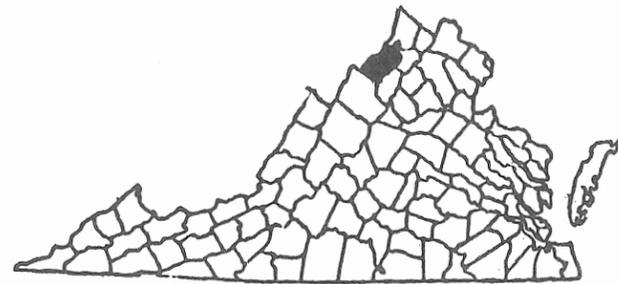


GENERAL DESCRIPTION



INDEX TO COUNTY LOCATION

The Indian name Shenandoah is said to mean "Beautiful Daughter of the Stars." Shenandoah County, formed in 1772 as Dunmore County but re-named in 1778, was settled about 1730 by Scotch-Irish and Germans, many of whom moved down the valley from Pennsylvania. Woodstock, the county seat, was established in 1752. At New Market the Henkel Press, one of America's oldest publishing houses, has been in business since 1806. The county was the scene of much action in the War Between the States, and at New Market on May 15, 1864, the Virginia Military Institute cadets made their famous charge. A Confederate

hospital was at Mount Jackson. In 1960 Shenandoah had a population of 21,825 and Woodstock 2,083.

The county (land area 507 sq. mi. or 324,480 acres) is bounded by the Massanutten Mountains on the east and the North Mountains of the Alleghenies on the west, with the North Fork of the Shenandoah River winding a twisting course in the beautiful valley between. Elevations vary from about 1,200 feet in the valley to 3,500 feet in the western ridges. The average temperature is 36° in January, 76° in July. Annual precipitation averages 36 inches.

A little more than half the total county area is forested, chiefly on the mountains. The George Washington National Forest embraces large portions of both the Massanutten and the North Mountains. Minerals present are manganese, limestone, sandstone, iron, lead, zinc, shale and clay. Several dolomite limestone quarries are producing crushed limestone and various types of chemical lime. Iron smelting furnaces, long inactive, operated on local ores for over a hundred years. There are many mineral springs, and near Strasburg and New Market are several caverns famous for their limestone formation.

The limestone soils of the well cleared valley are excellent for agriculture, and the great volume of grains which was produced here caused this region to be called the "Granary of the Confederacy." Today, however, Shenandoah County is more famous for its poultry--especially turkeys--and it ranks 8th highest among the nation's counties in the number of turkeys raised. Livestock raising has increased greatly and dairy herds have been enlarged to supply the demands of the Washington markets. Fruits continue to contribute much to the farm income. Among the counties of Virginia, Shenandoah ranks near the top in production of turkeys, chicken broilers, eggs, calves, hogs, apples, peaches, and cherries.

Although Shenandoah is an agricultural county more people are employed in manufacturing than in farming. Many find work in construction, in services of every type, and in shops and stores of the excellent marketing areas of the several towns. Much of the local manufacturing is geared to the farm economy. Locally grown fowl are processed in a large poultry dressing plant in the county. Other agriculturally related products include vinegar and other apple products, flour and meal, poultry and livestock feeds, dairy products, fertilizers, agricultural lime, and equipment for fruit and poultry grading and processing. Many are employed in the manufacture of apparel such as infants' wear, blouses, knitted wear, trousers and lingerie. Other manufactures include rayon fabrics, concrete products, fiberglass boats, and printing and publishing.

Within the county are two private schools, Massanutten Military Academy at Woodstock and Shenandoah Valley Academy at New Market, and several popular summer camps are operated in the remote regions. Located in Woodstock is the well-equipped Shenandoah County Memorial Hospital and the Susan B. Miller Nursing Home for the care of the aged and of chronic cases. At Strasburg, there is a public library. Newspapers are published in three of the towns. Shrine Mont at Orkley Springs is the summer conference grounds of the Episcopal Diocese of Virginia.

SHENANDOAH COUNTY

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POPULATION

	<u>1940</u>	<u>1950</u>	<u>1960</u>	<u>1963</u>	
Shenandoah County.....	20,898	21,169	21,825	22,301	
Town of: Edinburg.....	565	533	517	n.a.	
Mount Jackson.....	562	732	722	n.a.	
New Market.....	629	701	783	n.a.	
Strasburg.....	1,968	2,022	2,428	n.a.	
Toms Brook.....	219	256	244	n.a.	
Woodstock.....	1,546	1,816	2,083	n.a.	
		<u>Shenandoah County</u>			
		<u>1950</u>	<u>1960</u>		
		<u>Virginia</u>			
		<u>1950</u>	<u>1960</u>	<u>1960</u>	
Median age.....		29.7	31.9	27.3	27.1
Per cent under 18.....		33.8	34.0	33.6	36.9
Per cent 18 to 65.....		56.2	54.1	59.9	55.8
Per cent 65 and over.....		10.0	11.8	6.5	7.3
Per cent rural farm.....		36.3	24.9	22.1	10.0
Per cent in civilian labor force.....		36.4	40.0	36.1	35.4
Median school years completed-persons 25 and over.....		7.7	8.2	8.5	9.9

n.a. - not available.

Sources: U. S. Census of Population, 1940, 1950, and 1960, and the 1963 estimate from the Bureau of Population and Economic Research, University of Virginia.

