

THE FREDERICK COUNTY COMPREHENSIVE PLAN

APPENDIX II – BACKGROUND ANALYSIS AND SUPPORTING STUDIES



- **HISTORICAL BACKGROUND**
- **GEOGRAPHICAL IMPACTS**
- **DEMOGRAPHIC ANALYSIS**
- **ECONOMIC ANALYSIS**
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HISTORICAL BACKGROUND

Early European Settlement:

For 12,000 years prior to English Settlement of the Shenandoah Valley, a sparse population of Native Americans lived in the area, but many more traveled through these valleys on the "Indian War Path" from New York and Pennsylvania to winter in Georgia and South Carolina. The first Europeans to come through the Shenandoah Valley were Jesuit missionaries in 1632, and the details of this wilderness area were first mapped by French explorer, Samuel de Champlain.

The first private English ownership of Frederick County was the Virginia Company, which was tasked with the settlement of the Virginia Colony by King James I. Ownership of the area returned to the Crown in 1624 when the Virginia Company's charter was revoked. In 1649, King Charles II granted seven royalist supporters the land "bounded by and within the heads" of the Potomac and Rappahannock Rivers. By 1681, Thomas, the Second Lord Culpepper, owned most of this original land grant. After he died in 1689, his daughter married Thomas, the Fifth Lord Fairfax, and later, their son Thomas, the Sixth Lord Fairfax, inherited the entire land grant.

Englishmen settled the Piedmont, then pushed west by foot and horse through passes in the Blue Ridge, and many more German and Scotch-Irish settlers came down through the valleys from Philadelphia and Lancaster, Pennsylvania. Some of the earliest settlers of this area were Quakers who built the Hopewell Friends Meeting House, which still stands near Clearbrook and is listed on the National Register of Historic Places. These settlers were attracted by the fertile soils and the abundant forest and water resources.

Initial Settlement and Organization:

The Colonial government of Virginia wanted this wilderness settled as quickly as possible, as a buffer against the Native Americans; but Robert "King" Carter, Lord Fairfax's agent, was settling Fairfax's land slowly in large plantations. The government of Virginia had chartered counties in the Fairfax land grant as settlement spread up the Northern Neck and west. Virginia argued that Fairfax's land grant ended at the Blue Ridge and began granting up to 1,000 acres each to settler families west of the Blue Ridge.

Abraham Hollingsworth settled near the site of Abrams Delight, now located within the Winchester City limits, in about 1729. Owen Thomas and Jeremiah Smith came to Back Creek in 1730 and settled on 806 acres granted in Thomas' name. Smith left and returned with a wife before 1741. His log cabin is now part of a house west of Back Creek and south of Route 50. In 1732, Jost Hite settled 16 families on his 5,000 acre "grant" and built Hite's Fort at Bartonsville, located on Route 11, approximately two miles south of Winchester.

The “Indian Path” became the Great Wagon Road to Philadelphia and Native Americans were dispossessed westward by treaty and force of arms. Frederick County was created from western Orange County by the House of Burgesses on December 21, 1738, and was named after Frederick Louis, the Prince of Wales and son of King George II, and originally spanned from the Blue Ridge Mountains to current day Ohio. In 1744, James Wood, County Surveyor for Orange County, platted a town at the County seat, which he named Winchester, after his birthplace. It consisted of 26 half-acre lots and three streets within 1300 acres, which he claimed as wilderness land owned by Virginia. Those streets are now Loudoun, Boscowen, and Cameron. Winchester was officially chartered in 1752.

County government in Virginia was originally by self-perpetuating courts. Frederick County's Court was proclaimed and organized in 1743, and its officials took their oaths of office on November 11th of that year. The Frederick County Court first met at the surveying office of its clerk, James Wood, at the site on which he later built his estate, Glen Burnie.

The original Frederick County has since been divided into the following Counties*:

In Virginia:

Dunmore (now Shenandoah) - 1772

Page - 1831

Warren - 1836

Clarke - 1836

In West Virginia:

Hampshire - 1753

Berkeley - 1772

Hardy - 1776

Jefferson - 1801

Morgan - 1820

Mineral - 1866

Grant - 1866

*from “Frederick County, Virginia: History through Architecture” by

By the mid-1740s, the Frederick County Court had acknowledged that Lord Fairfax's land grant did include Frederick County, despite previous arguments that the Fairfax lands ended at the Blue Ridge Mountains. At the age of 16, George Washington was a member of a surveying party that came to Frederick County for Lord Fairfax in 1748. In 1749, Lord Fairfax moved to Frederick County and built his home, Greenway Court, at White Post, in present-day Clarke County. He accepted Wood's 1,300 acre claim and other additional lots at Winchester. Eventually, 11 other counties would be created from the 3,824 square miles included in the original Frederick County.

George Washington maintained a relationship with Winchester and Frederick County during and after his surveying expedition for Lord Fairfax. Early

during those years, Washington operated his surveying office in Winchester and oversaw the construction of Fort Loudoun. Washington's first elected office was as a representative of Frederick County in the House of Burgesses 1758. He served in this post for 15 years. During the French and Indian War, he was given a Commission by Governor Dinwiddie of Virginia and was later promoted to Commander in Chief of the colonial forces with headquarters in Winchester. The location of the headquarters for the western campaign helped to stimulate growth in Winchester throughout the French and Indian War which in turn led to improvements along trade/travel roads, the creation of additional lots in Winchester, and the formation of Stephensburg, which is now Stephens City.

The American Revolution in Frederick County:

Although there were no battles or military engagements in Frederick County during the Revolutionary War, the area was very important in the effort. Prior to the drafting of the Declaration of Independence, a group of protesters met in Winchester to protest King George's taxes on the colonies. They drafted the Frederick County Resolves and promised not to purchase English wares until their grievances were resolved. During the war, General Daniel Morgan, who lived in eastern Frederick County (now Clarke County), and his "Long Rifles" played a prominent role in many battles of the Revolutionary War, including the Battle at Cowpens in South Carolina. His regiment of expert riflemen was one of two from Virginia. Several local citizens furnished the troops with food and supplies, including Isaac Zane Jr. who supplied the army with ammunition made at his ironworks in Marlboro. Many prisoners captured during the War were held in Winchester and Frederick County. By 1779, the number of British prisoners held in Winchester had increased beyond the capacity of the existing prison and a larger one was built. A barracks was built four miles west of Winchester to hold these prisoners whose number had increased to 1,600 by the year 1781.

After the Revolution, the trade routes established during the French and Indian War continued to develop and provide avenues for trade between farmers in Frederick County and those in Eastern Virginia. Winchester grew as a travel and commercial hub in Western Virginia.

Early National Period:

During the late eighteenth and early nineteenth centuries, life in Frederick County centered on small family farms and transportation and trade routes. By the 1770s, the Indian Warpath through Frederick County had transformed into the Great Wagon Road and forms what is now US Route 11. In addition to Route 11, other major roads were established through Winchester including what are now Route 50 West, 522 South, and Route 7 East. These four major roads provided avenues of transportation and made trade possible across the state of Virginia as well as major cities North and South of Virginia. As a result, Winchester and the surrounding area grew in terms of residential occupants and commercial occupants.

Economic life was centered around Winchester and other local towns including Stephens City, Middletown, Kernstown, Gainesboro and Gore, which remain centers of economic and community growth today. The number of craftsmen and merchants in these towns was large and diverse. The strongest influence on the local economy was the Great Wagon Road which carried settlers and travelers from Philadelphia, south through the Valley and to the west. Activity associated with this road made Winchester one of the largest towns in western Virginia.

Farming in this region focused on several main crops which grew well in the soils of the area. During this period, wheat production became the center of the local economy, along

with cattle farming, and by 1810, Frederick County was one of the largest producers of wheat in Virginia. Economic growth in the area was predominantly encouraged by agricultural activities and their industrial counterparts, such as milling and transporting of the locally grown products. By 1820, there were 54 grain mills in Frederick County along with numerous sawmills, tanneries, and other business activities.

Growth in the area continued into the mid-nineteenth century, when the County was faced with Civil War and the turbulence that this area felt as a consequence of its location at the crossroads of many major roads and railroads.

The American Civil War:

In the early to mid-nineteenth century, issues were brewing in Frederick County which mirrored those across the Nation. As agriculture developed in the County, a clear division formed areas east of the Opequon (current day Clarke County), where slave labor constituted most of the population and areas west of the Opequon, where small family-owned farms were the agricultural trend. In 1836, Clarke County split from Frederick County, largely over this issue.

During the Civil War, Frederick County played a significant role, primarily due to its location at the intersection of many major roads. The northern Shenandoah Valley supplied food, livestock, horses, and soldiers to the Confederacy. The Valley was also important because of its strategic location in relation to Washington D.C. The town of Winchester changed hands about 70 times during the course of the war, an average of once every three weeks, for four years.

**Belle Grove and Cedar Creek
Battlefield National Historic Park:**

In 2002, the National Park Service created the Belle Grove and Cedar Creek Battlefield National Historic Park to protect the integrity of this important battle of the Civil War.

All Park land remains under the operation of the Cedar Creek Battlefield Foundation and the Belle Grove Plantation or private ownership. The Battlefield Foundation sponsors reenactments of the Battle of Cedar Creek and other battles of importance throughout the year. Belle Grove operates as a historic house museum and guided tours are available.

Major local battles included the First Battle of Kernstown in March of 1862, during which General Stonewall Jackson suffered his only tactical defeat during the Valley Campaign. However, Jackson did succeed in keeping Union troops in the Valley from leaving to reinforce McClellan on the peninsula. This was the first major encounter of the War in this area. In May of 1862, Jackson's army defeated the Union troops at the First Battle of Winchester.

