FAYETTE/RALEIGH METROPOLITAN PLANNING ORGANIZATION

2045 REGIONAL TRANSPORTATION PLAN UPDATE

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Amended October 2021

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Chapter 1 Introduction

The Fayette/Raleigh Metropolitan Planning Organization (FRMPO) was organized in 2012, pursuant to federal requirements, upon the release of 2010 U.S. Census data. The 2010 Census designated Beckley, WV as an urbanized area which included part of Fayette and Raleigh counties. FRMPO's responsibility is to provide a coordinated, cooperative, and comprehensive approach to transportation planning for an area that encompasses all of Fayette and Raleigh counties.

This document is an update to Fayette/Raleigh MPO's first regional transportation plan. It provides a 20-plus year blueprint for transportation investments in the region to the year 2045. This plan is multimodal, meaning it addresses travel by all modes on the transportation system including streets and highways, bikeways and walkways, public transportation, rail, and aviation.

Consideration is given to population and employment trends, land development patterns, travel characteristics, current and future transportation system performance, and other planning factors. The Plan has been developed in consultation with the federal, state, and local agencies responsible for environmental protection, land use management, natural resources, and historic preservation. The recommended Plan is also based on a series of stated community goals, financial capability, environmental considerations, and public guidance.

The Plan is organized into nine sections:

1 Introduction	Legal basis of the plan and planning requirements
2 Regional Trends	Current and future demographic and development conditions
3 Goals, Objectives, and Performance	Guiding goals and objectives of the 2045 Plan, and Performance Based Planning Process
4 Analysis of the Transportation System	Current conditions and future needs of the transportation system
5 System Alternatives Evaluation	Assessment of major transportation system alternatives
6 Funding and Fiscal Restraint	Proposed transportation investments for the 25-year period, and projected funding for their implementation
7 Recommended Long-Range Transportation Plan Improvements and Strategies	Short-, mid-, and long-term projects and improvements for the region
8 Environmental Screening: Potential Impacts and Mitigation	Assessment of the planned improvements on the physical and social environment
9 Public Participation	Outreach, involvement, and consultation during the planning effort

METROPOLITAN PLANNING

Federal law requires metropolitan areas (defined as urbanized areas with a population of greater than 50,000 people, based on the latest U.S. Census) undertake a continuing, comprehensive, and cooperative transportation planning process. The Fayette/Raleigh Metropolitan Planning Organization is the governing entity that is charged with carrying out this process for a planning area that covers all of Fayette and Raleigh counties.

The planning area of the FRMPO, shown in **Figure 1-1**, extends to the boundaries of both Fayette and Raleigh counties. The 2010 U.S. Census designated urbanized area is comprised of the Cities of Oak Hill and Mt. Hope and the Town of Fayetteville in Fayette County, and the City of Beckley and the Towns of Mabscott and Sophia in Raleigh County. Along with representatives from the two County Commissions, representatives of the municipalities in the designated urbanized area comprise the voting members of the FRMPO. Municipalities that are within the county boundaries, but outside of the urbanized area, participate as non-voting members.

Organizational Structure

The MPO is led by a Policy Board that adopts formal plans, programs and budgets for the organization; a Technical Advisory Committee (TAC) that provides recommendations to the Policy Board; and a professional staff from the Region 1 and Region 4 Planning and Development Councils.

- **Policy Board**

  The MPO Policy Board of the MPO consists of representatives from each of the municipalities located within the planning area, representatives from each County Commission, the Executive Directors of the Regional Planning and Development Councils for Regions 1 and 4, and the West Virginia Department of Transportation.

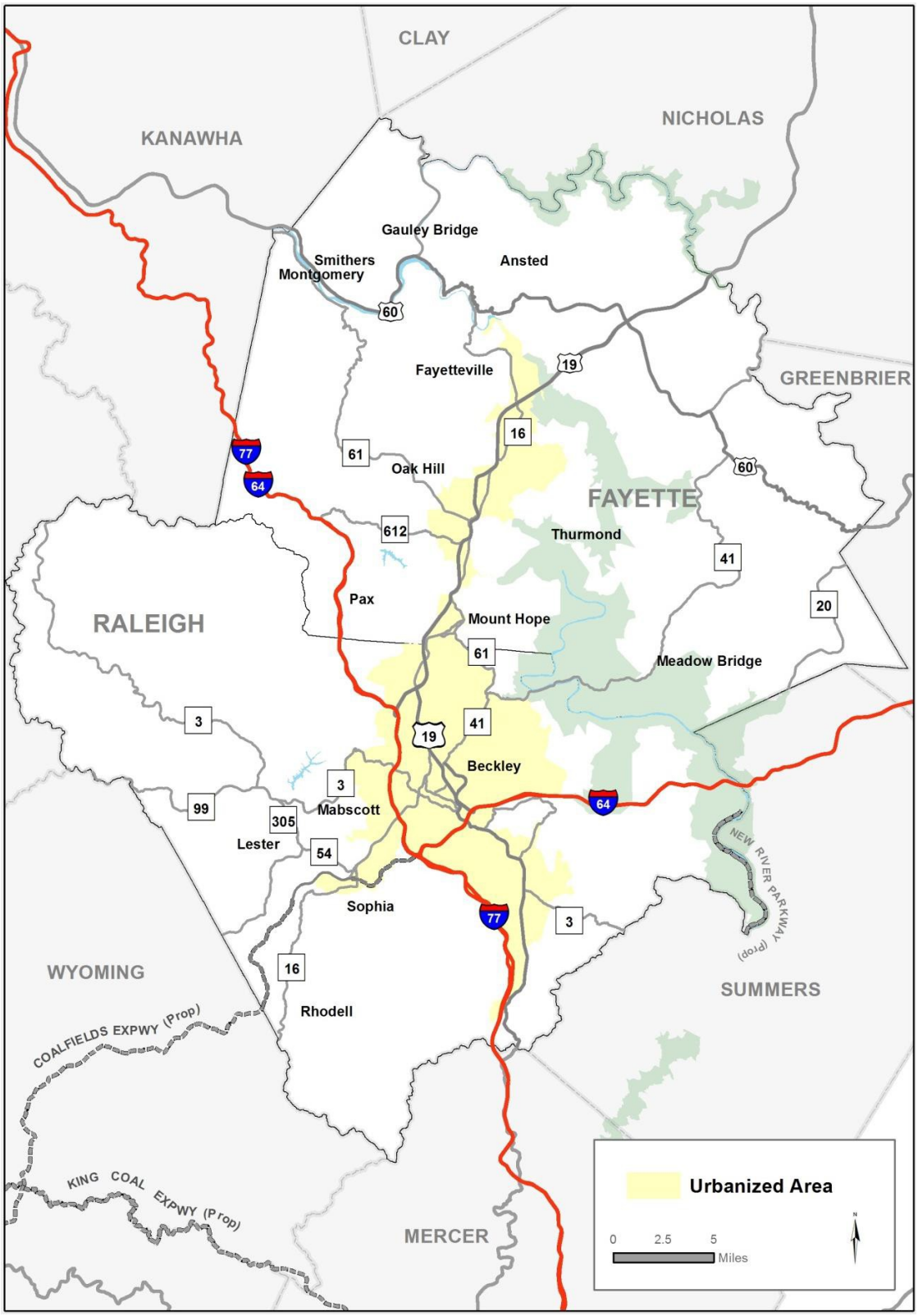
- **Technical Advisory Committee**

  The MPO TAC is comprised of technical representatives (such as county engineers, city engineers/planners, etc.) from each of the counties, municipalities and transit organizations within the MPO region.

- **MPO Staff**

  The MPO is staffed by several professionals at the Regional Planning and Development Councils who provide planning, GIS mapping and analysis, and administrative services for the agency. The MPO staff also functions as a liaison between the Policy Board, TAC, the West Virginia Department of Transportation, New River Transit Authority, Federal Highway Administration, Federal Transit Authority, local governments, and other groups and individuals interested in transportation issues within the MPO planning region.

Figure 1-1: Fayette/Raleigh MPO Planning Area



LEGAL REQUIREMENTS OF THE PLAN

Federal legislation provides the guiding framework that governs the transportation planning process for all MPOs. The Fixing America's Surface Transportation (FAST) Act, the federal transportation legislation passed in 2016, requires each MPO to develop a transportation plan with at least a 20-year horizon. It should inform the development of an integrated multimodal transportation system to facilitate the safe and efficient movement of people and goods and address current and future transportation demand. The plan must be updated every five years to remain consistent with existing conditions and re-evaluate proposed plans, programs and projects. The full set of metropolitan planning requirements are codified in U.S. law (23 U.S. Code § 134).

Other requirements of the MPO planning process include compliance with several existing laws and regulations:

- The Americans with Disabilities Act (ADA) of 1990, which mandates equal opportunity for, and prohibits discrimination against, individuals with disabilities. Title II of the ADA and Section 504 of the Rehabilitation Act of 1973 requires State, local and regional agencies to provide transportation programs, services and activities that are accessible to all individuals;

- Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color or national origin, and Section 324 of the Federal Aid Highway Act, the enabling legislation of the Federal Highway Administration, which prohibits discrimination based on sex;

- The Uniform Relocation Assistance and Real Property Acquisition Act of 1970, which prohibits unfair and inequitable treatment of persons as a result of projects that are undertaken with federal financial assistance;

- The Civil Rights Restoration Act of 1987, which clarified the intent of Title VI to include all programs and activities of federal aid recipients and contractors whether or not those programs and activities are federally-funded;

- Executive Order 12898, which reaffirms that each federal agency must make Environmental Justice part of its mission. Environmental Justice is a concept founded in the intent of the non-discrimination prohibitions of the federal legislation referenced above. Each agency (including the MPO, as a recipient of federal funds) must identify and address disproportionately high and/or adverse environmental or human health effects that any of its programs, policies and activities may have on minority and low-income populations. Further, each agency must work to prevent the denial, reduction or delay of benefits received by minority and low-income populations. Most importantly, each agency must develop policies and strategies to ensure full and fair participation by affected populations in transportation decisions.

The 2045 Plan reflects consideration of, and compliance with, the federal requirements of the FAST Act and all the provisions described above.

PLAN IMPLEMENTATION

Implementation of recommendations from the 2045 Plan occurs when the MPO Policy Board takes action to program funds for regional transportation projects and services. The MPO, in consultation with the appropriate city, county, and state transportation agencies, determines which projects are to be advanced from the regional transportation plan into the MPO's short-term Transportation Improvement Program (TIP).

The TIP is a planning/programming document developed and adopted by the MPO in response to area transportation needs. The TIP updates and advances a minimum four-year implementation program for all modes of transportation. This document includes major transportation projects such as construction of a new bridge or road and smaller-scale transportation improvements such as intersection improvements and sidewalks. All projects included in the TIP for funding and implementation must be consistent with the Regional Transportation Plan.

Amendments to the Regional Transportation Plan can and do occur once a plan has been adopted. These amendments can occur for various reasons, including a change in project schedule, unknown development changes, or changes in priorities. While the intent is to avoid such mid-cycle changes, amendments do occur. Any such amendment to the Plan must follow the public review process and procedures outlined in the MPO's Public Participation Plan which require a 30-day public notification for any significant changes to the Plan.

Chapter 2 Regional Trends

Growth and development are not interchangeable terms. *Growth* is an increase, whereas *development* can occur in a community regardless of whether it is growing. This is important to note because Beckley and surrounding communities were designated as an urbanized area after the 2010 Census. Although this census category requires a minimum population of 50,000, it is not all about size. It also indicates the region has reached a certain stage of development – one which often generates new challenges and opportunities.

The population of the Fayette-Raleigh MPO region has been declining slightly since 2000, as shown in **Table 2-1**. However, the region did maintain a more stable population base than many other parts of the state which saw significant losses over the period.

Working in the region's favor is a combination of good location and a growing understanding of how to capitalize on the pristine natural resources of the New River Gorge National Park and Preserve and associated federal lands. By attracting new residents, the region has been able to offset other population losses.

With a median age of 43, Raleigh County has one of the younger populations among the state's counties. (**Table 2-2**) The gradual aging of the nation's population is a common theme in today's news, but the trend is particularly notable in West Virginia and it could significantly influence the type of transportation needed over the next 20 to 25 years. The state already has an above-average number of persons who have left the workforce due to disability or other factors. As the baby boomer generation reaches retirement age, the total number of people in the state's workforce will continue to decline.

This may not necessarily lead to lower traffic volumes; instead, it is likely to change the nature of the trips that people make. Local travel may be spread more throughout the day if an older population is able to schedule shopping, medical services, and participation in community activities at their discretion without adhering to a specific workplace schedule. On the other hand, a growing older population may also mean the region should begin to adapt its transportation network to better meet the needs of older drivers and people who do not drive at all. This could include larger, more legible road signs, better road lighting and pavement markings, as well as improvements and expansion of the public transit services available in Fayette and Raleigh counties.

Table 2-1: Population Change in the MPO Region, 2000 to 2019

	2000 Census	2010 Census	Pct. Change, 2000-2010	2019 ACS	Pct. Change, 2010-2019
Fayette County	47,579	46,039	(3.2%)	42,406	(8.6%)
Raleigh County	79,220	78,859	(0.5%)	73,361	(7.5%)
MPO Total	126,799	124,898	(1.5%)	115,767	(7.9%)

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

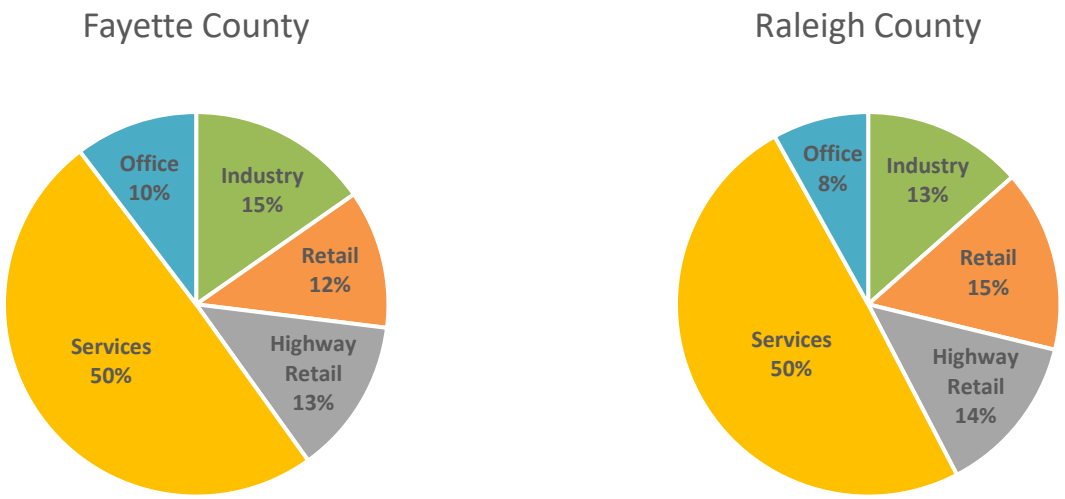
Table 2-2: Selected Population Characteristics of the MPO vs. State, 2019

		Statewide Ranking (out of 55 counties)		
	Median Age	*Median Age (lowest to highest)*	*Share of 65+ (lowest to highest)*	*Pop. Growth (highest to lowest)*
Fayette County	44.3	29	27	41
Raleigh County	43.1	11	22	37
U.S. Average	38.5	-	-	-

Source: U.S Census Bureau 2010 Census and 2019 American Community Survey 5-Year Estimates

The nature of the region's workforce is also evolving. Industrial jobs, once the core of the economy, now make up less than a quarter of each county's total employment (**Figure 2-1**). Job growth now occurs primarily in the service sector, particularly in Fayette County where local economic development initiatives have specially targeted adventure tourism to capitalize on visitors to the New River Gorge area. Hospitality and leisure services are also a fast-growing component of the local job market in Raleigh County, along with health care. Raleigh County employment also includes a significant percentage of office workers due to Beckley's traditional role as a crossroads commercial center, where many state and federal agencies have regional headquarters and field offices.

Figure 2-1: Composition of Regional Employment, 2020



PROJECTED CHANGE IN POPULATION AND EMPLOYMENT

Transportation demand is primarily influenced by the number of people, where they live, and where they work. Planning for future transportation needs requires some an understanding of how and whether population and employment will change significantly in the future.

According to Woods and Poole Economics, regional population is anticipated to remain relatively stable between 2020 and 2045. Regional population projections through 2045 are shown in **Table 2-3**. The projected change is also shown geographically in **Figure 2-3**.

Table 2-3: MPO Regional Population, 2010 to 2040

	2020	2045	Percent Change
Fayette County	42,406	41,758	-1.5%
Raleigh County	73,361	75,008	2.2%
MPO Total	**115,767**	**116,766**	**0.9%**

In contrast, regional employment is projected to increase by about 17 percent over the same period, as shown in **Table 2-4**. As discussed earlier, a growing proportion of the region's jobs are in the service sector, and this trend is expected to continue based on the area's success in attracting visitors for outdoor recreation, as well as growth in retirement and second home communities. Employment growth projections are shown geographically in **Figure 2-4**. The area surrounding the Raleigh County Memorial Airport is anticipated to experience the greatest net increase in jobs in the region between 2020 and 2045. Plans are underway to develop an industrial park at the airport. The development is targeted toward the aerospace industry and is anticipated to create 600 - 650 jobs.

Table 2-4: MPO Regional Employment, 2020 to 2045

	2020	2045	Percent Change
Fayette County	12,681	14,736	13.9%
Raleigh County	33,546	41,051	18.3%
MPO Total	**46,227**	**55,787**	**17.1%**

Figure 2-2: Composition of MPO Regional Employment, 2045

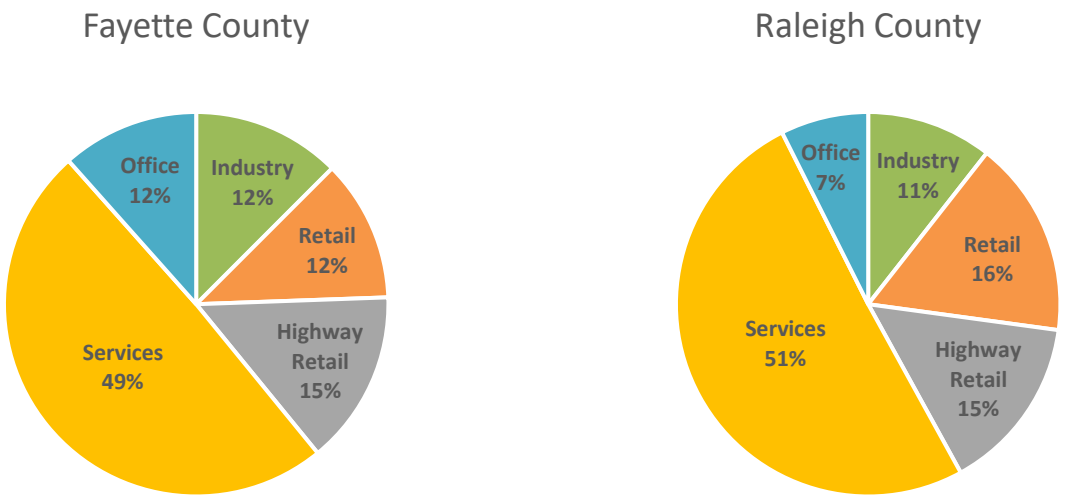


Figure 2-3: Projected Change in MPO Population, 2020 to 2045

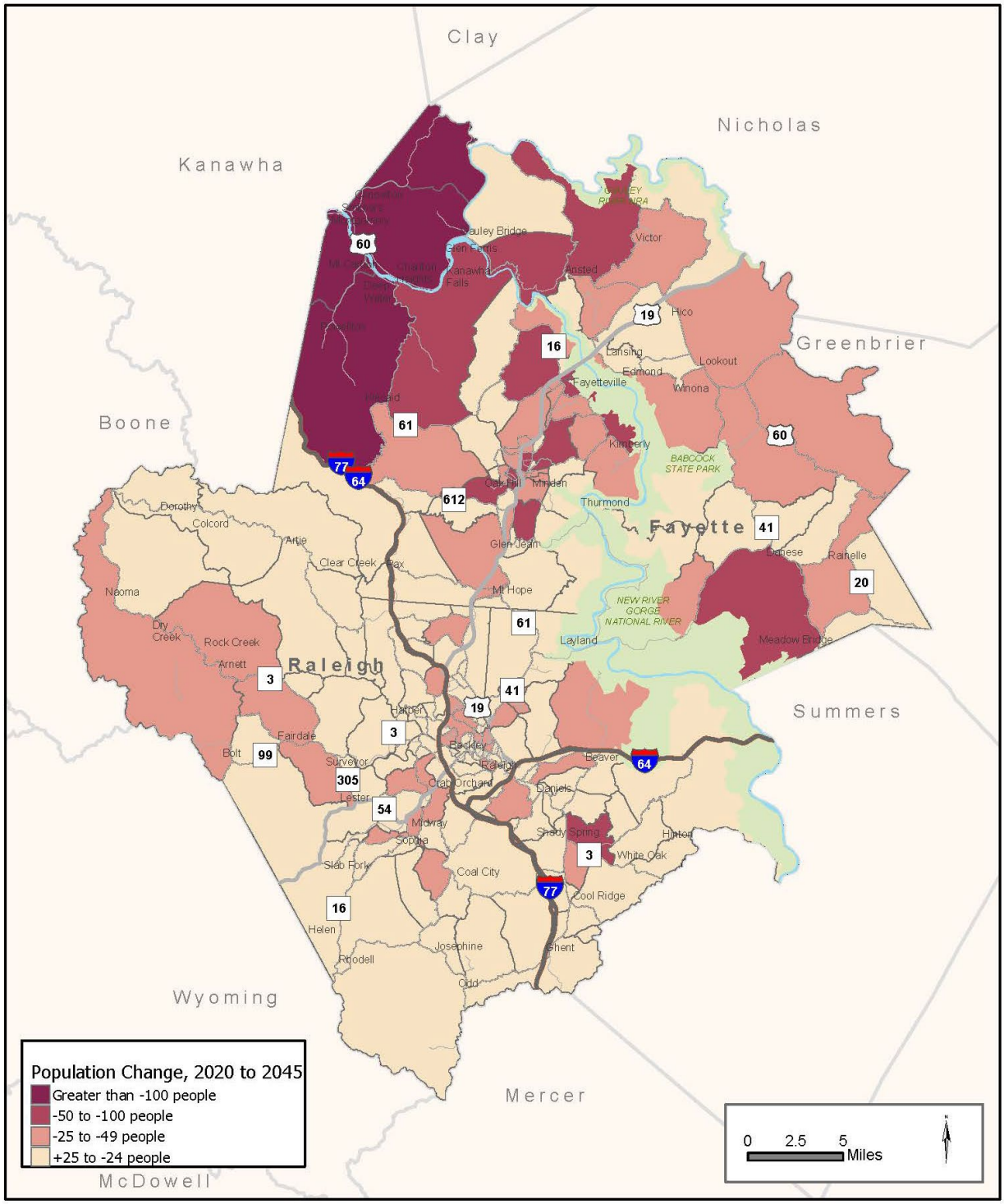
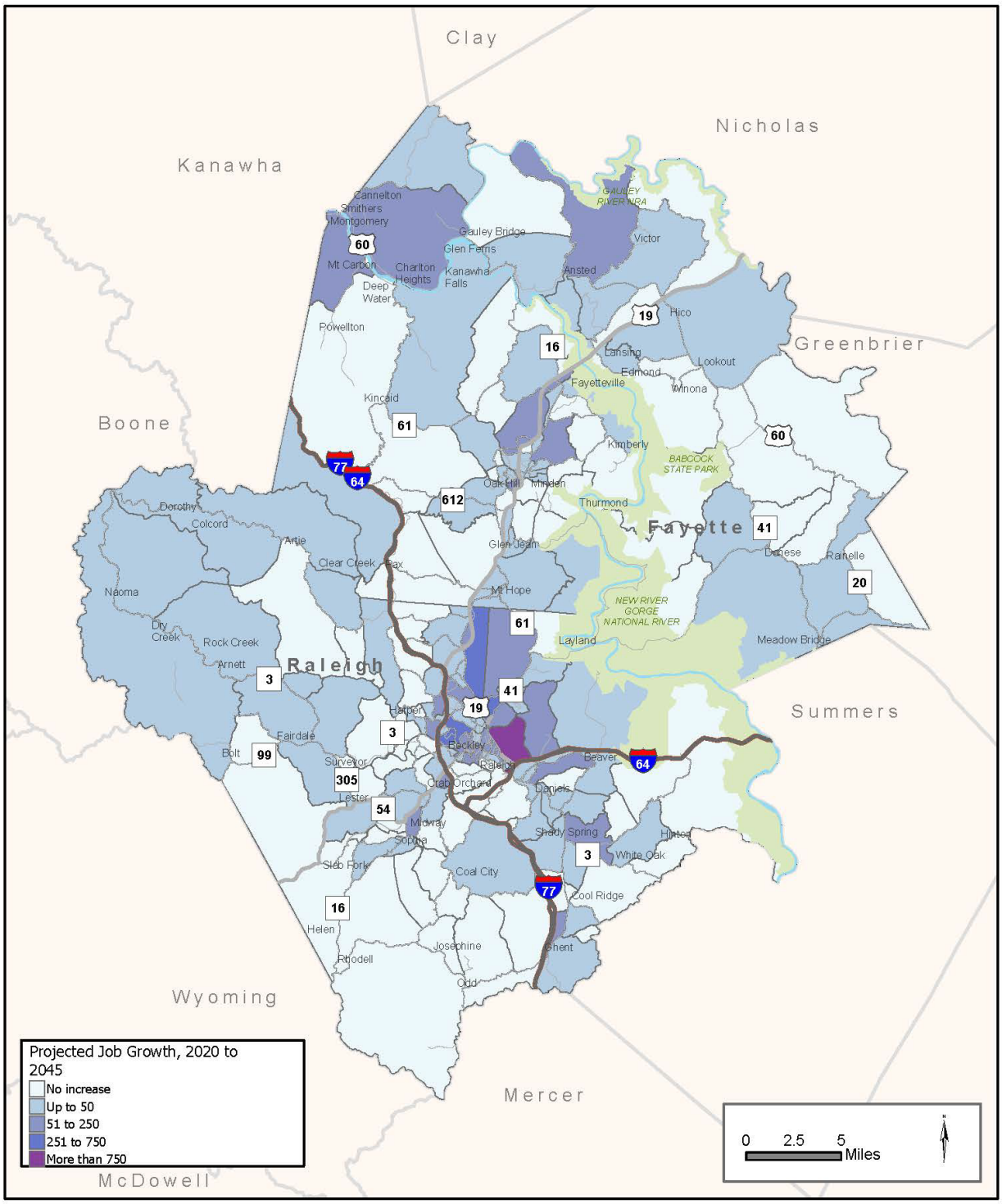


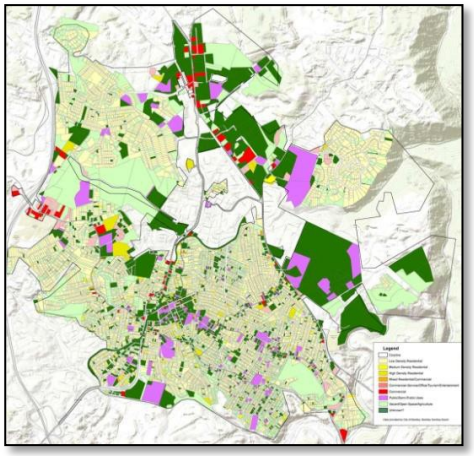
Figure 2-4: Projected Change in MPO Employment, 2020 to 2045



LOCAL AND REGIONAL DEVELOPMENT PLANS

Transportation is an essential ingredient for community and economic development because of the access it provides to destinations and the mobility it provides to, from, and within a region. Transportation also constitutes one of the largest public investments that is made in many communities. Road projects are often the most dramatic changes that occur in a community, whereas other developments are created gradually through a series of independent decisions by private property owners. For these reasons it is vital that the regional transportation plan be developed with an understanding of community goals and plans.

Local land use plans identify areas where new development and redevelopment are desired and where other supporting infrastructure (such as water and sewer) is planned. These plans help to predict where population and employment changes will occur – and therefore where changes to the transportation system may be needed. Coordinating the MPO's regional transportation plan with local land use plans helps ensure that federal transportation dollars are used to further public goals rather than working independently of them.



Future land use plan for Beckley

Comprehensive planning in West Virginia is authorized under Chapter 8A of the West Virginia Code. The Code identifies the process for developing and adopting a comprehensive plan as well as the purposes of planning, and provides guidance for study areas, mandatory components, supplementary components and other provisions. According to state code, comprehensive plans in West Virginia are required to address mandatory components (see **Table 2-5**). State law requires comprehensive plans be updated on a 10-year cycle.

Table 2-5: Mandatory Elements of a Comprehensive Plan

Land Use	Transportation
Housing	Infrastructure
Public Services	Rural
Recreation	Economic Development
Community Design	Preferred Development Areas
Renewal and/or redevelopment	Financing
Historic Preservation	

Notwithstanding these mandatory elements, comprehensive plans for local governments within the MPO vary greatly in how they address critical community needs and issues. With the exception of Beckley, most jurisdictions have small populations and are not experiencing growth pressures; in fact, most jurisdictions are experiencing long term population declines. These conditions contribute to the lower priority jurisdictions have placed on community planning.

Chapter 8 of the West Virginia Code also provides guidance on adoption and enforcement of zoning ordinances,

subdivision regulations and building codes. At the present time, not all jurisdictions administer zoning ordinances or do so in an ad-hoc manner.

Since some local plans are policy-based rather than data-based, it is not currently feasible to use them to compile consistent region-wide demographic data, projections, land use maps and zoning ordinances. Demographic data used for the Plan therefore reflects information from recent Census surveys, the State Data Center, public records on businesses and employment, and purchased datasets maintained by the private sector. (For more detail on sources and methodology, see the travel demand model documentation in **Appendix A**.)

Local comprehensive plans are still important, however, in providing guidance about where the community wishes to focus its investments and the economic goals that transportation decisions could help achieve. Each of the available local plans for the MPO area was therefore reviewed as part of developing the 2045 Plan. Below is a brief summary for each plan reviewed, including descriptions of key land use or transportation issues that are considered in the regional transportation plan. As discussed below, many of the MPO's local jurisdictions are focused on improving linkages to the New River Gorge lands in order to maximize the benefits of tourism and amenities that attract retirees and other new residents to the area.

Beckley, 2014 Comprehensive Plan Update. As the largest jurisdiction in the MPO, Beckley's land use and transportation strategy represents a major factor in long range transportation planning. The 2014 comprehensive plan updates the 2001 plan, which was Beckley's first plan since 1969. Demographically, Beckley's population is anticipated to remain stable through the planning period. City population growth may occur in small amounts due to annexations which typically relate to infrastructure extensions.

The new comprehensive plan identifies four Preferred Development Areas for major investment, each with related transportation infrastructure issues.

- **East Beckley Bypass Area.** Access to the Woodlands Pinecrest Business and Technology Park, whose Phase 2 includes 700 development-ready acres, has been opened by the construction of the East Beckley Bypass.

- **New River Drive Corridor**. Beckley's comprehensive plan identifies the land surrounding Pikeview Drive and New River Drive as the city's only remaining large area for development. Market study results indicate a demand for upscale housing for empty nesters and active retirees, according to the plan. Land along the New River Drive corridor is proposed for such planned community developments, incorporating large natural areas and a network of walking and biking trails.

  Beckley's comprehensive plan also discusses New River Drive in the context of the city's continuing challenges with east-west connectivity, and suggests that more drivers might use it as an alternative to congested Harper Road if safety improvements were made to its intersection at Robert C. Byrd Drive.

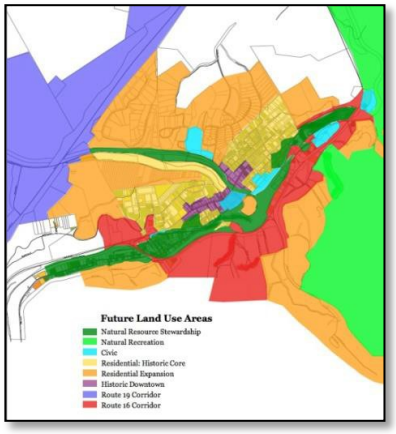
- **Pikeview Drive.** Also based on market study results, the Beckley Comprehensive Plan identifies the opportunity to develop new arts, entertainment, and recreational venues to attract visitors driving along I-77 as well as local residents. Suggested attractions range from a wildlife habitat or zoo, a discovery/science center, resort hotel with indoor water park, and similar high traffic- generating developments. Given the existing level of traffic congestion at the I-77/Harper Road interchange, there is some discussion that Hylton Lane could be extended north to intersect New River Drive and provide additional connectivity for the area.

- **Downtown Beckley**. Much of the comprehensive plan's discussion of transportation in the downtown district is focused on improving walkability by managing traffic speeds. Converting one-way streets to two-way travel is mentioned as a strategy that has been found to slow down traffic in some communities.

City of Oak Hill Comprehensive Plan (2012). This document is an abbreviated update to the 1968 community plan. Land use and transportation issues are addressed by policy recommendations based upon goals and associated assets and opportunities. The White Oak Rail Trail is identified as a non- motorized transportation asset with good opportunities for linkage to other travel modes. As with Beckley and Mount Hope, several of Oak Hill's plan recommendations relate to leveraging the city's proximity to federal lands at the New River Gorge National Park and Preserve.

Town of Fayetteville Comprehensive Plan Update (2014). Fayetteville is strongly identified with outdoor recreation associated with the New River and enjoys a 'brand' unique to other area jurisdictions. Community population is projected to increase slightly over the 10-year comprehensive planning period. Fayetteville land use strategies focus on managing growth along portions of US 19 within the city. Improving access to New River federal lands is proposed at the Town Park Trailhead.

City of Mount Hope, Reinventing the Future 2030 Plan (2013). Prior to the 2013 update, Mount Hope's most recent planning study was completed in 1968. Typical of many jurisdictions in the region, changes in mining practices have led to employment loss, which is projected to continue, albeit at a slower pace. Community economic vitality was impacted by relocation of WV Route 16/19 which effectively bypassed downtown. Mount Hope is located immediately adjacent to the Boy Scouts of America Bechtel Summit Reserve and High Adventure Camp, which the community hopes to leverage for economic benefit.



Fayette County, 2011 Comprehensive Plan Amendment. This document is an abbreviated update to the consolidated plan and zoning ordinance of 2001. As noted, Fayette County is a leader in West Virginia planning and zoning, having adopted its initial zoning ordinance in 1972. A major focus of the 2011 update was identifying community needs in the four districts that comprise Fayette County. Consistent with the 2001 plan, major challenges are stimulating

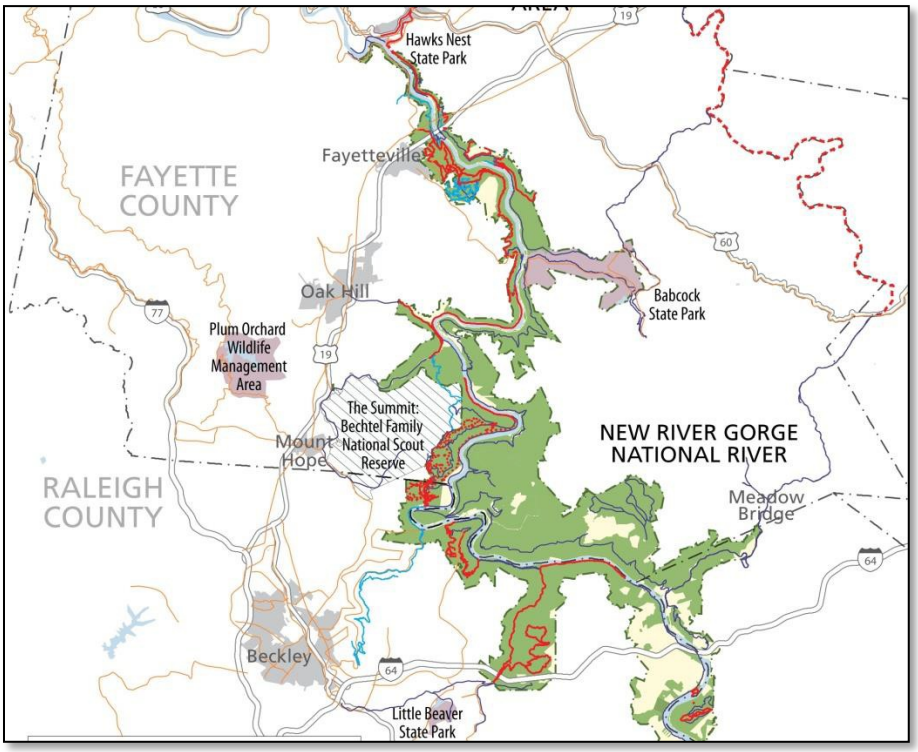
development in along the New/Gauley River Corridor, delivering improved public services countywide, and the protection of natural resources.

In additional to local comprehensive plans, the following other planning studies have been completed by public and non-public agencies:

New River Gorge Regional Development Authority Strategic Plan (2014). The 2015-2017 Strategic Plan identifies seven key strategic priorities for the New River Gorge area: existing business development, start-up support, workforce preparation, prospect development, quality of place, community capacity building, and community beautification. It also identified six target industries: tourism, wood products/forestry, agribusiness/food systems, distribution/logistics, manufacturing, and back office operations. By targeting these key areas, the New River Gorge Regional Development Authority seeks to improve the quality of life for residents and make the New River Gorge area an attractive opportunity for businesses.

New River Gorge National River General Management Plan (2011). Federal lands associated with the New River Gorge total approximately 72,000 acres and encompass more than 53 miles of major waterways. Annual visitation is approximately one million visitors per year, including a high percentage of out-of-state visitors. The preferred alternative of the general management plan is a continued focus on resource conservation and visitor use, consistent with the federal enacting legislation.

Figure 2-5: New River Gorge National River General Management Plan Recommendations



Plan strategies recommend increased non-vehicle connections with gateway communities and investigating the feasibility of a north-south trail collector through the park.

The thru-trail is a major feature of the plan and would enable hikers to travel end to end through the park, along the river for most of the trail length. A few sections of the trail would overlap with scenic road segments, increasing accessibility to remote areas of the park.

Longer-term plan recommendations envision trails on both sides of the river to create a loop route to enable multi-day hikes in the park.

National Coal Heritage Area Trail Plan for Greenways and Blueways (2010). The National Coal Heritage Area Authority is a public corporation and governmental instrumentality established to aid in development and

implementation of integrated cultural, historic and land resource management policies. The trail plan identifies more than 2,200 miles of single purpose and multi-use trails within the 13-county study area, which includes both Fayette and Raleigh counties. Fewer than 60 miles of identified trails are managed by local jurisdictions or private entities; the majority is managed and maintained by state and federal agencies.

Connecting the Parks to their Gateway Communities Concept Plan (2012). The National Park Service (NPS) prepared this conceptual plan for a network of trails to connect the New River, the Gauley River, and the Bluestone River to each other and to their communities. Enhanced trail connections would allow residents and visitors better access to the parks via non-motorized transportation and provide opportunities for multi-day hiking and biking excursions in the area.

The following planning studies have been completed by FRMPO:

Maxwell Hill Area Traffic Study (2016). The Maxwell Hill Area Traffic Study evaluated the problems created by traffic cutting through the Maxwell Hill Area neighborhood and identified potential solutions. The study recommended two near-term solutions: modify signage and provide signalization for New River Drive at Robert C. Bryd Drive. Medium- to long-term solutions include closing Pikeview Drive south of existing New River Drive intersection; constructing a new roadway connection from Harper Road through Beaver Coal Company property to connect to New River Drive; improving New River Road for higher traffic speeds, installing speed humps; and constructing a roadway connection from Hylton Drive to new roadway through Beaver Coal Company property.

Corridor Review and Prioritization (2017). The purpose of the Corridor Review and Prioritization study was to perform a review of safety, traffic flow, and traffic control in four identified study corridors with the purpose of defining and quantifying current problems and deficiencies so that corridors can be prioritized for studies and improvements in later fiscal years. The four corridors reviewed were: WV 13 (Harper Road) from Dry Hill Road to WV 16 (Robert C. Byrd Drive); US 19 (Eisenhower Drive) from Brookshire Lane to US 19 (Corridor L); WV 16 (Robert C. Byrd Drive from Main Street (in Sophia) to US 19; and US 19 (Ritter Drive and Eisenhower Drive) from WV 3 (Hinton Road) to Brookshire Lane.

US 19 (N. Eisenhower Drive/Robert C. Byrd Drive) Corridor Study (2018). The primary focus of the US 19 Corridor Study was to identify low-to-medium cost improvements to improve traffic flow and safety. Recommended improvements included improving signal timings, restriping US 19 between Ragland Road and McCulloch Drive to provide a two-way left-tun lane, constructing a median in front of Chik-Fil-A and Logan's to prohibit illegal left turns, and reconstructing the right-turn lane on the northbound approach of US 19 and Rural Acres Drive intersection to remove channelization.

WVU Tech Bike and Pedestrian Study (2018). The WVU Tech – Kanawha Street Study recommended five potential improvements to enhance pedestrian and bicyclist traffic safety and flow at the newly established WVU Institute of Technology. Improvements include pedestrian crossings; establish ADA compliant route; repair sidewalk and construct ADA compliant curb ramps and crossings; connect rail to trails; and connect to YMCA Paul Cline Memorial Youth Sports Complex.

Pedestrian Study on Robert C. Byrd Drive (2018). The signals at the intersections of Prince Street and Neville

Street with Robert C. Byrd Drive are being redesigned and a pedestrian accommodation feasibility study was conducted to tie in with the improvements. Possible improvements include striping for crosswalks, reconstructing curb for ADA compliance, introducing a median refuge, and extending pedestrian clearance intervals in the signal timing. Final pedestrian improvements will be implemented as part of the signal reconstruction project.

WV 16 (Robert C. Byrd Drive) Corridor Study (2020). The corridor study on WV 16 (Robert C Byrd Drive) from Veterans Drive to Maxwell Hill Road/Rural Acres Drive identified low-to-medium cost improvements to improve traffic flow and safety. Recommendations include signal system upgrades, signal timing and phasing, traffic control, access management, minor geometric improvements, and turn lanes.

Raleigh County Airport Rail Access Study (2021).

This feasibility study identified solutions to improve access between the Raleigh County Memorial Airport and nearby rail facilities. Due to elevation differences and grading challenges, direct rail access to the airport is not feasible. The study recommended constructing an access road to connect the airport to the CSX rail spur. The study also recommended including an unloading facility where the railcars would be placed on trucks and transported to the airport.

Chapter 3 Goals, Objectives, and Performance

One of the first steps in the Plan process is establishing a clear and well-defined purpose for the Plan. It ensures the overall goals, objectives and performance measures, as well as the resulting transportation investments, are the result of a comprehensive, cooperative, and continuing transportation planning program and process.

The purpose of the 2045 Regional Transportation Plan is:

- To establish a performance-based planning process that guides the selection of projects and advances progress toward the regional goals;
- To formally identify and coordinate the investments of the various public agencies that provide transportation facilities and services in the Fayette/Raleigh MPO region, including local governments, West Virginia Department of Transportation, New River Transit Authority, Regions 1 and 4 Planning and Development Councils, and the Raleigh County Airport Authority;
- To identify the projects and programs needed to provide an efficient, effective and functional transportation system to serve residents, businesses, and visitors to the region;
- To coordinate land use and transportation activities to ensure functional efficiency and a compatible relationship; and
- To support and encourage private enterprise participation in the development and maintenance of an efficient, effective regional transportation system, in part by providing a proposed schedule for transportation improvements with which private entities can coordinate their investments.

GOALS AND OBJECTIVES

The goals and objectives outlined for the 2045 Plan are intended to facilitate the development, management, and operation of an integrated multimodal transportation system that enables the safe, efficient, and economical movement of people and goods.

National Emphasis

The FAST Act provides the guiding principles for transportation decision-making in metropolitan areas throughout the United States. One of the major requirements is for MPOs to consider projects and strategies that will:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency.
2. Increase the safety of the transportation system for motorized and non-motorized users.
3. Increase the security of the transportation system for motorized and non-motorized users.
4. Increase the accessibility and mobility options available to people and for freight.

5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns.

6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.

7. Promote efficient system management and operation.

8. Emphasize the preservation of the existing transportation system.

9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation.

10. Enhance travel and tourism.

These factors provide the framework for FRMPO's goals and objectives and supporting performance measures and targets.

Regional/Local Emphasis

The Fayette/Raleigh MPO has established its own goals and objectives, building from the FAST Act planning factors, stakeholder engagement, analysis, and the local and regional plans (outlined in Chapter 2).

Below are the goals adopted by the Fayette/Raleigh MPO to guide future transportation decisions and a corresponding set of objectives to help the region move closer to its goals.

GOAL 1: Support the economic vitality of the region.

A. Provide improved access to commercial areas and tourist destinations.

- Provide access to employment-generating locations.
- Construct regional links between gateway communities, The Bechtel Summit National Scout Reserve and the New River Gorge National Park and Preserve/.

B. Provide connections among residential areas, employment locations and community services.

- Provide a multimodal transportation system that can be used by people of all ages to access opportunities to work, shop, learn and take part in civic life and area recreation.

C. Make transportation decisions that capitalize on the resources of the regional airport.

GOAL 2: Improve safety/security for all users of the transportation system.

A. Enhance safety for pedestrians and bicyclists.

- Construct safety improvements at locations where bicycle/pedestrian traffic and auto traffic frequently intersect. Use pavement markings, signs and other tools to alert motorists to these areas.
- In areas of heavy pedestrian traffic and in residential areas, choose street designs that encourage auto traffic to drive at slower speeds.

B. Use access management and grade separations to improve safety on roads intended for higher speeds.

- Encourage the construction of frontage roads along major highways at locations where significant development is underway or desired.

C. Make targeted improvements to locations with a high number of accidents.

- Work with the West Virginia Division of Highways (WVDOH) to map crash data and identify locations where the crash rate is significantly above average. Work with WVDOH to perform Roadway Safety Audits to identify engineering improvements to address these locations.

GOAL 3: Preserve and maintain the existing transportation system.

A. Set aside adequate funds for maintenance before expanding the system.

- Give priority to projects that upgrade substandard infrastructure, since a quality transportation system is one of the tools for attracting new development and other investment.
- Expand efforts to regularly assess hillside stability along major routes, adding stabilization or using proactive blasting when necessary to prevent unexpected slips and slides.

A. Extend road and sidewalk life through preventive measures.

- Improve stormwater management along roads through the addition (or more frequent maintenance) of ditches, culverts, storm drains, and curb and gutter in urban areas.
- Keep vegetation cleared to ensure clear sight distance at intersections, maintain a clear path along sidewalks, and prevent broken surfaces.

GOAL 4: Increase accessibility and mobility for both people and goods.

A. Improve access to and from the region.

- Improve interstate linkages and access, including congestion relief at key interchanges.
- Support completion of regional transportation initiatives to expand the market area within one day's drive of the region.

B. Improve access to commercial and industrial areas for freight movement.

- Ensure roads that serve as heavy truck routes are adequately designed, constructed and maintained for the proper vehicle weight and dimensions.
- Make improvements needed to accommodate local delivery vehicles, particularly in downtown and higher-density residential areas.

C. Improve mobility within and among communities.

- Make public transit available to support the needs of residents of all ages, including transportation to work and educational institutions.
- Build links between major community trails and the surrounding neighborhoods, shopping and employment areas so that bicycling and walking are an option for traveling to more places.
- As streets and roadways are repaved or reconstructed, add sidewalks and other features needed to comply with ADA.

GOAL 5: Manage an efficient transportation system.

- Select and implement transportation projects based on need, cost effectiveness, and the MPO's established goals, objectives and performance measures.
- Work with WVDOH to improve traffic flow through operational improvements such as better signal

timing, access management, and changes to key intersections.

- Expand the use of Intelligent Transportation Systems (ITS) technology, such as the monitoring of traffic through video surveillance, provision of information on dynamic message signs, or use of automatic vehicle tracking for transit.
- Address special transportation needs in areas where schools, colleges and other community facilities are located.
- Study and implement the use of signage at gateways and key destinations, along with a system of wayfinding signs, to provide guidance and information to visitors.
- Consider ways to improve the overall resiliency of the transportation system by providing redundancy necessary to meet essential travel needs.

GOAL 6: Protect and enhance the environment and quality of life, and coordinate transportation decisions with the region's goals for land use and economic development, including travel and tourism.

- Encourage transportation choices that are sustainable in terms of finances, community equity, and the environment.
- Improve management of the use, appearance, and safety of key routes, especially those that serve as visitor gateways or provide access to tourism destinations in the area.
- Promote transportation decisions that respect the integrity of historic areas and enhance tourism.
- Encourage clustered development to minimize the number of access points on major corridors while maximizing development potential.
- Promote roadway design, construction and maintenance practices that safeguard the area's natural resources, including water quality.

GOAL 7. Enhance system connectivity, including connections between different modes of transportation.

- Enhance access to the region's airport via roadway, public transit and non-motorized modes of transportation.
- Promote projects that lead to "Complete Streets" and ensure this policy is followed as part of new roadway construction or reconstruction.
- Provide public transit service, as well as a system of hiking/biking trails, between the region's passenger rail stations and local cities. Work with the Bechtel Summit National Scout Reserve to expand transportation modes to support Jamborees and other major events.

Table 3-1 illustrates how the 2045 Plan goals address each of the planning factors set forth in the FAST Act.

Table 3-1: Relationship of National FAST Act Planning Factors to 2045 Plan Goals

FAST Act Planning Factor	2045 Plan Goal
Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency.	1, 3, 4, 5, 6, 7
Increase the safety of the transportation system for motorized and non-motorized users.	2, 3, 4
Increase the security of the transportation system for motorized and non-motorized users.	2, 4
Increase the accessibility and mobility options available to people and for freight.	1, 4, 7
Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns.	1, 4, 5, 6, 7
Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.	1, 4, 7
Promote efficient system management and operation.	1, 3, 5
Emphasize the preservation of the existing transportation system.	3, 5
Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation.	5, 6
Enhance travel and tourism.	1, 5, 6, 7

PERFORMANCE BASED PLANNING

The FAST Act transportation legislation requires MPOs to use a performance-based planning process (PBPP) to develop their long-range Regional Transportation Plans (RTP). The purpose is to ensure resources are being invested in programs and projects to help planning agencies achieve national and regional transportation goals. FRMPO applies PBPP principles when making decisions for the RTP, Transportation Improvement Program (TIP), and Unified Planning Work Program (UPWP) development processes. The purpose and elements of the Federal PBPP framework, and how those are integrated in the FRMPO RTP are shown in **Table 3-2.**

Table 3-2: Performance Based Planning Framework

FHWA PBPP	PBPP Elements	FRMPO RTP
Strategic Direction	Goals	Chapter 3 – Goals and Objectives
	Performance Measures	
Performance Based Analysis	Trends and Targets	Chapter 2 – Develop Trends Chapter 4 – Analysis of the Transportation System
	Strategies/Objectives and Investment Priorities	
Performance Based Programming	Investment Plan	Chapter 5 – Recommended Plan and Funding Chapter 6 – Potential Impacts
	Program of Projects	
Implementation and Evaluation	Investment Plan	Chapter 5 – Recommended Plan and Funding Chapter 6 – Potential Impacts
	Program of Projects	
Cross-Cutting Elements	Engagement	Chapter 7 – Public and Stakeholder Participation
	Data Management and Analysis	

This remainder of this chapter describes the elements of the PBPP and how FRMPO is implementing those to meet Federal requirements, but more importantly, to ensure policies, programs and projects are on track to achieve transportation priorities.

Strategic Direction

The goals in FRMPO's RTP outline the transportation priorities over the next five years. To determine the level of progress to which FRMPO is achieving its goals, performance measures have also been established. The FAST Act identifies seven national goals for the nation's highway system and accompanying performance measure to track results. These goals provide a national transportation framework and it's up to agencies, like FRMPO, to determine how to support and meet these critical transportation outcomes in the region.

Table 3-3 shows the national goals and performance measures and how FRMPO's goals and performance measures align.

Table 3-3: National and MPO Goals and Performance Measures

National Goal	National /FRMPO Performance Measures	FRMPO Goal Alignment
Safety—To achieve a significant reduction in traffic fatalities and serious injuries on all public roads	Safety Performance Measures (PM1)	Goal 2 – Improve safety/security for all users
Infrastructure condition—To maintain the highway infrastructure asset system in a state of good repair	Pavement/Bridge Performance Measures (PM2)	Goal 3 – Preserve and maintain the existing transportation system
System reliability—To improve the efficiency of the surface transportation system	System Performance Measures (PM3)	Goal 4 – Increase accessibility and mobility Goal 5 – Manage and efficient transportation system Goal 7 – Enhance system connectivity
Congestion reduction—To achieve a significant reduction in congestion on the National Highway System	System Performance Measures (PM3)	Goal 4 – Increase accessibility and mobility Goal 5 – Manage and efficient transportation system Goal 7 – Enhance system connectivity
Freight movement and economic vitality—To improve the National Highway Freight Network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development	System Performance Measures (PM3)	Goal 1 – Support economic vitality of region Goal 4 – Increase accessibility and mobility Goal 5 – Manage and efficient transportation system Goal 7 – Enhance system connectivity
Environmental sustainability—To enhance the performance of the transportation system while protecting and enhancing the natural environment	Not applicable	Goal 6 – Protect and enhance the environment and quality of life
Reduced project delivery delays	Not applicable	Not applicable

Performance Based Analysis

An important step in the PBPP is to analyze the system data and determine the best solutions (strategies/objectives) to achieve FRMPO's goals and develop targets to be able to evaluate progress toward those goals. Using inputs including trend analysis and forecasting, FRMPO developed objectives and targets.