INCOMEPERSONAL INCOME

	<u>Shenandoah County</u>	<u>Virginia</u>
Per capita income, 1950.....	\$ 959	\$1,222
Per capita income, 1960.....	1,460	1,853
Per capita income, 1963.....	1,625	2,057
Families:		
Median income, 1959.....	\$3,812	\$4,964
Per cent with incomes less than \$3,000.....	36.9	27.9

Sources: The 1950 and 1960 per capita figures from Bureau of Population and Economic Research, University of Virginia. The 1963 estimate for Virginia from U.S. Department of Commerce. The 1963 estimate for Shenandoah County is based on the assumption that it is the same ratio of the State average as in 1960. The 1959 median figures from 1960 U. S. Census of Population, based on 25 per cent sample.

LABOR RESOURCES

WORK FORCE COMPONENTS FOR SHENANDOAH COUNTY
(By Place of Work^{1/})

	March 1950	March 1960	March 1963	Per Cent Change	
				March 1950 to March 1960	March 1960 to March 1963
Total work force.....	6,670	7,680	8,430	+15.1	+9.8
Total employment.....	6,320	7,160	8,050	+13.3	+12.4
Total nonagricultural wage and salary employment.....	3,820	5,640	6,780	+47.6	+20.2
Manufacturing.....	770	1,850	2,450	+140.3	+32.4
Food and kindred products.....	160	340	370	+112.5	+8.8
Textile.....	*	*	140	-	-
Apparel.....	170	980	1,460	+476.5	+49.0
Lumber and furniture.....	*	*	*	-	-
Paper and printing.....	60	60	60	0.0	0.0
Chemicals.....	*	*	0	-	-
Stone, clay, and glass.....	80	170	110	+112.5	-35.3
Primary and fabricated metal products.....	*	*	0	-	-
Machinery.....	*	*	*	-	-
Transportation equipment.....	0	*	*	-	-
Miscellaneous.....	*	0	0	-	-
"All other" manufacturing ^{2/}	300	300	310	0.0	+3.3
Nonmanufacturing.....	2,150	2,670	2,990	+24.2	+12.0
Mining.....	*	*	*	-	-
Construction.....	170	180	200	+5.9	+11.1
Public utilities.....	200	410	440	+105.0	+7.3
Trade.....	750	830	930	+10.7	+12.0
Finance, insurance, and real estate.....	70	120	140	+71.4	+16.7
Service.....	400	540	610	+35.0	+13.0
Government.....	500	550	620	+10.0	+12.7
Unclassified and other.....	*	*	*	-	-
"All other" nonmanufacturing ^{3/}	60	40	50	-33.3	+25.0
All other nonagricultural ^{4/}	900	1,120	1,340	+24.4	+19.6
Agricultural.....	2,500	1,520	1,270	-39.2	-16.4
Total unemployment.....	350	520	380	+48.6	-26.9
Per cent of work force.....	5.2	6.9	4.5	-	-

*. Figures withheld to avoid disclosure of individual operations.

^{1/} The employment data given in this table are based on where the people work regardless of where they live. Since this area is not a true labor market area (an area in which people both live and work) the information given will not agree with employment data based on place of residence.

^{2/} Includes employment in manufacturing industries noted by asterisk.

^{3/} Includes employment in nonmanufacturing industries noted by asterisk.

^{4/} Includes self-employed, unpaid family and domestic workers.

Source: Virginia Employment Commission.

Wages

AVERAGE ANNUAL WAGES^{1/}
(With Subtotals for Construction, Manufacturing, Trade, and Services)

Area	Number of Establishments	Average Annual Employment	Average Annual Wages Per Worker
Shenandoah County	177	4,307	\$3,358
Construction	19	212	3,587
Manufacturing	34	2,528	3,125
Trade	75	762	2,765
Services	21	231	2,347
State Total	32,402*	776,426	\$4,416
Construction	4,851	75,419	4,893
Manufacturing	3,560	294,890	4,681
Trade	13,775	210,695	3,820
Services	5,043	74,980	3,606

^{1/} Coverage includes nonagricultural employers having four or more workers for 20 weeks within a calendar year, excluding government, railroad, self employed, domestic service, unpaid family workers, and some nonprofit organizations.

The employment and wage data given in this table are for the 12-month period ending December 30, 1963, and cover some 64 per cent of all wage and salary workers in the area.

*. The number of establishments exceeds the State-wide total of liable employers because many concerns operate establishments in more than one area. The figure, "number of establishments," includes only one for each county or city, even though the employer may have several sites of operation in that county or city; i.e., chain stores, etc.

Source: Virginia Employment Commission.

MAJOR INDUSTRIES

MAJOR MANUFACTURING ESTABLISHMENTS IN SHENANDOAH COUNTY

Name	Location	Product	Employment Range 1/ June 1964
Strasburg Textile Mills	Strasburg	Broad woven fabrics	50-99
Remy Corporation*	Woodstock	Underwear	50-99
Chemstone Corporation	Strasburg	Lime	50-99
Food Machinery Corporation	Woodstock	Machinery	50-99
Textron, Inc.	New Market	Processed poultry	100-249
Blue Ridge Poultry and Egg Co.*	Edinburg	Processed poultry and eggs	100-249
Shenandoah Manufacturing Co.*	Edinburg	Knitwear	100-249
Edinburg Manufacturing Company*	Edinburg	Children's knitwear	100-249
Molded Fiber Glass*	Strasburg	Boats	100-249
Aileen, Inc.*	Woodstock	Knitwear	100-249
Blue Bell, Inc.*	Woodstock	Work clothing	250-499
Strasburg Manufacturing Company*	Strasburg	Knitwear	250-499
New Market Manufacturing Company*	New Market	Knitwear	100-249
Valley Milk Products	Strasburg	Dairy products	20-49
McKinney, Inc.	n.a.	Wood products	20-49
Bowman Apple Products	Mount Jackson	Apple products	Seasonal
Frye Furniture	Strasburg	Furniture	20-49
Shenandoah Publishing Company	Strasburg	Newspaper	20-49
Valley Fertilizer	Mount Jackson	Fertilizer	20-49

n.a. - not available.

