

To determine the approximate location of substandard housing units, the staff of the Division of State Planning and Community Affairs conducted an "exterior structural" survey in January, 1973. Consequently, concentration of substandard housing was not found in Shenandoah County except in scattered locations. Most of the substandard housing units are associated with undesirable environmental factors, such as unpaved roads, discarded automobiles, poor access, and unauthorized garbage dumps.

**TABLE 16
COMPARISON OF THE PERCENTAGE OF SUBSTANDARD
HOUSING IN SHENANDOAH COUNTY WITH THE PERCENTAGE
IN VIRGINIA AND THE UNITED STATES, 1970**

	United States	Virginia	Shenandoah County
Total occupied and vacant year-round housing units:	67,656,566	1,483,026	8,686
Percent of total occupied and vacant year-round units which:			
Lack complete plumbing	7	13	29
Lack complete toilet facilities	5	11	27
Lack complete kitchen facilities	5	9	18

Source: U.S. Bureau of the Census, Census of Housing, 1970.

PART TWO POLICIES AND PLANS

SECTION ONE GOALS AND OBJECTIVES

The primary goal of Shenandoah County is to improve public health, safety, convenience, and welfare, and to plan for the future development of the County. The following objectives are intended to achieve this goal:

General Objectives

1. To provide a framework for the orderly growth of the County, wherein the demands for residential, commercial, public and other land uses can be accommodated in a harmonious manner.
2. To provide a basis for designing and programming new public facilities.
3. To encourage economic development: agriculture, industry, public facilities, and services.
4. To provide a beginning for a continuing planning process, wherein the needs and desires of the citizenry will be constantly reflected and realized.
5. To provide a highway network designed to meet the future needs and demands of the County.
6. To coordinate planning with the Lord Fairfax Planning District Commission to insure that the County plan is consistent with regional development goals.

Agricultural Objectives

1. To protect existing farming operations from premature or speculative industrial, residential or commercial development.

2. To designate areas for agricultural use for the purpose of facilitating conservation of water and other natural resources, reducing soil erosion, protecting watersheds and reducing flood and fire hazards.
3. To provide for the orderly expansion of urban development into territory surrounding incorporated areas within the County while discouraging the scattering of residential, commercial, and industrial uses into the agricultural areas.
4. To promote the development of commercial activities, such as the general country store, at concentrated locations in agricultural areas.

Residential Objectives

1. To discourage residential development in areas having:
 - a. a conservational value;
 - b. economic deposits of extractive resources;
 - c. excessive slopes or floodplain conditions;
 - d. proximity to surface water supplies; and
 - e. hazards other than flooding, such as heavy industrial use, airport, and poor soil conditions.
2. To encourage residential development in proximity to good transportation access; near the major retail shopping areas and major employment centers; and in areas with public services such as water and sewer, fire, and police protection.
3. To establish adequate buffer zones between residential and commercial and industrial areas to maintain property values and physical attractiveness.
4. To protect single-family residential areas from through-traffic and incompatible uses (such as, industrial and commercial uses).
5. To allow farm-related residential use in agricultural areas, medium residential density in certain marginal agricultural areas as well as certain waterfront areas, and high residential density in areas where public or central water and sewer facilities are present or planned.

Commercial Objectives

1. To prevent strip commercial development along the major transportation routes.
2. To promote commercial development in planned commercial areas which are the equivalent to the central business district found in the towns.
3. To group highway commercial services in selected locations.
4. To preserve areas near existing commercial areas for future expansion.
5. To provide adequate parking facilities and controlled access for all commercial developments.

Industrial Objectives

1. To encourage light industry that will benefit the economy of the County.
2. To designate industrial sites based on the criteria of land availability, current land use, proximity to service facilities, topography and proximity to land and air transportation access.
3. To promote industrial uses in "park" settings with adequate distance and aesthetic qualities in relation to neighboring uses and highways.
4. To isolate obnoxious, nuisance-type industries from residential and commercial districts.

Open Space and Recreation Objectives

1. To utilize existing or potential water reservoirs in the County for planned recreational uses.
2. To preserve the George Washington National Forest and the Shenandoah River as prime conservation and recreation areas for residents of the County as well as visitors.
3. To establish conservation and/or wildlife preservation areas in areas of major watersheds, bottomlands, and floodplains.
4. To acquire land through dedication or advance acquisition in areas where population density is expected to increase in future years.
5. To preserve well-identified scenic and historic sites in the County.
6. To promote private recreational facilities and planned resort communities which will enlarge the job opportunities for the residents of the County.

Major Highway Objectives

1. To develop a highway system which will accommodate safe and efficient movement of people and goods.
2. To design a highway system in coordination with future land use pattern for preserving the quality of the physical environment.
3. To establish a coordinated planning process to insure that the future County highway plan is consistent with regional and state plans.

SECTION TWO THE ESTIMATION OF FUTURE SPACE NEEDS

The comprehensive plan for a locality should establish a basis for scaling the amount of land needed for future growth. For Shenandoah County, population and economic growth projections were used as a measurement for probable future space needs. As a result, an estimate of the land required for each major land use category is given in Table 17.

- It will increase the costs for providing community services, including water, sewer, police protection, refuse collection, and fire protection.
- It will hamper the traffic movement if the strip development were permitted to continue.
- It will encourage strip commercial development along the frontage of all major highways.

2. Corridor Pattern

The arrangement of this pattern is based on a linear relationship to the two major traffic arteries in Shenandoah County - U.S. Highway 11 and Interstate 81. In this pattern, the existing towns will serve as the primary growth centers and areas along these two major routes will be designated and developed for urban uses.

Advantages

- It will provide rapid access to the primary growth centers.
- It will confine urban developments in well defined corridors separate from the rural portions of the County.

Disadvantages

- This pattern is also handicapped with the disadvantages of Alternative 1 regarding the provisions of community services and traffic movement.
- This pattern will also remove the identity of each of the six existing towns.