In addition to the analysis, state and local plans were reviewed to identify goals, objectives, and performance measures, applicable to the region. Results from the West Virginia LRTP, West Virginia Strategic Highway Safety Plan, West Virginia Asset Management Plan, and West Virginia State Freight Plan were incorporated into this plan.

The final set of objectives can be found earlier in this chapter and are in place to further guide project selection. Projects that address these specific objectives rank well in FRMPO's resource allocation process.

To evaluate the success of FRMPO's regional goals, targets have been established to track and evaluate performance (see **Table 3-4**). FHWA requires targets to be set for 24 performance measures, 14 of which are applicable to FRMPO since the region is in air quality attainment and New River Transit establishes and monitors the transit asset and transit safety targets. FRMPO has submitted a letter for the past two years adopting the state targets for PM1, 2, and 3. These will be updated in accordance with FHWA's timelines and in coordination with WVDOH and the WV FHWA Division Office and progress documented in an annual Performance Report.

Table 3-4: FRMPO Supported Targets

Goal: Safety (PM1)	2021 Target
Number of fatalities	263.7
Rate of fatalities per 100 million VMT	1.46
Number of serious injuries	1002.4
Rate of serious injuries per 100 million VMT	5.02
Number of nonmotorized fatalities and nonmotorized serious injuries	86.2

Goal: Pavement/Bridge Conditions (PM2)	2-Year Target	4-Year Target
% of Interstate pavements in Good condition	n/a	≥ 75.0%
% of Interstate pavements in Poor condition	n/a	≤ 4.0%
% of non-Interstate NHS pavements in Good condition	≥ 40.0%	≥ 45.0%
% of non-Interstate NHS pavements in Poor condition	≤ 5.0%	≤ 5.0%
% of NHS bridges by deck area classified in Good condition	≥ 14.0%	≥ 11.0%
% of NHS bridges by deck area classified in Poor condition	≤ 10.0%	≤ 13.0%

Goal: System Performance (PM3)	2-Year Target	4-Year Target
% of reliable person-miles traveled on the Interstate	≥ 96.0%	≥ 96.0%
% of reliable person-miles traveled on the non-interstate NHS	n/a	≥ 87.0%
Truck travel time reliability on the Interstate system (average truck reliability index)	≤1.25	≤ 1.40

Performance Based Programming

FRMPO prioritizes projects in the RTP and TIP based on whether they will make progress toward regional transportation goals and performance targets. Using highway and transit revenue forecasts, FRMPO projects annual revenue to baseline available funding and ensure the plan is fiscally constrained. Analysis results by issue area (streets and highways, operations, freight, rail, safety and security, transit, and bicycle and pedestrian), public input, Technical and Policy Committee input, and other evaluation criteria, such as implementation readiness and available funding, are then factored into the decision-making to refine the project list. *Chapter 5, Funding and Fiscal Constraint* identifies the investments to be advanced to meet FRMPO's transportation goals and targets. Each project includes a reference to the goal(s) and performance measure(s) it addresses.

Implementation and Evaluation

Performance measures and targets help decisionmakers understand the impacts of transportation investment decisions and equip FRMPO with the ability to change course when goals are trending the wrong way. An annual system performance report will describe the condition and performance of the transportation system with respect to the performance targets in Table 3-4. FRMPO will coordinate with WVDOH on this, evaluating progress and making any necessary changes to targets or project decisions.

Chapter 4 Analysis of the Transportation System

This chapter provides an overview of the regional transportation system's current condition and performance and identifies future needs. All modes are addressed, including roads, transit, bicycle/pedestrian facilities, air, rail and waterways. This chapter also discusses the transportation issues that cut across multiple modes: freight movement, systems operations and management, safety and security.

STREETS AND HIGHWAYS

This section describes the regional road network and the process used to model future roadway conditions based on the forecasted changes in population and employment discussed in Chapter 2. Roadways that are currently congested, or are projected to be congested in future years, are identified in a series of maps (Figures 4-2 through 4-5). Proposed roadway improvements to address the anticipated congestion have been developed and tested with the regional travel demand model. These projects, along with proposed timeframes for their implementation, form the basis for the roadway portion of this Plan.

Functional Classification System

The system of streets and highways in the FRMPO follows a hierarchy of functionality, known as a functional classification system. At the top of the hierarchy are **Interstates 77** and **64**. These two **limited-access highways** run concurrently north-south through the region as the West Virginia Turnpike, a tolled facility. On the south side of Beckley, I-77 heads directly south toward North Carolina, while I-64 runs east-west to cross the New River Gorge National Park and Preserve toward the eastern edge of the region.

The second level in the hierarchy is **arterial routes**, which are often designed with limited or no access points to move thru-traffic more effectively. U.S. Highway 19 is an example of a principal arterial route, serving as a spine which connects the urban areas of Fayetteville, Oak Hill, Mount Hope and Beckley. West Virginia Highway 16 functions as a minor arterial that carries significant volumes of traffic but provides more access to adjoining properties. Other examples of arterials in the region include:

- US 60, which runs across northern Fayette County between Charleston and White Sulphur Springs before joining I-64;
- WV 612, which links Oak Hill and the U.S. 19 corridor with the West Virginia Turnpike; and
- WV 3, which passes through Beckley as it runs east-west across Raleigh County.

Next are **collector** streets, which "collect" trips to and from the arterials and distribute them among local streets. Regional examples of collectors include Thurmond-McKendree Road and the loop through northwest Raleigh County that is formed by Maple Fork Road and WV 3.

The primary function of **local** streets is to provide access to individual properties. As one moves up the hierarchy from local to collector to arterial to Interstate, speeds generally increase and there is a corresponding decrease in

access provided to adjoining properties.

Figure 4-1 shows the road network for the MPO region categorized by functional classification. Among these highways, the most heavily traveled routes are the West Virginia Turnpike and Interstates 77 and 64, and the US 19 corridor. Very high traffic volumes (above 20,000 vehicles per day) are also recorded on WV 16 (Robert C. Byrd Drive) in Beckley near its intersection with US 19 (Eisenhower Drive), and south of its intersection with WV 3 (Harper Road).

Roadway Capacity and Traffic Congestion

Traffic flow along a given roadway is often presented in terms of volume-to-capacity ratio (V/C), i.e. the volume of traffic that the road is carrying compared to its maximum capacity. A roadway's capacity is based on its functional classification, number of lanes, posted speed limit, percent of truck traffic, and geometric characteristics. Volume-to-capacity thresholds vary by the functional class of the facility and whether it is classified as urban or rural.

Higher V/C ratios indicate there are a higher number of vehicles relative to the road's capacity. For example, a V/C ratio of 0.70 means that about 70 percent of the road's available capacity is being used. As the V/C ratio nears 1, it means that the traffic volume is almost equal to the maximum number of vehicles the road can carry. Locations that have high V/C ratios are almost certain to be experiencing traffic congestion and delay.

Figure 4-2 and Figure 4-3 show the V/C ratios on the area's roadway network for the base year of the regional travel demand model (2018). Most of the roadway segments currently experiencing higher V/C ratios are in the urban areas of Beckley and Oak Hill. This is not to say that drivers are not encountering delays on other roads, but it is often due to other factors like poor weather, oversized vehicles, special events and even daily events, such as lowered speeds that are required at certain times of day in school zones. What **Figure 4-2** represents are roadway sections that typically experience congestion and delays during the peak period of travel (3:00 to 6:00 PM). It is important to note that a higher V/C ratio does not necessarily mean a higher total number of vehicles are traveling on that roadway. High V/C ratios may be a result of having a two-lane road serving an area where there is sufficient traffic demand for a four-lane facility. The most significant capacity deficiencies in the FRMPO planning area are at the following locations:

- WV 16 (Robert C. Byrd Drive) on the southwest side of Beckley, resulting in major traffic delays for drivers traveling between Mabscott and Sophia;
- US 19 (Ritter Drive) on the north/west side of I-64, especially between Covington Drive and WV 3 (S Fayette Street);

In addition, as noted in Chapter 2, Beckley leaders have identified the lack of east-west connectivity as a continuing concern for the city. The regional traffic model confirms this through the high V/C ratios found along the WV 3 (Harper Road) corridor. The demand for travel between downtown Beckley and the I-77 / Harper Road interchange has clearly outstripped the existing roadway capacity.

Roadway capacity problems are less widespread in Oak Hill, where the population is not as large and access control along US 19 provides thru-traffic with a more efficient path to travel.

Figure 4-1: MPO Roadway Network by Functional Classification

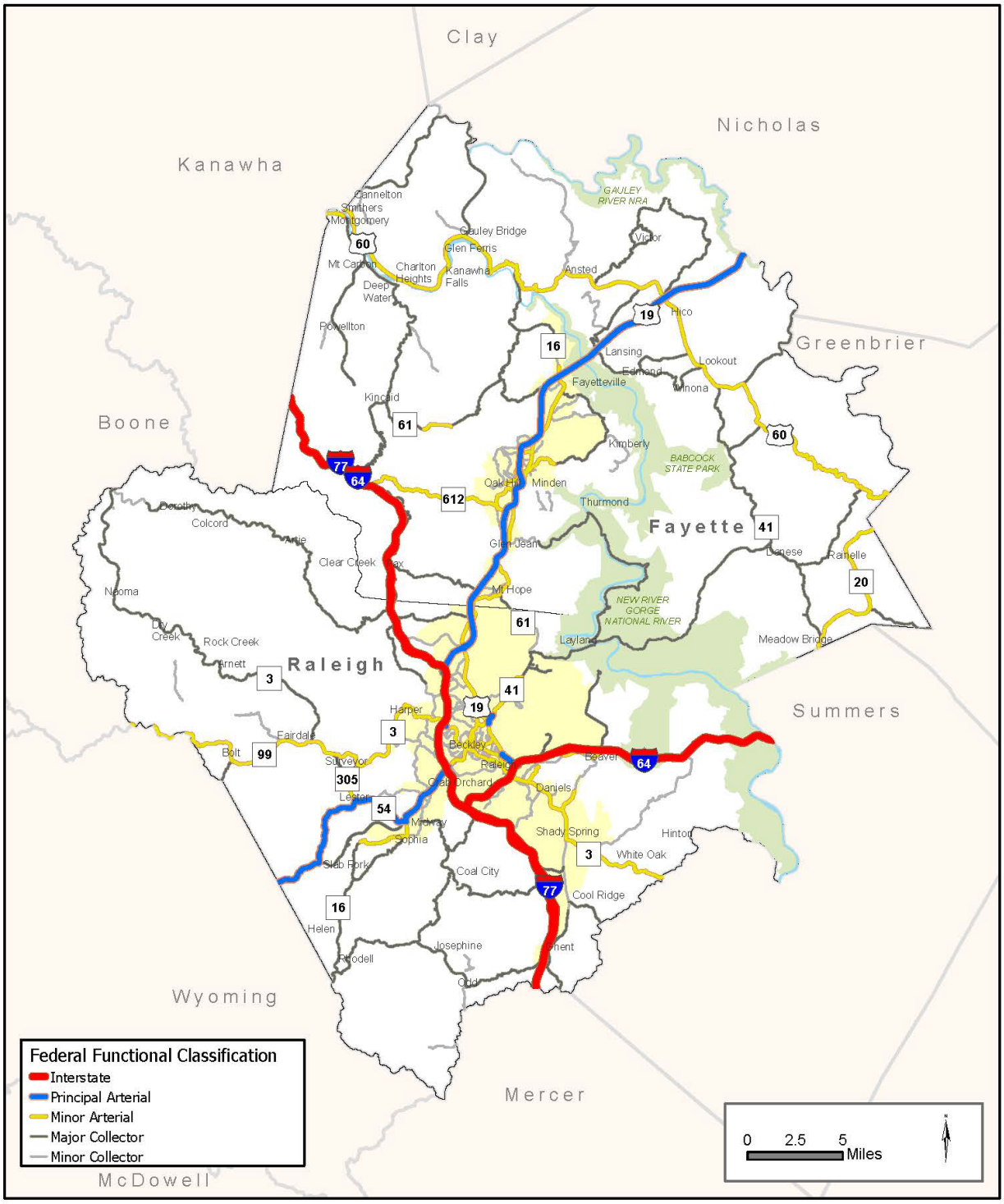


Figure 4-2: Base Year Volume/Capacity Ratios on Area Roadways

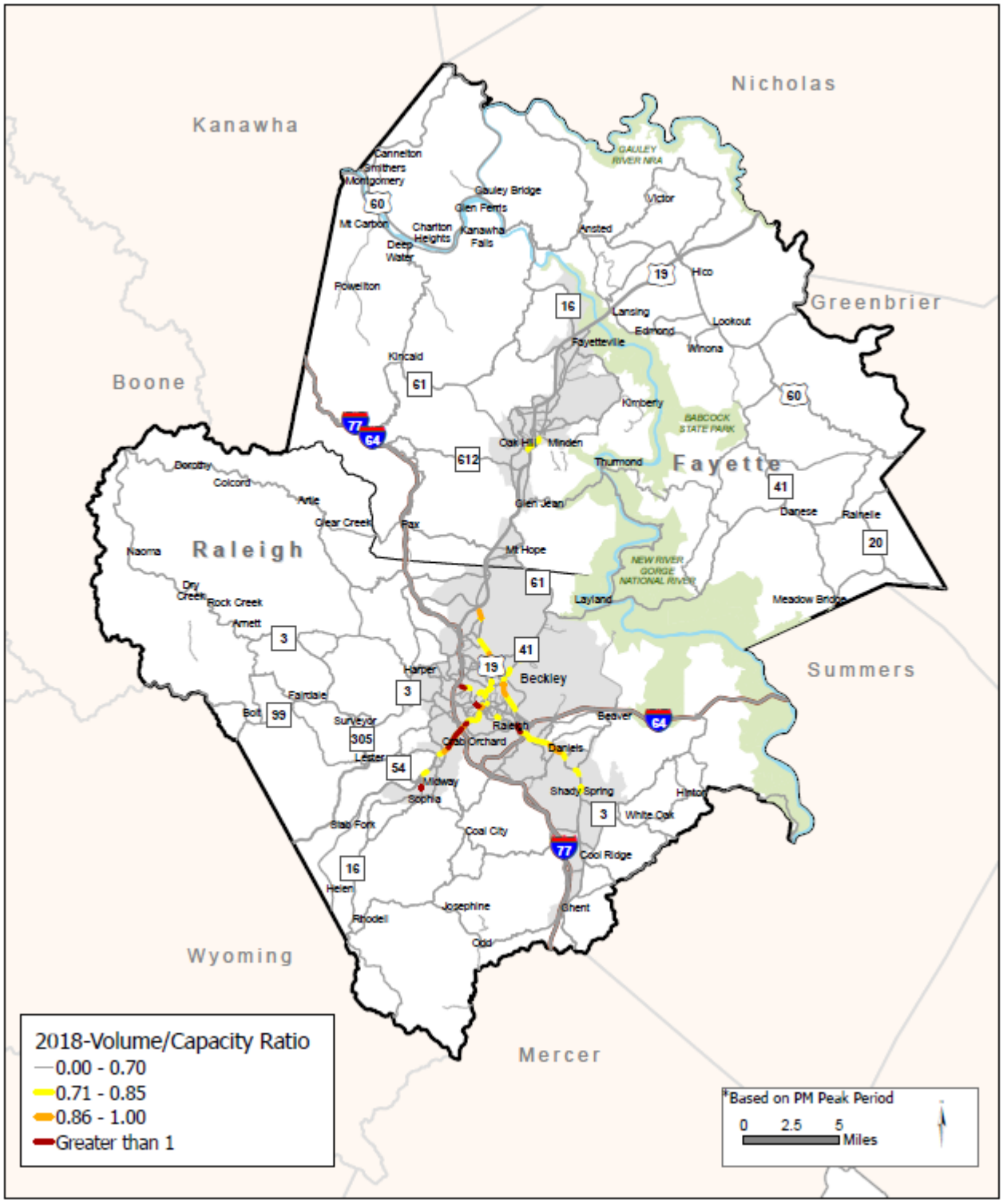
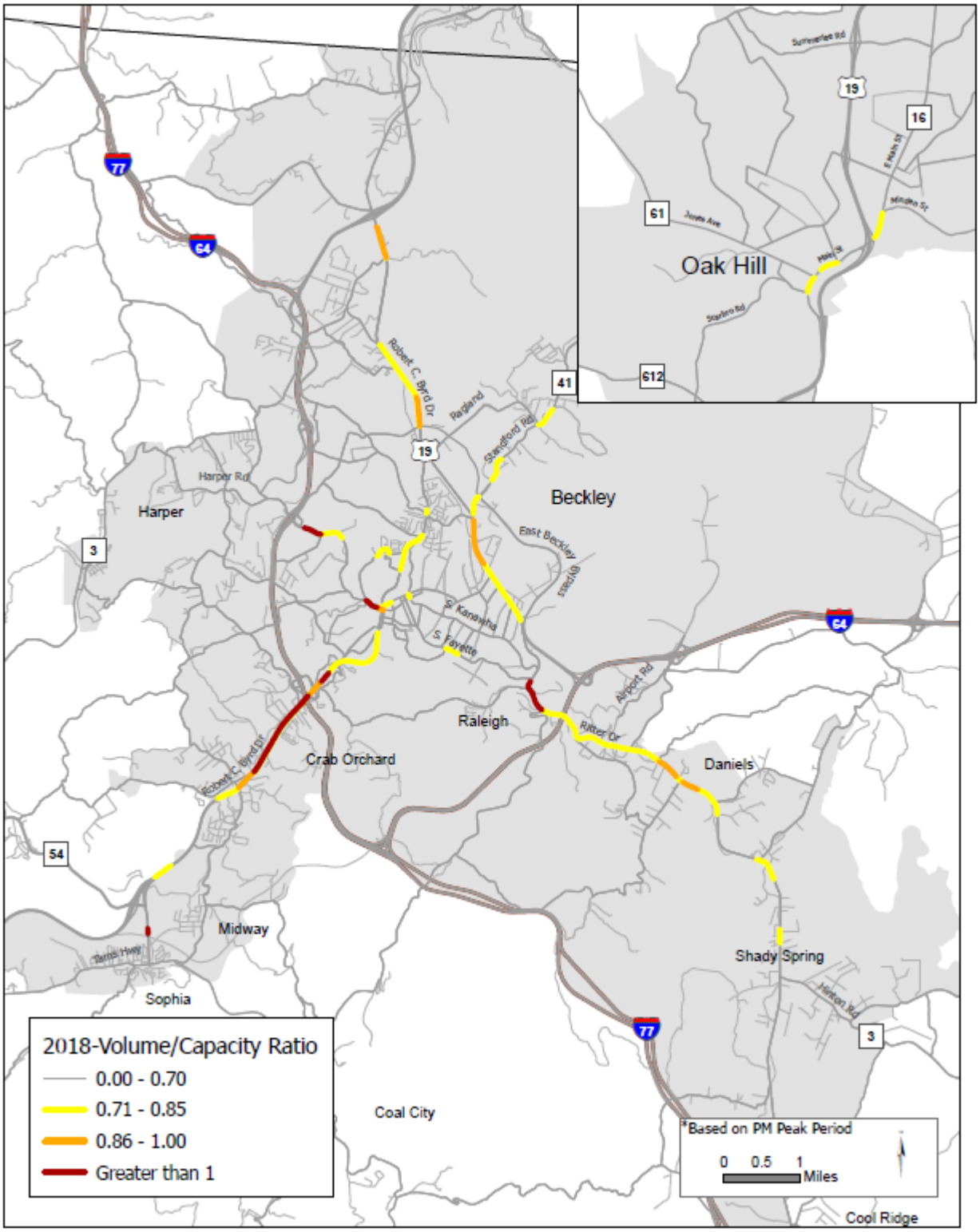


Figure 4-3: Base Year Volume/Capacity Ratios on Area Roadways (Beckley and Oak Hills insets)



Forecasting Roadway Performance

The FRMPO's travel demand model is the tool used to identify and analyze future roadway congestion problems. The model divides the region up into various traffic analysis zones for purposes of forecasting. Forecasts were developed for future population and employment for each traffic analysis zone and then used as key inputs into the model. The model's outputs approximate travel demand between zones, or how many people are expected to travel between home, work or school, shopping, doctor's office, and other destinations.

Zones will generate varying levels of traffic based on the numbers of jobs and/or homes they contain. Future traffic projections are also affected by the types of development in a zone. For example, a major regional shopping center will attract several types of trips, including shoppers, the employees who work at the stores, trucks who bring in the food and goods that are sold there, and even the trucks that take away the trash.

Once the level of travel demand is predicted for each zone, the model "loads" the appropriate number of trips onto the existing roadway network. Zones with high travel demand require roadways that have higher capacity, which would typically be an interstate, arterial street or collector street. In zones where population or employment is growing, a roadway may not be able to meet the additional travel demand without capacity improvements, such as the addition of new travel lanes, new and modified interchanges, new roadways and roadway extensions. By using the travel demand model, the MPO can make predictions about which roadways will need capacity improvements, and how soon.

More information about the travel demand model can be found in **Appendix A**, which provides a very detailed explanation of the process and data used to update and calibrate the MPO's model.

Existing and Committed Projects

When a new transportation plan is developed, there are always roadway improvements that are already in some stage of being constructed or are far enough along in development that they are essentially "committed" to be completed. When a travel demand model is being used, the first step in analyzing future roadway conditions is to identify the "Existing and Committed" (E+C) transportation network. This establishes a no-build condition which serves as the benchmark for identifying future roadway capacity needs and for evaluating the performance of planned projects. In this case the E+C network consists of the existing roadway plus the following project which is funded for construction in the current Transportation Improvement Program:

- Widening US 19 (Ritter Drive) between WV 3 (Hinton Road) and north of County Road 19/54 (Granby Circle) from two to three lanes and improving WV 3 (Ritter Drive) at Airport Road.

Based on the addition of this project to the roadway network and the forecasted population and employment growth, the model was used to project roadway system deficiencies anticipated to occur by the year 2045.

Future Roadway Conditions

Future Roadway Conditions Without Additional Improvements

Figure 4-4 and **Figure 4-5** depict the conditions anticipated in future years if the region does not make any roadway capacity improvements after completing the committed projects described above. Similar areas of the region are expected to experience capacity deficiencies in 2045 as in the base year model. These areas include WV 16 (Robert C. Byrd Drive) on the southwest side of Beckley, US 19 (Ritter Drive) on the north/west side of I-64, and WV 3 (Harper Road) between I-64 and US 19.

As shown in **Table 4-1**, the total number of hours spent driving in congested conditions is expected to increase approximately 45 percent by the year 2045, compared with the roadway system's performance in the base year. Much of the additional delay is projected to occur on the urban portions of the Turnpike and along major routes in unincorporated areas.

Table 4-1: Daily Vehicle Hours of Delay, 2018 versus 2045 Existing and Committed Network

Roadway Functional Class	2018 Base Year Network	2045 Existing and Committed Network	Percent Change
Freeways	**781**	**1,235**	**58%**
Arterial Highways	**6,512**	**6,350**	**-2%**
Collector Routes	**2,737**	**6,998**	**156%**
TOTAL	**10,030**	**14,583**	**45%**

Figure 4-4: 2045 Existing and Committed Volume/Capacity Ratios on Area Roadways

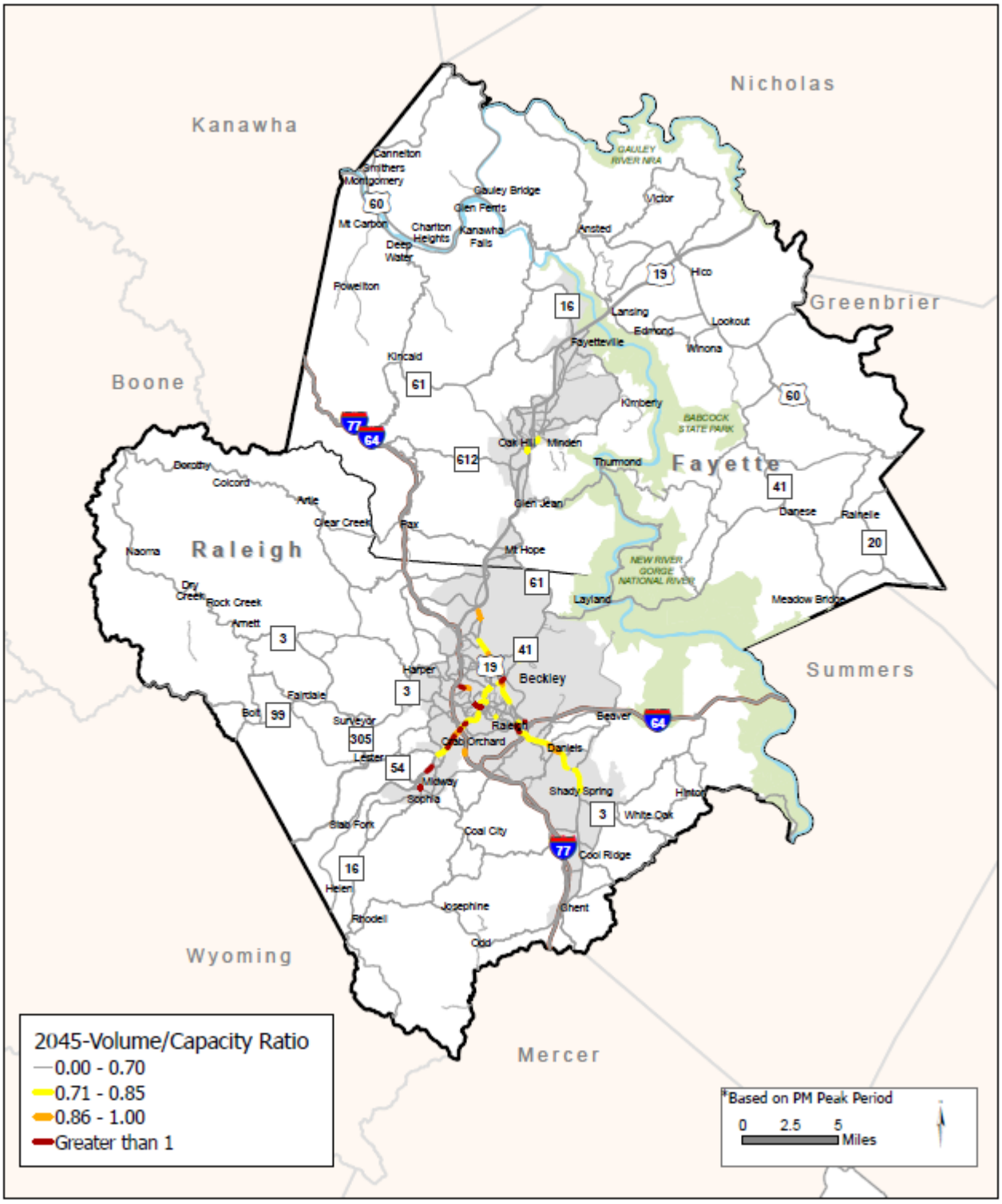
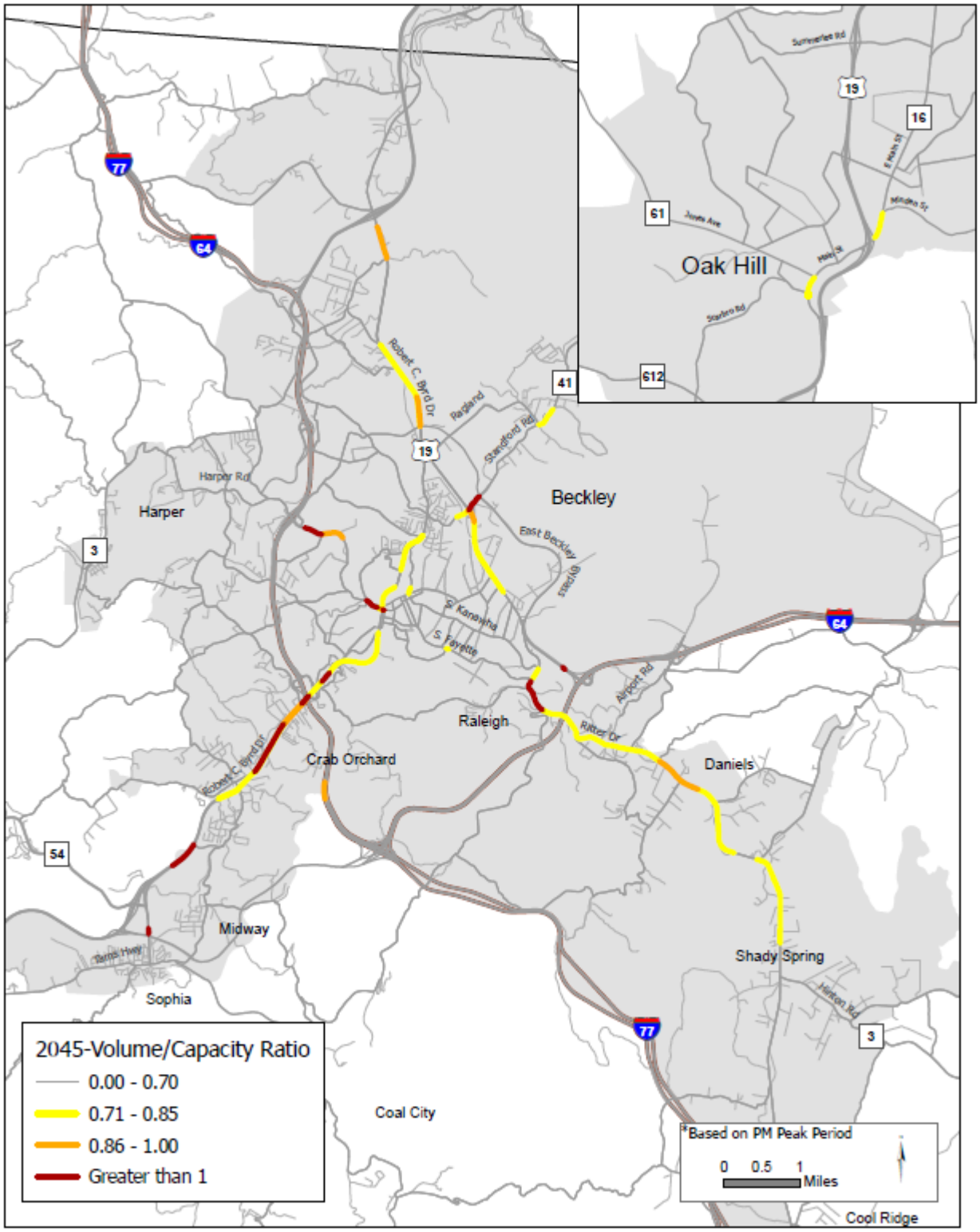
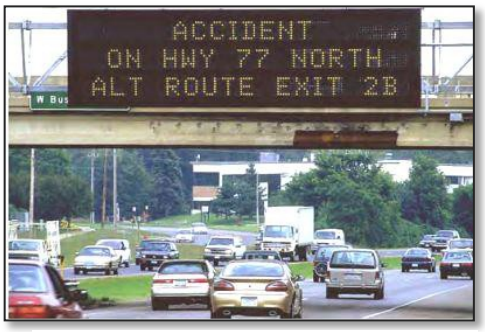


Figure 4-5: 2045 Existing and Committed Volume/Capacity Ratios on Area Roadways (Beckley and Oak Hills insets)



OPERATIONS AND SYSTEMS MANAGEMENT

In an era of reduced budgets, transportation agencies are placing increased emphasis on the efficient management of the existing transportation system, as opposed to adding new roadway capacity. A wide range of approaches can be used as lower-cost, lower-impact solutions to congestion. In some cases, they eliminate the need to add roadway lanes; in other cases, they extend the useful life of the road and allow an agency to postpone a major widening project. Some approaches involve the use of advanced technology, while others simply require communication and cooperation.



WVDOH

Incident Management

FHWA estimates that up to a third of our highway congestion is caused by incidents such as crashes, roadway debris, construction work zones, bad weather, and special events. Often the congestion resulting from a primary incident causes secondary incidents, such as rear-end crashes from drivers who were slow to notice the line of stopped traffic. Given the cost of delay and the risk of secondary incidents, state and local officials have begun to increase their focus on roadway incident management.

Courtesy Patrol. West Virginia contracts for operation of a Courtesy Patrol which operates roadside assistance trucks on more than 800 miles of interstate and Appalachian Corridor routes in 30 counties, working seven days a week between 3 p.m. and 7 a.m. Routes patrolled within the MPO region include I-64 from the I-77/I-64 junction eastward in Raleigh County, and US 19 in both Raleigh and Fayette counties.

The Patrol maintains a statewide dispatch center (located in McDowell County) that sends the nearest truck to assist motorists who have run out of gas, need directions or help in changing a flat tire, or are in need of first aid. Patrol drivers also remove hazardous debris reported in the roadway and assist with traffic management during incidents as well as in scheduled work zones. The contract is managed by WVDOH and funded by the state Tourism Commission.

Incident Management Plans. The WVDOH has developed an Emergency Traffic Control Plan that is followed when necessary to divert traffic from the Turnpike. While this is not a regular occurrence, the recent intensity of freeze/thaw cycles experienced in southern West Virginia has resulted in a growing number of rockslides along the Turnpike. Chemical spills and major traffic crashes also require the occasional closure of the Turnpike at affected locations. The traffic that would normally use the interstate must travel on other routes in the counties through which the Turnpike passes.

Because of the large volume of tractor-trailers that use the interstate, an effective detour route must meet certain dimensional standards. According to the Turnpike Emergency Control Plan, detour routes must have lanes at least 11 feet wide, grades of 8 percent or less, vertical clearance of 14 feet and 6 inches, and curves that can be safely traveled by a vehicle that is 73.5 feet in length. Detour routes should also provide basic motorist services, such as places to purchase food and gasoline.

Although there are several opportunities to exit the Turnpike between Charleston and Beckley, most of the

intersecting routes do not meet the detour requirements. US-19 in Fayette and Raleigh counties is therefore a designated detour route for a 45-mile stretch of the Turnpike between Exit 85 (Chelyan) in Kanawha County and the I-77/I-64 junction located on the south side of Beckley.

Given the importance that US-19 plays in the MPO area, the addition of interstate traffic to this busy corridor creates disruptions in local transportation patterns. The Emergency Traffic Control Plan states that when detours are necessary, the state's Traffic Management Center will alert law enforcement and local officials for assistance in traffic control at intersections, especially where US-19 passes through busy commercial areas or downtowns.

Intelligent Transportation Systems

Intelligent Transportation Systems (ITS) refers to the use of advanced technologies to manage the existing transportation system more effectively, improve its efficiency, and to make the system more user friendly. A variety of ITS technologies are in use in the MPO region, ranging from dynamic message signs that display motorist advisories to automatic vehicle locator (AVL) systems that allow the Raleigh County Community Action Association to know where its transit vehicles are at any given moment.

Closed-circuit cameras installed at strategic locations on I-77, I-64 and US-19 send video footage back to WVDOH's state Traffic Management Center and the Parkway Authority's Traffic Operations Center to allow for the monitoring of traffic conditions.

Table 4-2 provides a list of key ITS technologies currently used in the region.

Table 4-2: ITS Equipment Used in the MPO Region

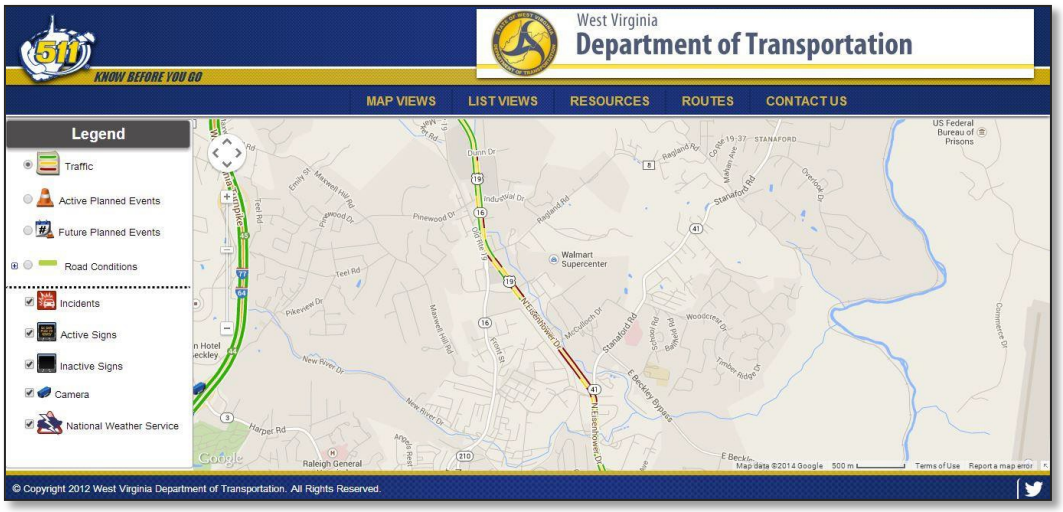
Type	Location	Purpose
Electronic Toll Collection (EZ Pass)	Turnpike, at toll plazas	Allows motorists and truckers to pay tolls electronically instead of with cash, reducing need to stop at toll plaza
Automatic Vehicle Location (AVL)	On RCCAA transit vehicles throughout Raleigh County	Real-time vehicle tracking so that a central dispatch can determine location or re-route a vehicle if needed
Dynamic Message Signs	I-77 southbound: • Mile Marker 81.9 near Fayette/Kanawha county line • Mile Marker 75.8 • Mile Marker 55.8 • Mile Marker 36.5, near WV County Route 19/41 • Mile Marker 26.4, near Flat Top Road I-77 northbound: • Mile Marker 68.3 • MM 58.5 • MM 55.8 US-19: • North of Appalachian Heights Road	Advise drivers of important road conditions. Examples: caution is needed ahead, a detour is required, or a certain exit is closed.
Closed circuit video cameras	On I-77: • Mile Marker 44 (WV 3 / Harper Road interchange) • US 19/N. Beckley interchange • Mile Marker 74 (WV 83 / Paint Creek Road interchange) On I-64: • Mile marker 125, near the WV 307 / Airport Road interchange On US-19: • Appalachian Heights Road • Glen Jean interchange • New River Gorge Bridge	Monitor traffic conditions at a remote operations center. Provide real-time video footage on public website.

Traveler information

West Virginia has implemented a statewide 511 system allowing travelers to access information about road and weather conditions by phone. Similar information is made available on the WVDOT's website in both list and map formats.

The WVDOT's 511 website (right) offers real-time maps showing the location of reported incidents, current traffic conditions (color- coded from green to red, construction work zones, and weather-related issues.

Within the MPO region, this real-time information is available for the I-77, I-64, and US 19 corridors.



Website: www.wv511.org

Signal coordination

In most regions, the traffic signal system is one of the best opportunities to make significant improvements to congestion at a relatively low cost. Proper signal coordination can greatly improve traffic flow along urban highways by reducing delay and the number of stops. Signal coordination can also decrease intersection crash rates, reduce rear-end conflicts, and reduce crashes during turning movements at signalized intersections.

However, the proper functioning of the system requires regular maintenance. Signal timing must be updated periodically as new access points are added along a road, or when development changes result in new traffic patterns. In addition, signal coordination requires individual traffic signals to be linked by a communications system, controlled by a central computer. Older signals often do not have the necessary electronic equipment to be connected in this way.

Currently WVDOH operates a coordinated system for several traffic signals along the Eisenhower Drive portion of US 19. This Plan recommends that the MPO work with WVDOH to evaluate the need for coordinated signal control on other parts of the corridor, especially given the role that US-19 is expected to play when it is necessary to divert Turnpike traffic to the corridor. A number of traffic operations projects have been recommended for near-term implementation as part of the proposed roadway projects shown in **Table 6-3**.

Access Management

A road's operational efficiency and safety can be significantly affected by the way it is designed. This is an important issue to consider as various road projects in the 2045 Plan are implemented, particularly if the region wants to preserve the capacity that is being added through those projects.

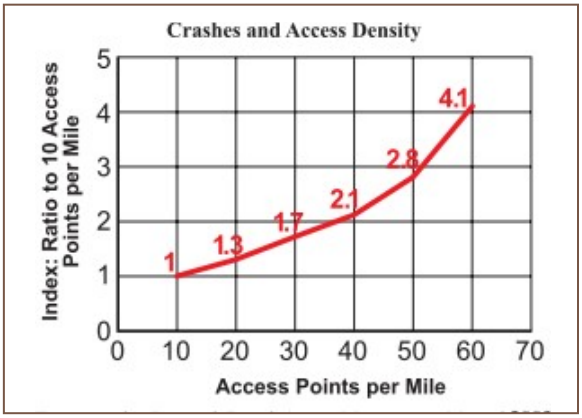


Figure 4-7: Relationship between a road's crash rate and the number of access points per mile
From the Transportation Research Board's *Access Management Manual* (2003).

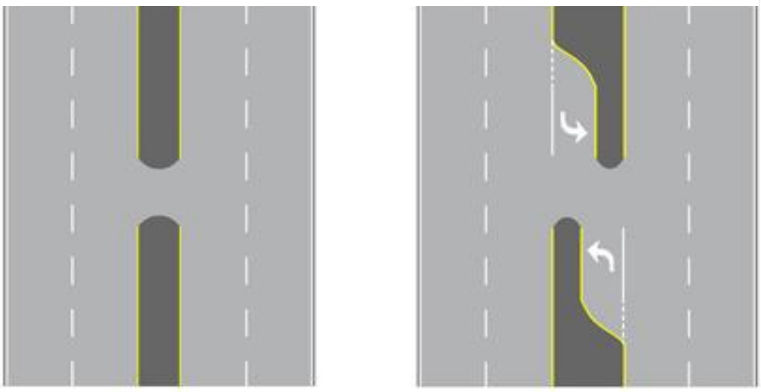
Each time a vehicle makes a turn into a driveway or onto another road, it increases the number of potential conflict points with other vehicular movements on the same road, and thus increases the crash risk. A driver making a left turn across oncoming traffic is in a particularly vulnerable position: in addition to the potential for being struck from the side by an oncoming vehicle, the driver is also at some risk of being rear-ended or struck at an angle by vehicles traveling in the same direction as the driver and approaching from behind.

Medians

Medians serve an important safety purpose on multi-lane roadways by providing a clear physical separation between bi-directional traffic. Medians also improve traffic flow by limiting left turns across oncoming traffic to a small number of designated locations.

At locations where there are frequently multiple vehicles waiting to turn left, turn bays are provided to allow turning vehicles to move out of the travel lane until there is an opportunity to cross, so that other motorists are not delayed behind the vehicle that is waiting to turn. (See **Figure 4-6**.)

Figure 4-6: Median Crossover Designs (from Model Inventory of Roadside Elements: FHWA, 2010)



WVDOH's policy does not permit new median openings on divided highways unless it is proven through a traffic impact study that they are necessary and that the new opening will not degrade the highway's level of service for thru-traffic.

Driveway Management

As noted earlier in this chapter, roads are classified according to their function. The primary purpose of low-speed roads is to provide property access, whereas higher-speed roadways provide few access points because their primary purpose is to carry thru-traffic. On higher-speed roads, therefore, there should be fewer driveways overall.

Driveway management on arterial routes can yield considerable operational benefits, allowing traffic speeds to improve as much as 15 to 20 miles per hour. **Figure 4-7** shows there is also a significant safety benefit. Statistics

indicate that an arterial road with 10 driveways per mile has 30 percent fewer crashes than a similar road that has 20 driveways per mile.

To create a new driveway on a state route, the property owner must first apply to WVDOH for a permit. WVDOH then reviews the proposed number of driveways and their location and design against its regulations, which were adopted in 2004. These are in place to preserve operational capacity and safety on public roads.

Generally, a property with 50 feet or less of road frontage is allowed one driveway. No more than two driveways are permitted for a single property unless a traffic study shows that additional driveways would improve traffic operations on the adjoining highway. Driveways must be located so that drivers have a certain minimum sight distance, which varies according to the speed of traffic on the adjoining highway.

Implementation

A good opportunity to implement access management is when a new road is being constructed, or when a major road widening project is scheduled so that driveway locations can be adjusted during construction. Local and state officials should work with adjoining property owners to discuss driveway locations during the engineering/design phase of the road project.

To preserve efficient and safe traffic flow along US-19 in Fayette County, it is very important for state and local officials to work together to maintain existing access management policies as new development occurs. Better access management should also be a goal along the commercial areas of WV-16 (Robert C. Byrd Drive) and US-19 (Eisenhower Drive, Ritter Drive) in Raleigh County.

FREIGHT

The transportation system plays a vital role in a strong economy by providing efficient movement of freight and goods. Nearly 195 million tons of freight, valued at $57 billion, is shipped from West Virginia annually.

The U.S. Bureau of the Census periodically collects data on freight shipments through the Commodity Flow Survey, most recently performed in 2017. Many trends impacting the Fayette/Raleigh MPO region can be understood through the state-level data. According to the 2018 West Virginia State Freight Plan, the state's freight export makeup is beginning a period of transition. Rail exports have declined in recent years, mirroring similar trends in the coal industry, whereas pipeline and waterway freight exports have grown significantly. Building materials, chemicals, automotive components, and natural gas are forecasted to be the state's mainstay freight exports in the coming decades.

Top Commodities and Transportation Modes

West Virginia uses rail to transport a much greater percentage of its total freight tonnage than the U.S. as a whole: 39 percent for the state versus only 15 percent nationally. This is largely due to coal's continued importance in the state's economy. As shown in **Table 4-3**, coal makes up nearly three-fourths of the total freight tonnage shipped from West Virginia annually, and is also the top commodity ranked by value.

Most of the other major commodities being shipped from West Virginia – either by tonnage or by dollar value – are predominantly transported by truck. Trucks are expected to continue to dominate the transport of goods in West Virginia for the next 25 years, according to the Federal Highway Administration's Freight Analysis Framework projections, carrying an additional 70% of freight tonnage by 2040. Considering these trends, it is critical to continue investing in the regional freight network, and to manage congestion on US 19, WV 16, WV 3 and other major routes that trucks use to access the interstates that run through the region.

Table 4-3: Top Commodities Shipped from West Virginia, by Tonnage

Commodity Code	Description	Pct of Total Tonnage	By Truck	By Rail
15	Coal	72%	*	*
12	Gravel and Crushed Stone	6%	62%	5%
17	Gasoline and aviation turbine fuel	5%	73%	-
18	Fuel oils	4%	87%	-
26	Wood products	3%	99%	-
31	Non-metallic mineral products	3%	87%	1%
32	Base metals	1%	79%	12%
19	Other coal and petroleum products	1%	*	*

Source: U.S. Bureau of the Census, 2017 Commodity Flow Survey (CFS). All other commodities are less than 1 percent of total tonnage. The symbol * indicates values not reported in the 2017 CFS due to data confidentiality or other issues.

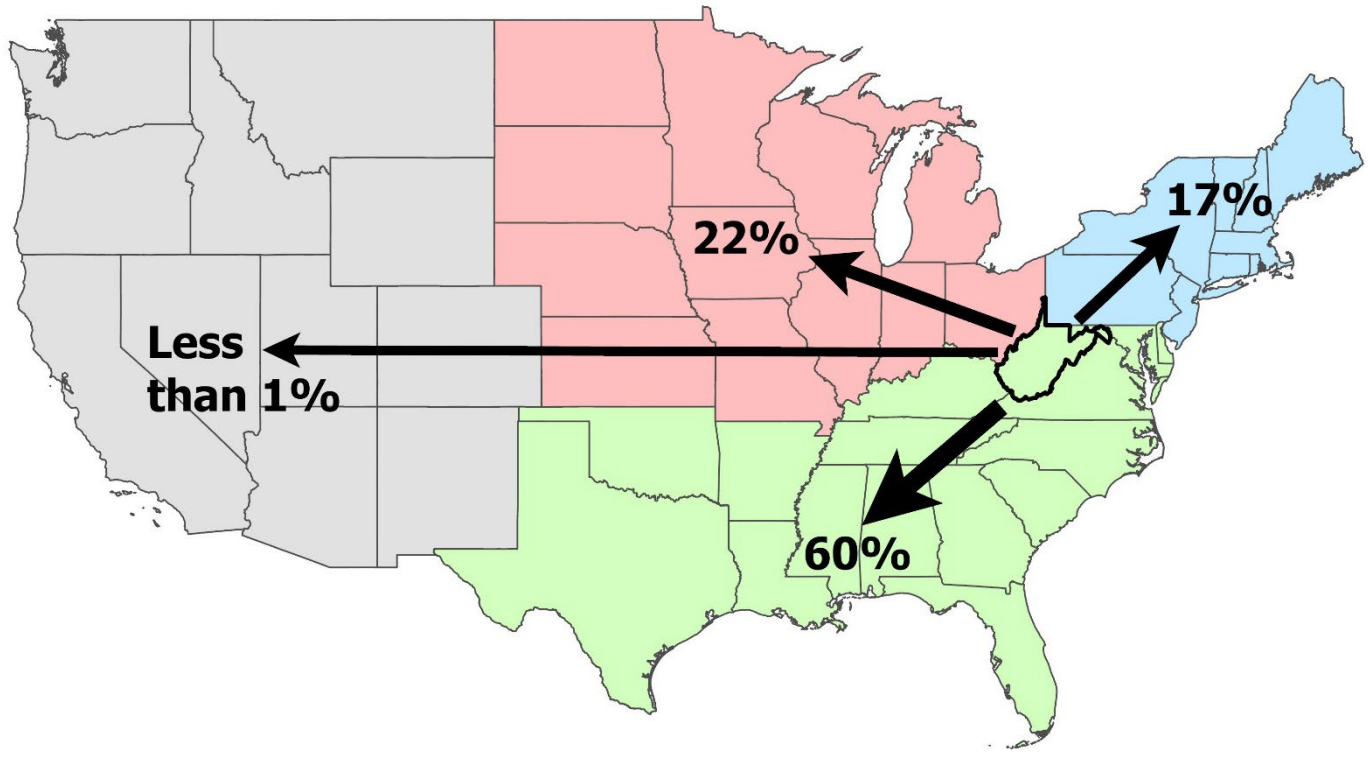
Table 4-4: Top Commodities Shipped from West Virginia, by Dollar Value

Commodity Code	Description	Pct of Total Value	By Truck	By Rail
15	Coal	15%	*	36%
21	Pharmaceutical Products	12%	28%	-
17	Gasoline and aviation turbine fuel	9%	73%	-
34	Machinery	8%	83%	-
24	Plastics and rubber	8%	82%	10%
18	Fuel oils	8%	88%	-
32	Base metals	6%	88%	8%

Source: 2017 CFS. All other commodities are 5 percent or less of total value. The symbol * indicates values not reported in the 2017 CFS due to data confidentiality or other issues.

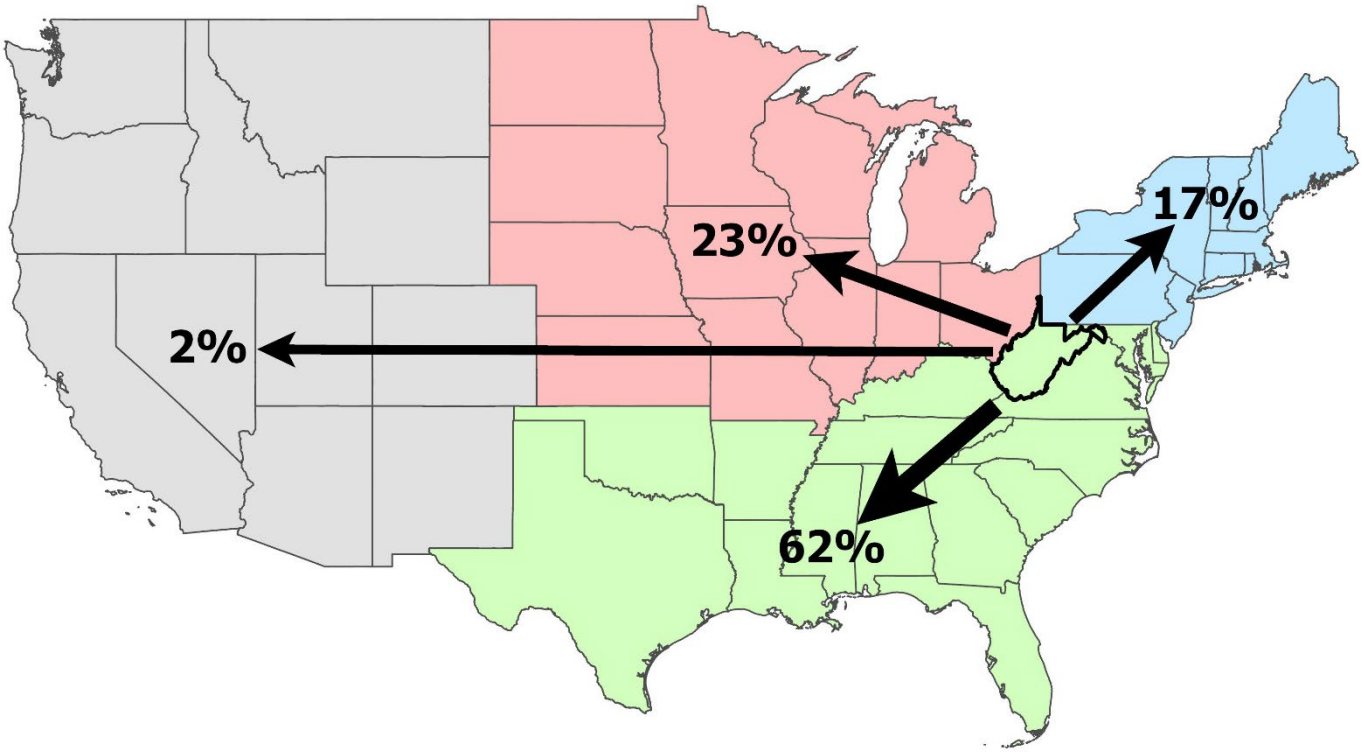
A majority of freight shipped from West Virginia is headed for destinations in the U.S. South, as shown in **Figure 4-8** and **Figure 4-9**, which underscores the statewide importance of efficient traffic flow on Interstates 64 and 77. A 2011 report by the Institute for Trade and Transportation Studies (ITTS) named Virginia and North Carolina among the state's top trading partners.

