
AUGUSTA COUNTY COMPREHENSIVE PLAN

TRANSPORTATION CHAPTER

This chapter adapts the content and findings of the 2007 Comprehensive Plan Thoroughfare Plan and the Transportation section of Volume 2 to meet the Virginia Department of Transportation (VDOT) requirements for Comprehensive Plan review. Code of Virginia § 15.2-2223. 4 requires that a locality submit the Comprehensive Plan Transportation Chapter to VDOT for review and comment on the consistency of the Comprehensive Plan with the Statewide Transportation Plan and the Six-Year Improvement Program.

I. INTRODUCTION

Augusta County's transportation systems are influenced by the varying terrain—mountain and valley—as well as the low density land use patterns that exist in the county. In general, the transportation system is denser and better connected in the county's more developed areas and not as dense, connected, or improved in rural and undeveloped areas. Narrow two-lane roads represent the majority of lane mileage in the County.

Similar to many other areas in Virginia and the United States, the most significant development and population growth have occurred at interchanges off the county's two interstate routes, along other prominent transportation corridors, and at the urban fringe of the cities contained within the county. The County's transportation system links origins and destinations through infrastructure which facilitates the efficient movement of goods and people. Within Augusta County, a number of transportation systems exist and include:

- Roadways
- Sidewalks
- Public transit
- Passenger railroad
- Freight railroad
- Airports

The main transportation system challenges facing Augusta County reflect its varied land use patterns in rural, suburban and urban areas. In rural areas, approximately 275 miles of roads remain unpaved. The County is facing a growing rural elderly population with limited mobility and will need to have the necessary level of transit and paratransit service to meet this population's needs evaluated.

In more urban and suburban areas, new development adjacent to major roadways has placed pressure on these roads in the form of driveway and turning movement conflicts and peak hour congestion. This is especially evident in the more developed areas on United States Highway (US) 11 and US 250. VDOT also recognizes that vehicle crashes occur along Interstate 81 (I-81) and Interstate 64 (I-64) in Augusta County nearly every day. Addressing crash-related travel delays and increased interstate volumes will be an on-going activity with VDOT. Finally, adequate funding to meet the County's transportation needs is a constant challenge, although Virginia's landmark 2012 transportation funding package may ease this burden somewhat.

This chapter will address these and other challenges in the following sections:

- System Inventory and Existing Conditions
- Land Use and Planning Assumptions
- Transportation System Needs Assessment
- Recommended Projects
- Transportation Goals and Objectives

A. REGIONAL TRANSPORTATION PLANNING

Following the 2010 Census, portions of Augusta County along with the cities of Staunton and Waynesboro were designated as an Urbanized Area. An Urbanized Area is a geographic entity which consists of a central core and adjacent densely settled territory that, together, contain at least 50,000 people with an overall population density of at least 1,000 people per square mile. Following this designation the region formed the Staunton-Augusta-Waynesboro Metropolitan Planning Organization (SAWMPO) which coordinates the transportation planning process for the two cities and portions of Augusta County which fall within the Urbanized Area.

Additionally, Augusta County works with the Central Shenandoah Planning District Commission (CSPDC) to coordinate transportation planning for areas that fall outside of the SAWMPO boundary.

II. SYSTEM INVENTORY AND EXISTING CONDITIONS

This section will describe the existing transportation network and its condition. It will address:

- Roadways
- Sidewalks, greenways and bikeways
- Public transit
- Passenger railroads
- Freight railroads
- Airports

A. ROADWAYS

The characteristically rural roadway network in Augusta County is predominantly comprised of two-lane roadways and the occasional divided highway. For the most part, traffic volumes on streets are minimal to moderate and roadway congestion is infrequent. (See Section IV. Transportation System Needs Assessment) While there has been considerable development on several of the major corridors that intersect or run parallel to I-64 and I-81, such as US 11, US 250, US 340, and State Route 285/608, the majority of the county’s transportation system remains rural in character. On roadways serving many of the newly developed areas, traffic volumes have increased and there are periods of the day when intersection congestion is commonplace.

The county’s highway network is comprised of two interstate facilities, the State Primary System, and the State Secondary System. Decisions regarding changes to, and modifications of, Interstate routes are made by VDOT and the Federal Highway Administration (FHWA). US Highways and State Primary Routes are entirely the responsibility of VDOT in coordination with the county, while the State Secondary System is maintained by VDOT with cooperative oversight by the county. There are approximately 406 lane miles of primary roads and 2,052 lane miles of secondary roads in Augusta County. The following sections briefly describe the three roadway systems that exist within Augusta County.

Interstate Facilities

Interstates 64 and 81 run through Augusta County and are shown in **Map 1**. These rural interstate facilities—totaling approximately 41.4 miles—operate acceptably according to highway standards, except when incidents and inclement weather affect normal traffic flow. A range of typical roadway capacity for 4-lane rural interstates is 56,600 vehicles per day (vpd) to 63,000 vpd based on Average Daily Traffic Counts (ADT); however, the capacity of I-81 and I-64 is likely to be higher due to the relatively even hourly distribution of daily traffic volumes. A capacity of 68,000 to 74,000 vehicles per day is not unreasonable in these corridors.

- **I-81** runs in a generally north/south orientation along the western edge of Virginia. The majority of the I-81 corridor in Augusta County has a four-lane cross section and is rural in character with widely spaced interchanges and 65-70 mile per hour posted speed limits. Between Staunton and Lexington, I-81 runs on a shared alignment with I-64. Throughout the I-81 corridor, in Augusta and other counties through which it passes, high volumes—approximately 25-30% —of heavy trucks substantially impact traffic conditions. In 2011, I-81 carried 48,000 vpd near the northern county line, 47,000 vpd just north of Staunton, 57,000 just south of I-64, and 41,000 vpd near the southern county line. Higher traffic volumes between the northern and southern county lines and Staunton indicate that county to city and city to county trips are being made on the interstate corridor. The Commonwealth Transportation Board (CTB), with assistance from the Office of Intermodal Planning and Investment, The Department of Rail and Public Transportation, and the Virginia Department of Transportation, studied the entire length of the I-81 corridor within Virginia in 2018. The CTB approved the I-81 Corridor Improvement Plan on December 5, 2018. In 2019, legislation passed which provides for dedicated funding sources for projects identified as priorities. Augusta County supports the state’s I-81 improvement efforts.

Map 1

- **I-64** runs in a generally east/west orientation through central Virginia. This important interstate route begins in the Hampton Roads area of the state and runs westward through Augusta County, where it merges with I-81. In the vicinity of Staunton, I-64 and I-81 merge and run on a shared alignment between Staunton and Lexington. Near Lexington, I-81 continues south, whereas I-64 continues westward. Throughout the county, I-64 is a four-lane rural interstate facility with posted speed limits of 65-70 miles per hour. In 2011, I-64 was carrying 31,000 vpd immediately east of Staunton, 36,000 vpd near the US 340 interchange and 32,000 vpd near the eastern county line. Similar to I-81, the rise in volume of traffic approaching Waynesboro indicates that county to city, city to county, and city to city trips are being made on the interstate.

State Primary System—Primary Routes

Routes within this classification include the network of major US and state routes throughout the county. These roadways are owned and maintained by VDOT. By facility type, this system includes principal arterials, minor arterials, and major collectors. These facilities are paved and most have two-lane undivided cross sections. Typically, these roads have higher traffic volumes and carry a more significant proportion of through traffic than State Secondary Roads. Many of these routes have substantial horizontal and vertical alignment deficiencies, not to mention substandard travelway widths, despite being included in the State Primary System. Examples of primary routes include US 250, US 340, US 11, State Route 42, State Route 252, and State Route 285. Sample typical roadway capacities for rural primary routes with good geometrics and moderate design speeds are the following:



Looking north on State Route 252 in southern Augusta County.

- 2-lane undivided—8,600 vpd to 11,100 vpd
- 2-lane with left-turn lanes—11,200 vpd to 14,600 vpd
- 4-lane undivided—17,300 vpd to 22,100 vpd
- 4-lane median divided—23,000 vpd to 29,400 vpd

State Secondary System—Secondary Roads

Routes within this classification include the network of minor state routes throughout the county. Similar to the State Primary System, facility types within this system include arterials, major and minor collectors, and local streets. Unlike primary routes, not all secondary roads are paved; however, some are eligible to be improved under VDOT’s Rural Rustic Road Program.

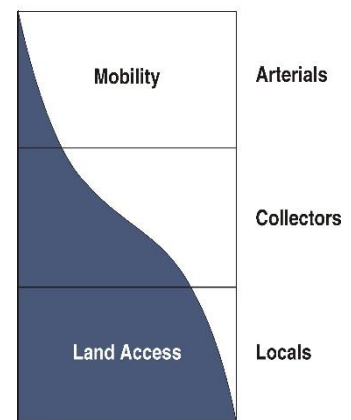


Looking east on Route 670.

Within these roadway systems, several different roadway classes exist and include:

- **Arterials**—are the highest classification of street. They include facilities with full access control (freeways and expressways) as well as several types of thoroughfares. Typically these facilities provide high mobility, operate at higher speeds (45 mph and above), provide significant roadway capacity, and serve longer distance travel. In general, arterials connect to one another and to collector streets. Less frequently they connect to local streets. From the top of the arterial scale to the bottom, expressways and freeways are the top and provide the most mobility and least access—only at interchanges. Principal arterials typically have tightly controlled access and have few, if any, individual site driveways, and are intersected by freeways and expressways as well as minor arterials and other public streets. Minor arterials primarily serve a mobility function, but often have more closely spaced intersections, some individual site driveways, and generally lower design and posted speeds than other arterial types.

Portion of Service



Arterials primarily serve mobility needs whereas local streets primarily serve land access needs.

- **Collectors**—typically provide less overall mobility, have more frequent and greater access flexibility (with adjacent land uses), have lower posted speeds (45 mph and below), and serve shorter distance travel than arterials. The majority of collector streets connect with one another, with local streets, and with non-freeway/ expressway arterials.
- **Locals**—provide a high level of access to adjacent land uses/development, serve short distance travel, have lower posted speed limits (45 mph and below), and have a lesser role in overall mobility. Local streets typically connect to one another, to collector streets, and less frequently to arterials.

A summary of the inventory of the facilities by functional class is shown in **Table 1**. Mileage figures in this table differ from lane mile figures which appear elsewhere in the plan due to the way VDOT calculates mileage. Lane miles is calculated as mileage multiplied by number of lanes, while mileage doesn’t take into consideration the number of lanes a facility might have.

Map 1: Existing Transportation Network displays the interstates, arterials, collectors and local roadways that comprise the County’s roadway network.

Facility Type	Mileage
Interstate	41.41*
Urban Other Principal Arterial	7.78
Urban Minor Arterial	18.78
Minor Arterial	121.49
Urban Collector	39.23
Major Collector	202.13
Minor Collector	103.37
Local	741.27
Total	1,275.46

* - Mileage does not include interstate facility within the boundaries of Waynesboro and Staunton.

1. RURAL RUSTIC ROADS

The Rural Rustic Roads Program is administered by VDOT and assists Augusta, and other eligible counties, in paving currently unpaved State Secondary Roads that meet specific guidelines while maintaining the road’s existing setting. Currently, there are approximately 275 miles of unpaved State Secondary Roads in Augusta County. The Rural Rustic Road Program enables Augusta County to complete a number of projects each year. The following guidelines from VDOT define what makes a road eligible for consideration in this program:

- Unpaved road already in the State Secondary System
- Carries less than 1500 vehicles per day
- Identified priority in an approved Secondary Six-Year Plan, regardless of whether the funding source is from normal, secondary construction allocations
- Designated Rural Rustic Road by the county in consultation with VDOT
- Predominantly used by local traffic
- Minimal anticipated traffic growth (the County Board of Supervisors will endeavor to limit growth on roads improved under the Rural Rustic Road Program, and cooperate with VDOT through its comprehensive planning process to develop adjacent lands consistent with rural rustic road concepts)

2. SCENIC BYWAYS

Many roads throughout Augusta County are recognized for offering tremendous scenic beauty. However, some roads in Virginia have been officially designated by the state and localities, and occasionally by the nation, as Virginia Byways or National Scenic Parkways. Augusta County currently does not have any Virginia Byways, but the Blue Ridge Parkway and Skyline Drive (See **Map 1**) which run through the county have been designated as a National Scenic Byways.