1/ Employment is given as a range in order not to reveal actual figures.
* Began operating since 1950.

Sources: Virginia Employment Commission, Virginia State Chamber of Commerce, and records of the Division of Industrial Development and Planning.

Retail Sales

RETAIL SALES BY CATEGORY IN SHENANDOAH COUNTY
(In Thousands of Dollars)

	1954	1958	1963
Food.....	\$ 2,867	\$ 4,786	\$ 5,667
General merchandise.....	1,577	1,659	4,666
Apparel.....	163	176	204
Furniture, furnishings, and equipment..	586	521	611
Automotive.....	2,963	3,986	5,534
Gasoline stations.....	1,829	2,184	2,691
Lumber, building materials, and hard- ware.....	1,754	2,136	2,497
Drugs.....	597	589	702
All other.....	5,449	4,977	3,751
Total.....	\$17,785	\$21,014	\$26,323

Sources: Census of Business, 1954 and 1958. Estimates for 1963, copyright SALES MANAGEMENT, Survey of Buying Power; further reproduction is forbidden.

Agriculture

Number of farms, 1959.....	1,618	Cropland, 1959.....	63,428 acres
Land in farms, 1959.....	185,996 acres	Woodland on farms.....	55,061 acres
Per cent of area in farms....	57.3	Pasture land.....	61,572 acres
Average size of farms, 1959..	115.0 acres	Other land on farms...	5,935 acres

Value of all farm products sold, 1959 - \$9,008,150 (11th highest county in State)
Value of all farm products sold, 1954 - 8,687,326 (10th highest county in State)

Principal sources of farm income in 1959 were:

- \$4,542,606 from poultry and poultry products - 2nd highest county in State (chiefly turkeys - 2nd highest, eggs - 3rd highest, broilers - 4th highest)
- 2,310,137 from livestock (chiefly cattle, calves - 10th highest, and hogs - 8th highest)
- 868,460 from dairy products (chiefly whole milk)
- 789,905 from fruits - 5th highest (chiefly apples - 5th highest, peaches - 8th highest, and cherries - 3rd highest)

Source: U. S. Census of Agriculture, 1954 and 1959.

GOVERNMENT

Type

Shenandoah County is divided politically into six magisterial districts and from each of these a representative is elected to serve on the board of supervisors which is the governing body of the county. The county seat is located in Woodstock. Six communities of the county are incorporated towns--Edinburg, Mount Jackson, New Market, Strasburg, Toms Brook, and Woodstock--and each of these elects a town council and mayor to manage town affairs. In addition, New Market and Woodstock employ town managers.

Planning Activities

The town of Woodstock has a planning commission and has enacted zoning ordinances and subdivision regulations. A comprehensive plan has been in use for several years. Shenandoah County has enacted subdivision regulations, and the towns of New Market and Strasburg have planning commissions.

Public Safety

Police Protection - The county sheriff with several deputies and the police force of each of the towns of the county provide police protection to the area. Six troopers of the Virginia State Police are assigned to Shenandoah County and give assistance to the local police agencies in the investigation of all criminal activities. The Sheriff's Department has teletype and two-way radio equipment, and all officers in the towns and county have patrol cars which are radio equipped.

Fire Protection - Shenandoah County residents are afforded excellent fire protection by seven volunteer companies located in the towns of Edinburg, Mount Jackson, New Market, Strasburg, Toms Brook, and Woodstock, and in the community of Orkney Springs. All of these companies have one or more pumper trucks, two have water trucks, and two have trucks for carrying personnel. Mount Jackson has a portable electric generator for lights. With the exception of Orkney Springs, each of the pumper trucks is equipped with two-way radios. Members have received training in fire-fighting, first aid and rescue work, and the Woodstock Company has an ambulance.

Rescue Squads - Rescue squads have been organized at Edinburg, Mount Jackson, and Strasburg, and private ambulances are available in all six of the incorporated towns.

LOCAL TAXES

Real Estate

	Average Nominal Tax Rate Per \$100	Average Assess- ment Ratio ^{a/}	Average Effective True Tax Rate Per \$100
Shenandoah County	\$2.40	14.8%	\$.36
Edinburg ^{b/}	1.10	14.8%	.16
Mount Jackson ^{b/}	1.50	14.8%	.22
New Market ^{b/}	1.50	14.8%	.22
Strasburg ^{b/}	.80	14.8%	.12
Toms Brook ^{b/}	.50	14.8%	.07
Woodstock ^{b/}	1.00	14.8%	.15

^{a/} Average ratio of assessed valuation to selling price as compiled in a 1962 study by the Virginia Department of Taxation.

^{b/} Levies shown are for town purposes only and are in addition to the basic county levy.

Machinery and Tools

	Average Nominal Tax Rate Per \$100
Shenandoah County	\$1.55
Edinburg	^{a/}
Mount Jackson	^{a/}
New Market	^{a/}
Strasburg ^{b/}	.80
Toms Brook	^{a/}
Woodstock ^{b/}	1.00

^{a/} Edinburg, Mount Jackson, New Market, and Toms Brook do not levy a tax on machinery and tools. Manufacturers in these towns would be subject to the county levy only.

^{b/} Levies shown are for town purposes only and are in addition to the basic county levy.

