

FINAL

AECOM



Roadmap to Economic Recovery

Region 1 Planning & Development Council

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Delivering a better world

Prepared for:

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Table of Contents

Executive Summary	6
The Coronavirus Pandemic	6
Project Background	7
Focus Areas	7
Stakeholder Engagement	7
Priority Strategies for Implementation	8
Context	9
Locational Context	9
Previous Plans & Studies	11
Pandemic Impacts	11
Covid -19 Business Impact Survey	12
Covid -19 Regional Employment Impact	14
Stakeholder Feedback on Pandemic Impacts	15
Population & Housing	17
Stakeholder Feedback: Population & Housing	17
Population Overview	18
Demographic Overview	19
Housing Overview	23
Population & Housing Recommendations & Strategies	25
Industry & Employment	28
Stakeholder Feedback: Industry & Employment	28
Industry & Employment Overview	29
Business Climate and Major Industries	34
Economic Development Potential	37
Industry & Employment Recommendations & Strategies	49
Infrastructure	52
Stakeholder Feedback: Infrastructure	52
Transportation Overview	53
Utilities Overview	55
Organizational Capacity	58
Infrastructure Recommendations & Strategies	60
Quality of Life	62
Stakeholder Feedback: Quality of Life	62
Education	63
Health Care & Childcare	65
Retail and Services	66
Climate Resilience	69
Quality of Life Recommendations & Strategies	74
Tourism	77
Stakeholder Feedback: Tourism	77
Tourism Overview	78
Tourism Recommendations & Strategies	86
Conclusion	89

Appendix A – Industry Cluster Definitions 90
Appendix B – WVCAD-Managed Programs 92
Appendix C – General Limiting Conditions 93

Figures

Figure 1 - New River Gorge National Park6
 Figure 2 - Locator Map for West Virginia's Region 110
 Figure 3 - Sign for Hatfield-McCoy Trail16
 Figure 4 - Annualized Percent Changes in Population, 2010-201918
 Figure 5 - Migration Patterns for Region 1 Counties, 2010-201919
 Figure 6 - Racial Composition by Geography, 201920
 Figure 7 - Educational Attainment by Geography, 201920
 Figure 8 - Median Household Income, Region 1, 2010-201921
 Figure 9 - Annualized Percent Change in Median HH Income by Geography, 2010-201922
 Figure 10 - Median Age by Geography, 2010 and 201922
 Figure 11 - Region 1 New Housing Permits23
 Figure 12 - Downtown Welch, WV28
 Figure 13 - Employment Growth (CAGR), 2010-202130
 Figure 14 - Unemployment Rate, 2000-202130
 Figure 15 - Total Employment in Study Area, 2000-202131
 Figure 16 - Total Employment in West Virginia, 2000-202132
 Figure 17 - Labor Force - Region 1, 2000-202132
 Figure 18 - Labor Force - West Virginia, 2000-202132
 Figure 19 - Total Study Area Jobs, 2001-202133
 Figure 20 - Total Employment in the Coal Mining Cluster, Region 135
 Figure 21 - Year-over-Year Percent Change in Coal Prices and Region 1 Coal Mining Employment35
 Figure 22 - Gross Regional Product, Coal Mining, Region 136
 Figure 23 - Employment Growth by Industry Location Quotient: Top 30 MSAs37
 Figure 24 - Economic Development Matrix, Region 1, 202139
 Figure 25 - Coal Mining Cluster Matrix41
 Figure 26 - Oil & Gas Upstream Cluster Matrix42
 Figure 27 - Economic Development Matrix, McDowell County, 202143
 Figure 28 - Economic Development Matrix, Mercer County, 202144
 Figure 29 - Economic Development Matrix, Monroe County, 202145
 Figure 30 - Economic Development Matrix, Raleigh County, 202146
 Figure 31 - Economic Development Matrix, Summers County, 202147
 Figure 32 - Economic Development Matrix, Wyoming County, 202148
 Figure 33 - Truss Bridge in Bluefield, WV52
 Figure 34 - Map of Major Roads & Employment Density, Region 1, 201854
 Figure 35 - Map of Railways and Airports, Region 1, 200854
 Figure 36 - Map of Public Water and Sewer Lines & Population, 202156
 Figure 37 - Map of Average Broadband Speeds by Census Block, 202057
 Figure 38 - Map of Underserved Broadband Census Block Groups, 202058
 Figure 39 - Downtown Princeton, WV62
 Figure 40 - Region 1 Education Institutions64
 Figure 41 - Medicare Beneficiaries, Percent of Total Population, 201965
 Figure 42 - Percent of Population Living with a Disability, 201965
 Figure 43 - Region 1 Health Care and Child Care Facilities66
 Figure 44 - Year-Over-Year Retail Footprint Growth Rate, 2015-202067
 Figure 45 - Map of Grocery Stores in Region 1, West Virginia68
 Figure 46 - Map of General Merchandise Stores in Region 1, West Virginia68
 Figure 47 - Number of Declared Disasters by Decade69
 Figure 48 - State of West Virginia Hazard Risk Levels, MID Counties70
 Figure 49 - CDC Social Vulnerability Index Themes71
 Figure 50 - Hazard and Vulnerability Research Institute Social Vulnerability US County Comparison72
 Figure 51 - Hazard and Vulnerability Research Institute Social Vulnerability State County Comparison73
 Figure 52 - New River Gorge Bridge79
 Figure 53 - Occupancy Rates by County, 2011 to 2021, Region 1, West Virginia81

Figure 54 - 12-Month Average Daily Revenue, 2011 to 2021, Region 1, West Virginia81
 Figure 55 - 12-Month Revenue Per Available Room, 2011 to 2021, Region 1, West Virginia82
 Figure 56 - Average Occupancy Rate by Month, 2017 to 2019, Region 1, West Virginia83
 Figure 57 - Occupancy Rate Since March 2020, Region 1, West Virginia84