The Blue Ridge Parkway and Skyline Drive are assets to the transportation system and popular tourist attractions in Augusta County. The Blue Ridge Parkway, over 469 miles long and running from the Great Smoky Mountains National Park to Shenandoah National Park, is a unique roadway corridor. This highway was specifically designed and constructed to offer the motoring public a unique natural experience and unparalleled views from the slopes of the Blue Ridge Mountains. Skyline Drive begins at the northern terminus of the Blue Ridge Parkway in Rockfish Gap. This scenic highway runs for 105 miles in Virginia in a generally north/south orientation through Shenandoah National Park. It provides vehicular and non-vehicular access to destinations within, as well as north and south of, Shenandoah National Park. The Blue Ridge Parkway and Skyline Drive are intended to carry vehicular traffic; however, they are not intended to be primary routes for general through traffic.

B. SIDEWALKS, BIKEWAYS & GREENWAYS

Similar to most other rural counties, Augusta County has only a limited number of sidewalks and no designated on-street bikeways, although paved multi-use pathways parallel to SR 636 (Lifecore Drive) and SR 285 (Tinkling Spring Road) are under construction. While opportunities exist to walk and bicycle, they are focused on recreation, not transportation. Many of the County's quiet rural roads are well-suited for, and used by, advanced cyclists. The Central Shenandoah Valley Bicycle Plan (CSPDC 2006) identified many of these routes through collaborative work with Augusta County and citizen input. Popular with local bicycle advocacy groups, these unsigned on-street bicycle routes within and running through the County including a segment of the Transamerica Route/Route 76. **Map 2 and Map 2A: Bicycle, Pedestrian, & Transit Network** displays the existing sidewalk and bicycle facilities and other identified bicycle routes in the County.

C. PUBLIC TRANSIT

Public transit in Augusta County consists of on-demand service and three deviated fixed-route bus lines. On-demand service is defined as transit service operating in response to calls from passengers to the transit operator, who schedules a vehicle to pick up the passengers to transport them to their destinations. Deviated fixed-route transit service is defined as service that operates along a fixed alignment or path at generally fixed times, but may deviate from the route alignment to collect or drop off passengers who have requested the deviation. Additional public transit service within the cities of Staunton and Waynesboro provide connections to the three county routes. The following three lines offer deviated fixed-route service.

MAP 2

MAP 2A

- 250 Connector - provides service between the cities of Staunton and Waynesboro along US 250, stopping at Augusta Health and the Woodrow Wilson Campus. This shuttle service runs throughout the day Monday through Friday with a separate schedule for Saturday.
- 340 Connector –provides service between Stuarts Draft and the Blue Ridge Community College in Weyers Cave operating along US 340 through Waynesboro and Grottoes. This route operates Monday through Friday early morning until mid-afternoon.
- Blue Ridge Community College Shuttles – the Blue Ridge Community College (BRCC) Shuttles offer two routes. The BRCC South Shuttle provides service between Staunton and the BRCC Campus in Weyers Cave. A BRCC North Shuttle also provides service from the campus up to Harrisonburg through Bridgewater, Dayton and Mt. Crawford. It operates Monday through Thursday from early morning to late evening with a separate schedule for Fridays.

Augusta County on-demand service is currently extremely limited in scope. It operates only on Fridays and only between the City of Staunton and the Town of Craigsville.

Public transit service throughout Augusta County is provided through a contracted service provider and administered by the CSPDC within the SAWMPO area and by the Department of Rail and Public Transit (DRPT) in the rural area. Funding is garnered from a mix of local, state and federal money. **Map 2** displays the public transit service currently offered in Augusta County

D. PASSENGER RAIL

Limited passenger rail service in Staunton is offered on the Amtrak Cardinal/Hoosier State route that runs between New York City and Chicago. This route runs on CSX-owned rail lines through the County. The Cardinal route includes 228 miles that traverse Virginia, with stops in Alexandria, Manassas, Culpeper, Charlottesville, Staunton, and Clifton Forge. Westbound and eastbound trains operate three times a week. The Augusta County rail lines are shown in **Map 1**.

E. FREIGHT RAIL

Currently, Augusta County is served by two Class I freight railroads—Norfolk Southern Corporation and CSX Transportation. Lines operated by these railroads within the county are shown in **Map 1**. Within Augusta County, Norfolk Southern operates a predominantly north/south rail line and CSX operates a predominantly east/west line.

In addition to Norfolk Southern and CSX lines in Augusta County, there are two short-line railroads operating in Augusta County. Buckingham Branch Railroad operates on over 200 miles of rail lines owned by CSX from Richmond through Augusta County and then generally parallels SR 42 south and west to Clifton Forge, in Alleghany County. The Shenandoah Valley Railroad runs north

from Staunton, approximately paralleling the I-81 corridor, to its terminus near Pleasant Valley in Rockingham County. The Shenandoah Valley Railroad interchanges with the Buckingham Branch Railroad in Staunton and connects to the primary north/south Norfolk Southern rail line in Rockingham County.

F. AIRPORTS

Two public-use airports are located in Augusta County—Shenandoah Valley Regional Airport and Eagle’s Nest. These are displayed on **Map 1**. The county’s primary airport is the publically owned Shenandoah Valley Regional Airport, which is centrally located between Harrisonburg, Staunton, and Waynesboro in northern Augusta County. Eagle’s Nest is a privately owned, public use facility that is located west of Waynesboro, north of the I-64 corridor.

Shenandoah Valley Regional Airport (SHD) has a single asphalt runway approximately 6,000 feet long and 150 feet wide. This airport serves general aviation and commercial airline traffic. Scheduled passenger service is offered at this facility. The airport reported serving 18,661 aircraft operations in 2013.

Eagle’s Nest (W13) has a single asphalt runway approximately 2,000 feet long by 50 feet wide. This airport exclusively serves general aviation traffic. The airport reported serving 13,124 aircraft operations for the 12 months ending in May, 2013.

III. LAND USE AND PLANNING ASSUMPTIONS

How the County expects to grow and change in the future directly affects the demand on, and functionality of, the transportation network. Planning assumptions regarding changes in land use, demographics, employment, and demand for public services and facilities inform anticipated improvements to the transportation system. This section addresses these planning assumptions, based on an analysis of past trends and the existing conditions data presented in **Section II: System Inventory and Existing Conditions** and throughout the Augusta County Comprehensive Plan .

A. DEMOGRAPHICS

Between 2000 and 2010, the County’s population grew by 12.4 percent, modest in comparison to the 20 percent growth rate seen between 1990 and 2000. The County’s population is projected to grow from an estimated 74,504 in 2013 to 80,655 by 2020, 87,580 by 2030, and 94,713 by 2040. While smaller than in earlier decades, this growth will continue to place pressure on already congested roadway corridors and intersections. This projected roadway congestion will be addressed at greater length in **Section IV: Transportation System Needs Assessment**.

The elderly and persons with disabilities often need assistance with transportation, access to health care, shopping, and other social services. According to Weldon Cooper data, in 2012,

13,286 persons, about 18 percent of the total population, were 65 or over; by 2020 this number is expected to grow to 16,657, 21 percent of the total population, and by 2030, 21,881, or 25 percent of the total population is expected to be 65 or over. By 2040 the population bubble brought on by the baby boomers begins to flatten out remaining at 25 percent of the total population. This population of residents ages 65 and older is generally spread evenly throughout the County although the elderly and/or disabled persons in the western portion of the County pose an additional mobility challenge since Augusta County currently has minimal demand-response or para-transit service available for these residents.

B. EMPLOYMENT

Journey to work data from the 2012 American Communities Survey (ACS) indicates that nearly half of Augusta County’s workforce works within the county or in Staunton or Waynesboro. In addition to the Augusta County residents and employees who travel outside of the county as part of their commute, the Cities of Staunton and Waynesboro have residents and employees that do the same putting additional pressure on County highways. **Table 2: Residents Commuting to Work** displays the top ten destinations where residents of Augusta, Staunton, and Waynesboro travel to work. **Table 3: Employees Commuting from Home** displays the top ten locations where employees of Augusta, Staunton, and Waynesboro travel from to get to work. **Map 3: Inter-County Commuting Patterns** displays the journey to work data for Augusta County residents who travel outside of the county for work and employees who travel to the county for work in graphic form. Map’s 3A and 3B display the commuting patterns for the cities of Staunton and Waynesboro. This data suggests that a substantial number of residents currently travel out of or through the County for work. These trips are likely made predominantly on I-64 and I-81 although the other major roadways in the county would also accept some of this traffic.

		Home			
		Augusta	Staunton	Waynesboro	Total
Work	Augusta	10,465	2,729	1,941	15,135
	Staunton	3,728	2,823	712	7,263
	Waynesboro	3,120	645	2,346	6,111
	Harrisonburg	2,437	751	360	3,548
	Rockingham	2,601	442	315	3,358
	Albemarle	1,087	268	682	2,037
	Charlottesville	974	313	685	1,972
	Roanoke (city)	479	218	144	841
	Fairfax	459	158	748	748
	Lynchburg	393	163	160	716

MAP 3

MAP 3A

MAP 3B

		Work			
		Augusta	Staunton	Waynesboro	Total
Home	Augusta	10,465	3,728	3,120	17,313
	Staunton	2,729	2,823	645	6,197
	Waynesboro	1,941	712	2,346	4,999
	Rockingham	1,545	497	420	2,462
	Albemarle	555	365	353	1,273
	Harrisonburg	486	229	171	886
	Rockbridge	485	190	131	806
	Highland	306	120	49	475
	Bath	270	86	69	425
	Nelson	199	71	164	434

Sub-areas of the County with the highest employment concentrations today are in Fishersville, Stuarts Draft, and Verona, in addition to the independent cities of Staunton and Waynesboro. These employment centers will continue to put peak hour pressure on US 250 throughout the County, SR 285 (Tinkling Spring Road) in Fishersville, US 11 in Verona and south of Staunton, US 340 north and south of Waynesboro, in addition to the nearby interchanges with I-81 and I-64. Each of these employment centers are parts of the County’s designated growth areas. Projects such as the reconstruction of the I-64 Exit 91 interchange at SR 285 (Tinkling Spring Road) and the construction of SR 636 (Lifecore Drive) will relieve some peak hour pressure in Fishersville near Augusta Health and the Woodrow Wilson Complex. VDOT’s on-going evaluation of the I-81 corridor and its capacity and safety issues may determine that other interchanges will require future improvements as these employment centers continue to grow.

C. COMMUNITY FACILITIES

Where the County chooses to locate schools and expand public infrastructure such as municipal water and sewer service largely determines where future growth will occur. Growth patterns in the County in turn determine transportation choices and trip patterns. How far residents must travel to reach jobs, schools and services and whether trips will be made by car, transit, on foot or by bike are largely determined by the proximity of trip origins and destinations. When residents can quickly and easily reach multiple destinations in one trip, choose to take convenient transit or even make a short trip on foot or by bike, they reduce both congestion and wear and tear on roadways, extending the life of the current system.