NOTE: The true tax rates are considerably below the nominal rates shown as the county and towns base their assessment of machinery and tools on a percentage of the original cost value. The percentages used to determine the assessed value are as follows:

1 year old	75%
2 years old	50%
3 years old	40%
4 years old	30%
5 years old	20%
6 years or older	10%

Tangible Personal Property^{a/}

	Average Nominal Tax Rate Per \$100
Shenandoah County	\$2.60
Edinburg ^{b/}	1.10
Mount Jackson ^{b/}	1.50
New Market ^{b/}	2.00
Strasburg ^{b/}	.80
Toms Brook ^{b/}	.50
Woodstock ^{b/}	2.00

^{a/} Individual's property consisting of household furniture and appliances, motor vehicles, musical instruments, jewelry, works of art, and farm machinery and livestock. (Tangible personal property of manufacturers, such as office furniture and fixtures and trucks and company cars, is not taxed at the local level. It is taxed by the State at 65¢ per \$100 of the book value.)

^{b/} Levies shown are for town purposes only and are in addition to the basic county levy.

NOTE: The method and percentage used to determine the assessed value depend upon the type of tangible personal property. However, the true tax rates are considerably below the nominal rates shown.

Merchants' Capital and License Taxes

Shenandoah County has a merchants' capital tax of 60¢ per \$100 of assessed valuation. In addition to the basic county levy, Mount Jackson imposes a tax of 20¢ per \$100 of assessed valuation. The other towns do not impose this tax. Merchants' capital is defined as inventory of stock on hand, the excess of bills and accounts receivable over bills and accounts payable, and all other taxable personal property, except money on hand and on deposit, and tangible personal property not offered for sale as merchandise. (This tax applies mainly to retailers and wholesalers. A manufacturer is taxed on these items at the State rate of 65¢ per \$100 of book value.)

The county does not have the authority to levy merchants' license taxes. The towns of Edinburg, New Market, Strasburg, Toms Brook, and Woodstock impose license taxes, however. Information on license taxes for different types of businesses may be obtained from town authorities.

TRANSPORTATIONHighway

U. S. Route 11, an arterial road running the entire length of the Shenandoah Valley and connecting Virginia with points north and south, runs through the county's central valley passing through each of the incorporated towns. Interstate Highway 81 will roughly parallel this highway and intersect planned Interstate 66 from Washington, D. C. just north of Strasburg. State Route 55 passes east-west through this town, and U. S. 211 cuts across the southern tip of the county connecting with U. S. 11 at New Market. Other State primary and secondary roads connect all parts of the county with these principal routes.

Trucking - Fast interstate motor freight to all parts of the nation is provided by 19 trucking companies authorized to operate in the area. Most of the national trucking companies have routes through the county on U. S. 11 and four have offices and facilities either in Shenandoah or adjacent counties. One of these motor lines also operates regular intrastate service. Several locally owned truck companies also operate in the county.

Bus - Passenger bus service is supplied by Greyhound Bus Lines on the run between Washington, D.C., and Roanoke, Virginia, and Knoxville, Tennessee. Five daily schedules are provided in each direction. Two locally owned charter bus companies operate on an interstate basis.

Railway

A branch of the Southern Railway from Harrisonburg in adjacent Rockingham County to Washington, D.C. closely parallels U. S. Route 11 through the county. This line passes through or near each of Shenandoah County's towns and has a junction with the Baltimore and Ohio Railroad near Strasburg. Daily freight service is available from all points on these lines.

Licensed Public Airports

The nearest airport offering commercial airline service is Shenandoah Valley Airport (near Weyers Cave in Augusta County) where Piedmont Airlines offers several

flights daily to Washington, D.C., Lynchburg, and Roanoke and connections to all parts of the nation and the world. This field has one 5,000 foot hard surfaced runway which is lighted at night. It is attended during the daylight hours and offers fuel, repairs, charter service, and surface transportation. Food and lodging are also available. Residents of the county are within an hour and a half's drive of the new Dulles International Airport in eastern Loudoun County which is served by several national and international airlines. This major airfield provides modern facilities and multiple services and brings jet-age travel within easy reach of Shenandoah County.

Smaller airports suitable for business and pleasure flying are Stokes Field with a 3,100 foot runway located near Front Royal, a few miles east of Strasburg, and Winchester Municipal Airport, in Frederick County to the north, with a 3,600 foot hard surfaced runway which is lighted upon request. Both of these fields are attended during daylight hours, and offer fuel, repairs, charter service, telephone, and surface transportation. Food and lodging are available nearby.

WATER AND SEWERAGEWaterworks Systems

The town of Edinburg owns its water system supplied by two mountain streams and a well as an auxiliary source. The water is chlorinated and the safe dry weather yield from all sources is 100,000 gallons per day. The total finished water storage in the distribution system is 500,000 gallons. Average daily use is 85,000 gallons and water hardness is about 1.5 grains per gallon.

The municipally owned system at Mount Jackson obtains water from a mountain stream and one well. The safe dry weather yield of the well is about 40 gallons per minute and that of the mountain supply 75,000 gallons per day. The well pumps direct to the distribution system which has a total finished water storage of .2 million gallons. Average finished water hardness of the mountain supply is 1.5 grains per gallon and of the well 5.5 grains per gallon. About 120,000 gallons are used per day. The town has recently developed a second well that has been test pumped in excess of 100 gallons per minute, but this well is not connected to the system at present.

At New Market the system, also municipally owned, gets its water from three sources. One is a small mountain stream having a drainage area of one-half square mile. This water is chlorinated. Smiths Creek is another source and its water is filtered and chlorinated in a plant having a designed capacity of 110 gallons per minute. The third source is a well with a safe yield in excess of 250 gallons per minute. This well water is chlorinated. The total finished water storage in the distribution system is 6.5 million gallons. Hardness of the mountain supply is about 1.5 grains per gallon, of Smith Creek and the filter plant 4.5 grains per gallon, and of the well approximately 6.5 grains per gallon. Average use is 350,000 gallons per day. Plant additions which will increase the present water plant capacity to 300 gallons per minute are nearing completion.