Tables

Table 1 - Counties and Municipalities in Study Area10
 Table 2 - Region 1 County Response Rate (Covid-19 Business Impact Survey).....12
 Table 3 - Additional Months Businesses Could Afford at Time of Survey13
 Table 4 - Job Growth by Clusters in Region 1, 2019-202114
 Table 5 - Location Quotient Growth by Clusters in Region 1, 2019-202114
 Table 6 - Population Change by Geography, 2010-201918
 Table 7 - Migration Patterns by County, 2010 to 201919
 Table 8 - Region 1 Poverty Rate, 201923
 Table 9 - Aging Housing Stock.....23
 Table 10 - Region 1 Housing Value24
 Table 11 - Section 8 Housing Choice Vouchers, 202024
 Table 12 - Project-Based Section 8, 202024
 Table 13 - Unemployment Rates by Geography, 2000-202131
 Table 14 - Labor Force by Geography, 2000-202131
 Table 15 - Pre- and Post-Pandemic Statistics, 2019-202133
 Table 16 - Total Jobs by County by Year, 2001-202133
 Table 17 - Workforce Commuting Patterns by County, 201934
 Table 18 - Top Clusters by Jobs, Region 136
 Table 19 - Top Clusters by Location Quotient, Region 137
 Table 20 - Share of Total Jobs by Development Sector, 202138
 Table 21 - Top Clusters by Gross Regional Product, Region 139
 Table 22 - Top Clusters by Gross Regional Product Location Quotient, Region 140
 Table 23 - Coal Mining Cluster Jobs and Location Quotients, by Geography40
 Table 24 - Oil & Gas Upstream Cluster Jobs and Location Quotient, by Geography41
 Table 25 - Top Clusters by Jobs, McDowell County43
 Table 26 - Top Clusters by Location Quotient, McDowell County43
 Table 27 - Top Clusters by Jobs, Mercer County44
 Table 28 - Top Clusters by Location Quotient, Mercer County44
 Table 29 - Top Clusters by Jobs, Monroe County45
 Table 30 - Top Clusters by Location Quotient, Monroe County45
 Table 31 - Top Clusters by Jobs, Raleigh County46
 Table 32 - Top Clusters by Location Quotient, Raleigh County46
 Table 33 - Top Clusters by Jobs, Summers County47
 Table 34 - Top Clusters by Location Quotient, Summers County47
 Table 35 - Top Clusters by Jobs, Wyoming County48
 Table 36 - Top Clusters by Location Quotient, Wyoming County48
 Table 37 - Transportation Infrastructure Summary53
 Table 38 - Public Water Infrastructure Summary55
 Table 39 - Public Sewer Infrastructure Summary55
 Table 40 - Household Internet Access, 201956
 Table 41 - Average Broadband Speeds by County, 202157
 Table 42 - Assessed Values and Property Tax Collections by Municipality, Region 1, West Virginia, 2012-202158
 Table 43 - Region 1 Public Schools, 2019-2020 School Year63
 Table 44 - Students Eligible for Free and Reduced-Price Lunch, 2018-2019 School Year63
 Table 45 - Region 1 Higher Education Institutions64
 Table 46 - Region 1 Health Insurance Coverage, 201965
 Table 47 - Region 1 Childcare/Daycare Facilities, 202066
 Table 48 - Real Estate Summary, 202167
 Table 49 - Retail Leakage / Surplus Analysis, 201767
 Table 50 - Tourism GRP by State, 2010-2020 (\$ Billions).....78
 Table 51 - Share of Total Regional Tourism GRP by State, 2010-202078
 Table 52 - Passenger Enplanements by Airport, 2015-2020, Region 1, West Virginia80
 Table 53 - Hotel Room Inventory by County, 2011 October to 2021 October, Region 1, West Virginia80

Executive Summary

The Counties that make up Region 1 Planning & Development Council's jurisdiction (McDowell, Mercer, Monroe, Raleigh, Summers, and Wyoming) are home to a rich variety of natural resources, recreational amenities, heritage sites, historic small downtowns, and close-knit, family-oriented communities. Prior to the onset of the 2020 Covid-19 coronavirus pandemic, each community had its own set of unique challenges, successes, and storylines. Although the pandemic caused widespread disruption and uncertainty in spring of 2020, as economic recovery has progressed, and many pre-pandemic trends have re-emerged.

Some pressing concerns, such as the need for a more diverse economic base that provides meaningful, well-paying employment, have been highlighted by the economic uncertainty surrounding the pandemic; however, other trends, such as an increasing interest in the region's outdoor tourism and recreational amenities, have actually been supercharged by people's need to "escape" more densely populated, urban areas, and the rise in flexibility of where people can work and live. Stakeholder interviews with representatives from local and state government, economic development organizations (EDAs), chambers of commerce, convention & visitors' bureaus (CVBs), institutions of higher education, transit authorities, private industry, and other major regional players, highlighted other concerns, such as a persistent lack of quality affordable and "workforce" housing, also commonly referred to as "missing middle" housing; unequal access to 24-7 health care, retail, and basic services to support health and quality of life; infrastructure gaps, particularly broadband and cellular coverage; and a need for large-scale workforce re-skilling and re-training to keep up with changes in occupational demand. Concerns about the impacts of increasing climate volatility on already vulnerable housing and infrastructure were also raised during the planning process.

Stakeholders also touted many of the region's major successes and strengths, including promising new industry growth surrounding tourism and forest products, among others; the new National Park designation for the stunning New River Gorge Park (Figure 1 - New River Gorge National Park, in addition to the many other picturesque tourism and outdoor recreation destinations dotting the region; a network of loyal, close-knit communities with many "neighbors helping neighbors" recover from disasters like the 2016 floods; hardworking local organizations leveraging limited resources for maximum impact; partnerships between transit and health authorities to provide rides to treatment for people struggling with illnesses and addictions; strong public schools and institutions of higher learning like Concord University and Bluefield State College; a growing spirit of entrepreneurship among many local residents, and many other strengths and areas of opportunity.