Historically, Augusta County funds school improvements as they are necessary whether that is to build a new school to accommodate increased enrollment in growth areas, such as when Wilson

Middle School was built to relieve pressure at Stewart and Stuarts Draft Middle Schools, or to replace or renovate aging school buildings. Current School Board plans include building a replacement for Riverheads Elementary School and renovations at Hugh K. Cassell Elementary School, as well as adding 2 new middle schools at Riverheads and Buffalo Gap and building an addition to Wilson Middle School.

The Augusta County Service Authority (ACSA) provides water and sewer service in communities located throughout the county. Adequate water and sewage treatment facilities exist to accommodate the projected residential and employment growth in the Fishersville, Stuarts Draft, and Verona Urban Service Areas. Plans are being developed to address the need for additional sewage treatment capacity in Weyers Cave to accommodate growth in this development area. While treatment capacities exist in the Urban Service Areas based on improvements made by the ACSA, trunk lines will need to be extended in some areas as development warrants. The cost of those extensions may be public, private, or some type of public/private partnership.

D. LAND USE

The Introduction to the Comprehensive Plan Update describes the County’s strategies for managing growth and the development and use of Planning Policy Areas to help implement the County’s vision. These Planning Policy Areas include Urban Service Areas, Community Development Areas, Rural Conservation Areas, and Agricultural Conservation Areas. For a full description of Planning Policy Areas and definitions of each, please refer to Section C. “Strategies for Growth” in the Introduction to this Update. The County’s vision for future growth directs 80% of future residential growth to the Urban Service Areas, predominantly expected to occur in Fishersville, Stuarts Draft and Weyers Cave. These areas, along with Verona, are likewise expected to accommodate most of the County’s future commercial and industrial development. Linking transportation capacity and access improvements to these growth areas would result in fewer access management challenges and less potential for congestion.

Conversely, if lower density growth patterns become more widespread due to by-right residential development in the General Agriculture zoning district, residents in the Rural Conservation and Agricultural Conservation Areas will make more trips and travel longer distances by car. These resulting growth and traffic patterns will put additional pressure on local roads which may not have the capacity to handle higher traffic volumes. At present, VDOT maintains and improves secondary roads in the County with a backlog of needed improvements to bring these roads up to current standards.

Since the adoption of the 2007 Comprehensive Plan, Augusta County felt the effects of the recession and, like much of the nation, has not experienced significant additional residential or commercial development. However, many approved projects remain “in the pipeline” and are anticipated to be completed as the economic climate continues to improve.

1. RESIDENTIAL DEVELOPMENT

New residential developments approved since 2007 are listed in **Table 4** below. These future developments, as approved, are projected to add approximately 2,500 new dwelling units to the County, mostly within the Urban Service Areas listed above.

Of these projects approved since 2007, only 14 percent are complete, with the remaining 86 percent under construction or not yet begun. However, despite the backlog of unbuilt but approved dwelling units, these new units will likely get built in the coming years adding more trips to the existing transportation network. **Table 4** also indicates these estimated total daily trips by subarea of the County. More detailed information about land use and growth assumptions for each subarea of the County are provided under **Section 3. County Subareas**.

	Single Family (210)	Duplex/Townhouse/ Condo (230)	Multi-Family (220)	Mobile Homes (240)	Total DUs	Estimated Total Daily Trips
Fishersville	247	494	412	240	1393	9,172
Stuarts Draft/Lyndhurst	372	337	76	0	785	6,023
Weyers Cave	84	0	84	0	168	1,363
Crimora/North of Waynesboro	226	0	0	0	226	2,163
Greenville	100	0	0	0	100	957
Total	1029	831	572	240	2672	19,678

Note: Developed from data from the Augusta County Community Development Department and utilizing the ITE Trip Generation Report, 8th Edition. ITE Codes used for each category (shown in parentheses)

2. COMMERCIAL DEVELOPMENT

Since 2007, the County has seen modest growth in commercial, industrial and office development and expects this trend to continue, if not accelerate, with several planned developments in Weyers Cave, Verona, Stuarts Draft and especially Fishersville as the area around Augusta Health continues to expand. **Table 5** indicates general types of commercial development approved since 2007, as well as estimates for the total daily trips that these new developments will add to the transportation network. Approximately 70 percent of these commercial developments are complete with the remaining 30 percent under construction. More detailed information about land use growth assumptions for each subarea of the County are provided under **Section 3. County Subareas**.

	Office ft² (630, 710, 720)	Industrial ft² (110, 120, 140, 150)	Service/Retail ft² (815, 820, 841, 848, 854)	Institutional ft² (540)	Total ft²	Estimated Daily Trips
Fishersville	163,760	57,600	5,600	56,400	283,360	6,680
Verona	21,300	265,200	0	0	286,500	1,314
Stuarts Draft/Lyndhurst	0	91,400	17,250	0	108,650	998
Staunton Vicinity	0	0	11,900	0	11,900	272
Balance of County	0	414,900	18,000	0	432,900	797
Total	185,060	829,100	52,750	56,400	1,123,310	10,061

Note: Developed from data from the Augusta County Community Development Department and utilizing the ITE Trip Generation Report, 8th Edition. ITE Codes used for each category (shown in parentheses) are a combination dependent on the specific development type.

2. COUNTY SUBAREAS

A) FISHERSVILLE

Recent and approved developments in the Fishersville Subarea have made this subarea one of the most heavily traveled in the county. The growth of Augusta Health and other health care related facilities, notably the new Murphy Deming College of Health Sciences, have generated a large amount of traffic in the area. Improvements to Exit 91 and SR 285 and the realignment of SR 636, now known as Lifecore Drive, will provide capacity to attract future development. County subdivision and rezoning approvals, as well as investments in water and sewer infrastructure and area schools all support the current trend for Fishersville to continue to be one of the County's major growth areas with accompanying increases in demand for transportation mobility and access.

B) STUARTS DRAFT

Stuarts Draft has been a traditional hub of industry for the county with Alcoa Building Products, Hershey Chocolate of Virginia, Inc., Hollister Inc., McKee Foods Corp., NIBCO, and Target Distribution Center all located in this subarea. This industrial base has also supported growing commercial and residential sectors. Two of the most active subdivisions in the county, Overlook and Stone Valley, are located in Stuarts Draft. US 340, at five lanes through the subarea, has underutilized capacity to accept additional traffic and the water, sewer, and school infrastructure is also sufficient to handle increased development. Therefore, Stuarts Draft is expected to continue to experience residential growth and be a desirable location for manufacturing, distribution, and industrial operations in need of larger land parcels.

C) VERONA

Verona is the location of the Augusta County Government Center and has developed as a hub of government and government related services. Verona is primarily a non-residential Urban Service Area with existing and planned office, industrial, manufacturing and commercial developments. The area is zoned and targeted for new commercial and industrial development,

especially within Mill Place Commerce Park, a developing commerce park with many new industries currently building there, and Augusta Marketplace, a large commercial development which has not yet begun construction. Both of these developments will add new trips to the network on US 11, SR 612 (Laurel Hill Road), SR 262/254, and I-81. These facilities are all expected to experience capacity issues by 2035.

D) WEYERS CAVE AND MT. SIDNEY

Additional commercial and residential developments have recently been approved in the Weyers Cave and Mt. Sidney Urban Service Area. In addition, significant land adjacent to the Shenandoah Valley Regional Airport has been set aside for industrial development. Weyers Cave currently has limited water and sewer capacity which will limit growth until new capacities can be added. However, plans are being developed to address the infrastructure needs to accommodate the planned growth. New development in this subarea would likely add trips onto US 11, SR 256, and the I-81 interchange at Exit 235, all of which are expected to experience capacity issues by 2035.

E) JOLIVUE, MINT SPRING, AND GREENVILLE

With the recent addition of public sewer to Greenville, the Route 11 South corridor through Jolivue, Mint Spring, and Greenville is expected to see additional residential and commercial development. This subarea has three I-81 interchanges with public water and sewer capacity which are expected to support commercial and/or mixed use developments. The connecting areas along Route 11 are expected to continue to see residential development, especially in Spring Lakes/Jolivue area and the area around the Riverheads school complex.

F) BALANCE OF COUNTY

Areas not identified in the other subareas discussed above that are likely to see additional development would include the lands surrounding both the City of Staunton and the City of Waynesboro. These areas have land designated as Community Development Areas or Urban Service Areas and are supported by water and sewer services, as well as other infrastructure. A small amount of additional development could occur in the existing Community Development Areas along US 340 north of Waynesboro, along SR 42 and SR 601 from Augusta Springs to Craigsville, and along SR 42 from Churchville south towards Buffalo Gap.

The County does not expect to experience significant residential or commercial growth in the Rural Conservation and Agricultural Conservation policy areas found in the balance of the County. The County's vision is that these areas remain rural and in mostly agricultural uses, and this vision is supported by a consistent policy not to extend municipal water and sewer into these areas.

3. PLANNING ASSUMPTIONS SUMMARY

Augusta County expects to continue to see modest growth in population and employment over the next 20 years, especially in the four major designated Urban Service Areas. The Urban Service Areas of Fishersville, Staunton South and West, Stuarts Draft, Verona, and Weyers Cave

promote the goals of urban development consistent with the principles identified in §15.2-2223.1. While the County’s population is expected to grow, a significant percentage of the total will be age 65 or older. This “silver tsunami” will create increased demand for transportation mobility options, including fixed-route and on-demand transit service.

While the Urban Service Areas of Fishersville, Stuarts Draft, and the areas adjacent to Staunton and Waynesboro expect to see new residential development in a relatively dense land use pattern, current by-right uses in rural and agricultural areas could result in a low density residential development pattern that puts pressure on local and secondary roads. Additional development in Weyers Cave will be somewhat restricted until water and sewer capacities are upgraded.

The County expects to see the majority of its commercial development occur in Fishersville, Stuarts Draft, Verona, and Weyers Cave (dependent on water and sewer upgrades). These Urban Service Areas are well-served by transportation and other public infrastructure, but also rely on I-81 and I-64 for access. Both facilities are projected to be at or over capacity by 2035, which could affect access to these areas.

IV. TRANSPORTATION SYSTEM NEEDS ASSESSMENT

This sub-section compares the existing and proposed transportation network and network deficiencies with future land use policies to anticipate how future growth will affect the transportation system. It identifies specific transportation network deficiencies based on current conditions and projected future conditions in order to understand what future improvements will be needed to serve anticipated development. **Section V. Recommended Projects**, details a select list of necessary transportation improvements based on the needs identified here.

Understanding existing and future constraints on the network—traffic congestion, crash clusters, and missing facilities and services—is the first step towards identifying specific improvements that may be needed in the next twenty years. These constraints are a result of the anticipated patterns of growth and development described in **Section III. Land Use and Planning Assumptions**. They are similarly organized by general trends and then issues specific to the Urban Service Areas and the balance of the County.

A. ROADWAY CAPACITY AND CONGESTION

To update the analysis from the 2007 Thoroughfare Plan, base year (2009) and future year (2035) traffic and Level-of-Service data was analyzed for roadway segments using the VDOT Statewide Planning System (SPS) database. Level-of-Service (LOS) is a qualitative assessment of a road's operating conditions, which indicates the degree of service provided by a facility based on, and related to, the operational characteristics of the facility. LOS indicates the capacity for each public facility. The term refers to a measurement which reflects the relative ease of traffic flow on a scale of A to F, with free-flow being rated LOS-A and congested conditions rated as LOS-F. It should be noted that LOS calculations convey different meanings for

interrupted facilities (arterials, collectors, local streets) and uninterrupted facilities (interstates). Interrupted facilities base LOS on delay whereas uninterrupted facilities base it on free-flow speeds. This means that on collectors a LOS-E or F would likely mean that traffic is predominantly stopped whereas LOS E or F on an interstate or other access-controlled highway could involve traffic moving as fast as 55 mph. For the purposes of this analysis, LOS D-F is considered failing. The 2009 and 2035 LOS are displayed in **Map 4: 2009 Level-of-Service** and **Map 5: 2035 Level-of-Service**.

