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PROJECTIONS AND ECONOMIC BASE ANALYSIS

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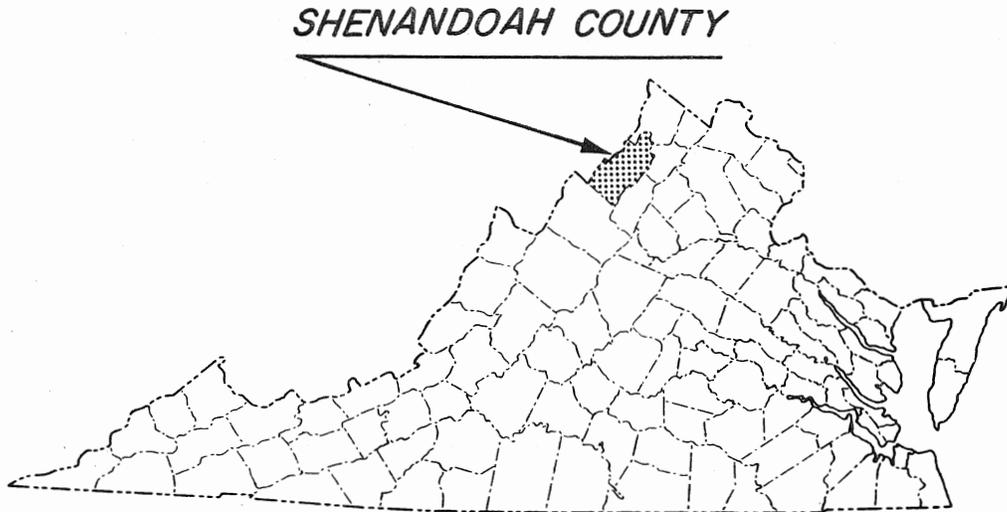
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SHENANDOAH COUNTY
PROJECTIONS AND ECONOMIC BASE ANALYSIS



This study is one of a series for all economic regions of Virginia. The purpose of the series is to provide a foundation of current and consistent projections useful to public and private organizations which require informed judgments about the future. A general statement of methodology and source materials may be obtained on request from the Division of State Planning and Community Affairs.

Mr. Michael J. McCarthy, Associate Economist, Division of State Planning and Community Affairs, was primarily responsible for this study. The cooperation of local citizens, private firms, and state, local and federal governmental agencies is gratefully acknowledged.

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INTRODUCTION

This is an economic analysis of Shenandoah County. The study concentrates on historical, current, and projected employment and their relationship to population and income. Total employment is divided into its major industry subcomponents which are then individually projected to 1980. On the basis of these employment forecasts, a population projection is also made.

The focal point of the study is Table 1 which provides an overall view of the local economy and gives insights into the interrelationships between employment, population and income. In the Table, employment is divided into two categories: basic (non-local) and supporting. The basic employment sector consists of those industries which sell the bulk of their goods and services outside of the immediate area. For example, it is assumed that most manufactured and agricultural products are exported beyond area boundaries and that employment utilized in such production is dependent on national and regional demands. The supporting employment sector, on the other hand, is composed of those industries which market nearly all of their goods and services in the local economy. Local government, retail and wholesale trade, contract construction, and finance, insurance, and real estate services are generally considered supporting except when the area functions as a regional trading center. In such cases, a portion of the employment which would otherwise be classified as supporting is assigned to the basic sector.

Primary attention in the study is placed on basic employment since it is usually the major source of additional income within the local economic system and the principal stimulus to future economic growth. Related factors which are examined in making the employment and population projections include: present and historical general economic conditions of the county; industrial development considerations; work force commuting patterns; agricultural trends; retail and wholesale trade developments; present and planned highway, air, and rail facilities; recreational, commercial, and residential development; land use and settlement patterns; population density considerations; natural increase and migration rates.

TABLE 1.-- ECONOMIC BASE ANALYSIS WITH PROJECTIONS - SHENANDOAH COUNTY, VIRGINIA

	Values				Percent of Virginia				Average Annual Rate of Change		
	March 1950	March 1960	March 1973	March 1980	March 1950	March 1960	March 1973	March 1980	1950-60	1960-73	1973-80
Population ^{a/}	21,169	21,825	24,400	25,000	0.6	0.6	0.5	0.5	0.3	0.9	0.4
Labor Force, by place of work	6,582	7,753	10,009	11,353	0.5	0.5	0.5	0.5	1.7	2.0	1.8
Unemployment ^{b/}	287	522	350	400	0.3	0.8	0.5	0.5	6.2	-3.0	1.9
Employment, by place of work	6,295	7,231	9,659	10,953	0.5	0.5	0.5	0.5	1.4	2.3	1.8
Basic employment	3,391	3,525	4,513	5,033	0.5	0.5	0.6	0.5	0.4	1.9	1.4
Agriculture and mining - quarrying	2,531	1,530	732	560	1.4	1.2	1.1	0.8	-4.9	-5.5	-3.8
Travel trade ^{c/}	34	41	94	110	0.2	0.2	0.3	0.3	1.9	8.6	2.3
Preparatory schools ^{d/}	57	106	93	102	...	...	...	...	6.4	-1.0	1.3
Manufacturing	769	1,848	3,594	4,261	0.3	0.7	0.9	0.9	9.1	5.2	2.5
Food and kindred products	155	337	535	625	0.8	1.1	1.5	1.9	8.1	3.6	1.2
Textiles	166	79	1,155	1,200	0.4	0.2	2.5	2.6	-7.1	*	0.5
Apparel	172	979	1,059	1,100	1.1	4.2	2.7	1.6	*	0.6	0.5
Stone, clay, and glass	83	166	135	190	1.5	2.0	1.1	1.0	7.2	-1.6	5.0
Printing and publishing	56	62	82	82	0.8	0.6	0.5	0.5	1.0	2.4	...
Transportation equipment	...	141	222	365	...	0.7	0.6	1.2	...	3.6	7.4
Chemicals	28	35	34	34	0.1	0.1	0.1	0.1	2.3	-0.2	...
Lumber	48	17	46	40	0.2	0.1	0.2	0.2	**	8.0	-2.0
Other manufacturing ^{e/}	61	32	326	625	...	...	...	...	-6.3	*	9.7
Supporting employment	2,904	3,706	5,146	5,920	0.5	0.5	0.5	0.5	2.5	2.6	2.0
Percent of total employment basic	53.9	48.7	46.7	45.9	103.1	103.8	112.0	108.0	...	...	...
Unemployment as a percent of labor force	4.4	6.7	3.5	3.5	70.0	151.9	100.0	90.9	...	...	...
Labor forces as a percent of population	31.1	35.5	41.0	45.4	78.7	92.4	92.9	115.8	...	...	...
Income and sales data:											
Per capita income ^{f/}	\$904	\$1,581	\$3,477	...	73.6	77.4	79.1	...	4.8	8.2	...
Total income (000) ^{f/}	\$19,137	\$35,700	\$83,800	...	0.5	0.5	0.4	...	5.3	8.9	...
Retail sales (000) ^{g/}	\$12,281	\$21,014	\$45,501	...	0.6	0.6	0.5	...	5.5	6.1	...

