All of which has led to the formation of goals, policies and action strategies to guide future land use development. These goals, policies and strategies will also form the policy framework for future land use decisions, provide high-quality design for all uses, recognizing density has important economic implications, and is an essential outcome, not a determinant, of creating a quality place. The primary focal points driving the direction for the recommendations outlined in this section are based on the following factors:

- Create places to live that have a stronger pedestrian environment and connections to convenient services
- Create places with integrated uses

that are distinctive, sustainable and contribute to increasing the Town's overall vitality.

- Provide some retail services in closer proximity to residential areas as an important amenity to residents. The design considerations are very important.
- Preserve the rural character of certain areas of the community, including the appearance of roads, as well as the landscape.
- Develop streets that create an attractive public realm and make exceptional places for people.
- Create better connected places, in part, to improve the function of the street network and also to better serve neighborhoods.
- Create streets that contribute to the character of the community and move a more reasonable level of traffic.
- Provide opportunities to walk and bike throughout the community.

*Area reserved for
photos/graphics
in final version*

TOWN AT A CROSSROADS

Although the Town of Dumfries has begun to experience positive economic growth, the community is at a critical crossroad. The Town has reached a vital point in its development. Many of the current policies were instrumental in attracting new residential and office development, but these same policies and practices are not feasible for the long-term sustainability of the community.

The amended Land Use Plan is an endeavor to shape the future physical development of the Town by the adoption of goals, principles and policies rather than by the formulation of requirements that would impose a rigid image for the future and should be considered in concurrence with any decision regarding future development

EXISTING CONDITIONS

Introduction

The growth and development of the Town of Dumfries which has formed its identity, character and quality of life, has resulted from both historic and modern forces associated with land use and zoning. This section of the Plan will evaluate the past and present land use and zoning conditions that have been instrumental in shaping the Town.

Elements of Historic Town Development

Historic Land Use Patterns

While today there are few remnants of the Town's early beginnings as a harbor town, there are certain conditions that still prevail that were part of the Town's early settlement pattern. The configuration and character of early land parcelization is evidenced today in the form of long, narrow land parcels that are typically 50' wide and range between 100' and 300' in length. This pattern of land subdivision occurred during a time when there were little or no building code regulations or regulations on land development. Early twentieth century settlement patterns concentrated around cities and Towns like Dumfries and facilitated the subdivision of smaller parcels of land for both residential and commercial uses.

The evidence of this early land development pattern is found today in some of the older sections of the Town, predominantly in the B-2 zoned area adjacent to south bound Route 1 (Main St.), and in a small residential section that borders the eastern boundary of the Prince Williams Estates subdivision. Many of these parcels, and the existing structures on them, do not comply with most of the current zoning standards for area, width or setbacks. This pattern of land parcelization, in addition to the separate ownership of these small parcels, presents an obstacle to redevelopment in the Town. The Town's economic development goals may need to consider incentives and policies that can provide an attraction to encourage new and attractive forms of redevelopment that are of a scale and character consistent with all of the Town's goals and desires.

Segregation of Land Uses

In 1979, the Town enacted its first zoning ordinance which was the first application of modern regulatory controls on the character and location of land uses in the Town. The Town's first zoning ordinance, as well as its existing ordinance, utilizes the standard zoning principle which aggregates similar land uses into a distinct zoning district—generally defined within broader use categories such as residential, general business and industrial. In essence, this method of aggregating land uses also serves to segregate other potentially compatible land uses, therefore, encouraging a homogeneous land use pattern that provides little or no flexibility for siting of coexisting, complimentary land uses.

Existing Zoning

The Town Zoning Ordinance has four residential districts permitting varying densities, two business/commercial districts, one general industrial district, and three overlay districts. The following summarizes each of the zoning districts. Figure 30 provides a locational zoning map of the districts and Table 20 provides the approximate area zoned for each district. It is noted that there currently are no properties zoned for R-4 use.

Zoning Districts

- **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.
- **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.
- **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.
- **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.

Figure 30 - Existing Zoning as of October 21, 2011

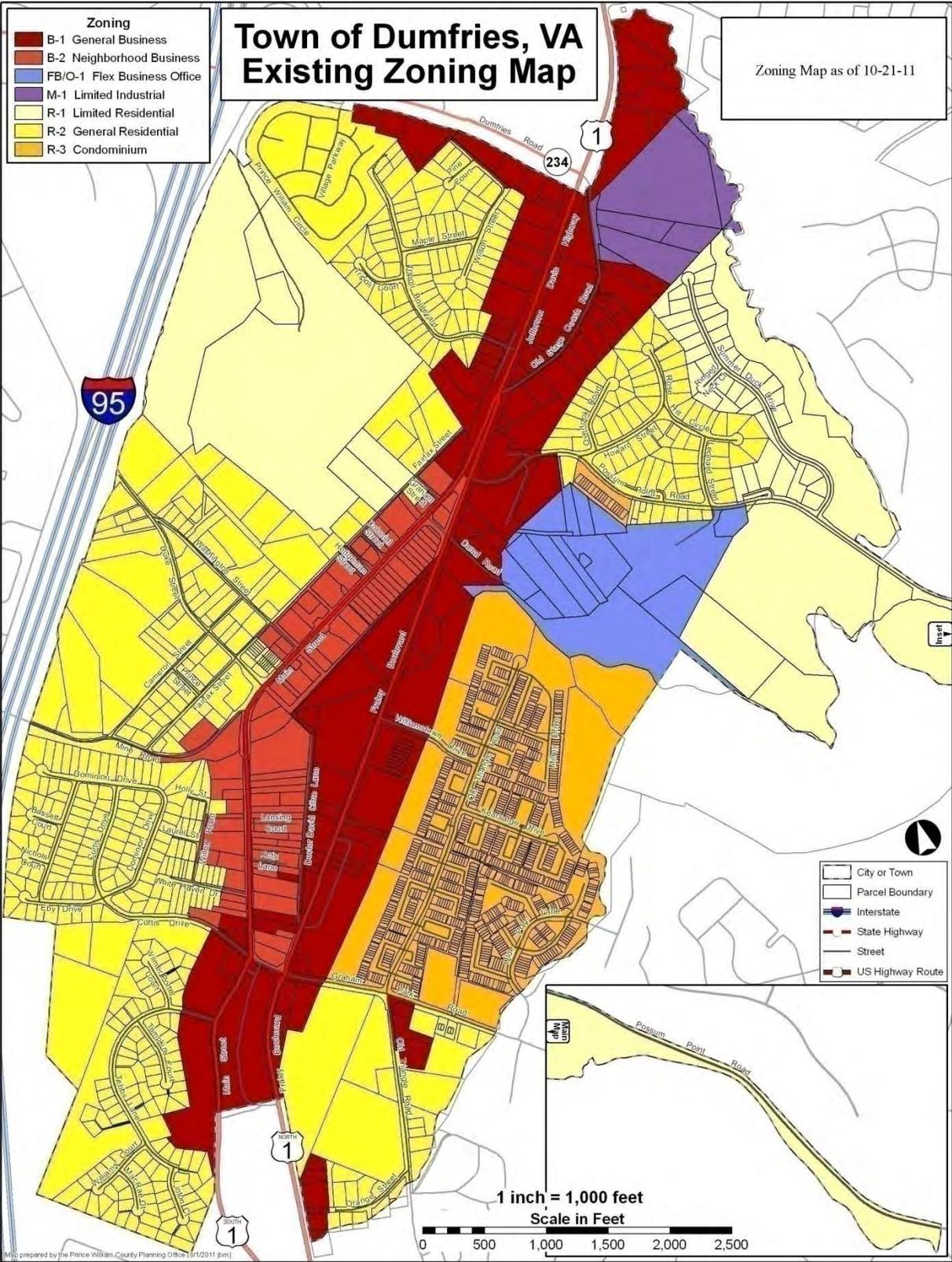


Table 17 - Town of Dumfries Acreage of Existing Zoning by Zoning District

District	Acres
R-1	208
R-2	395
R-3	140
B-1	179
B-2	65
M-1	31
Total	1048

Source: Estimated from existing zoning boundaries transferred to NVPDC GIS base map for Dumfries.

Overlay Districts

- FP-1: Floodplain Districts

The Town adopted the floodplain overlay district in August 1989 to conform to the requirements for eligibility under the Federal Emergency Management Association (FEMA) flood insurance program. The Town's adopted 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 for the Town prepared by the Federal Emergency Management Agency (FEMA), Federal Insurance Administration. The boundaries of the overlay district are shown on Figure 24 which is an excerpt of the FEMA floodplain study. This district is an overlay of the underlying zoning districts and its provision supplement underlying district provisions. The floodplain overlay district prohibits structures or development 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 floodproofing measures are taken.

- H-1: Historic Overlay District

In June 1987, the Town adopted its first historic overlay district which 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. The boundaries of this overlay district are generally shown in Figure 34 which includes most of the area that comprised the 1761 Town boundaries. Within the overlay distinct, any new construction, alterations, renovations or repairs to structures must be reviewed by the Architectural Review Board (ARB) which is created by the overlay district. The ARB reviews and advises the Town Council, Planning Commission and Zoning Administrator on all structural changes and use changes in the district as to its appropriateness within the historic context of the district.

- CBPA - OD: Chesapeake Bay Preservation Area

In accord with the Virginia Chesapeake Bay Preservation Act, the Town adopted

Area reserved for photos/graphics in final version

a Chesapeake Bay Preservation Area Overlay District in November 1991. To conform to the water quality protection and restoration requirements of the Chesapeake Bay Act, the overlay district establishes Resource Protection Areas (RPAs) and Resource Management Areas (RMAs) which are generally shown in Figure 24. Only water dependent uses and redevelopment are allowed in the RPAs within established buffers around streams, wetlands and nontidal wetlands that are tributary to the Chesapeake Bay. The RMAs in the Town constitute all other 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 require detailed site plan review and water quality studies for development within certain parameters.

Existing Land Use

General Development Patterns

An understanding of the established pattern of general land use categories in the Town is an essential prerequisite to evaluating the detailed composition of existing land uses. These established patterns can be observed by considering not only historical development patterns, but also by comparison between the patterns of existing general residential, commercial and industrial land uses, shown in Figure 31, and existing zoning previously detailed in Figure 30. A comparison of these Figures shows a general consistency between the location of general land uses and existing zoning; however, nonconforming uses do occur in some zoning districts. The following general locational patterns can be identified:

- Residential

The prominent residential development pattern found in the Town is consistent with the homogeneous sprawl development that has typified suburban residential development over the last 40 years. This pattern has included both townhouse and single family development which has been constructed around the outer Town limits where undeveloped land was at one time still available.