Across the County, traffic conditions on the segments that are already failing based on 2009 conditions are projected to further deteriorate by 2035, with all segments of I-81 in the County reaching a LOS-F by then. Additional segments in the I-64 corridor, as well as the US 11 corridor, and primary roads in the Urban Service and Community Development Areas around Fishersville and Stuarts Draft are also projected to fail. Other failing segments in 2035 include US 340 just north of Waynesboro, and local road segments perpendicular to the I-81/US 11 corridor around Weyers Cave, Verona, and Staunton.

In a comparison of the 2005 and 2009 base year LOS for the County's roadways, most facilities' ratings have not changed substantially (decreasing by only one grade), with a few notable exceptions where roadways have already reached a "failing grade" of LOS-D or below by 2009. Woodrow Wilson Parkway in the County and the northernmost portion of the City of Staunton was downgraded from a LOS-A/B to D in 2009. I-81 between Exits 213 and 221 was downgraded from a LOS-C to E and I-64 from Exit 87 to Exit 91 likewise. That congestion has increased on these segments in only a five-year period underscores the need to address these deficiencies in the near future.

In a comparison of the 2025 and 2035 projected LOS, a similar pattern emerges. I-81 is projected to operate at a LOS-F from 2025 onward, but by 2035, most of the I-64 corridor is also projected to operate at a LOS-F, down from LOS-C in 2025. Additionally, US 340 north of Waynesboro between Dooms and Grottoes was downgraded from LOS-B/C to D along two segments, possibly as a result of local traffic using Eastside Highway/Route 340 as an alternative to US 11 and I-81. While local trips likely only make up a small percentage of the existing and projected congestion on the two interstates, the capacity issues must be addressed in tandem with VDOT as the County continues to target new residential and commercial growth in these two main transportation corridors.

B. SAFETY DEFICIENCIES

Incidents that reflect potential safety deficiencies include a number of occurrences on the highway network, the most visible and inconvenient of which are vehicle crashes on the interstate and primary network but may also simply involve disabled vehicles obstructing traffic. **Table 5** shows the summary of Augusta County crash report from the Virginia **TREDS (Traffic Records Electronic Data System)** from 2011 to 2013. It should be noted that these are reported crashes; countless crashes go unreported each year. While these figures are still high, the total average number of crashes for this reporting period was more than 25% lower than the 1999-2003 reporting period shown in the 2007 Comprehensive Plan.

MAP 4

MAP 5

	2011	2012	2013	Total	Average
Total Crashes	933	944	943	2,820	940
Fatalities	10	12	16	38	12.7
Injuries	500	534	530	1,564	521.3

Source: Virginia State Police

Map 6: Crash Analysis Heat Map displays the number, severity, and density of crashes throughout Augusta County between 2011 and 2013 as provided by VDOT. I-81 and I-64 in Augusta County see major crashes occur regularly which often involve trucks and other heavy vehicles. The high number of crashes on the two interstates is evident on **Map 6**. These major crashes can block the shoulder, individual travel lanes, and the facility entirely. VDOT estimates the time needed to restore traffic flow following the arrival of responders to one of these major crashes is typically 45 minutes to an hour. To the extent that it is reasonable and possible, during this period, traffic is diverted to other routes and facilities.

In addition to major crashes, numerous minor reported and unreported incidents also occur on these corridors. Some of these incidents are quickly addressed by the State Police, while others result in a vehicle being left on an interstate shoulder for an extended period of time.

Beyond the interstate system, crashes and incidents in the County tend to cluster around larger intersections and along corridors with higher volumes. US 11 is an example of this with numerous crashes along its entire length especially in the vicinity of I-81 at Exit 213, in Jolivue south of Staunton, through Verona, especially the intersection with Laurel Hill Road, and near SR 256 (Weyers Cave Road). Other areas with high numbers of crashes include US 250 between I-81 and Fishersville and US 340 in Stuarts Draft. Recommendations for these safety hotspots are addressed in the following sections.

C. BICYCLE AND PEDESTRIAN DEFICIENCIES

As noted in **Section II. System Inventory and Existing Conditions**, Augusta County is predominantly rural and most areas are without sidewalks or designated bikeways although a number of the older communities, including parts of Stuarts Draft and Churchville, were developed with sidewalks. A change in the zoning ordinance in 2007 permits a reduced lot width if sidewalks are built. In addition, VDOT subdivision street acceptance requirements currently include a requirement for installation of pedestrian accommodations for most new subdivision streets that are intended for inclusion in the state secondary system. Both regulatory changes have resulted in more sidewalks being built in the county.

As of 2013, sidewalk construction is underway in Stuarts Draft as part of the four-phase Scholastic Way project, which has already constructed sidewalks to the Elementary-Middle-High School complex and plans to add more to the surrounding neighborhoods in coming years. With the SR 636 realignment and the expansion of SR 285 at the Exit 91 interchange with I-64, the

MAP 6

County will also boast its first paved multi-use path. This new 8-10 foot paved pathway will eventually connect Expo Road, Augusta Health and the Woodrow Wilson Complex at US 250. VDOT regulatory changes has resulted in new road projects being planned and built with bicycle and pedestrian accommodations. Grant funding is also available to construct non-motorized facilities. While rural roads in the County continue to be popular for recreational cyclists, the pressure to address the need for additional pedestrian and cyclist access to destinations countywide will likely increase.

D. MOBILITY AND PUBLIC TRANSIT

Existing deviated fixed-route transit service currently only exists on US 11 north of Staunton to Weyers Cave and on into Rockingham County, on US 250 between Staunton and Waynesboro, and on US 340 from Stuarts Draft through Waynesboro to Grottoes and then on to Weyers Cave. Demand-response only exists one day a week for a few hours between Staunton and Craigsville. This existing transit service is inadequate to meet the needs of a growing population of residents 65 and over with increasingly limited mobility. This deficiency is further exacerbated in rural, lower income areas of the County where elderly persons who do not live in a retirement facility with its own vehicle fleet and do not have their own vehicle are particularly dependent on relatives or neighbors to reach important appointments, or just make basic shopping trips. Further, there is a national trend in areas with an increasing population and strengthening economy to see a desire for more transportation options including public transit. The current system in Augusta County has limited geographic coverage and a lack of frequency that makes the existing transit service insufficient to meet future needs.

Over the next twenty years, the County will have the opportunity to address senior mobility, especially for its most vulnerable residents. Partners in this effort can include the SAWMPO/CSPDC, the cities of Staunton and Waynesboro, and Virginia DRPT-hosted Coordinated Human Services Mobility Committee.

E. FACILITY IMPROVEMENTS

The following sections describe general types of facility needs and methods to address those needs including safety and congestion issues previously discussed. **Map 7** presents the facility improvements needed at the county level. **Maps 8-14** show the project details for the subareas.

1. SPOT IMPROVEMENTS FOR CAPACITY & SAFETY

This strategy involves making small-scale, strategic improvements to existing road segments to correct design deficiencies that currently limit the capacity on these roads. Spot improvements may include strategies such as applying access management strategies to limit excessive turning movements from roadways, improving or coordinating traffic signal timings, or adding turning or through lanes to alleviate bottlenecks. As these are typically the least costly types of improvements to make, they are recommended as the first priority strategy for all Policy Areas.

MAP 7

Detailed corridor studies are typically used to identify the specific type and location for spot improvements. Corridor studies are recommended for longer failing road segments to identify potential spot improvements and assess their cost and effectiveness compared to strategies such as road widening or constructing parallel roadways.

2. UPGRADING EXISTING LOCAL ROADS TO SECONDARY ROADS

This strategy is designed to increase the capacity of existing roadways, but may necessitate more comprehensive and expensive improvements to existing roads. Local roads likely do not meet current secondary road standards based on pavement type (or lack of paving), lane width, or roadway geometry. However, many local roads in Augusta County are located where they have the potential to make a vital connection in the secondary road network. By upgrading existing roads rather than constructing new roads, additional network capacity can be provided at a cost that is most likely cheaper than other road construction strategies. As this strategy is similar to spot improvements in that it improves conditions on existing roads rather than constructing new roads, this strategy is recommended for all Policy Areas. However, in each case an evaluation should be performed to insure that upgrading the existing road is the best and most cost-effective option based on right-of-way, topographic, and environmental conditions.

3. NETWORK DEVELOPMENT

Where spot improvements and road upgrades cannot improve the capacity on a roadway adequately to improve the LOS to “C” or better, new road construction to create a network of streets is the next priority for mitigation in Urban Service and Community Development Areas. The network is intended to relieve traffic on existing congested roadways (e.g. US 11) by providing alternative travel paths that allow travelers to make local connections that bypass the congested roadways, resulting in more direct travel with shorter vehicle trip lengths. Road networks are also vital for limiting future congestion in currently undeveloped Urban Service and Community Development Areas where the networks help to diffuse traffic throughout the network rather than concentrating it onto a limited number of major roads. Networks also serve the county’s goal of promoting walkability in communities, as pedestrians typically will walk only ¼ of a mile on average for most trips. Short block lengths provide opportunities for making walking trips that may not be possible with more sparsely spaced roads.

The road network recommendations should be considered conceptual in the sense that they are not proposed alignments but rather are general locations where a road connection would make a vital link in the network and would help to relieve traffic on existing congested roadways. An ideal grid of streets includes collector streets spaced ½-to-one mile apart with local streets spaced 300-600 feet apart. This Plan demonstrates two layers of a proposed collector road network:

- Conceptual Grid: The conceptual grid is an idealized overlay based on a collector street spacing of ½-to-one mile between collectors. This grid is illustrative only.

- **Proposed Connections:** The proposed connections are conceptual road locations that provide the road connections necessary to enhance the existing road network to function more closely to the idealized overlay grid.

This Plan is intended only to identify the need for the proposed collector connections. Not every proposed connection may be feasible as they do not take into account existing development or features such as railroads, rivers, wetlands, and topography that may present a challenge to their development. The precise alignment and feasibility of the roads will need to be determined through more detailed studies, such as small area plans, and coordinated through specific development proposals. Small area plans and development proposals should also provide alignment recommendations for the local street network.

F. COUNTY SUBAREAS

The following sub-sections discuss specific transportation needs by county subarea based on the existing conditions and land use and growth assumptions presented in previous sections. The needs proposed are intended to address specific transportation deficiencies by County Policy Area using some of the general strategies outlined above.

1. FISHERSVILLE

Fishersville continues to be one of the most rapidly-growing Urban Service Areas in the County. With the continued non-residential growth associated with Augusta Health and the new Murphy Deming College of Health Sciences, this area will see increased congestion and reductions in overall LOS in its road network. The Fishersville Subarea currently has a failing roadway segment on SR 285 between US 250 and I-64 which experiences significant congestion due to the presence of the I-64 interchange and the fact that this roadway is the only major direct connector between Stuarts Draft and Fishersville. In 2013 construction began on a project to expand the Exit 91 interchange over I-64 and includes widening SR 285 from Wilson Blvd south to SR 935 (Expo Road). Additionally a current project to realign SR 636, now referred to as Lifecore Drive, to connect to US 250 at SR 358 (Woodrow Wilson Ave) will further improve conditions on SR 285. Additional improvements as described below will still be needed at the remaining approaches where US 250, SR 636, and SR 358 intersect in order for the intersection to operate with efficiency.

As indicated in the 2009 Fishersville Small Area Plan (FSAP) and the 2007 Thoroughfare Plan, the area will require capacity and safety improvements to major and minor arterials, as well as the extension or improvement of collector routes in order to form a more complete street grid and relieve congestion pressure on the two main arterials existing today. **Map 8** indicates the general alignment and facility type for a functional grid network of north/south and east/west routes in Fishersville. **Map 9** shows the proposed greenways and shared use paths for the subarea. The general location of several of these facilities was approved as part of the Fishersville Small Area

Map 8

MAP 9

Plan, while construction of the facilities along SR 285 and SR 636 is being done as part of roadway improvement projects.