The town of Strasburg owns its water system, the main source of which is a mountain stream with an impounding reservoir and a series of springs. A total raw water storage of 43.5 million gallons is available. The water flows by gravity to the distribution system and is chlorinated. A supplementary supply obtained from

North Fork Shenandoah River is filtered and chlorinated in a plant having a capacity of 440 gallons per minute. The total finished water storage in the distribution system is 228,000 gallons. The average finished water hardness is 2 grains per gallon and average daily use is 350,000 gallons.

The municipally owned system at Woodstock is supplied by a mountain stream known as Stony Creek. There is a drainage area of approximately 12 square miles above the impounding reservoir which has a capacity of 36 million gallons. The water flows by gravity to the distribution system and is chlorinated. Average daily use is 425,000 gallons and hardness is about 1.5 grains per gallon.

In addition to the above, there are in the county seven small supplies either in use or under development that serve, or will serve industries. Wells supply these systems which furnish water for domestic purposes as well as industrial uses. Average finished hardness of well water in this area is about 6 grains per gallon. Storage on these systems varies, depending on the demands, but in all cases is adequate.

Sewerage Systems

At Edinburg the plant is owned by the town and provides primary treatment with chlorination. It is designed to handle a flow of 100,000 gallons per day. The average daily flow is 75,000 gallons.

Mount Jackson's municipally owned plant is designed to handle a flow of 150,000 gallons and provide primary treatment with chlorination. The average daily flow is 110,000 gallons.

The town-owned treatment plant at Strasburg provides primary and secondary treatment with chlorination and is designed to handle a flow of 300,000 gallons. Daily flow averages 300,000 gallons.

New Market's town-owned plant provides primary and secondary treatment with chlorination and is designed to handle a flow of 300,000 gallons per day. The average daily flow is 350,000 gallons.

The municipally owned plant for Woodstock provides primary and secondary treatment with chlorination. The plant is designed to handle a flow of 300,000 gallons. Daily flow averages 350,000 gallons.

Source: Virginia Department of Health.

Water and Sewerage Rates

Edinburg

Water rates per quarter:

<u>Inside town</u>		
First	10,000 gallons	\$6.00, minimum charge
Next	15,000 gallons	.48 per 1,000
Next	25,000 gallons	.30 per 1,000
Next	50,000 gallons	.24 per 1,000
Next	100,000 gallons	.18 per 1,000
All additional		.12 per 1,000

Outside town
50% higher than town rates.

Sewerage rates: 100% of water bill.

Mount Jackson

Water rates per month:

<u>Inside town</u>		
First	2,000 gallons	\$1.50, minimum charge
Next	5,000 gallons	.50 per 1,000
Next	10,000 gallons	.40 per 1,000
All additional		.30 per 1,000

Outside town
33 1/3% higher than town rates.

Sewerage rates per month:

Inside town
75% of water bill.

Outside town
33 1/3% higher than town rates.

New Market

Water rates per quarter:

<u>Inside town</u>		
First	5,000 gallons	\$3.75, minimum charge
Next	10,000 gallons	.60 per 1,000
Next	20,000 gallons	.55 per 1,000
Next	40,000 gallons	.45 per 1,000
Next	75,000 gallons	.40 per 1,000
Next	150,000 gallons	.30 per 1,000
Next	200,000 gallons	.25 per 1,000
All additional		.20 per 1,000

Outside town
First 5,000 gallons \$7.50, minimum charge
Other rates are the same as town rates.

Sewerage rates per quarter:

Inside town
50% of water bill.

Outside town
50% of water bill.

Strasburg

Water rates per quarter:

Inside town

Domestic rates:
First 12,000 gallons \$6.25, minimum charge
Next 38,000 gallons .32 per 1,000
All additional .25 per 1,000

Commercial rates:
18,000 gallons .40 per 1,000
30,000 gallons .35 per 1,000
50,000 gallons .30 per 1,000
200,000 gallons .25 per 1,000
500,000 gallons .20 per 1,000
800,000 gallons .15 per 1,000

Outside town
40% higher than town rates.

Sewerage rates per quarter:

Inside town

Homes \$4.50
First apartment 4.50
Each additional apartment 2.25

Outside town
40% extra charge

Woodstock

Water rates

Inside town

First 3,000 gallons \$3.50, minimum charge
3,000 to 10,000 gallons 5.50, minimum charge
Next 15,000 gallons .45 per 1,000
Next 25,000 gallons .35 per 1,000
Next 50,000 gallons .30 per 1,000
Next 100,000 gallons .20 per 1,000
All additional .15 per 1,000

Outside town
100% higher than town rates.

Sewerage rates:

Inside town

First	10,000 gallons	\$4.00, minimum charge
Next	20,000 gallons	.30 per 1,000
Next	20,000 gallons	.25 per 1,000
Next	50,000 gallons	.20 per 1,000
Next	100,000 gallons	.15 per 1,000
All additional		.10 per 1,000

Outside town

25% higher than town rates.

ELECTRICITY AND NATURAL GASElectricity

Shenandoah County is supplied electricity by two privately owned companies and one REA Cooperative. The Virginia Electric and Power Company, the largest electric utility in Virginia, serves five of the six incorporated towns and almost half of the county area. Division and district offices of this company are in Charlottesville, and an area office is in Woodstock. The northern part of the county and the town of Strasburg receive electric power from the Northern Virginia Power Company, an operating unit of the Potomac Edison System, which has district offices in Winchester and a local office in Strasburg. The Shenandoah Valley Electric Cooperative serves the remaining portion of the county. It receives power from VEPCO's transmission system, and its main office is in the town of Dayton in Rockingham County.