Key to symbols: * Greater than 10.0 percent, ** less than -10.0 percent.

a/ The 1950 and 1960 population figures are for April 1 from the U.S. Census of Population. The 1973 population figure is an estimate as of July 1, prepared by the Tayloe Murphy Institute in cooperation with the U.S. Bureau of the Census. The 1970 population of Shenandoah County as reported in the 1970 U. S. Census of Population was 22,825.

b/ The 1973 unemployment figure was obtained from the Virginia Employment Commission, Manpower Information for Affirmative Action Programs - State of Virginia, 1973.

c/ Includes hotel, motel, and Shenandoah Caverns employment.

d/ Includes faculty and staff at Massanutten Military Academy and Shenandoah Valley Academy.

e/ Major employers in this group are furniture, paper, machinery, and primary metal products.

f/ Because per capita and total income data was not available for 1960 and 1973, corresponding data from 1962 and 1972 was used.

g/ Because retail sales data was not available for 1950, 1960, and 1973, corresponding data from 1948, 1958 and 1972 Census of Business was used.

Sources: U. S. Department of Commerce, Bureau of the Census, Census of Business - 1948, 1958, and 1972; U. S. Department of Commerce, Bureau of the Census, Census of Population - 1950 and 1960; University of Virginia, Tayloe Murphy Institute, "Estimates of the Population of Virginia Counties and Cities," selected issues; University of Virginia, Tayloe Murphy Institute, "Personal Income Estimates for Virginia Cities and Counties, selected years, 1940 to 1972;" Regional Economic Measurement Division, "County and Metropolitan Area Personal Income," Survey of Current Business, April, 1975; Virginia State Chamber of Commerce, Industrial Directory of Manufacturing in Virginia, 1973-74; Commonwealth of Virginia: Division of Industrial Development, and Virginia Employment Commission, Manpower Information for Affirmative Action Programs - State of Virginia, 1973; officials at Massanutten Military Academy and Shenandoah Valley Academy.

PROJECTIONS AND ECONOMIC BASE ANALYSIS

General - The population of Shenandoah County grew at an average annual rate of 0.3 percent during the 1950's, but from 1960 to 1973 it grew by 0.9 percent per year. Primarily responsible for the accelerated growth rate in the 1960's was a decline in the rate of out-migration. As shown in Table 4, Parts A and B, the county experienced an out-migration rate of 0.6 percent per year in the 1950's, but this rate declined to 0.1 percent annually in the succeeding decade. This decline in out-migration has been closely linked with the pattern of industrial development. With ever-increasing industrialization and employment opportunities the level of out-migration in Shenandoah County has declined. During the 1970 to 1973 period out-migration has given way to in-migration--averaging 2.0 percent annually. With a natural increase rate of 0.2 percent per year, in-migration is largely responsible for the area's recent population growth.

Employment in Shenandoah County totaled 9,659 persons in March, 1973. Slightly less than one-half of this number were employed in the basic sector. The predominant basic industry was manufacturing, which accounted for over three-fourths of total basic employment and over 37 percent of total employment. Other basic industries in the area include agriculture and mining-quarrying, travel trade, and preparatory school employment. Supporting industries, which are assumed to be dependent on basic industries, accounted for 53 percent of the total employment in March, 1973.

An analysis of commuting pattern data from the 1970 census, as shown in Table 5 (Part B), reveals that four-fifths of the county's resident workers were gainfully employed in Shenandoah County in 1970. Approximately 1,600 workers commuted to jobs outside the county that year. Seventy-six percent of these out-commuters traveled to surrounding counties of Clarke, Frederick,

Fauquier, Warren, Page, and Rockingham. This level of out-commuting was partially offset by an inflow of 782 in-commuters from adjacent counties, resulting in a net outflow of approximately 790 persons in 1970. In 1960, net out-commuting totaled 1,244 persons. The lower out-commuting figures in the more recent years reflect the increasing employment opportunities within Shenandoah County. Net out-commuting is expected to decline further during the remainder of the decade as more county residents are attracted to local employment opportunities.

Manufacturing - Manufacturing activity in Shenandoah County provided approximately 3,600 positions to area workers in March, 1973. The dominant manufacturing firms are in the apparel, food processing, and textile industries. The apparel concerns accounted for 30 percent and the textile industries, 32 percent, of the manufacturing employment in 1973. Other important industrial employers are transportation equipment, furniture, and primary metal products, which combined employed nearly 550 persons. The food processing industry, in addition, employs over 500 persons.