Figure 1 - New River Gorge National Park

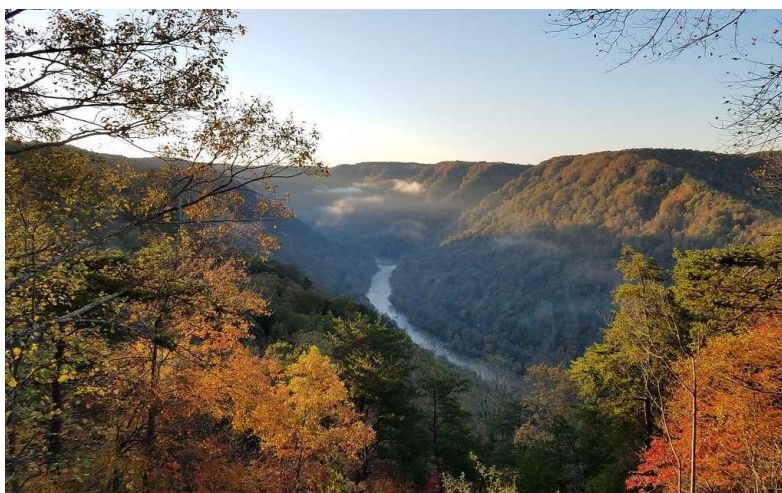


Image Source: <https://picryl.com/media/view-of-the-new-river-gorge-in-fall-bd0515>

Although the region's coal mining and support services industry has shed jobs in recent years, stakeholders mentioned multiple opportunities for economic diversification, including shale gas extraction and supporting industries, such as opportunities in advanced and chemical manufacturing, as well as the burgeoning tourism industry, beverage manufacturing, and opportunities in both the human and animal health industries, among others.

The Coronavirus Pandemic






As an inciting factor for recession, Covid-19 has proven to be unique, with initial ripple effects which brought the entirety of the world economy to an effective standstill between March and April of 2020. Southern West Virginia was not immune; like the rest of the U.S., the state experienced rising case numbers, widespread shutdowns, and stay-at-home orders. In spring of 2020, the unemployment rate in WV rose to nearly 9%; Region 1 communities' unemployment mirrored state trends, rising to 9.2%; this was still far below the U.S. average of 14.8% in April 2020. Region 1 communities lost nearly 4,300 jobs between 2019 and 2021. As the pandemic drags on, Region 1 residents have shown resilience and a willingness to move forward, despite certain impacts compounding some of the challenges the region already faces.

Project Background

Region 1 PDC engaged AECOM in July of 2021 to help the PDC craft a “roadmap” for economic recovery and resiliency for the Region’s six diverse member counties. The purpose of this “roadmap” is to provide actionable tools and strategies for the PDC and its stakeholder organizations to help move the region towards a more resilient, diverse, stable economic base, and improve quality of life and provide more equal access to opportunity for all of its residents.

Focus Areas

The stakeholder engagement and research into existing conditions for Region 1 drove the establishment of the focus areas for the Recovery Roadmaps. Each section details existing conditions under each theme, including past and current demographic and economic trends. Recommendations and strategies for economic diversity, recovery, and resilience in Region 1 are grouped by these themes:

	Population & Housing
	Industry & Employment
	Infrastructure
	Quality of Life
	Tourism

Each section details stakeholder feedback around each theme, describes existing conditions and trends, and includes a matrix of proposed recommendations and strategies for the topic areas in that section.

Stakeholder Engagement

AECOM held virtual stakeholder interviews, via Microsoft Teams videoconferences or telephone calls, with stakeholders representing 32 organizations across Regions 1 and 4:

Region 1 PDC
 Region 4 PDC
 Mercer County EDA
 Greenbrier Valley EDC
 Bluefield EDA
 McDowell County EDA
 Wyoming County EDA
 Summersville Area Chamber of Commerce
 Chamber of Commerce of the Two Virginias
 Beckley-Raleigh County Chamber of Commerce
 City of Princeton
 Greenbrier County Commission
 McDowell County Commission
 Mercer County Commission
 Mercer County CVB
 Monroe County CVB

Visit Southern West Virginia
 Pocahontas County CVB & Mon Forest Towns
 Summersville CVB
 Greenbrier County CVB
 New River Gorge CVB
 WV Division of Tourism
 WV Division of Public Transit
 New River Transit Authority
 Mountain Transit Authority
 Fayette/Raleigh MPO
 Bridge Valley Community College
 New River Community and Technical College
 Beckley Housing Authority
 West Virginia Manufacturer’s Association
 West Virginia Forestry Association
 New River Gorge Regional Development Authority

In order to better define the primary strengths, weaknesses, opportunities facing their communities, stakeholders were asked about the following topics:

- Pandemic impacts
- Regional strengths & assets
- Regional weaknesses and challenges

- Draws and deterrents – what attracts people to the region/why do people leave?
- What is missing, from a basic services/quality of life standpoint?
- How current infrastructure is serving their communities, and what could be improved?
- How resilient is the region to shocks and stresses, including the pandemic and natural disasters like the 2016 floods?
- Barriers for economic development, like technological capabilities, workforce development opportunities, and general support for business development

Feedback from stakeholders is incorporated throughout this report for each topic area.

Priority Strategies for Implementation

Each section of this Roadmap to Recovery has a corresponding **strategy matrix**, with recommended strategies, next steps, strategy leads, partners, timeframe, suggested sources of funding and technical assistance, and links to additional resources. Regional coalitions and partnerships of organizations with similar goals and interests are strongly encouraged, to make the region more competitive for funding, and allow local organizations to leverage scarce resources for maximum impact. Based on an analysis of the population of “megaregions” surrounding Region 1, more than 107 million people could reach the region in less than 8 hours; however, a cohesive regional message and branding will be essential to allow Region 1 to take full advantage of burgeoning tourist/remote worker demand and maximize visitation and spending capture from surrounding population centers. It will be up to community leaders to take ownership for each individual strategy and appoint champions, to ensure that each strategy is implemented in accordance with community goals and available resources and funding.

After discussions with Region 1 and Region 4 PDCs, AECOM is proposing several initial priority strategies for implementation, to help build organizational capacity and the prepare the PDCs and their partner organizations to begin implementing the Recovery Roadmaps. These priority strategies align with the PDCs’ goals and mission as a regional coordinating/convening entity, and its role as a repository of regional data and information. However, both PDCs currently have limited organizational capacity, due to budgetary and staffing constraints – therefore, the first priority strategy is to:

1. Increase organizational capacity by applying for additional funding support through the U.S. Economic Development Administration (U.S. EDA) Technical Assistance (TA) grants.

The remaining strategies are contingent on the PDCs being provided additional assistance by the U.S. EDA to expand organizational capacity and capabilities.

2. Create a robust, detailed GIS database inventorying community assets, employers/businesses, and infrastructure, including but not limited to:
 - a. Housing
 - b. Dilapidated structures
 - c. Public and private utility infrastructure
 - d. Tourism assets
 - e. Healthcare facilities
 - f. Employers & businesses
 - g. Publicly owned land

The foundation for this inventory will be existing publicly available regional datasets currently housed at the PDC, West Virginia University (WVU), and the State of West Virginia. The PDCs will need the capacity and resources to keep the inventory regularly updated, in order for it to be a useful, foundational tool for deploying the other strategies noted in this Recovery Roadmap.