Figure 4-8: Freight Shipments by Tonnage from West Virginia to U.S. Regions



Source: Calculated from 2017 CFS data.

Figure 4-9: Freight Shipments by Dollar Value from West Virginia to U.S. Regions



Source: Calculated from 2017 CFS data.

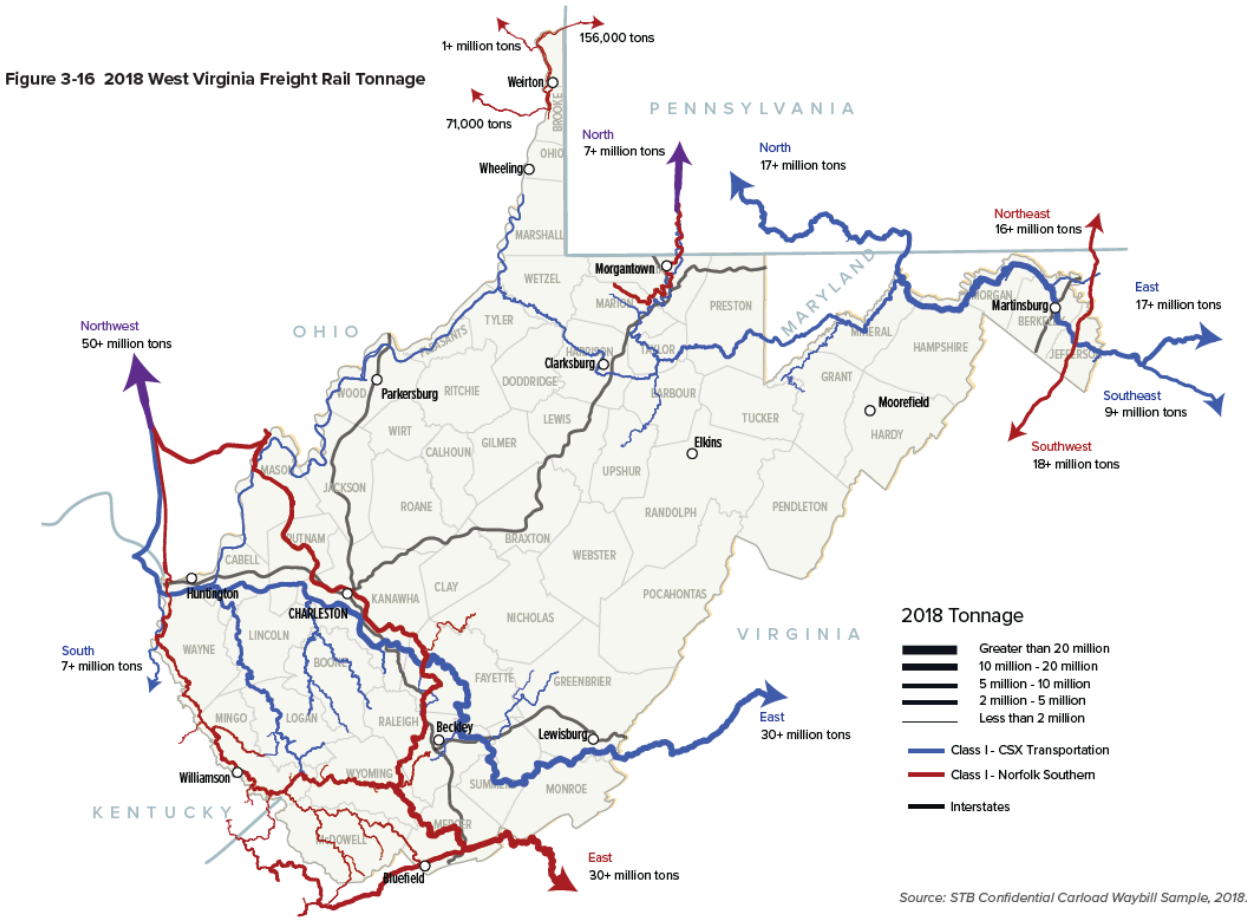
Regional Issues

This Plan recommends operational improvements at several locations which would help address challenges stemming from a mix of heavy truck traffic with local and tourist automobile traffic. Problem spots include the I-64/I-77 interchanges at WV 3 (Harper Road) and WV 16 (Robert C. Byrd Drive) in Mabscott. Traffic flow at these interchanges is affected by the close spacing of other major roads, making it essential to establish and maintain proper signal timing. At the I-64/I-77 and WV 16 interchange, heavy trucks also encounter a steep grade as they approach from the southwest, which may become more problematic as traffic volumes increase after the Coalfields Expressway is completed. Residents and local businesses near the I-64/Airport Road interchange indicated that heavy trucks encounter problems attempting to use WV 307 East (Scott Ridge Road), which has very narrow lane widths and sharp curves in certain locations. Measures could include modifying the existing overhead sign for WV 307 West to indicate it leads to US 19. Local officials may also consult with WVDOH about potential vehicle restrictions for WV 307 East.

Freight Rail Services

The West Virginia State Rail Plan was completed December 2020. This plan discusses the importance of rail to the West Virginia economy and summarizes rail facilities in state. The plan highlights that freight rail currently employs over 2,100 people in West Virginia and over 164 million tons of freight were moved by rail through West Virginia in 2018. The plan also notes that rail freight flows are forecasted to decline within the state through 2040 due to reduced domestic coal use. Some of the state's most heavily used tracks (in terms of ton-miles) pass through Fayetteville, corresponding to the old Chesapeake and Ohio RR currently utilized by CSXT, and shown in **Figure 4-10**.

Figure 4-10: 2018 West Virginia Freight Rail Tonnage

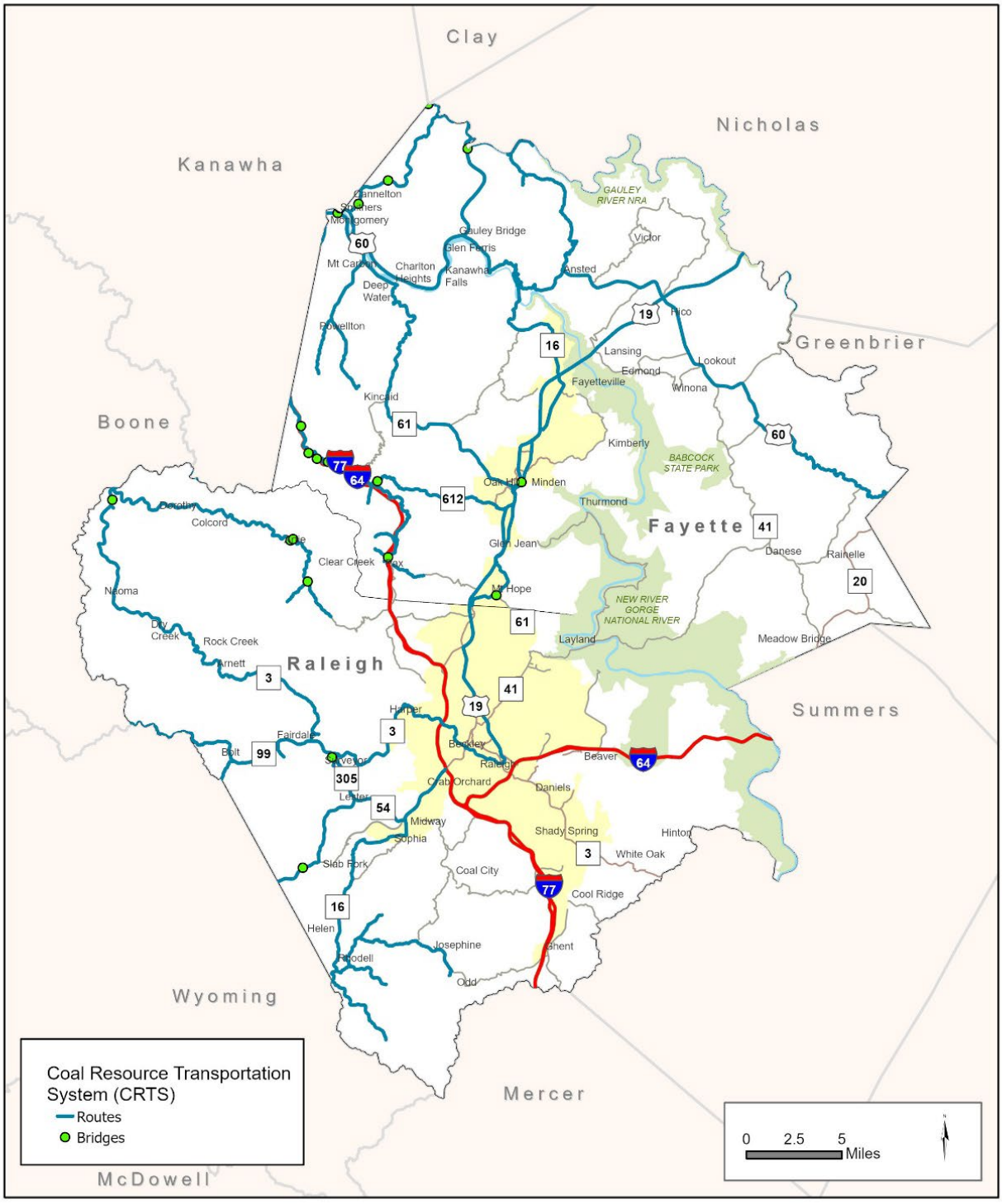


Source: WVDOT State Rail Plan

Coal Resource Transportation System (CRTS)

Certain designated roads in Fayette and Raleigh counties are part of the Coal Resource Transportation System (CRTS), established in 2003. On these routes, coal haulers may purchase a permit to allow a Gross Vehicle Weight (GVW) of up to 120,000 pounds depending on their truck configuration. Permit fees are deposited into the Coal Resource Transportation Fund, a special account used by WVDOH to match funds provided by coal companies and other parties to repair and improve the CRTS system of roads and bridges. Bridges marked in **Figure 4-11** have special gross maximum vehicle weight limits.

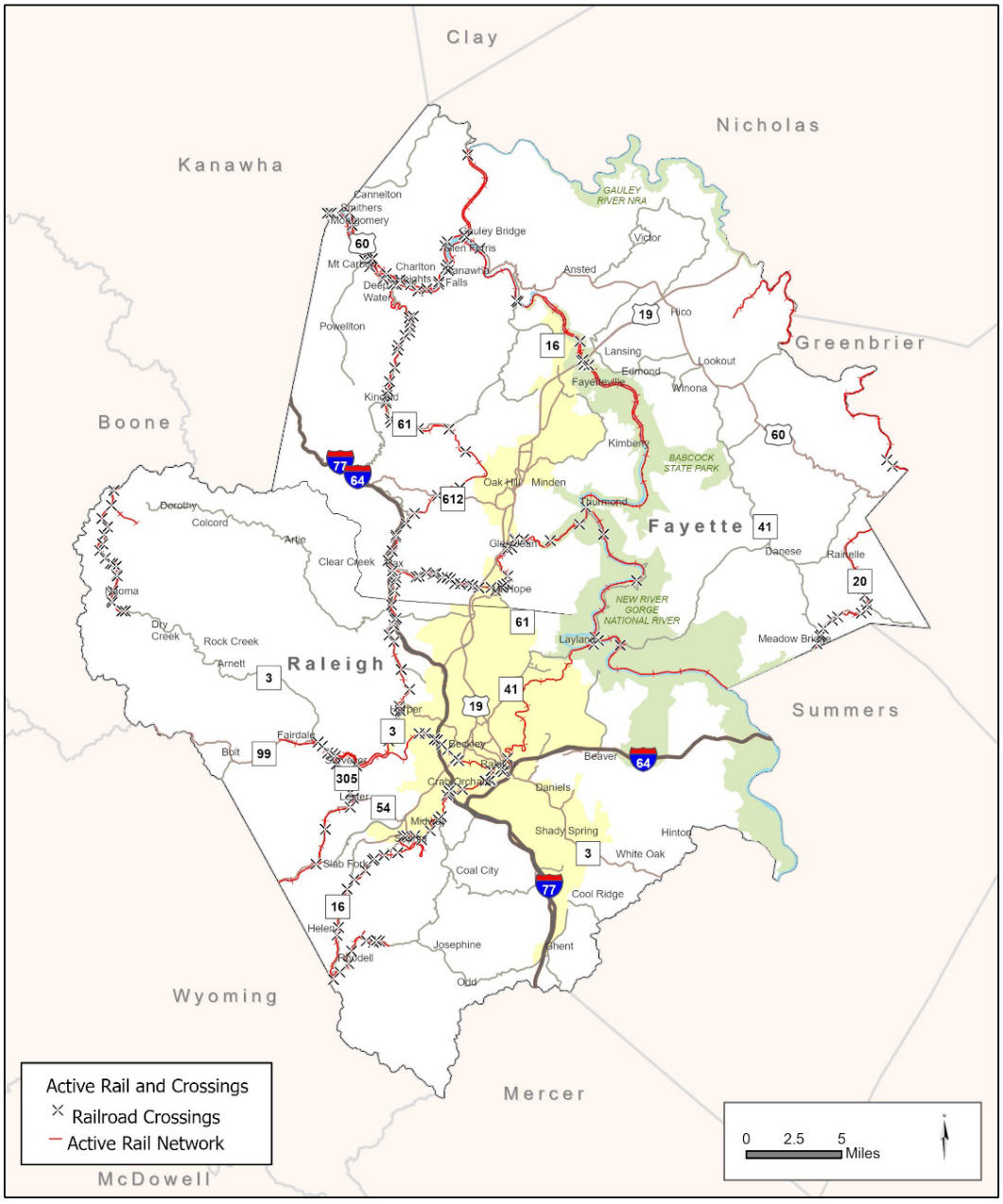
Figure 4-11: Coal Resource Transportation System (CRTS) Routes in the Fayette/Raleigh MPO



RAIL

The Fayette/Raleigh MPO is one of the most rail-dense parts of West Virginia. **Figure 4-11** shows the active rail lines and crossings. As mentioned in the previous section, rail is one of the main modes for coal and other exports from the region. Inter-city passenger rail in the area is largely provided by Amtrak at several historic stations in the MPO area. Additionally, there are several abandoned rail lines, consisting primarily of spurs that previously served coal mines or other industrial sites that are no longer in operation.

Figure 4-12: Active Rail Network and Crossings



Source: U.S. Bureau of Transportation Statistics, 2021 National Transportation Atlas Database

Rail Ownership

Nearly all of the active track in the MPO region is owned by Class 1 railroads, specifically CSXT and Norfolk Southern, as shown in **Table 4-5**.

Table 4-5: Rail Ownership in the MPO Region

Owner	Subdivision	Miles
CSXT	UNNAMED	6.48
	BIG COAL	1.49
	BIG MARSH FORK	8.16
	GAULEY	7.05
	GLADE CREEK IT	2.78
	KANAWHA	1.84
	MAPLE MEADOW IT	2.00
	MARFORK IT	1.02
	NEW RIVER	45.74
	NEW RIVER TRK #1	10.93
	NEW RIVER TRK #2	10.94
	PEMBERTON IT	0.36
	PINEY CREEK	26.53
	RALEIGH SOUTHWESTERN & WINDING GULF	5.25
	SEWELL VALLEY	25.09
CSXT Total		**155.65**
NS	UNNAMED	12.40
	PRINCETON-DEEPWATER DISTRICT	49.91
	STONE COAL BRANCH	3.88
	WEST VIRGINIA SECONDARY	17.51
	WINDING GULF BRANCH	16.12
NS Total		**99.82**
RJCV Total		**16.86**
VRR Total		**0.30**
Grand Total		**272.63**

Source: U.S. Bureau of Transportation Statistics,

2018 National Transportation Atlas Database

Total Accidents and Incidents

According to the Federal Railroad Administration, from 2010 to 2020 Fayette County had 45 total rail accidents and incidents with six total fatalities and Raleigh County had 20 total rail accidents and incidents with one fatality. Four of the seven total fatalities in the MPO area over this decade were recorded as trespassers not at a crossing. Recorded accidents include derailments, highway-rail incidents, and other accidents.

The majority of crossings are equipped with warning equipment, as shown in **Table 4-6**. From 2010 to 2020, the MPO area saw four highway-rail incidents.

Table 4-6: Warning Equipment Used at Grade Crossings

		Type of Highway Warning Equipment			
Railroad	**Total**	**None**	**Signs**	**Flashers**	**Gates**
CSX	68	5	63	17	3
Norfolk Southern	111	41	70	6	2
Other	51	4	47	8	6
Total	**230**	**50**	**180**	**31**	**11**

Source: U.S. Federal Railroad Administration, Office of Safety (September 2021)

Several grade crossings are pedestrian-only, including these locations:

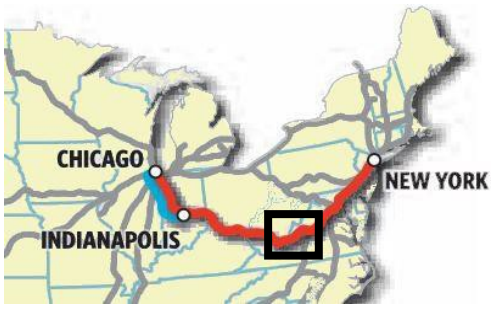
- The New River line north of Mount Hope;
- The New River line in Thurmond;
- The New River line in Montgomery;
- The Raleigh Southwest south of Oak Hill;
- The short line (C&O) to the northwest of Beckley;
- Along the Pocahontas spur northwest of Lester; and
- The terminus of the Pocahontas spur northwest of Lester.

Passenger Rail Services

As of 2020, there are 296 miles of designated intercity passenger rail and 184 miles of tourist train service rail.

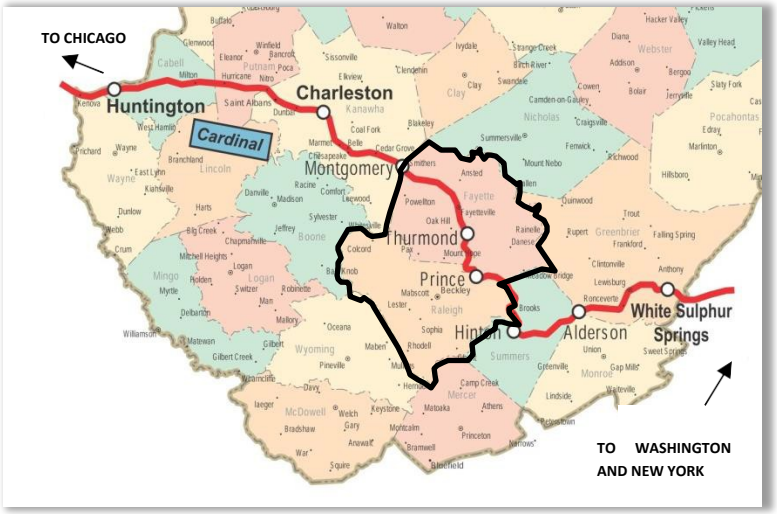
Amtrak currently services the Cardinal Line, which provides overnight service three times a week that connects Chicago, Washington D.C., and New York City. The Cardinal passes through Kentucky and southern West Virginia on its route between Chicago and Washington.

The train makes three stops in the MPO region, all of which are in Fayette County. Heading toward Washington and New York, the Cardinal makes its stops in the region between 8:45 and 10 a.m. on Wednesdays, Fridays and Sundays.



From Amtrak

When bound for Chicago, the train stops in Fayette County between about 6:35 and 7:45 p.m. on Mondays, Thursdays and Saturdays.



- The **Montgomery** station, located in the far northwestern part of the region near the Kanawha County line, had about 347 riders in FY2018. The Kanawha Valley Regional Transit Authority previously provided service to the Montgomery station, but this is no longer the case.

- The **Thurmond** station is located just north of the intersection of County Highways 25 and 2. Passengers board at a grade crossing within a short distance of the old station building, which doubles as a National Park Service visitor center. At the height of the area's coal mining days in the early 20th century, more than 75,000 passengers boarded at this location. During FY 2018 it had a ridership of 285, making it the state's least-frequented stop according to Amtrak. Thurmond is a flag stop, meaning the train stops only if a passenger has made a reservation to board or alight at that location.

- The **Prince** station serves as the main depot for the Beckley area. More than 2,000 boardings were recorded at the Prince station in FY2018. Although it is located on WV 41 just over the Fayette/Raleigh county line, this location is described by Amtrak as the Beckley depot.

In response to Amtrak's decision to eliminate an on-site agent at the Prince Station in 2016, the Prince Railroad Station Authority (PRSA) purchased the station from CSX in 2018. PSRA plans to lobby Amtrak to offer Amtrak Express at the station to close a service gap in local shipping options. PSRA will also continue refurbishment efforts at Prince station, including ADA compliance.

The Cardinal Line continues to experience overall performance challenges compared with Amtrak's other routes, ranking in the bottom third, according to the State Rail Plan. Successful operation of this service would lead to continued viability of passenger rail service in southern West Virginia.

AVIATION

The nearest airport with regular multi-airline commercial service for the MPO region is Yeager Airport (CRW) in Charleston, located about 60 miles north of Beckley via I-77.

Within the MPO region, the only public airport is Raleigh County Memorial Airport (airport location ID BKW), which is a general aviation airport that supports one commercial airline and a small amount of air cargo. It is governed by the Raleigh County Airport Authority, which has responsibility for the maintenance of the airfield. In addition to Raleigh and Fayette counties, the airport's official service area also includes Summers and Nicholas counties.

Courtesy of Raleigh County Memorial Airport Authority

Location and Access

From the air, Raleigh County Memorial Airport is approximately three nautical miles (6 km) east of Beckley's central business district. Access is via Airport Road, which connects with I-64 (East/West), I-77 (North/South directions) and US 19/WV County Road 3 to the south.

Available ground transportation includes two rental car services and a limousine/tour bus service.

Airport Characteristics

The airport has two intersecting asphalt runways in order to separate airplane classes and to accommodate crosswind conditions. Both runways are in good condition, according to the most recent Airport Master Record, and are automatically lighted at dusk and dawn.

Runway 01/19 is the main runway. As shown in **Table 4-7**, its greater length and load rating makes it suitable for a wider range of airplane classes than Runway 10/28.

Table 4-7: Runway Characteristics

	Runway 01/19	Runway 10/28
Length	6,750 ft.	5,001 ft.
Width	150 ft.	100 ft.
Load rating		
Single-wheel	75,000 lbs.	45,000 lbs.
Double-wheel	150,000 lbs.	60,000 lbs.
Double-tandem	200,000 lbs.	-

Source: Airport Master Record

Airport Usage

One of the airport's essential regional functions is the role it plays in emergency and military air operations. In a region where not all areas are accessed easily or quickly by road, helicopters are vital in medical emergencies. Military operations also comprise a significant portion of BKW's air traffic. A small amount of air cargo is served, primarily from FedEx, a tenant in the adjacent industrial park.

The level of general aviation traffic at BKW increased substantially between 2006 and 2016 and then generally levelled out, with 20,000-25,000 flight activities reported annually between 2016 and 2019. In 2020, the COVID-19 pandemic impacted BKW and the aviation industry worldwide. Post-COVID, industry experts expect continued growth in general aviation traffic, particularly corporate, due to the changing nature of commercial air service. The delays and inconvenience of passenger security screening, as well as major airlines' on-time performance problems, are attracting more businesses to general aviation flights. Some are even jointly leasing corporate aircraft or purchasing them on a "time-share" basis.

Courtesy of Raleigh County Memorial Airport Authority

As shown in **Table 4-8**, most of the air traffic is general aviation. In addition, much of the recent growth has been in transient traffic – defined as those whose origin or destination is a different airport – as opposed to local users who are both departing and returning to BKW.

Table 4-8: Average Daily Aircraft Operations, 2018

Type of Operations	Pct
Local General Aviation	41%
Transient General Aviation	39%
Military	13%
Air Taxi (LocAir)	7%

** For 12 month period ending Sept. 30, 2018.*
Source: AirNav, LLC, 2018

Based Aircraft

The number of based aircraft has remained consistent over the past several years, totaling 31 aircraft in 2018 (**Table 4-9**). The airport is beginning to see some larger airplane classes as general aviation traffic has increased. If this trend continues, it will affect not only on-site storage requirements but also the design standards for future runway improvements.

Table 4-9: Based Aircraft by Type, 2018

Aircraft Type	Number
Single Engine	19
Multi-engine	8
Jet	3
Helicopter	1
Total	**31**

Source: AirNav, LLC, 2018

Commercial Services

Like many small airports, Raleigh County Memorial Airport has benefited from the federal Essential Air Service program, which provides funds to help guarantee flights and affordability of service. Through this program's assistance, the airport maintains commercial service by Contour Airlines through an interline agreement with American Airlines. Jet service is offered twice daily to the Charlotte-Douglass Airport, where passengers can connect to national and international flights.

Albatross Air is a fixed base operator that provides maintenance and flight training. They provide minor and major aircraft maintenance for both airframe and power plant repair and services. Pilot training is also available, including ground school for both private and multi-engine pilots, and a Certified Flight Instructor (CFI) is available for flight checks.

Recent Improvements

Recent improvements to the airport were funded through a Federal Aviation Administration (FAA) grant, funded at 95% with matching money shared by BKW and West Virginia Aeronautics Commission. The largest project undertaken was the 2018 rehabilitation of Runway 1/19, followed by the 2019 rehabilitation of Taxiway "A."

Funds were also awarded for upgrading snow removal equipment, the purchase of a new snow blower, the purchase of a new snow broom for snow removal, rehabilitating the taxiways, replacing terminal lighting, and resealing and remarking Runway 10/28.

Courtesy of Raleigh County Memorial Airport Authority

Aviation Needs/Issues

The Raleigh County Memorial Airport's Master Plan, completed in September 2011 and updated in 2014, performed a study of existing airport needs and projected future growth to plan for capital improvements that will be needed through the year 2029. After analyzing the level and types of future demand for aviation services in the region, the Airport Master Plan found that current airfield capacity should be adequate to handle projected growth. No road improvements are recommended except as needed for access to new airport facilities that are built in the future.

However, the Master Plan does identify several issues that need to be addressed so they do not become potential

obstacles to the airport's growth during the next two decades:

Safety improvements to runway areas. Portions of the airport's runway visibility zones are obstructed by trees and buildings, according to the plan, and there is no clear line of sight between the ends of the two intersecting runways.

The plan also identifies concerns that the size of the runway safety areas at the ends of Runway 10-28 is below standard. A previous analysis of this issue found the amount of fill needed to moderate the steep grades was cost prohibitive. The plan therefore recommends re-marking Runway 10-28 to move the thresholds closer in. While this reduces the available runway length by up to 340 feet for some operations, it allows the runway to meet safety area standards. If the airport authority wishes to preserve the entire 5,000-foot runway, it will be necessary to revisit the re-grading project at a future time.

Air Traffic Control Tower (ATCT). The purpose of the control tower is to provide weather updates, traffic separation, and safer ground movements. Weather conditions at this airport can change rapidly, particularly fogging, due to its location in relation to the plateau. Since Raleigh County Memorial Airport currently has no tower, pilots operating under Instrument Flight Rules (IFR) must currently contact Yeager Airport for clearance.

The lack of a control tower is a issue frequently mentioned by parties who currently use the airport, as well as those who say they would use it if the tower were constructed. During the development of the Master Plan, the Federal Correctional Institute reported it would like to use the airport for prisoner transport to and from the major facility which it operates on lands adjacent to the airport. However, the agency is required to use a facility with a control tower, resulting in a drive of nearly an hour to Greenbrier Valley Airport.

Raleigh County Memorial Airport is currently involved in testing a high-tech, computer-driven "virtual tower" which was used successfully in 2013 for the Boy Scouts' summer Jamboree.

Three potential control tower sites were evaluated as part of the Master Plan. The recommended site is shown in **Figure 4-13**, along with other improvements recommended in the adopted Master Plan.

Figure 4-13: Planned Improvements at Raleigh County Memorial Airport

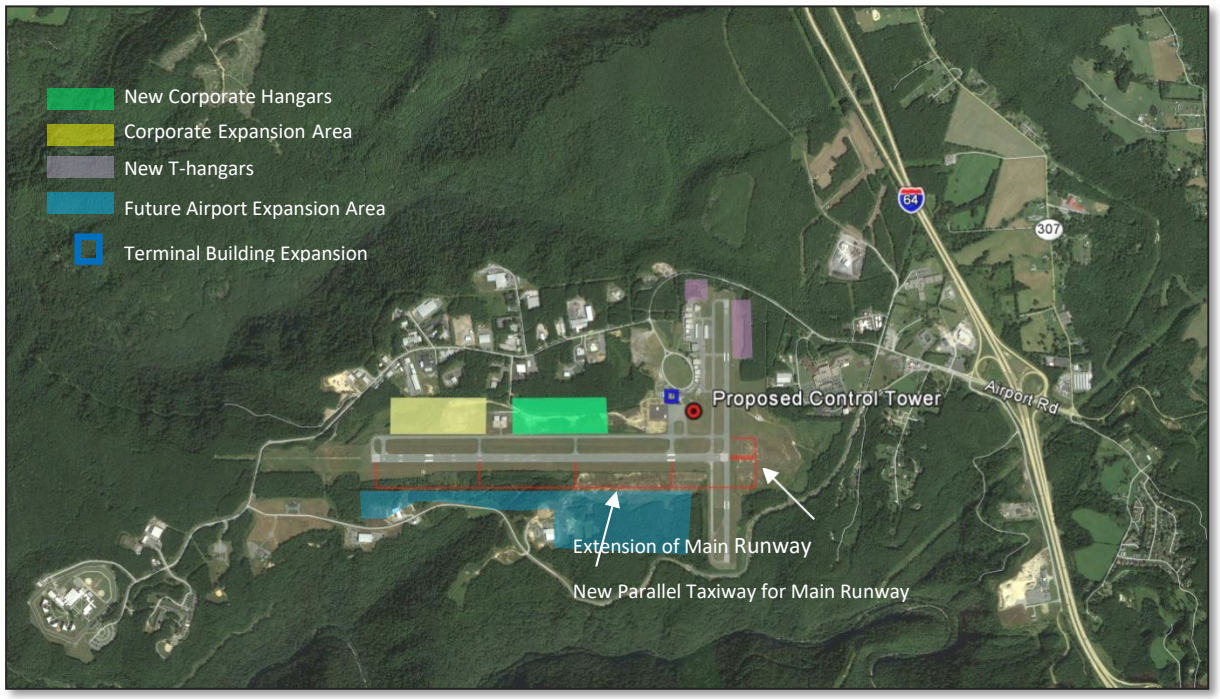


Image from Google Earth

Main runway extension. The airport's future space needs are largely driven by the size and type of aircraft that use it frequently. As noted earlier in this section, most of the airport's current traffic consists of turboprop planes and smaller aircraft. However, as corporate traffic increases, Raleigh County Memorial Airport is beginning to see a growing number of flight operations by larger aircraft such as the Gulfstream V. Although this plane can use the existing airfield, it would be preferable to shift to runway design standards for the larger class of aircraft when it is possible to do so. Ideally this would occur when other major improvement projects are scheduled.
The Master Plan also identifies a trend in greater use of the airport by jets making long-range trips. The additional fuel that must be carried for these flights makes the plane significantly heavier, requiring a longer distance for takeoff.

Runway 1-19 is recommended for future extension to 7,400 feet. The plan also recommends that during this project, the runway threshold should be relocated to improve safety so that aircraft using the main runway will no longer need to taxi along Runway 10-28.

The plan notes that the future extension of Runway 10/28 would also be desirable but is not likely to be feasible due to steep terrain.

Compatibility of adjoining land uses. Local governments and landowners adjoining the airport property should be aware that the Runway Protection Zone may need to be expanded in conjunction with the future extension of Runway 1-19.

The Airport Master Plan notes that local government zoning and development regulations do not currently specify height restrictions for structures built within the runway approach areas. For the region to maintain its aviation

services and its eligibility for federal funds, it is important to ensure these safety requirements are addressed.

A site-ready industrial development project is partially underway at the airport. Funding has been secured for the development of 105 acres, with 33 acres being cleared at the time of this report and the remaining portion of the site undergoing environmental review. Over 60 acres of the site will have runway access. Development on the site is targeted toward the aerospace industry, with an estimated projection of creating 600-650 jobs in the region. Additional infrastructure improvements and expansion will be necessary to support the industrial development.

Additional space for based aircraft. To meet the projected demand for local general aviation traffic, the plan identifies a need over the next two decades to construct additional corporate hangar space suitable for the larger aircraft that are beginning to use the airport, six new t-hangar bays, and additional apron tie- down parking.

Separation of commercial and GA traffic. The U.S. Transportation Security Administration advises airports to maintain separation between general aviation traffic and the more secure areas for commercial aircraft and passengers. To address this issue as the airport grows, the Master Plan recommends expansion of the terminal apron so that transient general aviation aircraft can be parked separately from commercial traffic. Future expansion of the terminal building to the north is also planned to provide a separate area for commercial air service.

The Raleigh County Memorial Airport's Master Plan is currently undergoing a 2021 update at the time of this report.

SAFETY AND SECURITY

Safety

Efforts to improve roadway safety involve multiple agencies that span the federal, state, and local levels. Activities typically fall into two categories: the improvement of existing roadways, and education/outreach programs designed to improve traveler behavior.

Federal

Highway safety at the federal level is administered through the Highway Safety Improvement Program (HSIP), most recently codified in the *Moving Ahead for Progress in the 21st Century Act* (MAP-21). The HSIP provides funding to state and local agencies for highway safety programs contingent on the fulfillment of several requirements that promote a data-driven, strategic approach to reducing fatalities and injuries on highways throughout the nation. Additionally, the HSIP sets aside funding to evaluate and improve safety at highway-rail grade crossings under 23 USC 130, commonly referred to as the *"Section 130"* program. These funds are apportioned to the states for rail crossing safety data analysis, the installation of protective devices at crossings, and other improvements.

The U.S. DOT coordinates the implementation of the HSIP through its agencies, including the FHWA and the National Highway Traffic Safety Administration (NHTSA). The FHWA and the NHTSA establish programs for states to receive funding for highway improvements and driver education efforts, respectively.

State

The West Virginia Department of Transportation addresses highway safety across all of West Virginia, including

Fayette and Raleigh counties. Several areas within the department have responsibilities related to highway safety, including:

- The **Traffic Safety Planning and Analysis Section** of the WVDOH Traffic Engineering Division, which manages and analyzes the state's crash data, leads the state's implementation of the HSIP funds, and conducts various highway safety studies; and
- The **Governor's Highway Safety Program (GHSP)**, an office of the Division of Motor Vehicles (DMV), manages safety promotion, education, and enforcement programs throughout the state.

Crash Trends Analysis

Crash data for the two-county region was analyzed to understand overall crash trends. This analysis demonstrates existing safety conditions and provides valuable safety insights into the factors involved in collisions.

Between January 1, 2015 and December 31, 2019, 3,627 crashes occurred in Fayette County and 10,257 crashes occurred in Raleigh County. **Figure 4-14** and **Figure 4-15** illustrate the crash frequency per year in Fayette and Raleigh County. The overall crash frequency is trending downward in both counties, with Raleigh County decreasing at a faster rate.

Figure 4-14: Crash Frequency in Fayette County (2015-2019)

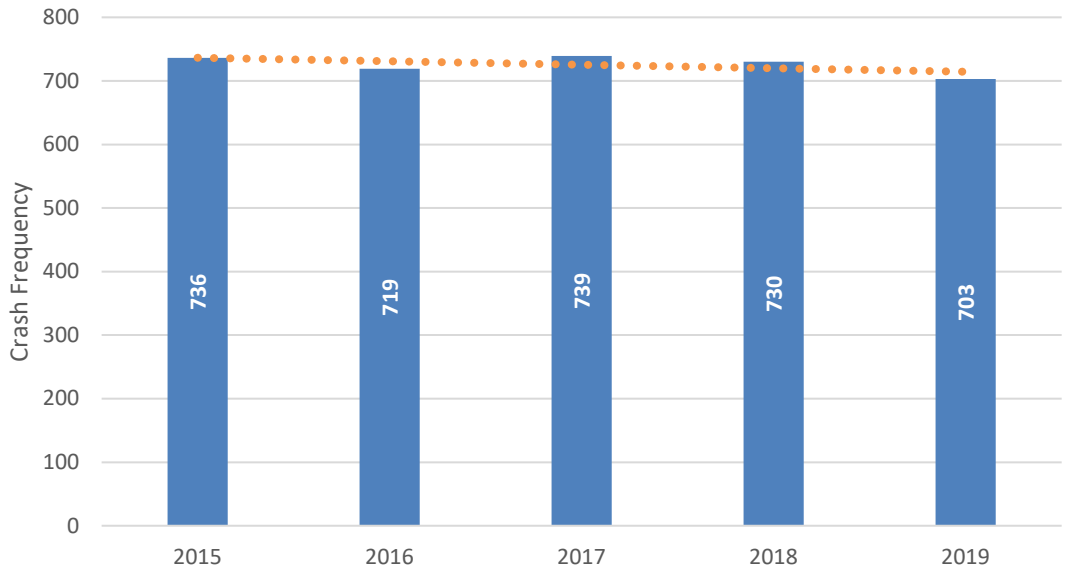
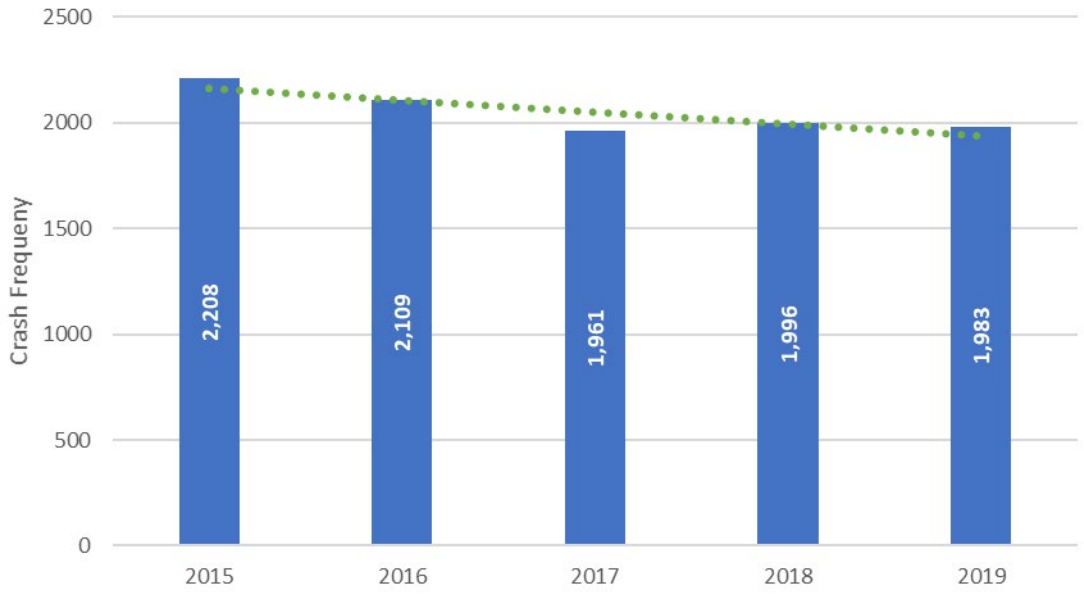


Figure 4-15: Crash Frequency in Raleigh County (2015-2019)



Occupant Data

In Fayette County, 8,415 people were involved in traffic collisions between 2015 and 2019 with 34 people being fatally injured and 121 seriously injured, as shown in **Table 4-10**. The green boxes indicate the highest value for each year for each injury type. On average, crashes affect 1,683 people every year in Fayette County with seven of them being fatally injured and 24 seriously injured. Both fatalities and serious injuries are trending downward, with serious injuries declining at a faster rate.

Table 4-10: Occupant Statistics for Fayette County

Year	Injury Severity				
	Fatalities	Serious Injuries	Minor Injuries	Possible Injuries	No Injuries
2015	10	32	68	231	1,352
2016	4	24	48	199	1,552
2017	10	30	41	223	1,418
2018	6	17	51	200	1,343
2019	4	18	38	183	1,313
5-Year Total	**34**	**121**	**246**	**1,036**	**6,978**
5-Year Average	**7**	**24**	**49**	**207**	**1,369**

Of the 25,924 people involved in a traffic collision in Raleigh County, 76 people were fatally injured and 299 were seriously injured, as shown in **Table 4-11**. On average, 5,184 people were involved in a crash every year with 15 people being fatally injured and 60 people seriously injured. Fatalities have stayed relatively constant over the five-year period while serious injuries have decreased significantly from 94 serious injuries in 2015 to 17 serious injuries in 2019.

Table 4-11: Occupant Statistics for Raleigh County

Year	Injury Severity				
	Fatalities	Serious Injuries	Minor Injuries	Possible Injuries	No Injuries
2015	17	94	158	952	4,306
2016	16	69	135	906	4,174
2017	11	58	117	844	4,071
2018	19	61	138	768	4,007
2019	13	17	133	662	4,178
5-Year Total	**76**	**299**	**681**	**4,132**	**20,736**
5-Year Average	**15**	**60**	**136**	**826**	**4,147**

Regional Crash Types

In Fayette County, the most prevalent crash type was roadway departure collisions (29 percent), shown in **Figure 4-16**. These types of collisions occur when a vehicle leaves the traveled roadway and typically results in the vehicle striking an object such as a tree, embankment, guardrail or utility pole. Roadway departure crashes are more common in Fayette County due to the roads being mainly rural, and having more curves, higher speeds, narrower shoulders and travel lanes, and more fixed objects along the roadside.

Figure 4-16: Crash Types in Fayette County (2015-2019)

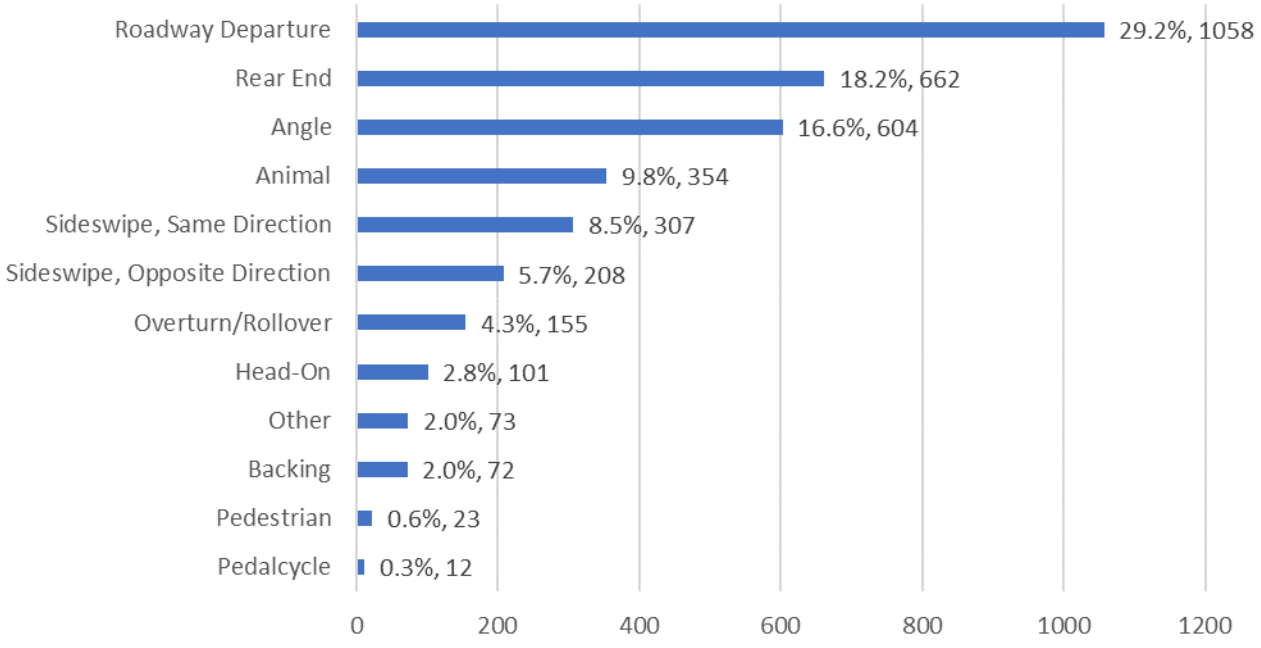


Figure 4-17 summarizes the total crash frequency by crash type in Raleigh County. The three most common crash types in Raleigh County were rear end (31 percent), angle (23 percent) and roadway departure (20 percent) crashes. Angle and rear end collisions were more common in Raleigh County due to the land use being more urban, resulting

in more intersection crashes. 32 percent of collisions occurred at an intersection in Raleigh County while 18 percent occurred at an intersection in Fayette County. Animal collisions were less common in Raleigh County (four percent) than in Fayette County (10 percent).

Figure 4-17: Crash Types in Raleigh County (2015-2019)

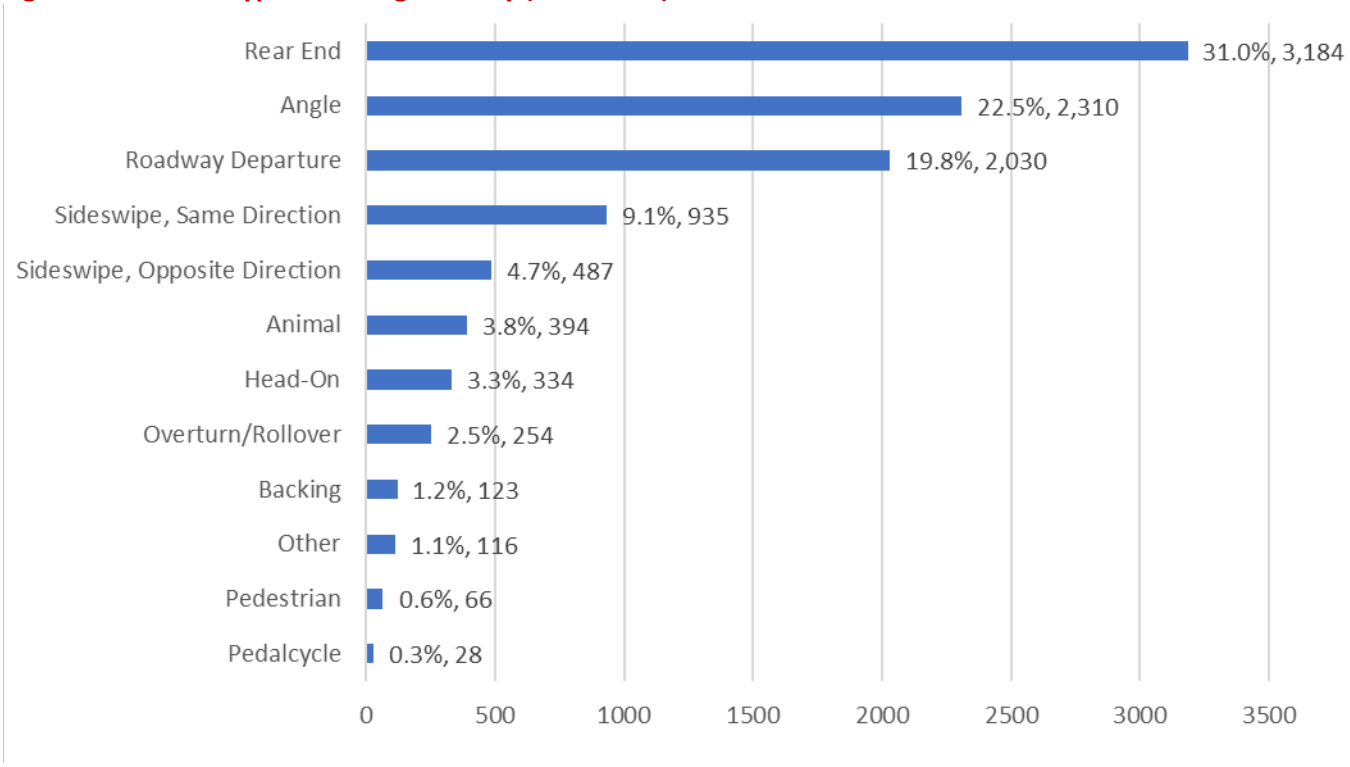


Figure 4-18 illustrates the fatal crash frequency by crash type in Fayette County. Between 2015 and 2019, 32 fatal crashes occurred in Fayette County. The crash type with the highest frequency of fatal crashes was roadway departure (31 percent) and pedestrian (19 percent) collisions.

Figure 4-18: Fatal Crash Types in Fayette County (2015-2019)

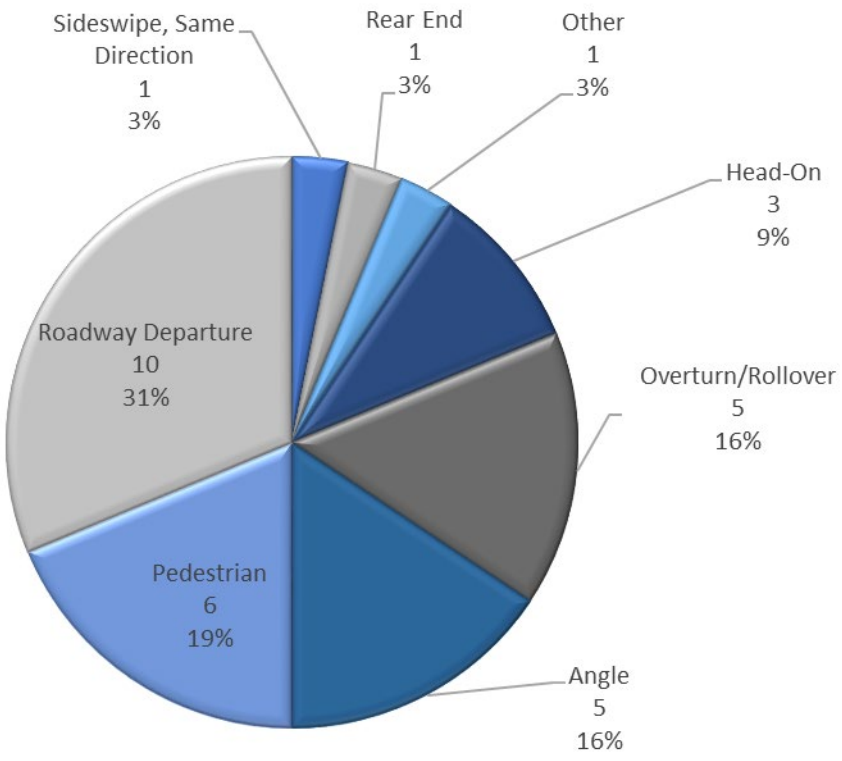
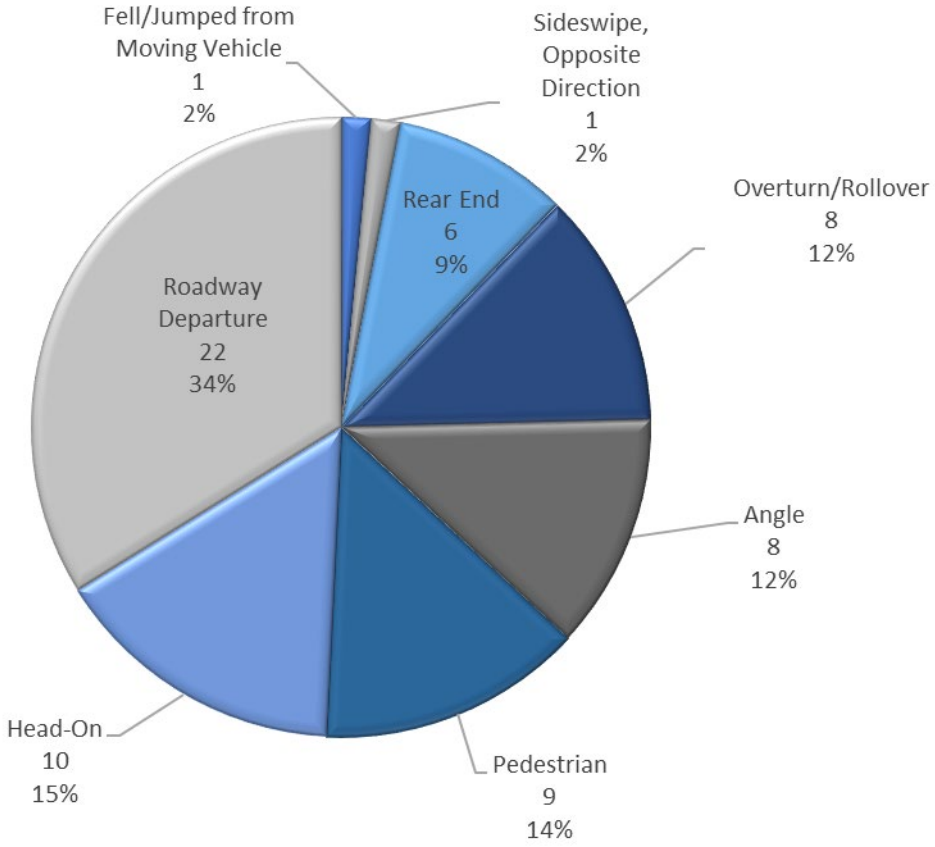


Figure 4-19 illustrates the fatal crash frequency by crash type in Raleigh County. Between 2015 and 2019, 65 fatal crashes occurred in Raleigh County. The crash types with the highest frequency of fatalities were roadway departure (34 percent), head-on (15 percent) and pedestrian (14 percent) collisions. While pedestrian collisions occurred more frequently in Raleigh County, a higher percentage resulted in a fatality in Fayette County. In Raleigh County, pedestrian crashes mostly occurred at intersections in environments where pedestrians are expected to be crossing the roadway. Alternatively, in Fayette County, pedestrian collisions are occurring on higher speed roadways that do not have marked pedestrian crossings.