The Tripoli Heights, Prince Williams Estates, Knolls of Dumfries, Rose Hill, Port-O-Dumfries and Williamstown subdivisions comprise this residential pattern that has formed around the Town since the 1950's. Today the Route 1 business corridor and the older sections of the Town are surrounded by suburban residential neighborhoods. These suburban residential areas are generally consistent with existing zoning. Isolated nonconforming residential uses occur within the B-1 and B-2 zoning districts in the older sections of Town along the Main St. /Route 1 corridor, where land parcelization and uses are a result of historic factors that predates the regulation of land use.

- Commercial

Retail, office and other general business uses are predominantly located along the northbound and southbound Route 1 corridor, and along Route 234, where B-1 and B-2 zoning generally permits these business uses. While zoning undoubtedly has encouraged this pattern of commercial development, the early development of Route 1 as a commercial corridor has been closely linked to the historic significance of Route 1 as a major north/south highway that dates to colonial times. Comparison of the existing land uses and zoning revealed no apparent nonconformity's where commercial uses were located in residentially zoned areas.

- Industrial

Industrial development in the Town has been isolated to those areas that have been zoned for industrial uses under the M-1 zoning district. The Town's industrial zoning is limited to two areas east of northbound Route 1. One area is located in 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 logically focused these heavy industrial and manufacturing uses in areas where natural or existing buffers, like floodplains, utility easements and streams like Quantico Creek and Dewey's Run, could be used to greatest advantage. As development has continued in the Town over the last few decades, the impact of industrial use development may need to be further evaluated.

Composition of Land Uses

An understanding of the composition of existing land uses provides the basis for developing future policies and goals that will not only maintain the quality of life for residents of the Town, but also improve it as well. Table 21 provides a breakdown of the composition or percentage of existing land uses in the Town by more specific use categories than previously discussed. The area figures provided in Table 21 for each use include the entire acreage of each parcel on which the use occurs. A more detailed analysis follows which focuses upon the character and type of existing land uses that occur in the Town.

Table 18 - Town of Dumfries Acreage of Existing Land Use

	Acres	% of Total
Residential	405	38.6%
Single-family	279	26.6%
Duplex	89	8.5%
Multifamily	4	0.4%
Mobile Home	33	3.1%
Commercial	121	11.5%
Office	13	1.2%
Retail/Service	108	10.3%
Institutional (Public and Quasi-Public Schools, Gov't Facilities, Fire/Rescue)	20	1.9%
Public/Private Historic and Recreational Facilities	18	1.7%
Public/Private Utility Ownership and Use	60	5.7%
Open Space	23	2.2%
Landfill	99	9.4%
Industrial	24	2.3%
Wetlands areas	91	8.7%
Vacant (includes areas having development constraints)	131	12.5%
Roads (excludes private roads)	56	5.3%
Total	1048	100.0%

Source: Information estimated from 1990 Prince William County Real Estate Property Identification Maps and January 1991 REDI real estate information for Prince William County, GIS generated approximate area calculations and through Town staff input regarding existing land uses.

- Residential

Approximately 38.6 percent of the land area of the Town is in residential use which generally surrounds the Route 1 business/commercial corridor that is the central core of the Town. The composition of residential use consists primarily of single family detached (SFD) and townhouse/single family attached (SFA) uses which, respectively, constitute approximately 26.6% and 8.5% of the residential land area. While single family residential use comprises the largest percentage of residential land area, as previously shown in Figure 14 and Table 5, townhouse units actually comprise the largest percentage of housing units in the Town because of the higher permitted densities. Only a small percentage of the Town's residential land area, approximately 3.5%, 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 the B-1 and B-2 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 older and in need of repair.

- Commercial

Commercial uses in the Town comprise the third largest category of land use which accounts for approximately 11.5% of the land area. General commercial uses can be broken down into office and retail/service categories which, respectively, comprise about 1.2% and 10.3% of the area under commercial use. This contrast in the composition of commercial land use indicates that the Town has available a limited diversity of employment opportunities which can affect economic growth potential. Only about six sites scattered throughout the commercial corridor have been developed for exclusively office uses with even fewer sites occurring which have coexisting office and retail/service establishments. In addition, limited manufacturing and industrial development also reduces employment opportunities within the Town.

The fact that the Town's commercial base is largely retail- and service-oriented is evident upon visual investigation of the Town's commercial Route 1 and Route 234 corridors. 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. Many of the uses and structures in the commercial corridors were developed at a time that predates land use and zoning regulations. Even the Town's current zoning regulations are not structured to effectively discourage that same commercial development pattern that exists today. The age of many of the existing structures and the lack of design

*Area reserved for
photos/graphics
in final version*

uniformity and detail contributes to the need for aesthetic improvements within the Route 1 commercial corridor.

The Town's currently prevailing pattern of parcelization and development of free standing commercial uses is also attributable to historic market forces that occurred prior to the advent of unified strip commercial centers and larger shopping malls that are popularly found today. Early commercial development of the Town consisted of small, individually owned businesses that were developed along the Route 1 corridor which became a major thoroughfare early in the Town's history. Somewhat more recent commercial development of the Route 1 corridor over the last 30-40 years has been characterized by traditional strip commercial uses and structures. Consequently, while other economic and market forces may be a factor, the Town has been unable to attract major anchor retailers to its existing neighborhood shopping centers like Triangle Shopping Center and Dumfries Shopping Center. The forces that influence the attraction of businesses to the Town should be evaluated in terms of factors such as locational, market and/or aesthetic conditions that exist.

Area reserved for photos/graphics in final version

- Institutional

Institutional uses constitute only approximately 1.9% of the land area of the Town. For the purposes of tabulating this area, both public and quasi-public sites were included such as the Town Hall, Federal Post Office, Dumfries Model Effective School and Town owned cemetery.

- Public/Private Historic And Recreational Facilities

The Town also has a small percentage of its land area, approximately 1.7%, being used for historic and/or recreational purposes. Of the sites included in this

category, the Town owns two sites—Cecil Garrison Park and Merchant's Park. Merchant's Park is also the site on which the historic Weems-Botts House is located which is listed on the National Register of Historic Places and has been maintained by the Town as a museum. The remaining sites are either recreational or historic and are privately owned. Private recreational sites include the pool facility in Grayson Village Mobile Home Park, and the pool and tennis facilities which serve the residents in the Williamstown development. Private historic sites include the Stage Coach Inn-Williams Ordinary House and the Henderson House, both of which are on the National Register of Historic Places.

- Public/Private Utility Ownership And Use

Land area used for utility purposes constitutes approximately 5.7% of the land area of the Town. An accurate measure of the land area under utility use is difficult to ascertain given that most utilities are located within easements; therefore, easements for normal electric, gas, cable, sewer and water utilities have not been researched and calculated as part of the existing utility land use area.

The most prominent utility affecting the Town, and comprising the largest portion of land area, is the Virginia Power Company transmission line and right-of-way that generally 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. Notably, one of these sites is the location of the Town's old sewage works which is now inoperable and houses a Service Authority sewer pump station. Of the land area which is publicly owned for utility purposes, a few small sites were actually vacant; however, given their status under public ownership, these sites have not been considered vacant for development purposes and for the purposes of detailing the composition of existing land uses in Table 21.

- **Open Space**

Approximately 2.2% of land area of the Town is identified as private open space which has been dedicated as part of the Rose Hill and Knolls of Dumfries subdivisions. None of these areas are currently developed for active or passive recreational uses.

- **Landfill**

The area associated with the Potomac Debris Landfill property comprises approximately 9.5% of the land area of the Town. While the boundaries and extent of actual land filling activity are concentrated on a portion of the Potomac Landfill properties, the entire land area which is both contiguous to the landfill and owned by Potomac Landfill has been included as existing landfill use in Table 21. Currently, portions of the Potomac Landfill property does include a number of vacant parcels which are generally located along then southern and eastern borders of the aggregated landfill property. The ultimate importance of these vacant landfill parcels to mitigate impacts of the landfill on adjacent properties and uses, and to fulfill the requirements for closure of the landfill, is yet to be fully determined.

- **Industrial**

Existing industrial uses in the Town are limited to only 2.3% of the land area. The composition of these existing industrial uses includes a concrete mixing plant, and a few warehouse and storage facilities and uses.

- **Wetlands Areas**

The boundary of wetlands land use area shown in Figure 24 is a representation of the boundaries of vacant parcels that are located in the lower Quantico Creek watershed. Using Aerial photographs, these vacant parcels, and other parcels with existing land uses upon them, were found to have extensive areas of mud flat and floodplain. These vacant parcels represent the 8.7% portion of the Town's land area that has been identified as wetlands. An actual analysis of wetlands boundaries would likely reveal a larger area of wetlands associated with Quantico Creek, Dewey's Run and other stream tributaries.

- **Vacant Land**

Analysis of existing land uses reveals that approximately 12.5% of the land area of the Town, or 131 acres, is vacant land. This represents gross vacant land which includes the area in the approved, undeveloped Southbridge project, and those areas having development constraints due to steep slopes, poor soils, and RPAs and floodplains associated with Quantico Creek and its tributaries. Further discussion of the development potential of the vacant land in the Town is provided in the following section.

- **Roads**

The remaining 5.3% of the Town's land area is part of public road and infrastructure improvements. The percentage of land area dedicated for road infrastructure is actually higher than 5.3% because actual road right-of-ways are usually wider than the roads themselves, and due to potential mapping errors resulting from cartographic interpretation which were necessary due to limited updated base map information.

Vacant Land and Development Potential

Gross and Net Vacant Land

The condition of the Town's built environment has a direct bearing on the health and vitality of the community. While numerous historic land use and development patterns have contributed to forming the Town as it is today, the availability of land for development and redevelopment will be the most critical factor affecting to the Town's ability to grow and adapt to future change.

Table 22 provides an analysis of the development potential of land in the Town with regard to vacant and developed land, and land having development constraints. Of the approximately 131 acres of gross vacant land in the Town, approximately 26 acres has significant development constraints associated with steep slopes, poor soils, floodplain and RPAs. In addition, the overall land area subject to such constraints is estimated at approximately 30% of the land area of the Town, or 318 acres which is a significant limiting factor for a Town the size of Dumfries.

Table 19 - Town of Dumfries Land Development Potential Inventory

	<u>Acres</u>	<u>% of Total</u>
Net Vacant Land	104*	10%
Land Having Development Constraints	318	30%
Developed Land Having Development Potential	26	3%
Developed Land	600	57%
Total Land Area	1048	100%

**Includes developable 24 acres of the approved Southbridge Project, and excludes areas having potential development constraints*

Source: Information estimated from 1990 Prince William County Real Estate Property Identification Maps and January 1991 REDI real estate information for Prince William County.