In the Second Battle of Winchester in 1863, Confederate troops successfully attacked and defeated Union troops occupying forts on the western side of Winchester. The most critical effort of the campaign was the battle at Stephenson's Depot and a portion of the battlefield remains intact today. Union troops were again defeated at the second battle of Kernstown in 1864.

At the Third Battle of Winchester, General Philip Sheridan's Union troops successfully attacked Confederate troops at Winchester. With the high numbers of losses on both sides, a new war of attrition began in the Valley from which the southern forces would never recover. For three weeks in 1864, Sheridan's troops undertook the infamous "Burning" to end Confederate strength in the Valley. Virginia's richest valley was left desolate.

In October of 1864, Jubal Early's Confederate troops were entrenched south of Cedar Creek. General Sheridan's Union troops were encamped just north of Cedar Creek. A surprise attack by the Confederates drove the Union troops to the north. General Sheridan, arriving from Winchester upon hearing of the attack, rallied his troops and launched a massive counterattack which drove Early's troops back across Cedar Creek. The Confederate defeat at the Battle of Cedar Creek meant the loss of Confederate control of the crucial Shenandoah Valley for the remainder of the war. Thomas Buchanan Read wrote a poem, "Sheridan's Ride," to memorialize the general's horseback dash from Winchester to the battlefield. This Union victory, in combination with General Sherman's victory in Georgia, helped to secure President Lincoln's reelection.

The Civil War took both a physical and economic toll on Frederick County and the surrounding area. As the primary "breadbasket" of Virginia, the Shenandoah Valley was affected more by the Civil War than any other war fought on American soil.

Reconstruction:

Through six major battles and countless minor skirmishes, the Civil War brought much destruction to Frederick County. Many farms, mills, and dwellings were damaged or destroyed by the cannon fire from the battlefields or by soldiers raiding for food and supplies. The county's economic productivity was greatly reduced. This period was characterized by a slow economic recovery, but by the 1880s, economic stability gradually returned. After the war, previous economic activities resumed, and new activities began. New businesses included the emergence of apple production, tanning, dairying, machinery production, and the shipping industry. These new avenues of commercial growth allowed the county's economy to rebound at a steady rate and by the 1880s, some of the county's agricultural crop production had returned to pre-war levels. By 1890, Frederick County had 37 mills, eight woolen factories, a steam elevator, two iron foundries, four glove factories, a boot and shoe factory, ten broom factories, four tanneries, a large paper mill, three newspapers, a book bindery, eight cigar factories, three marble yards, and two furniture factories.

There was also a tremendous building boom in the county between 1880-1900. In addition to new construction, older structures were often enlarged and updated using modern building techniques and styles. This growth occurred in both rural areas and in small communities that had previously developed in the 18th and 19th centuries. New communities were also formed as a result of newer, more advanced transportation systems. Among the communities that experienced growth during this period were Meadow Mills,

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Hayfield, Gore, Mountain Falls, Mount Williams, Gravel Springs, Gainesboro, Albin, Brucetown, White Hall, and Armel.

Centers of African American culture also developed during this period as a result of the segregation which followed the end of the Civil War. Communities such as Cedar Hill, Freetown, and Leetown became centers of the African American culture in Frederick County. To mediate the impact of segregation on daily activities, these communities developed public buildings and facilities such as schools and churches, for their own use.

GEOGRAPHICAL SETTING

LOCATION

Frederick County is the northernmost jurisdiction in the Commonwealth of Virginia. It lies at the northern end of the Shenandoah Valley, west of the Blue Ridge Mountains and east of the Alleghenies.

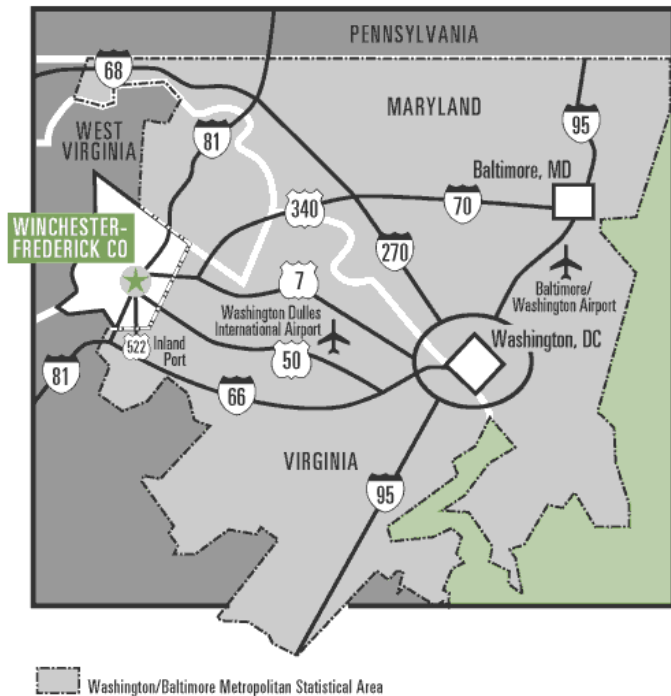
Located in the Mid-Atlantic region of the United States, Frederick County's location on the eastern seaboard is a valuable asset to companies serving the US markets and Europe. It places local businesses halfway between the markets of the north and south, within one-day haul of 50% of the U.S. population.

Over 60% of the goods manufactured in the United States are distributed from the 750-mile (1,207 kilometers) area. For national and international companies being in the Eastern Time Zone maximizes their hours of operations, which helps to improve efficiencies.

In addition to being halfway between Boston and Atlanta, Winchester-Frederick County is well positioned equidistant between Los Angeles and London. Excellent road, rail, inland ocean port and Dulles World Cargo Center provide access to the major markets in North America, Latin America, and globally.



Metropolitan Washington/Baltimore



TOPOGRAPHY

Generally, the topography of Frederick County is characterized by the rolling Shenandoah Valley, 8 to 10 miles wide and on its west flank, mountains, ridges and valleys of the Appalachian system. Frederick County and the City of Winchester comprise 425 square miles; the City of Winchester occupies 9.23 square miles within the County's boundaries. The average altitude of the broad valley is about 700 feet and that of the ridgetops and mountaintops is about 1,950 feet. The most prominent mountains are along the Virginia-West Virginia boundary, with Pinnacle Knob (2,844 feet) the highest point in the County. The lowest point in the County is about 500 feet. Handley Library, in the center of Winchester, is at 714 feet.

Three aspects of the topography provide the area with a highly favorable visual environment. The Blue Ridge Mountains on the east serve both as a barrier to overly ambitious development from the Mid-Atlantic metropolitan area and provide a backdrop to a verdant landscape of farms and orchards. The easy rolling topography also provides character but is not an impediment to development. The easily traversed Valley and the fabled Shenandoah River defined the outstanding network of modern transportation providing easy accessibility to the most important North American cities.

GEOPHYSICAL CHARACTERISTICS

The County has three geophysical areas as shown on the Physical Characteristics and Geologic Formations map.

The eastern area of the County is underlain by the Martinsburg shale which consists of a band running north-south along the length of the County, generally east of Interstate 81. It consists of broad, level ridges separated by steep stream valleys. The soils derived from the shales tend to be thin, poorly fertile, and have high seasonal water tables. The soils are highly compacted and not well suited for intensive agriculture or onsite sewage disposal systems. Primarily the historical use of this land is pasture and has in recent years been developed for residential and urban uses. Substantial suburban development served by public water and sewer is located within this area.

The central area is located between Interstate 81 and Little North Mountain. It consists of a band approximately five miles wide that also trends southwest to northeast, is underlain by limestone/carbonate bedrock, and displays gently rolling karst topography. This area contains the bulk of the prime agricultural soils in the County and supports apple and other fruit production, beef cattle operations, and some crop production, primarily hay and corn. The western area is the Ridge and Valley which is underlain by a variety of shale, sandstone, and limestone formations. This mostly forested area consists of alternating valleys and ridges that run southwest to northeast.

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The western area is the Ridge and Valley which is underlain by a variety of shale, sandstone, and limestone formations. This mostly forested area consists of alternating valleys and ridges that run southwest to northeast. Ridges are often very steep and are the highest elevations in the County. Some stress fractures are present along the fold lines of the highly folded vertical beds. The vertical bedrock layers provide a barrier to most groundwater movement across the beds. Groundwater moves laterally along the folded bedrock, with little movement through the fold system.

These three geographic regions can be further divided into four distinct drainage areas. The southern third of the county drains towards the south and east to Cedar Creek and Stephens Run is in the Shenandoah River basin. The northern two-thirds of the County are divided north-south by Apple Pie Ridge, Round Hill and Little North Mountain forming the boundary between the Back Creek and Opequon Creek watersheds. These areas drain toward the north and the east, respectively, and are in the Potomac River Basin. The limestone-carbonate geology drains to the east, but includes random flow patterns throughout this topography, including some areas that are internally drained. Drainage areas provide a good basis for planning sewer and water service areas through gravity flow design. The movement of public sewage flow between the limestone-carbonate and the Ridge and Valley area requires pumping.

Regional geophysical characteristics influence suitability for more intensive forms of development. Urban development is predominant in the eastern shale belt and uses public sewer and water facilities. Rural residential development is predominantly in the limestone belt west of Winchester, Interstate 81 and Route 37. Despite the presence of prime soils, agricultural land use in this area has decreased due to development pressures. The relatively steep areas in the western portions of the County remain rural; however, development is increasing.