3. Multiple-Centers Pattern

This scheme is a group of primary (urban) growth centers and secondary (rural) growth centers, which in total make up the county's future development pattern. The primary (urban) growth centers surrounded by open space and/or agricultural lands will become centralized service centers, while the secondary (rural) growth centers will become rural service centers offering convenience type shopping facilities and limited governmental services.

Advantages

- It will encourage urban uses to locate in and around the primary growth centers (existing towns) where community services and shopping facilities are readily available.
- It will enable urban uses to be more economically developed and serviced in areas (primary growth centers) of relatively high population density and good physical characteristics.
- It will maintain the physical identity of each primary growth center (existing town).
- It will reduce the cost for providing public services by confining new development in primary and secondary growth centers.
- It will break up strip pattern of developments associated with Alternatives 1 and 2.

Disadvantages

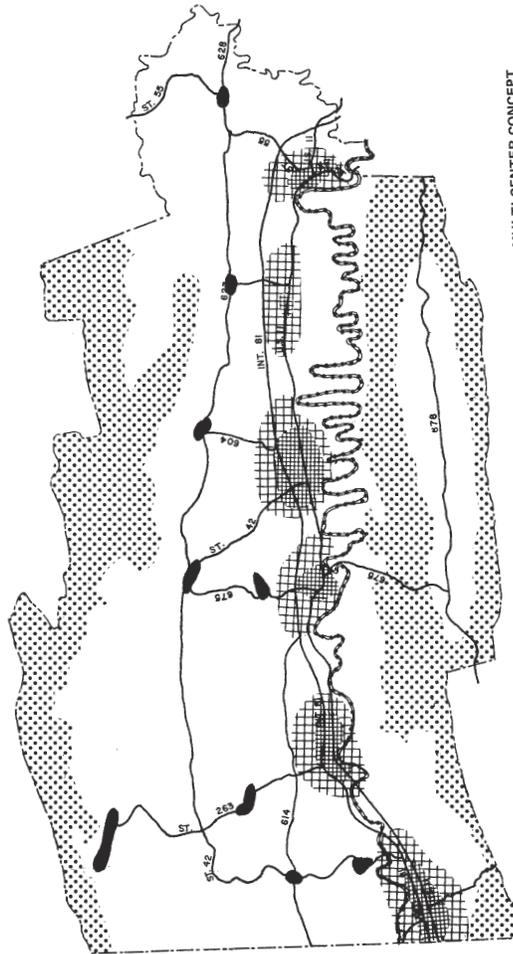
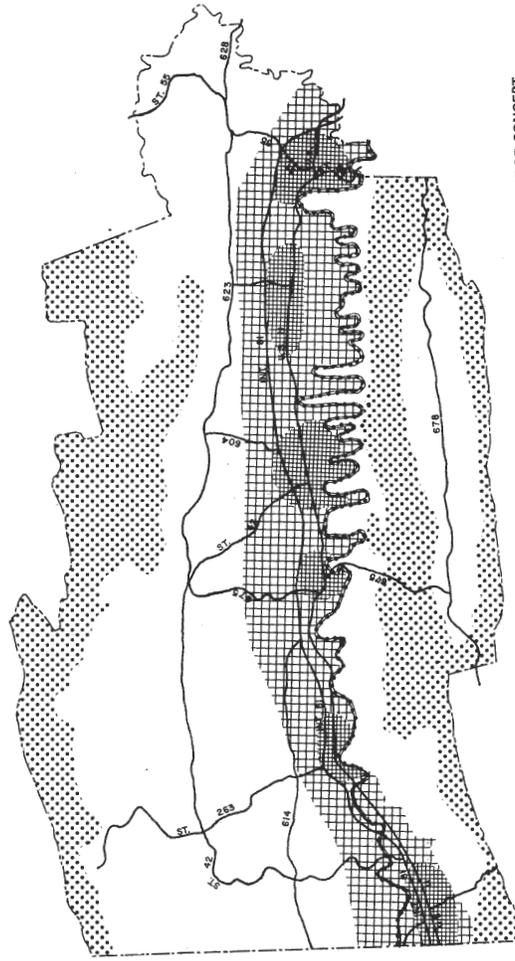
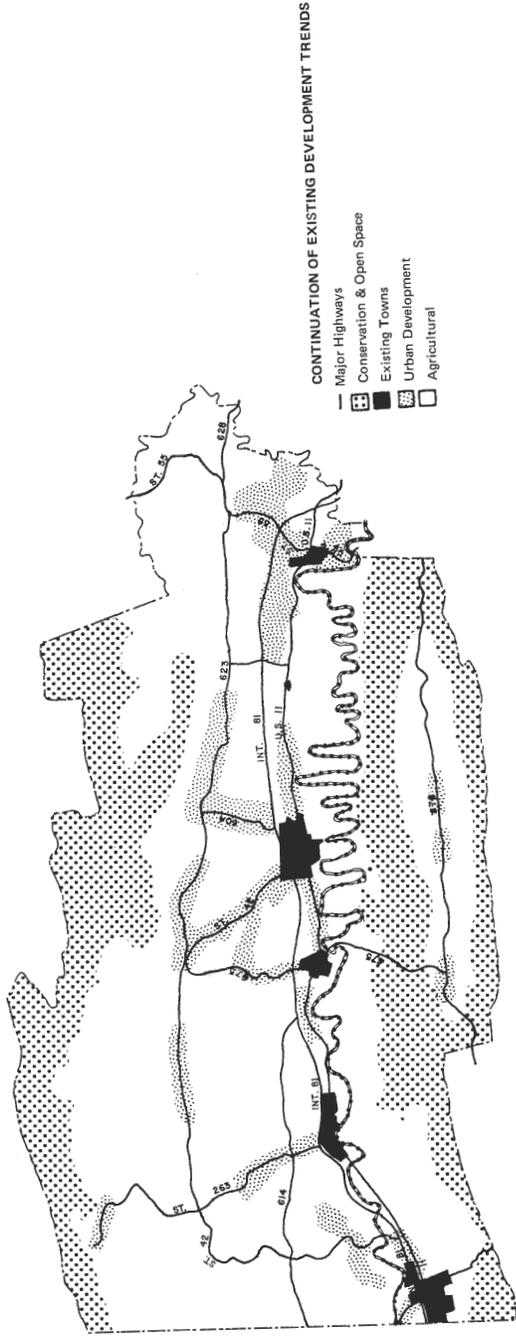
- It will encounter some public opposition because this pattern will control the development of new land uses.