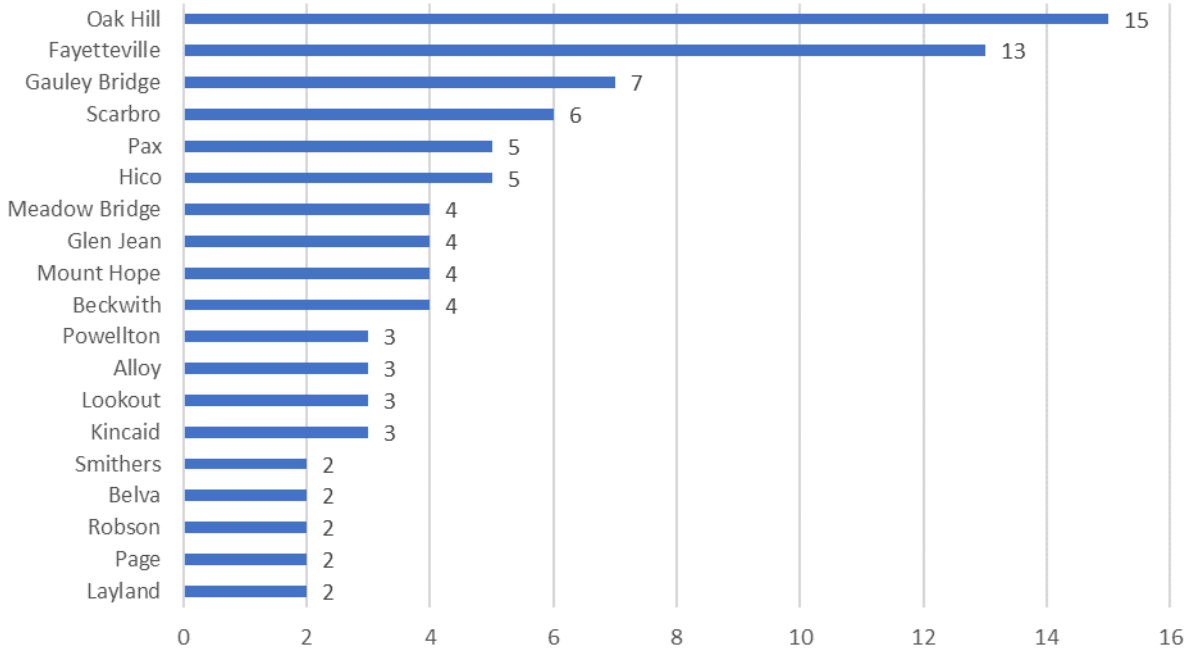
Figure 4-19: Fatal Crash Types in Raleigh County (2015-2019)



Geographic Trends

Figure 4-20 illustrates the crash frequency of fatal and serious injury crashes by municipality in Fayette County. Between 2015 and 2019, 123 fatal and serious injury crashes occurred in Fayette County. More crashes occurred in the more populated areas of the county, like Oak Hill (12 percent) and Fayetteville (11 percent) than in the rural areas.

Figure 4-20: Fatal and Serious Injury Crashes by Municipality in Fayette County (2015-2019)



Between 2015 and 2019, 275 fatal and serious injury crashes occurred in Raleigh County. **Figure 4-21** illustrates the crash frequency of fatal and serious injury crashes by municipality in Raleigh County. A higher percentage occurred in Beckley (30 percent) as a result of the higher volume and population density compared to other municipalities in the county.

Figure 4-21: Fatal and Serious Injury Crashes by Municipality in Raleigh County (2015-2019)

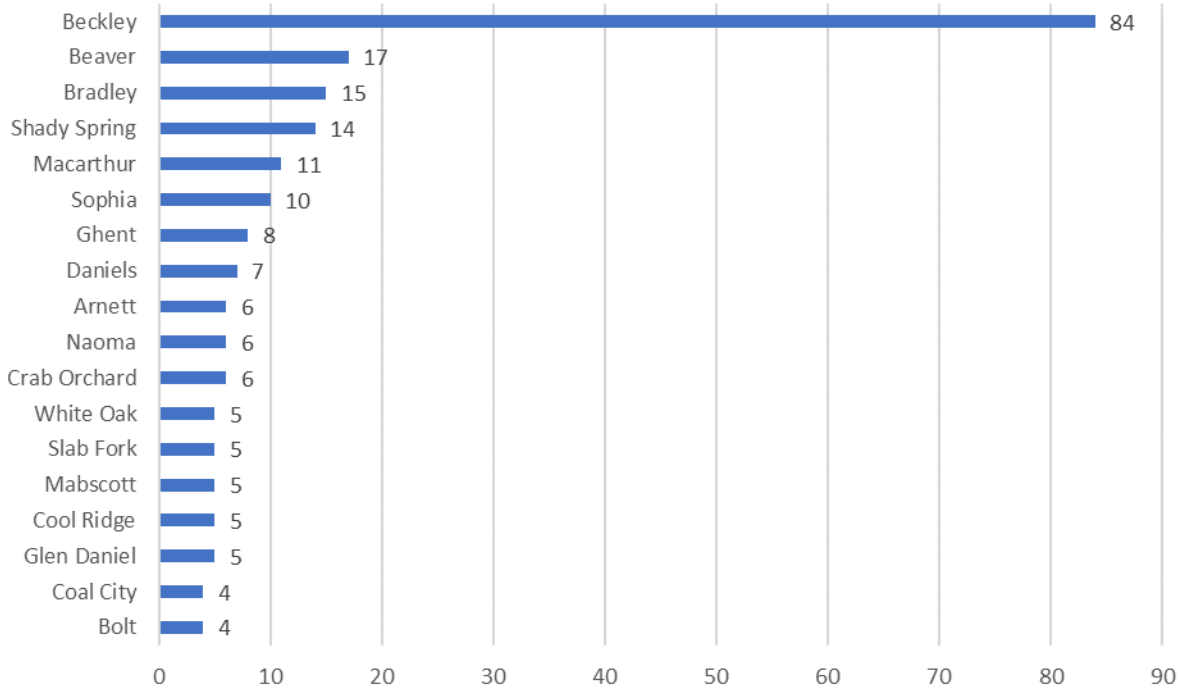


Figure 4-22 summarizes the overall percentage of fatal and serious injury crashes compared to the total number of crashes in each municipality in Fayette County. The rural areas with a lower overall frequency fatal and serious injury crashes had higher percentages of fatal and serious injury crashes. Crashes occurring on these rural roads usually involve roadway departure crashes, including head-on collisions. With little recoverable area and the rolling terrain in the area, these crash types have an increased likelihood of resulting a fatality or serious injury. On more urban roadways, travel speeds are typically lower because of land use and narrower roadway footprints which generally results in less severe crashes.

Figure 4-22: Fatal and Serious Injury Percentage by Municipality in Fayette County (2015-2019)

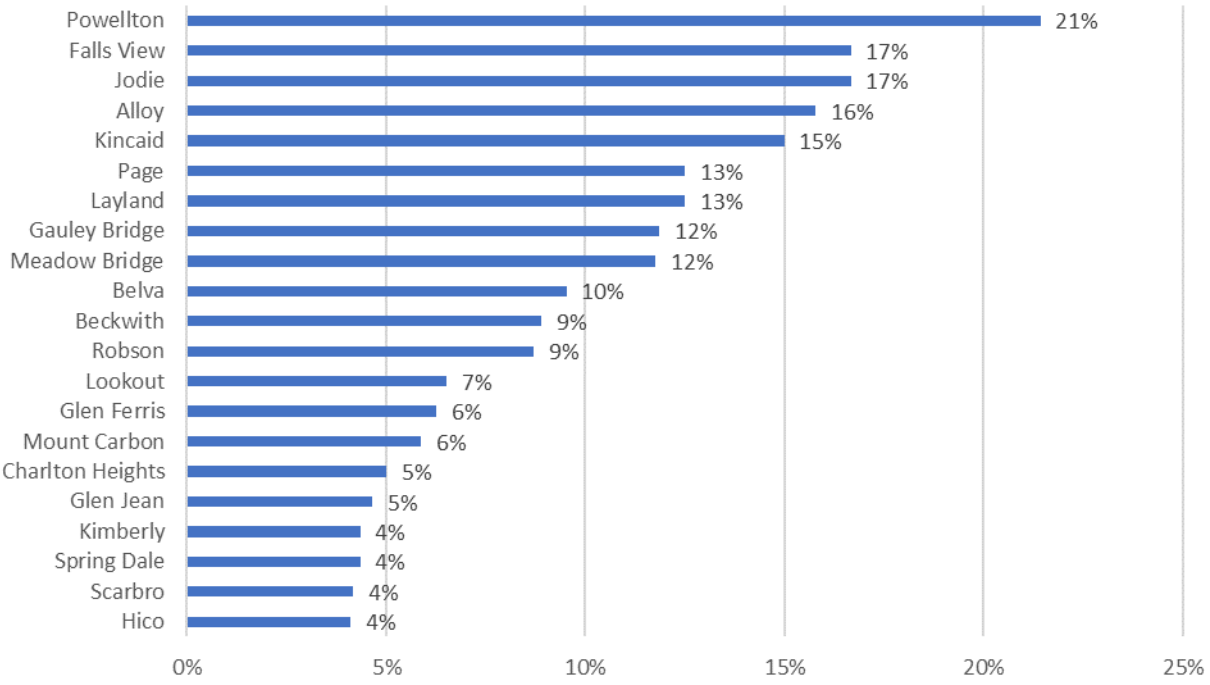
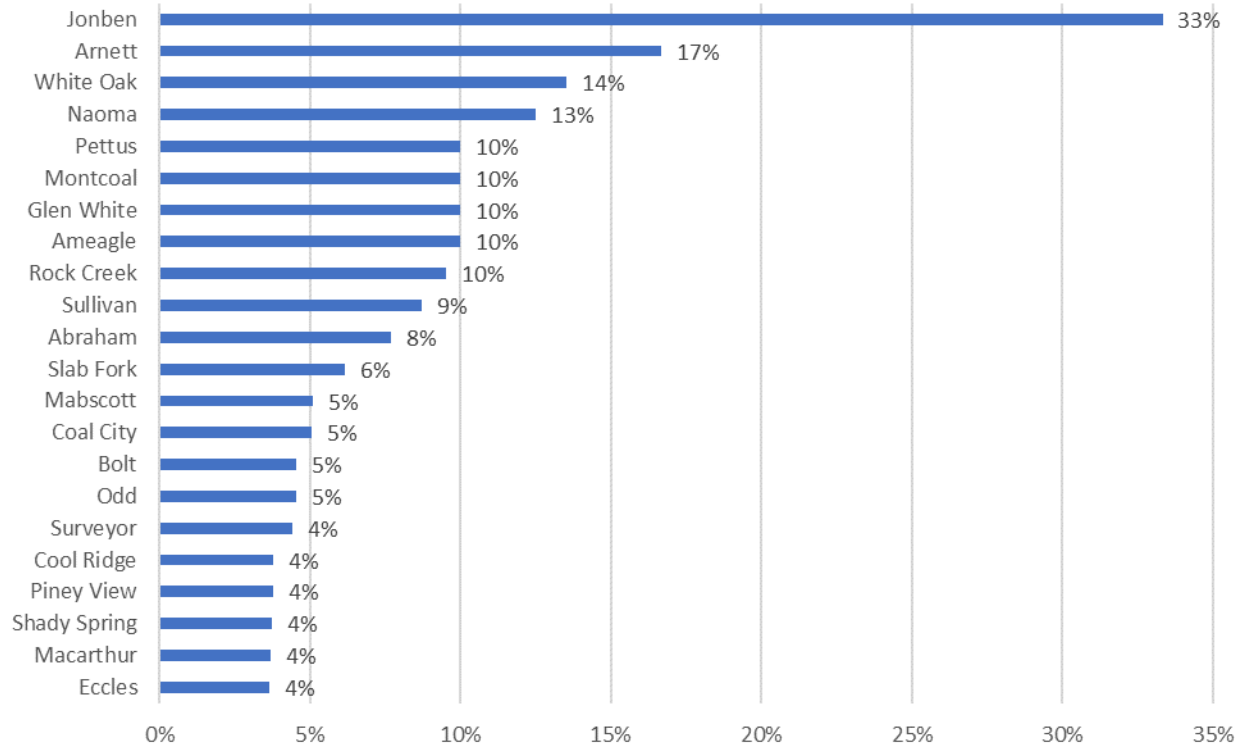


Figure 4-23 summarizes the overall percentage of fatal and serious injury crashes compared to the total number of crashes in each municipality in Raleigh County. Only the municipalities with a percentage of four percent or higher were included in **Figure 4-23**. Beckley had the highest frequency of fatal and serious injury crashes but had an overall small percentage (two percent) compared to the total amount of crashes. Jonben had the highest percentage of fatal and serious injury collisions as only three crashes occurred in the jurisdiction and one resulted in a serious injury collision. Like in Fayette County, the more rural areas had higher fatal and serious injury collisions due to higher speeds and more rolling terrain that occur on the rural roads.

Figure 4-23: Fatal and Serious Injury Percentage by Municipality in Raleigh County (2015-2019)



Contributing Factors

Figure 4-24 summarizes the percentage of fatal and serious injury collisions that involved a driver under the influence of drugs and/or alcohol. Raleigh County has a higher percentage of both fatal and serious injury crashes due to impaired driving than in Fayette County.

Figure 4-24: Impaired Driving County Comparison (2015-2019)

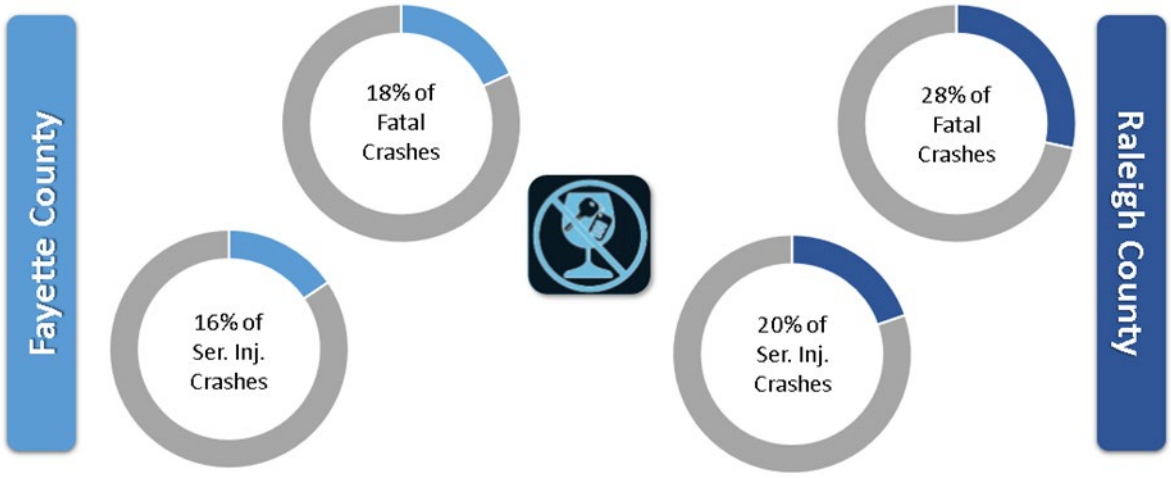
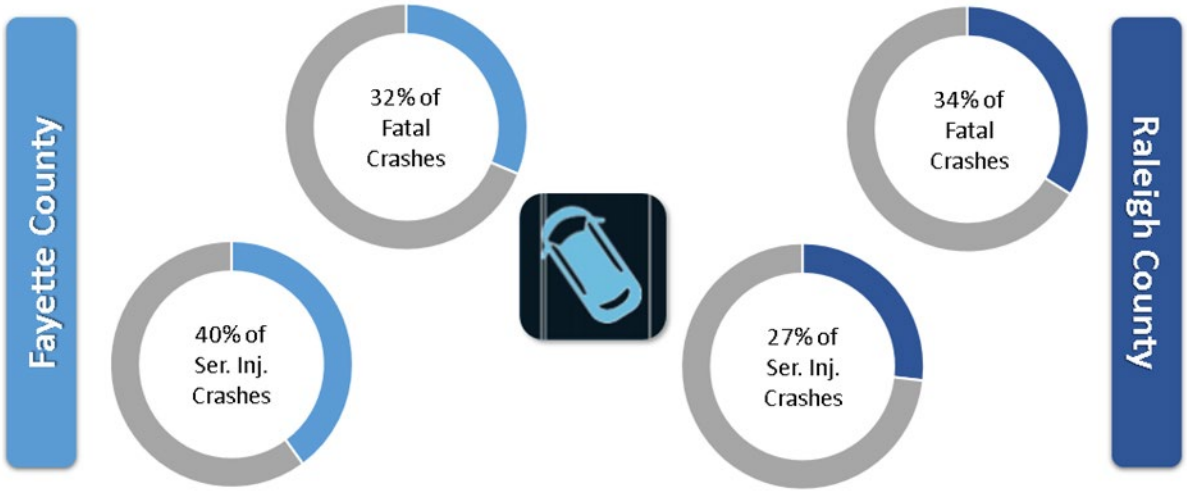


Figure 4-25 illustrates the percentage of roadway departure crashes resulting in fatal and serious injury crashes for

both Raleigh and Fayette County. Raleigh County had a higher percentage of fatal crashes, while Fayette County had a higher percentage of serious injury crashes resulting from a roadway departure.

Figure 4-25: Roadway Departure County Comparison (2015-2019)



Crash Analysis Methodology

Crash data from January 1st, 2015 to December 31st, 2019 was obtained for both Fayette and Raleigh County. The initial step in the prioritization process involved mapping the locations where crashes occurred using ArcGIS (GIS). Fifty-eight percent of crashes in Fayette County and 81 percent of the crashes in Raleigh County and were located using either the milepost, GPS coordinates, or address information. A smaller percentage of crashes were located in Fayette County due to large amount of roadway departure crashes occurring on rural roads with less landmarks present to identify the crash locations. All crashes that were identified as "intersection related" in the crash data were located in both counties when valid location data was available.

After the crashes were located in GIS, "heat maps" were created to determine the crash hot spots in the two counties. A heat map from Fayette County and Raleigh County is shown in **Figure 4-26** and **Figure 4-27**, respectively.

Figure 4-26: Fayette County Heat Map Snapshot (Iteration 1)

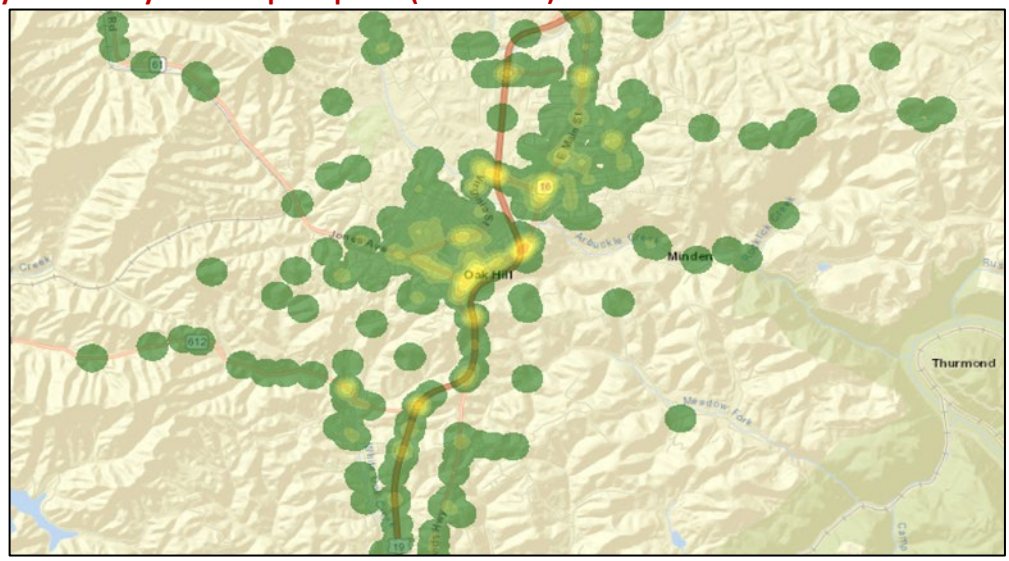
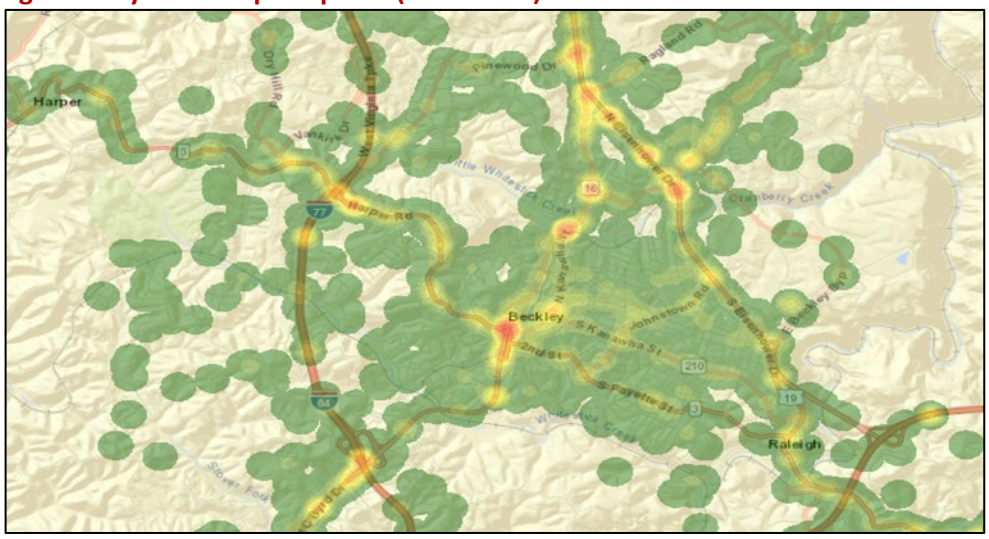


Figure 4-27: Raleigh County Heat Map Snapshot (Iteration 1)



Two iterations of heat maps were created to narrow down the high crash locations. In the first heat map, all crashes were weighted equally to determine the highest crash frequency areas. In the second heat map, crash severity was weighted more heavily to ensure the high severity locations were included in the high-level priority list. The crash severity was weighted from one to five based on the KABCO scale. For example, fatal crashes (K) were given a weight of five while property damage only crashes (O) were given a weight of one. A crash was included in an intersection hot spot if it was located within 250 feet center of an intersection. A limit of five crashes was used for Fayette County and 15 crashes was used for Raleigh County when defining hot spots.

After all the hot spots were identified, the crash data were analyzed and ranked based on the total Equivalent Property Damage Only (EPDO), which is a method that determines the relative severity of crashes by weighting the crash costs. **Table 4-12** shows the weight of each level of injury severity. The relative weighting is based on crash costs developed by West Virginia for economic analysis purposes. The EPDO weight for fatal and serious injury crashes was combined based on the comparative percentage of fatal injury crashes and serious injury crashes in

each county.

Table 4-12: EPDO Factors

	West Virginia Crash Economic Cost	Equivalent EPDO Weight
Fatal Injury Crash (K)	$5,289,928	157.97
Serious Injury (A)	$285,022	
Non-Incapacitating Injury (B)	$104,244	10.68
Possible Injury (C)	$59,248	6.07
Property Damage Only (O)	$9,765	1.00

The hot spot locations were then ranked by each of the values calculated by the formulas shown in **Figure 4-28**. The resulting score was determined by adding together the EPDO (total) rank, EPDO (per crash) rank and the crash frequency rank. The EPDO (total) takes both the crash frequency and the severity of the crashes into account, while EPDO (per crash) looks at the weighted average of each crash.

Figure 4-28: Ranking Scores

Equivalent Property Damage Only (total) *= (EPDO Weight* Fatal Crashes/Serious Injury Crashes) + (EPDO Weight * Non-Incap. Crashes) + (EPDO Weight * Possible Injury Crashes) + (PDO Crashes)*

Equivalent Property Damage Only (per crash) *= ((EPDO Weight * Fatal Crashes/ Serious Injury Crashes) + (EPDO Weight * Non-Incap. Crashes) + (EPDO Weight * Possible Injury Crashes) + (PDO Crashes))/ Crash Frequency*

Crash Frequency *= Total number of crashes occurring along segment or at intersection*

Priority Score *= Crash Frequency Rank + EPDO (total) Rank + EPDO (per crash) Rank*

The locations with the lowest overall score were moved to the top of the list. The final high priority intersection lists for Fayette and Raleigh County are summarized in **Appendix B**.

The top ten high prioritization locations for each county are listed below:

Fayette County

- US 19 and Appalachian Drive/Mall Road
- US 19 and Beckwith Road/N Court Street
- US 19 and Hinkle Road
- US 19 and Maple Lane
- US 19 and Whitewater Avenue/Fayette Town Center
- US 19 and WV 612

- WV 612 and Scarbro Road
- US 19 and Wood Mountain Road
- Deepwater Mountain Road (WV 61) and Armstrong Creek Road
- Midland Trail (US 60) and Michigan Avenue/Virginia Avenue

Raleigh County

- US 19 and Maple Fork Road
- Robert C Byrd (WV 16) and Maxwell Hill Road/Rural Acres Road
- Robert C Byrd (WV 16) and Value City Center/Kanawha Street
- Robert C Byrd (WV 16) and Pinewood Drive/Industrial Drive
- Robert C Byrd (WV 16) and Walmart Drive
- Robert C Byrd (WV 16) and Veterans Drive
- Robert C Byrd (WV 16) and Fearn Street/Clayton Street
- N Eisenhower Drive (US 19) and McCulloch Drive
- Robert C Byrd (WV 16) and Citizens Drive/Beckley Crossing
- N Eisenhower Drive (US 19) and Rural Acres Drive

Safety Countermeasures

In addition to the specific projects identified in **Table 7-1**, this Plan recommends that various safety countermeasures (shown in **Table 4-14**) be incorporated into routine road maintenance projects as they occur throughout the region. The list includes low-cost measures such as *Safety Edge*, which several states have found effective in reducing roadway departure crashes on two-lane roads with unpaved shoulders. With this asphalt paving technique, the road pavement edge is tapered at a 30-degree angle instead of being left as a vertical drop-off. When a driver's wheel drops off the road, the gentler angle helps prevent the driver from losing control as he or she steers back onto the roadway.

Table 4-13: Safety Countermeasures to Incorporate into Routine Roadway Maintenance Projects

Contributing Factor to Crashes	Countermeasures
ROADWAY DEPARTURE	
Involved in **64% of crashes** in Fayette and Raleigh counties (19 points higher than national rate) Contributed to **88 traffic deaths** between 2008-2012	**Rumble strips / rumble stripes** Alerts driver when vehicle departs the travel lane **High-friction pavement surfaces** Increases skid resistance on wet pavement **Guardrail / concrete barrier** Restrains out-of-control vehicles from drop-off or roadside obstacles
VEHICLE ROLLOVER	
Involved in **36% of crashes** in Fayette and Raleigh counties (15 points higher than national rate) Contributed to **46 traffic deaths** between 2008-2012 Ten times more likely to result in fatality	**Safety Edge** $_{SM}$ Increases driver control when recovering from pavement edge drop-off **Seatbelt use** Reduces occupant ejection during crashes **Curve warning signs** Alerts drivers of rollover-prone vehicles to sharp or sudden curves
SPEEDING	
Involved in **25% of crashes** in Fayette and Raleigh counties Contributed to **37 traffic deaths** between 2008-2012	**Speed advisory signs** Alerts drivers to conditions requiring lower speeds **Regulatory signs** Reminds drivers of posted speed for roadway **Traffic calming** Encourages lower speeds on urban low-speed roads

Security

Generally, the role of transportation agencies in security is to provide support to the state, local and/or federal emergency management officials who oversee overall response efforts. Traffic control is often an essential service to emergency agencies when they are managing a crisis.

Transportation agencies may also work in coordination with emergency and homeland security officials to identify transportation infrastructure that is critical or vulnerable and develop plans to reduce the risk that these locations or routes will become impassable. Often the plans or lists generated through this process are not made publicly available so that the area is not advertising its weaknesses to those who might pose a threat.

Fayette and Raleigh counties each have a Local Emergency Planning Committee (LEPC) responsible for designating facilities for emergency use and ensuring preparedness to restore critical infrastructure, as well as a Emergency Management Center which coordinates the response of public and private agencies to incidents, including those that impact the region's transportation system.

Highways

Strategic Highway Network (STRAHNET). The Strategic Highway Network, also known as STRAHNET, is a system of about 61,000 miles of highways which are considered important to the nation's strategic defense. An additional 2,000 miles of STRAHNET major connectors link approximately 200 major military installations and ports. Together, STRAHNET and the connectors define the total minimum public highway network necessary to support military deployment needs. Special considerations for STRAHNET routes include maintenance of bridge capability, pavement conditions, and congestion management.

STRAHNET routes in the MPO region include I-77 and I-64.

Real-time monitoring. The state's Courtesy Patrol (described in more detail under Operations and Systems Management) uses drivers who receive Homeland Security training to monitor roadways, bridges and overlooks as they make their regular rounds on interstates and other major highways. Suspicious activities and potential threats are reported to law enforcement, along with the locations of concern. Patrol drivers also help law enforcement when Amber Alerts are issued by watching area highways for vehicles and persons who are being sought in connection with the alert.

Transit

The Raleigh County Community Action Association provides various public transportation services throughout Raleigh County and has automatic vehicle location technology on its fleet. This allows a central dispatcher to monitor in real time where its drivers are located. Two-way communications also allow transit drivers to inform dispatchers if they encounter a threatening situation either on the road or if an issue occurs on the vehicle.

TRANSIT

Framework for Services

The designation of Fayette and Raleigh counties as a Metropolitan Planning Organization led to several changes in the way transit services are funded and administered in the region. In March 2014, several local governments jointly formed the **New River Transit Authority (NRTA)**, a two-county body responsible for directing the operations and finances of the region's public transit services.

Prior to the creation of the new authority, there was no public transit agency in Raleigh County, although the Raleigh County Community Action Association (RCCAA) operated public transit for many years. Local governments in Fayette County were members of the Mountain Transit Authority (MTA), whose service area also includes Nicholas, Webster, and Greenbrier counties. (**Figure 4-29**)

Figure 4-29: Regional Public Transit Authorities in Southern West Virginia

When Fayette County's transit classification changed from rural to urban as a result of the MPO designation, Fayette and Raleigh counties established joint urban transit operations, since the rest of MTA's service area remains rural.

The New River Transit Authority's operating funds are primarily federal and are received through the MPO. The transit authority is responsible for coordinating with the MPO Policy Board to identify transit needs for the area and assist in developing the multi-modal Regional Transportation Plan.

All federally funded transit projects and programs must be included in the MPO's Plan and its short-term Transportation Improvement Program.

Existing Service in Raleigh County

Raleigh County has transportation service provided by six agencies in the health/human services sector, and by five small operators of private taxicabs, limousines or ambulance service (**Table 4-15** and **Table 4-16)**. Additionally, Raleigh County has intercity connectivity provided by the Greyhound Station in downtown Beckley.

Table 4-14: Human Services Agencies that Provide Transportation in Raleigh County

Agency	Type of Services
Burlington United Methodist Family Services	Treatment facility for troubled teens
FRMS Health Systems	Psychiatric and primary care for persons with mental health and/or substance abuse issues
Mountain State Centers for Independent Living	Education/employment for persons with disabilities
Raleigh County Commission on Aging	Services to senior citizens
Raleigh County Community Action Association	Contracts with NRTA to provide public transportation services in Fayette and Raleigh County. Also provides limited contract transportation services in Raleigh County for local organization. Offers a range of other services for low-income persons, including housing/shelter, food and clothing, employment services, disability services, Head Start and medical services
Women's Resource Center	Domestic violence shelter

Table 4-15: Private Taxicab/Ambulance Operators

Ambassador Limousine and Taxi Service
Best Transports Ambulance
Jan-Care Ambulance Service
New River Taxi
General Ambulance

Except for the RCCCA, each of the human services agencies' services are currently limited to a particular group of clients. FRMS Health Systems, Inc. provides transportation to its mental health/substance abuse program participants; Mountain State Centers for Independent Living provides transportation to education and employment sites for individuals with disabilities; and the Raleigh County Commission on Aging provides transportation for senior citizens, primarily to nutrition sites. RCCAA provides program-specific transportation for Head Start. All other RCCAA transportation services are open to the general public.

Deviated Fixed-Route Services

The NRTA provides deviated fixed route service in the Cities of Beckley, Prosperity, Piney View, Stanaford, Bradley, Mount Hope, Oak Hill, Sophia, Beaver, MacArthur, and Fayetteville five days per week. All routes will deviate up to three-quarters of a mile off route upon request to pick up and drop off passengers. Routes use a mix of scheduled stops as well as "flag" stops. These routes are shown in **Figure 4-30**.

Red Route/Route 1

The Red Route serves the western portion of the City of Beckley, providing service between the Beckley Intermodal Gateway (BIG) transfer location and the Carl Larson Cancer Center via Harper Road. The route provides riders with access to a variety of services, including the Kroger shopping center and the Raleigh General Hospital. The Red Route operates from 7:30 am to 7:30 pm.

Green Route/Route 2

The Green Route connects the towns of Beaver in the east and Sophia in the south with the BIG in Beckley. The route provides riders with access to the Beckley VA Medical Center, Lester Square Shopping Center, and a Kroger shopping center, as well as other retail and office services. The Green Route operates from 8:00 am to 6:45 pm.

Purple Route/Route 3

The Purple Route serves the northern portion of Beckley, providing service between the BIG and Crossroads Mall via Eisenhower Drive and Robert C Byrd Drive. The route provides riders with access to FMRS Health Services, Beckley Appalachian Regional Health Center, and Raleigh Mall, as well as other services. The Purple Route operates from 7:00 am to approximately 5:45 pm.

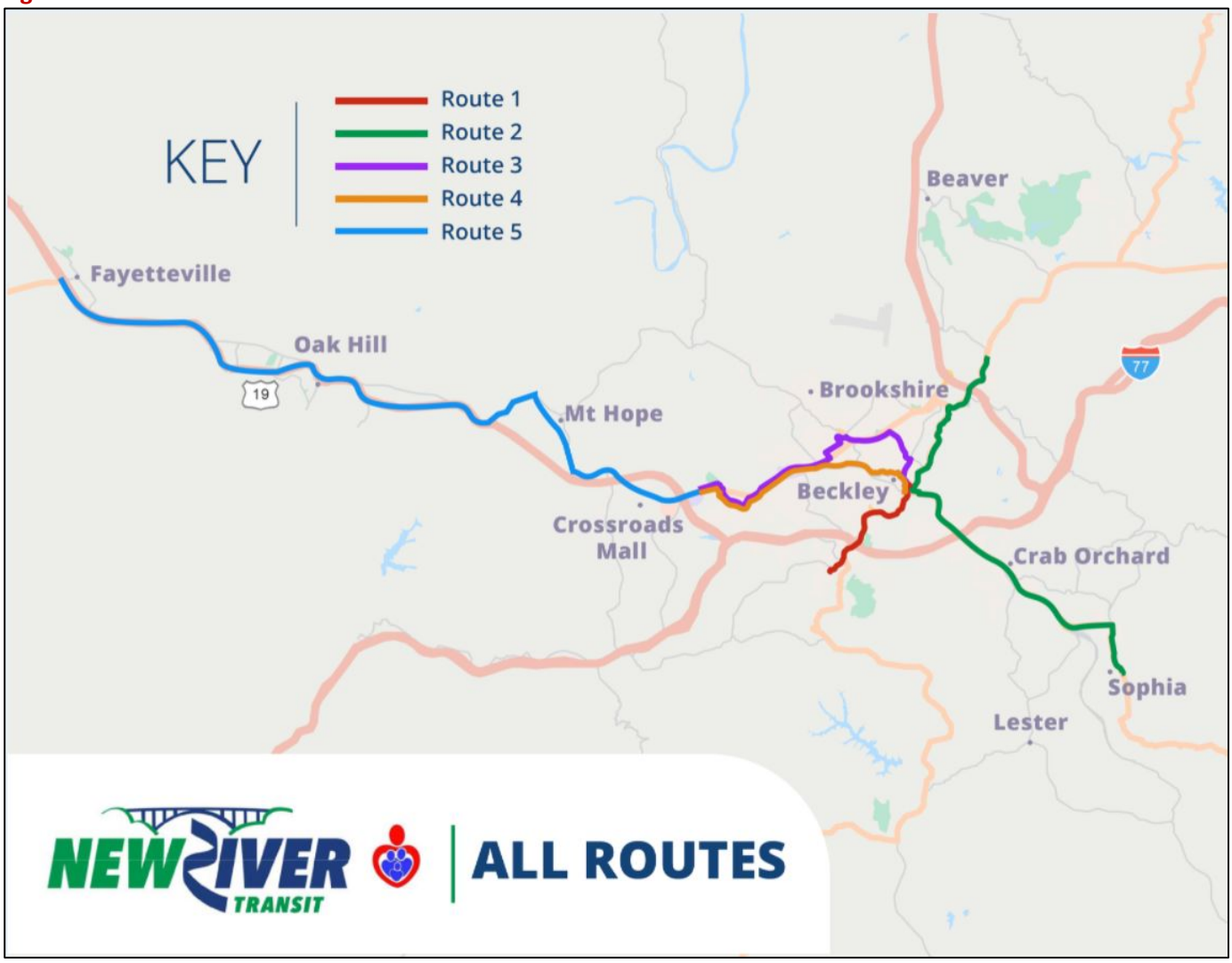
Gold Route/Route 4

The Gold Route serves the northern portion of Beckley via Robert C Byrd Drive, connecting the BIG with Crossroads Mall. The route provides riders with access to WVU Tech, Helmic Medical Park, and Beckley Plaza Shopping Center. The Gold Route operates from 7:25 am to 6:30 pm.

Blue Route/Route 5

The Blue Route connects Fayetteville with Beckley at the BIG via US-19. The provides riders with access to Mt. Hope Public Library, Plateau Medical Center, Oak Hill Senior Center, and the Fayetteville Welcome Center, as well as other retail and business services. The Blue Route operates from 6:45 am to 5:15 pm.

Figure 4-30: NRTA Bus Routes



Demand Response

NRTA operates a dial-a-ride program that provides curb-to-curb service that is open to the general public. Service is available Monday through Friday between 8:00 am and 4:00 pm and reservations must be made 24 hours in advance. Fare costs $3.50 per boarding demand response, $2.50 for bus pass holders.

Greyhound Service

The Greyhound Station in downtown Beckley, located at BIG provides intercity transit service seven days a week. Passengers can purchase tickets at the ticket window between the hours of 7:00 a.m. and 11:00 a.m. As of 2021, one of the routes is northbound, terminating in Detroit, MI, and the other route is southbound, terminating in Columbia, South Carolina. Riders can transfer to other routes at larger stops along the alignment.

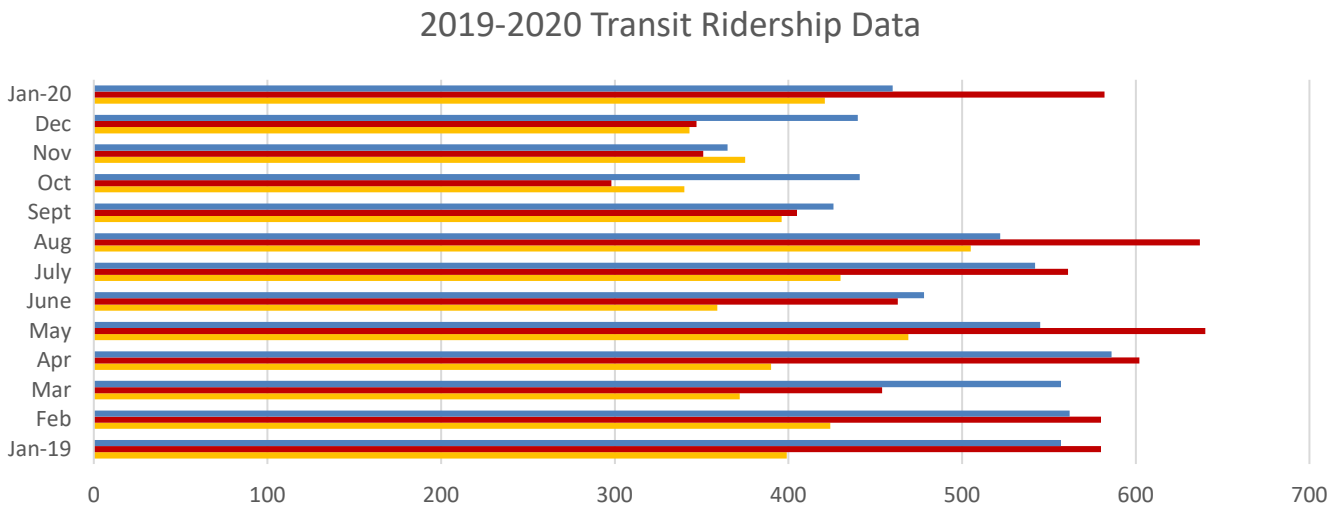
Fares

All public bus routes cost $2.50 for an unlimited day pass (transit only, excludes deviations), $1.50 per boarding transit routes only, with deviations costing an addition $2.00. A monthly pass costs $40 excluding deviations, or $60 including deviations. Children under 12 with an adult ride free.

Ridership

The NRT carried over 18,000 passengers on the Gold, Red, and Blue routes in 2019. Monthly ridership trends by route (**Figure 4-31**) show that the monthly ridership was at least 300 persons for each route, with the Red and Blue routes averaging 500 persons. Ridership data from April 2021 to July 2021 including the Purple and Green routes is presented in **Figure 4-32**.

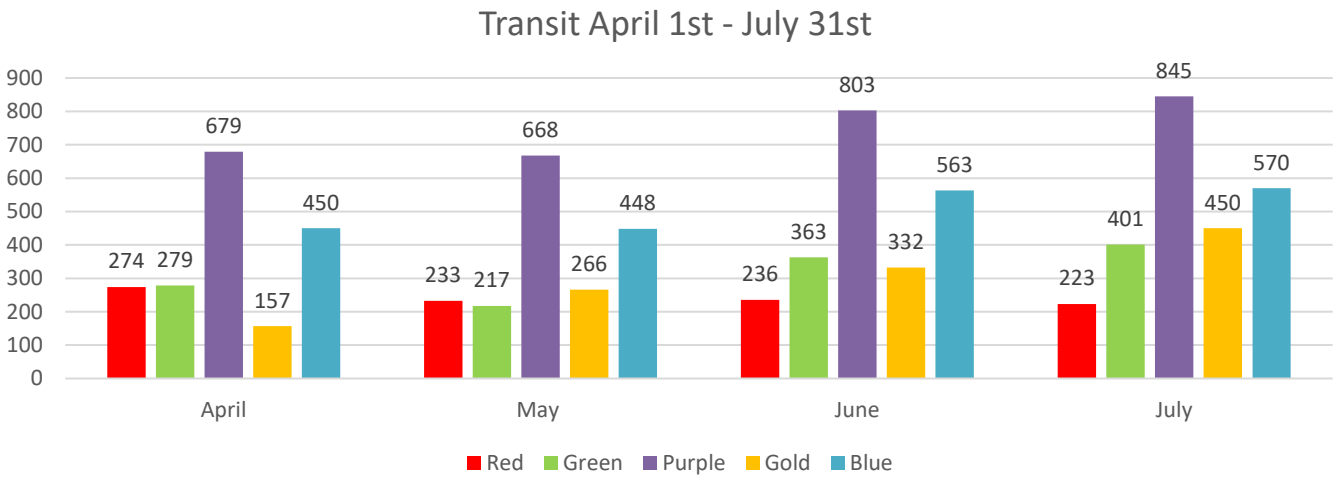
Figure 4-31: 2019 NRTA Monthly Ridership



	Jan-19	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan-20
Blue	557	562	557	586	545	478	542	522	426	441	365	440	460
Red	580	580	454	602	640	463	561	637	405	298	351	347	582
Gold	399	424	372	390	469	359	430	505	396	340	375	343	421

Source: NRTA

Figure 4-32: 2021 NRTA Monthly Ridership



Source: NRTA

Senior and Disabled Persons Transportation

RCCAA has used FTA 5307 funds to provide extended hours and on-demand service. It should be noted that the Raleigh County Commission on Aging also provides transportation for senior citizens, so the demand for RCCAA's service is likely for locations and/or times that the Commission on Aging does not serve.

Contract Service

RCCAA is available to provide special transportation on a contract basis, apart from its regular services, when drivers and vehicles are available.

Capital Facilities and Equipment

Table 4-17 shows the vehicles currently owned by RCCAA and NRTA for use in public transportation services. Multiple vehicles are beyond their useful life and need replacement soon. Federal matching ratios are favorable for such capital expenditures. Transit operating funds require a one-to-one match (50/50) and capital purchases are eligible for an 80/20 match.

Table 4-16: NRTA Vehicle Fleet

Vehicle Name	Make	Model	Year
Bus 98	Ford	E-450	2009
Bus 339	Ford	E-350	2009
Bus 100	Ford	E-350	2011
Bus 92	Ford	E-450	2015
Bus 93	Ford	E-450	2015
NRT #1	Goshen Ford	E-450	2016
NRT #2	Goshen Ford	E-450	2016
Van 54	Dodge	Grand Caravan	2016
Van 55	Dodge	Grand Caravan	2016
NRT #3	World Trans Ford	E-350	2017
NRT #4	World Trans Ford	E-350	2017
Bus 82	Ford	E-450	2017
Bus 84	Ford	E-450	2017
NRT #5	Champion Bus Inc, Ford	E-450	2019
NRT #6	Champion Bus Inc, Ford	E-450	2019
Van 78	Dodge	Grand Caravan	2019
Bus 24	Ford	E-350	2019

Source: NRTA

All vehicles are housed at the Beckley Intermodal Gateway parking garage and are maintained at qualified local automotive repair shops.

Funding

NRTA contracts the service operation to RCCAA. RCCAA has been able to leverage resources from the wide range of other social services programs that it operates. This arrangement is an excellent example of the funding coordination that federal agencies have been encouraging through the "United We Ride" initiative over the past decade. The U.S. Departments of Transportation (DOT), Housing & Urban Development (HUD), Health and Human Services (HHS), and Veterans Administration (VA) have urged their state and local-level grantees to work cooperatively so federal dollars are not spent on duplicative transportation services. As an example, multiple agencies that need to provide transportation for their clients could pool the federal funds used for that purpose and provide a more centralized, cost-effective service.

As traditional public funding sources are reduced and modified, alternative funding strategies are becoming increasingly vital to the operation of transit services. The FTA has a variety of programs used to fund public transportation. In December 2015 the FAST Act was signed into law. The Act supports transit funding through 2020, reauthorizes FTA programs, and includes changes/improvements for mobility, capital projects, and safety. The Act includes a predictable five-year formula funding program so agencies can better manage long-term assets and address state of good repair issues. The Act also includes a competitive grant program which includes grants for buses and facilities, innovative transportation coordination, workforce training, and public transportation research.

RCCAA is Raleigh County's designated agency for receipt of Community Service Block Grant (CSBG) funds through HHS and the West Virginia Department of Economic Opportunity. As part of their funded partnership, RCCAA provides a portion of those federal CSBG funds to NRTA each month.

About one-quarter of the funding for public transportation in Raleigh County currently comes from farebox revenue, contract service such as the YMCA summer programs, and support from local governments. In recent years, the City of Beckley has provided $35,000 and Raleigh County has provided $30,000 annually to NRTA to support the public transit services.

Existing Service in Fayette County

Public transportation services in Fayette County are very limited in comparison with those available in Raleigh County. This partly reflects the more rural nature of the county. As noted earlier, the only areas designated as urbanized by the U.S. Census Bureau are Mount Hope, Oak Hill and Fayetteville along the US 19 corridor. Fixed route service is financially difficult to operate in areas where the population density is less than four homes per acre, which describes most of the county.

Fayette County does have service provided by seven agencies in the health/human services sector, and by six small operators of private taxicabs, limousines or ambulance service as shown in **Table 4-18** and **Table 4-19**.

Table 4-17: Human Services Agencies that Provide Transportation

Agency	Type of Services
Mountain Transit Authority	Regional public transit authority serving Fayette, Nicholas, Webster, and Greenbrier counties
New River Health Associates	Medical services
Southern Appalachian Labor School (SALS)	Wide range of social service programs, including afterschool and summer school programs where transportation is a significant challenge
Energy Express	Youth summer camp provided through the WVU Extension Service
Fayette County Senior Programs	Services for senior citizens, including transportation to non-emergency medical appointments and nutrition sites
Fayette County Child Development	Operates the Head Start program
Metropolitan Community Development Corporation	Transportation to non-emergency medical appointments, with priority given to seniors and disabled persons

Table 4-18: Private Taxicab/Ambulance Operators

City Cab Company
General Ambulance
Jan-Care Ambulance Service
Medical Runners
MTS Medical Transportation Services
Multi-County Transportation Services
Ready Transportation Services

Deviated Fixed-Route Service

New River Transit operates the Blue Route, a deviated fixed route which serves the US-19 corridor between the Town of Fayetteville and the Fayette/Raleigh county line, turning around at Crossroads Mall. Service is provided Monday through Friday from 6:45 am to 5:15 pm. The route is convenient to several of the area's apartment complexes and is important in providing service to the Mount Hope Housing Authority's properties.

Transit Needs and Issues

FRMPO conducted a transit focus group with representatives from NRTA and the WVDOT Division of Public Transit

in February 2021 to discuss the major developments, opportunities, and transit needs within the FRMPO planning area. The input obtained through this focus group discussion was supplemented by a questionnaire and a stakeholder's workshop that were conducted as part of a 2013 study sponsored by WVDOT and the MPO. Key transit needs identified for the region include:

Local Income Stream. A need for a steady, dependable local income stream to support public transit in the region was identified as the most important issue by the transit focus group. Transit in the MPO area can be challenging for several reasons - much of the area is rural, transit was just recently re-introduced to the region, and funding effective rural transit service can be burdensome. A reliable local long-term funding source will allow NRTA to provide the matching funds necessary to secure more federal and state dollars to support transit in the region.

Service for the "average working person." Several grant programs are currently targeted to provide transit to groups who are typically considered to be in greatest need. This includes seniors and disabled persons, as well as people who are clients of Headstart, Temporary Assistance to Families in Need (TANF), and other human services programs. The group who may be underserved are those who are currently employed and licensed to drive, but for various reasons are not able to drive a personal vehicle for their transportation needs. This could be a household that has multiple workers but only one car. It could also be a single person who is employed full-time whose paycheck is already stretched to cover the costs of housing, food, medical needs and perhaps enrollment in continuing education.

Enhanced marketing efforts. Regular outreach and distribution of informational materials is vital to ensure citizens (and major employers) are aware of the service and how to use it. Public websites are a valuable communications method, but the public needs to receive information in more than one format. The transit study recommended that the MPO's staff and TAC members assist with regular distribution and placement of hard copy transit marketing materials in public offices, community centers, stores and other heavily visited sites.

Increased partnerships between public transit and human services agencies. The study recommended holding a regional-level meeting similar to the state's Transportation Coordinating Council, which convenes public and non-profit organization who receive federal funds used for providing transportation. Instead of each organization spending its funds to provide a separate transportation service, some funds could be pooled to create a cost-efficient program that serves all. Either the MPO or New River Transit Authority, or both, could host this meeting.

Increased partnerships with the region's employers. Economic success means a workforce that has reliable transportation. The NRTA needs the support of the business community to help meet the increasing demand for transit services. This does not necessarily mean that employers will be asked to make direct financial contributions to public transit operations, although there are communities in which that occurs. There are other key roles employers can play. For example, they can distribute information about existing public transit services to their workers; encourage and facilitate the formation of carpools or vanpools; and explore the potential for payroll tax deduction by providing commute benefits to employees.

Visitor-oriented transit service. A growing number of businesses recognize the potential benefits of transit for

regional visitors, especially in Fayette County. Groups traveling to the national park or the new Boy Scout reserve could be transported in fewer vehicles than if they drove individually, lessening the burden on constrained roads and helping to protect the region's natural resources. Depending on the nature and frequency of demand, it might be possible for some of the services to be provided on a contract basis by existing transit operators such as NRTA.

BICYCLE AND PEDESTRIAN SYSTEM

The past few years have seen growing interest nationally in "Complete Streets," the philosophy that a transportation corridor should provide safe travel for non-motorized users as well as vehicles, motorcycles and trucks. In many cases the facilities may physically share a route, while in some circumstances the non-motorized users may be better accommodated through a parallel facility. By making it safer and more convenient to walk and bicycle, the region can expand the transportation choices available to citizens and visitors while also promoting improved health.

Existing Bicycle/Pedestrian Facilities

Considerable progress has been made on plans for a regional network that combines on-road and off-road facilities to link various communities and public lands in Fayette, Raleigh, and adjoining counties. These initiatives are driven partly by the region's economic strategy, which centers on its popularity for outdoor recreation. In fact, most of the local governments in the two-county area support specific trails in their adopted comprehensive plans that would link their communities into the larger network.

Figure 4-33 and **Figure 4-34** show existing trails in Raleigh and Fayette counties. **Table 4-25** and **Table 4-26** correspond to each map, listing the trails represented on each map and the area in which they are located. A large percentage of the region's trail mileage lies within publicly owned lands, including the New River Gorge National Park and Preserve, Little Beaver State Park, Babcock State Park, and Hawks Nest State Park.

Figure 4-35 shows the concept outlined in the *New River Gorge General Management Plan* (GMP) for the linkages among the region's public lands and its neighboring communities. These links would primarily consist of off-road facilities but could also include some on-road segments in certain communities.