CLIMATE

There are four distinct seasons. Few days fall near zero. Nine years in ten will have growing seasons from 148 to 219 days, depending on daily minimum temperature. The average number of growing degree days is 6,989.4, and the latest freeze (one year in ten; 28° or lower) is April 15th. Only two years in ten will have extreme temperatures of more than 103° or less than -10° F.

| | |
|------------------------------|---------------|
| Average January temperature | 31°F |
| Average July temperature | 86°F |
| Average annual precipitation | 37.56" inches |
| Average annual snowfall | 22.5" inches |

DEMOGRAPHIC AND TREND ANALYSIS

OVERVIEW

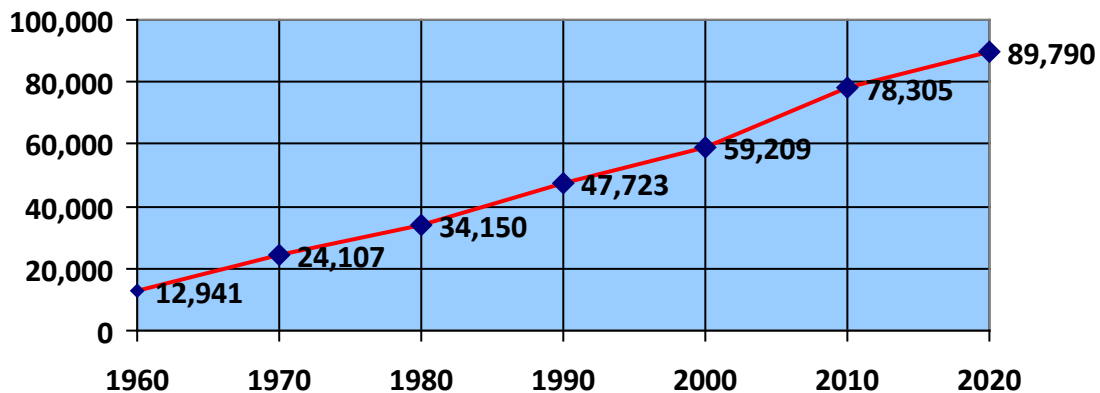
Demographic information is an important component in planning for future needs and services of the community. It is important to understand the state of the county today, what has shaped it through the years, and how it is likely to change over time. Demographic data is gathered from a range of Federal, State and local agencies. While the U.S. decennial census is the best-known survey method, the American Community Survey (ACS) and the Weldon Cooper Center for Public Service at the University of Virginia (Weldon Cooper Center) are also significant resources. The ACS is an ongoing nationwide survey conducted by the U.S. Census Bureau that collects annual data such as age, sex, race, family and relationships, income, and housing for jurisdictions with population above 65,000. The Weldon Cooper Center develops and releases the official population estimates for Virginia, its counties, and independent cities every year between decennial censuses.

This section provides general information regarding historical, current, and projected populations, income, education, age, and diversity.

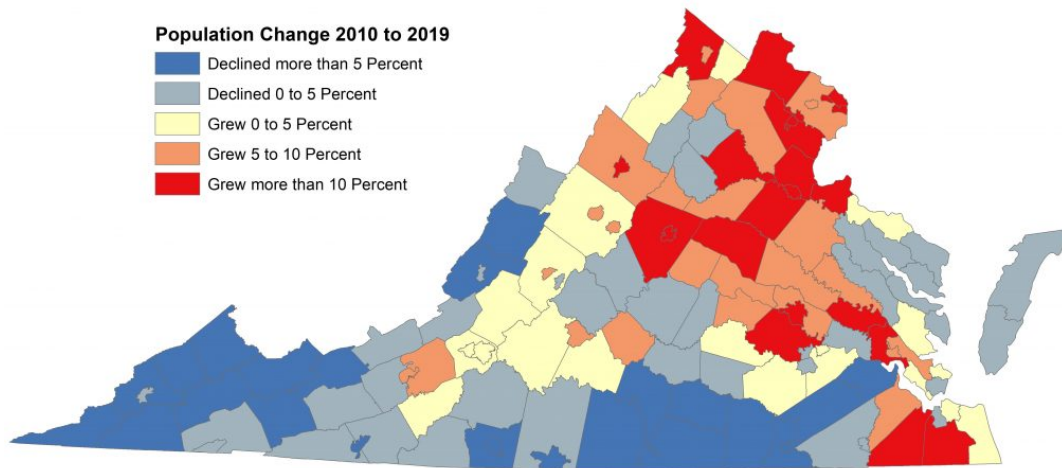
HISTORICAL POPULATION

Over the past three decades, Frederick County has experienced significant population growth. Between 1980 and 1990, the County saw a 40 percent increase in its population. Between 1990-2000 and 2000-2010, the County’s population continued to grow but at a slower rate of 24% and 32% respectively. Since 2010 Frederick County has grown by 14.7 percent, more than double the state average growth of 7.3 percent for the same period.

Frederick County Population by Decade 1960-2020



Source: Weldon Cooper Center for Public Service: July 1, 2020 Population Estimates for Virginia and its Counties and Cities (January 29, 2021)

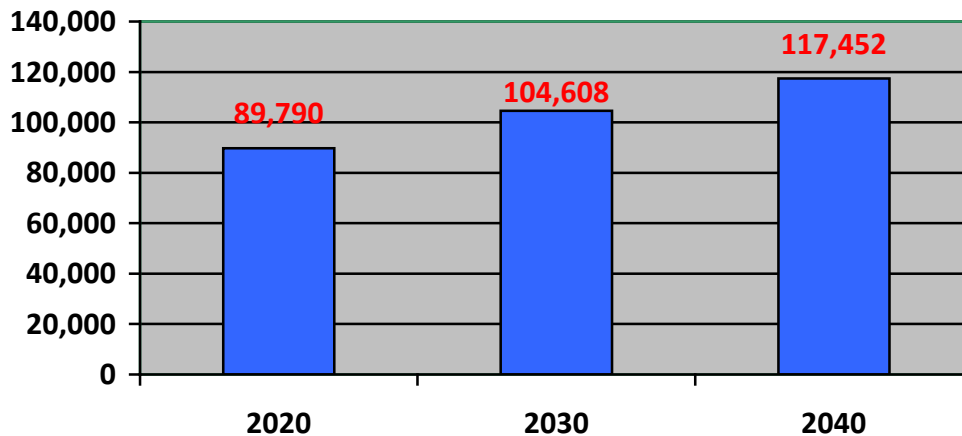


Source: 2010 Decennial Census and 2019 Weldon Cooper Center County and City Population Estimates

POPULATION ESTIMATES

The 2020 population estimated for the County is approximately 89,790 persons. Future projected growth, as shown by the Weldon Cooper Center for Public Service, shows an estimated increase of 16 percent from 2020 to 2030, and 12 percent from 2030 to 2040. This trend is shown in the following graph.

Population Projections 2020-2040



Source: Weldon Cooper Center for Public Service, *2030 & 2040 Population Projections (2019)
 Weldon Cooper Center for Public Service: July 1, 2020 Population Estimates for Virginia and its Counties and Cities (January 29, 2021)

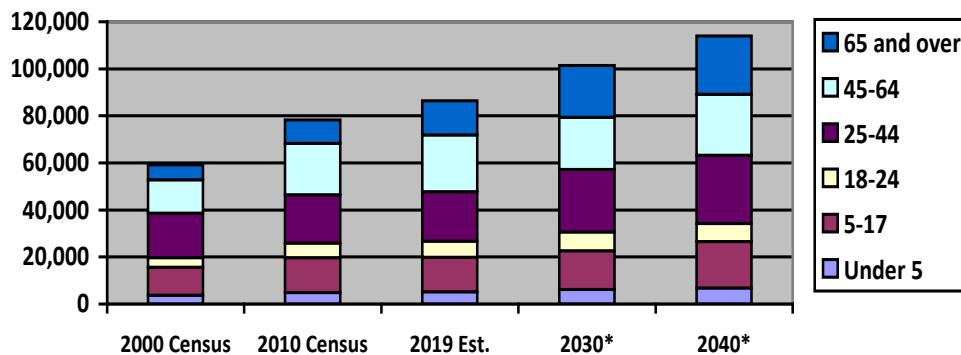
AGE GROUPS – TRENDS AND PROJECTIONS

An important trend to note is the increasing age of people living in Frederick County. Between 2000 and 2020, the median age has increased from 36 to 40.7. Overall, Frederick County’s population is slightly older than the state (38.5) and the country (38.1).

As the median age rose, the percentage of the population in the older age groups has also increased. The population of individuals in Frederick County 65 and over is projected to continue increasing at a much higher percentage than other age groups. This age group increased 58 percent from 2000 to 2010 and 46 percent from 2010 to 2019. The population under the age of 18, while increasing by 26 percent from 2000 to 2010 is estimated to have a substantially smaller increase from 2010-2019 of only 1.4 percent. The percentage increase for the major workforce age group, 25-44, has also seen a significant slowing with only a 2.3 percent increase estimated from 2010 to 2019. The fact further emphasizes the need to analyze our regional labor force market to meet future employment needs including job retention and job recruitment for this age group. These trends are further shown in the table and graph below. It should be noted that the 2019 figures are derived from the 2019 American Community Study (US Census, 5-year data) and more accurate data will be shown in the 2020 Census.

| Population Distribution: Frederick County | | | | | |
|---|-------------|-------------|-------------------------|----------------|----------------|
| Age Groups | | | | Percent Change | Percent Change |
| | 2000 Census | 2010 Census | 2019 ACS 5 yr. Estimate | 2000 to 2010 | 2010 to 2019 |
| 0 - 4 | 6.4% | 6.3% | 6.0% | 29.9% | 3.6% |
| 5 - 17 | 19.8% | 18.8% | 17.1% | 24.8% | .6% |
| 18-24 | 7% | 7.9% | 7.8% | 48.4% | 9.8% |
| 25-44 | 31.8% | 26.3% | 24.4% | 9.3% | 2.3% |
| 45-64 | 24.1% | 28% | 27.9% | 53.3% | 13.3% |
| 65 and over | 10.6% | 12.7% | 16.8% | 57.9% | 45.8% |
| Median Age | 36.7 | 39.1 | 40.7 | | |