Primary service is available at 60 cycles alternating current, three phase service, at various voltages depending upon individual customer requirements and specific locations. There is adequate and dependable power available for any need. Rates are comparable with those in effect elsewhere. Tariffs applicable to individual requirements may be obtained from the appropriate power supplier.

Natural Gas

Two 26-inch natural gas transmission pipelines of the Atlantic Seaboard Corporation pass through the center of the county and one 24-inch transmission line of this same corporation crosses the southwestern corner. There is a 2-inch pipeline supplying gas to Chemstone Corporation near Strasburg. The county is within the franchise area of the Shenandoah Gas Company, and this company will provide natural gas distribution to industries within the county when economically feasible.

EDUCATIONPublic Schools

<u>Area</u>	<u>Average Daily Attendance In Public Schools</u>	<u>Total Cost of Operation Per Pupil in Average Daily Attendance^{1/}</u>	<u>Average Annual Salary- All Teachers^{2/}</u>
<u>Shenandoah County</u>			
1949-1950 school year	3,916	\$110.43	\$1,887
1959-1960 school year	4,412	217.79	3,662
1962-1963 school year	4,615	272.34	4,189
Per cent change 1950-1960	12.7	97.2	94.1
Per cent change 1960-1963	4.6	25.0	14.4
<u>State of Virginia</u>			
1949-1950 school year	536,831	\$132.96 ^{3/}	\$2,236 ^{3/}
1959-1960 school year	756,354	256.07 ^{3/}	4,153 ^{3/}
1962-1963 school year	842,022	312.40 ^{3/}	4,897 ^{3/}
Per cent change 1950-1960	40.9	92.6	85.7
Per cent change 1960-1963	11.3	22.0	17.9

^{1/} Debt service and capital outlay excluded.

^{2/} Excluding supervisors, principals, and head teachers.

^{3/} Mean.

Source: Virginia Department of Education.

Industrial Training

The three high schools of the county offer classes in the Industrial Cooperative Training Program. This program is designed to train young people for the occupations available in their communities. Part-time classes in the school are co-ordinated with part-time work in local industrial establishments.

Private Schools

There are two accredited privately operated schools in the county, Shenandoah Valley Academy (coeducational) near New Market and Massanutten Military Academy in Woodstock.

Higher Education

There are three four-year accredited colleges in adjoining Rockingham County. Madison College for women (enrollment about 1,800) and the coeducational Eastern Mennonite College, with around 700 students, are both at Harrisonburg. At Bridgewater is Bridgewater College, coeducational, with about 700 students also. All of these institutions offer standard courses leading to the B. S. and B. A. degrees. In Winchester to the north in Frederick County is the Shenandoah Conservatory of Music, a four-year degree-granting institution for music only, and Shenandoah College offering two years of college work. Both are coeducational. The University of Virginia offers some extension courses in Woodstock.

RECREATION

The natural assets of Shenandoah County make possible many types of recreation. George Washington National Forest extends over the mountainous sections along both the eastern and western boundaries of the county and offers scenic drives, hiking trails, picnic and camp areas, and hunting and fishing. Deer are very plentiful and each year nearly 2,000 are killed by hunters who flock to this county. Wild turkey and small game are also abundant. The sportsman also finds excellent fishing in the many streams which have been stocked by the Commission of Game and Inland Fisheries. Brook, rainbow and brown trout abound in the mountain streams and crappie, bream, pickerel and several species of bass are found in the North Fork Shenandoah River.

One of the State's most beautiful drives follows Passage Creek in Powell Fort Valley in the Massanutten Mountain range in the eastern part of the county. The National Forest Service maintains picnic grounds at Elizabeth Furnace, an old iron furnace, on Passage Creek, and in Little Fort, the valley between Three Top Mountain and Green Mountain. A road from Woodstock into Fort Valley passes over Powells Mountain near a viewing tower from which one can see the seven horseshoe bends of the North Fork Shenandoah River as it winds its way through the valley 1,000 feet below, and beyond the valley the ridges of North Mountain which forms the western boundary of the county. Other beautiful drives lead into the Massanutten Mountains from near Mount Jackson and through Edinburg Pass. Thrilling views of the valley may be had from the road over Little North Mountain into Cedar Creek Valley.

Shenandoah County has many summer camps and all have swimming facilities and playfields. Near Columbia Furnace is Camp Strawderman, a large camp for girls, and in Little Fort Valley is a camp operated by religious and civic groups. Camps for boys are Camp Lupton near Woodstock, Camp Bear Wallow near Orkney Springs, Camp St. George at Shrine Mont near Orkney Springs, and Happy Gap Camp which is west of Woodstock.

Two of the famous limestone caverns of Virginia, visited by thousands each year, lie within the county--Battlefield Crystal Caverns near Strasburg and Shenandoah Caverns north of New Market. Another popular cavern, Endless Caverns, lies just over the Rockingham County line, three miles south of New Market.

Organized recreation is provided by the town of Woodstock and during the summer months a staff of six directs activities at Woodstock Recreation Park where there are swimming and wading pools, tennis and basketball courts, a ball diamond, playground, and picnic shelters. In Strasburg the Lions Club operates a playground, picnic area, and facilities for tennis and softball. There is a swimming pool operated by a private corporation at Strasburg and another near New Market. Swimming, boating and fishing may also be enjoyed in the many ponds and lakes scattered throughout the county. High schools at Woodstock, Strasburg, and New Market have lighted athletic fields and unlighted fields are at schools in the other towns. Woodstock Recreation Park and the Lions Club Park at Strasburg also have lighted fields and Little League baseball is active in these towns and in Edinburg and New Market. In most of the communities recreation is sponsored by the schools, churches, and civic, fraternal and social organizations, and meetings and entertainments are held in the school auditorium.