Of the approximately 104 acres of net vacant land having development potential, approximately 24 acres are part of the approved Southbridge development which leaves approximately 80 acres of net vacant land remaining, or 7.6% of the total land area of the Town. Developed land which may be suitable for redevelopment was estimated at approximately 26 acres—unrelated to the estimated 26 acres of vacant land having development constraints. Notably, the densities of commercial floor area developed in the Town are not large given limitations created by parcelization and historic development patterns that have encouraged construction of small individual commercial uses.

Composition of Net Vacant Land

The zoning of the vacant land is a key indicator of the type of development potential which remains in the Town. As shown in Table 23, the Town has approximately 57.5 acres of net vacant residential land remaining. Excluding the 24 acres approved for subdivision in the Southbridge project, the vacant land

zoned for residential use within the Town is limited to approximately 32 acres. And, as shown in Table 23, about one-third of this acreage is comprised of parcels of less than 1.5 acres in size. The remaining 20 acres or two thirds of this vacant residential land are comprised of approximately three tracts of land ranging in size from 3.5 acres to 10 acres.

Table 20 - Town of Dumfries Inventory of Net Vacant Land by Zoning District

	<u>Acres</u>	<u>% of Total</u>
Residential	57.5*	5.40%
R-1	24.5*	2.30%
R-2	31	3.00%
R-3	1	0.10%
Commercial	47.5**	4.60%
B-1	40.5	3.90%
B-2	7	0.70%
M-1	--	--
Other Land Areas	944	90.00%
Total	1049	100.00%

**Includes developable 24 acres of the approved Southbridge Project.*

***Excludes areas having potential development constraints.*

Source: Information estimated from 1990 Prince William County Real Estate Property Identification Maps and January 1991 REDI real estate information for Prince William County.

In contrast, the Town does have a few areas of aggregated land within the Route 1 corridor that provides some commercial development potential. The remaining vacant commercial land that is available comprises approximately 47.5 acres—40 acres of which are zoned for B-1 commercial uses. The Town has no vacant industrial land; however, the types of industrial uses that exist in the Town do have high potential for redevelopment. All other land in the Town is either developed or limited for development due to development constraints, such as floodplains, slopes or poor soils.

Table 21 - Town of Dumfries Inventory of Vacant Land by Zoning District and Parcel Size

<u>Zone</u>	<u><1.5 Ac</u>	<u>< 3 Ac</u>	<u>≥ 3 Ac</u>	<u>Totals</u>
R-1	0.5	--	24	24.5*
R-2	11	--	20	31
R-3	1	--	--	1
B-1	6	6.5	28.0	40.5
B-2	4.5	2	--	7
M-1	--	--	--	--
Totals	23.5	8.5	72	104.0**

**Includes developable 24 acres of the approved Southbridge Project.*

***Excludes areas having potential development constraints.*

Source: Information estimated from 1990 Prince William County Real Estate Property Identification Maps and January 1991 REDI real estate information for Prince William County.

Projection of Residential Buildout

As shown in Table 25, an analysis of existing residentially zoned land in the Town shows that the remaining buildout potential of residential units is limited to about 154 additional units. The inventory of existing subdivided lots, including available miscellaneous lots and lots approved as part of the Southbridge project, would yield approximately 62 residential units. Larger tracts of vacant residential land in the Town are also limited and are comprised primarily of R-2 zoned land totaling approximately 25.5 acres. Given the R-2 zoning density and provisions of land area for infrastructure, the potential buildout of these larger vacant tracts of land would yield approximately 91 additional residential units. This analysis shows that the Town's residential growth potential will be significantly inhibited due to the limitations of available land for development.

Table 22 - Town of Dumfries Projection of Potential Residential Units Given Existing Zoning and Buildout of Vacant Land

<u>Existing Zoning And Density</u>	<u>Available Subdivision Lots/Dwelling Units (d.u.)</u>	<u>Potential Additional Dwelling Units Base On Net Vacant Land</u>	<u>Total Dwelling Units (d.u.)</u>
(SFD) R-1 2.9 d.u./Ac	48	0.55 Ac. or 1 d.u.	49
(SFD) R-2 4.35 d.u./Ac	14	25.5 Ac. or 91 d.u.*	105
(SFA) R-3 8.0 d.u./Ac	--	0 Ac. or 0 d.u.	--
Total Dwelling Units	62	92	154

**Unit estimate based on provisions of land area for infrastructure.*

Source: Information estimated from 1990 Prince William County Real Estate Property Identification Maps and January 1991 REDI real estate information for Prince William County.

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, has been and will contribute to be a limiting factor to development west of the 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

Land Use Plan

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. Currently, the Cherry Hill Peninsula area, just east of the Southbridge project, is zoned predominantly for low density agricultural use; however, Prince William County approved a comprehensive plan amendment in early January 1993 which may support higher density development of the Peninsula for a theme park and mixed use development project.

Planned Land Use Adjacent to the Town

Growth and development adjacent to the Town has come to the forefront as a major issue resulting from the proposed development of a theme park and mixed use project on the Cherry Hill Peninsula. The proposed development of the Cherry Hill Peninsula was the subject of a detailed sector plan amendment of the Prince William County Comprehensive Plan which was approved in early January 1993. The approved sector plan may permit construction of up to 4,418 housing units and 6.2 million square feet of commercial use on the Cherry Hill Peninsula.

The current County Plan, as amended, has planned for those areas surrounding the Town which are already zoned for development to be in the Long Range Concept Area III which supports development of employment, commercial and residential uses. With the exception of the proposed development on the Cherry Hill Peninsula, which has not formally been submitted for rezoning, the County Plan policy is basically consistent with the zoning and development that already exists near the Town. The remaining areas west of the Town, east of Graham Park Shores and north of the Town along Route 1 are planned as part of Long Range Concept Area IV which recommends rural activity, i.e., low density residential use. The Town's ultimate continued involvement and input in the County's zoning evaluation of the proposed development on the Cherry Hill Peninsula will be essential to assure that the Town's long term interests are considered.

*Area reserved for
photos/graphics in final version*

GOALS, POLICIES, AND ACTION STRATEGIES

Main Street Goal

LU-MS-GOAL: To 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-POLICY 1: Although this area is not a traditional “Main Street” identifying and supporting this area as a unique part of the Town will help strengthen the identity, cohesiveness and pride of the community.

ACTION STRATEGIES:

- LU-MS-1.1 Integrate and emphasize the redevelopment of the Main Street area as a pedestrian oriented, mixed-use, neighborhood serving center.
- LU-MS-1.2 Integrate medium density buildings with retail/office on the first floor with residential above.
- LU-MS-1.3 Integrate neighborhood services and uses with an emphasis on encouraging a walkable community.
- LU-MS-1.4 Integrate the development of a mix of commercial, office and residential uses while preserving the scale and historical character of the Town.
- LU-MS-1.5 Buildings should include small-scale neighborhood supporting retail uses, such as cafes, delis, on the ground level in buildings with three or more stories.
- LU-MS-1.6 Building height should be balanced with respect to the proximity of nearby residential neighborhoods.
- LU-MS-1.7 Buildings should be built to the street with private parking in the rear or as part of a consolidated parking district.
- LU-MS-1.8 Place an emphasis on pedestrian scaled building entrances.
- LU-MS-1.9 Integrate and encourage multi-modal accessibility and connectivity.
- LU-MS-1.10 Integrate streetscape design concepts to include, tree-lined street frontage, landscaped road frontage, wide sidewalks, outdoor seating, trashcans, street lighting, etc.

- LU-MS-1.11 Because the continued presence of underutilized and blighted properties along the Main Street area combined with the Town's desire to revitalize the Main Street area offers several additional opportunities for redevelopment, encourage a mixture of both high and medium density residential and commercial uses in and around the Main Street area to improve the economic vibrancy of the area and to further promote a pedestrian friendly environment.

Waterfront Goal

LU-W-GOAL: To create a vibrant high density mixed-use area with an emphasis on taking advantage of the natural amenities of the Waterfront.

LU-W-POLICY 1: Promote the development of a Planned Mixed Use District to take advantage of the waterfront feature to foster the development of a diverse mix of uses that will weave together a variety of activities that will offer residents, businesses and visitors a rich lifestyle experience.

ACTION STRATEGIES:

- LU-W-1.1 Integrate a balanced mix of residential and commercial office uses that encourages and supports the integration of activities, employment opportunities, entertainment venues, and civic and open spaces.
- LU-W-1.2 Integrate supporting retail and neighborhood services.
- LU-W-1.3 Integrate streetscaping in the overall design of the development project with an emphasis on pedestrian features to include, wide sidewalks, plazas and/or gathering places.
- LU-W-1.4 Integrate pedestrian connectivity to encourage walking between uses and reducing the number of car trips.
- LU-W-1.5 Encourage development to support public transportation to reduce car trips.
- LU-W-1.6 Integrate the incorporation of trails and passive recreational uses.
- LU-W-1.7 Integrate the development of higher density buildings adjacent to the waterfront activity center.
- LU-W-1.8 Integrate parking as a part of the whole development plan, rather than individual parcels and buildings, so that it will not conflict with water views and pedestrian connectivity.
- LU-W-1.9 Encourage waterfront oriented activities/access.
- LU-W-1.10 Develop a plan that considers the impact of a development in this flood prone area.

Fraleley Boulevard Goal

LU-FB-GOAL: Encourage the development of a well-planned, mixed-use employment center that will create higher income jobs, generate economic growth and improve the overall tax base of the Town.

LU-FB-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-1.1 Establish an integrated and coordinated boulevard streetscape that will visually and physically create a pleasant, attractive pedestrian environment, for residents, businesses and visitors.
- LU-FB-1.2 Integrate a balanced, coordinated and well-defined multi- system so that pedestrian access is convenient, safe and physically attractive and ensures vehicular circulation functions efficiently.
- LU-FB-1.3 Achieve an urban character where buildings relate well to one another and to the street by exemplifying good architectural and urban design practices.
- LU-FB-1.4 Integrate multi-story buildings with frontage on sidewalks with attractive landscaping, benches, and parking lots in the rear of the building.
- LU-FB-1.5 Encourage the incorporation of tree-lined streets with pedestrian features such as benches.
- LU-FB-1.6 Develop an Access Management Plan for Fraley Boulevard.
- LU-FB-1.7 Establish well defined pedestrian crossways at intersections as a defined by the Access Management Plan.
- LU-FB-1.8 Recommend higher density buildings fronting Fraley Boulevard with step down to lower densities to ensure a gradual transition of buildings to adjacent residential neighborhoods.
- LU-FB-1.9 Integrate safe, convenient, physically attractive, pedestrian oriented multi-modal trails.
- LU-FB-1.10 Incorporate a parallel road along the Dominion Power easement to access properties fronting Fraley Boulevard.

Mixed-Use Goal

LU-MU-GOAL: Establish a mixed-use zoning ordinance.