Trail partner organizations in the MPO region include:

- New River Gorge National Park and Preserve
- Gauley River National Recreational Area
- Little Beaver State Park
- Raleigh County Memorial Airport
- Raleigh County Cycle Club
- Babcock State Park
- Fayette and Raleigh counties
- White Oak Rail-Trail Commission
- Fayette County Green Advisory Team
- Fayette County Improvement Board
- Ansted Improvement Motivators
- Piney Creek Watershed Association
- Cities of Ansted, Beckley, Mount Hope, Oak Hill and Fayetteville

The Boy Scouts of America has also been a major partner and has provided critical volunteer labor to begin construction of some of the proposed trails.

Figure 4-33: Existing Trails in Raleigh County

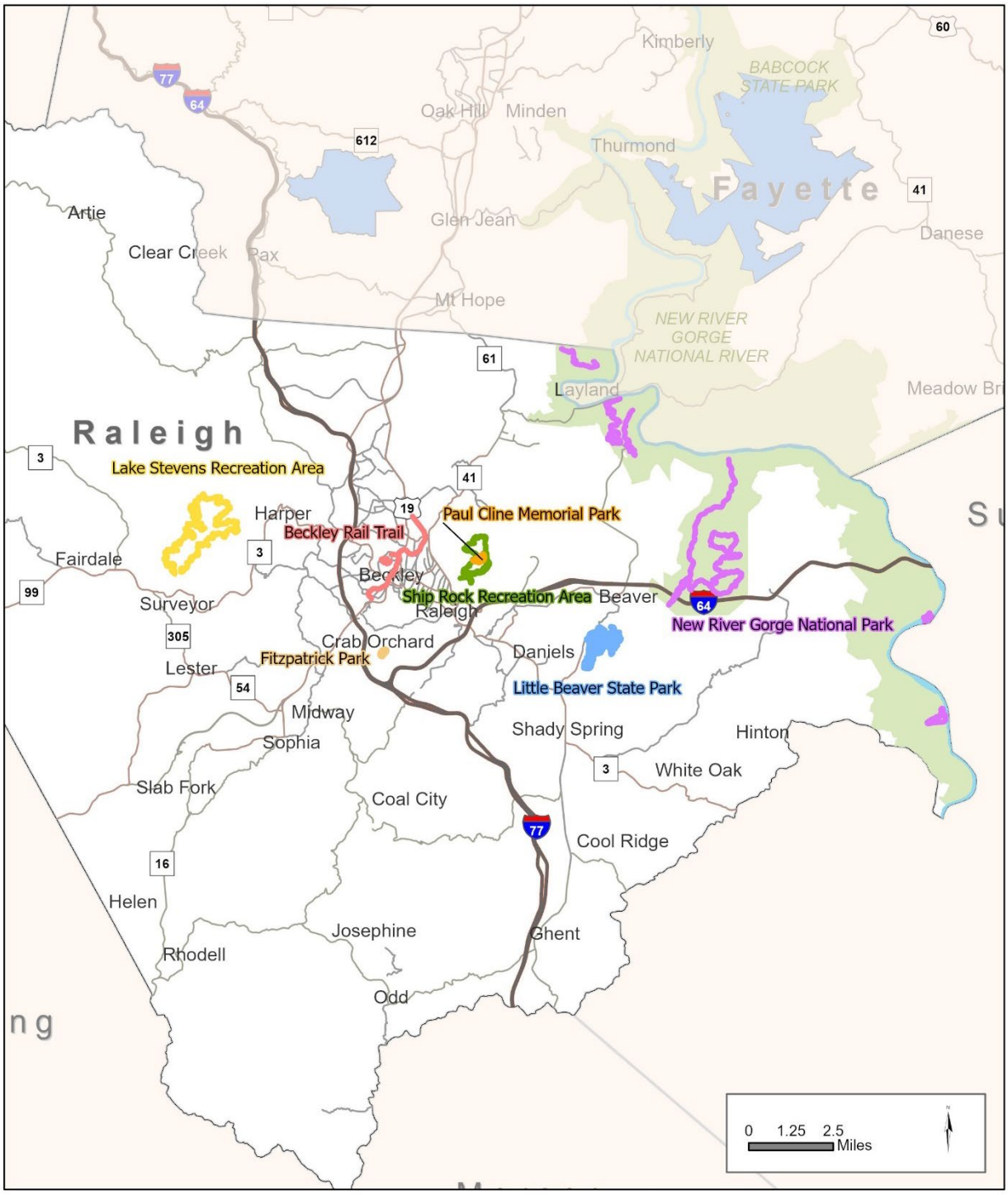


Figure 4-34: Existing Trails in Fayette County

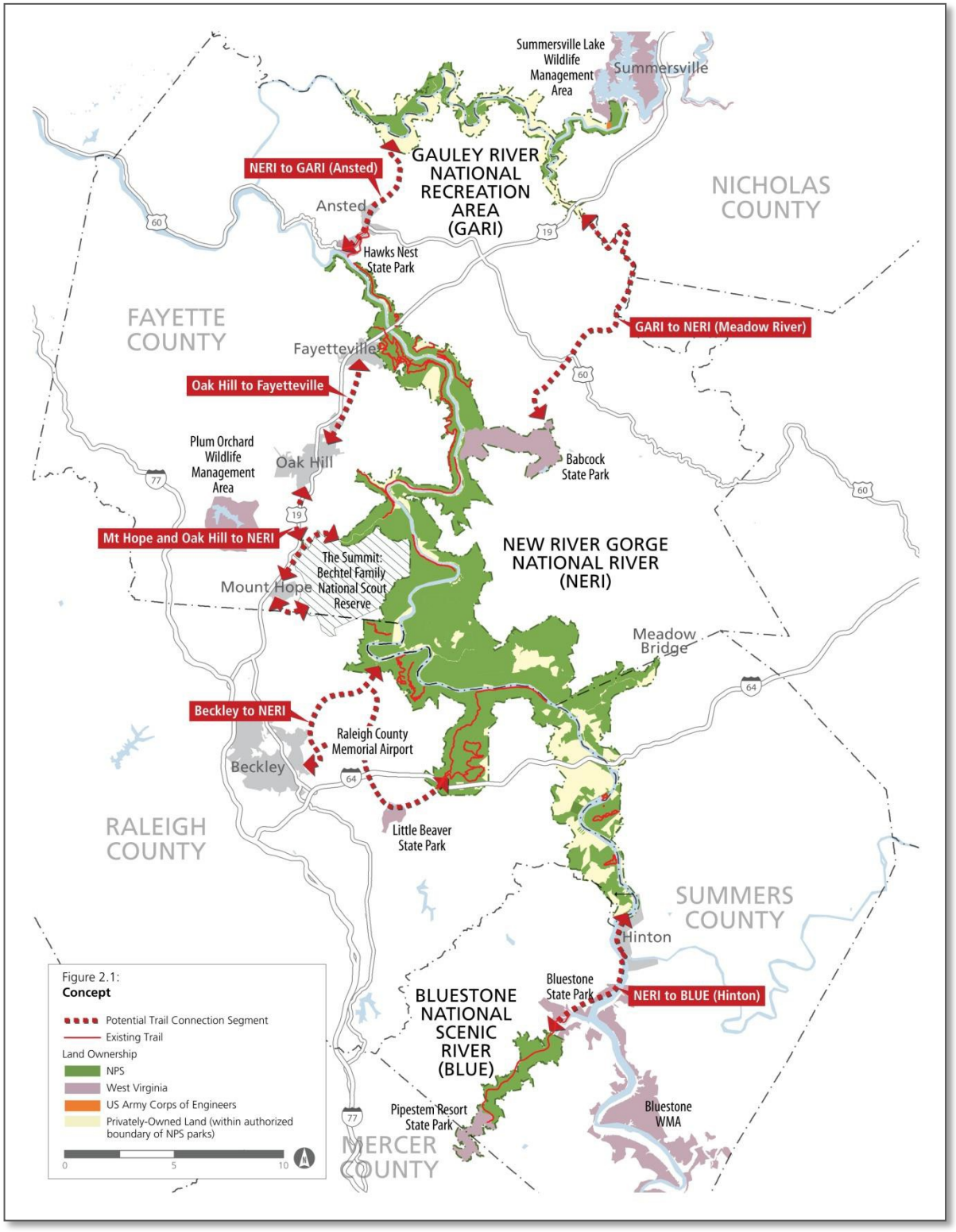
Table 4-19: Existing Trails in Raleigh County

Trail Network	Miles
Beckley Rail Trail	5.0
New River Gorge National Park	26.3
Lake Stephens Recreation Area	15.4
Fitzpatrick Park	0.8
Paul Cline Memorial Park	1.0
Ship Rock Trails	7.8
Little Beaver State Park	19.4
Grand Total	**75.7**

Table 4-20: Existing Trails in Fayette County

Trail Network	Miles
New River Gorge National Park	77.6
Babcock State Park	17.2
Fayette County Nature Trail	0.6
Fayetteville Recreation Trail	2.7
Fayetteville Town Park	1.3
Harlem Heights Loop Trail	0.2
Hawk's Nest State Park	8.2
Mill Creek	2.6
Needlesye Loop Trail	1.2
WV Tech Mountain Trail	1.3
White Oak Rail Trail	5.3
Wild Rock	2.9
Grand Total	**121.3**

Figure 4-35: New River Gorge GMP Concept for Linking Communities to Public Lands



Bicycle Designations and Laws

Share the Road

The MPO area has several roads with no marked or separate on-road bicycle facilities, but motorists are reminded, with signage, that bicycles may be present and can legally use the roadway.

In Fayette County, "Share the Road" signs are posted in these areas:

- US-19 north of Fayetteville, near WV 5 where there are several outdoor recreation-oriented businesses;
- WV 41 along the Fayette/Greenbrier county line and at the route's junction with US 60 (Midland Trail National Scenic Byway); and
- WV 8 through the Town of Fayetteville.

Areas in Raleigh County where "Share the Road" signs are posted include:

- WV 9 (Grandview Road) near the edge of the New River Gorge National Park and Preserve lands;
- Airport Road;
- WV 307 (Scott Ridge Road) in the area of Grandview Country Club;
- WV 210 (S. Kanawha Street) through downtown Beckley; and
- Maxwell Hill Road, Pinewood Drive and Pikeview Drive.

The 3-foot Law

In 2014 West Virginia became one of 22 states that have put the "3-foot law" into effect, requiring drivers to maintain a minimum distance of three feet from cyclists when passing them on the road:

" The driver of a vehicle overtaking a bicycle traveling in the same direction shall pass to the left of the bicycle at a distance of not less than three feet at a careful and reduced speed, and may not again drive to the right side of the roadway until safely clear of the overtaken bicycle."

(West Virginia Code §17C-7-3)

State law also requires on-road cyclists who are not riding at the normal traffic speed to ride as far to the righthand curb or road edge as practicable. Exceptions include when passing another bicycle; when it is necessary to avoid striking an object, including roadway debris not swept off the shoulder; and when riding in a "substandard-width lane," defined as a lane that is too narrow for a bicyclist and motor vehicle to ride safely side-by-side. Unfortunately, in many parts of Fayette and Raleigh counties, substandard-width lanes are common.

The challenges facing the MPO region for on-road bicycle use is that a large proportion of roads do not have standard shoulder width (10 to 12 feet), or even the 4-foot minimum shoulder needed for motorists to be able to pass a cyclist and comply with the new 3-foot law. Opportunities for a motorist to pass by using the oncoming traffic lane are limited on many roads because of curves and grades that obstruct sight distance ahead. As a result, only experienced

cyclists are likely to feel comfortable riding in the travel lane, especially on more rural roads.

For these reasons, it is important for the MPO to incorporate new bicycle and pedestrian facilities as part of future projects to build new or widened roads. This has been a requirement for many years for roadway improvements which utilize federal funds.

The East Beckley Bypass is an excellent example of how a region can gradually expand its overall bicycle and pedestrian network by following a Complete Streets policy.

As development occurs along the route, it will be important to consider how to maintain a safe environment for pedestrians and cyclists.

The design for the East Beckley Bypass included sidewalks and paved shoulders which now become part of the regional bicycle and pedestrian network.

One example is to manage new access by keeping driveways and intersecting roads to a minimum. As discussed earlier, good access management improves safety and helps preserve efficient traffic flow. This is true not only for motorized traffic, but also for pedestrians and cyclists. Every location where a vehicle is turning onto and off the highway is a location where a pedestrian or cyclist is at risk of being struck. The safest design is to allow turns only at signalized or marked intersections, where motorists, pedestrians and cyclists have crosswalks and walk signals that clearly indicate who has right of way.

Local Bicycle/Pedestrian Facilities

Both Beckley and Oak Hill have constructed major rail-trail facilities that citizens use for recreational walking/cycling and for traveling to and from work. Some neighborhoods already have direct pedestrian access to the trail, but there are opportunities to add sidewalks to provide more neighborhoods with safe access to the rail trails.

As noted earlier, there are also proposals to connect the local rail-trails to the larger regional bicycle/pedestrian network. The stated goal is to attract visitors from national parklands into the downtown business districts, but the new connections would also expand local residents' ability to travel between communities such as Beckley and Oak Hill even if they do not have access to a personal vehicle.

Riding bicycles on the Beckley Rail Trail

(Photo by Chuck Holton, available at https://www.flickr.com/photos/rangerholton/144158

However, as with roads, expansion cannot always take priority over maintenance. In some communities there are portions of the local sidewalk network that are in such poor condition that residents are forced to walk in

the street. The MPO can work with local governments to conduct sidewalk inventories and develop cost estimates and a prioritization system for repairs. Priority should be given to repairing sidewalks on roads that have a transit route, in areas around schools and other community facilities, and in neighborhoods that are known to have a high proportion of residents with limited access to a vehicle. For projects in low-income areas, there may be opportunities to fund sidewalk repairs with a combination of community development funds and transportation dollars.

Bicycle and Pedestrian Network Development

Further development of the bicycle/pedestrian network in the MPO area should be guided by a standalone regional bicycle and pedestrian plan that focuses on these significant issues:

- **Completing, repairing and maintaining the sidewalk network that serves the area's transit routes.** Every transit rider is also a pedestrian at the beginning and ending of a trip. Major gaps on the current fixed route transit system include portions of the WV 3 (Harper Road) corridor between I-77 and Hylton Lane, as well as from Northwestern Avenue to the Kroger shopping center. Robert C. Byrd Drive also lacks sidewalk access for any points north of Ragland Road. There are other isolated gaps in the system. For example, at the entrance drive to Raleigh Memorial Hospital, there are no sidewalks to serve the crosswalk marked between the hospital and the medical building on the opposite side of Harper Road. The New River Transit Authority should work in partnership with the MPO to identify additional similar gaps and prioritize locations for maintenance and improvement.
- **Expanding the bicycle and pedestrian network to better link neighborhoods and commercial centers to existing major trails.** The Beckley Rail-Trail, White Oak Rail-Trail, and other planned facilities are popular recreational corridors where residents can enjoy physical activity and meet others who live in the area. They also provide important access to work, shopping and other community services for residents who don't drive or don't have access to a vehicle. The Mountain State Trail Alliance (MTSA) is a 501c(3) organization working to link recreational opportunities, people and businesses through a regional trails system. MTSA currently covers seven counties in West Virginia including Fayette and Raleigh. MTSA is working with the Region 4 Planning and Development Council (R4PDC) on extending the existing White Oak Rail Trail from Oak Hill to Glen Jean. MTSA also has a route planned to Fayetteville and then on to Richwood.
- **Continuing to build and improve bicycle and pedestrian connections from gateway communities to adjoining state and federal parklands.** Many of the adopted local comprehensive plans in the MPO area include trails that would link the communities to the larger network. The *Connecting Communities* regional trail plan also proposes on-street improvements ranging from the addition of marked crosswalks at trail intersections to the addition of pedestrian refuge islands as part of future highway widening projects. Many of these projects can be submitted for consideration as various grant opportunities arise, including the federal Transportation Alternatives Program (TAP) and Federal Lands Access Program (FLAP).

Chapter 5 Project Development and Evaluation

INITIAL CONCEPTS DEVELOPMENT

FRMPO developed initial concepts for transportation improvements in the region based on a review of transportation system needs. The needs were identified through previous plans and studies including the 2040 RTP, stakeholder input, and technical analysis. Stakeholder input was gathered through meetings with the FRMPO RTP Steering Committee, stakeholder interviews, and focus groups on the following topics: Resiliency, Safety, Transit, and Economic Development, Freight, and Tourism. The technical analysis included updating and utilizing the regional travel demand model and conducting a crash safety analysis. FRMPO compiled a transportation needs inventory and presented the needs to the Steering Committee at their April 2021 for review and discussion. FRMPO asked Steering Committee members to provide feedback on which of the needs were highest priority, which were lower priority, and if any high-priority needs were missing from the list. FRMPO considered this input along with additional analysis conducted by the project team to identify the highest priority transportation needs for the region.

PROJECT DEVELOPMENT AND EVALUATION

FRMPO developed a preliminary list of projects and strategies to address the high-priority transportation system needs. These projects and strategies were presented to the Steering Committee at their August 2021 meeting for review and discussion. FRMPO also sent out an interactive map with the preliminary projects to the Steering Committee members and asked them to review the projects and provide any additional comments following the meeting.

The project team evaluated the preliminary projects based on criteria that were directly tied to the goals established for the FRMPO 2045 RTP. In addition to reviewing the preliminary projects against the RTP goals, the project screening also considered project costs and feasibility.

The following provides descriptions of how the FRMPO 2045 RTP goals were considered in the project evaluation process. The project sheets provided in the next chapter indicate which goals are addressed by each of the projects based on this project screening.

Goal 1: Support the economic vitality of the region.

The potential to support economic growth was evaluated for each project based on the perceived future economic impact of the project. This evaluation considered the likelihood that the project would:

- Improve access to commercial areas and tourist destinations.
- Provide connections between where people live, work, and access community services.
- Capitalize on the resources of the airport.

Goal 2: Improve safety/security for all users of the transportation system.

FRMPO identified priority locations for potential safety improvements based on the crash analysis conducted as part of this RTP update, previous planning studies prepared by FRMPO, and stakeholder input. This evaluation considered the likelihood that a project would:

- Enhance safety for pedestrians and bicyclists.
- Improve safety on roads intended for higher speeds.
- Improve safety at priority crash hot spot locations.

Goal 3: Preserve and maintain the existing transportation system.

Maintaining the existing transportation system is a priority of both FRMPO and the WVDOH. Routine maintenance projects are not generally included in an RTP which instead focuses on new connections, capacity adding projects, safety improvements, or multimodal improvements. However, some of the identified RTP projects may also address preservation and maintenance. This evaluation considered the likelihood that the project would:

- Upgrade substandard infrastructure.
- Provide hillside stability along major routes.
- Improve stormwater management along roads.

Goal 4: Increase accessibility and mobility for both people and goods.

Creating a community that is accessible for all users and transportation modes was identified as an essential goal of future projects in the study area. Projects were evaluated to determine their potential to:

- Improve access to and from the region.
- Improve access to commercial and industrial areas for freight movement.
- Improve mobility for all people and all travel modes within and among communities.

Goal 5: Manage an efficient transportation system.

Traffic capacity analysis was performed using the region's travel demand model to determine the existing and expected volume to capacity ratios for roadways in Fayette and Raleigh counties. Stakeholders and the public were also given the opportunity to provide input on mobility issues. Projects that addressed traffic and congestion issues identified through the modeling or public and stakeholder input address this goal. This goal also included a consideration of transportation system resiliency. Projects were evaluated to determine their potential to:

- Improve traffic flow.
- Address special transportation needs in areas where schools, colleges, and other community facilities are located.
- Provide or improve system redundancy.

Goal 6: Protect and enhance the environment and quality of life, and coordinate transportation decisions with the region's goals for land use and economic development, including travel and tourism.

Projects that would improve access to recreational areas visited by tourists address this goal. This could include new or improved roadways or safety improvements along key tourism routes. The evaluation of potential environmental impacts was based on a high-level review of publicly available ecological resource data (i.e. streams, floodplains, wetlands, etc.). The evaluation of potential community impacts was based on a high-level review of publicly available

data related to cultural resources, community resources including parks and recreation areas, and socioeconomic data from the American Community Survey that highlighted areas with higher than average proportions of low-income and minority populations. This evaluation considered the likelihood that the project would:

- Encourage transportation choices that are sustainable in terms of finances, community equity, and the environment.
- Improve key routes that serve as visitor gateways or provide access to tourism destinations.
- Respect the integrity of historic areas.

Goal 7: Enhance system connectivity, including connections between different modes of transportation.

The potential to improve system connectivity was evaluated for each project. This evaluation considered the likelihood that the project would:

- Enhance access to the Raleigh County Memorial Airport.
- Improve and connect bicycle and pedestrian facilities.
- Improve public transit service and trail connections between the region's passenger rail stations and local cities.

Chapter 6 Funding and Fiscal Constraint

Federal transportation legislation requires MPOs to develop RTPs that are fiscally constrained. This means that the funding forecasted to be available to the MPO over the life of the plan will be sufficient to implement the plan's recommendations. This chapter identifies and describes available funding sources, along with the range of transportation investments eligible for various types of funding. This chapter also includes the revenue forecasts developed by FRMPO in coordination with WVDOT and NRTA that were used to determine the amount of funding anticipated to be available for transportation improvements through the year 2045.

The projected revenue will be compared to the recommended projects and programs in the next chapter of the RTP to demonstrate that the anticipated level of funding will be sufficient to cover the cost of implementing the recommended Plan.

SOURCES OF TRANSPORTATION FUNDING

Federal Transportation Funding

Table 6-1 provides a summary of the major federal funding programs available to implement projects and programs in the FRMPO region. Nearly all require non-federal matching funds, usually either state or local dollars.

One of the Federal Transit Administration programs, Section 5307, provides a direct funding allocation to the region annually, based on factors including population, number of vehicle revenue-miles, and others. The region may also submit applications to the West Virginia Division of Public Transit (WVDPT) to request funding for projects eligible for Sections 5339 and 5310. These programs are described in the following pages.

Based on the region's goal to strengthen connections between parklands and the adjacent gateway communities, the MPO should maintain ongoing discussions with WVDOH about the availability of funds from the FLAP and TAP, which many communities know from its previous name, Transportation Enhancements.

In addition, the numerous operational improvements which are recommended in this 2045 Plan should also be considered for Congestion Mitigation/Air Quality Improvement funds, which are typically used for projects that result in better traffic flow, improve signalization and signal timing, and improve intersections.

Table 6-1: Federal Transportation Funding Programs

Federal Program	Description
National Highway Performance Program (NHPP)	Provides funding for construction, reconstruction, resurfacing, restoration, rehabilitation, preservation, or operational improvement of segments of the National Highway System (NHS). This includes Interstate highways and bridges on the NHS. It also includes all the state's Appalachian Development Highway System routes. Projects must support progress toward national goals for the condition and performance of the system.
Surface Transportation Block Grant Program (STBG)	Provides funding for roads functionally classified as rural major collector and above. Funds may be utilized on projects in Rural Areas, Urbanized Areas, Small Urban Areas, Safety and Rail-Highway Crossings. Funds may be used for bicycle/pedestrian projects or "flexed" for transit use. Funds may also be used for bridge replacement and rehabilitation on non-federal aid routes.
Highway Safety Improvement Program (HSIP)	Provides funds to make improvements to high hazard locations on any public road, including highway-rail grade crossings, and any publicly owned bicycle/pedestrian facility. Projects are selected based on crash rate and crash frequency.
Transportation Alternatives Program (TAP)	Combines former funding programs for Enhancements, Safe Routes to Schools, Scenic Byways, and Recreational Trails. Eligible activities include bicycle and pedestrian facilities, sidewalks near elementary and middle schools, main street and boulevard projects, and environmental mitigation to address impacts of the transportation system.
Congestion Mitigation/Air Quality Improvement (CMAQ)	Provides funding for transportation projects that contribute to meeting the national ambient air quality standards by reducing air pollution related to motor vehicles, locomotives, barges and ships and other forms of transportation.
Federal Lands Access Program	Provides funding for projects on transportation facilities that are located on or adjacent to federal lands, or that provide access to federal lands.
Federal Transit Administration (FTA) Section 5307	Section 5307 is a formula grant program for urbanized areas providing capital, operating, and planning assistance for mass transportation. This program now includes funds previously available through the Job Access/Reverse Commute program (FTA-5316), which provides new or expanded transportation service to fill gaps that exist for welfare recipients and other low-income individuals to and from jobs and other employment-related services. Reverse Commute projects facilitate the provision of new or expanded public mass transportation services for the general public from urban, suburban, and rural areas to suburban work sites.
FTA-5310	Section 5310 is a formula grant program for the special needs of elderly individuals with disabilities. Funds (which are subject to annual appropriations) are appropriated annually based on an administrative formula that considers the number of elderly individuals with disabilities in each State. Funds available through the former New Freedoms program (FTA- 5317), which encourages services and facility improvements that go beyond those required by the Americans with Disabilities Act, are now combined with this program.
FTA-5339	Section 5339 is a formula grant program that provides capital funding to replace, rehabilitate and purchase buses and related equipment, and to construct bus-related facilities.

State Transportation Funding

The State Road Fund, used by WVDOH to cover nearly all its activities – including capital projects as well as all maintenance, project and program administration – includes the federal funding resources described above. It should be noted that not all roads are eligible for federal-aid funds; in fact, only 27% of the state's road-miles qualify, which are the roads functionally classified as rural major collectors and higher. **Chapter 4** includes a discussion of roadway functional classifications.

The state revenue portion is generated from these four categories:

- **Motor Fuel Taxes**, which produce roughly half of the total revenue generated;
- **Registration Fees**, which include vehicle registration as well as driver's license, permits and litter control fees;
- **Privilege Taxes**, collected when a vehicle's certificate of title is issued; and
- **Miscellaneous Revenues**, which include interest on state investments, map sales, permits, etc. Recently the State Road Fund also began to receive a 'rebate' from the State General Fund for the cost of sales tax paid by WVDOH contractors when they purchase construction materials for state projects.

HIGHWAY REVENUE FORECASTS

The proposed projects and programs in the 2045 Plan are limited to what can be funded with the level of future revenue that is reasonably expected to be available to the region. The additional needs that cannot be funded are presented in an "illustrative" list (presented later in this chapter) which shows the other investments that the MPO would make if additional revenue becomes available.

The anticipated amount of funding available for capital projects during the period of the 2045 Plan is provided to each MPO by WVDOH. Revenue projections are based on a review of historical funding averages, consumer and construction price indices, each region's percentage of vehicle-miles traveled statewide, highway mileage, and population. Projections assume that revenues increase at an annual rate of 4.3 percent.

According to the state's projections, estimated roadway funding specifically available to the FRMPO region is about 6.4 percent of the total funds spent in MPO areas. During the 25-year period of the plan, a total of $419 million is estimated to be available for highway improvements in the FRMPO region. Projected annual revenue is shown in **Table 6-2** and has been expressed in year-of-expenditure dollars as required by the U.S. DOT.

For purposes of demonstrating that the 2045 Plan is fiscally constrained, these revenue estimates have been grouped into three major horizons, or timeframes, in which projects will be implemented:

- Near-term horizon: 2021 to 2025
- Mid-term horizon: 2026 to 2035
- Long-term horizon: 2036 to 2045

Table 6-2: Estimated Revenue for Roadway Improvements in the FMRPO Region

Fiscal Year	Available
2021	$8,123,000
2022	$10,114,000
2023	$10,548,000
2024	$11,002,000
2025	$11,475,000
2026	$11,969,000
2027	$12,483,000
2028	$13,019,000
2029	$13,579,000
2030	$14,163,000
2031	$14,771,000
2032	$15,406,000
2033	$16,069,000
2034	$16,759,000
2035	$17,479,000
2036	$18,232,000
2037	$19,015,000
2038	$19,833,000
2039	$20,685,000
2040	$21,574,000
2041	$22,502,000
2042	$23,470,000
2043	$24,480,000
2044	$25,533,000
2045	$26,631,000
TOTAL	**$418,913,000**

Following the adoption of this Plan, which is its first formal effort to identify and prioritize projects on a regional basis, the MPO will continue to perform studies and work with WVDOH on the improvements proposed for 2021-2026. In the course of these ongoing planning activities, the region may also identify new needs on which the unallocated revenue could be spent, or perhaps find ways to modify other projects to lower their cost and allow the illustrative projects to be included in the Plan. Such changes would occur either as a later amendment to the 2045 Plan or incorporated when it is time to develop the 2050 Plan.

TRANSIT REVENUE FORECASTS

The transit portion of the 2045 Plan must also be fiscally constrained. It can include only the public transit projects and services that can be funded with the amount of revenue expected to be available for such purposes over the life of the Plan.

As noted at the beginning of this chapter, the Fayette/Raleigh County region receives an annual allocation from one of the Federal Transit Administration programs, Section 5307. The designated recipient is the NRTA, which receives the federal funds through a contract with WVDPT. The region is no longer eligible for state funding assistance for transit since it has become an urbanized area. All federal funds must be matched with local dollars – either public, nonprofit or private – generally 20 percent for capital projects and preventive maintenance, and 50 percent for operating expenses.

The anticipated amount of funding available for transit during the period of the 2045 Plan was developed based on recent historic funding and annual estimates shown in the TIP. A very conservative revenue growth rate was assumed: 0.5 percent annually, with a 1 percent increase in 2025, 2035, and 2045. Transit cost estimates were equally conservative: costs are assumed to increase by 1 percent annually through the year 2025, by 1.5 percent annually from 2026 to 2035, and by 2 percent annually for the remainder of the Plan.

During the 25-year period of the plan, a total of $48 million is estimated to be available for transit in the FRMPO region. Projected transit operating and capital revenue for each Plan horizon is shown in **Table 6-7** and **Table 6-9**, expressed in year-of-expenditure dollars as required by the U.S. DOT. **Table 6-8** and **Table 6-10** show the estimated transit operating and capital costs for each Plan horizon. These costs are derived from the proposed transit investments shown in **Table 6-11** through **Table 6-13**.

The region is not projected to spend all its available federal revenue in the near-term horizon, in part because local governments must gradually ramp up their budgets in order to match all of the federal funds available. The unspent funds will help offset increased operating costs in the mid-term horizon.

Table 6-3: Estimated Transit Operating Revenue by Plan Horizon

	FTA 5307 Operating (Federal)	Local Match	Total Revenue Available
2021-2025	1,981,856	1,981,856	**3,963,712**
2026-2035	4,297,000	4,297,000	**8,594,000**
2036-2045	4,617,000	4,617,000	**9,234,000**
TOTAL	**10,895,856**	**10,895,856**	**21,791,712**

Table 6-4: Estimated Transit Operating Costs by Plan Horizon

	FTA 5307 Operating (Federal)	Local Match	Total Costs
2021-2025	2,415,000	2,415,000	**4,830,000**
2026-2035	9,875,000	9,875,000	**19,750,000**
2036-2045	11,875,000	11,875,000	**23,750,000**
TOTAL	**24,165,000**	**24,165,000**	**48,330,000**

Table 6-5: Estimated Transit Capital Revenue by Plan Horizon

	5307 Preventive Maintenance			5307 Capital Projects			Total Revenue Available
	Federal Portion	*Local Match*	*Total*	*Federal Portion*	*Local Match*	*Total*	
2021-2025	322,688	80,672	403,360	322,688	80,672	403,360	**1,022,780**
2026-2035	900,000	225,000	1,125,000	900,000	225,000	1,125,000	**2,700,000**
2036-2045	1,300,000	325,000	1,625,000	1,300,000	325,000	1,625,000	**3,700,000**
TOTAL	**2,522,688**	**630,672**	**3,153,360**	**2,522,688**	**630,672**	**3,153,360**	**7,422,780**

Table 6-6: Estimated Transit Capital Costs by Plan Horizon

	5307 Preventive Maintenance			5307 Capital Projects			Costs
	Federal Portion	*Local Match*	*Total*	*Federal Portion*	*Local Match*	*Total*	
2021-2025	80,000	20,000	100,000	1,320,000	330,000	1,650,000	**1,750,000**
2026-2035	160,000	40,000	200,000	2,560,000	640,000	3,200,000	**3,400,000**
2036-2045	200,000	50,000	250,000	3,960,000	990,000	4,950,000	**5,200,000**
TOTAL	**440,000**	**110,000**	**550,000**	**7,840,000**	**1,960,000**	**9,800,000**	**10,350,000**

Chapter 7 Recommendations

RECOMMENDED PROJECTS

The recommendations presented in this chapter are proposed to address future roadway capacity deficiencies, improve safety and traffic operations, improve multimodal transportation performance, and support the goals of the FRMPO 2045 LRTP.

Much of the funding used for transit improvements comes through the FTA and generally cannot be used for other types of transportation projects. For this reason, the transit recommendations are presented separately from the roadway capacity, safety, and other multimodal projects. **Table 7-1** through **Table 7-3** show the non-transit projects recommended for implementation over the three horizons of the Plan, along with their estimated costs (in year of expenditure), compared to the amount of revenue anticipated to be available during each Plan horizon. Additional information about each of these project recommendations, including more detailed project descriptions, is provided on the project sheets that follow the tables.

The horizon year indicates the year a project is expected to be open to traffic. Listing a project in the mid-term horizon does not mean that it is only "medium priority," or that work will not begin earlier. Major projects may take several years to complete, starting with environmental studies and approvals and preliminary engineering, the purchase of right-of-way, and finally the construction phase.

Projects with numbers beginning with "N" represent new roads or major road widenings which will significantly expand the capacity of the network. Projects with numbers beginning with "T" are recommended operational improvements which may range from modification of traffic signals, intersection improvements or increased access management. Although operational projects typically do not provide as much additional roadway capacity as a new or widened road, they can often be implemented at lower cost, with less impact to adjacent property, and more quickly.

ILLUSTRATIVE LIST OF PROJECTS

The number of projects proposed for the Fayette/Raleigh region for the 2036 - 2045 horizon exceeded the amount of revenue projected to be available. Two of the projects have been placed on the Plan's illustrative list, which shows the investments the MPO would make if additional funding became available. The two projects are N-6, which is the ultimate extension of the East Beckley Bypass from Pinewood Drive northward to connect with US 19 in the Bradley community, and N-9, which is the final section of the proposed New River Parkway, running from Falls Branch to the I-64 interchange at Sandstone.

The two projects on the illustrative list are estimated to cost more than $20 million, which is the amount of revenue that remains unprogrammed in the 2036-2045 horizon. The remaining revenue could be used to initiate development of either or both projects, but no commitment is being made by adoption of this Plan.

Table 7-1: Projects Proposed for Completion in 2021 – 2025 *(continued next page)*

PROJ NO	ROADWAY	FROM	TO	COUNTY	TYPE OF IMPROVEMENT	COST (YOE)
N-1	US 19 (Ritter Drive)	WV 3 (Hinton Road)	North of County Route 19/54 (Granby Circle)	Raleigh	Widen from 2 to 3 lanes and improve WV 3 (Ritter Drive) at Airport Road	$35,000,000
S-1	Virginia Street at Oyler Avenue	-	-	Fayette	Intersection safety improvements	$125,000
S-2	Virginia Street at Oak Hill Rail Trail	-	-	Fayette	Improve pedestrian crossing at Virginia Street and Oak Hill Rail Trail	$50,000
S-3	WV 16 (Robert C. Byrd Drive) at Veterans Drive	-	-	Raleigh	Safety improvements on WV 16 (Robert C. Byrd Drive) at Veterans Drive	$30,000
S-5	Minden Road Underpass	-	-	Fayette	Safety improvements at MInden Road underpass	$200,000
S-10	US 19 (N Eisenhower Drive)	McCulloch Drive	Ragland Road	Raleigh	Safety improvements on US 19 (N Eisenhower Drive) from Ragland Road to McCulloch Drive	$105,000
S-12	Save A Lot (and Ollie's) Parking Lot	New River Drive	WV 16 (Robert C. Byrd Drive)	Raleigh	Construct new intersection at New River Drive and WV 16 (Robert C. Byrd Drive) by realigning New River Drive with the existing Kanawha Street intersection.	$1,500,000
S-21	Midland Trail at Hawk's Nest Park	-	-	Fayette	Safety improvements at Hawk's Nest Golf Course entrance	$50,000
S-30	US 19 (N Eisenhower Drive) and Rural Acres Drive/ Stanaford Road	-	-	Raleigh	Safety improvements at US 19 (N Eisenhower Drive) and Rural Acres Drive/ Stanaford Road	$900,000
S-31	Thurmond Road Bridges	-	-	Fayette	Improve bridge and culvert over Dunloup Creek.	$2,500,000
S-32	A Street	S Kanawha Street	Minnesota Avenue	Raleigh	Pedestrian safety improvements on A Street from Minnesota Avenue to Kanawha Street	$70,000
S-33	Kanawha St/Main St ADA Compliant Connection	Williams St	YMCA	Raleigh	Provide an ADA-compliant connection from the WVU Tech residence hall to the YMCA of Southern West Virginia, within the public right-of-way.	$140,000

PROJ NO	ROADWAY	FROM	TO	COUNTY	TYPE OF IMPROVEMENT	COST (YOE)
S-34	Beckley Sharrows/Bike Lane Network	WVU Tech	Beckley Rail Trail	Raleigh	Create a connection from WVU Tech to the Beckley Rail Trail	$30,000
S-37	White Oak Rail Trail			Fayette	Bicycle and pedestrian safety improvements at the intersection of White Oak Rail Trail and WV 61.	$150,000
S-40				Fayette, Raleigh	Regional Safety Improvements	$2,000,000
S-41				Fayette, Raleigh	Regional Active Transportation Improvements	$1,000,000
T-2	WV 3 (Harper Road)	Dry Hill Road	Carriage Drive	Raleigh	Signal operations	$225,000
T-6	US 19 (N Eisenhower Drive)	WV 16 (Robert C. Byrd Drive)	Dunn Drive	Raleigh	Signal operations	$100,000
T-8	WV 16 (Robert C. Byrd Drive)	Reading Street	Old Eccles Road	Raleigh	Signal operations	$65,000
T-30	US 19 (N Eisenhower Drive) at Beckley Crossing	-	-		Align southbound approach at US 19 (N Eisenhower Drive)/Beckley Crossing intersection	$110,000
T-31	WV 16 (Robert C. Byrd Drive) at Ragland Road	-	-		Reconfigure the eastbound and westbound approaches and eliminate a southbound through lane	$2,000,000
T-32	WV 16 (Robert C. Byrd Drive) at Maxwell Hill Road/Rural Acres Drive	-	-		Construct dual westbound left-turn lanes and an exclusive northbound right-turn lane at WV 16 (Robert C. Byrd Drive).	$1,300,000
T-33	Airport Road	Scott Ridge Road	Airport Circle	Raleigh	Improve access and safety to airport by improving Airport Road from I-64 to the airport to reduce geometric deficiencies.	$4,000,000
Total Project Costs, 2021 to 2025						**$51,650,000**
Estimated Revenue Available, 2021 to 2025						**$51,262,000**

Notes: *YOE means the project costs have been estimated in year of expenditure.*

Table 7-2: Projects Proposed for Completion in 2026-2035

PROJ NO	ROADWAY	FROM	TO	COUNTY	TYPE OF IMPROVEMENT	COST (YOE)
N-7	New River Drive	Harper Road	WV 16 (Robert C. Byrd Drive)	Raleigh	Roadway improvements on New River Drive between WV 16 (Robert C. Byrd Drive) and WV 3 (Harper Road) and operational improvements on Harper Road.	$25,000,000
N-8	New Alignment (Crosstown Connector)	VanKirk Drive	Pikeview Drive	Raleigh	Construct roadway that connects New River Road to VanKirk Drive near the Tamarack including an overpass of I-64/77.	$54,400,000
N-30	New Alignment	CSX Railroad	Raleigh County Memorial Airport	Raleigh	Construct roadway connection from railroad access area to the Raleigh County Memorial Airport	$21,000,000
S-6	WV 16 (Robert C. Byrd Drive)	Roosevelt Street (Crab Orchard)	Locust Street	Raleigh	Capacity Improvements on WV 16 (Robert C. Byrd Drive) from Walmart to I-64/77 Interchange.	$3,000,000
S-8	US 60	Hawks Nest Lookout	New River Campground	Fayette	Add shoulders and widen horseshoe turns for trucks and RVs. Add pull-offs for scenic touring and/or slow-moving vehicles to allow passing.	$1,300,000
S-9	Gatewood Road	WV 16 (E. Main Street, Oak Hill)	WV 16 (N. Court Street, Fayetteville)	Fayette	Add 4-foot shoulders and other safety improvements on Gatewood Road from WV 16 (E Main Street) to WV 16 (N Court Street).	$11,000,000
S-11	WV 61 (Deepwater Mountain Road)	Page Bottom Road	Montgomery Heights Road	Fayette	Safety improvements on WV 61 (Deepwater Mountain Road) from Page Bottom Road to Baker Street.	$5,000,000
S-22	US 19 Corridor Safety Improvements	WV 16 (Court Street, Fayetteville)	CR 19/19 (Wood Mountain Road)	Fayette	Safety improvements at US 19 intersections from WV 16 (Court Street) to County Road 19/9 (Wood Mountain Road).	$13,000,000
S-35	WVU Tech to YMCA Paul Cline Memorial Youth Sports Complex connections	WVU Tech	YMCA Paul Cline Sports Complex	Raleigh	Build a connection from WVU Tech to the YMCA Paul Cline Memorial Youth Sports Complex to provide student athletes and coaches with a path to and from the complex and connect to the surrounding community.	$400,000

PROJ NO	ROADWAY	FROM	TO	COUNTY	TYPE OF IMPROVEMENT	COST (YOE)
S-38	Harper Road	WV 16 (Robert C. Byrd Drive)	I-64	Raleigh	Add sidewalks on both sides of Harper Road from Northwestern Avenue to Dry Hill Road.	$2,000,000
S-40				Fayette, Raleigh	Regional Safety Improvements	$6,000,000
S-41				Fayette, Raleigh	Regional Active Transportation Improvements	$3,000,000
T-4	Beckley Crossing	WV 16 (Robert C. Byrd Drive)	US 19 (N Eisenhower Drive)	Raleigh	Reconstruct Beckley Crossing Shopping Center roadway from US 19 (N. Eisenhower Drive) to WV 16 (Robert C. Byrd Drive).	$2,100,000
T-12	WV 307 (Airport Road)	US 19 (Ritter Drive)	I-64	Raleigh	Improve WV 307 (Airport Road) between Beaver and I-64 to reduce geometric deficiencies and add a northbound truck climbing lane.	$6,000,000
Total Project Costs, 2026 to 2035						**$153,200,000**
Estimated Revenue Available, 2026 to 2035						**$145,697,000**

Notes: *YOE means the project costs have been estimated in year of expenditure.*

Table 7-3: Projects Proposed for Completion in 2036 – 2045

PROJ NO	ROADWAY	FROM	TO	COUNTY	TYPE OF IMPROVEMENT	COST (YOE)
N-2	US 19 Connector / Beaver Bypass	US 19	Clarence W Meadows Memorial Boulevard	Raleigh	Construct new 3-lane highway with overpass at WV 307 (Airport Road) to provide connection between US 19 and I-64 that bypasses Beaver and Glen Morgan.	$129,000,000
S-16	Scarbro Road	Harmony Lane	-	Fayette	Upgrade access to US 19 at Glen Jean Lane to a grade separated interchange.	$22,000,000
S-36	US 19	Maple Fork Road			Upgrade access to US 19 at Maple Fork Road to a grade separated interchange.	$33,400,000
S-40				Fayette, Raleigh	Regional safety improvements	$9,000,000
S-41				Fayette, Raleigh	Regional active transportation improvements	$4,500,000
T-7	US 19 (Eisenhower Drive)	WV 41	I-64 overpass	Raleigh	Add two-way left turn lane on US 19 from Deeds Drive to Brookshire Lane.	$3,300,000
Total Project Costs, 2036 to 2045						**$201,200,000**
Estimated Revenue Available, 2036 to 2045						**$221,955,000**

Notes: *YOE means the project costs have been estimated in year of expenditure.*

Table 7-4: Illustrative Projects (Unfunded)

PROJ NO	ROADWAY	FROM	TO	COUNTY	TYPE OF IMPROVEMENT	COST (2040)
N-6	East Beckley Bypass Extension	WV 16 (Robert C. Byrd Drive)	Stanaford Road	Raleigh	Construct new 4-lane, limited access, highway that connects the current terminus of the Beckley Bypass to US 19 north of the WV 16 interchange.	$227,063,000
N-9	New River Parkway – Section 3	Falls Branch	I-64 interchange at Sandstone	Raleigh	Extend New River Parkway to provide connection I-64. Construct new 2-lane scenic parkway, including bridge over the New River.	$273,719,000

Figure 7-1 and **Figure 7-2** show volume/capacity ratios for the region's roadway network in the year 2045, reflecting conditions after the recommended projects have been implemented.

Table 7-5 shows the improvement in regional transportation system performance in the year 2045 after the implementation of the roadway projects in the Plan. Around 350 hours of delay will be saved daily for drivers in the Fayette/Raleigh region, primarily on the arterial and collector roads that serve residents and businesses.

Table 7-5: Reduction in Projected Daily Vehicle Hours of Delay by 2045 Recommended Plan

Roadway Functional Class	2045 Existing + Committed Network	2045 Recommended Plan	Hours of Delay Eliminated
Freeways	**1,235**	**1,183**	**52**
Arterial Highways	**6,350**	**6,145**	**205**
Collector Routes	**6,998**	**6,906**	**92**
TOTAL	**14,583**	**14,234**	**349**

Figure 7-1: 2045 Recommended Plan – Volume/Capacity Ratios on Area Roadways

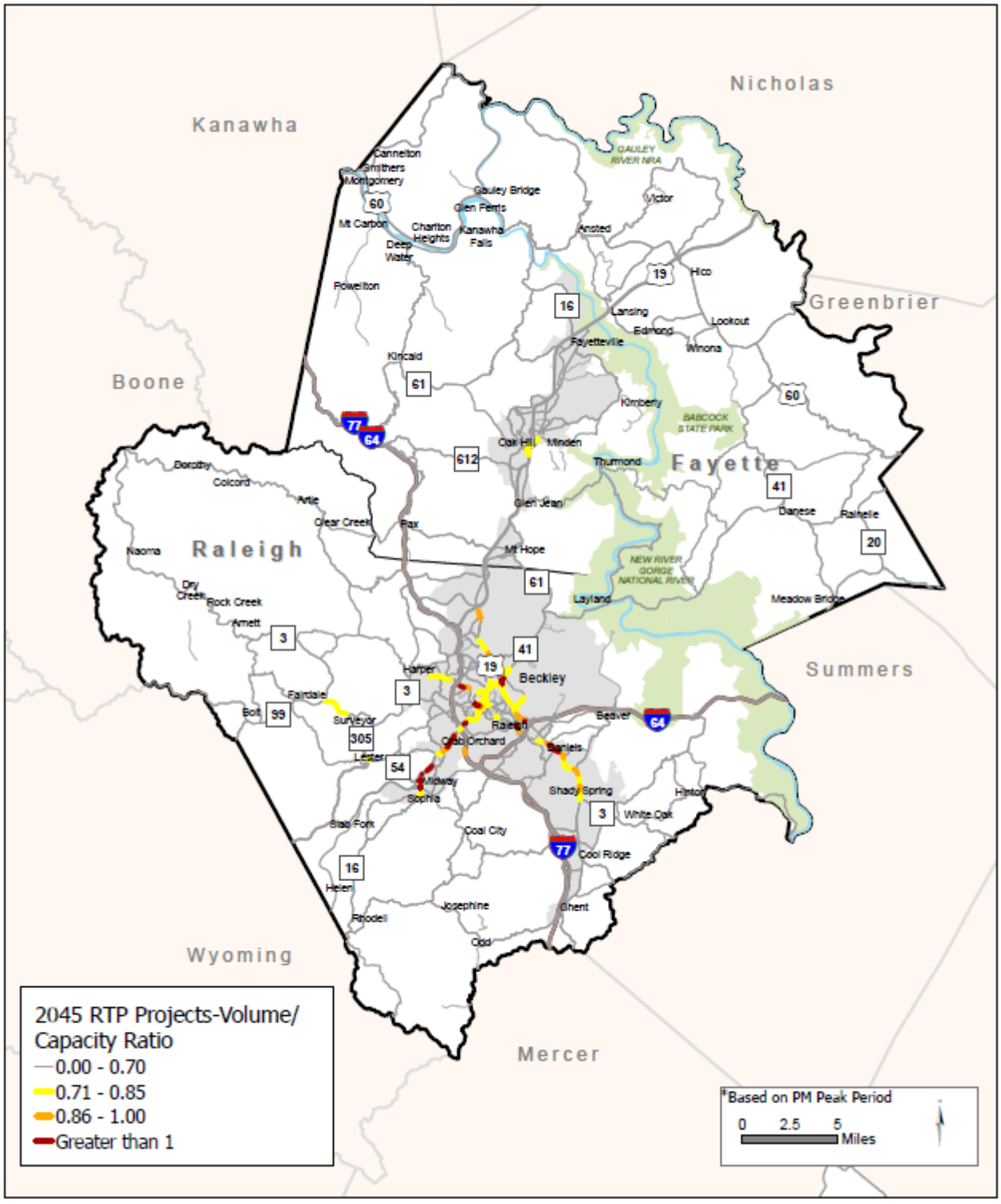
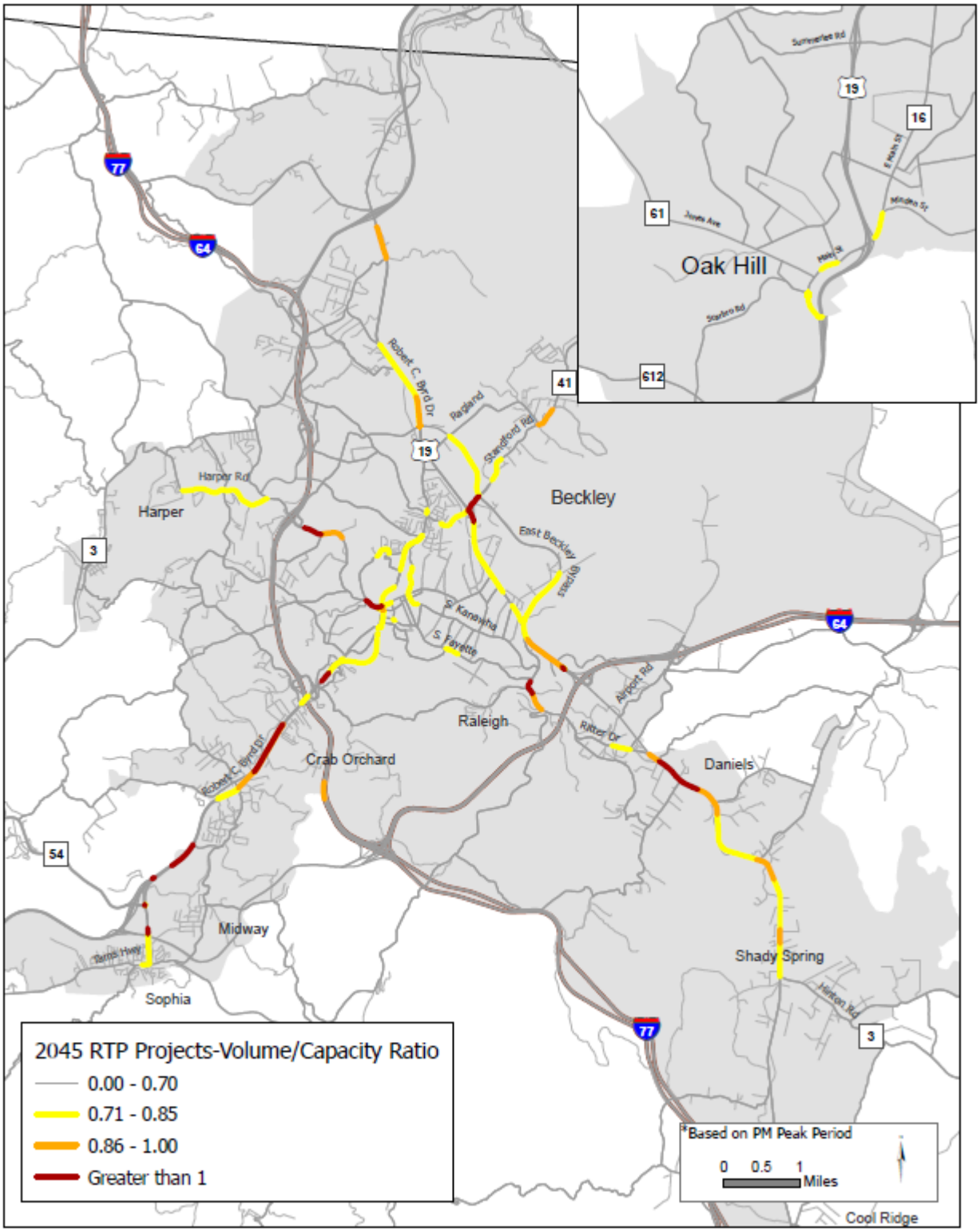


Figure 7-2: 2045 Recommended Plan – Volume/Capacity Ratios on Area Roadways (Beckley and Oak Hill insets)



PROJECT SHEETS

Project sheets for each of the fiscally constrained projects are provided on the following pages. The project sheets include detailed project descriptions and identify action items, planning considerations, project partners, and anticipated implementation horizon. The project sheets also indicate which of the FRMPO RTP goals are addressed by each of the projects.