Shenandoah County Virginia 1974

Division of State Planning and Community Affairs

Map 5

ALTERNATIVE DEVELOPMENT CONCEPTS



Conclusions

Based on the advantages and disadvantages of each alternative development concept, the County has selected the multiple centers concept as the optimum development guide. This concept will establish an orientation and character for the future growth of Shenandoah by confining urban developments in and around six urban growth centers and twelve rural development centers, rather than allowing growth to sprawl along primary and secondary roads.

SECTION FOUR THE PLAN

LAND USE PROPOSALS

The primary purpose of the land use proposals is to direct the future use of land in close relation to the development goals and objectives, future space requirements, economic prospects, physical characteristics, and existing development pattern. The County has also considered appropriate location and design standards to arrive at the land use proposals.

The land use proposals are a set of inter related proposals designed to promote the selected development concept of multiple centers. Through development controls and community cooperation, this concept will help the County to provide services for its residents more economically and to maintain an environment of conserved open space and agricultural lands.

A detailed description of each of the land use proposals indicated on the Plan Map is as follows:

Urban Growth Centers

Urban growth centers, designed to offer a full range of services and facilities, are to be formed by the existing towns. Based on the past and present development trends, Strasburg, Woodstock, Mt. Jackson and New Market will play a major role in terms of providing urban services to their surrounding areas, while Edinburg and Toms Brook will serve the County in a secondary capacity.

This plan will not describe the detailed land use arrangement within these growth centers since most of them have either adopted comprehensive plans or contemplate preparing one in the near future. However, each of these towns by virtue of its designated function will contain the following characteristics:

- a variety of residential densities depending on the capacity of its public water and sewer.
- a central business district offering diversified shopping goods and services.
- an adequate system of parks and recreational facilities.
- an array of governmental services, including police and fire protection, public utilities, schools, medical facilities, and water and sewer.
- a strong employment base providing adequate job opportunities.
- an identifiable development pattern that is planned congruously with the natural environment.
- a network of streets meeting the present and future circulation needs.

These six urban growth centers should be kept as separate identities, each with a low to medium density residential area around it for people desiring suburban living. Substantial benefits may accrue from clustering urban and suburban growth in selected areas, allowing other areas of the County for agricultural uses. In this way, better planned subdivisions and lower development costs will be made possible.

Rural Development Centers

The Planning Commission proposes twelve (12) rural development centers in selected areas of the County, most of which are established rural villages with approximately fifty to one hundred residential homes and local business stores. The development of these centers will prevent scattered residential and commercial developments in the rural areas from encroaching upon fertile agricultural lands. By concentrating development, large savings will be realized in the cost of providing services, including schools, roads, water and sewer, refuse collection and disposal, light and power, and telephones.

The rural development centers include the following locations: Lebanon Church, Mt. Olive, Alonzaville, Detrick, Lantz Mills, Hamburg, Columbia Furnance, Coinsville, Forestville, Quicksburg, Mt. Clifton, and Orkney Springs-Bayse. When developed, each of these centers will contain the following features:

- a desirable residential density of 1 to 2 dwelling units per acre depending upon the availability of public or central water and sewer.
- a probable population of 500 to 1,000.
- "package" type water and sewer treatment systems.
- a service center consisting of convenience commercial stores, branch police and fire stations, health center, and post office.

Residential

The Planning Commission advocates the neighborhood unit principle by recommending low to medium density residential clusters located in and around each growth center and serviced by schools, shopping facilities and free from heavy through traffic.

The area bounded roughly by Woodstock, Edinburg, State Routes 675 and 42, and the Shenandoah River is expected to accommodate the largest percentage of the residential growth in Shenandoah County. Ultimately this "golden triangle" will become the center of urban growth, containing a series of residential clusters.

These designated residential areas will have a density of about 1 to 2 dwelling units per acre; a higher density may be permitted when they are served by public or central water and sewer. The residential areas shown on the Plan map contain sufficient acreages for the projected residential growth in Shenandoah.

Commercial

The existing commercial development pattern in Shenandoah County is spreading along transportation routes from the towns. If this trend were allowed to continue, typical "strip" commercial will occur and hamper the traffic movement, not to mention the aesthetic loss resulting from huge signs, flapping pennants, and other gaudy devices. To correct this undesirable development pattern, the Planning Commission proposes three kinds of commercial areas, giving special attention to their designated functions.

The first type of these planned commercial areas is the interchange commercial area. The completion of Interstate 81 has provided the County with eight interchanges, and these interchanges can give the County most desirable commercial locations. To realize the full economic benefits of these areas, it is necessary to guide and control the development around these interchanges so that the highest quality development, in terms of economic returns to the County, will result.

Five interchange commercial areas are proposed at locations near Strasburg, Toms Brook, Edinburg, Mt. Jackson, and Shenandoah Caverns. Each of these areas is envisioned to contain such commercial uses as motels, restaurants, office parks, and gas stations. To safeguard the usefulness of these interchanges, the County must review the site design of commercial uses along approach highways so that they will not choke off the traffic movement.

The second type is the general commercial area. Designed to serve a much wider trade area, it will serve as the suburban equivalent of the existing central business district in the towns of the County. It will contain, in addition to the stores normally found in the local commercial area, a wide variety of shopping goods, home furnishing, automobile dealerships, and service establishments of all kinds.

The third type is the local commercial area which is proposed at each of the designated rural development centers. The local commercial area will contain stores to facilitate such convenience needs as gasoline, groceries, and sundry items.