As the area continues to add additional residential development in close proximity to jobs and non-work destinations like shopping and entertainment, this planned network of collectors and expanded arterials will also require facilities for pedestrians and cyclists, either in the form of sidewalks and painted bike lanes or as paved, shared-use pathways parallel to the road. Buffering sidewalks and parallel shared-use pathways from vehicular traffic with planted green strips will improve safety and comfort for non-motorized travelers as well.

The following list identifies system needs that are intended to address congestion, safety, or network development needs. The list was developed by reviewing projects identified in the 2007 Thoroughfare Plan, the 2009 Fishersville Small Area Plan (FSAP), and the 2011 Rural Long Range Transportation Plan, and through analysis of updated traffic and safety data and recent or proposed future land use. In **Section V**, these system needs are prioritized and refined with the highest priorities included as recommendations.

- Intersections of SR 285 (Tinkling Spring Road) and SR 608 (Long Meadow Road) with US 250 - Realign and reconstruct to improve safety and capacity, improve signal timing and/or add signals, add a right turn lane from SR 608 (Long Meadow Road) onto US 250 and other turn lanes when needed.
- SR 642 (Barrenridge Road), SR 608 (Long Meadow Road), and SR 796 (Kiddsville Road) from US 250 to US 254- Upgrade to 2-lane urban secondary road standards.
- SR 631 (Ladd Road) and SR 834 (Hickory Hill Road) - Upgrade to 2-lane rural secondary road standards
- Goose Creek Greenway from Staunton to Waynesboro - Construct a multi-use path along Goose Creek and connect to Waynesboro greenway system.
- Christians Creek Greenway from north of Fishersville to US 250 - Construct a multi-use path along Christians Creek to connect to the Goose Creek Greenway.
- Intersection of US 250 and SR 358 (Woodrow Wilson Avenue) - Install eastbound and southbound double left turn lanes and construct additional receiving lane on SR 358 (Woodrow Wilson Avenue). Consider adding westbound double right turn lanes. Construct a secondary access to the Woodrow Wilson Complex.
- US 285/SR 608 (Tinkling Spring Road) from SR 935 (Expo Road) to SR 635 (Augusta Farms Road)- Improve to a 4 lane, multi-modal divided urban roadway.
- Completion of the Lifecore Drive Multi-use Path - Construct a half mile of eight foot wide, shared use path connecting the two projects currently underway.
- Intersection of US 250 and SR 792 (Sangers Lane) – Realign or reconstruct intersection to improve safety and capacity. Study opportunities for relocation of intersection outside of the functional area of the I-81 northbound on-ramp.

- Construct a connector road from Lew Dewitt Boulevard to SR 640 (Goose Creek Road)
- Construct a connector road from SR 640 (Goose Creek Road) to SR 608/796 (Long Meadow Road/Kiddsville Road)
- Construct a parallel roadway to US 250 between Staunton and Waynesboro.
- SR 637 (Jericho Road) from US 250 to SR 635 (Ramsey Road)- Upgrade to secondary road standards.
- SR 635 (Ramsey Road) from SR 637 (Jericho Road) to SR 608 (Tinkling Spring Road)- Upgrade to Secondary Road Standards.

2. STUARTS DRAFT

The Stuarts Draft Subarea currently has a failing roadway segment on SR 608 between US 340 and SR 639 (Wayne Avenue) and is projected to have failing roadway segments along the entire length of SR 608, and on segments of SR 635 (Mt. Vernon Road) and US 340 between Stuarts Draft and Greenville by 2035. Throughout the remainder of the Urban Service and Community Development Areas that comprise Stuarts Draft, a network of streets is needed to help relieve the projected congested corridors. Extending SR 909 (Johnson Drive) over South River and upgrading SR 633/634/639 (Patton Farm Road) and SR 635 (Mt. Vernon Road), as a part of the overall network concept, are needed to relieve the congested segment of SR 608 through downtown Stuarts Draft. Additional parallel roads with rail and river crossings are recommended as well, although the cost of these proposed crossings will make them less feasible to implement. Upgrades to existing facilities and constructing new street connections can be addressed as development necessitates, proceeding according to the suggested grid network described in **Map 10**. **Map 11** illustrates the Scholastic Way sidewalk project.

The following list identifies system needs that are intended to address congestion, safety, or network development needs. The list was developed by reviewing projects identified in the 2007 Thoroughfare Plan, the 2011 Rural Long Range Transportation Plan, and through analysis of updated traffic and safety data and recent or proposed future land use. In **Section V**, these system needs are prioritized and refined with the highest priorities included as recommendations.

- SR 909 (Johnson Drive) from the current terminus to SR 608 (Cold Springs Road)- Extend road across the South River
- SR 635 (Mount Vernon Road) from US 340 to SR 639 (Wayne Avenue) - Spot improvements for failing LOS in 2035
- SR 608 (Tinkling Spring Road/Draft Avenue) from SR 635 (Augusta Farms Road) to SR 610 (Howardsville Turnpike) - Spot improvements for failing LOS in 2035
- SR 632 (Shalom Road) from SR 624 (Lyndhurst Road) to US 340 - Upgrade to 2-lane secondary road standards
- SR 970 (Hall School Road) from SR 632 (Shalom Road) to SR 635 (Mount Vernon Road) - Upgrade to secondary road standards

Map 10

MAP 11

- SR 971 (Lipscomb Road) from SR 664 (Lyndhurst Road) to SR 970 (Hall School Road) - Upgrade to secondary road standards and evaluate the adequacy of the bridge to accommodate anticipated traffic.
- SR 634, 633, and 639 (Patton Farm Road) from SR 610 (Howardsville Turnpike) to SR 970 (Hall School Road) - Upgrade to secondary road standards
- SR 610 (Howardsville Turnpike) from SR 608 (Cold Springs Road) to east of SR 660 Lake Road- Reconstruct to improve operations and address geometric deficiencies.
 -
- Scholastic Way Sidewalk Project- Construct one third mile of five foot wide concrete sidewalk connecting additional neighborhoods to previously constructed sidewalks and providing additional community access to school complex.

3. VERONA

The Verona Subarea is projected to have failing roadway segments along US 11 north of SR 612 (Quicks Mill/Laurel Hill Road); on two segments of SR 612 (Laurel Hill Road), west of I-81 between US 11 and SR 1921 (Adams Lane) and east of I-81 between SR 792 (Indian Mound Road) and SR 790 (West Amber Road); and on SR 254 (Hermitage Road) near the Staunton city limits. Currently, US 11 serves as a major north-south travel corridor both as a reliever to I-81 and for local traffic movement, putting significant stress on this facility. The corridor is located within an Urban Service Area where continued development is expected in the future. A detailed Corridor Study of US 11 is needed to identify potential spot improvements, intersection improvements, or access improvements and consolidations that may increase capacity and improve safety through this corridor.

Upgrades to existing facilities and constructing new street connections can be addressed as development necessitates, proceeding according to the suggested grid network described in **Map 12**. The intersection of SR 262 (Woodrow Wilson Parkway) and SR 613 (Spring Hill Road) has presented numerous safety problems with the intersection currently signalized with a flashing yellow light. The speed limit on SR 262 is 55 mph. This intersection has experienced crashes with fatalities in the past. Further, Woodrow Wilson Parkway is expected to experience failing LOS by 2035. A project to grade separate this interchange is currently in the design and right-of-way phase. Existing local roads that currently do not meet VDOT's secondary road standards also require upgrades to bring them into the secondary road network.

The following list identifies system needs that are intended to address congestion, safety, or network development needs. The list was developed by reviewing projects identified in the 2007 Thoroughfare Plan, the 2011 Rural Long Range Transportation Plan, and through analysis of updated traffic and safety data and recent or proposed future land use. In **Section V**, these system needs are prioritized and refined with the highest priorities included as recommendations.

- US 11 from SR 612 (Quicks Mill/Laurel Hill Road) to SR 616 (Dam Town Road) - Spot improvements for failing LOS in 2035

MAP 12

- SR 612 (Laurel Hill Road) from US 11 to SR 1921 (Adams Lane)- Spot improvements for failing LOS in 2035
- SR 612 (Laurel Hill Road) from SR 792 (Indian Mound Road) to SR 790 (West Amber Road) - Spot improvements for failing LOS in 2035
- Intersection improvements at SR 612 (Laurel Hill Road) and SR 792 (Indian Mound Road)
- Intersection of US 11 with SR 612 (Quicks Mill/Laurel Hill Road)- Address safety deficiency/crash rate at intersection
- Intersection of SR 262 (Woodrow Wilson Parkway) and SR 613 (Spring Hill Road) to address safety issues, to accommodate future growth, and to provide increased connectivity west of US 11.
- US 254 (Hermitage Road) from Woodrow Wilson Parkway (SR 262) to SR 608 (Long Meadow Road)- Spot improvements for failing LOS in 2035
- SR 626 (Limestone Road) from 0.8 miles north of SR 612 (Quicks Mill Road) to 1.7 miles north of SR 612 (Quicks Mill Road)- Reconstruct road to address geometric deficiencies
- SR 616 (Dam Town Road) from SR 777 (Knightly Lane) to SR 926 (River Bend Road)- Reconstruct road to address geometric deficiencies

4. WEYERS CAVE AND MOUNT SIDNEY

The Weyers Cave and Mount Sidney Subarea is projected to have failing roadway segments along US 11 north of SR 646 (Fadley Road) and south of SR 775 (Buttermilk Road) and on SR 256 (Weyers Cave Road) east of the I-81 interchange. I-81 will continue to put significant traffic pressure on SR 256 (Weyers Cave Road) east of the interchange. A combination of capacity enhancements, access management strategies and an on-going focus on safety, especially in the vicinity of the SR 256/SR 276 (Keezletown Road) intersection will be necessary because of the interstate, coupled with anticipated industrial and commercial growth between I-81 and Shenandoah Valley Regional Airport.

Currently, US 11 serves as a major north-south travel corridor, both as a reliever to I-81 and for local traffic movement, putting significant stress on this facility. US 11 also requires a more detailed corridor study to identify potential spot improvements, intersection improvements, or access improvements that may increase capacity and improve safety through this corridor. Upgrades to existing facilities and constructing new street connections can be addressed as development necessitates, proceeding according to the suggested grid network described in **Map 13**.

MAP 13

The following list identifies system needs that are intended to address congestion, safety, or network development needs. The list was developed by reviewing projects identified in the 2007 Thoroughfare Plan, the 2011 Rural Long Range Transportation Plan, and through analysis of updated traffic and safety data and recent or proposed future land use. In **Section V**, these system needs are prioritized and refined with the highest priorities included as recommendations.