Project: N-1

Description of Improvements

Widen 3.65 miles of existing US 19 (Ritter Drive) from WV 3 (Hinton Road) to a point just north of County Route 19/54 (Granby Circle). The new configuration will provide a through-lane in each direction and a continuous left turn lane throughout the corridor. It will correct poor horizontal and vertical geometry and eliminate many of the existing skewed intersections. The through-lanes will be 12 feet wide and the continuous turning lane will be 14 feet wide.

Project Considerations

First Implementation Action: Complete final design and initiate construction.

Key Implementation Factors: There are some properties that are very close to the roadway with steep grades, buildings, or parking. The widening may not be possible to achieve in those locations without significant impacts to the property.

Project Partners

Sponsor: WVDOH

Estimated Project Cost

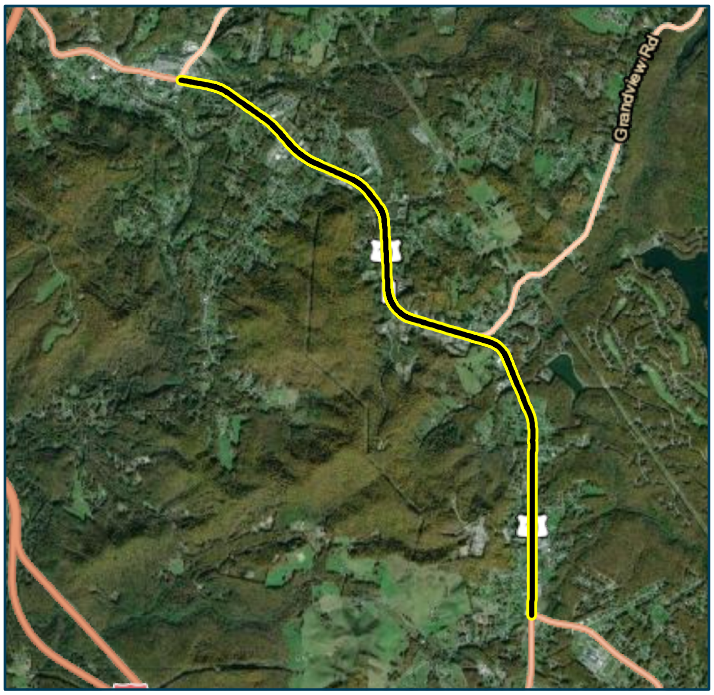
TOTAL: $35,000,000
(in Year of Expenditure Dollars)

Implementation Timeline

2021-2025

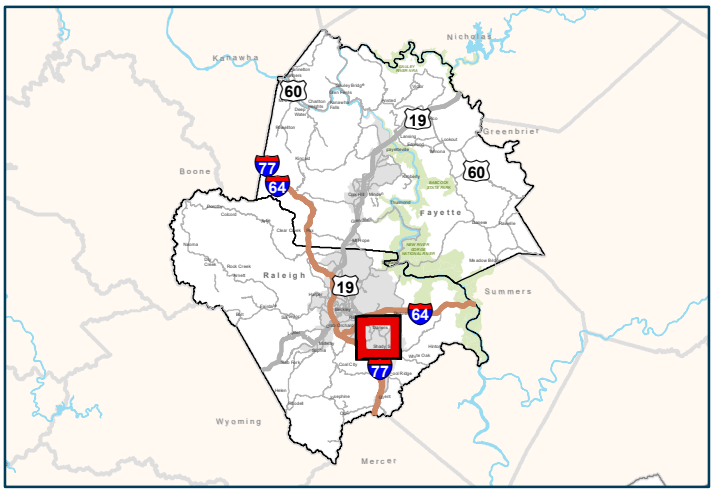
LRTP Goals Supported

Goal 2 (Safety) and Goal 5 (System Efficiency)



Project Map

1 inch = 7,200 feet
1 inch = 1.36 miles



Vicinity Map

FRM
Fayette Raleigh Metropolitan Planning Organization

Fayette Raleigh Metropolitan Planning Commission
(304) 872-4970 | 885 Broad Street Suite 100,
Summersville, WV 26651
https://www.frmpo.org/

Project: N-2

Description of Improvements

Construct new 3-lane highway with overpass at WV 307 (Airport Road) to provide connection between US 19 and I-64 that bypasses Beaver and Glen Morgan.

Project Considerations

First Implementation Action: Complete study to define alignment for connector and identify costs and impacts.

Key Implementation Factors: This project is a new facility that will require right-of-way acquisition. Minimizing costs, environmental justice impacts, and impacts to the 100-year floodplain.

Project Partners

Sponsor: WVDOH
Support: Raleigh County

Estimated Project Cost

TOTAL: $129,000,000
(in Year of Expenditure Dollars)

Implementation Timeline

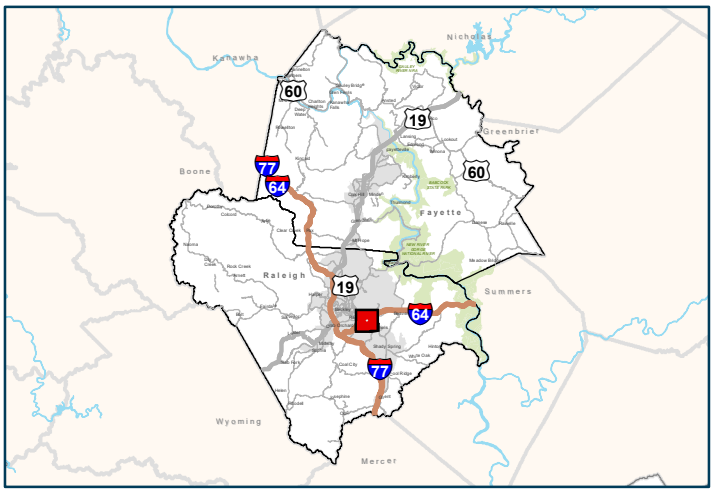
2036-2045

LRTP Goals Supported

Goal 4 (Access and Mobility), Goal 5 (System Efficiency) and Goal 7 (System Connectivity)

Project Map

1 inch = 2,400 feet
1 inch = 0.45 miles



Vicinity Map

FRM
Fayette Raleigh Metropolitan Planning Organization

Fayette Raleigh Metropolitan Planning Commission
(304) 872-4970 | 885 Broad Street Suite 100,
Summersville, WV 26651
https://www.frmpo.org/

Project: N-7

Description of Improvements

Roadway improvements on New River Drive between WV 16 (Robert C. Byrd Drive) and WV 3 (Harper Road) and operational improvements on Harper Road. Implement Concept E Modified from Maxwell Hill Area Study.

Project Considerations

First Implementation Action: Coordinate with Beckley and private property owner to develop cost sharing plan for the project.

Key Implementation Factors: Will require substantial coordination with property owner containing the proposed connector road. The Maxwell Hill Area Study recommends the City and WVDOH come to a new agreement on roadway maintenance for this area to transfer New River Drive to the state for maintenance in exchange for the City maintaining Teel Road. To reduce initial construction costs and efforts, project phasing could be explored. The first phase would involve building the new connection between Harper Road and New River Drive and cutting off Pikeview Drive. Improvements to the remainder of New River Drive could be pursued in a future phase, potentially in conjunction with future development in the corridor.

Project Partners

Sponsor: City of Beckley
Support: WVDOH

Estimated Project Cost

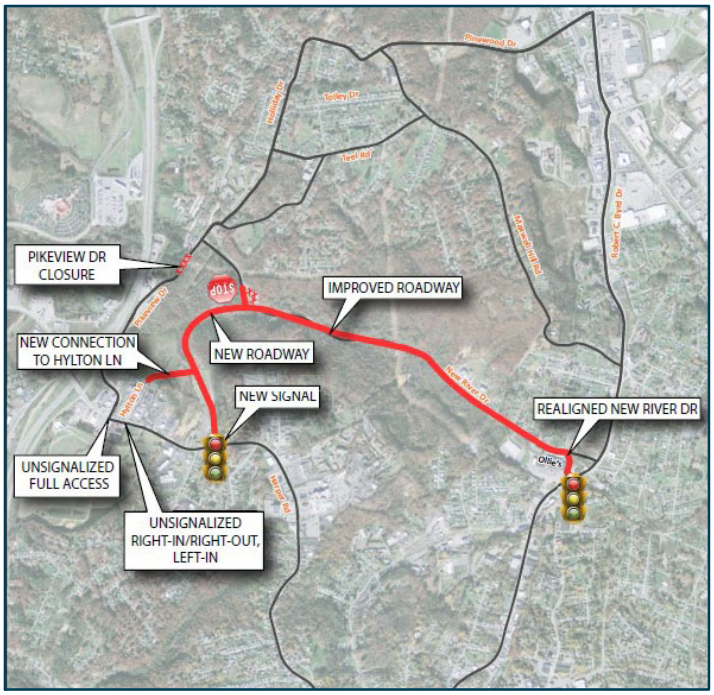
TOTAL: $25,000,000
(in Year of Expenditure Dollars)

Implementation Timeline

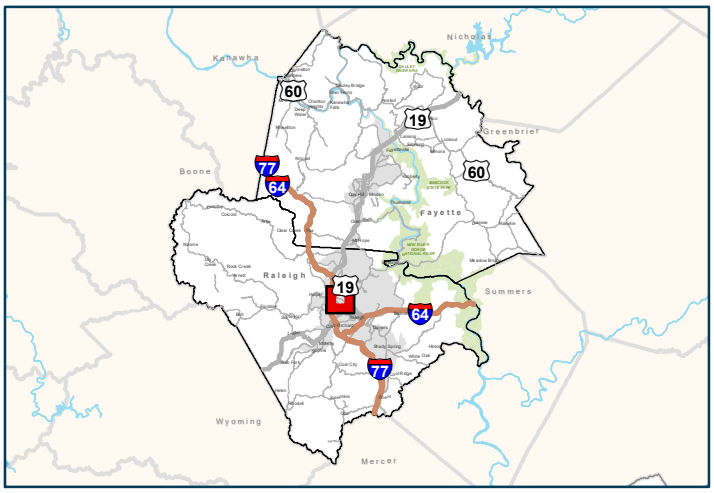
2026-2035

LRTP Goals Supported

Goal 4 (Access and Mobility), Goal 5 (System Efficiency) and Goal 7 (System Connectivity)



Project Map



Vicinity Map

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Project: N-8

Description of Improvements

Construct roadway that connects New River Road to Vankirk Drive near the Tamarack including an overpass of I-64/77.

Project Considerations

First Implementation Action: Preliminary engineering study to explore feasibility and identify recommended alignment, associated improvements, costs, and impacts.

Key Implementation Factors: Identifying cost effective improvements, minimizing negative property and environmental impacts. Crossing I-64 will be a challenge; the existing roadway is at grade with I-64 and will require significant embankment to get vertical clearance over freeway. There is a multi-family housing development located at the east end of the proposed alignment. Potential impacts to environmental justice communities should be explored.

Project Partners

Sponsor: City of Beckley
Support: WVDOH

Estimated Project Cost

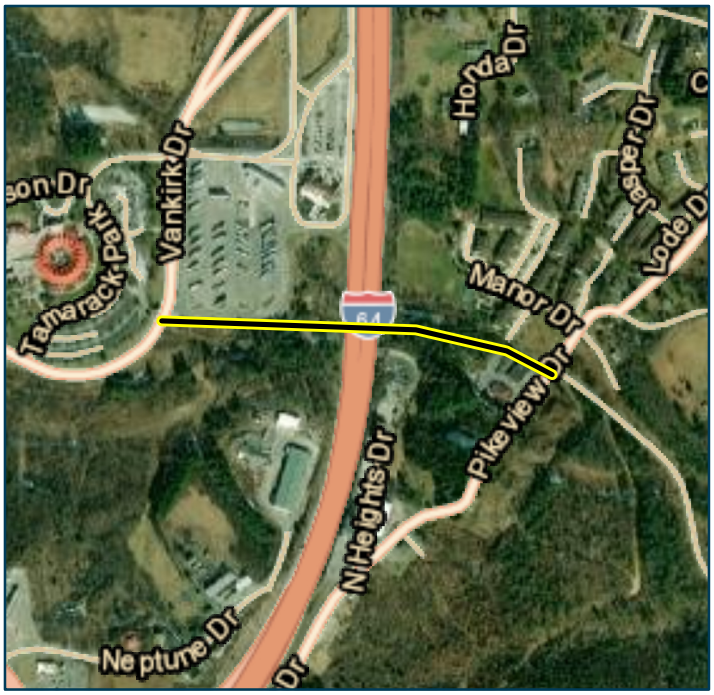
TOTAL: $54,400,000
(in Year of Expenditure Dollars)

Implementation Timeline

2026-2035

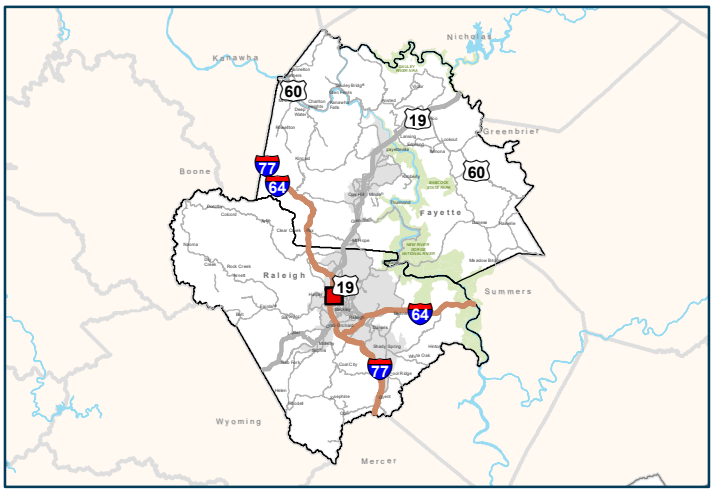
LRTP Goals Supported

Goal 4 (Access and Mobility), Goal 5 (System Efficiency) and Goal 7 (System Connectivity)



Project Map

1 inch = 1,200 feet
1 inch = 0.23 miles



Vicinity Map

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https://www.frmpo.org/

Project: N-30

Description of Improvements

Construct roadway connection from railroad access area to the Raleigh County Memorial Airport as described in the Raleigh County Memorial Airport Rail Access Feasibility Study, July 2020. Include sidewalk along University Drive between Airport Road and the west access drive to the Erma Byrd Higher Education Center.

Project Considerations

First Implementation Action: Initiate project design with WVDOH.

Key Implementation Factors: Minimizing project impacts to the 100-year floodplain.

Project Partners

Sponsor: Raleigh County
Support: Raleigh County Memorial Airport

Estimated Project Cost

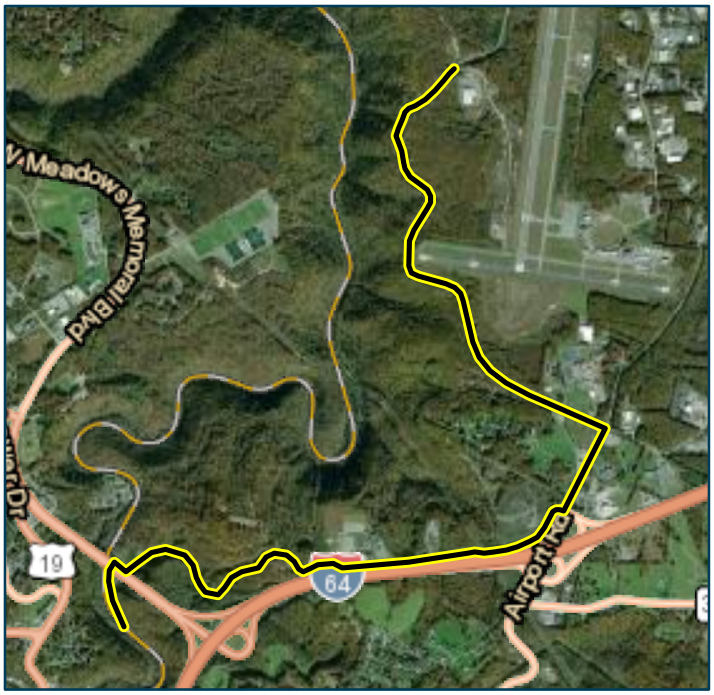
TOTAL: $21,000,000
(in Year of Expenditure Dollars)

Implementation Timeline

2026-2035

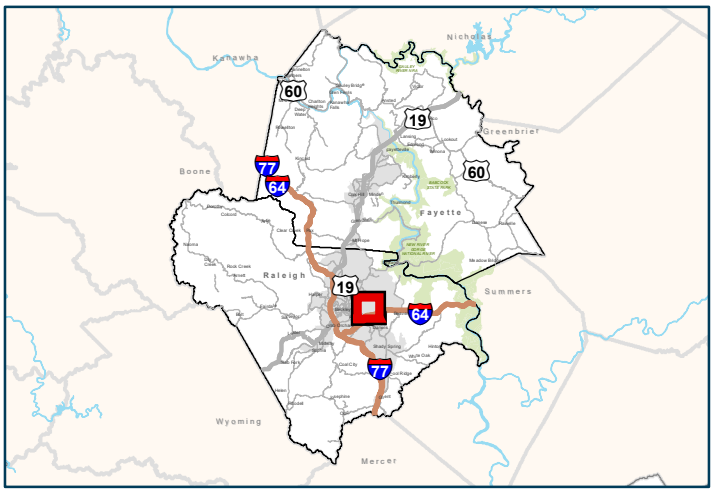
LRTP Goals Supported

Goal 1 (Economic Vitality), Goal 4 (Access and Mobility), Goal 5 (System Efficiency) and Goal 7 (System Connectivity)



Project Map

1 inch = 4,800 feet
1 inch = 0.91 miles



Vicinity Map

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Project: S-1

Description of Improvements

Intersection safety improvements at Virginia Street and Oyler Avenue intersection.

Project Considerations

First Implementation Factor: FRM to prepare intersection study to identify recommended improvements.

Key Implementation Factors: Identifying effective signing and pavement marking improvements to clarify and simplify intersection traffic movements.

Project Partners

Sponsor: City of Oak Hill
Support: WVDOH

Estimated Project Cost

TOTAL: $125,000
(in Year of Expenditure Dollars)

Implementation Timeline

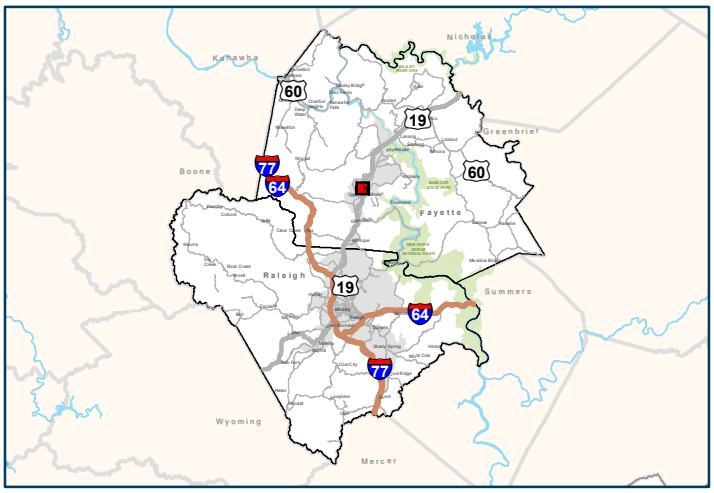
2021-2025

LRTP Goals Supported

Goal 2 (Safety)

Project Map

1 inch = 200 feet
1 inch = 0.04 miles



Vicinity Map

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Project: S-2

Description of Improvements

Improve pedestrian crossing at Virginia Street and Oak Hill Rail Trail. Add signing, pavement markings, lighting, and active controls as appropriate.

Project Considerations

First Implementation Action: Preliminary engineering study to identify recommended improvements and updated cost estimates.

Key Implementation Factors: Identify project funding and minimizing impacts.

Project Partners

Sponsor: City of Oak Hill
Support: WVDOH

Estimated Project Cost

TOTAL: $50,000
(in Year of Expenditure Dollars)

Implementation Timeline

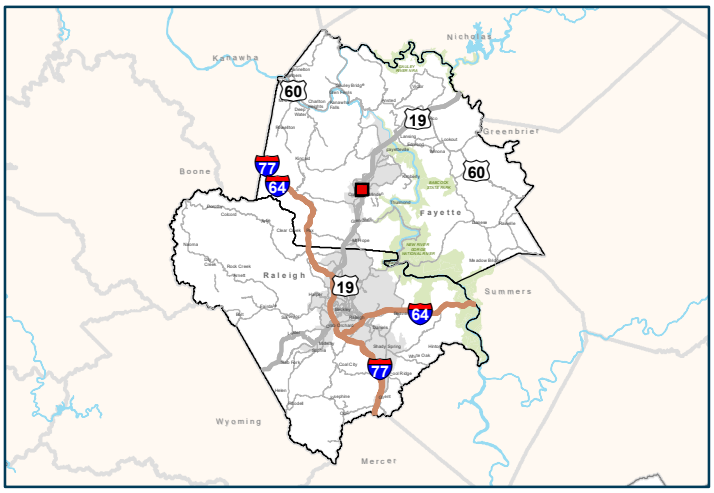
2021-2025

LRTP Goals Supported

Goal 2 (Safety) and Goal 4 (Access and Mobility)

Project Map

1 inch = 200 feet
1 inch = 0.04 miles



Vicinity Map

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Project: S-3

Description of Improvements

Safety improvements on WV 16 (Robert C. Byrd Drive) at Veterans Drive that include installing sturdier curb and delineator combination and extend at least 200 feet north of the intersection as described in the WV 16 (Robert C. Byrd Drive) Corridor Study, 2020.

Project Considerations

First Implementation Action: Initiate improvement with WVDOH, potentially as a maintenance project.

Key Implementation Factors: No significant challenges anticipated.

Project Partners

Sponsor: WVDOH
Support: City of Beckley

Estimated Project Cost

TOTAL: $30,000
(in Year of Expenditure Dollars)

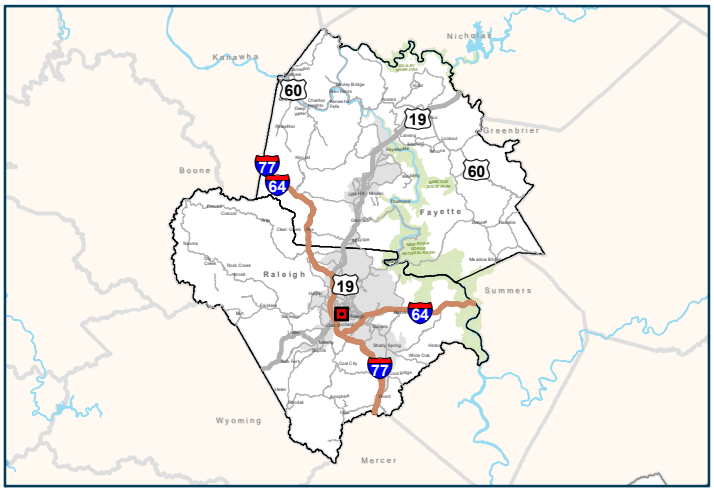
Implementation Timeline

2021-2025

LRTP Goals Supported

Goal 2 (Safety)

Project Map



Vicinity Map

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Project: S-5

Description of Improvements

Safety improvements at Minden Road underpass including vehicle detection/warning signals with wider pull offs for waiting vehicles.

Project Considerations

First Implementation Action: Initiate project study and design.

Key Implementation Factors: Installation of signs / detection could be challenging due to rock (foundation and rock face limiting clearance from roadway) in the area. Anticipate overhead mounted signs. Pull-offs for waiting areas will require significant fill / excavation due to existing contours.

Project Partners

Sponsor: City of Oak Hill
Support: WVDOH

Estimated Project Cost

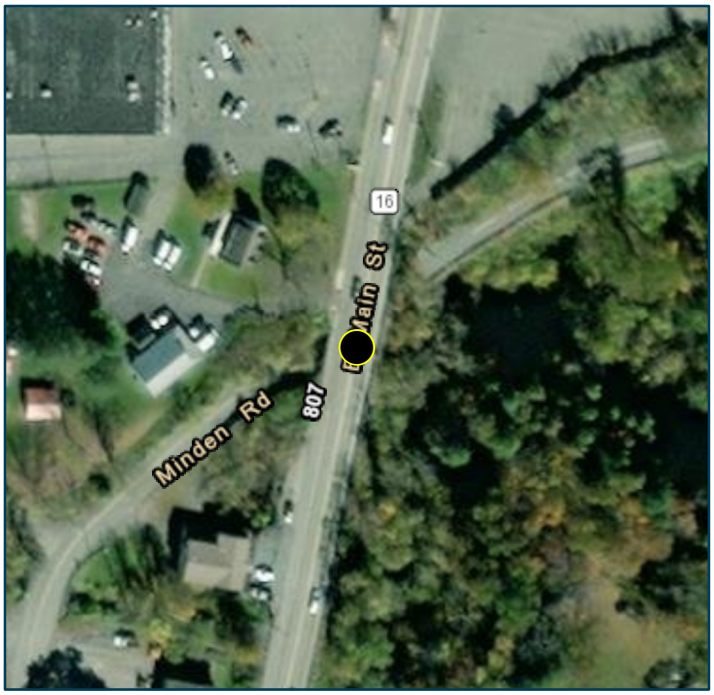
TOTAL: $200,000
(in Year of Expenditure Dollars)

Implementation Timeline

2021-2025

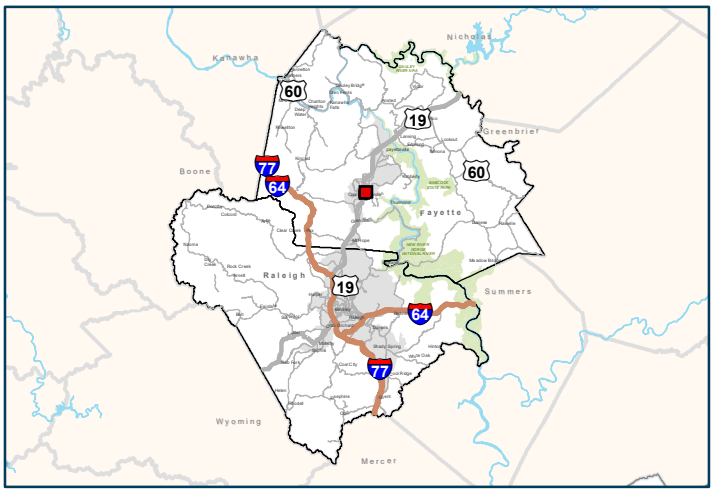
LRTP Goals Supported

Goal 2 (Safety)



Project Map

1 inch = 200 feet
1 inch = 0.04 miles



Vicinity Map

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Project: S-6

Description of Improvements

Capacity Improvements on WV 16 (Robert C. Byrd Drive) from Walmart to I-64/77 Interchange.

Project Considerations

First Implementation Action: Preliminary engineering study to identify recommended improvements, costs, and impacts.

Key Implementation Factors: Identifying cost effective improvements and minimizing negative property and environmental impacts. This corridor is heavily developed with many structures located close to the roadway, including at least one residence, several commercial buildings, and community facilities (post office and churches).

Project Partners

Sponsor: WVDOH
Support: Raleigh County

Estimated Project Cost

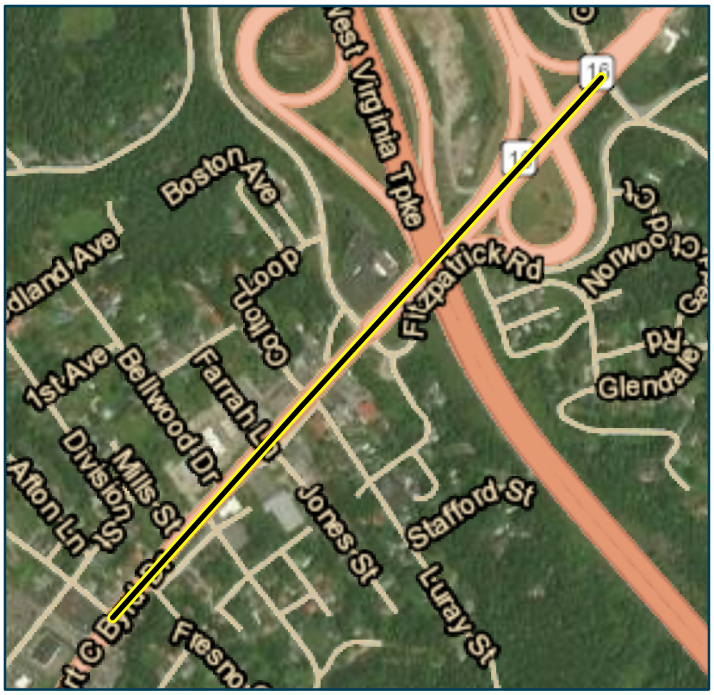
TOTAL: $3,000,000
(in Year of Expenditure Dollars)

Implementation Timeline

2026-2035

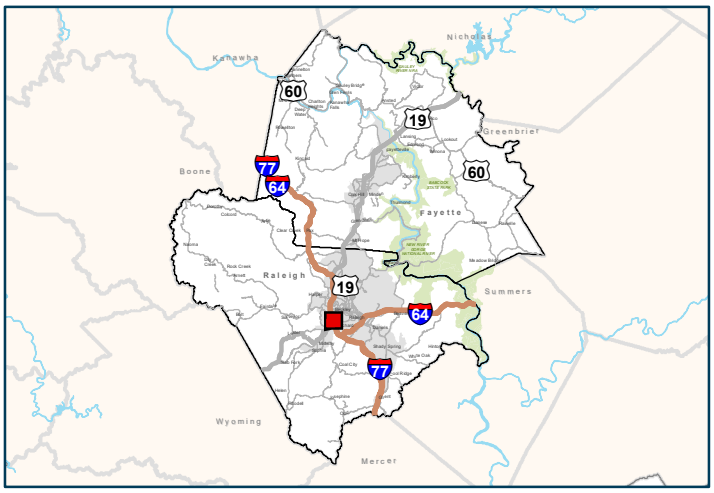
LRTP Goals Supported

Goal 4 (Access and Mobility) and Goal 5 (System Efficiency)



Project Map

1 inch = 1,200 feet
1 inch = 0.23 miles



Vicinity Map

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Project: S-8

Description of Improvements

Add shoulders and widen horseshoe turns for trucks and RVs. Add pulloffs for scenic touring and/or slow-moving vehicles to allow passing.

Project Considerations

First Implementation Action: Preliminary engineering study to identify recommended improvements, costs, and impacts.

Key Implementation Factors: Widening in some areas could be challenging due to steep hillsides. Some areas may require significant embankment or excavation of rock. Minimizing impacts to the 100-year floodplain, wetlands and Hawks Nest State Park and Historic District.

Project Partners

Sponsor: WVDOH
Support: Fayette County

Estimated Project Cost

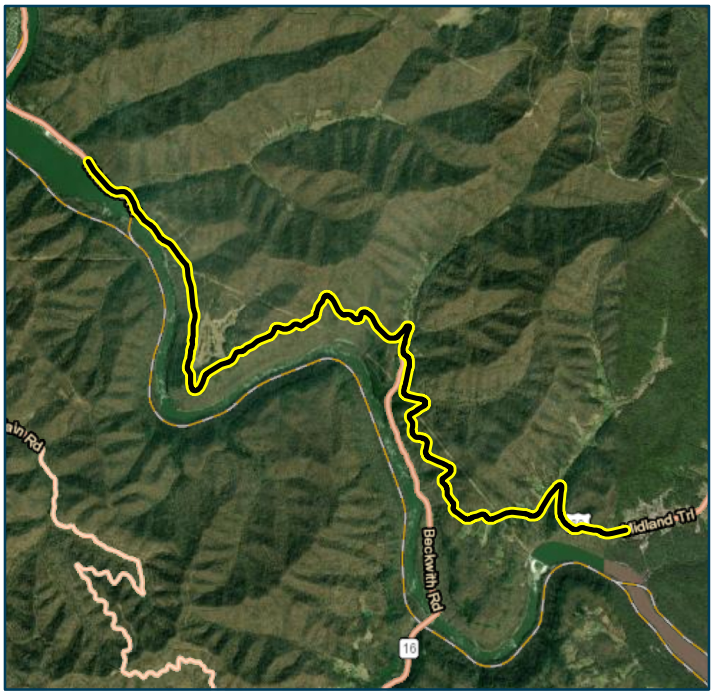
TOTAL: $1,300,000
(in Year of Expenditure Dollars)

Implementation Timeline

2026-2035

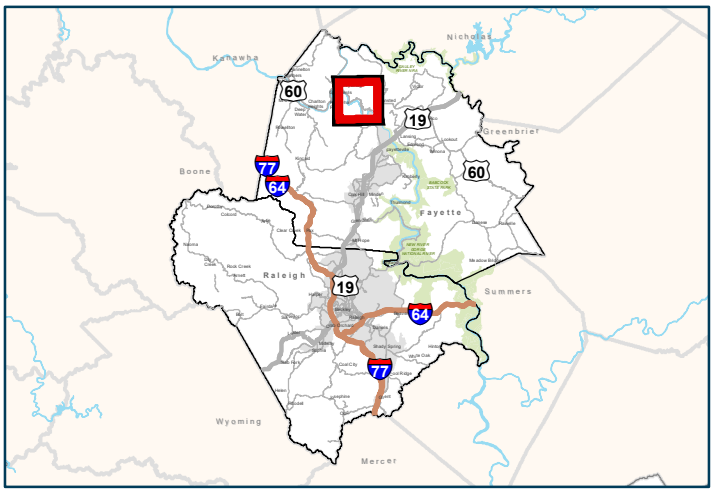
LRTP Goals Supported

Goal 1 (Economic Vitality), Goal 2 (Safety), and Goal 6 (Quality of Life)



Project Map

1 inch = 8,400 feet
1 inch = 1.59 miles



Vicinity Map

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Project: S-9

Description of Improvements

Add 4-foot shoulders and other safety improvements on Gatewood Road from WV 16 (E Main Street) to WV 16 (N Court Street).

Project Considerations

First Implementation Action: Preliminary engineering study to identify recommended improvements, costs, and impacts.

Key Implementation Factors: The terrain in some areas could require excavation / embankment. Additional considerations along the corridor include potential utility relocation, coordination with mailboxes / steps to street level in some areas, need for some culvert widening and drive pipe replacements, and potential property impacts where structures are located close to roadway. Key environmental issues include minimizing impacts to wetlands and coordination with the National Park Service due to a portion of the project crossing through the New River Gorge National Park and Preserve.

Project Partners

Sponsor: WVDOH
Support: Fayette County, City of Oak Hill, City of Fayetteville

Estimated Project Cost

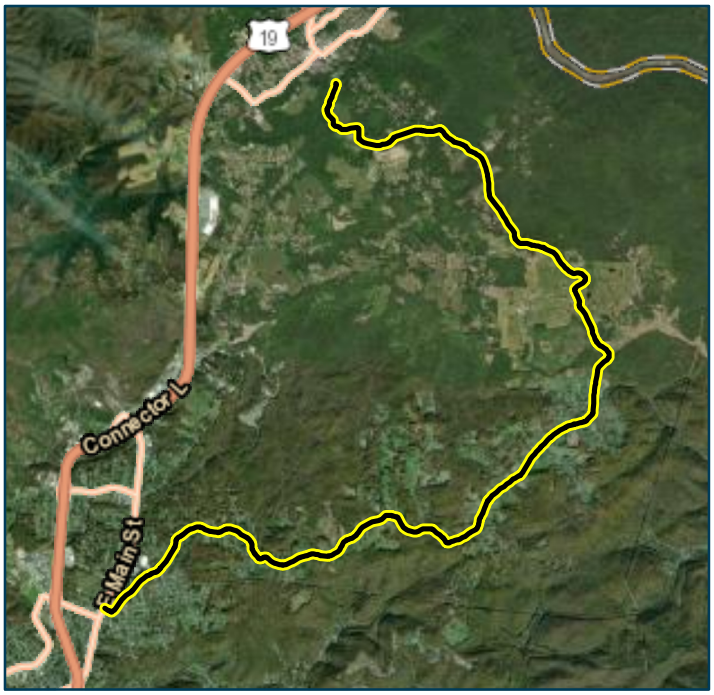
TOTAL: $11,000,000
(in Year of Expenditure Dollars)

Implementation Timeline

2026-2035

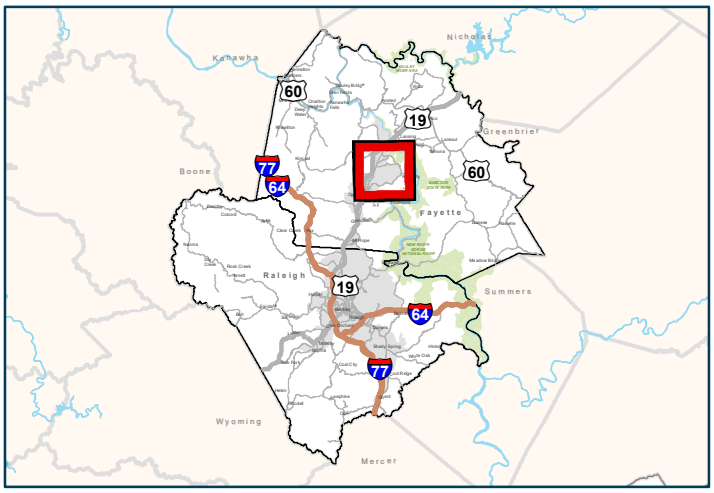
LRTP Goals Supported

Goal 2 (Safety)



Project Map

1 inch = 10,800 feet
1 inch = 2.05 miles



Vicinity Map

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Project: S-10

Description of Improvements

Safety improvements on US 19 (N Eisenhower Drive) from Ragland Road to McCulloch Drive including restriping to include a center two-way left-turn lane and constructing a median in front of the right-in/right-out entrance to physically restrict left turns as recommended in US 19 Corridor Study, 2018.

Project Considerations

First Implementation Action: Initiate design with WVDOH.

Key Implementation Factors: This project is anticipated to have minimal impacts.

Project Partners

Sponsor: WVDOH
Support: City of Beckley

Estimated Project Cost

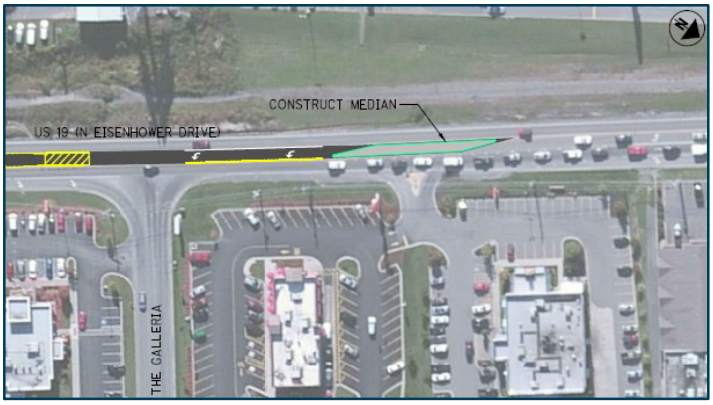
TOTAL: $105,000
(in Year of Expenditure Dollars)

Implementation Timeline

2021-2025

LRTP Goals Supported

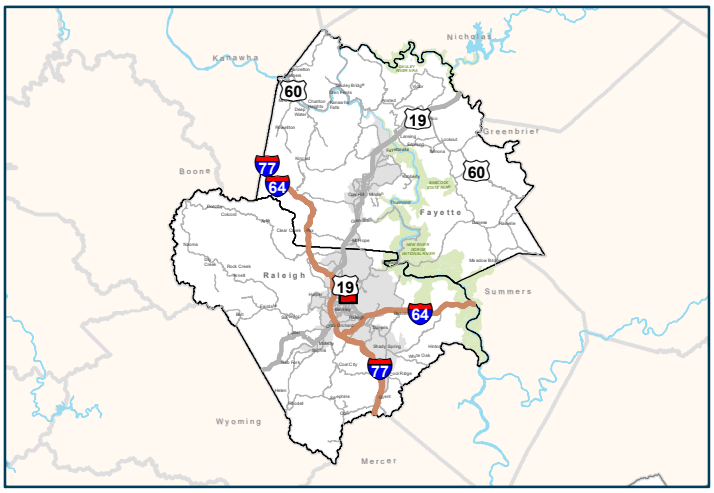
Goal 2 (Safety)



Project Detail

Project Map

1 inch = 1,200 feet
1 inch = 0.23 miles



Vicinity Map

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Project: S-11

Description of Improvements

Safety improvements on WV 61 (Deepwater Mountain Road) from Page Bottom Road to Baker Street including adding minimum width shoulders and safety-related signage and markings.

Project Considerations

First Implementation Action: Preliminary engineering study to identify recommended improvements, costs, and impacts.

Key Implementation Factors: Widening in some areas could be challenging due to steep hillsides. Some areas may require significant embankment or excavation of rock. Much of this corridor is located within or very close to the 100-year floodplain and may require coordination with FEMA and the local floodplain administrator.

Project Partners

Sponsor: WVDOH
Support: Fayette County

Estimated Project Cost

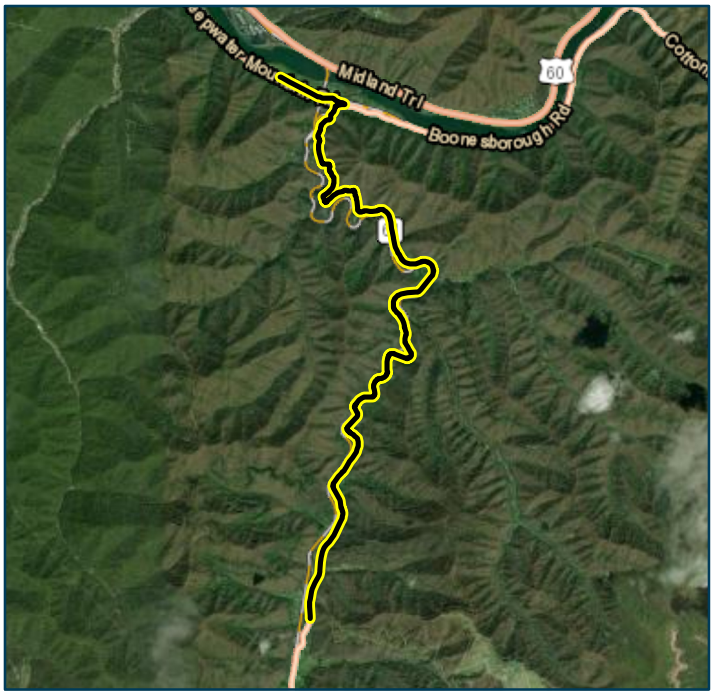
TOTAL: $5,000,000
(in Year of Expenditure Dollars)

Implementation Timeline

2026-2035

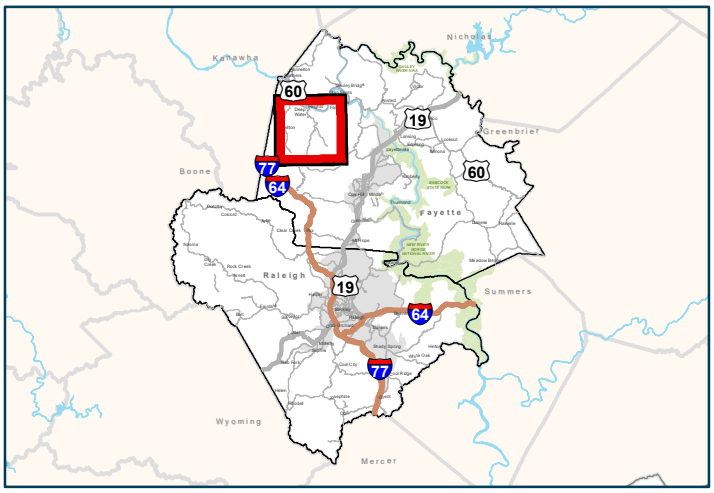
LRTP Goals Supported

Goal 2 (Safety)



Project Map

1 inch = 13,200 feet
1 inch = 2.5 miles



Vicinity Map

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https://www.frmpo.org/

Project: S-12

Description of Improvements

To improve safety construct new intersection at New River Drive and WV 16 (Robert C. Byrd Drive) as described in the WV 16 Corridor Study. Realign New River Drive between Ollie's Bargain Outlet and Rhonda's Home Pharmacy to align New River Drive with the existing Kanawha Street intersection.

Project Considerations

First Implementation Action: Preliminary engineering study to identify final alignment, intersection configuration, costs, and impacts; and initiate final design with WVDOH.

Key Implementation Factors: Coordination with local property owners on access and right-of-way acquisition. Impacts to culverted/diverted creek in the project area and potential permitting.

Project Partners

Sponsor: WVDOH
Support: City of Beckley

Estimated Project Cost

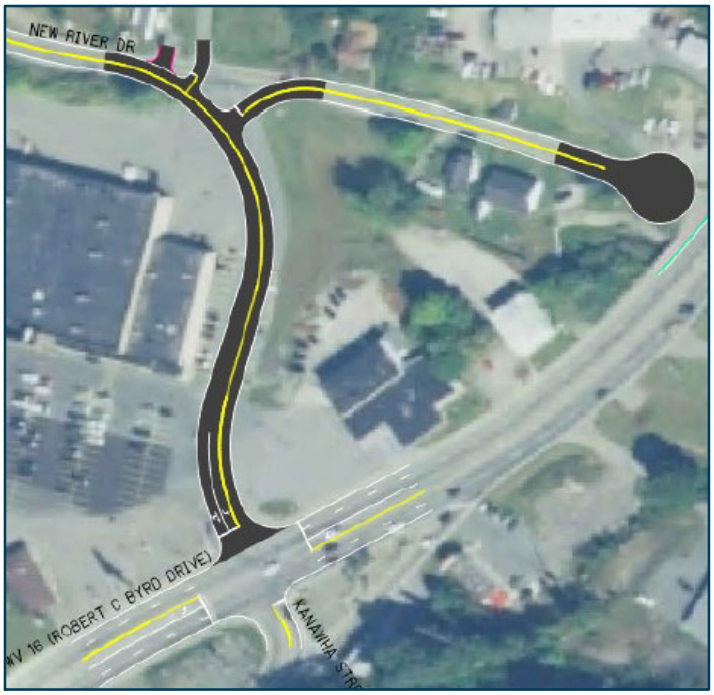
TOTAL: $1,500,000
(in Year of Expenditure Dollars)

Implementation Timeline

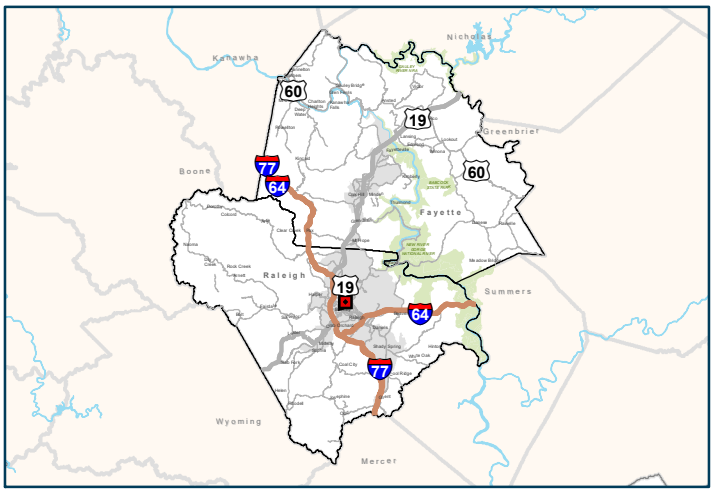
2021-2025

LRTP Goals Supported

Goal 2 (Safety)



Project Map



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Project: S-16

Description of Improvements

Upgrade access to US 19 at Glen Jean Lane to a grade separated interchange to improve safety and operations.

Project Considerations

First Implementation Action: Preliminary engineering study to identify recommended improvements, costs, and impacts.

Key Implementation Factors: Study will have to identify and evaluate options for an interchange location and type that will improve safety and access, and minimize environmental impacts, property impacts, and project costs. It is anticipated that this interchange would eliminate the signalized intersection at Wood Mountain Road, which was identified as a high-crash location.

Project Partners

Sponsor: WVDOH
Support: Fayette County

Estimated Project Cost

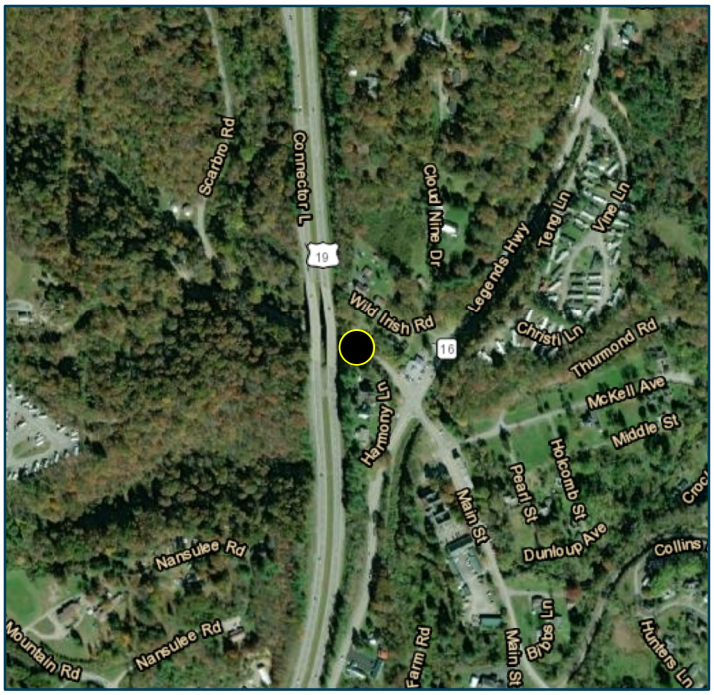
TOTAL: $22,000,000
(in Year of Expenditure Dollars)

Implementation Timeline

2036-2045

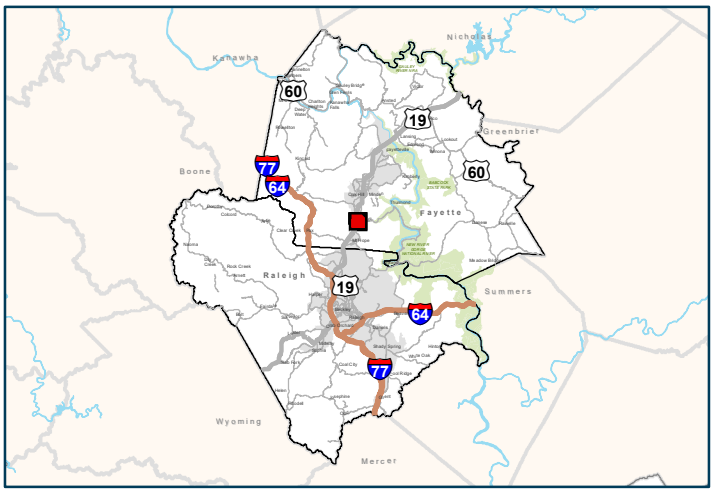
LRTP Goals Supported

Goal 2 (Safety) and Goal 5 (System Efficiency)



Project Map

1 inch = 1,100 feet
1 inch = 0.21 miles



Vicinity Map

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Project: S-21

Description of Improvements

Safety improvements at entrance to site of former Hawks Nest Golf Course.

Project Considerations

First Implementation Factor: Prepare safety study to identify recommended improvements and funding source for improvements.

Key Implementation Factors: Identifying cost effective improvements and minimizing project impacts.

Project Partners

Sponsor: WVDOH
Support: Fayette County

Estimated Project Cost

TOTAL: $50,000
(in Year of Expenditure Dollars)

Implementation Timeline

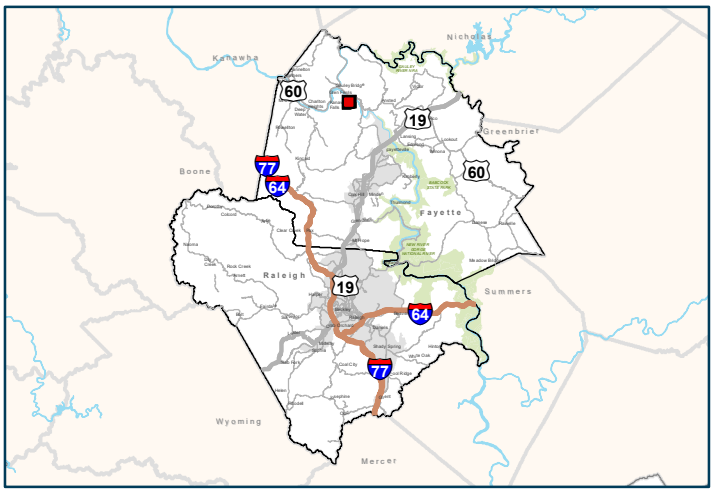
2021-2025

LRTP Goals Supported

Goal 2 (Safety)

Project Map

1 inch = 200 feet
1 inch = 0.04 miles



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Project: S-22

Description of Improvements

Safety improvements at US 19 intersections from WV 16 (Court Street) to County Road 19/9 (Wood Mountain Road).

Project Considerations

First Implementation Factor: Prepare corridor safety study to identify and prioritize recommended improvements and funding source for improvements at higher crash locations along US 19.

Key Implementation Factors: Identifying cost effective safety improvements that avoid or minimize property and environmental impacts.