In developing these proposed commercial areas, the County should enforce the following site design criteria:

- groups of adjacent and/or similar facilities should relate through vehicular and/or pedestrian travelways.
- development should blend with the natural landscape.
- pedestrian movement should not compete with vehicular movement.
- commercial areas should have controlled access.
- signs should communicate only goods sold and services provided.
- parking areas should contain landscaped walkways, relating pedestrians directly to the stores.
- service entrance to the stores should separate from the shoppers.

Industrial

The results of the migration of industrial plants from urban area to modern one-floor facilities in rural areas have brought additional economic gains to rural localities. The employment rate is steadily climbing, tax base is strengthening, and population is increasing. However, this rapid industrialization of the rural areas will cause undesirable effects if the industrial plants are not located and developed properly.

To enable Shenandoah County to benefit from this industrial decentralization trend, the County should promote light industries in industrial parks located adjacent to the County's airports or major transportation routes. The development of quality, non-polluting industrial parks will be consistent with the goals and objectives of Shenandoah County.

The Plan map indicates seven industrial areas which are occupied by existing industries or have been selected by the Virginia Electric and Power Company as good industrial sites. These sites have good access to transportation networks and are good sites with regard to the terrains, soil characteristics and the absence of flooding conditions. In all instances, their locations are related properly to the centers of population.

In developing these industrial sites, the County should require:

- a well landscaped and pleasing site design.
- adequate distance between industrial sites and adjoining uses.
- direct industrial access road to and from major transportation routes.
- adequate utilities and related services including water and sewer.
- a desirable density of 15 to 16 workers per acre.

Public and Semi-Public

The Plan map depicts the existing as well as those committed future public and semi-public uses that are of importance to the development of Shenandoah County. The reason for a lack of detailed projection of future sites is that the size of the County makes it neither feasible nor desirable. To make such choice with regard to public facilities sites will require a large sum of County funds and could cause land speculation. For example, the construction of a park will make the surrounding area more attractive and valuable for residential development.

In the designated residential areas, the Planning Commission has indicated that the County's subdivision regulations will be instrumental in securing dedications of public facilities sites as an integral part of a residential development. Furthermore, different types of future developments may require different public facility needs and affect the selection of detailed sites. For example, the development of a seasonal resort community will reduce the school needs, while a permanent residential area will increase the school needs. The Planning Commission, therefore, proposes that sites for future public and semi-public facilities be made flexible, so they can be developed harmoniously with the new development.

Agricultural

A large portion of the County is designated as being agricultural, which is not expected to develop as urban uses by 1990. Except for farming operations and agricultural related uses, intensive and premature urban developments should be discouraged to afford maximum protection to the fertile, productive agricultural lands.

Permanent Open Space

The areas designated as permanent open space are those of mixed alluvial soils adjacent to the North Fork of the Shenandoah River and other major streams which are occasionally flooded. For this reason they are not suited for urban developments. In the future, water impoundments could be built at sites which have potential for storage of water for flood control, recreation, and water supply.

Conservation

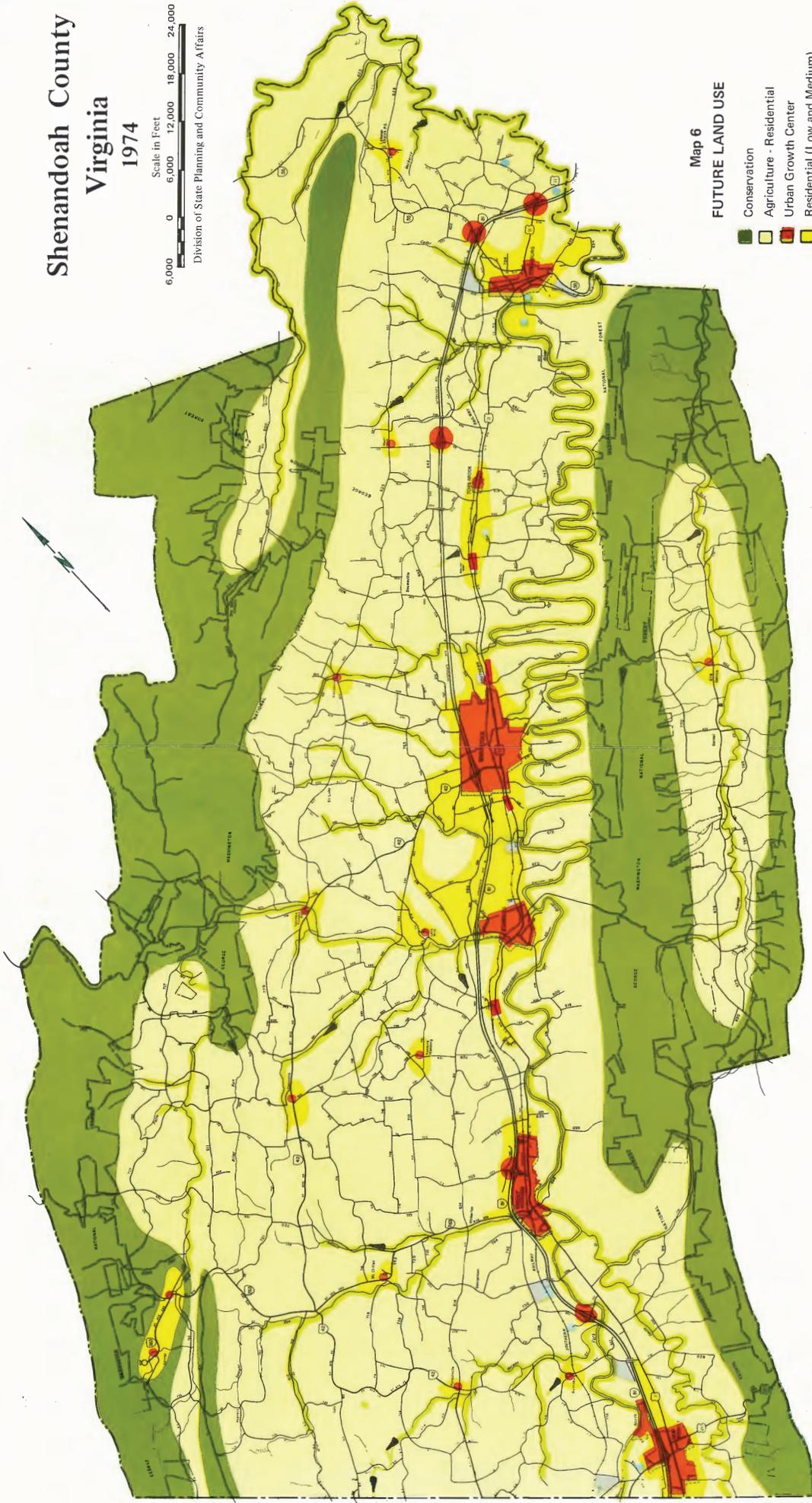
The areas shown on the Plan map as conservation are delineated on the basis of unfavorable topography, undesirable soils, and public forestlands. They play an important role in the preservation of Shenandoah's natural resources, and should remain in their natural state to avoid abusive and hazardous development. However, the County should permit the proper development and management of these areas for recreation uses, such as camping sites, lakes, ski resorts, and parks. The County should review the proposed recreational developments by following local, state and federal development control measures, including federal Interstate Land Sales Act, state water pollution control standards, soil erosion and sediment control ordinance, and local subdivision and zoning ordinances.