3. Assist the PDCs in setting up a framework for providing education and technical assistance to municipalities and organizations throughout both regions that would benefit from understanding and utilizing the benefits of GIS to maintain critical information, including for emergency planning and management purposes. Again, building organizational capacity will be key for enabling the PDCs to provide this important role to their member jurisdictions.
4. Convene a one-to-two-day summit of regional economic development organizations to present Recovery Roadmap outcomes & strategies; build consensus around regional cooperation, collaboration, and coalition-building; and identify champions for strategy implementation. The summit will also lay the groundwork for establishing a regional body, contingent on political will and organizational capacity, for coordinated and strategic economic and tourism development throughout both regions.

5. Set out a framework for establishing a regional organization/entity (either non-profit or quasi-governmental) empowered to landbank and/or purchase, hold clear title to, and demolish residential property in both regions. Adequate, safe housing of varying typologies and at multiple price points was identified by this study as being absolutely critical for economic development and resiliency in both regions. The lack of resources/capacity on a municipality level to establish local authorities, as well as the elevated risk perceived by the private development community for building housing in the region, make a regional cooperative entity imperative to improving housing opportunity in both Regions 1 and 4
6. Both PDCs are home to many under-leveraged tourism destinations that have the potential to drive significant job creation and economic development well into the future. Again, the lack of a cohesive regional strategy to market, package, and support the many existing destinations in both Regions has led to a significant gap in actual vs. potential spending capture and market penetration. This priority strategy would help the PDCs empower local CVBs and tourism destinations to collaborate with West Virginia Tourism on developing a framework for a more regional approach to tourism that includes a more cohesive, targeted regional marketing campaign, an inventory of tourism assets that integrates infrastructure, destinations, tourism-supportive establishments, wayfinding, trip-planning, etc.; and supports the development of tourism-supportive infrastructure.
7. Support both PDCs in identifying local and regional champions to support and encourage the redevelopment of the Regions' many underleveraged historic downtowns and main streets, which could provide significant tourism-supportive infrastructure, additional housing opportunities, and spaces for local/small businesses and industries. Currently, neither the PDCs nor the municipalities have the capacity to apply for the resources available on a statewide level that could help municipalities invest in their downtowns and catalyze redevelopment, so capacity-building will be critical to improving downtowns and main streets across both regions.

Both Region 1 and Region 4 PDCs have thus far leveraged limited resources for significant regional benefit, but their ability to expand on those efforts is severely hampered by lack of funding. Additional funding would provide the foundation for them to create and maintain a regional database of critical assets, build regional coalitions, and support their member jurisdictions in jump-starting post-pandemic economic recovery and building resilience to future economic shocks and stressors.

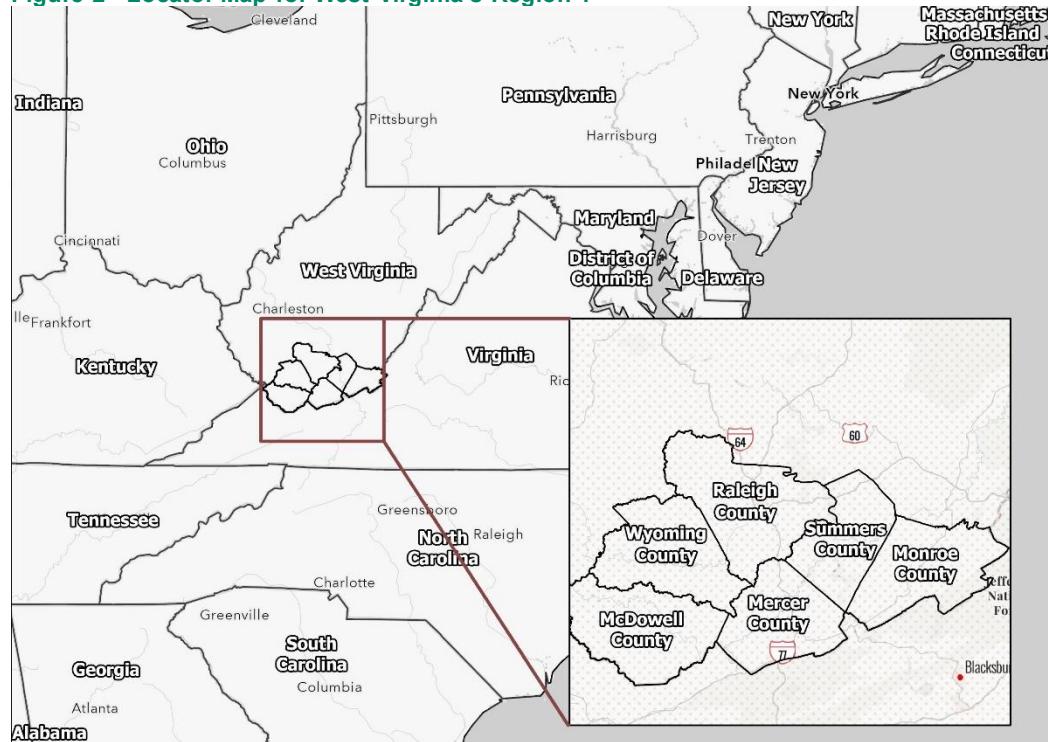
Context

Locational Context

Region 1 Planning & Development Council's jurisdiction is comprised of six counties, McDowell, Mercer, Monroe, Raleigh, Summers, and Wyoming, spanning 2,908 square miles. Each county has its own unique assets, industries,

and natural and cultural resources; they are mostly rural in nature, dotted with small downtowns, and have economies that have historically relied heavily on coal extraction and related services and industries (although this has been shifting somewhat over the past several decades). Figure 2 shows where West Virginia's Region 1 is located relative to nearby areas.