Many privately operated resorts and parks are scattered throughout the county and these provide horseback riding, hiking, swimming, golf, and other sports. Bowling and billard facilities are found in Mount Jackson and Strasburg. At Shrine Mont is a

collection of paintings open to the public, and near New Market there is a permanent exhibit of china, pottery, earthenware, and crystal. There is a museum of Indian relics and handcrafts between Edinburg and Mount Jackson. Snake, monkey and chinchilla farms near the Valley Pike are interesting. Annual summer events in the county are the Shenandoah Valley Music Festival and a horse show.

OTHER COMMUNITY FACILITIES

Financial

Banks are conveniently located in the county's principal communities--two in Woodstock, two in Strasburg, and one each in Edinburg, Mount Jackson, and New Market. The national banks and their total assets as of June 30, 1964, were: the National Bank of Woodstock, \$3,808,000; First National of Strasburg, \$5,477,000; and Citizens National Bank of New Market, \$3,478,000. State banks and their total assets as of October 1, 1964, were: Shenandoah County Bank and Trust Company of Woodstock, \$5,371,054; Massanutten Bank of Strasburg, \$6,582,983; Peoples Bank of Mount Jackson, \$3,867,201; and Farmers Bank of Edinburg, \$2,557,184.

Religious

Many Protestant denominations are represented in the numerous churches scattered throughout the county. There is a Catholic church in Woodstock and Jewish places of worship are located in Harrisonburg and Winchester, a few miles from the southern and northern boundaries of the county, respectively. Most of the churches maintain Sunday schools, youth programs, and other activities that make an important contribution to community life. Shrine Mont at Orkney Springs is owned by the Episcopal Diocese of Virginia and here religious conferences are held from May to September of each year.

Medical

The county is served by the Shenandoah Memorial Hospital, an 81-bed general hospital at Woodstock with well-equipped medical, surgical, pediatric and obstetrical departments. Hospitals in Winchester, Harrisonburg, and Front Royal are also within easy reach. In Woodstock is the Susan B. Miller Nursing Home, an accredited 68-bed home for the nursing of chronically ill and aged patients. Sixteen medical doctors practice in the county and five of the towns have pharmacies. The County Public Health Department, staffed by a director, physician, public health nurses, sanitarians, and clerk, has offices in Woodstock and dispenses clinic and other health services throughout the county. There are also three qualified veterinary hospitals in Shenandoah County.

NATURAL RESOURCES

Minerals

Shenandoah County is located in the Ridge and Valley province and is underlain by sedimentary rocks. Several limestone and dolomite formations extend across the county in a northeasterly direction and during 1964 several quarries produced from these rocks. The Shenandoah Valley Lime and Stone Corporation produced crushed limestone near Strasburg principally for use as metallurgical flux. The C. S. Mundy Quarries, Inc., near Forestville produced limestone for crushed stone, and the Toms Brook Lime and Stone Company, Inc., at Toms Brook produced limestone and dolomite for crushed stone and agricultural purposes. The Chemstone Corporation, Dominion

Division, operated a limestone quarry and lime plant near Strasburg. The limestone was utilized in the manufacture of lime, as metallurgical flux, and for other purposes. The Kipps Magnesium Limestone Quarry produced agricultural stone at a quarry near Forestville. The Interstate Stone Corporation quarried limestone near New Market and utilized a portable plant to produce crushed stone for highway construction.

Rock and mineral resources that have been produced in the past include manganese ore, iron ore, shale, and clay. Manganese ore has been mined in the Capola Mountain-Cedar Creek Valley district and on Massanutten Mountain. The ore has been produced intermittently in the county since before the Civil War, and as recently as 1957. Iron ore occurs in the western part of the county and also in the southeastern part in Massanutten Mountain. Prior to the Civil War the county was one of the leading counties in Virginia in the production of iron ore. Shale and clay have been produced near Woodstock and Strasburg for use in the manufacture of brick. Shales at other localities have been determined potentially suitable as raw materials for ceramic use and lightweight aggregate.

Lead and zinc minerals occur in the vicinity of Forestville and sandstone occurs at several localities but commercial deposits of these materials have not been established.

Source: Division of Mineral Resources. (More detailed information may be obtained upon request.)

Ground Water

Shenandoah County is in the Ridge and Valley province and is underlain by limestone, sandstone, and shale formations. These rocks are generally inclined to the northwest or southeast, and crop out in relatively narrow belts in a northeasterly direction.

Springs, cisterns, and dug wells supply much of the domestic and farm water requirements in all parts of the county. These sources of water are dependent upon precipitation and a shallow water table, often vary in yield with the change of seasons, and are susceptible to surface pollution. The water is generally softer and less mineralized than that from deeper, drilled wells, except for spring water that is usually moderately hard to hard. Along the base of several of the mountains, alluvium overlies the bedrock. Water from this material is sufficient only for domestic needs, and the difficulty of well construction often makes it necessary to case off the alluvium.

Approximately 75 per cent of all drilled wells are less than 200 feet deep, and only 5 per cent are deeper than 400 feet. In the valley of the North Fork Shenandoah River, between U. S. Highway 11 and the Massanutten Mountains, most wells penetrate shale and average 100 feet in depth; between U. S. Highway 11 and Little North Mountain, most wells penetrate limestone and average 110 feet in depth. In the mountainous region west of Little North Mountain, wells penetrate sandstone and limestone and average 120 feet in depth.

Approximately 85 per cent of the drilled wells yield less than 20 gallons per minute, and only 5 per cent yield more than 50 gallons per minute. Wells that have the largest yield are located in the central portion of the county and obtain water from solution channels and caverns in limestone. Nearly three-fourths of the wells

that yield more than 20 gallons per minute encountered water-bearing horizons between 50 and 155 feet below the ground surface. Two of the more productive wells penetrate limestone near New Market; each yields slightly more than 200 gallons per minute and is less than 225 feet deep.