MAJOR HIGHWAYS PROPOSALS

The growth and development of Shenandoah County is and will be influenced by the establishment of a system of major highways. This system is composed of interstate highways, arterials, collectors and local access roads which are interrelated, each affecting the level of service provided by the other. As an area grows in population and number of vehicles, the movement of people and goods will become a more complex and difficult problem.

Shenandoah County Virginia 1974

Scale in Feet
 6,000 0 6,000 12,000 18,000 24,000
 Division of State Planning and Community Affairs



- Map 6**
FUTURE LAND USE
- Conservation
 - Agriculture - Residential
 - Urban Growth Center
 - Residential (Low and Medium)
 - Interchange Commercial
 - General Commercial
 - Local Commercial
 - Industrial (Light)
 - Public and Semi-Public
 - Permanent Open Space
 - Potential Impoundment Sites

The purpose of this section is to develop a feasible system for the movement of people and goods, and to insure that this proposed highway plan is compatible and complementary to the land use plan. Traffic volume, classification of highways, existing and future development patterns, and contemplated highway improvements are major factors used to arrive at major highway proposals adequate to serve the present and future needs of the County.

Existing Highway Network

Shenandoah County has a highway network varying from unpaved country roads to a four-lane divided interstate highway. Of the total 800 miles of highways in the County, 628.56 miles are secondary routes, 126.61 miles are primary routes, and 44 miles are interstate highways. Except for some 70 miles of unpaved and light surfaced secondary routes, all of the remaining mileages are either hard surfaced or all weather surfaced. In addition, there are many forest roads which are built and maintained by the U.S. National Forest Service.

The right-of-way width of the State maintained highways varies from 300 feet for interstate routes to 30 feet for secondary routes. The interstate and primary highways in Shenandoah County are adequate in terms of their rights-of-way,, but secondary routes are generally in need of future improvements.

TABLE 18
SELECTED AVERAGE DAILY TRAFFIC VOLUMES ON
INTERSTATE AND PRIMARY HIGHWAYS, 1962, 1970 and 1972
SHENANDOAH COUNTY, VIRGINIA

Route	From	To	Average Daily Traffic Volumes		
			1962 ^(a)	1970	1972
U.S. 11	Interstate 81	Strasburg	5,400	3,695	4,160
	Strasburg	Woodstock	7,105	4,105	4,300
	Woodstock	Mt. Jackson	6,010	3,710	4,075
	Mt. Jackson	Rt. 767 north of New Market	5,415	2,115	2,290
	Rt. 767 north of New Market	New Market	5,535	2,240	2,370
Interstate 81	Rt. 211-260 of New Market	Rt. 703 Shenandoah Caverns	N.A.	7,740	9,660
	Rt. 703 Shenandoah Caverns	Rt. 703 north of Mt. Jackson	N.A.	7,655	9,370
	Rt. 703 north of Mt. Jackson	Rt. 614 Bowmans N.A.	N.A.	7,840	9,370
	Rt. 614 Bowmans	Rt. 675 Edinburg	N.A.	7,700	9,370
	Rt. 675 Edinburg	Rt. 42 Woodstock	N.A.	7,380	9,045
	Rt. 42 Woodstock	Rt. 651 Toms Brook	N.A.	7,395	9,210
	Rt. 651 Toms Brook	Rt. 55 Strasburg	N.A.	7,425	8,480
	Rt. 55 Strasburg	Rt. 11 Strasburg	N.A.	6,915	8,755
State Route 42	Woodstock	Calvary	1,915	2,725	3,115
	Calvary	Columbia Furnace	1,040	2,330	-2,560
	Columbia Furnace	Mill	230	250	300
	Mill	Forestville	350	305	415
	Forestville	Timberville	590	665	780

TABLE 18 (Continued)

State Route 55	Riverton	Strasburg	2,255	3,620	3,200
	Strasburg	Lebanon Church	795	1,150	1,230
	Lebanon Church	Star Tannery	420	750	720
	Star Tannery	State Line	370	630	590
U.S. 211	Luray	New Market	2,140	3,425	3,760
State Route 260	New Market	County Line	1,930	2,820	4,210
State Route 263	Mt. Jackson	Mill	445	875	1,375
	Mill	Bayse	440	835	1,115
	Bayse	Orkney Springs	425	595	690

(a) Interstate 81 was not open in 1962.

Source: Virginia Department of Highways, Traffic and Safety Division, 1962, 1970 and 1972.