Shenandoah County's manufacturing employment grew by 9.1 percent per year from 1950 to 1960 due principally to a sharp increase in apparel industry employment and due to the location of a new transportation equipment manufacturer. The relatively rapid growth in manufacturing of the 1960's and early 1970's (5.2 percent annually) can be attributed to the location of new manufacturing plants in the county. Significantly, the majority of new manufacturing jobs were in firms not related to the area's established apparel, textile and food processing industries. This development indicates a growing diversification of the area's manufacturing base. (See Table 7 for a listing of the county's major manufacturing firms, their location, products, year of establishment, and approximate 1974 employment).

Based on announced new plant locations and plant expansions as of November 1975, on recent trends in the area's industries, and on national growth characteristics of local industries, manufacturing employment has been projected to grow by 2.5 percent per year for the remainder of the decade. This contrasts with a manufacturing growth rate of 5.2 percent per year in the previous period. At the projected growth rate, total employment in the manufacturing sector is expected to be approximately 4,300 persons by 1980.

Agriculture and Mining - Quarrying - Based on tabulations contained in the 1969 Census of Agriculture, the total market value of all farm commodity sales in Shenandoah County that year was \$14,788,535. Nearly 90 percent of this return was generated through the sale of livestock, poultry, and related livestock-poultry products: \$5.6 million in livestock sales and \$7.2 million in poultry sales. A significant proportion of Shenandoah County's 1969 total livestock income resulted from sheep sales. In 1969 the county was ranked fifth in the state in sheep production. Other important sources of farm income were the sales of fruits, nuts, and berries. The county's farms, by value of product sales, compare rather favorably with others across the state; however, as indicated in Table 6, Shenandoah County does have relatively fewer commercial farms and more part-time farms than is typical statewide.

Employment on Shenandoah County farms has declined substantially since 1950. The average annual rate of decline over the 1950-1973 period was 5.2 percent. Much of the decline over this twenty-three year period has resulted from increased mechanization of agricultural techniques and the development of attractive non-agricultural employment opportunities in the area. With the trends of the immediate past expected to continue, farm employment has been projected to decline by 3.8 percent per year for the remainder of the decade.

Mining and quarrying establishments employ the remainder of persons in this sector. Employment in this activity has declined by more than 10 percent per year over the 1950-73 period, and is expected to continue declining over the remainder of the present decade.

Employment in the agriculture and mining-quarrying industries is expected to decrease by approximately 170 persons between 1973 and 1980 with total employment at the end of the period to be 560 persons. In percentage terms this implies a 3.8 percent annual rate of decline.

Travel Trade - Of the 94 persons engaged in Shenandoah County's travel trade industry, 90 percent were engaged in hotel-motel activity with the residual employed with Shenandoah Caverns. In addition to these attractions, the county is also the site of George Washington National Forest, New Market Battlefield Park, and Bryce Mountain Resort. The travel industry has experienced a relatively rapid rate of growth over the past decade with an average annual rate of growth of 8.6 percent in the 1960's. Internal expansion of facilities, as well as completion of Interstate 81, has prompted recent growth in this sector.

The travel trade industry in Shenandoah County, like that in other parts of the state and nation, has been adversely affected by recent gasoline shortages. Assuming that critical petroleum shortages will not soon recur, and that completion of Interstate 66 will have a favorable impact on travel trade^{1/} employment in this sector has been projected to expand at a rate of 2.3 percent per year between 1973 and 1980. By the end of that period, employment in the travel trade sector is projected to total 110 persons.

^{1/} Interstate 66 will extend from the Washington metropolitan area to connect with Interstate 81 just north of Strasburg.

Preparatory Schools - The faculty and staff of Massanutten Military Academy and Shenandoah Valley Academy constitute employment in this sector. These two well-known preparatory schools expanded their employment at an average annual rate of 6.4 percent during the 1950's. The 1960's showed slight decline in education employment; however, as a result of discussions with officials on both campuses, employment is expected to increase by 9 persons between 1973 and 1980. Combined faculty and staff in these educational facilities is expected to reach 102 persons by the end of the decade.

Supporting Employment - This sector consists of employment in locally oriented industries such as contract construction; transportation; public utilities; wholesale and retail trade; finance, insurance and real estate; and local government. Supporting industries in Shenandoah County employed 5,146 persons in March, 1973.

Between 1950 and 1973 total employment in this sector grew by over 2,200 persons. Future growth here will likely be encouraged by two factors: (1) continued growth in personal income, and (2) continued growth in basic employment. Based on the assumption that these forces will have a positive effect on employment in the supporting sector, supporting employment has been projected to grow by approximately 770 persons between 1973 and 1980, making the total employment in this sector 5,920 persons by the end of the decade. In percentage terms, this projection implies a growth rate of 2.0 percent per year, a rate slightly less than that experienced in this sector during the 1950's and 1960's.

Population - The population of Shenandoah County increased by approximately 1,680 persons between 1950 and 1970. During the past two decades population

increased at an average annual rate of 0.4 percent. From the demographic data in Table 4 comes evidence that changes in the national increase rate were primarily responsible for the growth in population during the 1950's and 1960's. The natural increase, which had averaged 0.9 percent per year between 1950 and 1960, fell to 0.5 percent during the succeeding decade. At the same time, out-migration averaged 0.6 percent per year in the 1950's and 0.1 percent annually between 1960 and 1970.

Population estimates for the most recent period (1970-1973) show a further slowing in the rate of natural increase and a reversal in the migration pattern. The Tayloe Murphy Institute (University of Virginia) estimated that the area's population increased by about 1,500 persons between 1970 and 1973 with a total population in July, 1973, of 24,400 persons. The county's natural increase rate declined still further in this period from 0.5 percent annually to 0.2 percent per year, and migration accelerated from -0.1 percent per year to 2.0 percent per year. (See Table 4, Part C).