The ground water from wells between U. S. Highway 11 and the Massanutten Mountains contains more dissolved solids than the water produced elsewhere in the county. The moderately hard water is usually corrosive to some degree, and iron and sulfur are often present in objectionable amounts. Limey and ocherous material frequently discolor the water produced from a new well, but this condition is often cleared by pumping. In the central portion of the county the calcium and magnesium carbonates make the water moderately hard to hard, but the total dissolved solids is low. Iron and sulfur are sometimes present, but seldom in objectionable amounts. Mud conditions are common in new wells located in this portion, but often can be eliminated by several hours of continuous pumping. In the western portion of the county the water is generally soft to moderately hard, and frequently is high in iron and silica. Sulfurous and acidic conditions have been reported in only a few of the wells.

Industrial supplies of water are available at selected well sites in many of the valleys throughout the western two-thirds of the county. The success of these wells is usually dependent upon the penetration of fracture or solution openings, the location of which are unpredictable, but most have been encountered in the first 250 feet of bedrock. In the eastern third of the county any large supplies will come from bedding planes, fractures, and joints in the rock, or from contact between two types of bedrock in areas with adequate recharge.

Source: Virginia Division of Mineral Resources. (More detailed information may be obtained upon request.)

Surface Water

The main stream in Shenandoah County is the North Fork of the Shenandoah River. Smaller streams in the county are Passage Creek, Cedar Creek, and Stony Creek. There are also a number of good springs in the county and measurements of flow are available for some of them.

Several stream gaging stations in this area provide good information concerning the available water resources. A gaging station on North Fork Shenandoah River near Mount Jackson indicates an average stream flow of 236 million gallons a day, and a station downstream on this same river near Strasburg shows the average stream flow there is 370 million gallons per day. The average stream flow at a station on Cedar Creek north of Strasburg is 56 million gallons per day, and the station installed in 1960 on Smiths Creek near New Market records an average of 44 million gallons a day. There is a station on Passage Creek near Buckton, two miles downstream from the Shenandoah-Warren County line. Here the average daily flow is 43 million gallons. Data are available on both the quantity and quality of waters in North Fork Shenandoah River, Cedar Creek, and Passage Creek. Flow duration and high- and low-flow sequence data are available for many of the stations with long records.

During periods of normal rainfall there is a large volume of water in the streams. During droughts the smaller streams become quite low, but there is still a good flow in the North Fork of the Shenandoah. Some of the springs offer very good possibilities. The water in these springs is hard, but its cool temperature is an advantage for some industrial uses.

The quality of water varies considerably. In the small streams originating in the mountain ridges, water is soft. In the main streams in the valleys and springs water is quite hard. The small mountain streams have slightly acidic water whereas the valley streams are alkaline.

Source: Virginia Division of Water Resources. (More detailed information may be obtained upon request.)

Forest

According to the 1957 Forest Survey, Shenandoah County contains approximately 167,560 acres of commercial forest land and 18,300 acres of noncommercial forest land. The 1940 Forest Survey listed 157,600 acres of commercial forest and 12,900 acres of noncommercial forest land.

The ownership of commercial forest land in Shenandoah County is 65.7 per cent in private holdings. The remaining 34.3 per cent is accounted for in National Forest land.

<u>Forest Types</u>	<u>Acres</u>	<u>Stand Size Classes</u>	<u>Acres</u>
Shortleaf pine.....	15,110	Large sawtimber.....	28,865
Virginia pine.....	13,755	Small sawtimber.....	46,680
Oak-pine.....	28,186	Pole size timber.....	67,942
Oak-hickory.....	107,070	Seedlings and saplings.....	24,073
Oak-gum.....	3,439		
Total.....	167,560	Total.....	167,560

Estimated current annual net growth and cut, 1962:

<u>Species Group</u>	<u>Sawtimber (Million Board Feet)</u>		<u>Growing Stock (Thousand Cords)</u>	
	<u>Growth</u>	<u>Cut</u>	<u>Growth</u>	<u>Cut</u>
Softwoods	1.3	1.2	15	12
Soft hardwoods	2.0	0.3	7	5
Hard hardwoods	9.9	0.1	81	2
Total	13.2	1.6	103	19

Pole size and small sawtimber size classes comprise a large percentage of the forests of this county. Growing stock in the hard hardwood category continues to show large increases over the past seven-year period. Sawtimber drain has been confined to the softwoods (pine) and soft hardwoods (yellow poplar) primarily, together with a small amount of oak.

Markets exist for both pine and hardwood pulpwood. There has been a noted increase in the utilization of both pine and hardwood pulpwood for the past three-year period.

The major forestry needs are timber stand improvement, cull disposal and re-forestation. Private landowners are starting to show interest in this type of work.

Source: Forest Survey of 1957. Current observations and interpretation by Virginia Division of Forestry. (More detailed information may be obtained upon request.)

PUBLIC LANDS, Federal and State

<u>Federal</u>	<u>Acres</u>	<u>State</u>	<u>Acres</u>
George Washington National Forest.....	75,841.00	Memorial to V.M.I. Cadets.....	0.01
Woodstock Post Office.....	0.50	Department of Highways - residue...	0.38
Strasburg Post Office.....	0.40	Woodstock Access area (Chapman's Landing).....	2.50

Source: Federal and State Agencies.

ECONOMIC DATA SUMMARY

SHENANDOAH COUNTY

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Revised - December 1964

AUGUST 1968
68-10

DIVISION OF STATE PLANNING & COMMUNITY AFFAIRS
1010 James Madison Building / Richmond, Virginia 23219