Population by Age Group

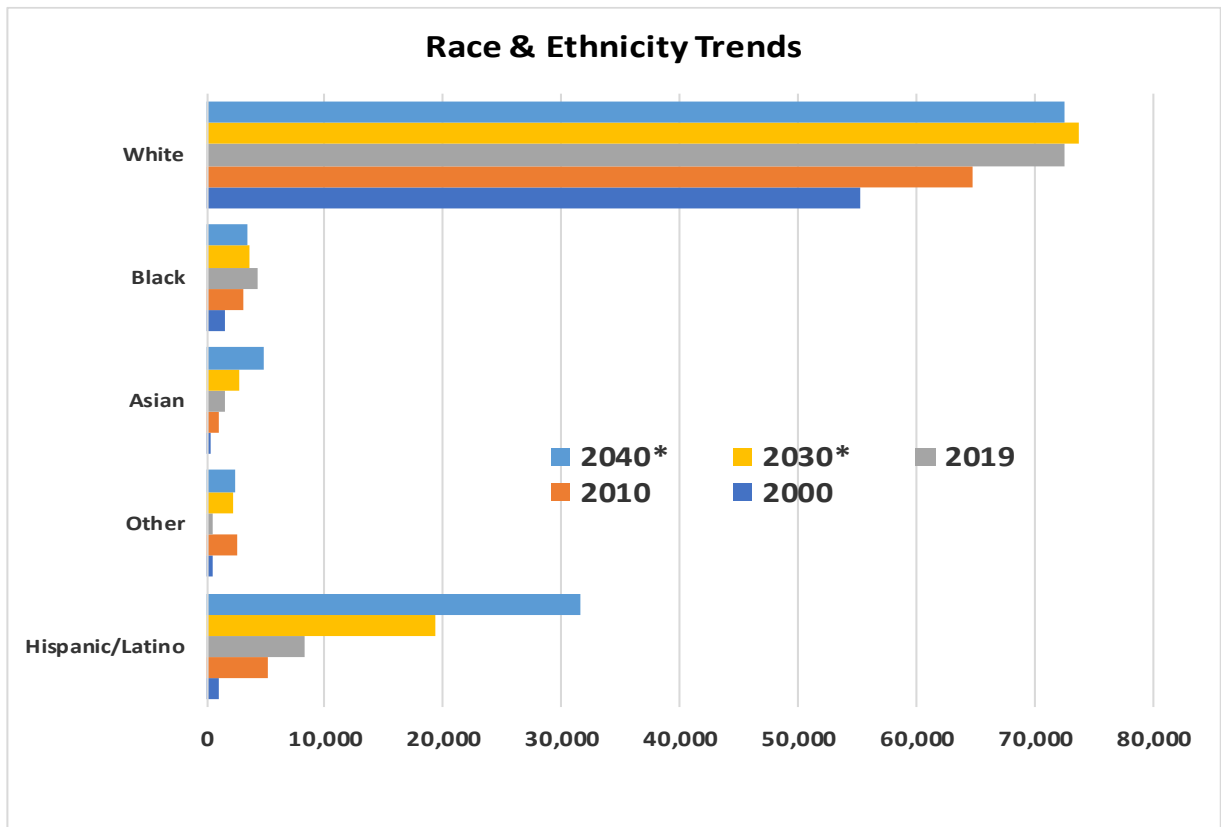


Source: *Weldon Cooper Center for Public Service, 2019 Population Estimates: Age and Sex (Virginia Localities)
 *American Community Survey, Demographic and Housing Estimates, 5-year estimates, U.S. Census Bureau.

RACE AND ETHNICITY

Frederick County’s population has become more diverse since 2010. As of 2019, the County’s population was primarily white (82.3% not including individuals of Hispanic origin) and there was an almost equal proportion of males and females. It should be noted that the Hispanic/Latino group has seen a 61 percent increase from 2010 to 2020. This group is projected to continue increasing at a higher rate than other groups.

The following summarizes ethnicity characteristics from 2000, 2010, estimated figures for 2019 and projected increases for 2030 and 2040.



Source: 2019 American Community Survey 5-year estimates, U.S. Census Bureau.
 (The category "Other" includes American Indian and Alaskan Natives, Native Hawaiian and Other Pacific Islander)
 *2030 & 2040 Weldon Cooper Center for Public Service Projections, 2019 Estimates by Race

EDUCATION

The following chart depicts the percentage of Frederick County’s residents 25 years or older by their highest educational achievement, compared to surrounding counties and the State as a whole.

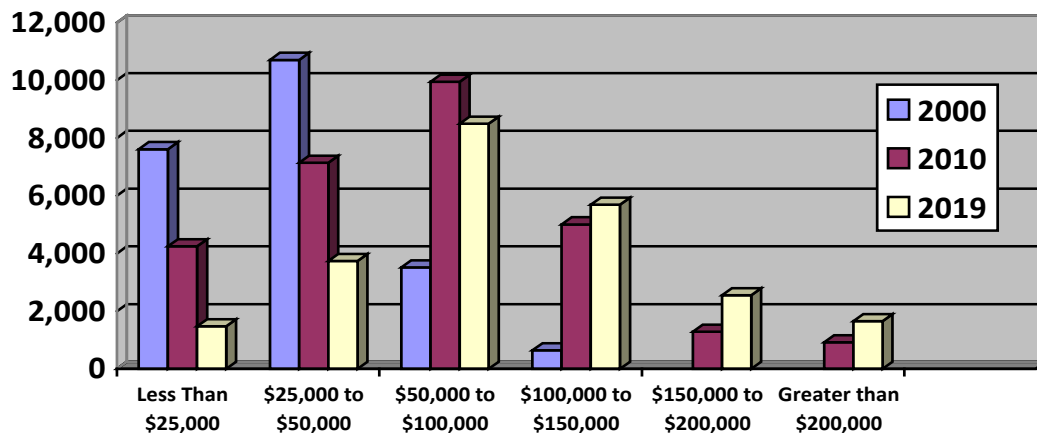
| 2019 ESTIMATES | FREDERICK COUNTY | CLARKE COUNTY | WARREN COUNTY | SHENANDOAH COUNTY | STATE OF VIRGINIA |
|------------------------------|------------------|---------------|---------------|-------------------|-------------------|
| Less than 9th Grade | 4% | 4.8% | 3.3% | 4.9% | 4.1% |
| 9th - 12th no diploma | 6.8% | 6.1% | 9.8% | 8.1% | 6.2% |
| High School Graduate | 32.4% | 29.6% | 35.9% | 37.9% | 24% |
| Some College | 19.7% | 18% | 22.1% | 20.3% | 19.2% |
| Associate degree | 8.9% | 9.3% | 7.2% | 8.3% | 7.8% |
| Bachelor's Degree | 16.2% | 17.3% | 15.1% | 14% | 22% |
| Graduate/Professional Degree | 12% | 14.8% | 6.7% | 6.6% | 16.8% |

Source: 2019 American Community Survey 5-year estimates, U.S. Census Bureau

INCOME CHARACTERISTICS

Frederick County’s gross median household income is \$78,002 which exceeds that of the state at \$74,222. The current percentage breakdown for income in Frederick County shows that just over 11 percent of households earn less than \$25,000, 37 percent earn between \$25,000 and \$74,002. Over 37 percent of county households earn between \$75,000-\$149,00 per year and just over 15 percent earn more than \$150,000. Poverty is another important economic indicator to consider. As of 2019, Frederick County had a poverty rate of 4.3 percent, which is less than the state average of 7.1%.

Income 2000-2019



Source: 2010 and 2019 American Community Survey 5-year estimates, U.S. Census Bureau, 2000 Census

ECONOMIC ANALYSIS

The study of the economy of Frederick County involves many factors. This chapter examines the change in employment sectors, the role of small business and top employers. Change in Frederick County’s economy, undoubtedly, is evident in this chapter; however, the strong signs of stability with appropriate diversity are particularly noteworthy.

RECENT EMPLOYMENT COMPARISONS AND TRENDS

An analysis of the employment segments reveals minimal overall change in the Frederick County economy since 2011. While the absolute number of employment change is significant for some of the largest employers, 4 of the top employers in 2005 remain ten years later. Health Care and Social Assistance and Accommodation and Food Services employment are the two new arrivals to the top employer list. The growth of Winchester Medical Center and Frederick County’s population remain likely reasons for its rise. Overall, retail trade displayed the largest growth of the top employers (+1,677). Manufacturing’s overall net increase is noteworthy given its decrease in the Commonwealth overall.

| Sector | 2009 | Sector | 2019 |
|-----------------------------------|-------|---------------------------------|-------|
| Manufacturing | 4,037 | Manufacturing | 5,999 |
| Educational Services | 2,930 | Transportation and Warehousing | 3,726 |
| Retail Trade | 2,801 | Retail Trade | 3,638 |
| Retail Trade Construction | 2,542 | Educational Services | 3,222 |
| Accommodation and Food Services | 1,875 | Construction | 2,898 |
| Health Care and Social Assistance | 1,609 | Accommodation and Food Services | 2,388 |

Looking into the next twenty years, population increase and continued economic forces will likely influence Frederick County’s economy and its largest employment sectors. Established manufacturing clusters in food, plastics, metals, and printing combined with an emerging concertation of back-office users should likely their employment levels remain stable and/or increase due to 45-minute drive-time labor supply of more than 330,000 professionals and central East Coast location. Retail, construction, and healthcare growth fueled by population growth will gain additional employment and likely rise in its role within the economy. Joining the national and state trends, Frederick County will diversify further via professional and creative services and headquarters and back-office employment. Information and communication technology, engineering, cyber security, data centers and back-office operations likely lead this surge.