Attributable to increasing employment opportunities in Shenandoah County, the population increases of the 1970-1973 period are expected to prevail over the remainder of the decade. As shown in Table 1, population has been projected to grow by 0.4 percent annually between 1973 and 1980. At this rate, the county's total population should reach 25,000 persons by the end of the decade.

The projection assumes, of course, that the major demographic variables will behave in a prescribed manner. Natural increase is expected to remain stable at its 1970-1973 level with continued in-migration but at a noticeably lower rate than the 1970-1973 level.

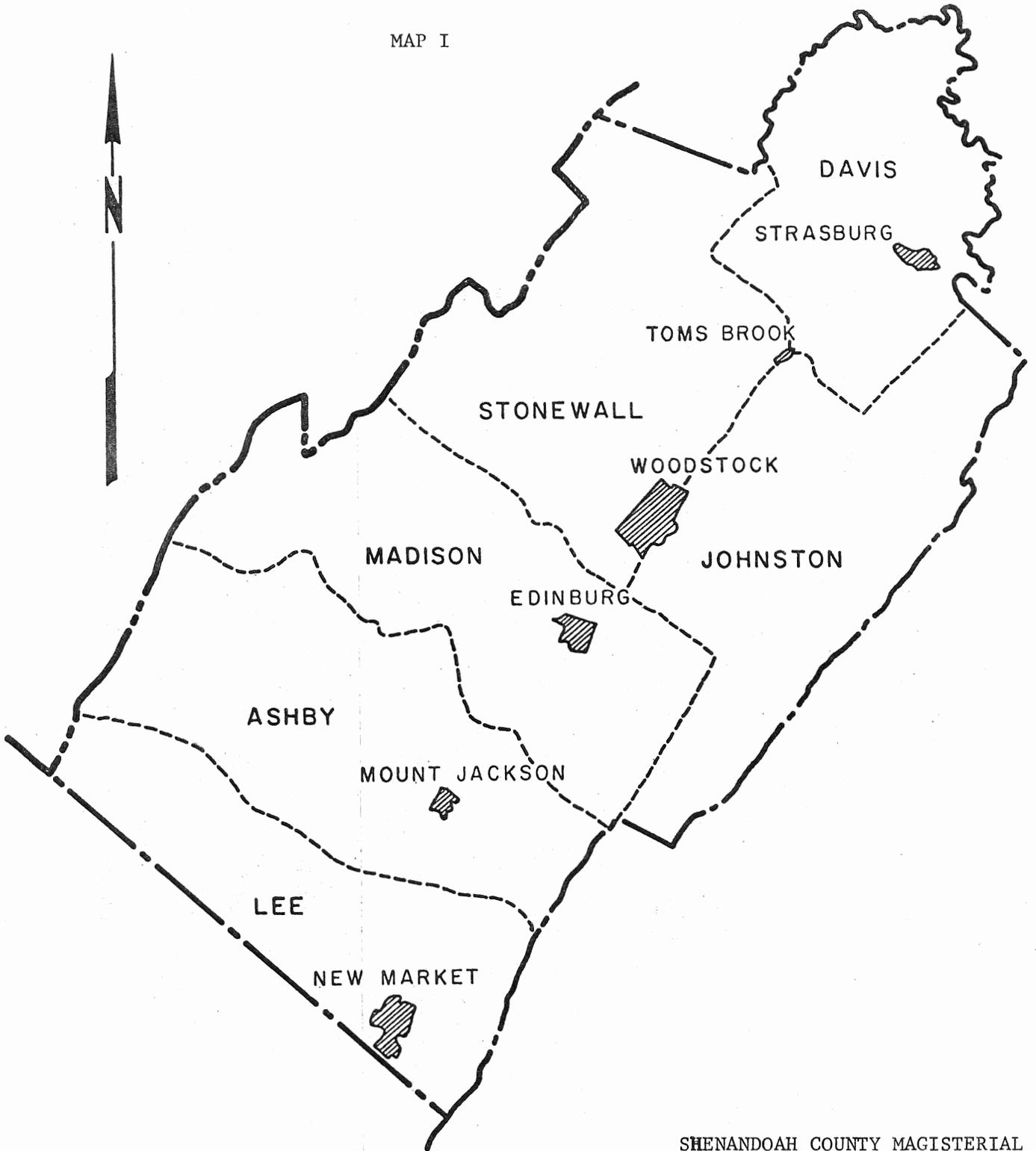
Income - Per capita income growth in Shenandoah County out-paced overall state growth from 1950 to 1962, and by 1962 had increased to approximately

77 percent of the state average. This represents an average annual rate of increase in per capita income of 4.8 percent. The area's rising per capita income in relation to the state can be attributed to increasing industrialization and to a relatively high rate of decline in low-paying agricultural positions for the county.

Per capita income was still on the rise between 1962 and 1972, as in the past gains occurred at a higher rate than prevailed statewide. As a result by 1972, per capita income in Shenandoah was \$3,477 or 79 percent of state average per capita income.