Based on the traffic counts provided by the Virginia Department of Highways, Interstate 81 is the most heavily travelled highway which carries around 9,000 vehicles a day in 1972. U.S. Highway 11, formerly a principal arterial, has turned into a major collector and experienced a decrease in traffic volumes because of the completion of Interstate 81. Other than the aforementioned routes, Routes 211, 42, and 263 have also had a gradual increase of traffic. The selected average daily traffic volumes on Shenandoah's interstate and primary routes are given in Table 18. Since the majority of Shenandoah's major roads are two-lane roadways and could handle a designed capacity of 500 to 1,000 vehicles per hour, none of them have exceeded their designed capacities.

Classification of Highways

Based on the U.S. Department of Transportation National Highway Functional Classification Study, the Virginia Department of Highways has classified the highways of Shenandoah County into six categories: interstate, principal arterial, minor arterial, major collector, minor collector, and local access road. They are shown on the Major Highways Plan map and are discussed as follows:

(1) Interstate Highways

Interstate highways are designed to serve safely and efficiently the traffic between all cities of 50,000 or more population. These divided highways are developed as two separate one-way roads to take advantage of terrain and other conditions for safe and relaxed driving, economy, and pleasing appearance. Interstate 81 is the only designated interstate highway serving Shenandoah County.

(2) Principal Arterials

The rural principal arterials contain routes which will serve projected corridor movements having trip length and travel density characteristics indicative of substantial travel. These routes are primarily four-lane in width, with only Routes 211 and 55 falling within this category in the County.

(3) Minor Arterials

The rural minor arterials should, in conjunction with principal arterials, form a rural highway network having the following characteristics:

- a. Link large towns and other traffic generators, such as major resort areas that are capable of attracting travel over similar long distances, and form an integrated network providing interstate and intercounty services.

- b. Be spaced at such intervals, consistent with population density, so that all developed areas of the region are within a reasonable distance of an arterial.
- c. Provide services to corridors with trip lengths and travel density greater than those predominantly served by rural collectors or local access roads.

Minor arterials, therefore, constitute routes whose design should be expected to provide for relatively high travel speeds, with minimum interference to through movement. Routes 260 and 55 (between Interstate 81 and Cedar Creek) are included within this category for the purpose of this Plan.

(4) Major Collectors

These routes, as shown, should:

- a. Provide service to any county seat not on an arterial, to the larger towns not directly served by an interstate or arterial, to other traffic generators of intracounty importance;
- b. Link these traffic generators with nearby towns or with interstate or arterials; and
- c. Serve the more important intracounty travel corridors.

Routes that fall into this category include sections of Routes 11, 675, 678, 42, 767, 263, 623, 651, 604, 683, 614, and 675.

(5) Minor Collectors

Minor collectors, as designated, should have the following characteristics:

- a. Collect traffic from local access roads and bring all developed areas within a short distance of a major collector.
- b. Provide service to the rural villages.
- c. Link the locally important traffic generators with their rural hinterland.

Minor collectors in Shenandoah County contain portions of Routes 622, 629, 638, 601, 600, 675, 717, 710, 703, 617, 616, 698, 730, 682, and 654.

(6) Local Access Roads

The local access roads are designed primarily to provide access to adjacent land and to facilitate short distance travel. Local access roads, of course, constitute the roads not classified as interstate, arterials, or collector routes.

In addition, the recommended design standards for pavement and right-of-way widths are included in the appendices of this report as guides for future highway improvements. They are given as examples, and will be subject to modifications as determined by traffic demands and preliminary engineering design in a particular location.

Recommended Highway Improvements

The Major Highways Plan is of little value unless improved. In selecting highways for improvements or realignments, the County has considered the travel requirements as well as the existing and future land

use patterns. The future land use plan is based on the multi-centers development concept where urban developments are to be developed in clusters, with a system of highways providing linkage between each of these designated growth areas. To achieve this desired growth pattern, the County in conjunction with the State Highway Department should make the following highway improvements:

1. Maintain a continuing improvement program for U.S. Highway 11, placing emphasis on the conversion of the section between Interstate 81 and Strasburg to a four-lane roadway. Such an improvement will provide easy access for the Town of Strasburg as well as provide reserved capacity for future traffic growth.
2. Improve State Routes 42, 682, and 675 as a circumferential route to serve the existing and proposed developments in the "golden triangle" area of Shenandoah County. This improvement will be necessary if the cluster development is to be realized.
3. Continue the improvement program for U.S. Highway 211 from Interstate 81 to the County line to a four-lane facility. This improvement will provide easy access for the Town of New Market as well as greatly alleviate the traffic generated by the New Market Battlefield Park.
4. Improve Routes 617 and 698 to a two-lane industrial access road with at least 24-foot pavement. These two improvements, when completed, will provide improved access to the Mt. Jackson and New Market airports and to the industrial parks which are to be developed adjacent to these airports.
5. Improve all primary and secondary roads between designated growth areas to eliminate such deficiencies as sharp curves, steep grades, narrow bridges, and inadequate pavement width.

Implementing the Recommended Major Highway Improvements

The preceding section contains the recommended highway improvements for Shenandoah County, varying in importance and character. The improvements cannot be undertaken by the State Highway Department simultaneously due to the limited highway funds available annually. However, there are methods that can be utilized by the County to help implement the Major Highways Plan. Among these methods are:

1. The County should require the dedication of adequate rights-of-way for the improvements of existing highways or the construction of new highways as a part of the subdivision control program.
2. The County should submit to the State Highway Department yearly a list of highway improvements that the County considers of high priority. This list should be accompanied by written statements describing how these improvements will relate to the development of Shenandoah County.
3. The County should require the developers to observe best planning standards aimed at eradicating such traffic hazards as inadequate off-street parking, poor visibility at intersections, improper ingress and egress, and inadequate building setback through zoning control (site plan review requirement in particular).