Figure 2 - Locator Map for West Virginia's Region 1



Source: ESRI ArcGIS Pro, AECOM2021

West Virginia's Region 1 is comprised of the following counties and municipalities, listed in Table 1:

Table 1 - Counties and Municipalities in Study Area

County	Municipality
McDowell County	Anawalt
	Bradshaw
	Davy
	Gary
	laeger
	Keystone
	Kimball
	Northfork
	War
	Welch
Mercer County	Athens
	Bluefield
	Bramwell
	Oakvale
Monroe County	Princeton
	Peterstown
	Union
Raleigh County	Alderson
	Beckley

	Lester
	Mabscott
	Rhodell
	Sophia
Summers County	Hinton
	Mullens
Wyoming County	Oceana
	Pineville

Source: West Virginia State Auditor's Office (WVSAO), AECOM2021. Counties and municipalities are accurate as of the 2021-2022 Assessments and Levies reports published by the WVSAO.

Previous Plans & Studies

In crafting an Economic Recovery Roadmap for Region 1, it was essential to first gain a basic understanding of the previous efforts that Region 1 and its localities have put into previous plans and studies meant to guide planning and development in the region over the coming years. The following plans and studies were reviewed as part of the analysis of existing conditions for Region 1:

Comprehensive Economic Development (CED) Plans

- McDowell County Comprehensive Plan, 2019
- Mercer County Comprehensive Plan, 2018
- Monroe County Comprehensive Plan, 2009
- Raleigh County Comprehensive Plan, 2012
- Summers County Comprehensive Plan, 2017
- Wyoming County Comprehensive Plan, 2017

County CED plans identified common problems across the region and set forth action plans to address them. Common goals and objectives listed in these documents include:

- Address abandoned and dilapidated structures
- Improve existing infrastructure and develop new infrastructure (water, sewer, utilities, broadband)
- Encourage development in “preferred development areas”
- Encourage a resilient and stable economy
- Expand public safety efforts and expand treatment options to those with addictions
- Coordinate efforts to address the substance abuse crisis in the Region
- Increase efforts to support youth education
- Address repeatedly damaged structures in floodplains.

State of West Virginia's Broadband Infrastructure Plan for 2020 to 2025

This document lays out an action plan that aims to leverage federal, state, and local funds to improve broadband access throughout the state by 2025.

Region 1 Hazard Mitigation Plan, 2016

The Region 1 Hazard Mitigation Plan includes a risk assessment that includes the type, location and extent of all types of natural hazards affecting the region, including past hazards, future hazards, and over community impacts on each jurisdiction. The 2016 plan encompasses the following types of hazards: earthquake, dam failure, flood, hail, landslide, severe winter storm, tornado, wildfire, land subsidence, drought, high wind, avalanche, severe lightning, and excessive temperature.

Pandemic Impacts

The onset of the Covid-19 coronavirus global pandemic disrupted millions of lives in early 2020. While the ripple effects across the national and global world will continue to be felt for years, the past 16 months have yielded a host of unique challenges across labor force, employment, inflation, shortages, travel, and other sectors. As US unemployment expanded from roughly 4.5% in March of 2020 to 14.4% in April, US government financial support, including Legislative, Federal Reserve, and administrative actions to the economy expanded, with total appropriations in excess of \$6 trillion dollars during FY 2020, with roughly \$850 billion in direct payments to taxpayers. By June 2021, the supply of US dollars in circulation (M2) had expanded by about \$5.3 trillion, and deposits in US banks expanded by about \$4.4 trillion.

As lockdowns also closed local school districts, households discovered the challenge of working from home and providing childcare. For most of 2020, women left the labor force at a faster rate than men, with partial recovery by the summer of 2021 as public schools re-opened. Moving into 2021, analysis by the Bureau of Labor Statistics begins to show how Covid has accelerated the departure of the Baby Boomer generation from the US workforce. Accelerated economic activity into 2021 revealed consequential labor force constraints, with dramatic growth in new job postings and departures, faster than the rate of new hires. As a result, while US unemployment is approaching pre-recession levels (5.3% in August 2021 compared to 3.8% in February 2020) the economy is still struggling with worker shortages in many sectors.

By spring 2021, inflation pressures expanded at their fastest pace since 1989, linked to recovery in demand, worker shortages, and supply chain constraints. While some markets have adjusted (lumber), costs in other markets (trucking, used cars, energy, etc.) have continue to increase, culminating in an October 2021 increase in the Consumer Price Index (CPI) at a 6.1% annual rate, according to the Bureau of Labor Statistics. As supply chain pressures have started to ease into December 2021, there is a sense that inflationary pressures will soften in 2022.

The pandemic has also heavily impacted employment in service sectors such as restaurants, hotels, and entertainment where more than 3.75 million jobs have been lost since spring of 2020. Additionally, these impacts have reinforced core equity challenges across the nation, including the limits of broadband infrastructure in rural communities, education and childcare constraints, variable workforce conditions, and more.

At a sector level, Covid highlighted consequential weaknesses in US manufacturing, including dependence on global supply chains for personal protective equipment, food supply chain sensitivity, and over-reliance on China as a source market for exports. With demand recovery into 2021, US manufacturers have faced increasingly consequential supply chain challenges, starting with lumber and building materials in the spring of 2021, escalating to computer chips and a host of other products by summer. The path forward for US manufacturing is complex, in that there are a host of sectors where domestic production capacity was lost more than 20 years ago. At the same time, with recovery and growth in domestic production since 2010, it is becoming clear that the word “industrial” increasingly fails to properly frame the evolving diversity of activities related to modern domestic industrial development, including:

- Artisanal/Craft Local Production: Food, beverage, and consumer goods
- Local Production – General: Larger scale, but locally owned companies involved in food production, as well as supporting industries (machine shops, metal coatings, etc.)
- Industrial Services & Repair: Broad set of support services including remediation, printing, laundry, automotive, etc.
- Export Oriented Manufacturing: Production of goods for national and global markets, from pharmaceuticals to aerospace parts, chemicals, packaging, etc.
- Wholesale/Distribution, Logistics and Transportation: E-commerce, as well as traditional warehouse and wholesale/distribution activities, including third party logistics providers

Domestic energy markets have been in transition and under pressure arguably since 2010, linked initially to expansion of domestic oil and natural gas production, dramatic reductions in domestic coal production (primarily between 2009 and 2015) and parallel growth in renewable energy (wind and solar) as an offset to growing climate volatility concerns.