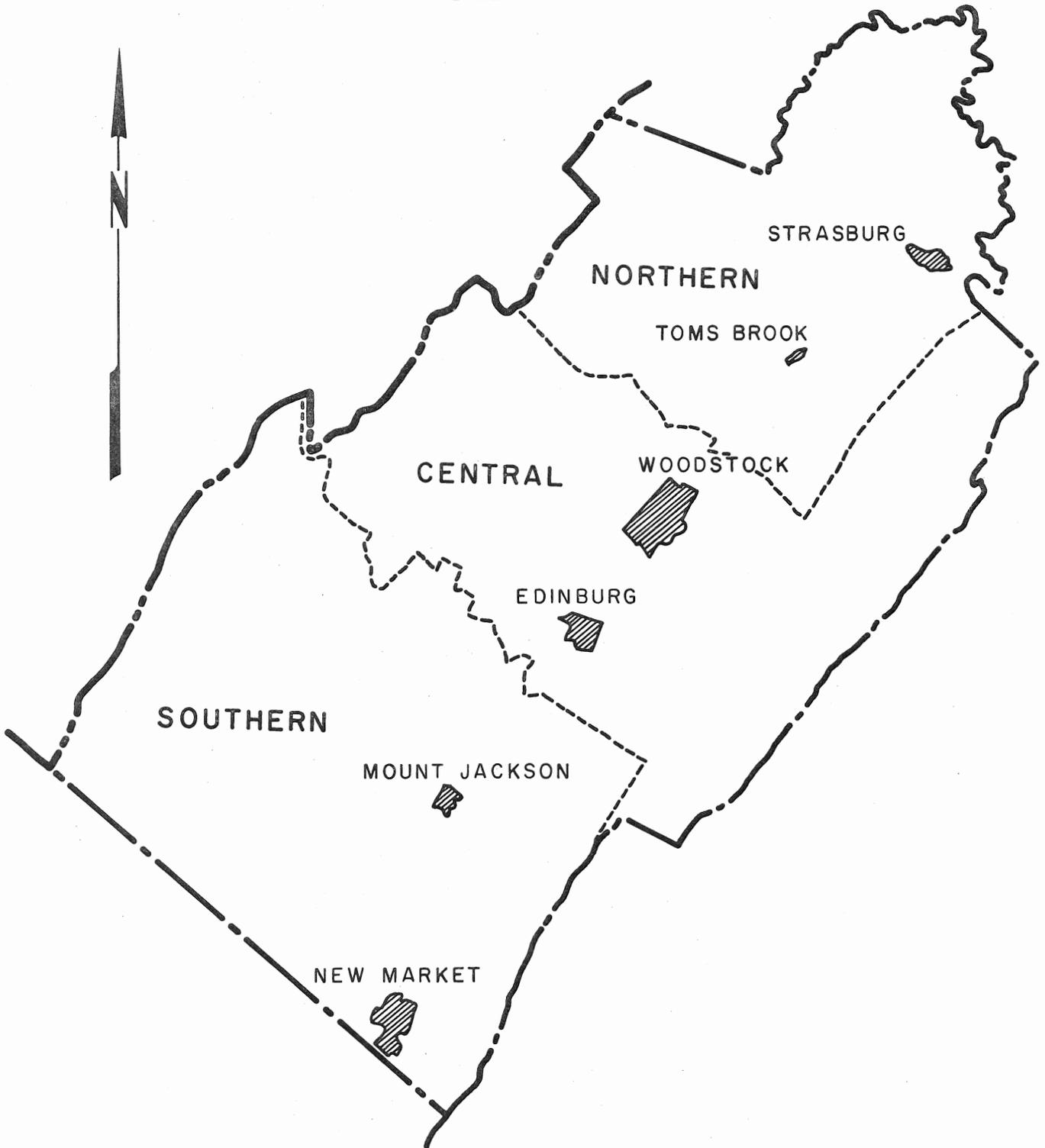
Retail Trade - The 1972 Census of Retail Trade reports that retail sales volume in Shenandoah County totaled \$45,501,000. The area's per capita retail sales (\$1,888) were approximately 90 percent of the state average in 1972. Sales in Shenandoah were below average mainly as a result of the area's lower than state average per capita income. A comparison of the county's per capita income and retail sales in relation to state figures reveals that while per capita income was growing at a rate faster than the state average between 1950 and 1960, retail sales in that period grew at a rate only sufficient to maintain the 0.6 percent of the state retail sales total for the county. The period 1960 to 1973 shows that retail sales in Shenandoah County fell to 0.5 percent of the state total. Retail sales grew by 5.5 percent annually from 1950 to 1960; however, with the rise in relatively high paying manufacturing jobs in the area in the past twelve years, this rate has gained momentum in the 1960 to 1972 period and retail sales have grown at an average annual rate of 6.1 percent.

MAP I



SHENANDOAH COUNTY MAGISTERIAL DISTRICTS AS OF 1970

MAP II



SHENANDOAH COUNTY ELECTION
DISTRICTS AS OF 1975

TABLE 2.-- POPULATION OF SHENANDOAH COUNTY, 1950-1974

Area	(April) 1950	(April) 1960	(April) 1970	(July) 1971 ^{a/}	(July) 1972 ^{a/}	(July) 1973 ^{a/}	(July) 1974 ^{a/}
Shenandoah County	21,169	21,825	22,852	23,700	24,100	24,400	24,500
Minor Civil Divisions				n.a.	n.a.	n.a.	n.a.
Ashby District	4,047	3,829	3,820	...	...	...	...
Mount Jackson Town	732	722	681	...	...	703 ^{d/}	...
Davis District	4,927	5,314	5,582	...	...	...	...
Strasburg Town	2,022	2,428	2,431	...	...	2,443 ^{d/}	...
Johnston District	2,373	2,429	2,486	...	...	...	...
Tom Brook Town (part) ^{b/}	137	137	132	...	...	266 ^{d/}	...
Woodstock Town (part) ^{c/}	620	649	699	...	...	2,316 ^{d/}	...
Lee District	2,791	3,005	3,045	...	...	...	...
New Market Town	701	783	718	...	...	738 ^{d/}	...
Madison District	3,163	3,206	3,416	...	...	...	...
Edinburg Town	533	517	766	...	...	790 ^{d/}	...
Stonewall District	3,868	4,042	4,503	...	...	...	...
Tom Brook Town (part) ^{b/}	119	107	126	...	...	...	...
Woodstock Town (part) ^{c/}	1,196	1,434	1,639	...	...	...	...

n.a. = not available.

a/ The 1971, 1972 and 1973 final, and the 1974 provisional estimates of the population are by the Tayloe Murphy Institute, University of Virginia.

b/ Tom Brook Town in parts of Johnston District and Stonewall District.

c/ Woodstock Town in parts of Johnston District and Stonewall District.

d/ The 1973 population estimates for revenue sharing areas are by Bureau of the Census. Population estimates for Tom Brook and Woodstock are for entire town.