LU-MU-POLICY 1: Establish a mixed use zoning ordinance to facilitate the viability of:

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

ACTION STRATEGIES:

- LU-MU-1.1 New buildings should be designed to be compatible with the districts identified in this section of the chapter of the Comprehensive Plan.
- LU-MU-1.2 The impact of parking lots and structures on adjacent areas should be given careful consideration. Location, configuration, access points and screening should integrate the context of vehicular and pedestrian connectivity.
- LU-MU-1.3 Parking lots and structures should be designed and screened to mitigate visual intrusion or incompatibility with the adjacent residential neighborhoods.
- LU-MU-1.4 Amend the Town of Dumfries zoning regulations to establish urban design standards that reflect quality design and good land use principles through regulations which address height, scale, and massing of new development. Standards will also address the impact of parking lots and structures to minimize spillover to adjacent neighborhoods, mitigate any negative effects and eliminate visual intrusion or incompatibility with the adjacent residential neighborhoods.
- LU-MU-1.5 Explore incorporating the effectiveness of an alternate regulatory format such as Form-Based Code or Smart Code to guide future land use development and to create more options for developers.
- LU-MU-1.6 Establish density levels for high, medium and low density development.
-

Urban Design Goal

LU-UD-GOAL: Encourage complimentary building height, scale, design and character.

LU-UD-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-1.1 New buildings should be designed to be compatible with the districts identified in this section of the Land Use Plan.
- LU-UD-1.2 The impact of parking lots and structures on adjacent areas should be given careful consideration. Location, configuration, access points and screening should integrate the context of vehicular and pedestrian connectivity.
- LU-UD-1.3 Parking lots and structures should be designed and screened to mitigate visual intrusion or incompatibility with the adjacent residential neighborhoods.
- LU-UD-1.4 Amend the Town of Dumfries zoning regulations to establish urban design standards that reflect quality design and good land use principles through regulations which address height, scale, and massing of new development. Standards will also address the impact of parking lots and structures to minimize spillover to adjacent neighborhoods, mitigate any negative effects and eliminate visual intrusion or incompatibility with the adjacent residential neighborhoods.
- LU-UD-1.5 Explore incorporating the effectiveness of an alternate regulatory format such as Form-Based Code or Smart Code to guide future land use development and to create more options for developers.
- LU-UD-1.6 Establish density levels for high, medium and low density development.

Residential Goal

LU-R-GOAL: Preserve the integrity of existing residential areas and to encourage a harmonious mix of residential uses and types for persons of various socioeconomic levels.

LU-R-POLICY 1: Maintain existing stable neighborhood relationships.

ACTION STRATEGIES:

Land Use Plan

- LU-R-1.1 Maintain existing residential zoning for established neighborhoods in order to preserve these stable, developed residential areas.
- LU-R-1.2 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 sustaining for years to come.

LU-R-POLICY 2: Encourage development that will promote a balance of residential uses with socioeconomic opportunities within the Town.

ACTION STRATEGIES:

- LU-R-2.1 Identifying existing undeveloped land in the Town that may be suitable for single-family residential use.

LU-R-POLICY 3: Encourage a compatible mix of residential uses with retail and commercial uses.

- LU-R-3.1 Permit a ground-floor commercial use to incorporate an upper-floor residential use in new infill buildings along the Main Street Corridor.
- LU-R-3.2 Promote the development of a new mixed-use zoning district that permits professional office and high-tech uses in conjunction with complementary retail and residential uses.

Commercial Goal

LU-C-GOAL: Promote the development of commercial retail, service and convenience uses within the Town that will provide economic benefits to the community.

LU-C-POLICY 1: Encourage development of commercial uses that meets the needs of the community.

ACTION STRATEGIES:

- LU-C-1.1 Employ professional expertise to develop a concept plan for the design of commercial uses.
- LU-C-1.2 Implement the concept plan.

Industry Goal

LU-I-GOAL: Diversify the Town's industry base and promote appropriate industrial redevelopment that is consistent with the changing urbanized character of the Town.

LU-I-POLICY 1: Encourage the conversion of existing heavy industrial uses to more compatible light industrial uses that are less noxious and more visually attractive.

ACTION STRATEGIES:

- LU-I-1.1** Develop specific requirements for site design, landscaping, architectural and bulk standards that facilitate improvement of the Town's industrial and flex sector through development and redevelopment.

Redevelopment Goal

LU-RE-GOAL: Encourage redevelopment of existing strip commercial development which will foster economic development and encourage a mix of compatible uses which are attractive and well designed.

LU-RE-POLICY 1: Promote development of commercial uses that expands employment opportunities and serves as a focal point for the location of complementary uses.

ACTION STRATEGIES:

- LU-RE-1.1** Develop a mixed-use zoning district that emphasizes employment and office uses, and permits complementary and compatible residential and retail service/convenience uses.
- LU-RE-1.2** Incorporate within the mixed-use district provisions for design and architectural controls that further the aesthetic goals of the district.

Neighboring Jurisdictions Goal

LU-NJ-GOAL: Maximize the opportunity for the positive impact of outside development on the Town's economic growth.

LU-NJ-POLICY 1: Monitor land development planned near the Town to determine potential positive impacts.

ACTION STRATEGIES:

LU-NJ-1.1 Coordinate with Prince William County on planning and review of major projects near the Town to mutually address potential impacts from development.

*Area reserved for
photos/graphics in final version*

IMPLEMENTATION

Development Codes

The Comprehensive Plan is not given the legal authority to regulate the use of land. However, it is important to ensure the Town's codes and ordinances, which do have regulatory substance, are consistent with the Future Land Use and Development Plan of this Chapter.

The Town's current zoning codes are somewhat outdated and do not align with the recommended land use polices, principles and policies of the 2011 amended Land Use chapter. A comprehensive review of the Town's current land use codes needs to be undertaken to identify where there are inconsistencies between the existing codes and the suggested land use to reflect the vision, principles, and policies of the amended Land Use Chapter.

Residential Uses

1. The Town currently has a number of established residential neighborhoods that should be preserved with the goal to maintain the Town's existing building stock within the existing permitted R-1, R-2 and R-3 zoning densities. The Town promotes this policy for the following established residential areas:
 - **Single Family Detached Residential**
The Rose Hill, Tripoli Heights, Prince William Estates, Knolls of Dumfries subdivisions; those parcels that are currently zoned R-2 and adjoin the southeast corner of Tripoli Heights generally east of the landfill and west of old abandoned Fairfax Street; Hampstead Landing; that portion of old Dumfries located north of Quantico Creek, generally west of Old Mine Road and part of Route I/Main Street, south of Washington Street, west of old abandoned Fairfax Street, and south and west of the landfill property.
 - **Townhouse Residential**
The Port-0-Dumfries, Williamstown/South Cove and Lil' General townhouse developments.
2. The availability of residentially zoned vacant land, and land having additional development potential, is limited within the Town; however, the Town does have a few remaining areas that are zoned for single family detached residential use which have not been developed. The Town's stated goal is to encourage the development of residential housing; therefore, the Plan promotes maintaining the existing residential zoning in the following areas:
 - The R-2 zoning along the Town's western boundary adjacent to 1-95 and south of the landfill.

- The R-2 zoning adjacent to the Town's southeastern boundary which is south of Graham Park Road, east of the existing B-1 zoning along Route 1 and excluding the area currently zoned B-1 on the southeast corner at the intersection of Graham Park Road and Triangle Road.
3. The Town will promote the goal of permitting upper floor residential uses along the Main Street commercial corridor by amending its ordinances to permit such residential uses which are consistent with the stated goals of the Plan.
 4. Appropriate ancillary uses, such as home occupations, and community facilities, such as churches, schools and playgrounds, should continue to be permitted in existing residential areas which are to be maintained.
 5. Existing nonconforming residential lots, uses and structures should be permitted in accordance with the nonconforming uses provisions of the Town's adopted Zoning Ordinance. Such nonconformities occur typically associated with small undersized lots in older sections of the Town and include a few scattered apartment units and mobile home courts. The Town will encourage the conversion of these uses and consolidation of lots for unified redevelopment.

Main Street Commercial Corridor

In keeping with the Town's goals to promote the vitality and economic viability of its commercial and historic resources on Main Street, the Town will commission a Main Street Plan which will be coordinated with other economic development initiatives addressed in the Plan. The Main Street Plan will address the community's land use, aesthetic and design goals for the historic, general business and mixed use areas along Main Street, and will also address the need for transition between each of these areas which are intended to be different in character. The Main Street Plan should provide specific recommendation 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 the basis for the Town to evaluate needed ordinance amendments that will achieve the Town's stated land use, historic preservation and economic development goals.

General Business (Retail/service) Uses

1. The Town has available a valuable tax base resource that may be tapped in the form of commercial retail service and convenience demands that are a product of high volume vehicular traffic on I-95 and Route 1. Consistent with the Town's goals to improve and maintain its commercial retail tax base, general business uses will be promoted in the following areas:
 - The area currently zoned B-1 and M-1 adjoining the Route 1/Route 234 intersection, and located west of the Virginia Power transmission line, north of Route 633 (Possum Point Road) and north and east of the Tripoli Heights subdivision.
 - The area currently zoned B-2 adjoining Route 1/Main Street -generally west of Market Street, north of Duke Street, east of old abandoned Fairfax Street and south of the Route 1 split.

- The following areas which are currently zoned B-1: the site of the existing Triangle Shopping Center; the area west of the shopping center, east of the Knolls of Dumfries, south of Curtis Drive and adjoining southbound Route 1 (Main Street); the area west of the Virginia Power transmission line at the southeast corner at the intersection of northbound Route 1 (Fraley Boulevard) and Graham Park Road; the area adjoining the Town boundary and fronting on Route 1 (Fraley Boulevard) south of the transmission line; and the area on the southeast corner at the intersection of -- Graham Park Road and Triangle Road.