Project Partners

Sponsor: WVDOH
Support: City of Oak Hill, Fayette County

Estimated Project Cost

TOTAL: $13,000,000
(in Year of Expenditure Dollars)

Implementation Timeline

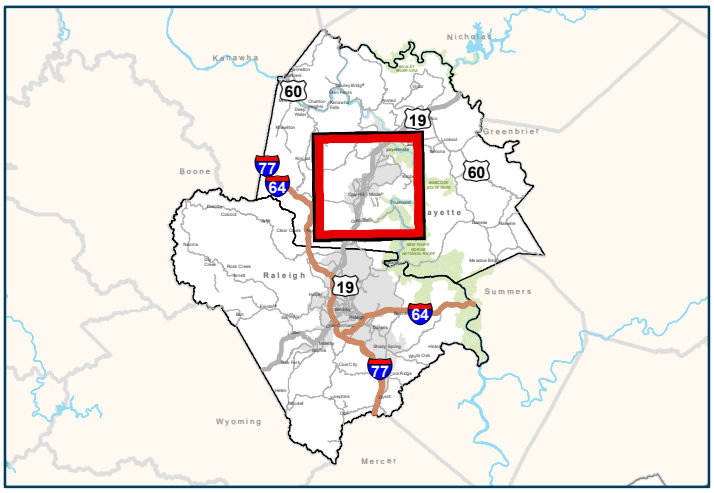
2026-2035

LRTP Goals Supported

Goal 2 (Safety)

Project Map

1 inch = 21,600 feet
1 inch = 4.09 miles



Vicinity Map

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https://www.frmpo.org/

Project: S-30

Description of Improvements

Safety improvements at US 19 (N Eisenhower Drive) and Rural Acres Drive/ Stanaford Road including reconstructing the right turn lane on northbound approach as recommended in US 19 Corridor Study.

Project Considerations

First Implementation Action: Initiate final design with WVDOH.

Key Implementation Factors: There is a possibility that this intersection will be reconstructed as part of another phase of the Beckley Bypass project. However, at this time, the construction contract has not been awarded. If the intersection reconstruction project falls through, then the aforementioned improvements could be considered to reduce the number of crashes at this location.

Project Partners

Sponsor: City of Beckley
Support: WVDOH

Estimated Project Cost

TOTAL: $900,000
(in Year of Expenditure Dollars)

Implementation Timeline

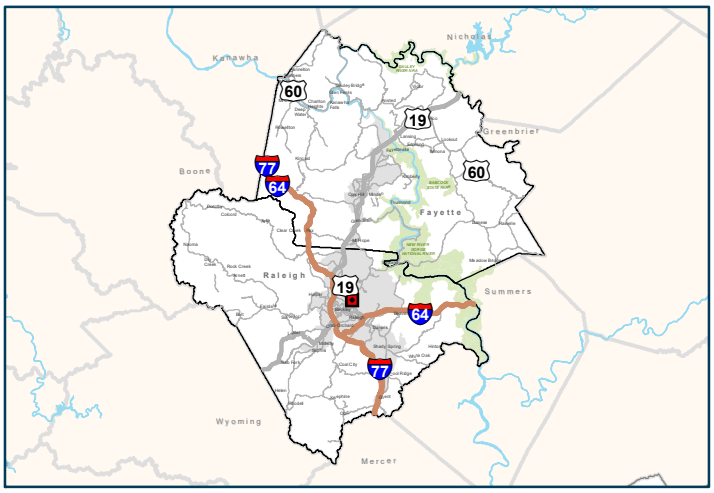
2021-2025

LRTP Goals Supported

Goal 2 (Safety) and Goal 5 (System Efficiency)

Project Map

1 inch = 200 feet
1 inch = 0.04 miles



Vicinity Map

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Project: S-31

Description of Improvements

Improve bridge and culvert over Dunloup Creek.

Project Considerations

First Implementation Action: Preliminary engineering study to identify recommended improvements, costs, and impacts.

Key Implementation Factors: Identifying cost effective improvements and minimizing project impacts. Key environmental issues include permitting and mitigation related to the stream crossing and 100-year floodplain and Section 4(f) considerations including coordination with the National Park Service due to the project's location in the New River Gorge National Park and Preserve.

Project Partners

Sponsor: WVDOH
Support: Fayette County

Estimated Project Cost

TOTAL: $2,500,000
(in Year of Expenditure Dollars)

Implementation Timeline

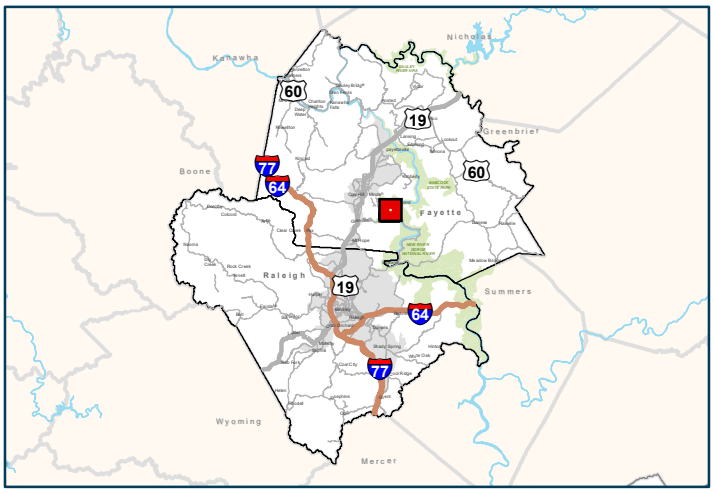
2021-2025

LRTP Goals Supported

Goal 1 (Economic Vitality), Goal 3 (System Preservation), and Goal 6 (Quality of Life)

Project Map

1 inch = 2,400 feet
1 inch = 0.45 miles



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Project: S-32

Description of Improvements

Pedestrian safety improvements on A Street from Minnesota Avenue to Kanawha Street as described in the WVU Tech - Bicycle and Pedestrian Study, 2018., including addition of pedestrian crossing between Minnesota Avenue and Kanawha Street, utilizing speed tables and special signing to raise motorist awareness and slow their speeds.

Project Considerations

First Implementation Action: Develop preliminary engineering study to further define improvements and coordinate approval of uncontrolled crossings and speed table with WVDOH.

Key Implementation Factors: Identify project funding source.

Project Partners

Sponsor: City of Beckley
Support: WVU Tech

Estimated Project Cost

TOTAL: $70,000
(in Year of Expenditure Dollars)

Implementation Timeline

2021-2025

LRTP Goals Supported

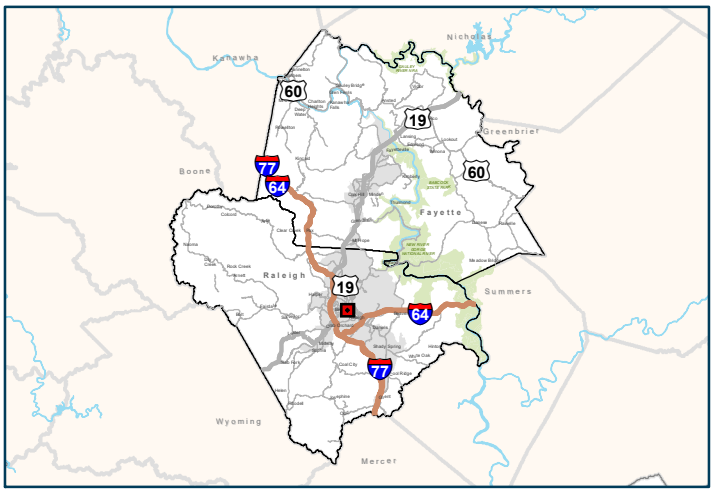
Goal 2 (Safety) and Goal 4 (Access and Mobility)

https://www.uctcsrts.com/traffic-calming.html

Project Detail

Project Map

1 inch = 300 feet
1 inch = 0.06 miles



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Project: S-33

Description of Improvements

Provide an ADA-compliant connection from the WVU Tech residence hall to the YMCA of Southern West Virginia, within the public right-of-way, as described in the WVU Tech - Bicycle and Pedestrian Study, 2018.

Project Considerations

First Implementation Action: Preliminary engineering study to establish specific improvements needed for an ADA compliant route.

Key Implementation Factors: Benching may be needed along walk to achieve ADA compliance which could potentially require short retaining walls to avoid property impacts, which could increase the project cost. The project is located in the Beckley Courthouse Square Historic District, which may require additional environmental review.

Project Partners

Sponsor: City of Beckley
Support: WVDOH, WVU Tech

Estimated Project Cost

TOTAL: $140,000
(in Year of Expenditure Dollars)

Implementation Timeline

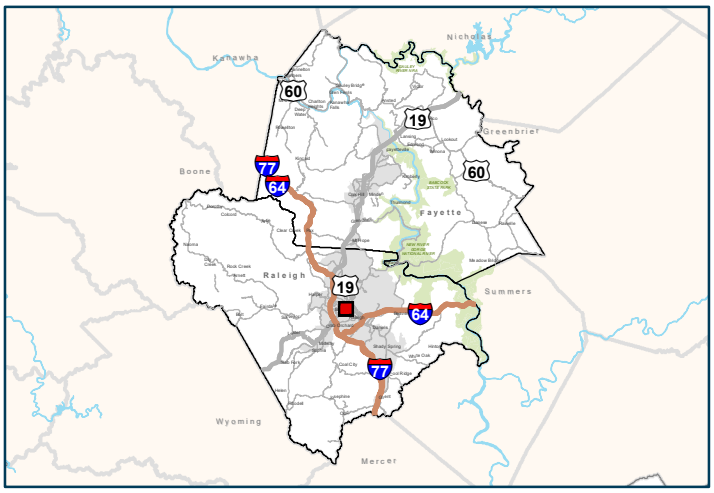
2021-2025

LRTP Goals Supported

Goal 2 (Safety), Goal 4 (Access and Mobility), and Goal 7 (System Connectivity)

Project Map

1 inch = 500 feet
1 inch = 0.09 miles



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Project: S-34

Description of Improvements

Create a connection from WVU Tech to the Beckley Rail Trail with signing and pavement markings to connect the campus to the surrounding bicycle network, and to provide students with a means for accessing commercial destinations in the surrounding region, as described in the WVU Tech - Bicycle and Pedestrian Study, 2018. Consider potential inclusion of a bicycle activated signal at the Eisenhower Drive crossing.

Project Considerations

First Implementation Action: Complete study to define route and specific improvements.

Key Implementation Factors: Two options for traveling back to campus from the Beckley Rail Trail were identified in the WVU Tech - Bicycle and Pedestrian Study, 2018. One of the options may be more bicycle and pedestrian friendly but would require the purchase of additional right-of-way. The other option would not require new right-of-way. The study recommends considering both options. The project is partially located in the Beckley Courthouse Square Historic District, which may require additional environmental review.

Project Partners

Sponsor: City of Beckley
Support: WVDOH, WVU Tech

Estimated Project Cost

TOTAL: $30,000
(in Year of Expenditure Dollars)

Implementation Timeline

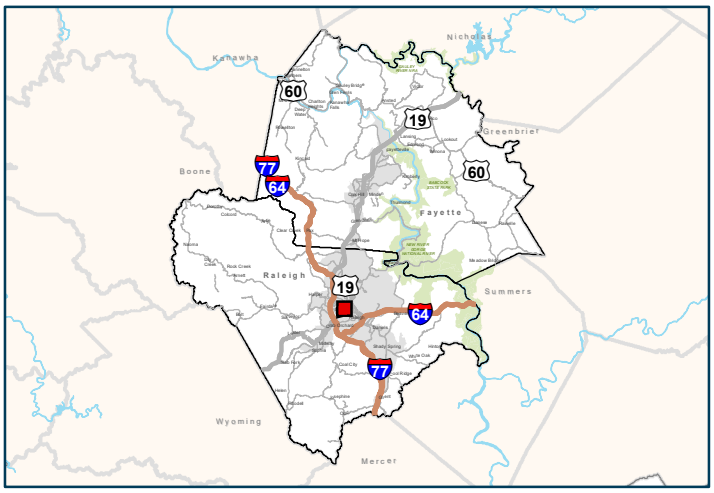
2021-2025

LRTP Goals Supported

Goal 2 (Safety), Goal 4 (Access and Mobility), and Goal 7 (System Connectivity)

Project Map

1 inch = 700 feet
1 inch = 0.13 miles



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Project: S-35

Description of Improvements

Building a connection from WVU Tech to the YMCA Paul Cline Memorial Youth Sports Complex to provide student athletes and coaches with a path to and from the complex and connect to the surrounding community, as described in the WVU Tech - Bicycle and Pedestrian Study, 2018.

Project Considerations

First Implementation Action: Develop feasibility study to further define improvements.

Key Implementation Factors: Identify project funding source(s) and minimize project impacts to environmental justice communities. Need to further study private right-of-way acquisition feasibility.

Project Partners

Sponsor: City of Beckley
Support: WVDOH, WVU Tech

Estimated Project Cost

TOTAL: $400,000
(in Year of Expenditure Dollars)

Implementation Timeline

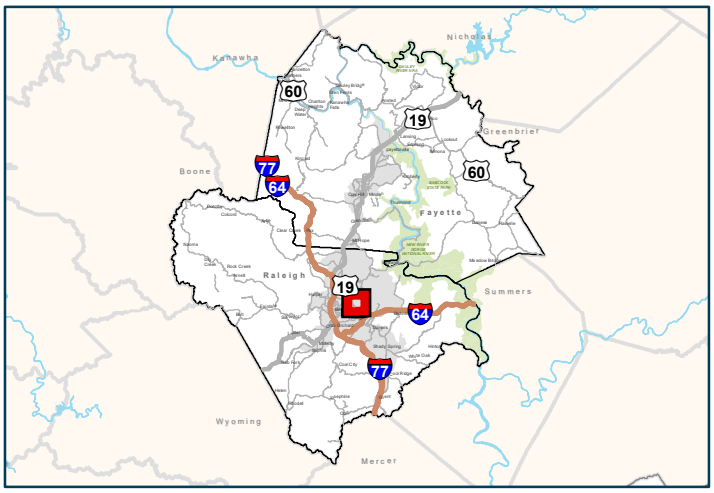
2026-2035

LRTP Goals Supported

Goal 2 (Safety) and Goal 4 (Access and Mobility)

Project Map

1 inch = 3,600 feet
1 inch = 0.68 miles



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Project: S-36

Description of Improvements

Upgrade access to US 19 at Maple Fork Road to a grade separated interchange to improve safety and operations.

Project Considerations

First Implementation Action: preliminary engineering study to identify recommended improvements, costs, and impacts.

Key Implementation Factors: Study will have to identify and evaluate options for an interchange location and type that will improve safety and access, and minimize environmental impacts, property impacts, and project costs. It is anticipated that this interchange would eliminate the signalized intersection at Maple Fork Road, which was identified as a high-crash location. Potential for utility impacts and right-of-way impacts. Depending on project footprint, may need to review and mitigate for hazardous materials due to location of gas station in the southwest corner of the existing intersection.

Project Partners

Sponsor: WVDOH
Support: Raleigh County

Estimated Project Cost

TOTAL: $33,400,000
(in Year of Expenditure Dollars)

Implementation Timeline

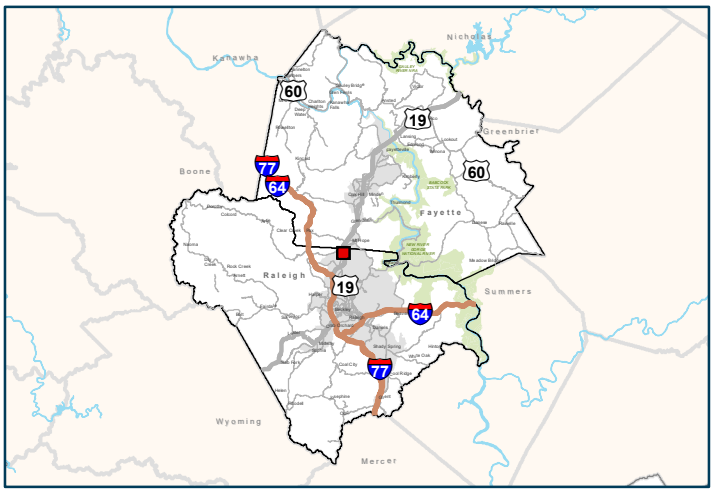
2036-2045

LRTP Goals Supported

Goal 2 (Safety) and Goal 5 (System Efficiency)

Project Map

1 inch = 200 feet
1 inch = 0.04 miles



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Project: S-37

Description of Improvements

Bicycle and Pedestrian safety improvements at the intersection of White Oak Rail Trail and WV 61.

Project Considerations

First Implementation Action: Initiate project study and design with WVDOH

Key Implementation Factors: The study should evaluate options for improvements to mitigate offset intersection confusion through use of signing, pavement markings, and potentially beacons/signals.

Project Partners

Sponsor: City of Oak Hill
Support: WVDOH

Estimated Project Cost

TOTAL: $150,000
(in Year of Expenditure Dollars)

Implementation Timeline

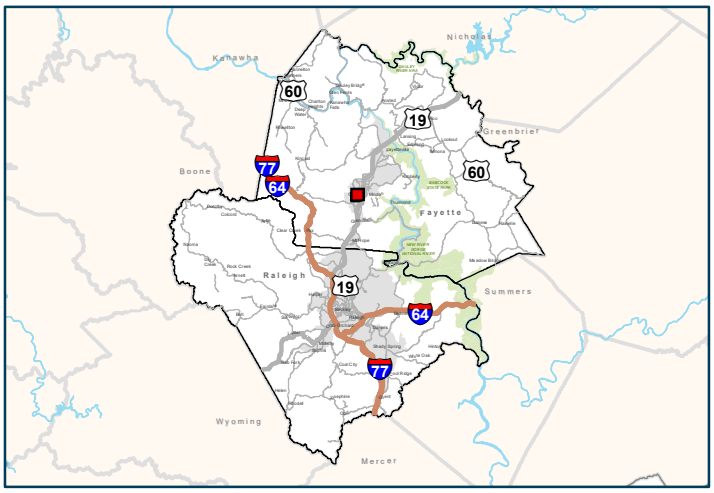
2021-2025

LRTP Goals Supported

Goal 2 (Safety), Goal 4 (Access and Mobility), and Goal 7 (System Connectivity)

Project Map

1 inch = 200 feet
1 inch = 0.04 miles



Vicinity Map

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Project: S-38

Description of Improvements

Add sidewalks on both sides of Harper Road from Northwestern Avenue to Dry Hill Road.

Project Considerations

First Implementation Factor: Initiate project design with WVDOH.

Key Implementation Factors: There are several locations along the corridor where right-of-way constraints are present that could make it challenging to fit sidewalks on both sides of Harper Road without impacts.

Project Partners

Sponsor: City of Beckley
Support: WVDOH

Estimated Project Cost

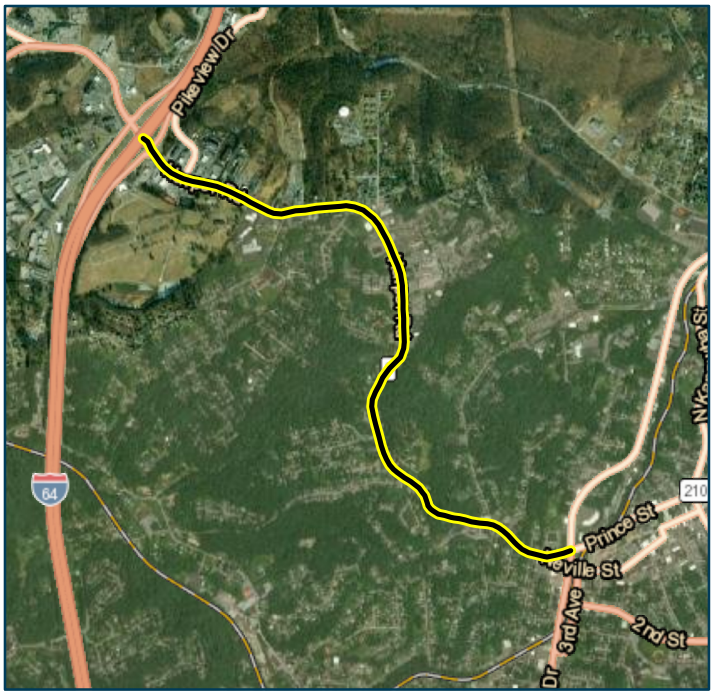
TOTAL: $2,000,000
(in Year of Expenditure Dollars)

Implementation Timeline

2026-2035

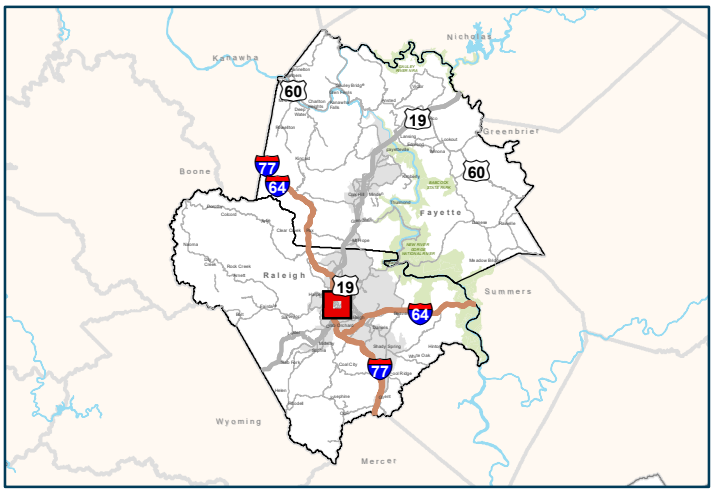
LRTP Goals Supported

Goal 2 (Safety) and Goal 4 (Access and Mobility)



Project Map

1 inch = 3,600 feet
1 inch = 0.68 miles



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Project: S-40

Description of Improvements

Improve priority high crash locations in Fayette and Raleigh counties including multimodal safety improvements where warranted. The priority high crash locations, which are shown on the map to the right, include: WV 16 (Robert C. Byrd Drive) and Kanawha Street, WV 16 (Robert C. Byrd Drive) and Fearn Street, WV 16 (Robert C. Byrd Drive) and Central Avenue/Third Avenue, WV 16 (Robert C. Byrd Drive) and Citizens Drive/Beckley Crossing, WV 16 (Robert C. Byrd Drive) and Pinewood Drive/Industrial Drive, WV 16 (Robert C. Byrd Drive) and Walmart, Harper Road and Harper Park Drive, Deepwater Mountain Road and Armstrong Creek Road, US 60 and Michigan Avenue/Virginia Avenue, and Okay Patterson Road and Scarbro Road.

Project Considerations

First Implementation Action: Prepare safety studies at highest priority locations to identify recommended improvements and identify funding source for improvements.

Key Implementation Factors: Identifying cost effective improvements and minimizing negative property and environmental impacts.

Project Partners

Sponsor: Agency with Jurisdiction
Support: Other impacted jurisdictions

Estimated Project Cost

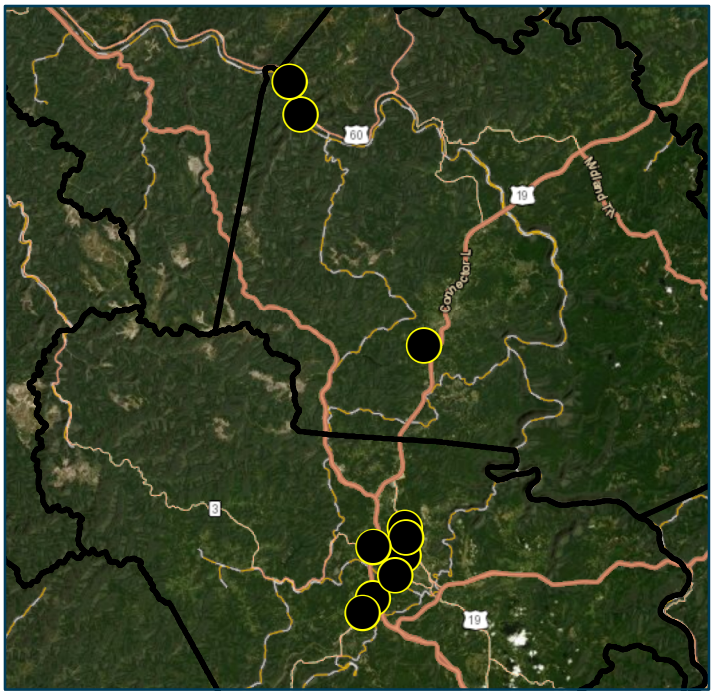
TOTAL: Horizon 1 (2021-2025) - $2,000,000
Horizon 2 (2025-2035) - $6,000,000
Horizon 3 (2036-2045) - $9,000,000
(in Year of Expenditure Dollars)

Implementation Timeline

To be determined based on funding availability and priority.

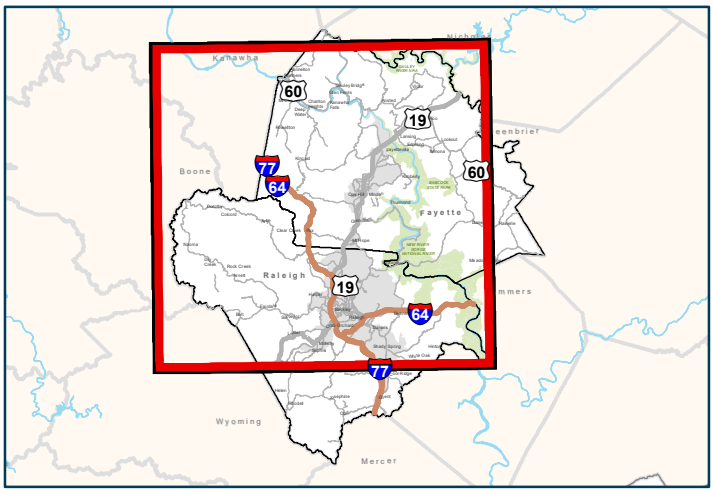
LRTP Goals Supported

Goal 2 (Safety) and Goal 5 (System Efficiency)



Project Map

1 inch = 72,000 feet
1 inch = 13.64 miles



Vicinity Map

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Project: T-2

Description of Improvements

Signal operations improvements on WV 3 (Harper Road) from Dry Hill Road to Carriage Drive.

Project Considerations

First Implementation Action: Implement improvements.

Key Implementation Factors: No significant challenges anticipated.

Project Partners

Sponsor: WVDOH
Support: City of Beckley

Estimated Project Cost

TOTAL: $225,000
(in Year of Expenditure Dollars)

Implementation Timeline

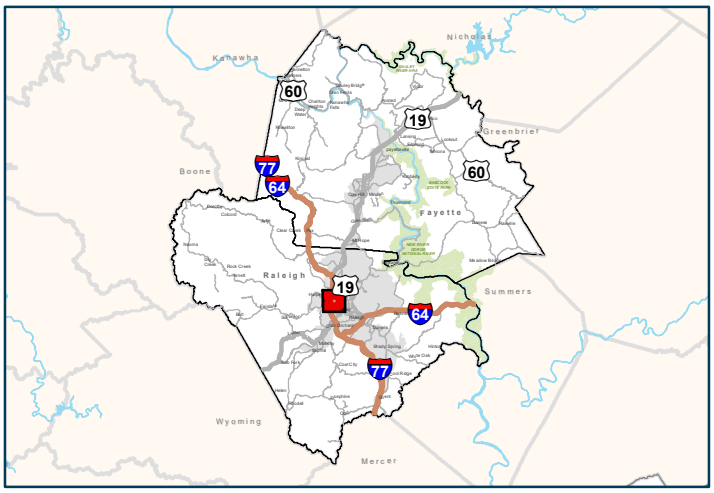
2021-2025

LRTP Goals Supported

Goal 2 (Safety) and Goal 5 (System Efficiency)

Project Map

1 inch = 2,400 feet
1 inch = 0.45 miles



Vicinity Map

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Project: T-4

Description of Improvements

Reconstruct Beckley Crossing Shopping Center roadway from US 19 (N. Eisenhower Drive) to WV 16 (Robert C. Byrd Drive) as described in the US 19 (Eisenhower Drive/Robert C. Byrd Drive) Corridor Study, 2018. Convert to a defined street with curbs, sidewalks, and further define parking areas. Improve intersections with US 19 and WV 16.

Project Considerations

First Implementation Action: Preliminary engineering study to refine needed improvements and costs.

Key Implementation Factors: Coordination with the Beckley Crossing Shopping Center property owners will be necessary. Constructing curbs would provide better access control but would result in a loss of approximately 50 parking spaces. It appears from the county assessor's records that the right-of-way is already established for the roadway.

Project Partners

Sponsor: City of Beckley
Support: WVDOH

Estimated Project Cost

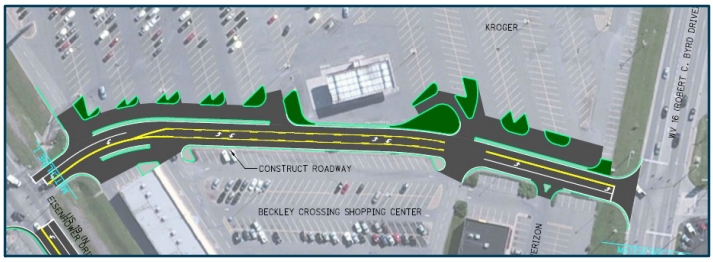
TOTAL: $2,100,000
(in Year of Expenditure Dollars)

Implementation Timeline

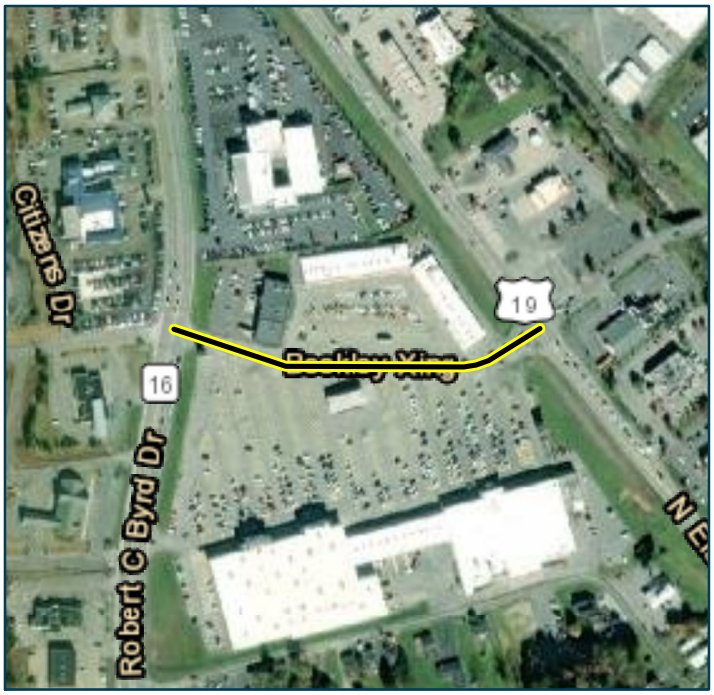
2026-2035

LRTP Goals Supported

Goal 2 (Safety), Goal 4 (Access and Mobility), Goal 5 (Efficiency), and Goal 7 (System Connectivity)

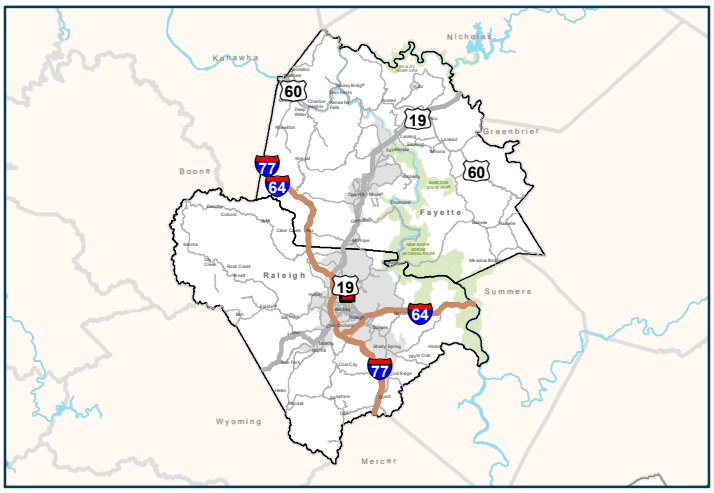


Project Detail



Project Map

1 inch = 600 feet
1 inch = 0.11 miles



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Project: T-6

Description of Improvements

Signal operations improvements on US 19 (N Eisenhower Drive) from WV 16 (Robert C. Byrd Drive) to Dunn Drive including minor equipment/detection upgrades and timing optimization.

Project Considerations

First Implementation Action: Initiate project with WVDOH.

Key Implementation Factors: No significant impacts or challenges anticipated.

Project Partners

Sponsor: City of Beckley
Support: WVDOH

Estimated Project Cost

TOTAL: $100,000
(in Year of Expenditure Dollars)

Implementation Timeline

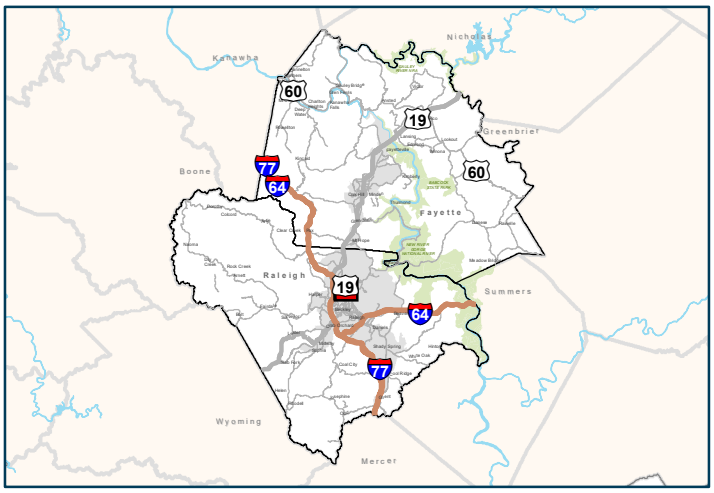
2021-2025

LRTP Goals Supported

Goal 2 (Safety) and Goal 5 (System Efficiency)

Project Map

1 inch = 2,400 feet
1 inch = 0.45 miles



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Project: T-7

Description of Improvements

Add Two-way Left Turn Lane on US 19 from Deeds Drive to Brookshire Lane.

Project Considerations

First Implementation Action: Preliminary engineering study to identify recommended improvements, costs, and impacts.

Key Implementation Factors: Identifying cost effective improvements and minimizing negative project impacts.

Project Partners

Sponsor: WVDOH

Support: City of Beckley, Raleigh County

Estimated Project Cost

TOTAL: $3,300,000

(in Year of Expenditure Dollars)

Implementation Timeline

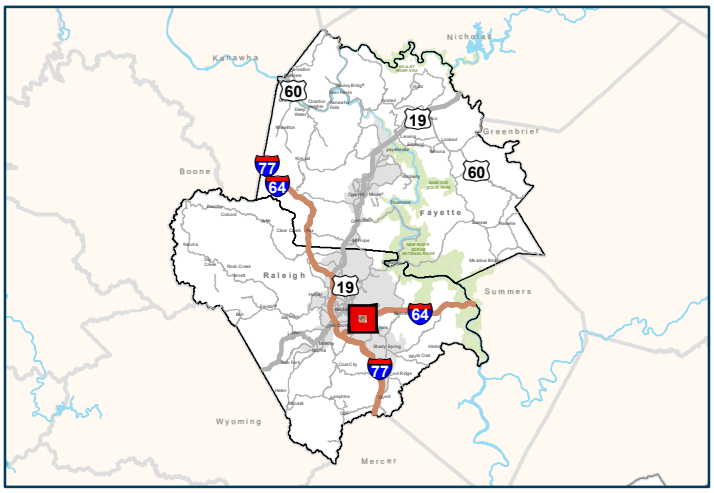
2036-2045

LRTP Goals Supported

Goal 2 (Safety) and Goal 5 (System Efficiency)

Project Map

1 inch = 3,600 feet
1 inch = 0.68 miles



Vicinity Map

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Project: T-8

Description of Improvements

Signal operations improvements on WV 16 (Robert C. Byrd Drive) from Reading Street to Old Eccles Road including minor equipment/detection upgrades and timing optimization.

Project Considerations

First Implementation Action: Initiate project with WVDOH

Key Implementation Factors: No significant impacts or challenges anticipated.

Project Partners

Sponsor: WVDOH
Support: Raleigh County

Estimated Project Cost

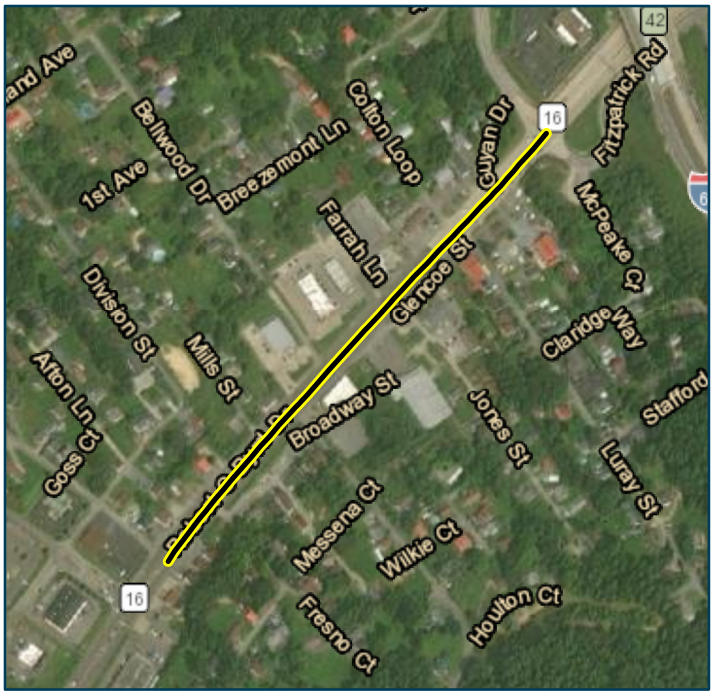
TOTAL: $65,000
(in Year of Expenditure Dollars)

Implementation Timeline

2021-2025

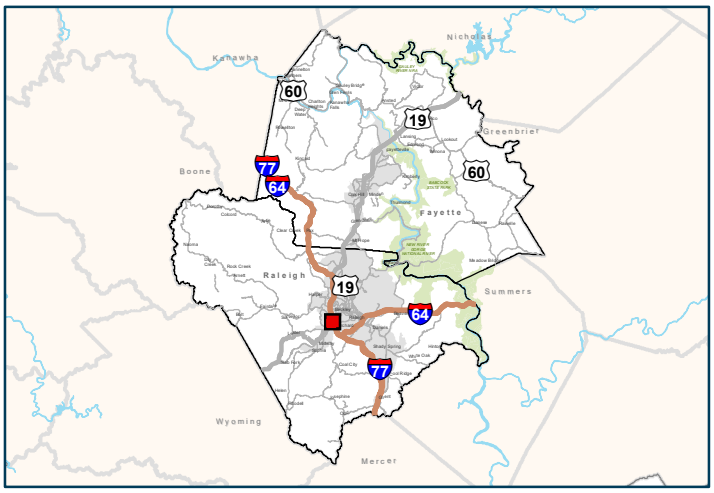
LRTP Goals Supported

Goal 2 (Safety) and Goal 5 (System Efficiency)



Project Map

1 inch = 800 feet
1 inch = 0.15 miles



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Project: T-12

Description of Improvements

Improve access and safety to airport from Beaver. Improve WV 307 (Airport Road) between Beaver and I-64 to reduce geometric deficiencies and add a northbound truck climbing lane.

Project Considerations

First Implementation Action: Preliminary engineering study to identify recommended improvements, costs, and impacts.

Key Implementation Factors: Identifying an improvement option that improves the connections and minimizes costs, environmental impacts, and impacts to the 100-year floodplain. A portion of the corridor could require a significant amount of fill.

Project Partners

Sponsor: WVDOH
Support: Raleigh County, Raleigh County Memorial Airport

Estimated Project Cost

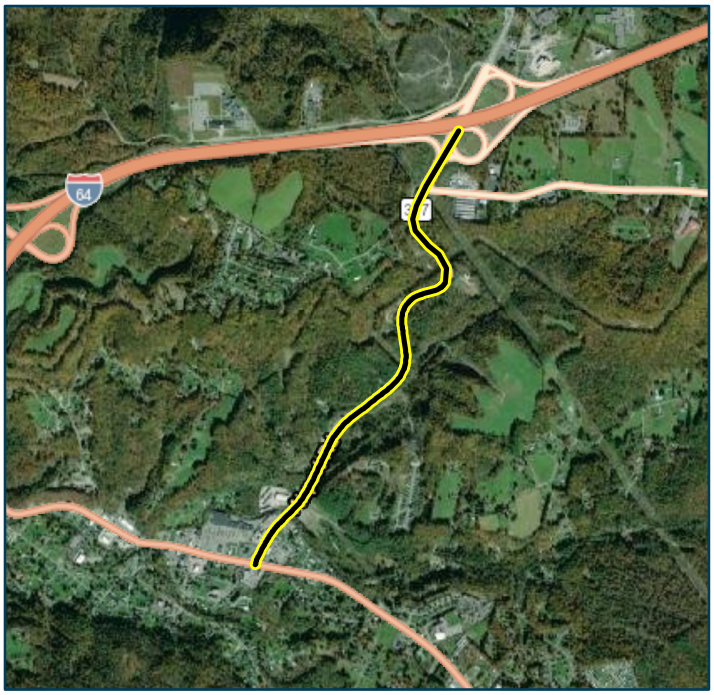
TOTAL: $6,000,000
(in Year of Expenditure Dollars)

Implementation Timeline

2026-2035

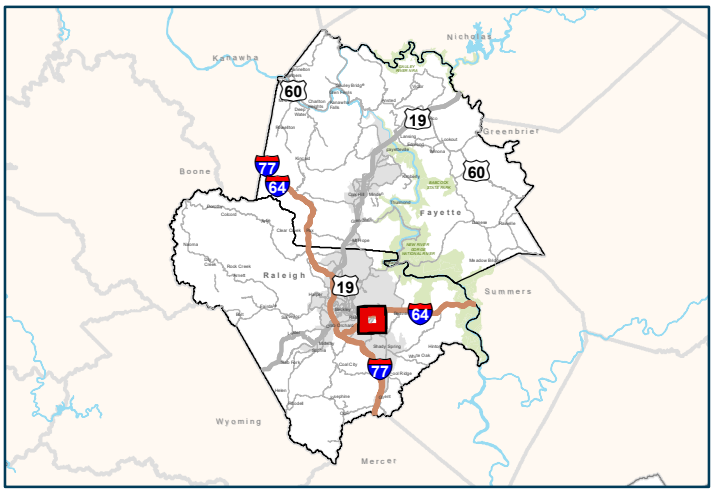
LRTP Goals Supported

Goal 1 (Economic Vitality), Goal 4 (Access and Mobility), Goal 5 (Efficiency), and Goal 7 (System Connectivity)



Project Map

1 inch = 3,600 feet
1 inch = 0.68 miles



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Project: T-30

Description of Improvements

Align southbound approach at US 19 (N Eisenhower Drive)/Beckley Crossing intersection as recommended in the US 19 Corridor Study, 2020.

Project Considerations

First Implementation Action: Initiate final design with WVDOH.

Key Implementation Factors: No significant challenges expected. Given the existing pavement width along the southbound approach, the lanes could be aligned within the existing pavement through striping and new curb along the east side of the roadway.

Project Partners

Sponsor: City of Beckley
Support: WVDOH

Estimated Project Cost

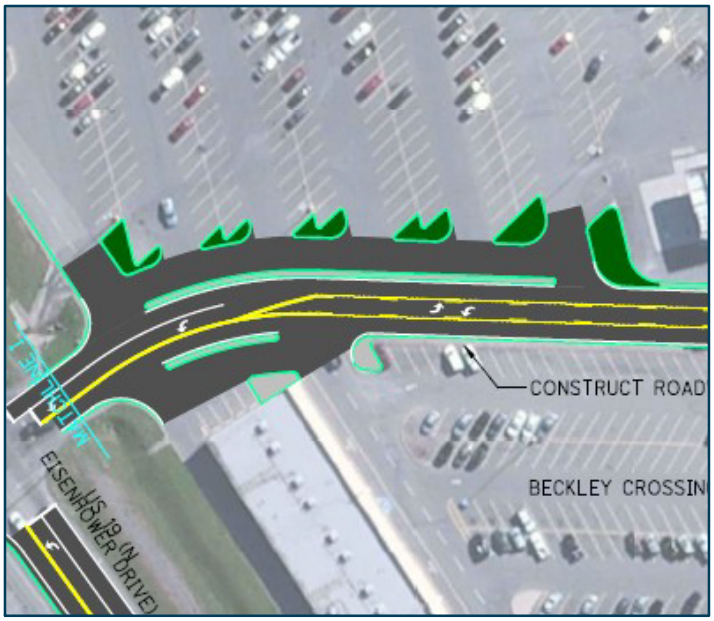
TOTAL: $110,000
(in Year of Expenditure Dollars)

Implementation Timeline

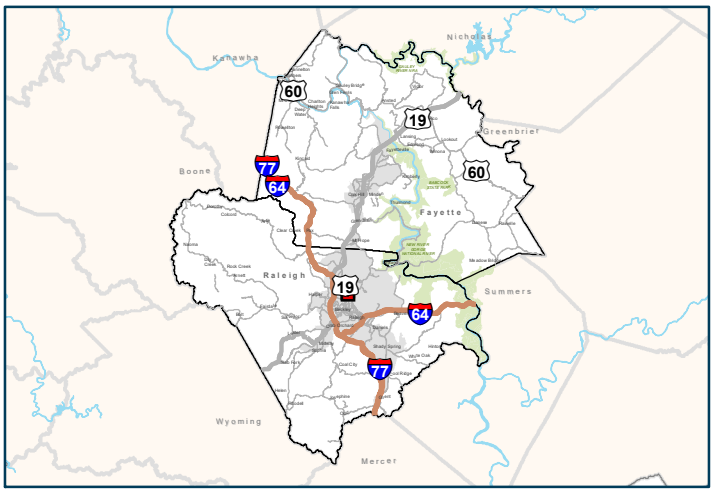
2021-2025

LRTP Goals Supported

Goal 2 (Safety)



Project Map



Vicinity Map

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Project: T-31

Description of Improvements

Reconfigure the eastbound and westbound approaches and eliminate a southbound through lane as recommended in the US 19 Corridor Study, 2018.

Project Considerations

First Implementation Action: Initiate final design with WVDOH.

Key Implementation Factors: Start utility coordination early. There are overhead utilities/pole locations within the intersection and some buried utilities in the southeast corner of the intersection that may be challenging.

Project Partners

Sponsor: WVDOH
Support: City of Beckley

Estimated Project Cost

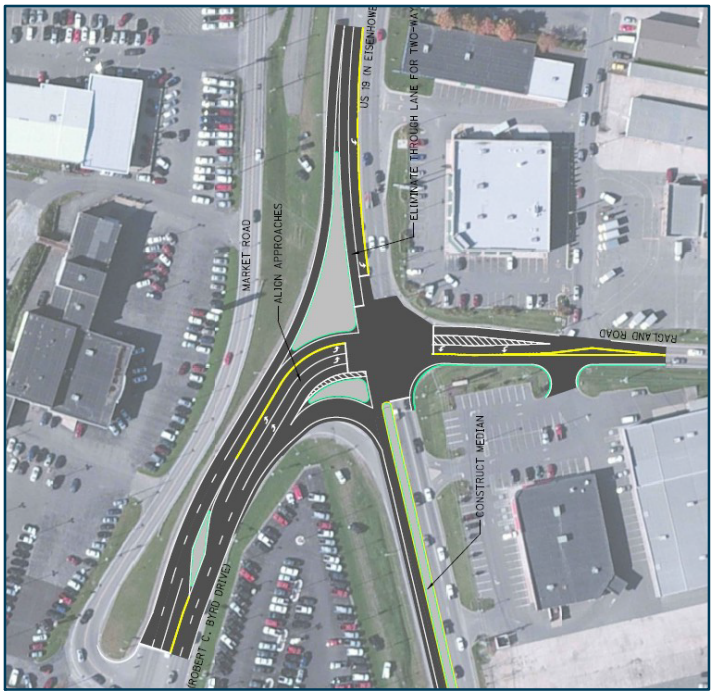
TOTAL: $2,000,000
(in Year of Expenditure Dollars)

Implementation Timeline

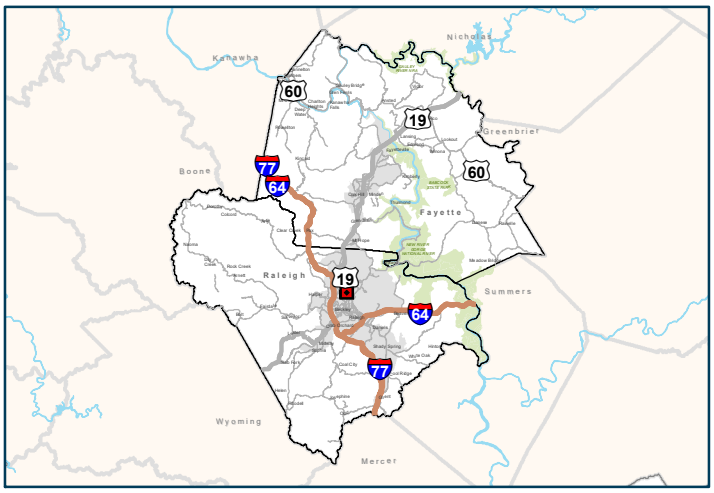
2021-2025

LRTP Goals Supported

Goal 5 (System Efficiency)



Project Map



Vicinity Map

Fayette Raleigh Metropolitan Planning Commission
(304) 872-4970 | 885 Broad Street Suite 100,
Summersville, WV 26651
https://www.frmpo.org/

Project: T-32

Description of Improvements

Construct dual westbound left-turn lanes and an exclusive northbound right-turn lane at WV 16 (Robert C. Byrd Drive) as recommended in the WV 16 Corridor Study, 2020.

Project Considerations

First Implementation Factor: Initiate final design with WVDOH.

Key Implementation Factors: Minimizing property and utility impacts. Maintenance of traffic during construction including maintaining access for trucks to adjacent gas station. Improve intersection sight distance at the southwest corner with hillside.

Project Partners

Sponsor: City of Beckley
Support: WVDOH

Estimated Project Cost

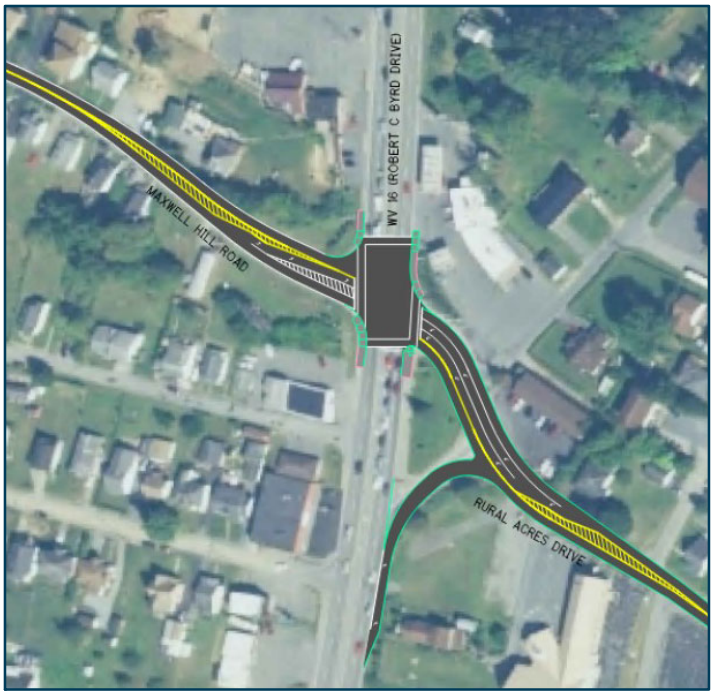
TOTAL: $1,300,000
(in Year of Expenditure Dollars)

Implementation Timeline

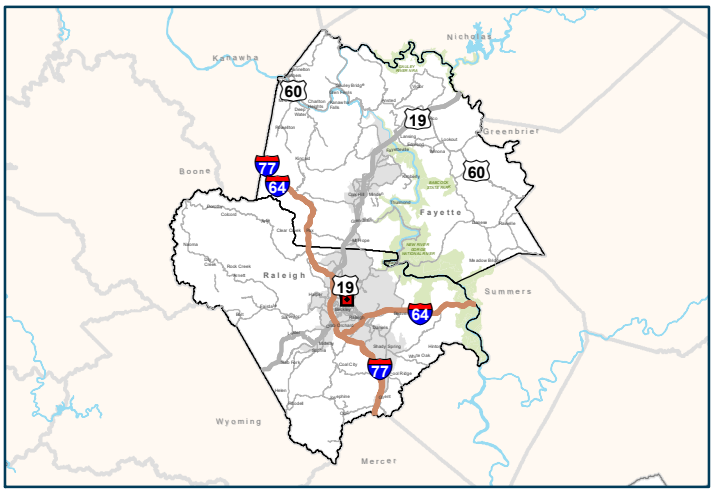
2021-2025

LRTP Goals Supported

Goal 2 (Safety) and Goal 5 (System Efficiency)



Project Map



Vicinity Map

FRM
Fayette Raleigh Metropolitan Planning Organization

Fayette Raleigh Metropolitan Planning Commission
(304) 872-4970 | 885 Broad Street Suite 100,
Summersville, WV 26651
https://www.frmpo.org/

Project: T-33

Description of Improvements

Improve access and safety to airport by improving Airport Road from I-64 to the airport to reduce geometric deficiencies.

Project Considerations

First Implementation Action: Preliminary engineering study to further define recommended improvements, costs, and impacts.

Key Implementation Factors: Identifying an improvement option that improves the connection and minimizes costs and environmental impacts.