Southern West Virginia was not immune to the impacts of Covid-19; the state experienced rising case numbers, widespread shutdowns, and stay-at-home orders. In spring of 2020, the state unemployment rate rose to nearly 9%; Region 1 communities’ unemployment mirrored state trends, rising to 9.2%; while staying below the U.S. average of 14.8% in April 2020. Region 1 communities lost nearly 4,300 jobs between 2019 and 2021. The following section describes in more detail the initial and ongoing impact of the pandemic on Region 1 communities.

Covid-19 Business Impact Survey

After the onset of the Covid-19 pandemic in March of 2020, the West Virginia Association of Regional Councils issued a Covid-19 Business Impact Survey to gauge the economic impact of the pandemic on local businesses. The survey included questions about business location, impacts to revenue, ongoing difficulties, and the ability to partner with the state/regional governments to tackle the spread of Covid-19.

There were **257 total respondents**, whose businesses spanned across 44 West Virginia Counties. The number of respondents from businesses in Region 1 counties is shown in Table 2:

Table 2 - Region 1 County Response Rate (Covid-19 Business Impact Survey)

County	Respondents
--------	-------------

McDowell County, WV	1 (0.4%)
Mercer County, WV	17 (6.5%)
Monroe County, WV	1 (0.4%)
Raleigh County, WV	25 (9.5%)
Summers County, WV	2 (0.8%)
Wyoming County, WV	5 (2%)

Source: Covid-19 Business Impact Survey, WV Association of Regional Councils, AECOM2021

Of the 257 respondents, **98%** (245 respondents) claimed that their business experienced the adverse impacts of the Covid-19 pandemic. Only **1%** (7) were unsure of the impacts faced by their business, while **1%** (5) claimed their business did not experience any negative impacts of the pandemic.

Respondents were asked to select from a list of issues their businesses faced. **89%** (230) said their business was facing financial troubles, i.e., loss of revenue, inability to make employee payroll, layoffs, and business closures (whether voluntary or mandated). The other **11%** (27) noted issues such as changes in business models or hours, supply chain distributions, and a disruption in the provision of employee benefits or insurance.

81% of businesses (208) said their business would risk permanent closure if the adverse effects of the pandemic continued for additional months (detailed in Table 3). The remaining **19%** (47) claimed their business was not concerned about permanent closure because of the pandemic.

Table 3 - Additional Months Businesses Could Afford at Time of Survey
Months Businesses Could Afford to Remain Open Without Financial Assistance **Number of Respondents/Businesses**

Less than 1 month	12 (4.5%)
1 to 2 months	66 (25.5%)
3 to 5 months	84 (32.5%)
5+ months	46 (18%)

Source: Covid-19 Business Impact Survey, WV Association of Regional Councils, AECOM2021

Almost **70%** of respondents (176) said their businesses saw revenue declines of more than 40% of pre-Covid levels, while the remaining businesses saw revenue declines of between 0 and 40%.

Small businesses with fewer than 5 employees made up **66%** (169) of respondents; **20%** (51) had between 6 and 20 employees, and the remaining **14%** had more than 20 employees. Nearly **75%** (195) businesses claimed they had between 1 and 5 employees who were at risk of unemployment, reduced hours, or layoffs, while **20%** (49) of the businesses had between 6 and 20 at-risk employees, and **5%** (13) had more than 25 at-risk employees. Lastly, only **6%** (15) of all respondents said their business had the ability to assist in the manufacturing of personal protective equipment (PPE) and other necessary sanitary items. Of these 15 respondents, **12** were willing to talk to state/local agencies to assist in production.

During the spring of 2020, at the height of the pandemic, unemployment claims across the nation rose to a record high of 23 million, and almost 10% of the labor force was forced into unemployment. The Dow Jones Industrial Average fell to 19,000. In West Virginia, the unemployment rate surged to nearly 9% in 2020, and the total number of jobs fell from 761,321 to 715,000.

By summer 2020, signs of a nationwide economic recovery were becoming evident, and have continued into 2021. Unemployment claims fell to 3 million as of August 2021. The Dow Jones Industrial Average rose to record highs, and is currently hovering close to 35,000, with more growth on the horizon. In West Virginia, unemployment rates fell to pre-pandemic levels of 5% by June 2021, and the number of jobs in the state and the region are projected to grow, although at a slower rate, in the next decade. Region 1's unemployment mirrored state trends, falling from 9.2% in 2020 to 6% in June 2021.

Federal, state, and local and regional governments have begun to offer a multitude of economic development resources that are available to Region 1 communities. These resources, combined with the fall in unemployment and projected growth in jobs, can aid Region 1 economic recovery from both the impacts of the pandemic and the longer-term challenges that employment and industry have faced in the region over the last several decades.

Covid-19 Regional Employment Impact

The Covid-19 pandemic has had widespread impacts on Region 1 communities and the broader region. Region 1 communities lost nearly **4,300** jobs between 2019 and 2021, with the total number of jobs decreasing from **71,934** to **67,646**.

To begin to understand the impacts of Covid-19 on the region's economy, an industry cluster analysis was conducted to assess the business and industry climate across Region 1 counties. Comprehensive six-digit NAICS code industry data was aggregated or proportionally allocated into 51 overarching clusters. Between 2019 and 2021, there were several industry clusters that appeared to be hit harder by the pandemic than others, while others saw growth. A snapshot of industry clusters is shown in Table 4.

Table 4 - Job Growth by Clusters in Region 1, 2019-2021

Industry Cluster	Change in Number of Jobs	Cluster Description
Food Services	-1,045	Restaurants and other food services
Coal Mining & Support Operations	-891	Surface and underground mining of all types of coal, as well as engineering and other support activities for the industry
Human Health	-660	Hospitals and Pharmaceuticals
Retail	-519	Other retail jobs, outside of the food cluster
Civic	+44	Non-profits and other civic groups (public spaces, faith spaces, etc.)
Regional HQ	+167	Offices of bank-holding and other holding companies, as well as corporate, subsidiary, and regional managing offices
Federal Civilian	+292	Federal employment, non-military
Oil & Gas Upstream	+313	Oil and gas extraction and support activities for the industry

Source: EMSI, AECOM 2021

Location quotients (LQs) can be used to assess the concentration of industries or industry clusters in a particular area relative to the overall U.S. The calculation is useful to assess the relative strength or weakness of a given industry locally. An LQ of less than 1.0 indicates that an industry is *less* concentrated in the region than the U.S. average, while an LQ greater than 1.0 indicates that the industry is *more* concentrated in the region. An LQ equal to 1.0 means that an industry is on par with the U.S. average. Location quotients, coupled with employment growth rates, are analyzed to assess the relative competitive advantage, regional specializations, and economic development potential of industries within Region 1.