*Area reserved for
photos/graphics
in final version*

- The area which is currently zoned R-2 and is the site of the Grayson Village Mobile Home Park should be considered for rezoning from residential to a general business use. Any redevelopment use contemplated in this area shall be proposed as a unified development plan for the site. Any such redevelopment proposal must adequately address issues associated with access on Route 234, and must provide a detailed analysis of potential implications and mitigation of impacts from the adjacent construction and demolition debris landfill.
2. Pursuant to the completion of the Main Street Plan, the Town will amend the B-1 and B-2 zoning districts as deemed appropriate to achieve the specific Endings and stated community goals for the Main Street Plan. Amendments to the zoning districts may include new standards for building heights and setbacks, building architecture and site design, signage, landscaping, parking, lighting, vehicle and pedestrian access, and infrastructure installation.
 3. Given the broad range of potentially high impact uses permitted within the B-1 and B-2 zoning districts, the Town may consider developing its use of the conditional use permit process to impose conditions on such uses that are potentially noxious and offensive, have high traffic generation, are potentially unsightly, or are not in keeping with the Town's adopted Plan policies.
 4. The Town's zoning ordinance should be evaluated, and revised as appropriate, to require any new or redeveloped commercial uses or structures to provide minimum front yard setbacks in conjunction with buffering, screening, landscaping and solid sound barriers adjacent to residential uses, structures or districts.
 5. The Town will amend the B-2 zoning district along Main Street to permit limited upper-floor residential uses that directly support permitted principal ground-floor commercial uses within the district. Such residential uses may include an on-site residence for a business owner

Historic Commercial District

The Town currently has an adopted historic overlay district that is shown on Figure 34. The Town's goal has been to preserve the area around the three historic structures that remain in this section of the Town. Within the historic overlay zone, it is the Town's goal to promote mixed commercial and residential development which is compatible with the traditional historic Town character that was once found along the Route 1/Main Street corridor. To this end, the Town will pursue the following initiatives:

1. The Town has adopted an historic overlay district map (see Figure 34) which will be incorporated into the ordinance to graphically depict the location of the overlay district.
2. Pursuant to the completion of a Plan for Main Street, the Town will evaluate and amend -- as appropriate the B-2 zoning or historic overlay district to establish standards for the appropriate design and mix of uses that are deemed to be compatible and in keeping with the historic character of the original Main Street. The incorporation of accessory upper-floor residential uses for infill commercial development should be considered in the B-2 zoning district along Main Street.
3. Given the close proximity of the landfill to the residential and business areas within the historic overlay district, the Town will evaluate the potential impacts which the landfill may have on adjacent properties and land uses, and will consider implementing measures to mitigate such impacts.

Mixed Use – Office/Commercial/Residential

Given the Town's economic development and aesthetic goals, the Town has identified the need to encourage an alternative to the current strip commercial development which has developed along the Route 1 corridor. The Town's current B-1 and B-2 zoning districts have fostered this form of strip commercial development which contributes to the segregation of retail and service uses from the other residential and business uses they mutually support. Well designed mixed-use development which integrates residential, employment and commercial uses can serve as a catalyst to attract businesses to the Town. The Town will develop a mixed use zoning district which integrates compatible land uses and details specific guidelines for design and mix of uses.

Greenways/Open Space/Recreational

- **Environmentally Sensitive Areas**

Within the Town there are numerous environmentally sensitive areas that have been identified associated with Quantico Creek and its tributaries. While constrained from development due to natural factors, such as poor soils, steep slopes and flooding potential, and because of 100 year floodplain regulations and the Chesapeake Bay Resource Protection Areas (RPAs) regulations, these areas may present opportunities for meeting the environmental, recreational and aesthetics goals of the Plan. These goals, which will be addressed more specifically in sections 4.4 and 4.5 of the Plan, include preservation of stream corridors for wildlife habitat, parkland, and placement of pedestrian and bike trail systems. The sensitive nature of these areas, however, will require special attention for preservation and protection.

- **Landfill**

The future closure of the landfill may create an opportunity for reuse of the landfill area for various purposes. The significant size of the site, its elevation and view of the Potomac River, and its location at the 'gateway' to the Town encourages its consideration as providing a useful role that will further the environmental, aesthetic, economic, and recreational goals of the Plan. However, uses are extremely limited on a closed landfill, and are reviewed by the Virginia Department of Environmental Quality (DEQ) as part of the landfill closure requirements. The only uses which the DEQ has permitted on a closed landfill to date are passive recreational uses. Issues such as liability and ownership, steep slopes and access to the site, and maintenance will ultimately need to be addressed if commercial or residential reuse of the landfill site is considered.

*Area reserved for
photos/graphics in final
version*

(this page intentionally left blank)

DRAFT

LAND USE TYPES

In order to move the Town forward in its pursuit of mixed-use, walkable areas, the Town needs to begin to accommodate a mix of uses not usually found in Euclidian Zoning schemes. This includes seeing land use in new ways, including the following ways of using land.

Mixed-Use Districts

Mixed-Use Districts 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

High Density Districts

Density is an important consideration when planning for multimodal development, as it directly influences the reduction in auto use, encourages pedestrian accessibility and allows for more multiple uses in a compact environment. The added building height and diversity of uses encourages pedestrian activity, reduces dependency on automobiles by providing housing choices close to goods and services

Medium Density Districts

Generally located along neighborhood main streets and at neighborhood commercial centers, this classification is established to encourage medium density mixed use development. In addition to residential and civic uses, it allows for a more limited range of neighborhood-serving commercial and retail uses.

Low-Density Residential

Low-density residential is a single-use pattern and does not include businesses, institutional or other uses. The pattern is established by local roads branching off primary roads to accommodate the subdivision for residential development. Neighborhood roads are often curvilinear and cul-de-sacs are used to end roads at the edge of the subdivision.

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. Despite this focus, the employment center should incorporate a fair degree of mixed-use elements, including restaurants, retail, and some multifamily residential. This mixed-use quality is important for the establishment of a desirable workplace, and its relationship to surrounding development.

Transitional Uses

This category recognizes particular parcels of land may be suitable for more than one land use. This designation is typically applicable to parcels that lie at the edge of two different land uses, adjacent to a major corridor, or significantly impacts nearby established uses or conditions. The intent of this designation is to provide transition from adjacent land uses or conditions and mitigate and reduce the impacts of the proposed land use.

Public Uses

This category deals with land associated with organizations, government and other public uses.

Parks and Open Space

Land Uses with this classification are characterized by passive or active recreational facilities to include, but not limited to

- Trails
- Cultural and social gathering places
- Plazas
- Parks
- Pedestrian amenities

Density (FAR) and Units Per Acre

The Town must define future uses of land not just in terms of use, but also in terms of density, measured for commercial uses as Floor Area Ratio and for residential units as Units per Acre.

Existing Land Use Calculations

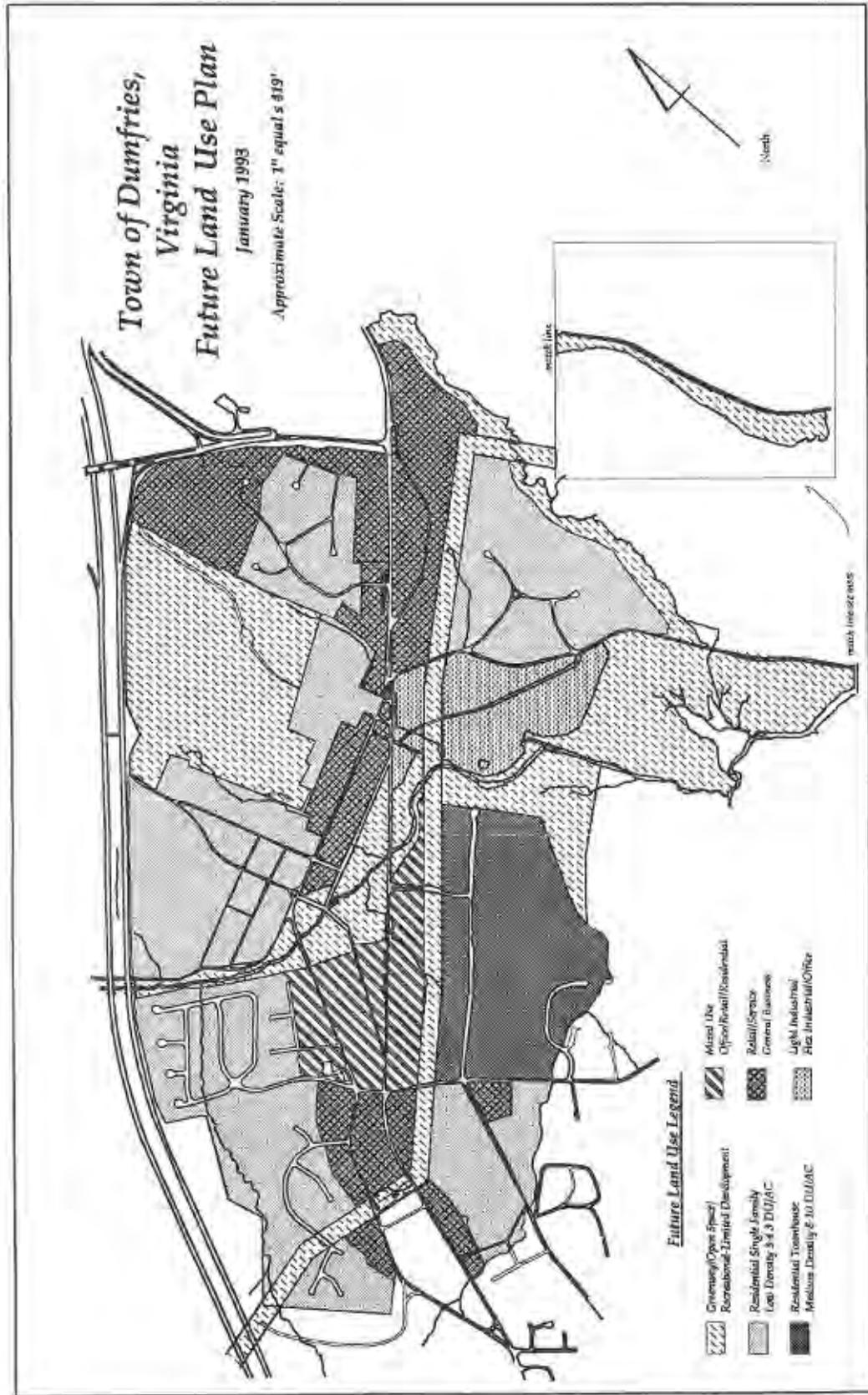
Using these land use types as a measure, the Town is made up primarily of very low-density suburban commercial and sprawling residential areas. Table 26 contains the amount of area in Town measured with these categories of land use.

Table 23 - Existing Land Use Calculations

<u>Land Use Categories</u>	<u>Acreage</u>	<u>Percentage</u>
Low Density	623.98	70.78%
Medium Density	44.45	5.04%
Employment Center	10.2	1.16%
Open Space and Recreation	87.89	9.97%
Public Use	115.1	13.06%

Area reserved for photos/graphics in final version

Figure 32 - Future Land Use Map



2011

Transportation Plan

*Area reserved for
photos/graphics
in final version*

(this page intentionally left blank)

DRAFT

INTENT

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

EXISTING CONDITIONS

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.

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 (Fraleay Boulevard/Main Street) and 234 (Dumfries Road) are the arterials in or near the Town.

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.

*Area reserved for
photos/graphics in
final version*

Both Fraley Boulevard and Main Street converge just under a half mile south of the northern corporate limits and becomes a four-lane facility.