Although the major employment players remain mostly the same, their impact on the

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community has clearly changed. Viewing the growth in net new establishments provides an alternative view on the role of the larger employment segments. The growth in the number of manufacturing establishments is a prime example. This fact along with overall positive employment growth in this sector demonstrates a very positive evolving manufacturing sector. The future of Frederick County’s economy shines bright given manufacturing’s noted large multiplier impact and above average wage:

Overall, Frederick County boasted nearly 2,000 establishments in 2019, an additional 336 since 2009. Service based businesses; education and health services (+189) and financial services (+52) produced the largest net gain in new establishments since 2009. These sectors collectively employ just about 70 percent of the employees of manufacturing sector. Advancing twenty years, health care and professional service entities will likely continue to add to their totals furthering Frederick County’s diversification into a manufacturing/service-based economy.

| Sector | 2009 | Sector | 2019 |
|--------------------------------------|------|--------------------------------------|------|
| Trade, transportation, and utilities | 357 | Trade, transportation, and utilities | 387 |
| Construction | 276 | Education and Health Services | 386 |
| Professional and business services | 265 | Professional and business services | 283 |
| Education and Health Services | 197 | Construction | 226 |
| Other Services | 123 | Other Services | 175 |
| Leisure and hospitality | 122 | Leisure and hospitality | 151 |
| Financial Services | 98 | Financial Services | 128 |
| Manufacturing | 91 | Manufacturing | 104 |

SMALL BUSINESS

A discussion about any economy would be incomplete without reviewing the role of small businesses. Their importance to a community’s long term economic success cannot be overstated. In the United States overall, they employ nearly half of all private sector employees. They generated 60 to 80 percent of net new job annually over the last decade.

The definition of small business varies widely. For this chapter’s purpose, small business will

be identified as those employers with less than 19 employees.

The impact of small business can be viewed by total number of businesses and total number of employees within these businesses. In 2020, 85% of all employers in Frederick County had less than 19 employees. Conversely, small business in Frederick County employ 20% of all employees. Given the number of arrival/increase of large employers like Amazon, Navy Federal Credit Union, Trex and Valley Health Systems, the ability of small business to hold their role in Frederick County’s economy is integral to Frederick County’s economic success.

Employers by Size of Establishment

| | Frederick County | Virginia |
|-------------------------|-------------------------|-----------------|
| 0 to 4 employees | 1,154 | 187,416 |
| 5 to 9 employees | 262 | 38,189 |
| 10 to 19 employees | 225 | 26,710 |
| 20 to 49 employees | 176 | 18,273 |
| 50 to 99 employees | 57 | 6,159 |
| 100 to 249 employees | 27 | 3,405 |
| 250 to 499 employees | 14 | 1,035 |
| 500 to 999 employees | *** | 330 |
| 1000 and over employees | *** | 239 |
| | 1,920 | 281,756 |

Employment by Size of Establishment

| | Frederick County | Virginia |
|-------------------------|-------------------------|------------------|
| 0 to 4 employees | 1,550 | 242,220 |
| 5 to 9 employees | 1,742 | 253,076 |
| 10 to 19 employees | 3,032 | 361,580 |
| 20 to 49 employees | 5,404 | 547,266 |
| 50 to 99 employees | 3,980 | 424,971 |
| 100 to 249 employees | 3,611 | 509,016 |
| 250 to 499 employees | 4,693 | 355,425 |
| 500 to 999 employees | *** | 226,021 |
| 1000 and over employees | *** | 640,210 |
| | 31,122 | 3,559,785 |

*Note: Asterisks (***) indicate non-disclosable data.*

'Zero; no employment' typically represents new startup firms or sole proprietorships.

Source: Virginia Employment Commission, Economic Information & Analytics,

Quarterly Census of Employment and Wages (QCEW), 2nd Quarter (April, May, June) 2020

Small businesses will retain the vast majority of employment in Frederick County. As such, entrepreneurship/small business development should remain one of the pinnacles of

APPENDIX II – BACKGROUND ANALYSIS AND SUPPORTING STUDIES

Frederick County’s economic development. It is a beacon indicating when a community has an ideal business climate – when all physical and soft infrastructure is in place to allow new companies to grow and the community to self-sustain economic growth. The community’s undeveloped entrepreneurial culture has often been highlighted in studies as a hurdle to continue economic growth.

CURRENT TOP EMPLOYERS

Over ten years ago, Frederick County’s economy was chiefly led by major manufacturers and local government entities. Manufacturers established deep roots due to the area’s immense access to the East Coast, Virginia’s favorable cost of business, and Frederick County’s productive workforce.

| | | |
|-------------------------------------|--|-------------------------|
| Frederick County School Board | Educational Services | 1000 and over employees |
| County of Frederick | Executive, Legislative, and Other General Government Support | 500 to 999 employees |
| U.S. Department of Homeland Defense | Administration of Economic Programs | 500 to 999 employees |
| Kraft Foods | Food Manufacturing | 250 to 499 employees |
| Lord Fairfax Community College | Educational Services | 250 to 499 employees |
| H.P. Hood, Inc. | Food Manufacturing | 250 to 499 employees |
| Navy Federal Credit Union | Credit Intermediation and Related Activities | 250 to 499 employees |
| The Home Depot | Building Material and Garden Equipment and Supplies Dealers | 250 to 499 employees |
| Shockey Brothers, Inc. | Nonmetallic Mineral Product Manufacturing | 250 to 499 employees |
| Westminster Canterbury | Nursing and Residential Care Facilities | 250 to 499 employees |

APPENDIX II – BACKGROUND ANALYSIS AND SUPPORTING STUDIES

Today, the make-up of the largest employers is quite more diverse than 2020. While manufacturers still hold several slots in the top ten, many service base employers, like Navy Federal, Home Depot and Department of Homeland Defense, have provided a more diverse economy than 10 years ago. These new additions provide enhanced stability during instance of plant closures and national economic downturns.

| Frederick County School Board | Educational Services | 1000 and over employees |
|-------------------------------------|--|--------------------------|
| Navy Federal Credit Union | Management of Companies and Enterprises | 1,000 and over employees |
| U.S. Department of Homeland Defense | Administration of Economic Programs | 1,000 and over employees |
| Trex Company Inc & Subsid | Plastics and Rubber Products Manufacturing | 500 to 999 employees |
| County of Frederick | Executive, Legislative, and Other General Government Support | 500 to 999 employees |
| H.P. Hood, Inc. | Food Manufacturing | 500 to 999 employees |
| The Home Depot | Building Material and Garden Equipment and Supplies Dealers | 500 to 999 employees |
| Lord Fairfax Community College | Educational Services | 250 to 499 employees |
| Fisher Scientific Company | Chemical Manufacturing | 250 to 499 employees |
| Martin's Food Market | Food and Beverage Stores | 250 to 499 employees |

FUTURE BUSINESS GROWTH

In 20 years, the top employer listing may contain many of the same names, but likely they will be joined by some of the employers of tomorrow. Third party analyses have indicated a strong likelihood of success toward other business service operations, life science entities and defense/advance security-oriented businesses. The full list follows below.

CURRENT WORKFORCE DRAW

Frederick County’s labor supply is drawn from a 45-mile radius and includes the counties of Shenandoah, Page, Clarke, Warren, Loudoun in Virginia, and the counties of Berkeley, Hampshire, Hardy, Jefferson, and Morgan in West Virginia and Washington County, Maryland.

The largest major occupation group in the Workforce Draw Area is Office and Administrative Support Occupations, employing 34,103 workers. The next-largest occupation groups in the region are Sales and Related Occupations (29,792 workers) and Transportation and Material Moving Occupations (29,761).

APPENDIX II – BACKGROUND ANALYSIS AND SUPPORTING STUDIES

High location quotients (LQs) indicate occupation groups in which a region has high concentrations of employment compared to the national average. The major groups with the largest LQs in the region are Transportation and Material Moving Occupations (LQ = 1.24), Sales and Related Occupations (1.08), and Educational Instruction and Library Occupations (1.07).

Occupation groups in the Workforce Draw Area with the highest average wages per worker are Management Occupations (\$110,100), Legal Occupations (\$101,000), and Computer and Mathematical Occupations (\$90,300).

The unemployment rate in the region varied among the major groups from 1.8% among Healthcare Practitioners and Technical Occupations to 11.4% among Personal Care and Service Occupations.

Advanced Manufacturing

Niche Industry Targets

Plastic products | Engineered Wood Products | Fabricated Metal Products | Bioscience | Supportive Logistics Consulting & Trucking Operations

Headquarters & Back Office

Niche Industry Targets

Corporate Headquarters | Back Office | Service Centers

Professional & Creative Services

Niche Industry Targets

Information & Communication Technology | Data Centers | Cybersecurity | Engineering

Agribusiness & Food Processing

Niche Industry Targets

Specialty Food & Beverages | Packaged Foods | Perishable Foods | Beverages & Breweries

APPENDIX II – BACKGROUND ANALYSIS AND SUPPORTING STUDIES

Over the next 10 years, the fastest growing occupation group in the Workforce Draw Area is expected to be Healthcare Support Occupations with a +2.0% year-over-year rate of growth. The strongest forecast by number of jobs over this period is expected for Healthcare Support Occupations (+2,646 jobs) and Food Preparation and Serving Related Occupations (+2,377).