- US 11 from SR 616 (Dam Town Road) to Rockingham County Line - Spot improvements to address poor or failing LOS in 2035
- SR 256 (Weyers Cave Road) from US 11 to SR 750 (Keezletown Road) - Spot improvements to address failing LOS in 2035
- SR 775 (Buttermilk Road) from US 11 to I-81 - Upgrade to secondary road standards
- SR 768 (Dices Spring Road) from 500' west of the Railroad Crossing to SR 276 (Keezletown Road) - Spot improvements to address poor or failing LOS in 2035.
- SR 773 (Westview School Road) from SR 771 (Airport Road) to SR 847 (Valley Church Road) - Upgrade to secondary road standards
- SR 771 (Airport Road) from SR 773 (Westview School Road) to Aviation Circle - Upgrade to secondary road standards
- SR 847 (Valley Church Road) from SR 256 (Weyers Cave Road) to SR 771 (Airport Road) - Upgrade to secondary road standards
- SR 773 (Virginia Mills Road/Cave View Lane) from SR 847 (Valley Church Road) to SR 996 (Chapel Hill Road) - Upgrade to secondary road standards
- I-81/SR 256 Interchange - Reconstruct interchange and widen SR 256 (Weyers Cave Road)
- Intersection of US 11 and SR 256 (Weyers Cave Road) - Extend right and left-hand turn lanes, monitor crash history

5. JOLIVUE, MINT SPRING AND GREENVILLE

The Jolivue, Mint Spring, and Greenville Subarea is projected to have failing roadway segments along US 11 south of US 340 and on US 340 from US 11 to Stuarts Draft. Currently, US 11 serves as a major north-south travel corridor both as a reliever to I-81 and for local traffic movement, putting significant stress on this facility. The corridor is located within an Urban Service and Community Development Area where continued development is expected in the future.

A network of streets adjacent to US 11 is needed to create a parallel travel corridor to US 11 and to provide additional connections for local traffic to avoid the need for every trip to use US 11. US 11 also requires a more detailed corridor study to identify potential spot improvements, intersection improvements, or access improvements that may increase the capacity and improve safety through this corridor. Upgrades to existing facilities and constructing new street connections can be addressed as development necessitates, proceeding according to the suggested grid network described in **Map 14**.

MAP 14

The following list identifies system needs that are intended to address congestion, safety, or network development needs. The list was developed by reviewing projects identified in the 2007 Thoroughfare Plan, the 2011 Rural Long Range Transportation Plan, and through analysis of updated traffic and safety data and recent or proposed future land use. In **Section V**, these system needs are prioritized and refined with the highest priorities included as recommendations.

- US 11 from US 340 to SR 675 (Broadhead School Road) - Spot improvements to address failing LOS in 2035
- SR 613 (Old Greenville Road) from Staunton City Limits to SR 662 (Stover School Road) - Upgrade to secondary road standards
- SR 697 (White Oak Gap Road) from SR 613 (Old Greenville Road) to US 11 - Upgrade to secondary road standards
- SR 694 (Chestnut Ridge Road) from SR 613 (Old Greenville Road) to US 11 - Upgrade to secondary road standards
- SR 655 (Walnut Hills Road) from US 11 to US 340 - Upgrade to secondary road standards

6. BALANCE OF COUNTY

Many local and secondary roads in the balance of the County do not meet current secondary road standards based on pavement type, lack of pavement or roadway geometry. Identifying those roads which could provide additional capacity to serve higher growth areas is necessary to accommodate additional future trips on the network in these areas. Upgrading existing roads is a cost-effective alternative to new construction and can also improve safety on these facilities.

Local and secondary roads in the County will also benefit from spot improvements to address access management challenges, correct geometric deficiencies at intersections or to add turn lanes and improve capacity. The County will continue to coordinate with VDOT to identify specific, cost-effective spot improvements through the secondary roads program. Many bridges throughout the county have poor bridge ratings and are presently considered structurally deficient. The County and VDOT have identified the bridges most in need of replacement and prioritized replacement on those in most need focusing on the ones which receive a high level of traffic. Many of these bridges are found along US 250 west of Staunton.

The following list identifies system needs that are intended to address congestion, safety, or network development needs. The list was developed by reviewing projects identified in the 2007 Thoroughfare Plan, the 2011 Rural Long Range Transportation Plan, and through analysis of updated traffic and safety data and recent or proposed future land use. In **Section V**, these system needs are prioritized and refined with the highest priorities included as recommendations.

- US 250 at Calfpasture River, Ramsey’s Draft, Whiskey Creek, Bell Creek, and White Oak Draft; and SR 685 (Lehigh Road) at Little Calfpasture River– Bridges are deficient and need replacing

- Intersection of US 250 and SR 42 (Buffalo Gap Highway) in Churchville – Improvements to address capacity and delay
- SR 254 (Parkersburg Turnpike) from Staunton City Limits to SR 262 (Woodrow Wilson Parkway)- Spot improvements to address failing LOS in 2035
- US 250 from SR 262 (Woodrow Wilson Parkway)to SR 42 (Buffalo Gap Highway)- Spot improvements to address failing LOS in 2035
- US 340 from US 11 to SR 654 (White Hill Road)- Spot improvements for failing LOS in 2035
- SR 256 (Weyers Cave Road) from SR 865 (Rockfish Road) to Rockingham County Line- Spot improvements for failing LOS in 2035
- US 340 from Waynesboro City Limits to the Rockingham County Line-Spot Improvements to improve LOS along entire length
- US 250 from Waynesboro City Limits to Nelson County Line- Spot improvements for failing LOS in 2035
- Crozet Tunnel Improvements- Coordinate with Nelson County and City of Waynesboro to reopen the Crozet Tunnel as part of a pedestrian and bicycle trail network.

V. RECOMMENDED PROJECTS

The recommendations below consist of a prioritized list of further studies, facility improvements, and multimodal strategies to address the needs described in **Section IV. Transportation System Needs**. The recommendations were selected through a mix of quantitative and qualitative methods from needs identified through this comprehensive plan update process. As discussed in **Section IV**, these needs were refined from those identified in the 2007 Thoroughfare Plan, the Fishersville Small Area Plan, the 2011 Rural Long Range Transportation Plan, and ongoing evaluation of transportation facilities conducted by the County, VDOT, the CSPDC, and the SAWMPO.

A. STUDIES TO EVALUATE SPOT IMPROVEMENTS

Detailed corridor studies are recommended for failing road segments or areas with high frequency of crashes to identify potential spot improvements. Corridor studies will also assess the cost and effectiveness of improvements compared to strategies such as road widening or constructing parallel roadways. Many of these corridors were identified as areas of concern for safety, focusing on roads or road segments that had high speed combined with poor geometrics (horizontal or vertical road alignments) which contributed to a safety issue. These corridors, intersections or segments were reevaluated based on data and information presented in **Sections III and IV**. The recommendations for capacity and safety studies are presented below.

- US 11 countywide – Corridor study (including all intersections) to evaluate capacity and safety
- US 250 between I-81 and WaynesboroFishersville – Corridor study to evaluate capacity and safety. US 250 West of Waynesboro STARS Study completed in 2020 – recommendations added to priority projects (Amended July 24, 2020).
- SR 608 (Draft Avenue) from US 340 south to SR 610 (Howardsville Turnpike) – Update corridor study to evaluate capacity and develop cost effective solutions
- US 250 intersection with SR 285 (Tinkling Spring Road)– Intersection study to evaluate capacity and safety
- SR 262- Study the need for intersection/interchange improvements and the need to build the ultimate planned 4 lane section.
- Woodrow Wilson complex- Study to identify alternative accesses to the complex, in addition to SR 358 (Woodrow Wilson Avenue). Wilson Workforce and Rehabilitation Center/US 250 Small Area Study completed in March 2018 – recommendation for secondary access added to priority projects (Amended July 24, 2020).
- US 11 STARS Study completed in December 2019
- Route 254 Safety Study completed in 2020 in preparation for Round 4 of Smart Scale applications

B. MULTI-MODAL RECOMMENDATIONS

As the Fishersville, Stuarts Draft, Verona, and Weyers Cave Urban Service Areas of the County continue to develop, planning for a transportation system that encompasses all modes, including walking, bicycling and transit would be beneficial and should be examined. The Scholastic Way sidewalks and Lifecore Drive/Tinkling Spring Road multi-use trail projects in Stuarts Draft and Fishersville, respectively are an important start to developing a complete network of pedestrian and bicyclist facilities in concert with the development of the conceptual grid of collector and local roads and streets.

As noted in Sections III and IV, additional mobility options will benefit the County’s growing 65 and over population. Expanding urban and rural transit in the County following a model where local funding for transit is significantly leveraged to match federal transit funding should be considered to provide additional fixed-route and demand-response service in the County.

C. PRIORITY FACILITY RECOMMENDATIONS

The following list of recommended facility improvements or additions to transportation infrastructure have been developed based on the evaluation of needs. The recommendations are intended to address those needs identified as most pressing to the county considering the

transportation goals and objectives, as well as costs and benefits, safety, and economic development. The list below does not reflect any order of priority, these projects are simply those projects deemed to be priorities for the county. The recommendations are displayed in **Map 15**.

1. **Intersection of US 11 and SR 256 (Weyers Cave Road) and the I-81/SR256 Interchange**

Deficiency: These section of roadway experiences heavy school traffic and a significant queue eastbound during peak hours. This intersection cannot accommodate the long-term growth expected.

Recommendation: Reconstruct interchange, widen SR 256 (Weyers Cave Road) and US 11; extend right and left-hand turn lanes on US 11.

Cost: \$ 76,600,000

Short-term solutions: In an effort to prepare a more competitive application for state funds, widen Route 256 to 4 lanes for approximately 900' from Exit 235 to Triangle Drive. Project includes a 10' shared use path along south side, raised median and entrance modifications to provide access management, and a frontage road to access a new park and ride facility. In addition, in 2016, Augusta County received approval for funding for interchange right turn lane improvements.

Cost: \$5,710,500

2. **SR 616 (Dam Town Road) from SR 777 (Knightly Lane) to SR 926(River Bend Road) – Completed since the 2015 adoption of this chapter**

Deficiency: This segment of Dam Town Road currently has numerous geometric deficiencies resulting in a high crash rate. These include insufficient lane and shoulder width.

Recommendation: Reconstruct approximately 2.3 miles of this roadway to address the geometric deficiencies including constructing full-width lanes and shoulders.

Cost: \$7,705,814

3. **SR 626 (Limestone Road) from 0.8 miles north of SR 612 (Quicks Mill Road) to 1.7 miles north of SR 612 (Quicks Mill Road)**

Deficiency: This segment of SR 626 is heavily traveled and currently has numerous geometric deficiencies. These include insufficient lane and shoulder width and poor horizontal and vertical alignment.

Recommendation: Reconstruct 0.9 mile of this roadway to address the geometric deficiencies including construction of full-width lanes and shoulders to improve horizontal and vertical alignment

Cost: \$3,566,872

4. SR 612 (Laurel Hill Road) at SR 792 (Indian Mound Road)

Deficiency: The SR 612 (Laurel Hill Road) and SR 792 (Indian Mound Road) intersection has poor sight distance and intersection geometry. Peak hour turning movements are high at this location due to the industrial employer north of this intersection.

Recommendation: The intersection should be reconstructed to provide improved sight distance and better alignment of the various driveways. Left turn lanes on SR 612 (Laurel Hill Road) should be examined. Left turn lanes completed since the 2015 adoption of this chapter.

Cost: \$1,977,692

5. US 250 at Bridge over Calfpasture River (Structure #1036) – Completed (2016)

Deficiency: This bridge is rated as structurally deficient.

Recommendation: The bridge should be replaced.

Cost: \$1,549,000

6. US 250 at Bridge over White Oak Draft – Completed (2016)

Deficiency: This bridge is rated as structurally deficient.

Recommendation: The bridge should be replaced.

Cost: \$1,902,000

7. US 250 at Bridge over Whiskey Creek (Structure #1030) – Completed (2017)

Deficiency: This bridge is rated as structurally deficient.

Recommendation: The bridge should be replaced.

Cost: \$ 3,600,000

8. US 250 at Bridge over Bell Creek – Completed (2020)

Deficiency: This bridge is rated as structurally deficient.

Recommendation: The bridge should be replaced.

Cost: \$4,016,000

9. SR 262 (Woodrow Wilson Parkway) at SR 613 (Spring Hill Road)

Deficiency: This intersection is insufficient to accommodate future growth and is an identified safety hazard with previous instances of fatal crashes.

Recommendation: Intersection should be replaced with a diamond interchange.