Sources: U. S. Department of Commerce, Bureau of the Census, Census of Population 1950, 1960 and 1970; University of Virginia, Tayloe Murphy Institute, "Estimates of the Population of Virginia Counties and Cities," selected issues. U. S. Department of Commerce, Bureau of the Census, "1973 Population and 1972 Per Capita Income Estimates for Counties and Incorporated Places in Virginia" (Series P-25, No. 591, May 1975).

TABLE 3.--COUNTY, CITY, AND MAGISTERIAL DISTRICT POPULATION DENSITIES
(Persons Per Square Mile) 1970

<u>Area</u>	<u>Population (1970 Census)</u>	<u>Land Area In Square Miles</u>	<u>Density</u>
Shenandoah County	22,852	507.0	45.1
<u>Minor Civil Divisions</u> ^{a/}			
Ashby District	3,820	96.0	39.8
Mount Jackson Town	681	0.8	884.4
Davis District	5,582	67.2	83.1
Strasburg Town	2,431	0.6	4,051.7
Johnston District	2,486	90.6	27.4
Toms Brook Town (part)	132	n.a.	...
Woodstock Town (part)	699	0.4	1,747.5
Lee District	3,045	69.2	44.0
New Market Town	718	n.a.	...
Madison District	3,416	88.2	38.7
Edinburg Town	766	0.7	1,049.3
Stonewall District	4,503	95.8	47.0
Toms Brook Town (part)	126	n.a.	...
Woodstock Town (part)	1,639	1.7	964.1

Note: Details may not add to totals due to rounding.
n.a. = not available

^{a/} The population and land area figures presented here conform to magisterial districts outlined in Map I.

Sources: U. S. Department of Commerce, Bureau of the Census, 1970 Census of Population; Division of State Planning and Community Affairs; U. S. Department of Commerce, Bureau of the Census, Areas of Virginia: 1960, Area Measurement Reports, GE-20, No. 48, (January, 1967).

TABLE 4.-- POPULATION CHANGE FACTORS, SHENANDOAH COUNTY, AND THE STATE
PART A: 1950-1960

	<u>Virginia</u>	<u>Shenandoah County</u>
Population		
April 1, 1960	3,954,429	21,825
April 1, 1950	3,318,680	21,169
Net change	635,749	656
Total percentage change	19.2%	3.1%
Average annual rate	1.7%	0.3%
Components of change		
Births	945,502	4,480
Deaths	311,955	2,450
Natural increase ^{a/}	633,547	2,030
Total percentage change	19.1%	9.6%
Average annual rate	1.7%	0.9%
Net migration	2,202	-1,374
Total percentage change	0.1%	-6.5%
Average annual rate	---	-0.6%
Net civilian migration	n.a.	1,238
Total percentage change	n.a.	-5.8%
Average annual rate	n.a.	-0.6%

n.a. = not available

a/ Births minus deaths.

Source: U. S. Bureau of the Census, Components of Population Change, 1950 to 1960, for Counties, Standard Metropolitan Statistical Areas, State Economic Areas, and Economic Subregions (Series P-23, No. 7, November, 1962).

TABLE 4.-- POPULATION CHANGE FACTORS, SHENANDOAH COUNTY, AND THE STATE
PART B: 1960-1970

	<u>Virginia</u>	<u>Shenandoah County</u>
Population		
April 1, 1970	4,651,487	22,852
April 1, 1960	3,954,429	21,825
Net change	697,058	1,027
Total percentage change	17.6%	4.7%
Average annual rate	1.6%	0.5%
Components of change		
Births	905,101	3,852
Deaths	368,889	2,671
Natural increase ^{a/}	536,212	1,181
Total percentage change	13.6%	5.4%
Average annual rate	1.2%	0.5%
Estimated net migration (including military)	160,846	-154
Total percentage change	4.1%	-0.7%
Average annual rate	0.4%	-0.1%

^{a/} Births minus deaths.

Sources: U. S. Department of Commerce, Bureau of the Census, Census of Population 1960 and 1970; Virginia State Department of Health, Statistical Annual Report of the Virginia State Department of Health, 1960 through 1969; the 1960 births and deaths were obtained by subtracting the cumulative totals through March, as appearing in the Vital Statistics Monthly Report prepared by the Virginia State Department of Health for March, 1960, from the birth and death totals appearing in the annual report for 1960. The 1970 births and deaths were taken from the Vital Statistics Monthly Report for March, 1970 prepared by the Virginia State Department of Health.

TABLE 4.-- POPULATION CHANGE FACTORS, SHENANDOAH COUNTY, AND THE STATE
PART C: 1970-1973

	<u>Virginia</u>	<u>Shenandoah County</u>
Population		
July 1, 1973	4,811,000	24,400
April 1, 1970	4,651,487	22,852
Net change	159,513	1,548
Total percentage change	+3.4%	6.8%
Average annual rate	1.1%	2.2%
Components of change ^{a/}		
Births	258,196	1,059
Deaths	129,514	939
Natural increase ^{b/}	128,682	120
Total percentage change	2.8%	0.5%
Average annual rate	0.9%	0.2%
Estimated net migration	30,831	1,428
Total percentage change	0.7%	6.2%
Average annual rate	0.2%	2.0%

a/ Birth and death data for 1970 were obtained by subtracting the cumulative totals through March, as published in the Vital Statistics Monthly Report - March, 1970, from the annual totals appearing in the 1970 Statistical Annual Report of the Virginia State Department of Health. Birth and death data for 1973 were taken from the Vital Statistics Monthly Report - June, 1973. Birth and death figures for 1971 and 1972 were obtained from the Statistical Annual Report for that year.

b/ Births minus deaths.