| Frederick County, VA's Workforce Draw Area 2020Q3 ¹ | | | | | | | | | |
|--|---------|--------------------------------|------|--------|-------------|-------------------|-------|------------------|--------------|
| Occupation | Current | | | | | 5-Year History | | 10-Year Forecast | |
| | Empl | Mean Annual Wages ² | LQ | Unempl | Unempl Rate | Employment Change | Ann % | Empl Growth | Ann % Growth |
| Office and Administrative Support | 34,103 | \$39,100 | 0.93 | 1,917 | 4.3% | -1,870 | -1.1% | -703 | -0.2% |
| Sales and Related | 29,792 | \$38,600 | 1.08 | 2,093 | 5.8% | -1,961 | -1.3% | -23 | 0.0% |
| Transportation and Material Moving | 29,761 | \$37,100 | 1.24 | 2,587 | 6.9% | 2,652 | 1.9% | 2,293 | 0.7% |
| Food Preparation and Serving Related | 22,479 | \$25,900 | 1.01 | 3,176 | 10.9% | -1,286 | -1.1% | 2,377 | 1.0% |
| Management | 17,557 | \$110,100 | 0.93 | 473 | 2.3% | 745 | 0.9% | 1,019 | 0.6% |
| Healthcare Practitioners and Technical | 17,447 | \$81,700 | 1.05 | 355 | 1.8% | 1,814 | 2.2% | 1,799 | 1.0% |
| Educational Instruction and Library | 17,282 | \$58,300 | 1.07 | 912 | 4.8% | -132 | -0.2% | 1,254 | 0.7% |
| Production | 17,280 | \$40,100 | 1.03 | 1,257 | 5.9% | 193 | 0.2% | -523 | -0.3% |
| Business and Financial Operations | 13,775 | \$75,200 | 0.86 | 479 | 2.6% | 1,140 | 1.7% | 1,263 | 0.9% |
| Construction and Extraction | 12,953 | \$45,800 | 0.97 | 1,676 | 7.6% | 277 | 0.4% | 1,018 | 0.8% |
| Healthcare Support | 11,818 | \$30,300 | 0.93 | 565 | 3.8% | 602 | 1.1% | 2,646 | 2.0% |
| Installation, Maintenance, and Repair | 11,476 | \$49,600 | 1.05 | 715 | 4.0% | 390 | 0.7% | 738 | 0.6% |
| Building and Grounds Cleaning and Maintenance | 9,560 | \$30,200 | 1.01 | 778 | 6.1% | -376 | -0.8% | 977 | 1.0% |
| Personal Care and Service | 8,071 | \$30,300 | 1.07 | 1,266 | 11.4% | -599 | -1.4% | 1,033 | 1.2% |
| Computer and Mathematical | 7,458 | \$90,300 | 0.85 | 288 | 2.3% | 658 | 1.9% | 1,129 | 1.4% |
| Protective Service | 6,425 | \$48,200 | 1.03 | 237 | 2.8% | -93 | -0.3% | 390 | 0.6% |

APPENDIX II – BACKGROUND ANALYSIS AND SUPPORTING STUDIES

| | | | | | | | | | |
|---|----------------|-----------------|-------------|---------------|-------------|--------------|-------------|---------------|-------------|
| Community and Social Service | 4,954 | \$51,000 | 0.99 | 101 | 2.0% | 145 | 0.6% | 864 | 1.6% |
| Arts, Design, Entertainment, Sports, and Media | 4,031 | \$53,700 | 0.79 | 381 | 7.0% | -258 | -1.2% | 161 | 0.4% |
| Architecture and Engineering | 3,880 | \$85,800 | 0.78 | 142 | 2.6% | 315 | 1.7% | 165 | 0.4% |
| Life, Physical, and Social Science | 2,040 | \$73,600 | 0.80 | 73 | 2.7% | 281 | 3.0% | 187 | 0.9% |
| Legal | 1,884 | \$101,000 | 0.78 | 46 | 2.0% | 84 | 0.9% | 157 | 0.8% |
| Farming, Fishing, and Forestry | 1,497 | \$32,900 | 0.79 | 121 | 7.6% | 31 | 0.4% | 42 | 0.3% |
| Total - All Occupations | 285,522 | \$50,700 | 1.00 | 19,638 | 5.3% | 2,753 | 0.2% | 18,263 | 0.6% |

Source: JobsEQ® - Data as of 2020Q3 unless noted otherwise - Note: Figures may not sum due to rounding.

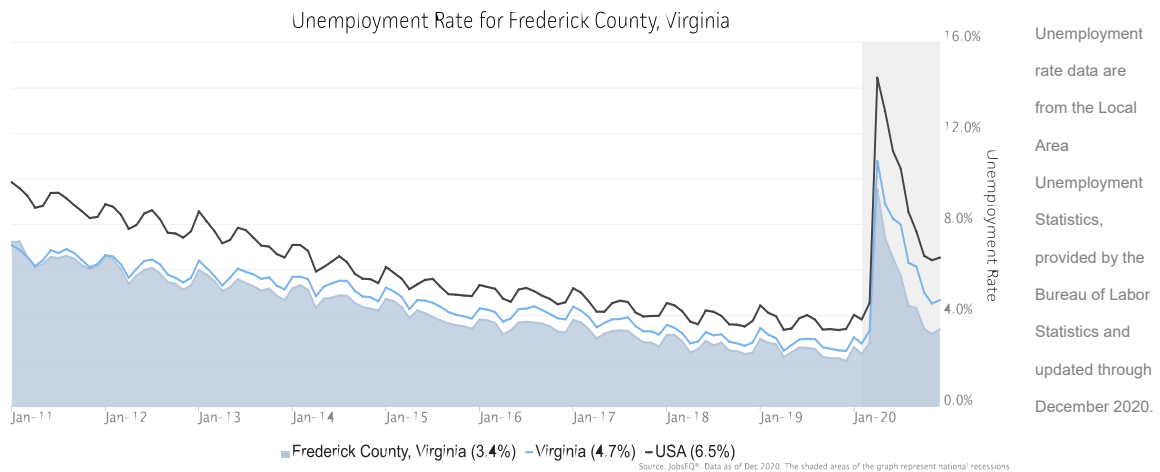
1. Data based on a four-quarter moving average unless noted otherwise.

2. Wage data are as of 2019 and represent the average for all Covered Employment

3. Data represent found online ads active within the last thirty days in the selected region; data represents a sampling rather than the complete universe of postings. Ads lacking zip code information but designating a place (city, town, etc.) may be assigned to the zip code with greatest employment in that place for queries in this analytic. Due to alternative county-assignment algorithms, ad counts in this analytic may not match that shown in RTI (nor in the popup window ad list).

Occupation employment data are estimated via industry employment data and the estimated industry/occupation mix. Industry employment data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and currently updated through 2020Q2, imputed where necessary with preliminary estimates updated to 2020Q3. Wages by occupation are as of 2019 provided by the BLS and imputed where necessary. Forecast employment growth uses national projections from the Bureau of Labor Statistics adapted for regional growth patterns.

The unemployment rate for Frederick County, Virginia was 3.4% as of December 2020. The regional unemployment rate was lower than the national rate of 6.5%. One year earlier, in December 2019, the unemployment rate in Frederick County, Virginia was 2.0%.



APPENDIX II – BACKGROUND ANALYSIS AND SUPPORTING STUDIES

As the table shows below, Frederick County possesses a diverse and ample labor force within its draw area.

| Summary ¹ | | | | | | |
|---|----------------------------|----------|-------|----------------------------|-----------|-------------|
| | Frederick County, Virginia | Virginia | USA | Frederick County, Virginia | Virginia | USA |
| | Percent | | | Value | | |
| Economic | | | | | | |
| Labor Force Participation Rate and Size (civilian population 16 years and over) | 64.6% | 65.2% | 63.2% | 44,524 | 4,356,868 | 163,555,585 |
| Prime-Age Labor Force Participation Rate and Size (civilian population 25-54) | 84.8% | 83.6% | 82.1% | 28,338 | 2,788,406 | 104,634,905 |
| Armed Forces Labor Force | 0.2% | 1.8% | 0.4% | 107 | 120,385 | 1,073,907 |
| Veterans, Age 18-64 | 6.3% | 8.1% | 4.6% | 3,254 | 420,632 | 9,143,042 |
| Veterans Labor Force Participation Rate and Size, Age 18-64 | 81.4% | 83.0% | 76.6% | 2,649 | 348,936 | 7,003,778 |
| Median Household Income ² | — | — | — | \$78,002 | \$74,222 | \$62,843 |
| Per Capita Income | — | — | — | \$35,123 | \$39,278 | \$34,103 |
| Educational Attainment, Age 25-64 | | | | | | |
| No High School Diploma | 9.3% | 8.7% | 10.9% | 4,196 | 392,543 | 18,550,150 |
| High School Graduate | 31.5% | 22.9% | 25.7% | 14,212 | 1,029,408 | 43,627,868 |
| Some College, No Degree | 20.4% | 19.4% | 20.7% | 9,209 | 874,977 | 35,174,790 |
| Associate's Degree | 10.0% | 8.3% | 9.1% | 4,539 | 374,819 | 15,526,064 |
| Bachelor's Degree | 16.8% | 23.6% | 21.2% | 7,590 | 1,062,466 | 35,997,848 |
| Postgraduate Degree | 12.0% | 17.1% | 12.3% | 5,424 | 770,727 | 20,961,560 |
| Social | | | | | | |
| Poverty Level (of all people) | 6.2% | 10.6% | 13.4% | 5,229 | 865,691 | 42,510,843 |
| Households Receiving Food Stamps/SNAP | 4.4% | 8.2% | 11.7% | 1,394 | 259,639 | 14,171,567 |
| Enrolled in Grade 12 (% of total population) | 1.4% | 1.4% | 1.4% | 1,206 | 114,768 | 4,422,344 |