COMMUNITY FACILITIES PROPOSALS

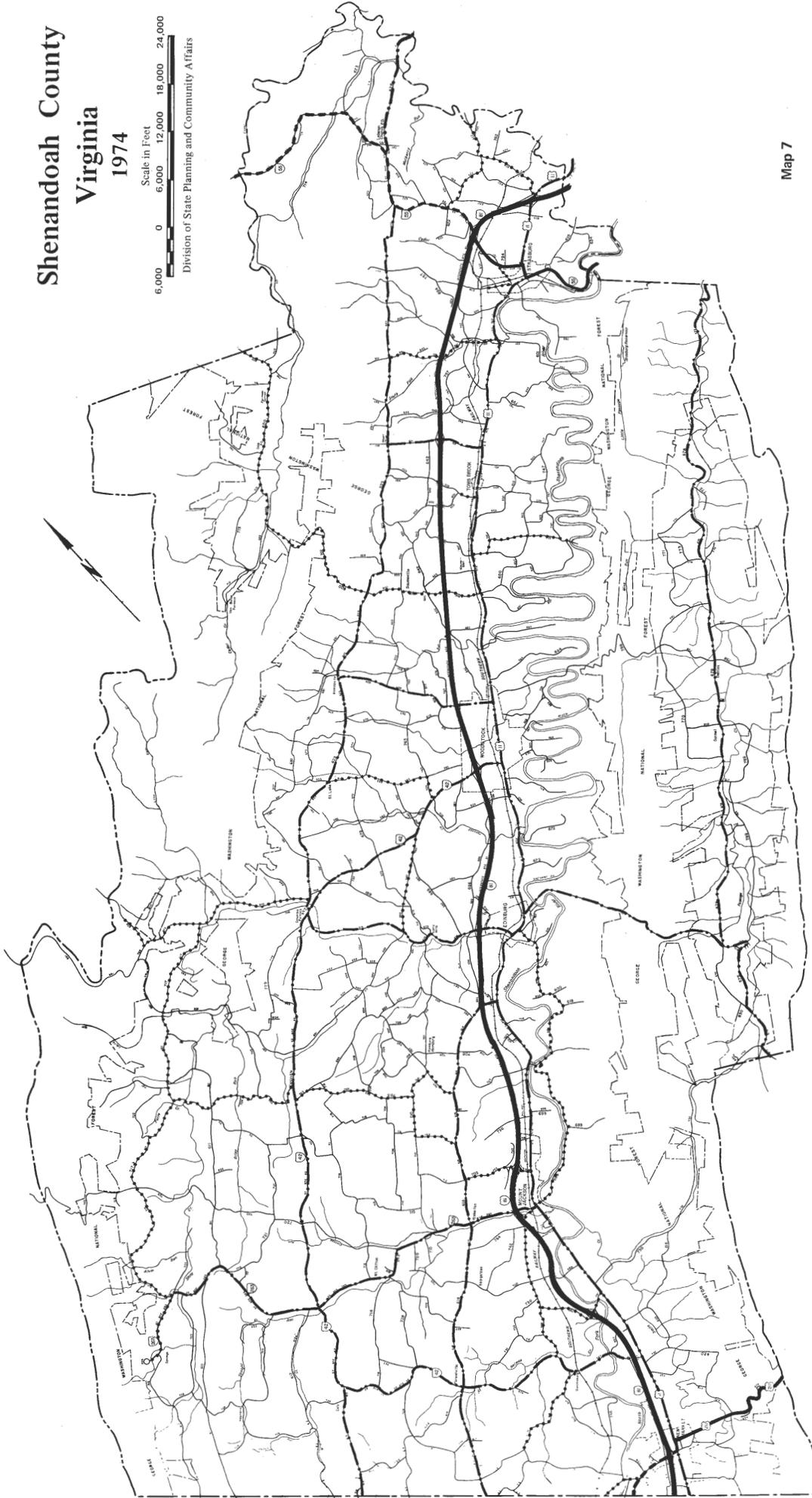
The following describes community facilities proposals that should be undertaken by the County:

Water and Sewer

The County will have to encourage the development of adequate water and sewer services for accommodating the future growth of Shenandoah. In 1970 the County employed Charles F. Hurt

Shenandoah County Virginia 1974

Scale in Feet
6,000 0 6,000 12,000 18,000 24,000
Division of State Planning and Community Affairs



Map 7

MAJOR HIGHWAYS PLAN National Highway Functional Classification

- Interstate
- Principal Arterials
- Minor Arterials
- Major Collector
- Minor Collector
- Local

and Associates to prepare a Comprehensive Water and Sewer Plan for those areas of the County having existing and/or future needs. Major recommendations that have been made by the Consultants and were incorporated into the Lord Fairfax Planning District Water Quality Management Plan are:

- Each of the existing municipal water supply systems should extend its service distribution lines into the suburbs where the need for water exists.
- By 1990 the County should provide a public water supply system for serving the portions of Shenandoah where it is economically feasible.
- The Shenandoah County Service Authority, when established, should construct and operate the public water distribution system.
- The County should encourage the towns to construct additional primary and secondary sewerage treatment facilities for all the designated urban growth centers.

Open Space and Recreation

- Help develop a state park near the Cedar Creek Battlefield north of Strasburg.
- Develop Route 678 running through the Fort Valley Area as a scenic highway.
- Develop the Cedar Creek as a scenic river.
- Preserve the Cedar Creek Battlefield as a historic site in connection with the proposed state park.
- Develop the Massanutten Mountain and the North Fork of the Shenandoah River as planned recreation areas due to their recreation potential and importance.

Fire Protection

- Establish new fire station at each designated rural development center when funds are available under the Federal Rural Area Development Act.

HOUSING PROPOSALS

Proposals that will help Shenandoah County improve its existing housing problems and meet the future need for adequate housing include:

- The County should consider the formation of a housing development authority to coordinate housing production, management, and demand through such federal and state agencies as the Federal Housing Administration, the Farmers Home Administration, and the Virginia Housing Development Authority.
- The County should work with other localities in the Lord Fairfax Planning District in improving the housing problems on a regional basis. This could include the formation of a non-profit regional housing development corporation.
- The County should cooperate with the representative of the Farmers Home Administration in Shenandoah County to provide information on the federal rural housing programs.
- The County should coordinate state and federal programs in the rehabilitation of existing substandard housing units.
- The County should adopt and enforce land use regulatory measures, including zoning, subdivision regulation, and housing code, to improve the undesirable environmental conditions associated with substandard housing.