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 northbound side of the facility, and a sidewalk on the southbound 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 intersections, such as a walkway

under the bridge at Quantico Creek that connects the Williamstown community to Garrison Park. Other priorities include limiting the number of vehicular access points to Fraley Boulevard and planning for frontage roads that would run parallel to the Route 1 corridor and serve local land uses on either side of the Boulevard. Another concept would be to incorporate a dedicated transit lane within the designated right-of-way.

Route 234 is a primary arterial with its eastern termini just northwest of the 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 on 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 Graham Park Middle School, both of which are located directly adjacent to the Town. 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. This is the only road that provides a connection beneath I-95 from the town to the western side of I-95.

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.

Street Maintenance & Construction

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, which is mostly a bifurcated facility. Fraley Boulevard is a one way two-lane roadway that serves as Route 1 northbound, whereas Main Street has two dedicated lanes that serve as Route 1 southbound.

The Commonwealth provides two primary transportation funding sources for the Town - the Highway Maintenance Fund for urban localities based on a dollar formula per lane mile, and funding for new construction projects through the Urban Construction Program (UCP). The UCP is allocated through a complicated 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 decreased from \$127,000 in FY09 to \$0 in FY12. Due to funding shortages at the state level, it is anticipated that the UCP will remain unstable and unreliable, leaving localities to fund local priorities either through innovative means or local tax revenues.

*Area reserved for
photos/graphics
in final version*

From a programmatic standpoint, the Town of Dumfries is one of thirteen urban community’s statewide belonging to 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 the funding mentioned above; however, UCI communities traditionally have an increased awareness of VDOT policy and pragmatics. 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, constructs at a locality’s behest and then turns over perpetual maintenance

responsibilities to the locality. Involvement in the 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.

*Area reserved for
photos/graphics
in final version*

Traffic Circulation and Safety

The Town of Dumfries is effectively divided throughout the community with 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.

Periodically analyzing the Town’s traffic volumes, patterns, intersections, and

accident locations (and types) will result 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 vehicles per day.

Route 1 is an important regional and intra-regional transportation route. The original major north-south route 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 approximately 28,000 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.

The proposed Harbor Station development that was approved in 2006 in adjacent Prince William County is a planned community with 4,000 residential units and over 3 million square feet of commercial development, a Town Center, and a Virginia Railway Express (VRE) station. The economic downturn has created an uncertain future for this development. While development of this facility would be

primarily within Prince William County, connections have been planned to Possum Point Road and by extending Route 234 east of Route 1.

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 there will be a need for grade-separated interchanges at Route 234, Dale Boulevard, and Route 123. 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. This significant widening on either end of the Town will effectively create 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.
- **Harbor Station 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 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.
- **Harbor Station 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 Harbor Station 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

In 2011, 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 everyone. 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.

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.

*Area reserved
for
photos/graphics
in final version*

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

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.

Area reserved for photos/graphics in final version

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.

*Area reserved for
photos/graphics
in final version*

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 will improve the quality of life for residents, but also will assist 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 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.

*Area reserved for
photos/graphics
in final version*

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

In 2011, 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 considers 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 will 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.

(this page intentionally left blank)

DRAFT

GOALS, POLICIES, AND ACTION STRATEGIES

Roadways Goal

T-R-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-POLICY 1: Develop and pursue an integrated strategy to fund the Town's transportation priorities.

ACTION STRATEGIES:

- T-R-1.1 Coordinate the Town's Capital Improvements Plan (CIP) with the 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-1.2 Actively seek funding opportunities, including federal/state funds and grants, to achieve transportation goals that minimize general fund impacts.
- T-R-1.3 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-1.4 Require residential and commercial development to provide right-of-way for the widening of planned road improvement projects.
- T-R-1.5 Adopt a Proffer Policy to account for the external impacts of development on Town services, and better enable the Town to negotiate proffers associated with conditional rezonings that will result in improvements to the Town's transportation system.

T-R-POLICY 2: Maintain and manage a transportation network that is safe for all users.

ACTION STRATEGIES:

- T-R-2.1 Maintain storm drainage facilities on a regular basis to ensure that roadways are not structurally undermined by flooding or erosion.
- T-R-2.2 Coordinate the repaving of streets throughout the Town based on pavement inspection by Town staff or their designers.

Transportation Plan

- T-R-2.3 Coordinate traffic signals to optimize signal timing along roadways with signalized intersections and roadway corridor segments.
- T-R-2.4 Limit driveway and commercial access points along major arterials and collectors streets, thus increasing safety and traffic efficiency.
- T-R-2.5 Evaluate lane markings and consider adjustments where possible to accommodate traffic efficiency or provide for additional users such as bicycle lanes.
- T-R-2.6 Integrate traffic calming concepts into new neighborhood developments and major redevelopments.

T-R-POLICY 3: Provide a road network that accommodates multiple modes of transportation.

ACTION STRATEGIES:

- T-R-3.1 Plan for all road projects to accommodate multi-modal features for transit, pedestrian and bicycle access.
- T-R-3.2 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-3.3 Adopt a downtown streetscape plan that utilizes the existing pavement width to provide on-street parking, landscaping opportunities and a pedestrian-friendly atmosphere to encourage redevelopment on a mixed-use downtown or "town center" nature.

T-R-POLICY 4: Actively support all improvement to Interstate 95 that will reduce through traffic in Town.

ACTION STRATEGIES:

- T-R-4.1 Promote VDOT and FHWA initiatives to construct additional capacity on I-95, without financially impacting Town residents.
- T-R-4.2 Plan and construct additional HOV lanes south of Exit 152.
- T-R-4.3 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

T-ATF-GOAL: Develop an integrated, multi-modal pedestrian and bicycle network that enhances the Town's roadway system.

T-ATF-POLICY 1: Enhance and implement the Town's Multi-modal Plan to create an alternative transportation network.

ACTION STRATEGIES:

- T-ATF-1.1 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-1.2 Finance and construct the Multi-modal Plan's sidewalk priorities.
- T-ATF-1.3 Provide appropriate markings and identifications which will include, but are not limited to, road striping, bicycle lane designations, signage, and way-finding reference points.
- T-ATF-1.4 Using the inventory and existing databases of bus routes within the County, identify bus stop locations that are lacking adequate pedestrian access and prioritize the installation of pedestrian improvements in cooperation with PRTC.
- T-ATF-1.5 Continue to apply for appropriate state, regional, and federal funding assistance in developing a safe and effective pedestrian and bicycle network.
- T-ATF-1.6 Require the inclusion of sidewalks in all development and redevelopment.

T-ATF-POLICY 2: Implement the "Complete Streets" concept within walkable communities and town centers.

ACTION STRATEGIES:

- T-ATF-2.1 Update Town ordinances that encourage "Complete Streets" design.
- T-ATF-2.2 Integrate wider sidewalks where necessary to accommodate pedestrian movements in community and commercial centers.
- T-ATF-2.3 Seek non-motorized connections to community and commercial centers, regional destinations, and sites of interest; such as cultural, historic, and park facilities.
- T-ATF-2.4 Implement a Safe Routes to Schools (SR2S) Program to support Prince William County schools within Dumfries in order to provide safe pedestrian facilities for elementary and middle school students.

T-ATF-2.5 Develop street standards for a project as appropriate to the project and in accordance with Traditional Neighborhood Design standards.

T-ATF-POLICY 3: Identify and preserve the existing rights-of-way throughout the Town that will provide future transportation facilities.

ACTION STRATEGIES:

T-ATF-3.1 Identify paper streets that are appropriate for future roadway right-of-way.

T-ATF-3.2 Identify paper streets that have encroachments or are otherwise more appropriate as future alternative transportation routes that will enhance the connectivity of the overall Town transportation system.

Mass Transit Goal

T-MT-GOAL: Integrate transit services to link jobs, housing, commerce, and recreation within the Town and immediate area.

T-MT-POLICY 1: Enhance the connectivity of inter- and intra-county transit systems.

ACTION STRATEGIES:

T-MT-1.1 Promote an efficiently designed bus feeder network to connect commuter rail stations and other transit centers as an integral part of a broader access plan to curtail single occupancy vehicle (SOV) access.

T-MT-1.2 Require the provision of transit facilities and services with conditional use permit (CUP) applications and rezonings, as appropriate.

T-MT-1.3 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-1.4 Explore feasibility of a locally funded, limited schedule Town shuttle.

T-MT-POLICY 2: Work with adjacent jurisdictions to develop support for joint alternative transit projects.

ACTION STRATEGIES:

T-MT-2.1 Determine what the needs are for mobility impaired populations.

- T-MT-2.2 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-2.3 Work with Prince William County to more effectively lobby state and federal government for additional transit funding streams.
- T-MT-2.4 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

T-P-GOAL: Integrate adequate parking to sustain economic development in an ecologically and aesthetically attractive manner.

T-P-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-1.1 Develop new parking standards and incorporate them into Town ordinances.
- T-P-1.2 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-1.3 Provide multi-modal access between park and ride lots and surrounding uses.
- T-P-1.4 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-1.5 Coordinate parking policies with transportation demand management policies and strategies (i.e., the provision for reserved spaces for carpools).
- T-P-1.6 Encourage structured parking associated with transit facilities and services, as appropriate, such as with parking districts.

(this page intentionally left blank)

DRAFT

IMPLEMENTATION

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 24 - Transportation Project Priorities

<u>Projects in the Dumfries Urban Construction Program</u>	<u>Cost:</u>
Route 1 Widening (Fraley Boulevard): design and widen Route 1 northbound from South Corporate Limits to Possum Point Road to accommodate a six lane, median divided facility with a sidewalk on the northbound shoulder and a multi-use path adjacent to the southbound lanes. Includes rebuilding bridge over Quantico Creek.	\$40 million
Tripoli Boulevard Improvements: install curb & gutter and stormwater conveyance system from Route 1 to western terminus.	\$1.8 million
Graham Park Road/Fraley Blvd/Main St/Curtis Drive Intersection Reconstruction: reconstruct, widen and improve the intersection to accommodate existing and planned traffic volumes and provide better turning movement accommodations.	\$1.2 million
Main Street Streetscape: using the existing pavement width, accommodate on-street parking, place overhead utilities underground, improve pedestrian accessibility and incorporate streetscape elements in accordance with the Streetscape Plan.	\$5 million
<u>Other Priority Projects</u>	
Route 234/U.S. 1 Interchange: identified in SYIP for Prince William County.	
I-95 HOV and HOT Lanes: extend High-Occupancy Vehicle lanes south of Exit 152, and construct High-Occupancy Toll lanes on Interstate 95 in accordance with VDOT plans. Construct sound walls where warranted along Town Corporate Limits.	
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.	
Quantico Creek Greenway: construct a linear greenway following Quantico Creek from western corporate limits to eastern corporate limits.	
Whiskey Street Extension: extend Whiskey Street to align with Fraley Boulevard at Williamstown Drive.	
Market Street Extension: extend from the intersection of Mine Road/Main Street southward to the north side of Quantico Creek.	