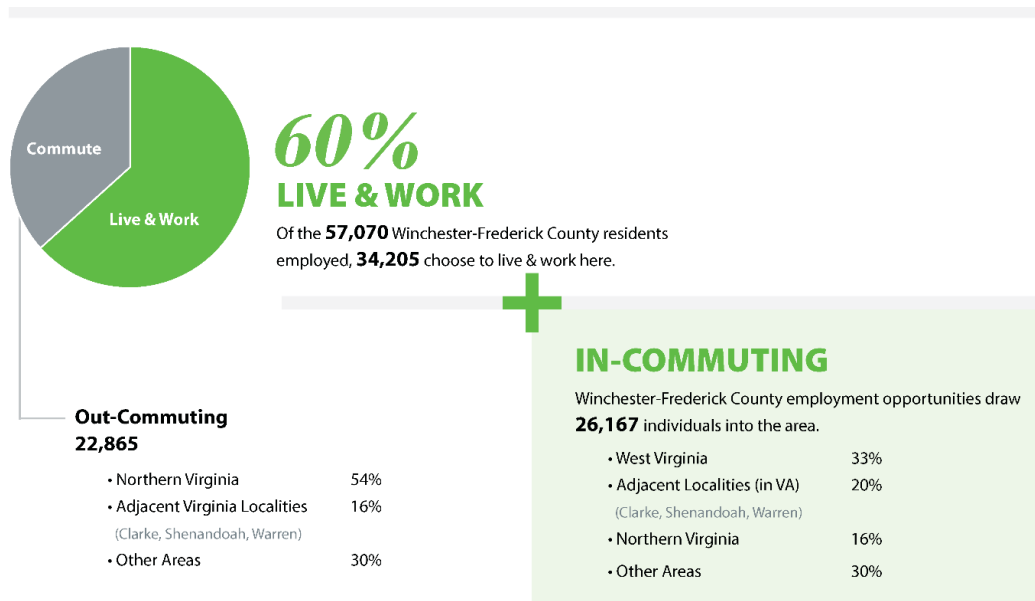
Source: [JobsEQ®](#)

COMMUTING PATTERNS

The Winchester-Frederick County community is the regional economic epicenter for the Northern Shenandoah Valley region. One reason for this statement is found in the area’s commuting patterns. More workers (3,302) commute into Winchester-Frederick County than commute out, positioning the community as an economic center of the Northern Shenandoah Valley. 60% of working individuals in Winchester-Frederick County live in Winchester-Frederick County (JobsEq 2020Q3).

The benefits of our community having a large “live where you work” population is enormous.

- Promotes linkage between employers and community.
- Reduces commuting costs, thus increasing a household’s disposable income.
- Reduces employee turnover, training, and recruitment costs.
- Makes our community a more attractive place for businesses to locate and expand.



TAXABLE SALES

The retail sector is important, though, as retail activity reflects the general health of a local economy. Retail sales also produce sales tax dollars, which support municipal service provision. In Frederick County the overall value of taxable sales grew from \$860 million to nearly \$1.4 billion in unadjusted dollars, currently.

The growth of Frederick County’s economy once again became apparent when examining the top taxable sales categories over the past 20 years. In 2010, general merchandise stores topped all taxable sales with a total of nearly \$209 million. Fast forward to 2020, general merchandise stores still topped all taxable sales, but the total exceeded \$340 million, a 64% increase.

| Sector | 2010 | Sector | 2020 |
|-------------------------------------|---------------|---|---------------|
| General Merchandise Stores | \$209,662,481 | General Merchandise Stores | \$344,240,938 |
| Food and Beverage Stores | \$154,331,080 | Food and Beverage | \$188,189,903 |
| Food Services and Drinking Places | \$68,315,444 | Merchant Wholesalers, Durable Goods | \$100,440,867 |
| Merchant Wholesalers, Durable Goods | \$64,263,033 | Building Material and Garden Equipment and Supplies Dealers | \$100,894,684 |
| Gasoline Stations | \$47,565,980 | Food Services and Drinking Places | \$92,926,581 |

LAND USE ANALYSIS

ACHIEVING FISCAL BALANCE THROUGH LAND USE PLANNING: THE 25% COMMERCIAL/INDUSTRIAL – 75% OTHER REAL ESTATE TAX ASSESSMENT RATIO

Local governments rely on the revenue collected from real estate taxes to fund their general operation. Therefore, the revenue-generating potential for properties receives strong consideration during land use and development decisions. In many circumstances, a site's ability to generate revenue, and an applicant's capability to adequately mitigate negative fiscal impacts, are driving factors behind the development approval process.

Prompted in part by fiscal concerns, local governments plan for and ultimately zone large tracts of land for commercial and industrial use, to ensure there is adequate land available for current and future demand. This practice of using land use policies, such as a Comprehensive Plan, and the zoning ordinance to achieve fiscal objectives rather than purely land-use objectives is commonly referred to as 'fiscal zoning'. Under the fiscal zoning approach, local governments discourage proposed developments that have the potential to create a net financial burden on the county and will instead encourage development that promises a net financial gain. Fiscal considerations are a significant element of land use planning.

The County has successfully utilized the Comprehensive Plan to designate areas of the County for future commercial and industrial (C/I) land use opportunities since the early 1970s. Over the years this practice has helped reserve appropriate areas of land for vital tax generating uses. Through the policies of the Comprehensive Plan, areas designated for C/I land uses can be implemented through the rezoning process, which then allows the property owner to develop the site. Once the C/I use has been constructed, the County is then able to bring in additional tax revenues from the site. Through the support and encouragement of C/I uses, the County over the past decade has successfully maintained a relatively low real estate tax rate while continuing to provide a high quality of public services to its citizens.

The Frederick County Comprehensive Plan strives to incorporate a more comprehensive analysis of the C/I land uses and their contribution towards the county's fiscal health into its overall community planning effort. The importance of the C/I land use has elevated in recent years as the County strives to overcome the challenging economic times. In an effort to plan for the county's prosperous future, the Comprehensive Plan has planned for sufficient acreage for C/I land use opportunities necessary to generate tax revenue to offset the county's costs for providing public services to residential land uses, which although necessary to accommodate population growth, on average does not pay for itself.

It is the County's goal to create a plan that balances land uses and their associated tax contributions to ensure that they offset the cost of provided public services. This goal should be achieved by utilizing the land use plan to assist the County in achieving a real estate tax assessment ratio of 25 percent C/I to 75 percent other land uses such as

APPENDIX II – BACKGROUND ANALYSIS AND SUPPORTING STUDIES

residential. Ultimately, the land use plan should be designed to plan for adequate revenue opportunities to ensure that the County can provide its citizens with desired public services while maintaining the ability to keep a low tax rate.

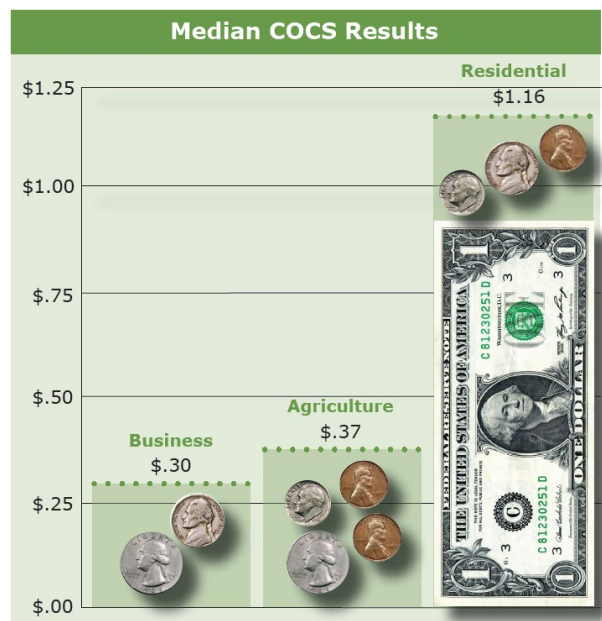
ANALYSIS

Evaluation of Costs of Community Services (COCS) by land use

A Cost of Community Services (COCS) study is one of the simplest forms of fiscal analysis available to local government. The COCS methodology was pioneered by the American Farmland Trust in the mid-1980s. It is based loosely on fiscal impact methodology, which attempts to gauge the net fiscal impact of different types of new development on a community. COCS studies require systematically assigning revenue and expenditures to particular land uses. It then computes the ratio of total expenditures required by land use to total revenues generated by land use.

When examining the COCS results, if the ratio is less than one then the land use generates more revenue than it requires in expenditures and provides a local fiscal surplus. If the ratio is greater than one, then the land use requires more in the value of services than the revenue it generates creating a fiscal deficit. COCS studies usually find that commercial/industrial and agriculture/open spaces ratios are much less than one and residential ratios are higher than one. The American Farmland Trust conducted a COCS study for Frederick County in 2003.

The American Farmland Trust (2010) computed median ratios of 1.16, 0.35, and 0.29 respectively for 152 community studies. An examination of six studies conducted in the last 20 years within Virginia indicates an average of 1.18, 0.40, and .35, respectively.



Median cost to provide public services for each dollar of revenue raised.