SECTION FIVE PLAN IMPLEMENTATION

The Comprehensive Plan for Shenandoah County represents a development proposal which, if properly implemented, can fulfill the goals and objectives set forth in the report. It embodies the best thinking of the County at a given point in time, and should provide a frame of reference to the future public and private development that will affect the growth of Shenandoah County.

The County should consider this plan as the beginning of a continuing planning program. It will require a number of plan implementation measures to permit development to occur in the desirable manner proposed.

Plan implementation measures which are available to implement the plan in accordance with the Virginia legislative and constitutional provisions are as follows:

1. Official Adoption of the Plan

Official adoption of the Plan by the Shenandoah County Board of Supervisors is the first step in carrying out the plan. The County should distribute copies of this plan to the public and conduct public hearings to solicit comments from the citizenry prior to the adoption of this plan. After its official adoption, the plan will serve as the official development guide for the County and shall control the general or approximate location, character and extent of each feature shown on the Plan Map.

2. Zoning Control

Zoning is a method of dividing the territory of a political subdivision into different use districts in accord with the local development policies. By setting up use and dimensional regulations, it will insure that the future use of land or structures will be in conformity with the local official comprehensive plan. The authority to zone is based on the police power, which is delegated to the locality. The County has taken steps to prepare a zoning ordinance which will help implement the comprehensive plan. The Planning Commission and the Board of Supervisors should review and adopt it immediately.

3. Subdivision Control

Subdivision control is essential to the sound development of a locality in that minimum site improvement standards as well as park and school sites can be regulated, reserved, and built with great savings in public funds. The County has enacted a subdivision ordinance and is in the process of updating it for the purpose of guiding the development of future residential areas more effectively.

4. Capital Improvements Programming

Capital Improvements Programming (CIP) is another valuable plan implementation tool which has been widely accepted and used by localities throughout the state as well as the nation. It is a detailed and reasoned schedule for constructing and financing major public improvements over a period of five years based on a comprehensive plan. The CIP process should operate on an annual cycle, and should be updated and extended one more year into the future. To a certain degree the implementation of the County's comprehensive plan is hinged on the timely improvements, such as parks and recreation areas, new schools, public water and sewer, and major highway improvements. The Office of the County Administrator should, therefore, work closely with other local and state agencies in preparing a sound Capital Improvements Programming for Shenandoah County.

5. Periodic Review

The one inevitable characteristic of all localities is change. Even in the most static communities some form of change will occur; therefore, the completion of this plan does not mean the end of planning in Shenandoah County because periodic review of this plan is needed to reflect unforeseeable social and economic changes. The Code of Virginia states that "the comprehensive plan, or the completed parts of it, shall be reviewed at least once every five years by the local planning commission to determine whether it is advisable to amend the plan." (a)

(a) See Section 15.1-454, the Code of Virginia, 1950, as amended.

Other legal codes, including building code, housing code, and sanitary code, all play a part in carrying out the County's plan. They should not be ignored as supplementary methods of plan implementation.

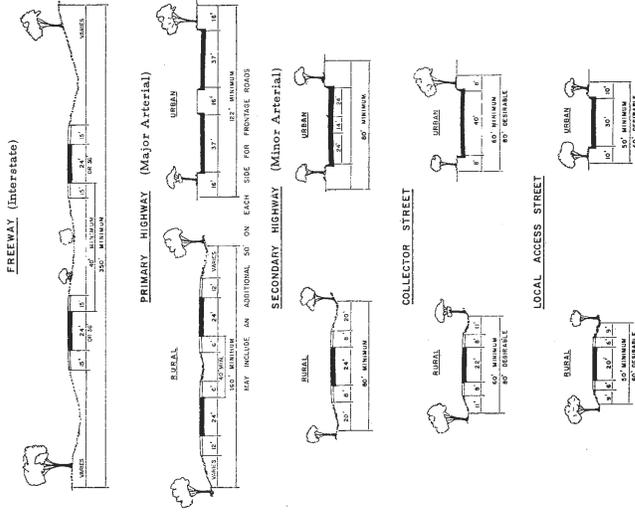
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Division of State Planning and Community Affairs

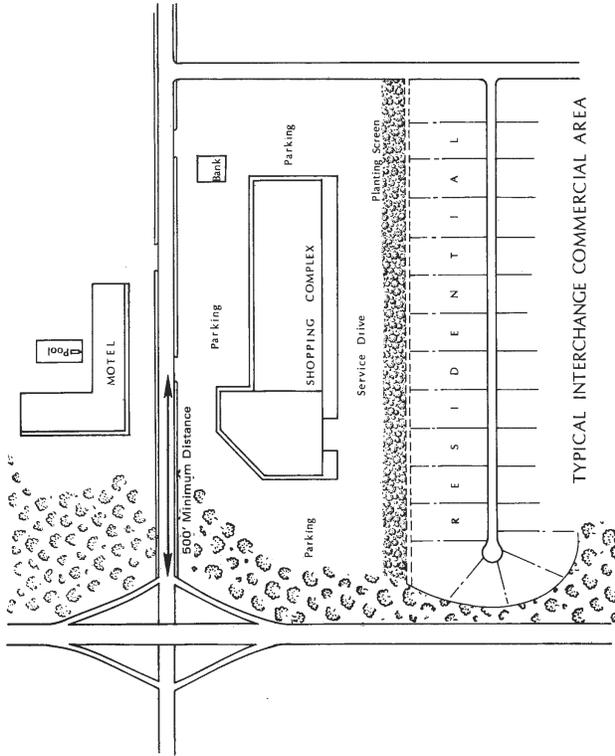
Appendix A: Recommended Design Standards for Highways

RECOMMENDED DESIGN STANDARDS

For Highway Pavement and Right-of-Way Widths



Appendix B: Recommended Design For Interchange Commercial Area



Appendix C: Recommended Design for Airport - Industrial Park