Cost: \$22,000,000

10. Intersection of US 250 and SR 358 (Woodrow Wilson Avenue)

Deficiency: This intersection experiences heavy school traffic and a significant queue eastbound during AM peak hours. The majority of accidents involve eastbound left turns and westbound through traffic. The intersection has a high crash rate with the contributing factors being student age drivers, poor intersection spacing and vertical alignment, short green times for the southbound approach, and no pedestrian facilities. This intersection cannot accommodate the long-term growth expected.

Recommendation: A STARS (Strategically Targeted Affordable Roadway Solutions) report was previously completed which identified a number of recommendations for improvements. Safety improvements such as updating signage, refreshing pavement markings, and ensuring signal clearance levels meet standards. Consider installing westbound double right turn lanes, and eastbound and southbound double left turn lanes and constructing an additional receiving lane on SR 358. ~~A potential second access to site option should also be examined.~~

Update: In 2016, Augusta County received funding approval for a roundabout within the Woodrow Wilson Workforce and Rehabilitation center at the intersection of Woodrow Wilson Avenue, Hornet Road, and Vo Tech Road. The roundabout will include a pedestrian connection to an existing multi-use path. In 2019, Augusta County received funding approval for short-term improvements to the US 250/Woodrow Wilson Avenue intersection, including installing a dedicated westbound right-turn lane on US 250, a northbound receiving land on SR 358, and a dedicated southbound right-turn lane on SR 358.

Cost: \$ 850,000- \$1,400,000

11. US 250 at SR 608 (Long Meadow Road)

Deficiency: There have been nine crashes over a three-year period at this intersection which exceeds the planning threshold and results in a high crash rate at the intersection.

Recommendation: Improve intersection by constructing a right turn lane on Route 608 at the intersection of US 250. In, 2019 a turn lane was added.

Cost: \$ 100,000

12. US 250 at SR 285 (Tinkling Spring Road / Station House Road)

Deficiency: Vehicles approaching US 250 (Jefferson Highway) on SR 285 (Tinkling Spring Road) have limited sight distance to the signal due to the horizontal curvature. This is likely one factor contributing to the high crash rate at the intersection. Other contributing factors are a lack of access management; poor visibility due to placement of signs, fences, and horizontal alignment; worn pavement markings; and lack of delineation of ditches.

Recommendation: Refurbish the pavement markings, add delineators, and relocate signage to improve sight distance. Reconstruct the eastbound approach to improve sight distance, and improve right turning radius to better accommodate trucks. Apply access management techniques to consolidate the driveways and reduce the number of turning points close to the intersection.

Cost: \$ 400,000- \$600,000

13. Lifecore Drive Shared-use Path – Completed since the 2015 adoption of this chapter

Deficiency: Lifecore Drive is the center of one of the most rapidly developing areas of the county with a high mix of uses including residential, commercial, office, and institutional. Current projects underway are providing shared-use paths along the realignment of SR 636 from US 250 to Village Creek Drive and along Tinkling Spring Road and turning onto Lifecore Drive for approximately .2 of a mile. These projects will leave an approximately half mile gap between the two shared-use paths.

Recommendation: Construct a half mile of eight foot wide, shared-use path connecting the two projects currently underway from approximately Village Creek Drive to Parkway Lane.

Cost: \$765,000

14. SR 608 (Tinkling Spring Road) from SR 635 (Ramsey/Augusta Farms Road) to Expo Road – Completed (2017)

Deficiency: This segment of SR 608 (Tinkling Spring Road) is projected to have failing LOS in 2035. The Exit 91 project currently under construction will be widening the segment of SR 608/SR 285 north of Expo Road to six lanes with turn lanes. This segment is currently a narrow two-lane road which will cause a bottleneck for traffic once construction of the Exit 91 project is complete.

Recommendation: Reconstruct the 0.6 mile segment of SR 608 (Tinkling Spring Road) to a four-lane roadway with median to improve operations and address geometric deficiencies including full-width lanes and shoulders.

Cost: \$3,349,007

15. Scholastic Way Shared-use Path – Partially completed since 2015 adoption of this chapter

Deficiency: The County has begun a Safe Routes to School project in Stuarts Draft, however all of the neighborhoods are not yet connected to the school complex.

Recommendation: Construct one-third mile of five foot wide concrete sidewalk connecting additional neighborhoods to previously constructed sidewalks.

Cost: \$ 221,500

16. SR 610 (Howardsville Turnpike) from SR 608 (Cold Springs Road) to SR 660 (Lake Road) – Completed since the 2015 adoption of this chapter

Deficiency: The intersection of Howardsville Turnpike and SR 912 (Hodge Street) is a dangerous intersection where numerous crashes have occurred over the past 5 years. This is a result of poor intersection geometry and sight distances. The segment of SR 610 near the intersection is very heavily traveled and currently has numerous geometric deficiencies including insufficient lane and shoulder width.

Recommendation: Reconstruct 0.4 mile of this roadway segment and intersection to improve operations and address the geometric deficiencies including construction of full-width lanes and shoulders. The current “Y” intersection of SR 912 and SR 610 should be realigned to provide improved sight distance and better geometry.

Cost: \$4,794,091

17. SR 685 (Lehigh Road) at Bridge over Little Calfpasture River (Structure #6086)

Deficiency: This bridge is rated as structurally deficient.

Recommendation: The bridge should be replaced.

Cost: \$1,151,000

18. WWRC secondary access

Deficiency: Congestion at the US 250/SR 358 intersection, particularly the westbound segment. No secondary access to the WWRC complex which is the site of elementary, middle, and high schools, the regional technical center, the state rehabilitation and workforce training center, some residential development, and offices and maintenance facilities.

Recommendation: Improvement includes a raised median on US 250 between intersection with Rt. 358 and new secondary access intersection, that consists of 3,700 feet of new construction on a new alignment with parallel shared use path to connect US 250 with the WWRC complex. In addition to the new alignment, a shared use path will

extend along the north side of US 250 to connect the existing shared use path on Woodrow Wilson Avenue.

Cost: \$14,200,000

19. Safety Improvements to intersections: SR 254/262, 254/792, and 254/640

Deficiency: The intersections combined have experienced at least 56 crashed in the period 2013-2019 with one fatality. The intersection of Rt. 254 and Rt. 262 is listed at #31 on the Staunton District’s Potential for Safety Improvements intersection list.

Recommendation: Rt. 254 and Rt. 262 improvements include constructing a westbound left-turn lane and eliminating the center island on the northbound approach and realigning that approach. Rt. 254 and Rt. 792 improvements include construction an eastbound left-turn lane, lengthening the westbound right turn lane, and relocating the minor approach stop bars. Rt. 254 and Rt. 640 improvements include re-grading the berm in the southwest corner and eliminating the center island on the westbound approach and realigning that approach.

Cost: \$2,442,375

20. US 11 STARS Study Recommendations

Deficiency: Deficient access spacing, intersection configurations, and signal phasing and timing, causing angle crashes from intersection US 11 with Rolling Thunder Lane to the US 11 intersection with Barterbrook Road.

Recommendation: A. US 11 from Rolling Thunder Lane to Frontier Drive - Extend median to restrict left turn out of Rolling Thunder Lane. Install an overhead sign in advance of the Route 262 northbound on-ramp. Extend median and install straight thru green arrow on the northbound approach to discourage left turns from through lanes. Install new signal head configuration for northbound approach. B. US 11 at Payne Lane – Directional median opening. Restrict left turn from southbound US 11 at Mall Entrance. Allow northbound left turns from US 11 onto Payne Layne. Re-route left turns to the adjacent intersections. C. Orchard Hill Road – Access management on the west side of Greenville Avenue. Directional median opening. Install median to restrict turns. D. Orchard Hill Road to Staunton City limits – Install median along US 11.

Cost: \$2,458,218

21. US 250 STARS Study Recommendations

Deficiency: Deficient access spacing, causing angle crashes.

Recommendation: Access management improvements by raised median (with median breaks) from the intersection of Old White Bridge Road and US 250 and to the intersection of Lew Dewitt Blvd. (City of Waynesboro) and US 250. Improvements include sidewalk infrastructure along the north of US 250.

Cost: \$2,410,000

O. Transportation

Goal 1: Maintain and enhance a safe and efficient roadway network that supports the intended land uses and development patterns planned for Urban Service and Community Development Areas; that provides accessibility within communities and mobility between communities and around the region; and that supports economic development.

Objective A: Apply access management standards to maintain the capacity on primary and secondary system roadways designated for non-residential uses.

Policy 1: Consolidated Access. Encourage the consolidation of driveways or provision of alternate local access to meet the driveway spacing standards and minimize driveway connections to arterial or collector streets. Access should be provided from the local street grid where possible. Direct access to arterial or collector streets should be shared to serve multiple parcels with cross-access between parcels.

Policy 2: Restricted Access. Encourage the use of raised medians on arterials to restrict turning movements. The spacing between median openings should conform to the standards specified in the *VDOT Road Design Manual*.

Objective B: Apply operational and spot improvements to existing roadways to increase the capacity or safety where a need is identified through corridor studies, traffic impact studies, or safety studies.

Policy 1: Improve Intersection Operations. Where the overall intersection or any movement of a signalized or unsignalized intersection operates at a LOS D or worse, potential mitigation strategies include signalization, re-timing signals, signal synchronization, lane re-striping, or construction of a roundabout.

Policy 2: Spot Improvements. Where roadway segments create a bottleneck or a safety concern, spot improvements, including the addition of turn lanes or improving roadway geometry, will be considered.

Policy 3: Widen existing roads. Where roadway segments are operating at a LOS D or worse and all other strategies have been considered, adding lanes to existing roadways may be acceptable. Four-lane roads should be divided with a raised median and designed with left turn lanes to maximize the capacity of the facility. Four-lane roads through existing or developing communities should be designed to match the context of the community and promote walkability.

Objective C: Develop communities with grid street networks to promote community development and to provide alternative routes, reduce vehicle trip lengths, and to promote walkability.

Policy 1: Small Area Plans. Within Urban Service Areas and Community Development Areas, develop small area plans that analyze the conditions within the small area and recommend a cohesive plan for the development of the small area. Recommendations should include the layout of the transportation network, the appropriate arrangement of land uses, and the inclusion of schools, parks, and other civic uses.

Policy 2: Grid Street Spacing. Encourage the development of a grid of collector and local streets and parallel connectors to serve trips between and within communities and provide a walkable scale of development. The grid concept should take into consideration existing site conditions such as topography and environmental constraints and the layout should be modified accordingly. Collectors should be spaced at one-half to one mile apart and local streets at a spacing of 300-600’.

Policy 3: Interconnected Subdivisions. Subdivisions should be designed into a grid of streets with interconnections to adjacent subdivisions and commercial development. Isolated subdivisions that do not connect to surrounding development are strongly discouraged.

Policy 4: Walkable Communities. Encourage the development of compact, mixed-use, pedestrian-oriented communities with housing located in close proximity to jobs, shopping, schools, and services.

Objective D: Coordinate with communities and VDOT to ensure that roadway projects are designed to meet the context of the community.

Policy 1: Traffic Calming. In existing or developing communities, discourage lane widths greater than 11’. Calm vehicle traffic within communities and near schools with pedestrian-oriented streetside design. Encourage buildings to be located at minimum setbacks near the street right-of-way, locate parking behind buildings, allow on-street parallel parking, and provide streetscaping amenities such as street trees, benches, and lighting between streets and sidewalks. Where streets are expected to be widened in the future, the setback should account for the anticipated maximum expansion of the roadway.