Summary of Virginia COCS Studies

| Local Government | Year | Ratios | | | Source |
|--------------------|------|-------------|------------|----------------|--------------------------------|
| | | Residential | Comm./Ind. | Ag./Open Space | |
| Augusta County | 1997 | 1:1.22 | 1:0.20 | 1:0.80 | Valley Conservation Council |
| Bedford County | 2005 | 1:1.07 | 1:0.40 | 1:0.25 | American Farmland Trust |
| Clarke County | 1994 | 1:1.26 | 1:0.21 | 1:0.15 | Piedmont Environmental Council |
| Culpeper County | 2003 | 1:1.22 | 1:0.41 | 1:0.32 | American Farmland Trust |
| Frederick County | 2003 | 1:1.19 | 1:0.23 | 1:0.33 | American Farmland Trust |
| Northampton County | 1999 | 1:1.13 | 1:0.97 | 1:0.23 | American Farmland Trust |

Source: American Farmland Trust

*Source: American Farmland Trust, 2016 Cost of Community Services Studies

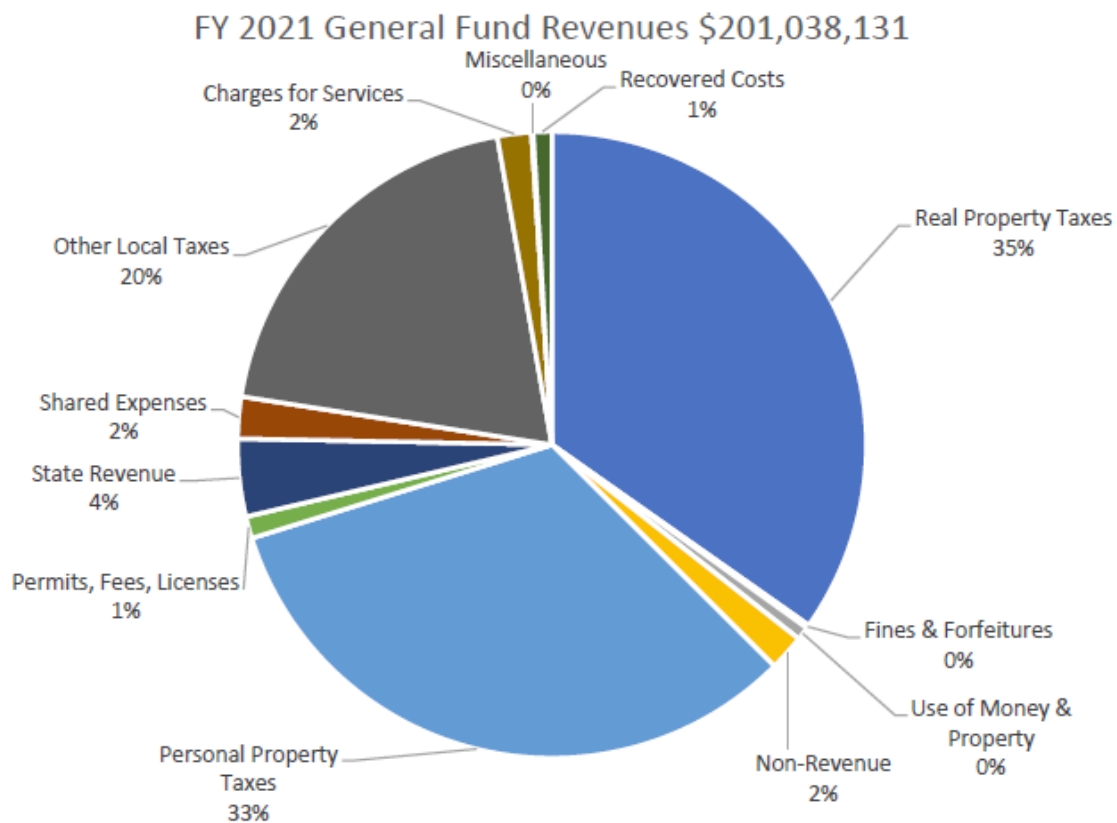
APPENDIX II – BACKGROUND ANALYSIS AND SUPPORTING STUDIES

Capital Impacts Model

To project the capital impacts that would be associated with residential developments, Frederick County utilizes a Capital Impacts Model. This model is designed to evaluate the anticipated need for capital facilities based on growth and to determine the cost of those capital facilities to the County. The model also determines the cost to the County for mitigating the infrastructure impacts associated with rezoning's and identifies if a reasonable cash proffer can be collected for a development due to the presence of "excess capacity" or not. The Capital Impacts Model is updated annually.

Evaluation of County Tax Revenue and Expenditures

Utilizing figures for the County's FY 2020-2021 Budget – Total County Revenues, one gains a better understanding from where funds are derived, and where those funds are then spent. Real Estate taxes represent approximately 35 percent of the County's general fund revenue, this is consistent with the past few years. This real estate tax revenue is derived from various land uses: residential, commercial, industrial, and agricultural.

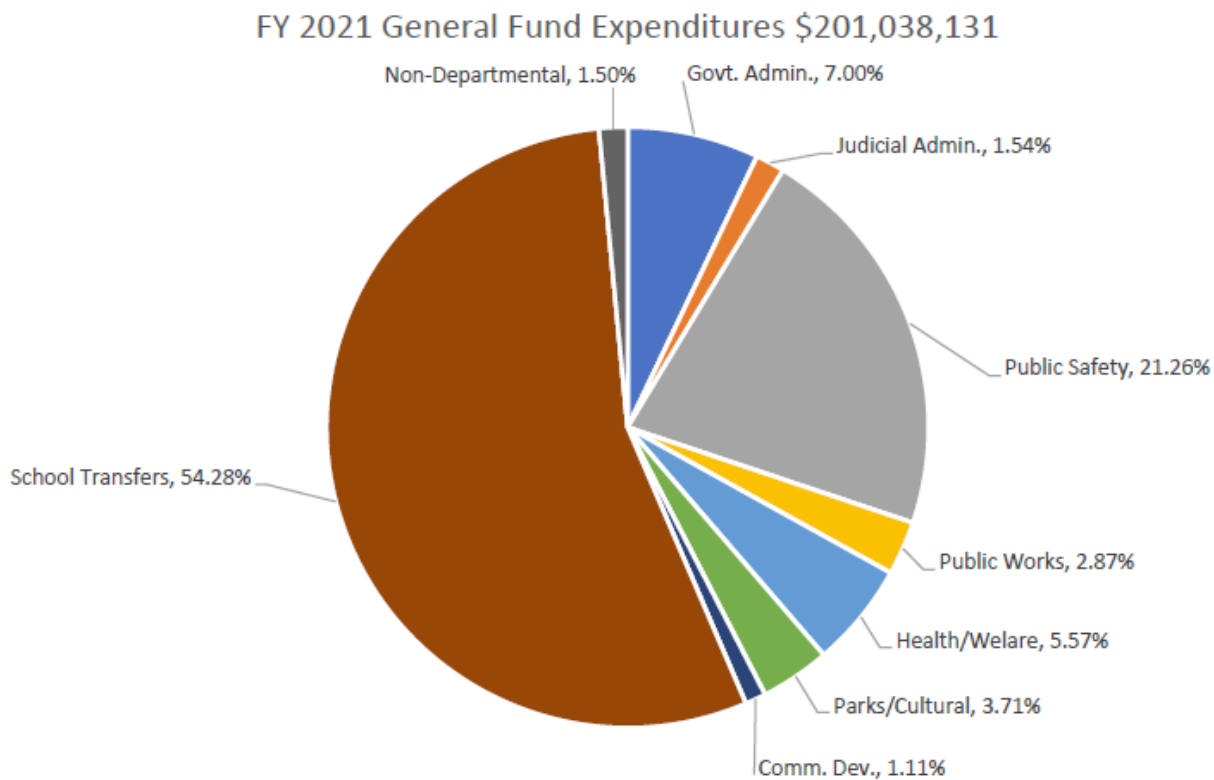


APPENDIX II – BACKGROUND ANALYSIS AND SUPPORTING STUDIES

In 2020 C/I land uses brought in almost \$14 million in real estate taxes, or 20 percent of the total real estate tax revenue. It should be noted that C/I use only occupy 4 percent of the County’s total land area and contribute \$1,330 per acre in real estate taxes.

In addition to real estate taxes, C/I land uses are also significant contributors to personal property, local sales, meals and lodging, business license, and other local taxes. C/I land uses are vital contributors to the local tax revenue and ultimately contribute almost half of the County’s total tax revenue.

At the other end of the spectrum, in 2020 residential land uses brought in \$49 million in real estate taxes, or 72 percent of the total real estate tax revenue. Residential land uses make up 26 percent of the County’s total land area and contributes an average of \$707 per acre in real estate taxes.



This review of the County’s tax revenues and expenditures clearly illustrates that while residential land use contribute the majority of the real estate taxes collected by the County, the costs for covering services provided to those residents far exceeds their contributions.

Through solid land use and financial planning, the County has maintained a stable, relatively low real estate tax rate for the past decade while continuing to provide top notch services to its residents. Utilizing the benefits of C/I, an increase in C/I land uses would offer the County an even greater ability to provide services or cover the increasing costs of services.

Target: Plan for C/I to Represent 25 Percent of Real Estate Assessments

Based on the 2020 tax revenues, 20 percent of the total real estate property assessments came from C/I uses and accounted for almost half of the total County revenue, while accounting for less than 4 percent of the total land area in the County. While land values will certainly fluctuate with the ebb and flow of the economy, C/I values will continue to be significant contributors to the county's tax base and more importantly, C/I tax contributions will offset the residential land use cost for services.

The Comprehensive Plan strives to achieve a balance of land uses to achieve the target policy of ensuring that 25 percent of the projected assessments will be from C/I land uses. The Plan also incorporates opportunities for mixed use developments and single-family residential uses. The policy of directing residential growth into the UDA also promotes a more efficient use of land and community services, ultimately offering additional cost savings to the county. Opportunities for mixed use developments offer additional revenues to address the demands for services generated by the residential uses. These projects include an appropriate mix of commercial, office, and residential development. They provide an efficient development pattern that can foster economic development, provide diversity in land use, and reduce the number and the length of automobile trips. These mixed uses projects are encouraged in appropriate locations in the Comprehensive Plan.

CONCLUSION

The land use designations and policies contained within the Comprehensive Plan accommodate the goal of providing 25 percent C/I land uses to 75 percent Other land uses. Maintaining a healthy C/I ratio will help the County maintain its current tax rates while continuing to enhance the services provided the residents.

To reinforce a sound policy basis that balances land use planning and fiscal policies, the ratio of 25/75 between C/I and other land uses in terms of available land areas and taxable value of the land uses shall be the established benchmark. This policy shall dictate that at least 25 percent of the taxable land value (land plus improvement value) in the County should contain C/I land uses, and conversely that no more than 75 percent of the taxable land area should be for uses other than C/I land. By achieving this policy goal, the County will ensure that taxable land values equate to the projected expenditures.