In 2021, Region 1 had approximately 67,646 total jobs, of which 2,507 jobs were in the coal mining industry (4%), while only 0.3% of total US jobs are in coal mining. With a location quotient of 140, Region 1 is significantly more concentrated in coal than the average US county or region – 140 times more concentrated.

The clusters that saw the biggest changes in LQ between 2019 and 2021 are listed in Table 5.

Table 5 - Location Quotient Growth by Clusters in Region 1, 2019-2021

Cluster	Change in LQ Since 2019	LQ in 2021	Cluster Description
Oil & Gas Upstream	+3.8	4.9	Oil and gas extraction
Oil & Gas Downstream	+0.4	1.6	Manufacturing from processed petroleum and gas or support services
Tourism	+0.2	1.1	Tourism and hospitality industries (e.g., hotels, travel agents)
Oil & Gas Midstream	-0.4	1.3	Processing, storage, transportation, and marketing of oil and gas
Tobacco	-0.4	3.1	Tobacco manufacturing
Coal Mining & Support Operations	-3.0	139.4	Surface and underground mining of all types of coal, as well as engineering and other support activities for the industry

Source: EMSI, AECOM 2021

Key takeaways from this analysis are as follows:

- The coal industry has been a major employer in southern West Virginia for well over a century, but has seen significant job declines in recent years, particularly between 2011 and 2016, coupled with an increasingly capital-intensive structure that relies on fewer workers to extract coal. Additionally, the industry saw continued losses during the pandemic. Despite these declines, the state and region remain deeply specialized in coal production – more than any other industry. The coal mined in much of West Virginia is bituminous coal that has a high carbon content, low sulfur content, low ash, and high heating value. Currently, 80% of the state’s coal is used for power generation, constraining the ability to quickly pivot to natural gas or other sustainable energy generation. Additionally, while demand for thermal/steam coal is down, demand for metallurgical coal production to meet steel industry needs has remained stable.
- Overall, upstream oil & gas industries saw growth in net jobs and relative concentration, while midstream industries saw a decline in growth between 2019 and 2021. Oil & gas extraction activities require midstream services to already be in place – for example, pipelines, storage facilities, and processing plants need to be up and running. It is likely that, as midstream growth took place prior to 2019, extraction growth followed during 2019 and 2020. In Region 1, oil & gas upstream industries are concentrated in McDowell County, Mercer County, Raleigh County, and Wyoming County.
- Decarbonization will remain a priority for the U.S. economy. Although fossil fuels are not immediately replaceable by renewable or sustainable forms of energy, energy demand in the next few decades will likely start to shift towards more environmentally friendly and sustainable methods of energy generation, such as hydroelectricity, wind energy, and nuclear energy.
- Food Services, Human Health, and Retail industry clusters saw drastic declines in employment, but declines were consistent with US averages and national job losses due to the pandemic. These industries are projected to grow post-Covid, facilitated by federal, state, and local government assistance/funding.

While this section provides a brief overview of how the pandemic affected employment in certain important clusters, the section on Industry & Employment provides a more detailed and comprehensive analysis of industry and employment changes in the last few years.

Stakeholder Feedback on Pandemic Impacts

When interviewed about pandemic impacts, stakeholder responses were mixed, with a majority of local impacts and concerns mentioned mirroring those felt in communities across the country, both urban and rural. As the pandemic has continued to evolve, many of these impacts continue to be felt. Negative impacts of the pandemic mentioned by Region 1 stakeholders included:

- Heavy job losses, especially across industries detailed in the previous section, including food services and coal mining & support services
- The ongoing shortage of adequate housing became more acute; the pandemic made moving difficult, yet some areas saw an influx of people fleeing denser urban areas
- Local organizations experienced difficulty marshaling resources necessary to apply for aid, PPP for local businesses, due to complex application processes, lack of access to technical assistance, etc.
- Many businesses did not have resources to “pivot” to an online presence
- Workers had difficulty finding available and affordable childcare, especially “essential workers” with unpredictable schedules, who had to continue working in the midst of shutdowns
- Supply chain constraints and delays
- Children in K-12 schools struggled to keep up with remote learning (due to lack of broadband access or other challenges)
- The ongoing population loss and disinvestment experienced by some parts of the region was exacerbated: i.e., residents leaving the area to find employment opportunities after pandemic-induced job loss
- The region saw reduced labor force participation and a continuing disconnect between available jobs and jobs that residents are willing to accept
- Community colleges reported decreases in enrollment

However, many stakeholders also noted positive impacts on the region’s economy from the pandemic, some of which point towards future economic recovery and resiliency opportunities for the region, including:

- Multiple industries experienced pent-up demand for goods and services leading to record lows in state-level unemployment

- Certain industry clusters in Region 1 actually saw job increases, including Oil & Gas, Federal jobs, and others, as discussed in the previous section
- Tourists flocked to Region 1's many outdoor recreational opportunities, especially the Hatfield-McCoy trails (Figure 3)
- Residents stuck closer to home, and thus spent more money at small businesses than prior to the pandemic
- The market for used goods increased, due to the supply chain constraints surrounding new products
- Community support networks were engaged, and many residents reached out in support of one another
- Some residents who lost jobs due to the pandemic started small, local businesses that have been successful thus far
- According to USPS mailbox data, some Region 1 counties (McDowell, Mercer, Raleigh, and Wyoming) saw growth between 2019 & 2021, possibly due to pandemic "refugees" seeking more rural settings
- According to one stakeholder, the pandemic "did what 40 years of marketing couldn't do, even without the national park designation" for tourism
- Mountain Transit Authority (MTA) saw a significant increase in ridership after the first wave of pandemic shutdowns eased

Figure 3 - Sign for Hatfield-McCoy Trail



Image Source:
https://commons.wikimedia.org/wiki/File:Hatfield_McCoy_Trail_System.jpg

Opportunities for Region 1's localities to nurture local businesses, attract more tourists and remote workers, and breathe new life into local small-scale manufacturing and supply chains are discussed more in the following sections.