Policy 2: Intersections. Encourage the use of shorter street corner radii at the intersections of collector streets with other collector streets, local streets, or driveways and at the intersections of local streets with other local streets or driveways to promote safety. Collector street corner radii as small as 25’ and local street corner radii as small as 15’ are encouraged where staff and VDOT agree that a smaller radius is acceptable. Discourage channelized turning movements in existing or developing communities. Any new roads should be aligned to intersect at a 90-degree angle with existing roads and aligned directly towards the opposite leg of the intersection.

Policy 3: Alternate Design Standards. Promote the use of innovative design standards such as the ITE *Context Sensitive Solutions in Designing Major Urban Thoroughfares* in coordination with VDOT.

Objective E: Promote transit and non-motorized transportation use between and within communities.

Policy 1: Pedestrian Facilities. Sidewalks should be located on both sides of any new or reconstructed streets. Sidewalks should be a minimum of five feet in width. Sidewalks should be set back from arterial streets by 10 feet and from collector and local streets by six feet. Street trees and pedestrian-scaled lighting are encouraged to be located between the street and the sidewalk to help buffer pedestrians from vehicle traffic.

Policy 2: Cycling Facilities. Bicycle lanes, shared-use paths, or wide shoulders should be considered on both sides of any new or reconstructed arterial or collector street, as well as on any streets identified in the Central Shenandoah Bicycle Plan. Bicycle lanes should be a minimum of four feet in width as measured from the edge of pavement, or five feet in width as measured from the edge of the parking lane where on-street parallel parking is present. Shared use paths should be a minimum of 10 feet in width. When these widths cannot be met, increasing the shoulder width to the extent possible should be considered.

Policy 3: Promote Safe Routes to Schools. Emphasize the construction of pedestrian and cycling facilities within a 2-mile radius of elementary and middle schools. Pursue grants from the Transportation Alternatives Program for Safe Routes to School projects to construct pedestrian and cycling infrastructure to improve safety near elementary and middle schools.

Policy 4: Public Transit. Coordinate with the CSPDC to expand public transit services in the county. This should include increased fixed-route transit connecting the Urban Service and Community Development Areas with Staunton and Waynesboro and additional on-demand transit services in the more rural areas.

Policy 5: Ride Sharing. The county, in coordination with the CSPDC, VDOT, and neighboring localities should encourage ridesharing alternatives such as carpooling, vanpooling and park and ride lots put forth by private sector or community groups and should help coordinate such initiatives.

Policy 6: Multi-modal facilities. Encourage the addition of multi-modal accommodations on County arterials and collectors, where appropriate, including bike and pedestrian facilities and transit stops.

Objective F: Interstate Interchange Protection. Protect the traffic capacity and economic development potential within a one mile radius of I-81 and I-64 interchanges through coordinated land use and transportation strategies.

Policy 1: Interchange Area Plans. Develop interchange area plans that provide specific recommendations for improving existing interchange access conditions and guidelines for future development or redevelopment of transportation facilities and land uses surrounding the interchange.

Policy 2: Land Development. Encourage the development of major regional traffic generators near the interchanges as these locations are best suited to carry regional traffic while minimizing traffic impacts on local streets and communities. Discourage low-intensity uses such as single-family housing within interchange areas.

Objective G: Coordinate with private land developers to ensure that the county's transportation and land use policies are implemented and to assess the impacts of proposed development.

Policy 1: Traffic Impact Studies. Traffic impact studies are required by VDOT for rezoning proposals that will substantially affect state-controlled highways and must comply with the adopted Traffic Impact Analysis Regulations, 24 VAC 30-155. The methodology for traffic impact studies will be coordinated with VDOT and the results will be reviewed by VDOT and county staff. The traffic impact study must include a transportation network plan that indicates the location of road, pedestrian, and bicycle facilities.

Policy 2: Limit Development of New Private Roads. New roads in the county will generally be public, state-maintained roads. Private roads may be allowed where they are designed to County standards and the long-term private maintenance of the streets is assured at no cost to the taxpayers.

Policy 3: Right-of-Way Acquisition. Developers shall provide the right-of-way for, and design and construct, as appropriate, proposed new roadways or roadway widenings indicated in the Comprehensive Plan.

Goal 2: Maintain and enhance the safety and efficiency of a rural road system in the Rural Conservation and Agricultural Conservation Areas that also preserves the county's rural character.

Objective A: Maintain and enhance the existing road network.

Policy 1: Access Management. Discourage direct access to roads functionally classified as collectors or above from individual lots. Encourage consolidated access points to serve new rural development. Protect the capacity and safety of existing rural roadways through the use of reverse frontage lots, shared access, and cross-access connections.

Policy 2: Prioritize Unpaved Road Improvements. Prioritize paving needs based on roadway volume, projected development on the roadway, safety concerns, connectivity to adjacent roads, and adjacent landowner desire for paving.

Policy 3: Rural Rustic Road Program. Submit annual recommendations to VDOT for unpaved road improvements that qualify for the Rural Rustic Road Program. These roads must meet secondary road standards.

Policy 4: New Rural Roads. Encourage public, state-maintained roads be provided to serve land that is rezoned for rural residential development. Where private roads are permitted, ensure that the roads are constructed to county standards and permanently maintained at no cost to the County. Permit private access easements only for minor subdivision lots.

Policy 5: Maintenance of unpaved roads. The county's 275 miles of unpaved road network are important for circulation, rural connectivity, and the agricultural economy, and should be maintained even if they remain unpaved.

Objective B: Apply operational and spot improvements to existing roadways to increase the capacity or safety where a need is identified through corridor studies, traffic impact studies, or safety studies.

Policy 1: Identify Capacity or Safety Concerns where potential spot improvements may solve the issue. Assess the need for operational and spot improvements through corridor studies, traffic impact studies, and safety studies to identify the feasibility of spot improvements, including the addition of turn lanes or improving roadway geometry to correct the deficiency.

Policy 2: Improve Intersection Operations. Where the overall intersection or any movement of a signalized or unsignalized intersection operates at a LOS D or worse, potential mitigation strategies include signalization, re-timing signals, signal synchronization, lane re-striping, or construction of a roundabout.

Policy 3: Widen Existing Roads. Where roadway segments are operating at a LOS D or worse and all other strategies have been considered, adding lanes to existing roadways may be acceptable.

Goal 3: Implement the county's Transportation Chapter.

Objective A: Use the Transportation Chapter to guide future transportation decisions. The Transportation Chapter provides recommendations that address strategies to mitigate projected congested roadway conditions in 2035.

Policy 1: Local Road Networks. Develop small area plans for Urban Service and Community Development Areas to provide further detail for the layout of local road networks.

Policy 2: Road Upgrades. Upgrade sections of substandard rural roads where the road is identified as a component of the future collector road network.

Policy 3: New Road Construction. Develop grid road networks and parallel road corridors in Urban Service and Community Development Areas.

Policy 4: Access, Operational, and Spot Improvements. Increase the capacity of existing roads to maintain or increase the capacity of the roadway through small-scale improvements such as access management, operational improvements, and other spot improvements.

Policy 5: Incident Management. Coordinate with VDOT and local and state emergency services providers on plans to relieve congestion on parallel roadways that result from incidents on I-81 and I-64.

Policy 6: I-81 Improvements. Coordinate with regional and state agencies to ensure that I-81 Improvements are integrated into development plans for Augusta County. Ensure that plans for I-81 improvements include mitigation strategies to relieve congestion on parallel roadways resulting from I-81 construction.

Goal 4: Support the development of air, rail, transit, and bicycle facilities for transportation and economic development.

Objective A: Increase countywide opportunities for non-automobile options such as rail, air, bus, pedestrian, and bicycle transportation.

Policy 1: Airports. Encourage the viability and further development of Shenandoah Valley Regional Airport, including coordinating adjacent land uses and transportation improvements to best facilitate the full use of the airport. The county will encourage the expansion of operations at the airport for commercial and private air traffic. Encourage the continued use and expansion of Waynesboro's Eagle's Nest Airport to absorb a portion of the regional demand for private air travel.

Policy 2: Rail Facilities. Encourage the continued and further use of rail facilities for business, industrial and passenger service, including tourism functions. Encourage the coordination of adjacent land uses to best facilitate the maximum use of the railroads.

Policy 3: Intermodal Transfer and Transloading Facilities. Assess the need for an intermodal transfer facility to complement current freight movement by truck, rail, and air and support and encourage the expansion of transloading facilities.

Policy 4: Trail Facilities. Promote the development of a countywide interconnected system of shared-use paths and trail facilities for transportation, recreation, and

tourism, connecting to neighboring cities and counties. Support the recommendations of the Central Shenandoah Valley Greenway Plan.

Policy 5: Bicycle Facilities. Promote the development of a countywide interconnected system of bicycle lanes for transportation, recreation, and tourism. Support the recommendations of the Central Shenandoah Valley Bicycle Plan. Encourage the development of bicycle facilities on arterial and collector streets within Urban Service and Community Development Areas, as appropriate.

Policy 6: Pedestrian Facilities. Promote the development of sidewalks and other pedestrian facilities on all streets within Urban Service and Community Development areas.

Goal 5: Support a coordinated, cooperative, and comprehensive transportation planning process.

Objective A: Support effective implementation through coordination, communication, and participation at local, regional, state and federal levels.

Policy 1: Support the Staunton Augusta Waynesboro Metropolitan Planning Organization (SAWMPO). Continue working through the SAWMPO to implement a regional approach to transportation planning and development.

Policy 2: Additions to SAWMPO. Encourage the addition of the Weyers Cave Urban Service Area to the SAWMPO so that all the County's major Urban Service Areas are included in the MPO boundaries and can benefit from the planning process.

Policy 3: Coordination. Improve communications and joint planning between residents, landowners, the county, the cities of Staunton and Waynesboro, VDOT and the PDC, including conducting special technical studies of major proposed developments within urbanizing areas when necessary. The VDOT Six Year Plan, functional classifications and matching fund allocations, together with the county's Comprehensive Plan, CIP, local road network plans and developer proffers, will provide the framework for coordinated road planning and construction. Design standards should be revised through coordination with VDOT to ensure implementation of the best and most current practices.

Policy 4: Public Participation. Keep the public informed of transportation needs and planned short and long-term improvements. Involve the public in the development of transportation plans and the design of transportation projects.

Policy 5: School System Coordination. Coordinate with the county school system to ensure safe access to schools and to integrate school development plans into transportation planning efforts. Promote use of the Transportation Alternatives Program-Safe Routes to School Program for infrastructure and education funding.

Objective B: Increase, mobilize or leverage the necessary funding for transportation planning and for proposed transportation improvements.

Policy 1: Pursue Transportation Funding Sources. The county will pursue a range of funding sources to support local transportation projects including funds through federal and state options and public/private partnerships.

Policy 2: Revise Countywide Budget Allocations. The county should revise its current transportation funding allocation system to ensure that each magisterial district receives an appropriate portion of funding relative to the costs for constructing and maintaining the transportation facilities needed to support the projected growth within each district. Magisterial districts containing Urban Service and Community Development Areas will receive a significantly higher proportion of future growth than those containing Rural Conservation and Agricultural Conservation Areas, necessitating a far more extensive transportation network. Additionally, urban roads are more expensive to construct than rural roads, they carry a higher volume of traffic, and they also typically include the provision of pedestrian and bicycling facilities. It is also important to maintain rural roads. Budget allocations should also provide for adequate road maintenance in the Rural and Agricultural Conservation Areas.

Policy 3: Prioritize Safety Improvements. The highest priority for transportation funding in the county should be to address safety concerns.

Policy 4: Maintain and Enhance Existing Transportation Infrastructure. To determine the appropriate strategy for addressing roadway congestion, first consider improving existing roadways through access management strategies, operational improvements, and spot improvements. Consider developing parallel roads or road networks to relieve traffic from congested roadways as a second option. Road widening may be considered as a third option in the event that the first two strategies are not projected to relieve the roadway congestion to an acceptable level.

MAP 15