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

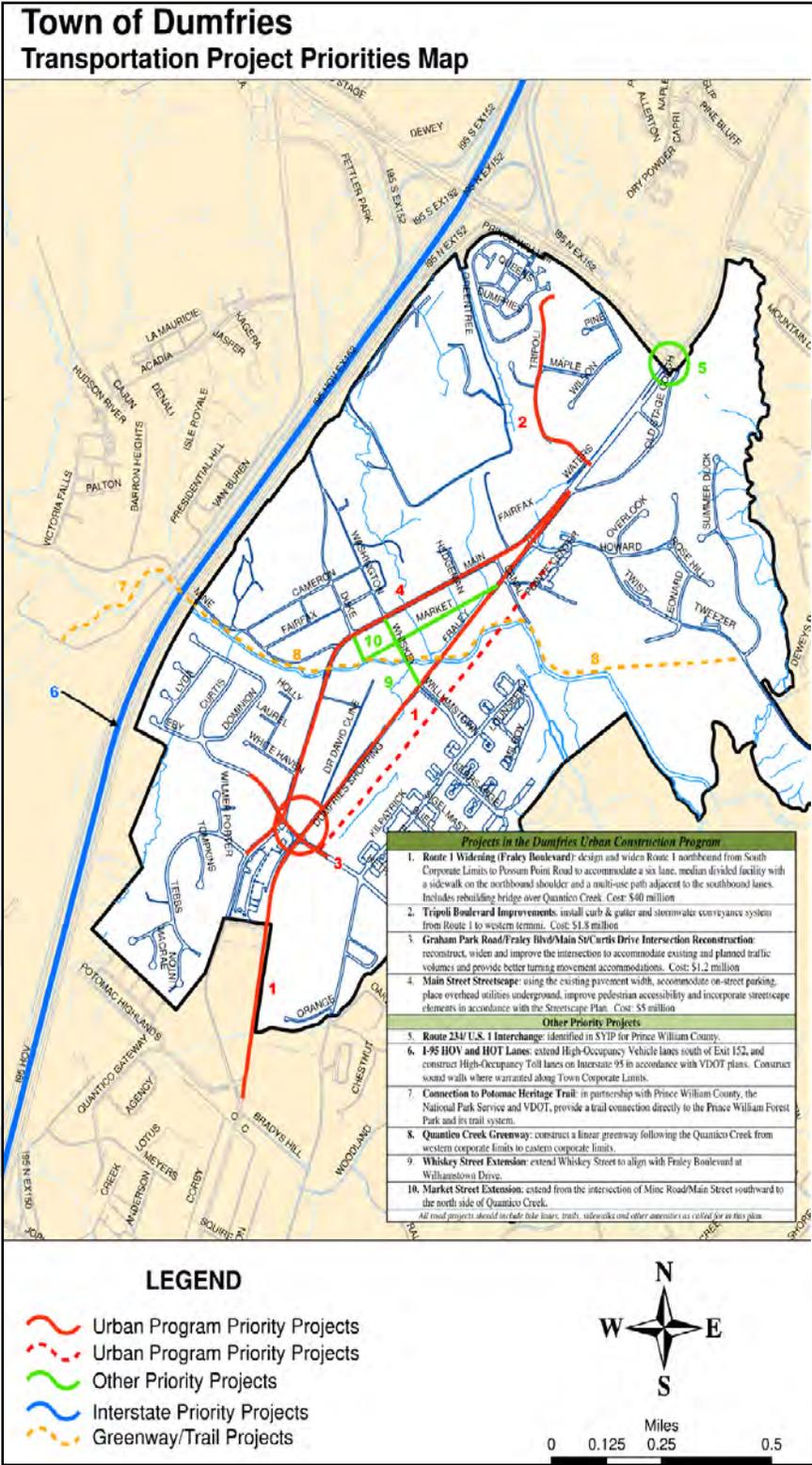
Over the years, there have been other projects identified by the Town that are included in VDOT’s Six Year Improvement Program (SYIP). One of these is a debris wall construction along I-95 in the Town. While this project resonates as an important quality of life matter for residents adjacent to I-95, the state has been unable to finance this expensive project and the Town does not have the fiscal resources to finance this project independent of state or federal funding. The Town should request that VDOT consider the inclusion of sound walls adjacent to the Town anytime I-95 is widened or otherwise improved.

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.

DRAFT

Figure 33 - Transportation Project Priorities Map

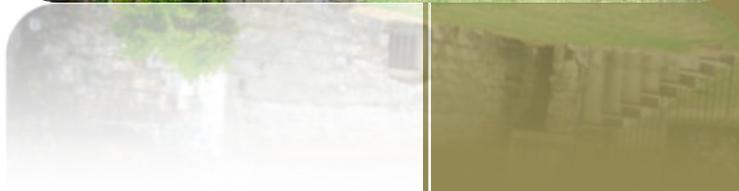


(this page intentionally left blank)

DRAFT

2011

Historic & Cultural Resources Plan



(this page intentionally left blank)

DRAFT

INTENT

The intent of the plan 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).

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

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. The Town recognizes the importance of its historic resources and supports and encourages preservation efforts by private owners, non-profits and local governments. A map of the Town's historic area is included in this plan.

The Historic and Cultural Resources Plan 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 Community Development Office to determine the appropriate extent of an historic and cultural resource study area.

(this page intentionally left blank)

DRAFT

its charter on May 11, 1749- making it the oldest continuously chartered town in the Virginia.

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). Dumfries is only 1.63 square miles in size and the official census of Dumfries, as of April 1, 2011 states our population as 4,738.

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 shallow 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.

The Town of Dumfries as a Municipality

At the head of the harbor on Quantico Creek the Town was formerly established on sixty acres of land provided by John Graham, who named the new Town for his place of birth, Dumfries, Scotland. After much political maneuvering with other locations on the river for Town status, the legislature in Williamsburg granted a charter on May 11, 1749, the same day as the charter of Alexandria. The first directors and trustees of the Town were John Graham, Peter Hedgman, William Fitzhugh, George Mason, Thomas Harrison, Joseph Blackwell, and Richard Blackburn.

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.

The Growth of the Town

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.

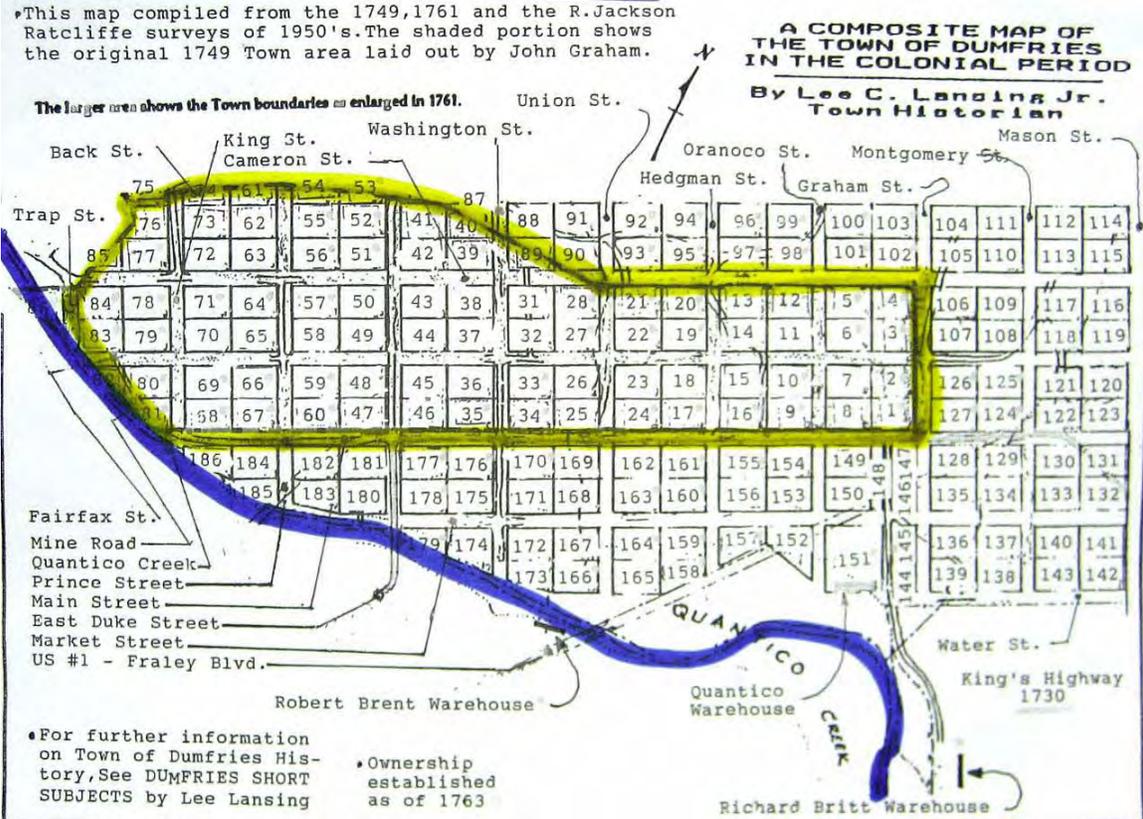
The second annexation was taken from Dumfries Magisterial District under law #2285 by action of the Circuit Court of Prince William County. The request was filed on January 23, 1962, with an amended petition filed September 14, 1966. The case came before the court on December 29, 1966 and was ordered 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. The three structures remaining 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 34 - Map of Historic Dumfries



(this page intentionally left blank)

DRAFT

SIGNIFICANT HISTORIC AND CULTURAL RESOURCES

Figure 35 - Weems-Botts House



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
<p>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</p>	

Theater fire of 1811.