Project Partners

Sponsor: WVDOH

Support: Raleigh County, Raleigh County Memorial Airport

Estimated Project Cost

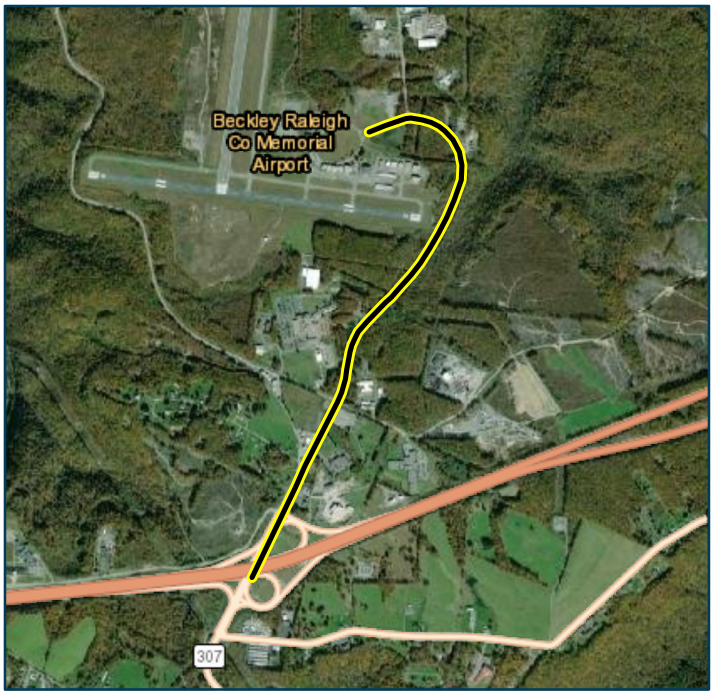
TOTAL: $4,000,000

(in Year of Expenditure Dollars)

Implementation Timeline

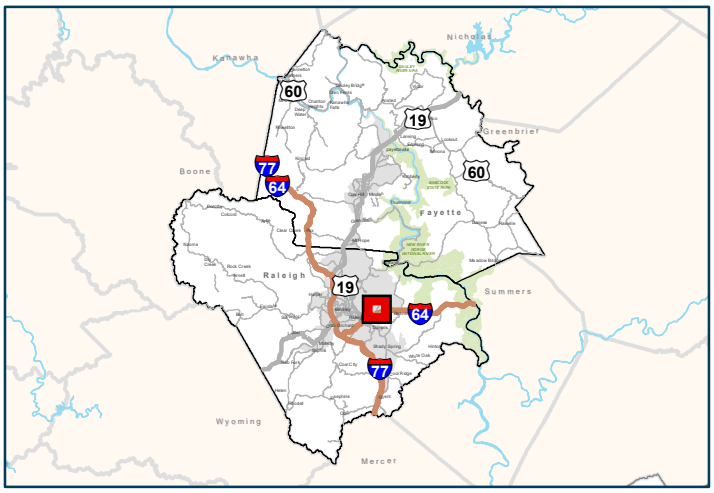
2021-2025

LRTP Goals Supported



Project Map

1 inch = 3,600 feet
1 inch = 0.68 miles



Vicinity Map

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TRANSIT RECOMMENDATIONS

Table 7-6 through **Table 7-8** show the proposed transit investments for the region during the period of the 2045 Plan. It includes needs for ongoing and expanded transit operations, preventive maintenance and capital projects, including regular vehicle replacements and the addition of more shelters and other amenities at bus stops.

This list is based on a discussion with NRTA in November 2020 and reviewed by NRTA in September 2021. As the MPO continues to work on transit planning activities with NRTA and local governments, the region's goals for transit service may evolve and will be reflected in future Plan updates.

Table 7-6: Proposed Transit Investments for 2021-2025

PROJ NO	PROJECT	TYPE OF IMPROVEMENT	COUNTY	DESCRIPTION	PLAN COST (YOE)
TR-1	Operate deviated fixed route transit service	Operations	Fayette, Raleigh	Maintain service for NRTA routes	$4,830,000
TR-2	Vehicle replacements	Capital	-	Add vehicles as needed to provide planned new service. Replace transit vehicles that have reached the end of their useful life	$1,100,000
TR-3	Building/facility maintenance and equipment	Prev. Maint.	-	Routine maintenance, repairs to equipment, operating facilities and passenger facilities.	$100,000
TR-4	Bus stop amenities (benches, shelters, signage)	Capital	Fayette, Raleigh	Add or replace passenger amenities along regular transit routes	$250,000
TR-5	Dispatching software and Automatic Vehicle Location system	Capital	-	Acquire technology to assist in scheduling and real-time routing	$300,000
Total Transit Costs, 2021 to 2025					**$6,580,000**

Table 7-7: Proposed Transit Investments for 2026-2035

PROJ NO	PROJECT	TYPE OF IMPROVEMENT	COUNTY	DESCRIPTION	PLAN COST (YOE)
TR-6	Operate deviated fixed route transit service	Operations	Fayette, Raleigh	Maintain service for NRTA routes	$8,250,000
TR-7	Building/facility maintenance and equipment	Prev. Maint.	-	Routine maintenance, repairs to equipment, operating facilities and passenger facilities.	$200,000
TR-8	Bus stop amenities (benches, shelters, signage, etc.)	Capital	Fayette, Raleigh	Add or replace passenger amenities along regular transit routes	$500,000
TR-9	Upgrade communications / dispatching software	Capital	-		$300,000
TR-10	Vehicle fleet expansion and replacements	Capital	-	Add vehicles as needed to provide planned new service. Replace transit vehicles that have reached the end of their useful life	$2,200,000
TR-11	Enhance service for New River Transit city routes	Operations	Raleigh	Add evening and weekend service.	$9,000,000
TR-12	Enhance Fayette County deviated fixed-route service	Operations	Fayette	Improve headways (frequency). Consider weekend service.	$2,500,000
TR14	Mini-hub / transfer point on N Eisenhower Drive	Capital	Raleigh	Consider Beckley Crossings area	$100,000
TR-15	Transit hub in Oak Hill	Capital	Fayette	Co-locate with public facility / parking	$100,000
Total Transit Costs, 2026 to 2035					**$23,150,000**

Table 7-8: Proposed Transit Investments for 2036 – 2045

PROJ NO	PROJECT	TYPE OF IMPROVEMENT	COUNTY	DESCRIPTION	PLAN COST (YOE)
TR-16	Operate deviated fixed route transit service	Operations	Fayette, Raleigh	Maintain service for NRTA routes	$23,500,000
TR-17	Building/facility maintenance and equipment	Prev. Maint.	-	Routine maintenance, repairs to equipment, operating facilities and passenger facilities.	$250,000
TR-18	Bus stop amenities (benches, shelters, signage)	Capital	Fayette, Raleigh	Add or replace passenger amenities along regular transit routes	$500,000
TR-19	Rehabilitation of transit center / administrative facilities	Capital	Raleigh		$1,000,000
TR-20	Vehicle replacements and expansion	Capital	-	Replace transit vehicles that have reached the end of their useful life. Add vehicles as need to provide planned new service.	$3,300,000
TR-22	Mini-hubs in Mount Hope and Fayetteville	Capital	Fayette	Co-locate with public facility / parking	$150,000
TR-23	Connecting service to KAT (Charleston) and BAT	Operations	Fayette	Provide service to a stop in northwest Fayette County where passengers can transfer between NRTA and KAT	$250,000
Total Transit Costs, 2036 to 2045					**$28,950,000**

PLANNING STRATEGIES

Some of the high priority needs identified during the planning process could not be addressed through a specific transportation improvement project. Instead, additional planning or policy solutions may be required to address these needs. The planning strategies described in this section are intended to help guide FRMPO's planning efforts during the five-year period until the next RTP update. Information about leadership, potential partners, next steps, and recommended timeframes for implementation are provided for each strategy.

Continue to Complete Corridor Studies

FRMPO completed a Corridor Review and Prioritization study in 2017. The study identified corridors to prioritize for future study and improvement efforts. Two of the corridors (US 19 from Dunn Drive to Johnstown Road and WV 16 from Veterans Drive to Maxwell Hill Road/Rural Acres Drive) have since been studied. This strategy recommends that FRMPO complete studies on the remaining prioritized corridors.

Leadership: FRMPO
Potential Partners: WVDOT, Fayette County, Raleigh County, local communities
Next Steps: Identify funding and initiate next study
Timeframe: Begin 2022

Regional Active Transportation Plan

Develop a coordinated regional Active Transportation Plan (ATP) to identify and prioritize bicycle and pedestrian improvements for Fayette and Raleigh counties. The ATP should include a 10-year action plan to implement improvements necessary to complete the active transportation network. Implementation of the plan will rely heavily on the identification of additional funding.

Leadership: FRMPO
Potential Partners: Beckley-Raleigh Health Department, Fayette County Health Department, WVDOT, local communities, and Mountain State Trail Alliance
Next Steps: Identify sponsor and funding for plan development
Timeframe: Begin 2022

Regional Tourism Transportation Plan

Establish a working group to oversee development of a Regional Tourism Transportation Plan that evaluates transportation needs and priorities related to travel and tourism for the FRMPO region. The working group should include representatives from the National Park Service, local governments, WVDOT, local tourism-oriented businesses, NRTA, and Amtrak. Develop a 10-year implementation plan that identifies regional transportation-related tourism needs and recommended improvements and strategies to address those needs.

Leadership: FRMPO
Potential Partners: National Park Service, local communities, WVDOT, local businesses, NRTA, Amtrak
Next Steps: Establish regional travel and tourism working group
Timeframe: Begin 2023

Develop a Campaign for a Transit Levy

Establish a working group to develop a transit levy campaign to secure a reliable, long-term local funding source for transit service. The working group should include local agency representatives, elected officials, interested citizens, and public finance experts. The working group will develop a transit levy campaign strategy and implementation plan aimed at building public awareness of regional transit needs and gaining public support for a transit levy.

Leadership: NRTA
Potential Partners: FRMPO, WVDOT, local communities
Next Steps: Establish Working Group
Timeframe: Begin 2022

US 19 Corridor Access Study

Conduct a US 19 Corridor Access Study to consider long-term needs for needs and improvements for the US 19 corridor between Beckwith Road and Wood Mountain Road in Fayette County. This is a key corridor in the region for economic development and, with the National Park designation, it will likely see a significant increase in traffic. The study should look at how US-19 could change in the future, including consideration of converting this portion of US-19 to a limited-access facility.

Leadership: FRMPO
Potential Partners: WVDOT, Fayette County, local communities
Next Steps: Identify funding for study development
Timeframe: Begin 2022

Chapter 8 Environmental Screening

One of the Fayette/Raleigh MPO's adopted goals is for the transportation system to help protect and enhance the natural and cultural environment. The analysis in this chapter evaluates how well the 2045 Plan meets that goal. The FAST Act also requires this type of review to ensure that appropriate consideration is given to potential environmental, historic and cultural impacts of the projects proposed in the Plan, as well as potential mitigation strategies.

This review flags specific projects that may have environmental impacts, so that the discussion of avoidance and/or mitigation can begin early. More recently, MPOs have begun to consider the relationship of the natural environment and the transportation system at a much broader scale, in terms of climate change and the network's resiliency to extreme weather events.

This chapter also assesses the extent to which the 2045 Plan fulfills the principles of Environmental Justice. A geographic analysis is performed for the proposed transportation investments to identify whether there could be disproportionate impacts on minority or low-income populations, either through direct effects or through the lack of transportation investment.

ENVIRONMENTAL CONSULTATION PROCESS

The Fayette/Raleigh MPO has used the following approach to ensure the consideration of environmental factors in the 2045 Plan:

- An appropriate level of review was undertaken to assess potential environmental, historic and cultural resource impacts;
- Federal, state, tribal and local land use management, natural resources, wildlife, environmental protection, conservation and historic preservation agencies were consulted in the development of the Plan and provided the opportunity to comment; and,
- The Plan summarizes the disposition of comments identified by the affected agencies.

REVIEW OF PROPOSED TRANSPORTATION PROJECTS

Available GIS data were used to identify and locate known wetlands, flood zones, historic sites, and historic districts within the MPO boundary. The project team compared the location of RTP projects to the locations of sensitive environmental resources in the region. Based on this analysis, the 2045 RTP does include projects that have the potential to impact sensitive environmental areas. The locations shown for the projects are still at a planning level and do not necessarily represent the final limits of the projects. All federally funded transportation projects must still go through a more detailed review of potential impacts required by the National Environmental Policy Act (NEPA). As a project is further developed, its footprint will continue to be refined and impacts will be better known.

It is also important to note that while the physical constraints of the project may not directly intersect an identified

environmentally sensitive area, it is possible that project-related activities may have an indirect impact on the area. The final environmental impacts associated with each project will be determined only after an environmental study for the project is completed.

Section 4(f) Screening

Section 4(f) of the Department of Transportation Act of 1966 requires consideration of park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation project development. Data from the National Park Service was used to identify historic districts and other properties listed on the National Register of Historic Places, shown in **Table 8-2**. Recreational 4(f) sites, including parks, trails, and wildlife refuges, were identified using data collected by the West Virginia State GIS Data Clearinghouse. These sites were then compared with the general location of proposed transportation projects, as shown in **Figure 8-1**, to identify projects located within 1,000 feet of a 4(f) property. Fourteen proposed transportation projects are located within the specified distance.

Table 8-1: Projects with Potential Impact on Section 4(f) Properties

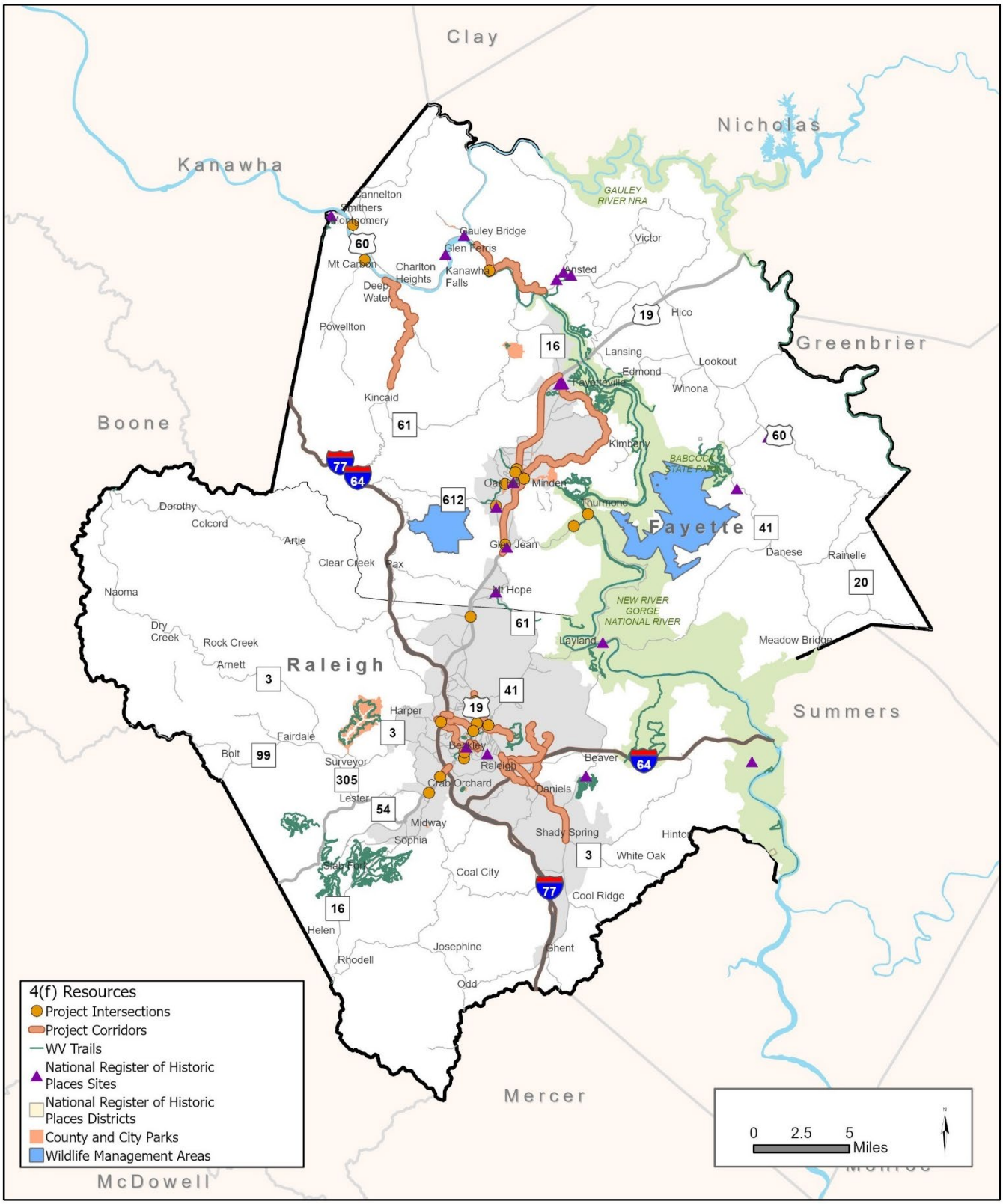
Project	Horizon	Location*	Project Description
S-8	2026-2035	New Deal Resources in Hawk's Nest State Park Historic District	Add shoulders and widen horseshoe turns for trucks and RVs. Add pull-offs for scenic touring and/or slow-moving vehicles to allow passing.
S-9	2026-2035	Fayetteville Historic District, National Park	Add 4-foot shoulders and other safety improvements on Gatewood Road from WV 16 (E Main Street) to WV 16 (N Court Street).
S-16	2036-2045	Bank of Glen Jean, National Park Land	Upgrade access to US 19 at Glen Jean Lane to a grade separated interchange.
S-22	2026-2035	Bank of Glen Jean, National Park Land	Safety improvements at US 19 intersections from WV 16 (Court Street) to County Road 19/9 (Wood Mountain Road).
S-31	2021-2025	Thurmond Historic District, National Park	Improve bridge and culvert over Dunloup Creek.
S-32	2021-2025	Beckley Courthouse Square Historic District	Pedestrian safety improvements on A Street from Minnesota Avenue to Kanawha Street
S-33	2021-2025	Beckley Courthouse Square Historic District, Shoemaker Square	Provide an ADA-compliant connection from the WVU Tech residence hall to the YMCA of Southern West Virginia, within the public right-of-way.
S-34	2021-2025	Beckley Courthouse Square Historic District, Shoemaker Square, Word Park	Provide an ADA-compliant connection from the WVU Tech residence hall to the YMCA of Southern West Virginia, within the public right-of-way.
S-35	2026-2035	Babe Ruth Park, Paul Cline Memorial Park, Glen Avenue Park	Build a connection from WVU Tech to the YMCA Paul Cline Memorial Youth Sports Complex to provide student athletes and coaches with a path to and from the complex and connect to the surrounding community.
S-37	2021-2025	Collins Park	Bicycle and pedestrian safety improvements at the intersection of White Oak Rail Trail and WV 61.
S-38	2026-2035	Beckley Feed and Hardware, Beckley Courthouse Square Historic District, Ewart Ave Park, Word Park	Add sidewalks on both sides of Harper Road from Northwestern Avenue to Dry Hill Road.
S-40	2021-2045	Whipple Company Store	Regional Safety Improvements
T-7	2036-2045	Babe Ruth Park, Glen Avenue Park	Add two-way left turn lane on US 19 from Deeds Drive to Brookshire Lane.

**Locations are shown if located within 1,000 feet of the centerline of the road proposed for improvement.*

Table 8-2: Locations listed on the National Register of Historic Places in the Fayette/Raleigh MPO Region

County	Site / District	Location	
Fayette	Dr. John Hughart House	Landisburg	Off WV 41
Raleigh	Beckley Feed and Hardware Company	Beckley	405 Prince St.
Fayette	Contentment	Ansted	Along US 60
Fayette	Tyree Stone Tavern	Clifftop	East of Clifftop off US 19 on WV 10
Fayette	Altamont Hotel	Fayetteville	110 Fayette Ave.
Fayette	Fayette County Courthouse	Fayetteville	Court St. between Wiseman and Maple Aves.
Fayette	Gauley Bridge Railroad Station	Gauley Bridge	Off WV 16/39
Fayette	Main Building	Montgomery	West Virginia Institute of Technology campus
Fayette	Page-Vawter House	Ansted	Rt. Box 20
Fayette	Nuttallburg Historic District	Fayetteville	County Rte 85/2
Fayette	New River Gorge Bridge	Victor	US 19 over New River Gorge
Fayette	Prince Brothers General Store--Berry Store	Prince	WV 41
Raleigh	Wildwood	Beckley	117 Laurel Ter.
Raleigh	St. Colman's Roman Catholic Church and Cemetery	Sandstone	WV 26
Fayette	Halfway House	Ansted	Off Old US 60
Fayette	Whipple Company Store	Whipple	Jct. of County Roads 15 and 21/20
Fayette	Glen Ferris Inn	Glen Ferris	US 60 overlooking Kanawha Falls
Fayette	Oak Hill Railroad Depot	Oak Hill	Junction of Virginia Ave. and Central Ave.
Raleigh	Little Beaver Dam	Crow	SW of Crow, NW Corner of Little Beaver Dam
Fayette	Bank of Glen Jean	Glen Jean	Main St.
Fayette	Thurmond Historic District	Thurmond	WV 25 at New River
Fayette	E.B. Hawkins House	Fayetteville	120 Fayette Ave.
Fayette	Kay Moor	Fayetteville	Along the New River, south of US 19
Fayette	Fayetteville Historic District	Fayetteville	Roughly bounded by WV 16, Maple and Fayette Ave.
Fayette	Camp Washington-Carver Complex	Clifftop	County Road 11/3
Raleigh	Trump-Lilly Farmstead	Hinton	WV 26/3, 2.5 miles from WV 26
Raleigh	Beckley Courthouse Square Historic District	Beckley	Roughly bounded by Prince, Kanawha, Church, Lebanon, Howe, McCreery, Earwood, Alaska and First

Figure 8-1: Proposed Transportation Projects in Relation to Section 4(f) Resources



Wetland and Floodplain Screening

Potential impacts to floodplains and wetlands were also evaluated as part of the environmental screening. Proposed transportation projects were compared to areas within the 100-year floodplain, defined by the Federal Emergency Management Agency (FEMA) as an area that will be inundated by a flood event having a 1 percent chance of occurring in a given year. Projects with potential floodplain impacts are listed in **Table 8-3** and shown in **Figure 8-2**. Projects that can be implemented within the existing right-of-way, such as traffic operations projects involving signals, were not considered to have potential impacts to floodplains.

Potential wetland impacts were also reviewed. The U.S. Environmental Protection Agency defines wetlands as "lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface." Wetlands are further described under the Clean Water Act as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." National Wetlands Inventory data was mapped for the MPO region for comparison with proposed projects in the 2045 Plan. Projects potentially impacting wetland areas larger than one acre have been identified and compiled in **Table 8-4** and are shown in **Figure 8-2**.

Table 8-3: Projects with Potential Impact on 100-Year Floodplains*

Project	Horizon	Description
N-2	2036-2045	Construct new 3-lane highway with overpass at WV 307 (Airport Road) to provide connection between US 19 and I-64 that bypasses Beaver and Glen Morgan.
N-30	2026-2035	Construct roadway connection from railroad access area to the Raleigh County Memorial Airport
S-11	2026-2035	Safety improvements on WV 61 (Deepwater Mountain Road) from Page Bottom Road to Baker Street.
S-16	2036-2045	Upgrade access to US 19 at Glen Jean Lane to a grade separated interchange.
S-22	2026-2035	Safety improvements at US 19 intersections from WV 16 (Court Street) to County Road 19/9 (Wood Mountain Road).
S-31	2021-2025	Improve bridge and culvert over Dunloup Creek.
T-12	2026-2035	Improve WV 307 (Airport Road) between Beaver and I-64 to reduce geometric deficiencies and add a northbound truck climbing lane.

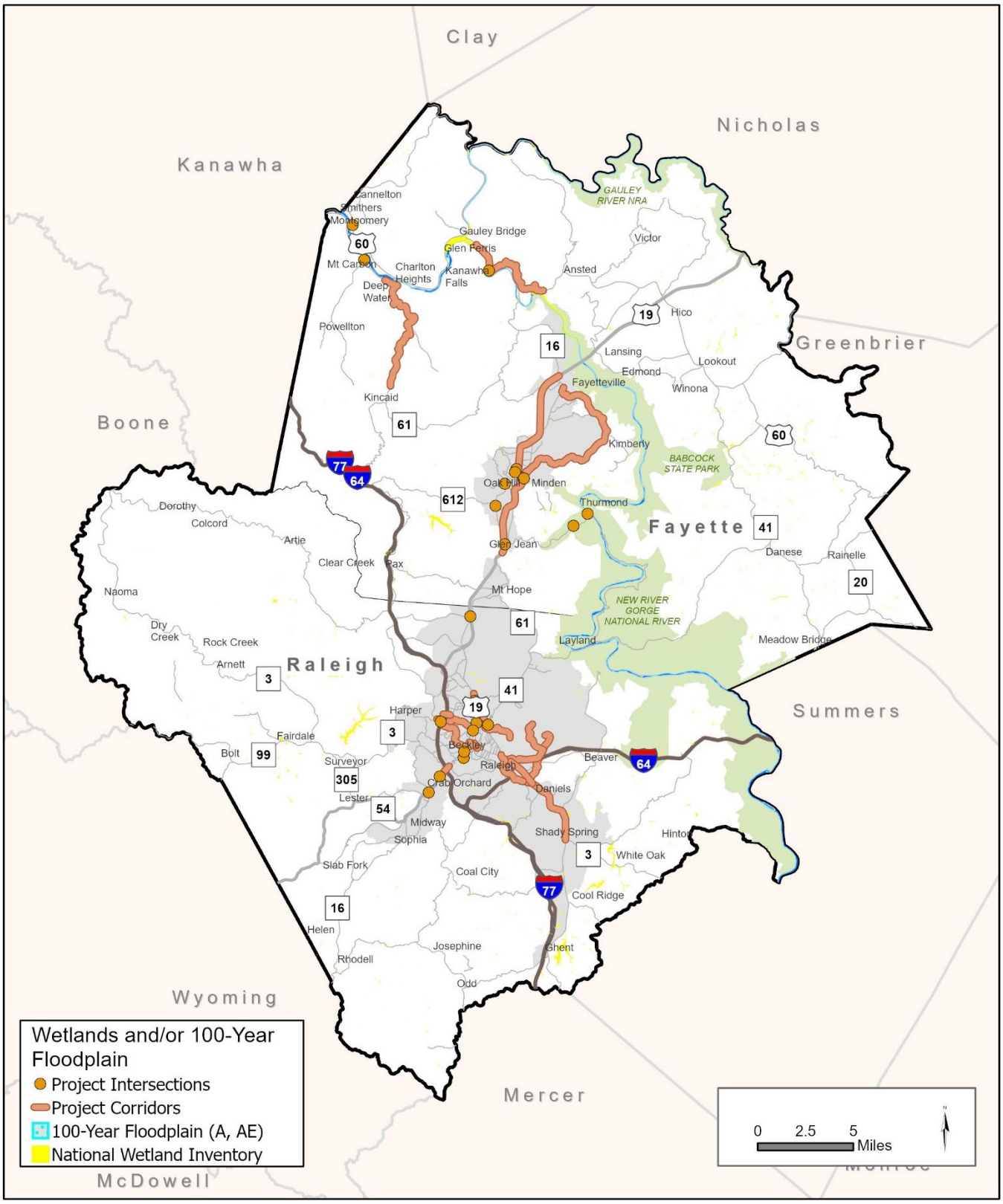
**Locations are shown if located within a 100-Year Floodplain.*

Table 8-4: Projects with Potential Impact on Identified Wetlands *

Project	Horizon	Description
S-2	2021-2025	Improve pedestrian crossing at Virginia Street and Oak Hill Rail Trail
S-8	2026-2035	Add shoulders and widen horseshoe turns for trucks and RVs. Add pull-offs for scenic touring and/or slow-moving vehicles to allow passing.
S-9	2026-2035	Add 4-foot shoulders and other safety improvements on Gatewood Road from WV 16 (E Main Street) to WV 16 (N Court Street).
S-11	2026-2035	Safety improvements on WV 61 (Deepwater Mountain Road) from Page Bottom Road to Baker Street.
S-22	2026-2035	Safety improvements at US 19 intersections from WV 16 (Court Street) to County Road 19/9 (Wood Mountain Road).
S-31	2021-2025	Improve bridge and culvert over Dunloup Creek.
T-33	2021-2025	Improve access and safety to airport by improving Airport Road from I-64 to the airport to reduce geometric deficiencies.

**Projects are identified here if a wetland area larger than one acre is located within 500 feet of the road proposed for improvement.*

Figure 8-2: Projects with Potential Impact on Identified Wetlands and/or 100-Year Floodplain



ENVIRONMENTAL MITIGATION STRATEGIES

The FAST Act directs states and MPOs to expand the consideration of environmental issues and impacts within the transportation planning process. Metropolitan and statewide transportation plans must include a discussion of types of potential environmental mitigation activities as part of their plans. The following strategies have been developed by the Fayette/Raleigh MPO to address and consider environmental impacts relative to its decisions early in the planning process:

- Continue to use GIS information to identify environmental features (both physical and cultural) early in the planning process, to avoid impacts and/or to establish early corrective action plans prior to project construction.
- Partner with local, state, and federal resource agencies early in the planning process to identify potential issues relative to projects under consideration in the MPO's plans and programs to develop appropriate solutions prior to beginning the official project development process.

Environmental impacts cannot always be avoided. Mitigation is the attempt to offset potential adverse effects of human activity on the environment. Potential mitigation activities should be consistent with the requirements of agencies who have responsibility for the human and natural environments. Steps to take in the project development process include:

- **Avoid Impacts**
  The first strategy in the environmental process is to avoid adverse impacts altogether.
- **Minimize Impacts**
  Minimizing a proposed activity / project size or its involvement may be an option.
- **Mitigate Impacts**
  Precautionary, special operational management features and/or abatement measures may be used to reduce construction impacts and repair or restore existing resources.
- **Compensate for Impacts**
  Compensation could be made for environmental impacts by providing suitable replacement, or by substituting environmental resources of equivalent or greater value on or off-site.

The Fayette/Raleigh MPO will continue to work with WVDOH and resource agencies in the long-range planning process and in the actual project development process, where appropriate. The MPO recognizes that not every project will require the same level of mitigation. All impacts on environmentally sensitive areas will be analyzed on a project-by-project basis to determine what mitigation strategies are appropriate.

For major construction projects, such as new roadways, or for projects that may have a region-wide environmental impact, a context sensitive solution process should be considered in which considerable public participation and alternative design solutions are used to lessen the impact of the project.

CLIMATE CHANGE AND RESILIENCY TO EXTREME WEATHER EVENTS

Considering the implications of global climate change on the transportation system is a relatively recent direction for metropolitan transportation planning. There is scientific consensus that the earth is experiencing a warming trend, and that it is important to minimize human-induced increases in atmospheric greenhouse gases (GHGs) to help combat this trend. The combustion of fossil fuels is by far the biggest source of GHG emissions. In the United States, approximately 29 percent of GHG emissions are from transportation sources.

Climate Change Strategies

Because greenhouse gas emissions from transportation sources (fuel combustion and vehicle air conditioning systems) account for a large percentage of the total U.S. GHG emissions, the transportation sector will likely play a large role in the ongoing discussion of national GHG reduction goals.

Some of the activities that the region could undertake to reduce transportation GHG emissions include:

- **Use of low-carbon fuels**
  MPO members and partner agencies could sponsor projects to promote the use of alternative fuels that have lower carbon content and generate fewer transportation GHG emissions. These alternative fuels include ethanol, biodiesel, natural gas, liquefied petroleum gas, low-carbon synthetic fuels (such as biomass-to-liquids), hydrogen, and electricity.
- **Improving transportation system efficiency**
  Operational strategies improve transportation system efficiency through reduced vehicle travel time, better traffic flow and decreased idling, which can also result in lower energy use and GHG emissions. Strategies range from truck-idle reduction, to reducing congestion through ITS and other innovative forms of traffic management, to air traffic control systems that route aircraft more efficiently and reduce delays. Efficiency can also be improved by shifting travel to more efficient modes, where such shifts are practical in terms of price and convenience—such as passenger vehicle to bus, or truck to rail.
- **Reducing carbon-intensive travel activity**
  The objective of this group of strategies is to influence travelers' activity patterns to shift travel to more efficient modes, increase vehicle occupancy, eliminate the need for some trips, or take other actions that reduce energy use and GHG emissions associated with personal travel.

Adaptation to Climate Change

Although the Fayette/Raleigh MPO region will not be directly affected by coastal sea level changes, climate change has other weather-related effects that are very relevant to the region. Most notable are extreme fluctuations in temperature and the trend toward more intense precipitation events.

Small amounts of rainfall can significantly impact the transportation system, especially when it is received in short, intense bursts. Since water is moving too quickly to be absorbed into the ground, it becomes surface runoff, causing dangerous ponding on streets and sometimes undermining their substructure. In areas of karst terrain, repeated deluges of fast-moving water can accelerate the erosion of limestone, creating caverns beneath roadways that may unexpectedly give way. Repeated freeze/thaw cycles also form cracks in rock that gradually widen and split, leading

to roadside rockfalls.

In the past decade, the WVDOH has been dealing with a growing number of slips and rock slides, including two major slides on I-77 in 2013 and another in late 2013 that closed a portion of WV 3 in Raleigh County for more than a week. The roads most vulnerable to extreme weather are often the ones that provide the only passage through difficult terrain.

Photo by Brad Davis, Beckley Register-Herald

Adapting to these changes may require increasing the annual budget for maintenance activities. This could include a review of areas that already experience drainage issues during storm events, such as around the intersection of WV 16 (Robert C. Byrd Drive) and Ewart Avenue in Beckley. Agencies should also consider expanding their efforts to regularly assess hillside stability along major routes, adding stabilization or using proactive blasting where necessary to prevent unexpected slips and slides. Adaptation to climate change will also require agencies to consider ways to improve the overall resiliency of the transportation system by providing redundancy necessary to meet essential travel needs. Alternative routes – including the US 19 corridor, which is designated throughout the MPO area as a detour route for the West Virginia Turnpike – must be properly maintained and improved as necessary to ensure they are able to carry detour traffic safely. Communities may also need to evaluate their emergency plans to identify areas that are most at risk of being cut off from vital services due to flooding or road collapse.

FRMPO has already taken steps to create a more resilient transportation system. The WV Turnpike added gates and additional emergency detours to reroute traffic during massive snow events. FRMPO is in the process of revising event detours to alleviate capacity concerns on some roadways. FRMPO, with the cities of Beckley and Fayetteville, is also exploring solutions for stormwater drainage and flooding concerns.

ENVIRONMENTAL JUSTICE AND TITLE VI

Federal laws require MPOs to use federal funds fairly and without discrimination. Title VI of the Civil Rights Act of 1964 states that “No person in the United States shall, on the ground of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.”

Environmental Justice Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice (EJ) in Minority and Low-Income Populations*, clarified the need to involve minority and low-income populations in transportation decision-making processes and the need to assess the equity of transportation investments. The EO calls for identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations. Low-income population is defined as one whose median household income is at or below the Department of Health and Human Services poverty guidelines.

The intent of EO 12898, and the U.S. Department of Transportation's corresponding guidance, is to ensure that these groups are included in the transportation decision-making process, and to ensure they benefit equally from the transportation system without shouldering a disproportionate share of its burdens.

A disproportionately high and adverse effect is one that is:

- Predominantly borne by a minority and/or low-income population; or
- Suffered by a minority and/or low-income population more severely or in greater magnitude than the adverse effect suffered by the non-protected population.

Disproportionately high and adverse effects are not determined solely by the size of the population, but rather the comparative effects on these populations in relation to either non-minority or higher income populations. In this EJ assessment, U.S. Census data was used to identify potential "communities of concern." Communities of concern are areas where the percentage of low-income households or minorities is greater than that of the entire MPO area.

It is important to note that impacts from transportation projects can be both positive and negative. For example, positive impacts could be improved traffic conditions, decreased crashes, and new/improved sidewalks and bikeways. A negative impact could be the disruption to residents and businesses during the project's construction period as well as potential impacts from right-of-way that may need to be acquired.

Environmental Justice Analysis

To identify communities of concern within the MPO area, minority and low-income populations were mapped by Census Tracts. However, as each project enters the development process, additional local knowledge of individual neighborhoods should be used to identify potential communities of concern that might have been missed during this Census-based analysis.

Minority Populations

2019 American Community Survey (ACS) 5-Year Estimate data indicates that minority persons comprise about 11% percent of the population in the MPO area, as shown in **Table 8-5**.

Table 8-5: Percent Minority Population in the MPO Area

	Total Population	Minority Population	Pct. Minority Pop.
Fayette County	43,576	3,291	7.6%
Raleigh County	75,252	9,731	12.9%
MPO Region	**118,828**	**13,022**	**11.0%**

Figure 8-3 shows the percentage of minority persons by census tract group, relative to the location of proposed transportation projects. Projects located in a census tract with a minority population 15% or greater include those listed in **Table 8-6**.

Table 8-6: Projects Located in Minority Communities

Project	Year	Description
N-2	2036-2045	Construct new 3-lane highway with overpass at WV 307 (Airport Road) to provide connection between US 19 and I-64 that bypasses Beaver and Glen Morgan.
N-7	2026-2035	Roadway improvements on New River Drive between WV 16 (Robert C. Byrd Drive) and WV 3 (Harper Road) and operational improvements on Harper Road.
N-8	2026-2035	Construct roadway that connects New River Road to VanKirk Drive near the Tamarack including an overpass of I-64/77.
N-30	2026-2035	Construct roadway connection from railroad access area to the Raleigh County Memorial Airport
S-3	2021-2025	Safety improvements on WV 16 (Robert C. Byrd Drive) at Veterans Drive
S-12	2021-2025	Construct new intersection at New River Drive and WV 16 (Robert C. Byrd Drive) by realigning New River Drive with the existing Kanawha Street intersection.
S-32	2021-2025	Pedestrian safety improvements on A Street from Minnesota Avenue to Kanawha Street
S-33	2021-2025	Provide an ADA-compliant connection from the WVU Tech residence hall to the YMCA of Southern West Virginia, within the public right-of-way.
S-34	2021-2025	Provide an ADA-compliant connection from the WVU Tech residence hall to the YMCA of Southern West Virginia, within the public right-of-way.
S-35	2026-2035	Build a connection from WVU Tech to the YMCA Paul Cline Memorial Youth Sports Complex to provide student athletes and coaches with a path to and from the complex and connect to the surrounding community.
S-38	2026-2035	Add sidewalks on both sides of Harper Road from Northwestern Avenue to Dry Hill Road.
T-2	2021-2025	Signal operations on WV 3 (Harper Road) from Dry Hill Road to Carriage Drive
T-6	2021-2025	Signal operations on US 19 (N Eisenhower Drive) from WV 16 (Robert C. Byrd Drive) and Dunn Drive
T-7	2036-2045	Add two-way left turn lane on US 19 from Deeds Drive to Brookshire Lane.
T-12	2026-2035	Improve WV 307 (Airport Road) between Beaver and I-64 to reduce geometric deficiencies and add a northbound truck climbing lane.
T-32	2021-2025	Construct dual westbound left-turn lanes and an exclusive northbound right-turn lane at WV 16 (Robert C. Byrd Drive).
T-33	2021-2025	Improve access and safety to airport by improving Airport Road from I-64 to the airport to reduce geometric deficiencies.

Low-Income Populations

According to the 2019 ACS 5-Year Estimates, about 19 percent of the households in the region are living below the poverty level. **Figure 8-4** shows the general location of areas where the percentage of the population living below the poverty level is greater than the regional average, relative to the location of proposed transportation projects. ACS data is no longer available at the Census Block Group geography, so the analysis is based on Census Tracts which are larger in size than Block Groups. Therefore, "low-income community" may or may not be an accurate description

for some of these areas.

Projects located in or adjacent to these areas include those listed in **Table 8-7**.

Table 8-7: Projects Located in Census Tracts with Above-Average Percentage of Low-Income Persons

Project	Year	Description
N-7	2026-2035	Roadway improvements on New River Drive between WV 16 (Robert C. Byrd Drive) and WV 3 (Harper Road) and operational improvements on Harper Road.
N-8	2026-2035	Construct roadway that connects New River Road to VanKirk Drive near the Tamarack including an overpass of I-64/77.
S-1	2021-2025	Intersection safety improvements at Virginia Street and Oyler Avenue intersection.
S-2	2021-2025	Improve pedestrian crossing at Virginia Street and Oak Hill Rail Trail
S-3	2021-2025	Safety improvements on WV 16 (Robert C. Byrd Drive) at Veterans Drive
S-5	2021-2025	Safety improvements at Minden Road underpass
S-6	2026-2035	Capacity Improvements on WV 16 (Robert C. Byrd Drive) from Walmart to I-64/77 Interchange.
S-10	2021-2025	Safety improvements on US 19 (N Eisenhower Drive) from Ragland Road to McCulloch Drive
S-11	2026-2035	Safety improvements on WV 61 (Deepwater Mountain Road) from Page Bottom Road to Baker Street.
S-12	2021-2025	Construct new intersection at New River Drive and WV 16 (Robert C. Byrd Drive) by realigning New River Drive with the existing Kanawha Street intersection.
S-16	2036-2045	Upgrade access to US 19 at Glen Jean Lane to a grade separated interchange.
S-22	2026-2035	Safety improvements at US 19 intersections from WV 16 (Court Street) to County Road 19/9 (Wood Mountain Road).
S-31	2021-2025	Improve bridge and culvert over Dunloup Creek.
S-32	2021-2025	Pedestrian safety improvements on A Street from Minnesota Avenue to Kanawha Street
S-33	2021-2025	Provide an ADA-compliant connection from the WVU Tech residence hall to the YMCA of Southern West Virginia, within the public right-of-way.
S-34	2021-2025	Provide an ADA-compliant connection from the WVU Tech residence hall to the YMCA of Southern West Virginia, within the public right-of-way.
S-36	2036-2045	Upgrade access to US 19 at Maple Fork Road to a grade separated interchange.
S-37	2021-2025	Bicycle and pedestrian safety improvements at the intersection of White Oak Rail Trail and WV 61.
S-38	2026-2035	Add sidewalks on both sides of Harper Road from Northwestern Avenue to Dry Hill Road.
T-2	2021-2025	Signal operations on WV 3 (Harper Road) from Dry Hill Road to Carriage Drive
T-6	2021-2025	Signal operations on US 19 (N Eisenhower Drive) from WV 16 (Robert C. Byrd Drive) and Dunn Drive
T-8	2021-2025	Signal operations on WV 16 (Robert C. Byrd Drive) from Reading Street to Old Eccles Road
T-31	2021-2025	Reconfigure the eastbound and westbound approaches and eliminate a southbound through lane

Figure 8-3: Percentage of Minority Persons

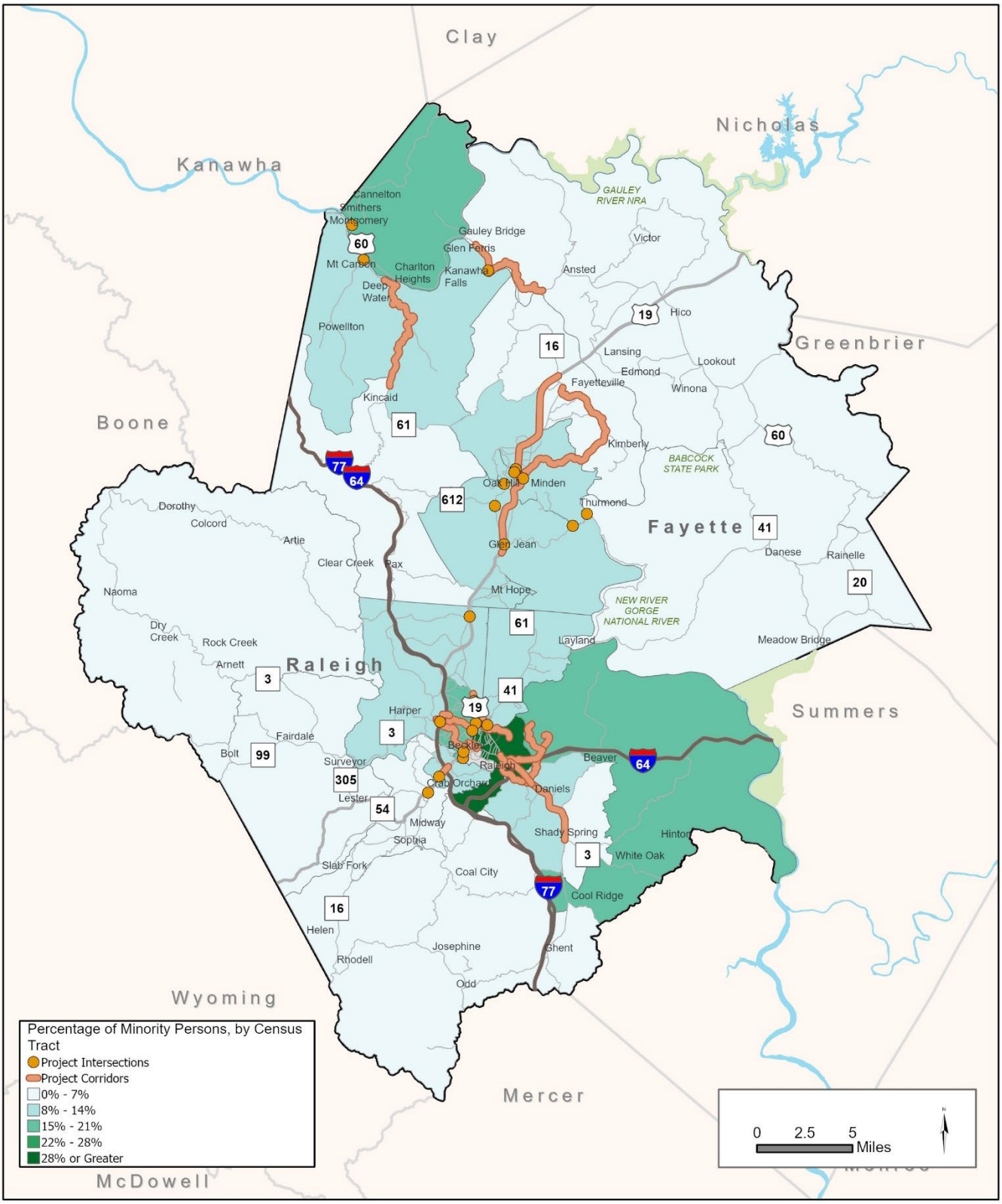
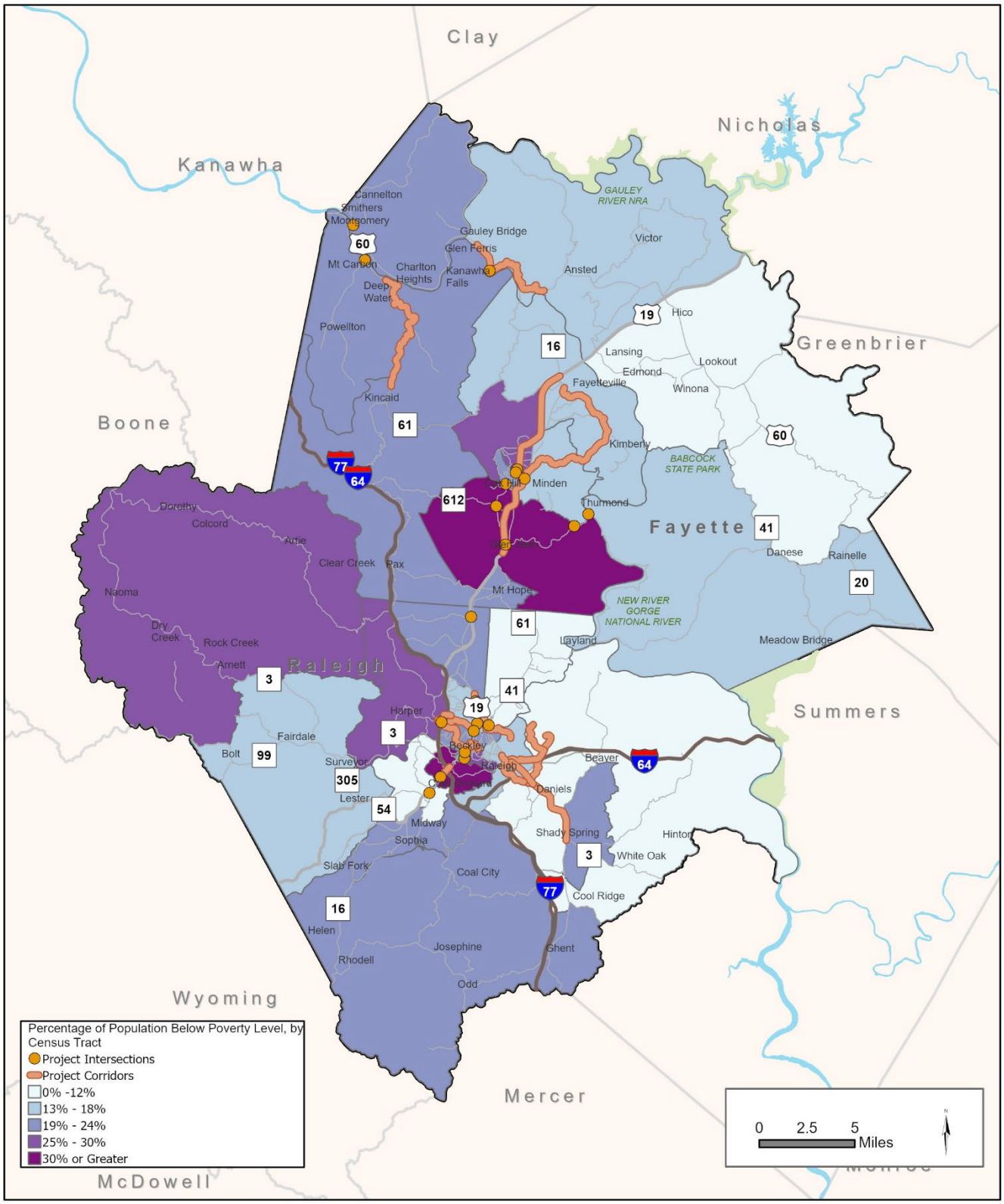


Figure 8-4: Percentage of Population Below Poverty Level



ALLOCATION OF FUNDS TO COMMUNITIES OF CONCERN

2045 RTP Projects

Approximately $406 million in improvements is planned for investment throughout the MPO area as part of the 2045 RTP. About $330 million of this investment is for projects totally or partially located in communities of concern. This represents approximately 81 percent of the total dollars invested. A small number of projects involve major road widening or construction of new roads, so the overall level of concern is relatively low; however, as described earlier, the potential impacts of each project will need to be studied in more detail as the specific designs for the projects are developed.

Roadway Safety and ITS Projects

The roadway safety and ITS projects identified in the RTP are scattered throughout the MPO area and many may be developed in conjunction with proposed highway improvements. These improvements typically require little or no right-of-way acquisition and will generally have a positive impact on the residents and businesses nearby as they address existing safety or traffic congestion problems.

Transit Projects

The transit projects identified in the RTP involve continuing operating assistance for transit services and continuing capital assistance for the replacement of buses, replacement and upgrade of miscellaneous capital equipment, and to upgrade existing facilities. No major capital investment involving land acquisition is proposed.

Bicycle and Pedestrian Projects

The bicycle and pedestrian projects identified in the RTP are scattered throughout the MPO area and many of them will be developed in conjunction with proposed highway improvements. Other bicycle and pedestrian improvements will require little or no right-of-way acquisition and are not expected to involve any displacements of businesses or residents.

SUMMARY

Although people who live near roadway construction projects may endure some short-term construction related impacts, neither minority nor low-income populations in the MPO region are likely to experience disproportionate impacts due to the projects proposed in the RTP.

Because populations shift and change, additional efforts to identify potential communities of concern will be undertaken as part of the future phases of each project. To ensure all persons are involved, special outreach efforts are made by local and state agencies during the project development process.

Many of the projects identified in the RTP will likely utilize federal funding, in which case NEPA documentation will be required. During the NEPA process, a variety of issues will be evaluated, including an EJ analysis pursuant to EO 12898. In addition, the development of the NEPA document will require an inclusive public participation process.

Chapter 9 Public Participation

This chapter outlines the process used to encourage involvement in the development of the 2045 RTP and summarizes the input and comments received from stakeholders, partner agencies, and the community at large.

PUBLIC PARTICIPATION PLAN

The FRMPO Policy Board has an adopted Public Participation Plan which describes the procedures to collect public and stakeholder input and how it is used in the development and adoption of its plans and programs, including the RTP as well as the TIP and the UPWP.

Stakeholders

The Public Participation Plan includes the goal of involving freight shippers and providers of freight transportation services, representatives of public transportation employees, private providers of transportation, representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, and other interested parties in the development of the Plan.

Methods of Outreach

Information about all MPO meetings is advertised through the FRMPO website and publication via the local newspaper editions of the Beckley Register-Herald. In addition, the agendas for upcoming meetings and other public information is posted on the FRMPO's website at **www.frmpo.org**. All members of the FRMPO are also encouraged to distribute meeting information to their councils and other interested parties via their own websites or through other distribution channels.

PUBLIC PARTICIPATION IN THE 2045 REGIONAL TRANSPORTATION PLAN

Steering Committee

The FRMPO Policy Board appointed a Steering Committee to provide guidance in the development of the region's long range transportation plan. Members included representatives from the WVDOH and Division of Public Transit, local governments, local and regional economic development agencies, local transit agencies, bicycling organizations and freight carriers. A full list of Steering Committee members is provided at the beginning of this plan document. The Steering Committee met at key points during the development of the 2045 Plan update to review and comment on the content and priorities of the draft list of proposed projects.

PUBLIC REVIEW OF THE DRAFT PLAN AMENDMENT

The FRMPO is conducting a 30-day public review of the draft 2045 Long-Range Transportation Plan amendment between October 14th and November 14th, 2021. A legal Class I ad was placed in the Beckley Register-Herald to notify the public that the draft plan amendment was available for review both at the FRMPO office and on the FRMPO website.