Sources: University of Virginia, Tayloe Murphy Institute, "Estimates of the Population of Virginia Counties and Cities: July 1, 1973 and July 1, 1974"
U. S. Department of Commerce, Bureau of the Census, Census of Population, 1970;
Virginia State Department of Health, Statistical Annual Report - 1971 and 1972;
Virginia State Department of Health, Vital Statistics Monthly Report-March, 1970 and June, 1973.

TABLE 5.--COMMUTING PATTERN DATA FOR SHENANDOAH COUNTY
PART A: APRIL, 1960

Places of Work for Residents of Shenandoah County

	<u>Shenandoah County</u>	
	<u>Number</u>	<u>Percent of Total</u>
Total resident workers reporting a place of work ^{a/}	7,765	100.0
Places of Work Reported		
Shenandoah County	6,153	79.2
Out-Commuters	1,612	20.8
Frederick County	178	2.3
Warren County	531	6.8
Page County	24	0.3
Rockingham County	288	3.7
Winchester City	133	1.7
Harrisonburg City	52	0.7
Clarke County	20	0.3
Fauquier County	9	0.1
Hardy County, W. Va.	4	0.1
Elsewhere (not specified)	373	4.8

In-Commuters to Shenandoah County

<u>Residence</u>	<u>Number</u>	<u>Percent of Total</u>
Frederick County	53	14.4
Winchester City	8	2.2
Warren County	87	23.6
Page County	26	7.1
Rockingham County	165	44.8
Harrisonburg City	25	6.8
Hardy County, W. Va.	4	1.1
Total	368	100.0

Total out-commuters = 1,612
Total in-commuters = 368
Net out-cummuters = 1,244

Note: Details may not add to totals due to rounding.

^{a/} Resident workers not reporting a place of work in 1960 totaled 227 in Shenandoah County.

Sources: U. S. Department of Commerce, Bureau of the Census, Census of Population-1960, (unpublished tabulations based on a 25 percent sample).

TABLE 5.--COMMUTING PATTERN DATA FOR SHENANDOAH COUNTY
PART B: APRIL, 1970

Places of Work for Residents of Shenandoah County

	<u>Shenandoah County</u>	
	<u>Number</u>	<u>Percent of Total</u>
Total resident workers reporting a place of work ^{a/}	8,653	100.0
Places of Work Reported		
Shenandoah County	7,086	81.9
Out-Commuters	1,567	18.1
Frederick County	355	4.1
Winchester City	56	0.6
Warren County	414	4.8
Page County	11	0.1
Rockingham County	283	3.3
Harrisonburg City	32	0.4
Clarke County	21	0.2
Fauquier County	15	0.2
Washington, D.C. SMSA (Va.)	104	1.2
Elsewhere (not specified)	276	3.2

In-Commuters to Shenandoah County

<u>Residence</u>	<u>Number</u>	<u>Percent of Total</u>
Frederick County	105	13.4
Winchester City	29	3.7
Warren County	99	12.7
Page County	57	7.3
Rockingham County	371	47.4
Harrisonburg City	53	6.8
Hampshire County, W. Va.	14	1.8
Hardy County, W. Va.	39	5.0
Pendleton County, W. Va.	8	1.0
Rappahannock County	7	0.9
Total	782	100.0

Total out-commuters = 1,567
 Total in-cummuters = 782
 Net out-commuters = 785

Note: Details may not add to totals due to rounding.

a/ Resident workers not reporting a place of work in 1970 totaled 705 in Shenandoah County.

Sources: U. S. Department of Commerce, Bureau of the Census, Census of Population-1970, (unpublished tabulations based on a 15 percent sample).

TABLE 6.--FARMS BY ECONOMIC CLASS (VALUE OF FARM PRODUCTS SOLD),
SHENANDOAH COUNTY, AND THE STATE, 1969

<u>Type and Class of Farm</u>	<u>Shenandoah County</u>		<u>Virginia</u>	
	<u>Number</u>	<u>Percent of All Farms</u>	<u>Number</u>	<u>Percent of All Farms</u>
All Farms	1,022	100.0	64,572	100.0
Commercial Farms	571	55.9	38,434	59.5
Class I	61	6.0	2,816	4.4
Class II	52	5.0	3,525	5.5
Class III	87	8.5	5,313	8.2
Class IV	145	14.2	8,760	13.6
Class V	164	16.0	10,677	16.5
Class VI	62	6.1	7,343	11.4
Other Farms	451	44.1	26,138	40.5
Part-time ^{a/}	254	24.9	16,935	26.2
Part-retirement ^{b/}	194	19.0	9,149	14.2
Abnormal ^{c/}	3	0.3	54	0.1

Note: Class sizes are as follows: I - Sales of \$40,000 or more; II - Sales of \$20,000 to \$39,999; III - Sales of \$10,000 to \$19,999; IV - Sales of \$5,000 to \$9,999; V - Sales of \$2,500 to \$4,999; and VI - Sales of \$50 to \$2,499.

^{a/} Farms with sales of \$50 to \$2,499 in which the operator was under 65 years of age and worked off the farm more than 100 days or had non-farm income greater than the value of farm products sold.

^{b/} Farms with sales of \$50 to \$2,499 in which the operator was 65 years of age or over.

^{c/} Institutional farms and Indian reservations.

Source: U. S. Department of Commerce, Bureau of the Census, 1969 U. S. Census of Agriculture.