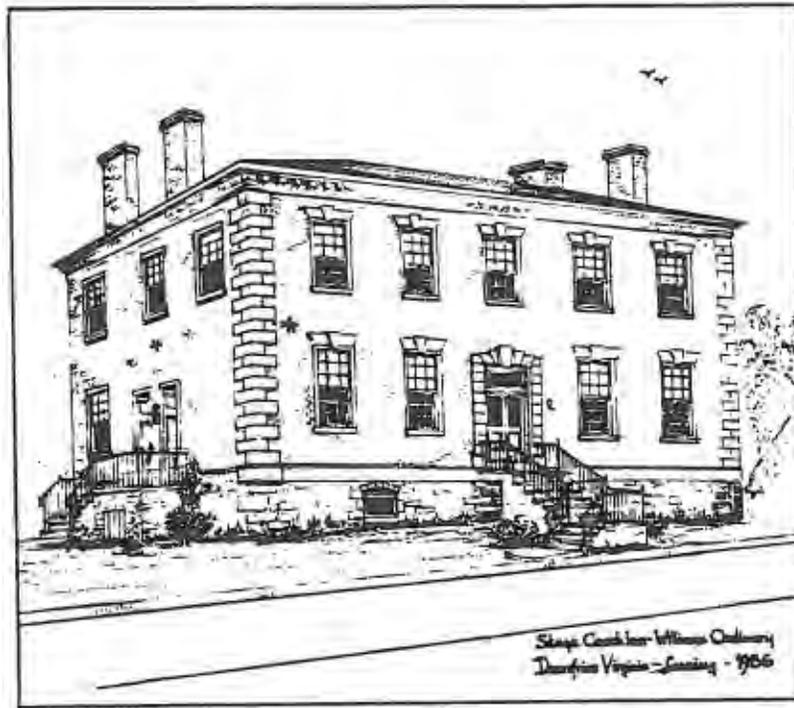
The building passed through many hands over the next fifty years, but remained unoccupied until the Merchant family purchased it in 1869. They built a two story addition on the western (right) side of the house in the 1870's and added a back room (kitchen) and summer bedroom (on the first floor) in the 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.

Figure 36 - Henderson House



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
<p>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.</p>	

Figure 37 - Williams Ordinary



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
<p>Built in the form of an eighteenth-century mansion (ca. 1765), William’s 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 groins in the corners and around the doorway. Unfortunately, the interior of the building has been altered extensively. The building was originally known as William’s 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.</p>	

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 Cemetery

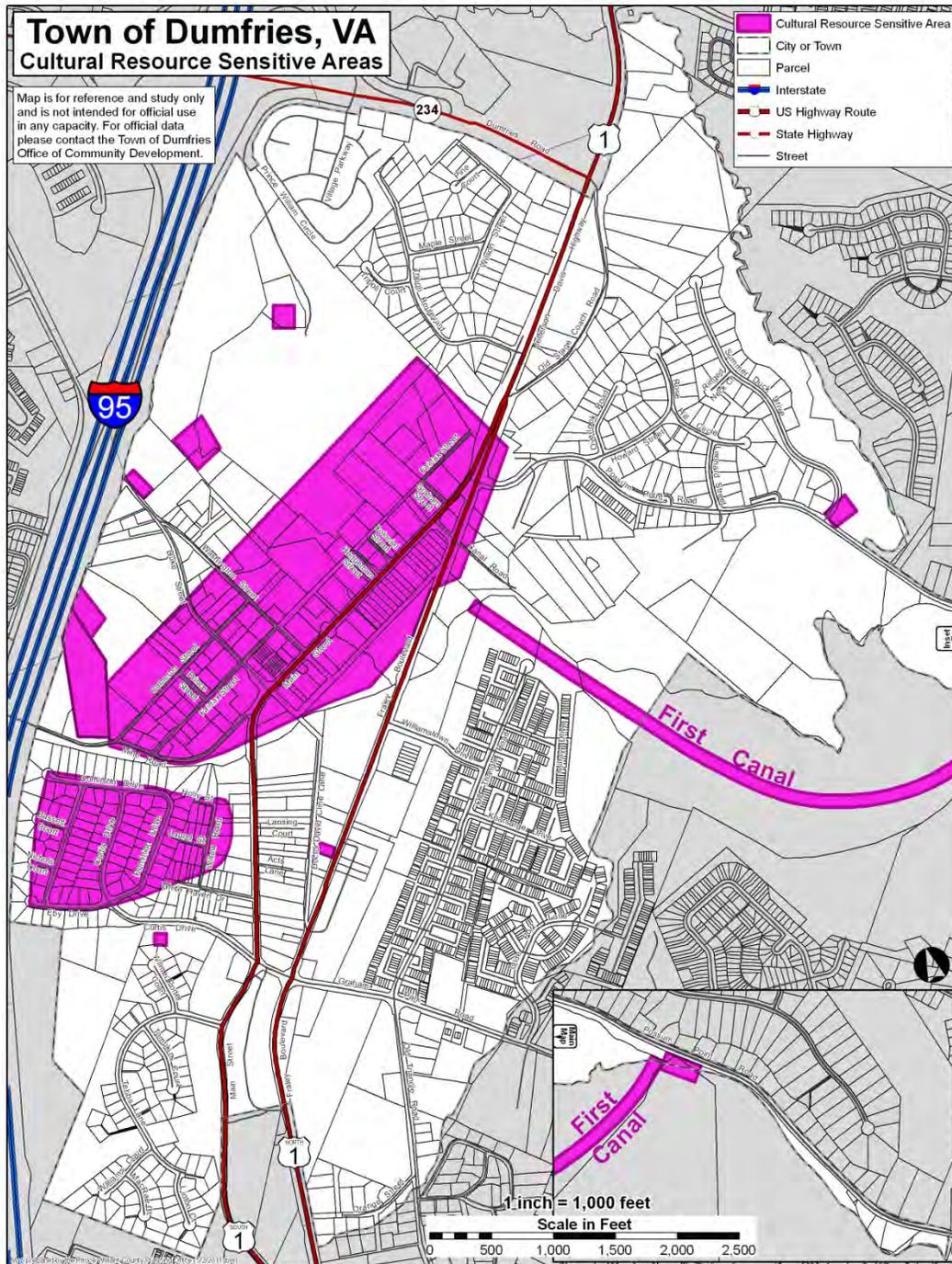
Location:	17821 Mine Road
Ownership:	Private
Acres:	5
Primary Use:	<i>Cemetery</i>
Analogous Land Use Classification:	Public, Institutional
Surrounding Land Use Classifications:	Single-family, Vacant, and Institutional

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
<p>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.</p>	

Area reserved for photos/graphics in final version

Figure 38 - Map of High Sensitivity Areas



GOALS, POLICIES, AND ACTION STRATEGIES

Historic & Cultural Resources Goal

HCR-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-POLICY 1: Identify the significant historic and cultural resources in the Town.

ACTION STRATEGIES:

- HCR-1.1 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-1.2 Conduct studies of potential sites to include on the significant historic and cultural resources listing.
- HCR-1.3 Conduct studies to identify the most important features and historic values of each site listed on the significant cultural resources list.
- HCR-1.4 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-1.5 Nominate, to the National Register of Historic Places (NRHP), with the consent of the owner(s), sites and districts that meet the NRHP criteria.
- HCR-1.6 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-1.7 Establish in conjunction with Prince William County Preservation Division’s archaeological laboratory support for processing and curating artifacts found as a result of the Town’s public archaeological projects.
- HCR-1.8 Continue to develop sensitivity maps for pre-historic or historic sites and historic viewsheds. Sensitivity maps are not site specific.

HCR-POLICY 2: Protect and preserve historic resources that are important for documenting or demonstrating the prehistory or history of the Town.

ACTION STRATEGIES:

- HCR-2.1 Examine existing zoning requirements to assure their consistency with the goal of historic preservation.
- HCR-2.2 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-2.3 Pursue obtaining funds from private, foundation, and public sources for acquisition, protection, restoration and operation of historic properties.
- HCR-2.4 Encourage preservation groups to educate the public on the historic character of the Town and the benefits of preserving it.
- HCR-2.5 Encourage owners of Town historic properties to participate in Prince William County's Historic Building Plaque Program.
- HCR-2.6 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-POLICY 3: Enhance and promote the Town's historical character to increase visitation and commerce throughout the Town.

ACTION STRATEGIES:

- HCR-3.1 Encourage research projects and studies that will inform and educate Town residents and visitors about the Town's past.
- HCR-3.2 Invite universities and colleges to conduct research studies and report on the Town's history and prehistory.
- HCR-3.3 Support a cultural resources intern program in coordination with local universities and colleges.
- HCR-3.4 Distribute historic and cultural resource reports, including Phase I, Phase II, and Phase III level studies, Army Corps of Engineers Reports, prepared in conjunction with development applications in the Town be distributed to appropriate repositories and libraries, including the VDHR and the County Planning Office and regional libraries.



- HCR-3.5 Continue to support the preparation of brochures that provide Town visitors with information on the history and the significant cultural resources of the Town.
- HCR-3.6 Continue to preserve, develop, and support the Weems Botts Museum, Merchant Park, Williams Ordinary, and other sites identified by the Town in through ongoing education and promotion.
- HCR-3.7 Conduct cultural and natural resource management of town-owned historic sites and heritage parks.
- HCR-3.8 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-3.9 Develop a “Preserve a Site” program in which citizens and businesses pledge to preserve and properly manage an archaeological, architectural, or cemetery site.
- HCR-3.10 Develop a Town of Dumfries walking map to emphasize historic structures and sites.

HCR-POLICY 4: Encourage developers to incorporate architectural features that celebrate the Town’s Historic Character.

ACTION STRATEGIES:

- HCR-4.1 Create a streetscape design theme for the town main street that builds on a historic theme.
- HCR-4.2 Implement phased streetscape improvements in conjunction with long-range plan goals.
- HCR-4.3 Review existing directional wayfinding signage along the gateway corridors to the Town of Dumfries.
- HCR-4.4 Continue to support Weems Botts Museum and Merchant Park facilities to promote tourism.
- HCR-4.5 Use a historic naming convention to identify bike trails, pedestrian pathways, and programs.

HCR-POLICY 5: Preserve, protect, and maintain known or discoverable cemeteries and gravesites, whether marked or unmarked.

ACTION STRATEGIES:

- HCR-5.1 Promote the identification, preservation, and protection and maintenance of all cemeteries and/or gravesites located within the Town, whether marked or unmarked.

- HCR-5.2 Document any unmarked gravesites placed on the perimeter of existing cemeteries, whose markings may have since been destroyed.
- HCR-5.3 Discourage owners and developers of land planned for development or redevelopment from relocating the cemeteries and gravesites to another location.
- HCR-5.4 Revise the permitting process to require a check for the presence of a cemetery on a property proposed for grading or construction and to compliance with the Federal Cemetery Preservation Requirement Act.

HCR-POLICY 6: Promote growth and redevelopment that incorporates the historical character of the Town.

ACTION STRATEGIES:

- HCR-6.1 Build upon the Town’s historical character as the foundation for future development.
- HCR-6.2 Develop local incentives, such as tax credits, to encourage the maintenance and development (includes new development and redevelopment) of the Town’s historic character.
- HCR-6.3 Continue to work with private sector investment in preservation and renovation projects.
- HCR-6.4 Inform owners of properties listed on the NRHP or Virginia Historic Landmarks Register, through educational materials on the benefits of historic preservation, i.e., the availability of property tax incentives.

*Area reserved for
photos/graphics
in final version*