TABLE 7.--MAJOR MANUFACTURING FIRMS^{a/} IN SHENANDOAH COUNTY

<u>Name of Firm</u>	<u>Location</u>	<u>Year Established</u>	<u>Product or Major Activity</u>	<u>Approximate 1974 Employment</u>
<u>Established Prior to 1950</u>				
Bowman Apple Products Co., Inc.	Mt. Jackson	Pre-1950	Apple products	75-100 ^{b/}
Strasbury Textile Mills, Inc.	Strasburg	Pre-1950	Broadwoven fabrics	25-75 ^{b/}
Shenandoah Publishing House, Inc.	Strasburg	Pre-1950	Printing & publishing	65
Valley Fertilizer & Chemical Co., Inc.	Mt. Jackson	Pre-1950	Fertilizer & insecticides	24
Chemotone Corporation	Strasburg	Pre-1950	Lime	97
FMC Corporation	Woodstock	Pre-1950	Food products & machinery	94
<u>Established between 1950 and 1959</u>				
Blue Bell, Inc.	Woodstock	1952	Work clothing	273
Hepner Bros., Inc.	Mt. Jackson	1953	Cement blocks	20
Edinburg Manufacturing Corp.	Edinburg	1954	Children's knitwear	88
<u>Established between 1960 and 1969</u>				
Aileen, Inc.	Woodstock ^{e/}	1960	Knitwear, cutting, and shipping	1,583
Long Foods, Inc.	New Market	1961	Broiler processing	173
Frye Furniture Company ^{f/}	Strasburg	1962	Bedroom suites	78
Howell Metal Company	New Market	1967	Copper alloy tubing	170
Becton Dickinson & Co.	Woodstock	1968 ^{c/}	Plastic products	33
<u>Established after 1969</u>				
Rocco Farm Foods, Inc.	Edinburg	1971 ^{c/}	Poultry processing	268
Valley Apparel, Inc.	Strasburg	1971 ^{c/}	Ladies ready-to-wear garments	71
Blue Ridge Homes, Inc.	Edinburg	1971 ^{c/}	Modular homes	70
Champion Home Builders Co.	Mt. Jackson	1971 ^{c/}	Components for mobile homes	93
Coastal Recreation, Inc.	Strasburg	1972	Fiberglass sailboats	142
Blue Ridge Truss & Supply, Inc.	Basye	1973 ^{c/}	Prefabricated wooden roof trusses	27
<u>Firms which have announced location plans</u>				
Kennametal, Inc.	New Market	1974	Toolholders	50 ^{d/}
Judd and Detweiler, Inc.	Strasburg	1975	Printing and publishing	125 ^{d/}
Southern Johns-Manville Corporation	Edinburg	1976	Roof insulation	250 ^{d/}

^{a/} Includes firms with 20 or more employees in March, 1974.

^{b/} Employment has been given as a range to avoid violation of disclosure law.

^{c/} Year of establishment is date particular firm became liable under state statutes pertaining to unemployment compensation.

^{d/} Expected employment as announced by firm.

^{e/} In addition to the plant located in Woodstock, plants are also located in Edinburg, Strasburg, and New Market.

^{f/} Ceased to operate in the spring of 1975.

Sources: Virginia Employment Commission; Virginia Division of Industrial Development; Virginia State Chamber of Commerce, Industrial Directory of Virginia, 1973-74.

TABLE 8.--PAST AND PROJECTED POPULATION DISTRIBUTION,
SHENANDOAH COUNTY, 1950-1980

	Shenandoah County Area Total	Ashby District	Davis District	Johnson District	Lee District	Madison District	Stonewall District
1980 ^{a/}	25,000	...	...	...	...	...	...
1974 ^{b/}	24,500	...	...	...	...	...	...
1973	24,400	...	...	...	...	...	...
1972	24,100	...	...	...	...	...	...
1971	23,700	...	...	...	...	...	...
1970	22,852	3,820	5,582	2,486	3,045	3,416	4,503
1960	21,825	3,829	5,314	2,429	3,005	3,206	4,042
1950	21,169	4,047	4,927	2,373	2,791	3,163	3,868
<u>Percentage Distribution</u>							
1980 ^{a/}	100.0	...	...	...	...	...	...
1974 ^{b/}	100.0	...	...	...	...	...	...
1973	100.0	...	...	...	...	...	...
1972	100.0	...	...	...	...	...	...
1971	100.0	...	...	...	...	...	...
1970	100.0	16.7	24.4	10.9	13.3	14.9	19.7
1960	100.0	17.5	24.3	11.1	13.8	14.7	18.5
1950	100.0	19.1	23.3	11.2	13.2	14.9	18.3
<u>Distribution of Growth 1973-1980</u>							
<u>Absolute Growth</u>	600	...	...	...	...	...	...
<u>Percent Accounted for by Jurisdiction</u>	100.0	...	...	...	...	...	...

a/ Allocations within the area for 1980 assume the maintenance of current city-county boundaries.

b/ 1974 provisional estimate of the population by the Tayloe Murphy Institute, University of Virginia.

Sources: U. S. Bureau of the Census, Census of Population, 1950, 1960, and 1970; University of Virginia, Tayloe Murphy Institute, "Estimates of the Population of Virginia Counties and Cities," selected issues.

TABLE 9.--RETAIL SALES COMPARISONS, SHENANDOAH COUNTY AND THE STATE, 1972

	<u>Shenandoah County</u>	<u>Virginia</u>	<u>Area Total As a Percent Of Virginia</u>
Population (1972)	24,100	4,765,000	0.5
Percent of total area population in each jurisdiction	100.0	...	...
Retail sales volume (000)	\$45,501	\$10,030,046	0.5
Percent of area retail sales accounted for by each jurisdiction	100.0	...	...
Per capita retail sales	\$1,888	\$2,105	89.7

Sources: U. S., Bureau of the Census, 1972 Census of Retail Trade; University of Virginia, Tayloe Murphy Institute, "Estimates of the Population of Virginia Counties and Cities: July 1, 1972 and July 1, 1973."

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