Population & Housing

Understanding the region's existing population and housing conditions is critical for making recommendations for strategies to increase the supply of high-quality, workforce housing, provide the necessary services and support for the region's current population, and helping move the region forward. The following sections summarize the stakeholder feedback related to population & housing in Region 1; describe existing conditions, demographic and socioeconomic trends; and suggest actions and strategies to meet the needs of shifting regional demographics and increase the supply of affordable/missing-middle housing.

Stakeholder Feedback: Population & Housing

Weaknesses & Challenges

Region 1 stakeholders were asked about strengths, weaknesses, opportunities, and threats in their communities, cutting across the themes outlined in the previous section. Their feedback around population and housing helped shape many of the strategies recommended for this theme. Multiple stakeholders discussed the following challenges regarding housing and population:

- There appears to be an overall lack of abundant affordable/workforce housing in livable condition throughout study area, although some areas/localities struggle with this more than others
- Housing supply shortages have been worsened in some areas, particularly near tourism destinations, where people fleeing the pandemic in urban areas have bought up housing as second homes
- Stakeholders reported high demand for Section 8 affordable housing vouchers, despite lack of adequate, decent-quality housing available on the private market with landlords that accept vouchers
- Lack of public transit in some areas makes it difficult for residents to get to work, particularly those who live in more rural areas
- People who have come to the area for jobs sometimes leave because where they want to live ends up being a significant distance from where they are able to find work – in some instances, people end up commuting over an hour between home and work, due to lack of housing/amenities near their place of work
- Some communities can seem unfriendly to people who did not grow up in the area; stakeholders have heard complaints that new residents do not feel welcome/included
- The region's aging population, which is older on average than WV and the U.S., creates increased demand for healthcare and social services, and reinforces existing workforce shortages/challenges

Strengths & Opportunities

Stakeholders also mentioned multiple strengths and areas of opportunity regarding housing and population in Region 1, including the following:

- Although the supply of quality housing is somewhat constrained, housing in many Region 1 communities is more affordable than in other parts of the state/greater U.S.
- Loss of housing due to flooding/disasters and general disinvestment also creates an opportunity to “build back better, and create intentional, well-planned communities in areas less prone to flooding
- Areas with tourist destinations and outdoor recreational amenities are attracting and increasing number of remote workers who can “work from anywhere” as full-time residents
- Small-town/rural, family-oriented communities attract people looking to escape traffic and high housing costs in more urban areas
- The relatively low cost of land compared to more urban areas means that, if demand increases, the barriers to building new affordable/workforce housing are lowered
- Federal and state programs, like the West Virginia Housing Development Fund, provide a variety of resources to encourage the development of workforce housing in the state
- Congress is now considering legislation that would allocate additional funds to building more affordable and workforce housing
- There is significant opportunity for community organizations, including business and faith organizations, to work together to build their “social infrastructure,” and create a more welcoming environment for both new and existing residents
- Focusing on improving facilities and services that serve an aging population (health and wellness facilities/organizations, continuing care facilities, retirement communities) could also help the region rebrand itself as a destination for retirees

Population Overview

Changes in Population

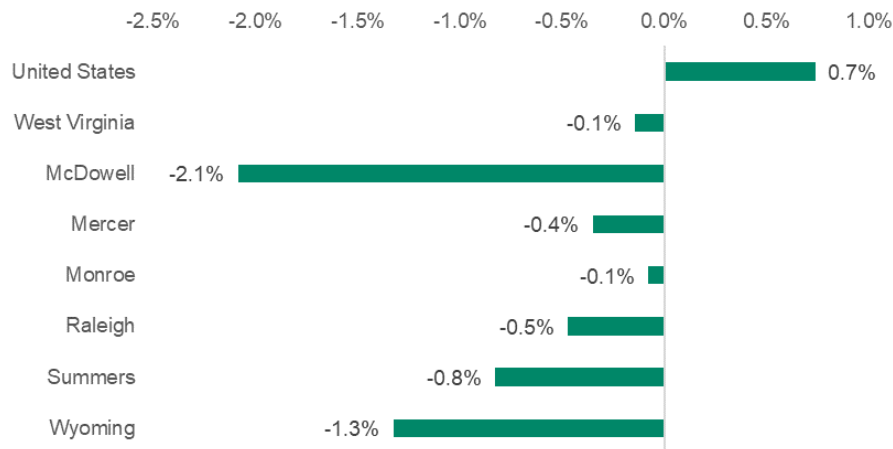
Over the last decade, counties in Region 1 have witnessed declines in their populations, and so has the state of West Virginia. At the same time, the nation has seen increases in population. Table 6 shows how populations have changed from 2010 to 2019, and the last column presents compounded annual growth rates (annualized percent changes), which are also visualized Figure 5.

Table 6 - Population Change by Geography, 2010-2019

Geography	2010 Population	2019 Population	Flat Percent Change	CAGR
United States	303,965,272	324,697,795	6.8%	0.7%
West Virginia	1,840,802	1,817,305	-1.3%	-0.1%
McDowell	2,255	18,661	-17.3%	-2.1%
Mercer	61,844	59,919	-3.1%	-0.4%
Monroe	13,495	13,401	-0.7%	-0.1%
Raleigh	78,513	75,252	-4.2%	-0.5%
Summers	13,847	12,848	-7.2%	-0.8%
Wyoming	23,993	21,281	-11.3%	-1.3%

Source: American Community Survey 5-Year Estimates, 2010 and 2019; AECOM, 2021

Figure 4 - Annualized Percent Changes in Population, 2010-2019



Source: American Community Survey 5-Year Estimates, 2010 and 2019; AECOM, 2021

Population trends in the state of West Virginia and in the Region 1 counties do not mirror those of the nation as a whole. Particularly notable are the population changes that took place over the past decade in McDowell and Wyoming counties; both these counties saw unnaturally large decreases in their populations. Another similarity between these counties is that they are counties that have historically had high levels of coal production. The decline of the coal industry is possibly the most reasonable explanation behind the decline in populations that these counties have experienced.

Migration Patterns

Migration patterns are important metrics that factor into population changes and are reasonably reliable proxies that can answer the question of whether people are emigrating out of unhappiness and lack of opportunities – or whether the region is attracting residents due to quality of life, jobs, or other draws. Table 7 shows data acquired from the U.S. Census Flows Mapper and presents migration patterns for Region 1 counties in the last decade.

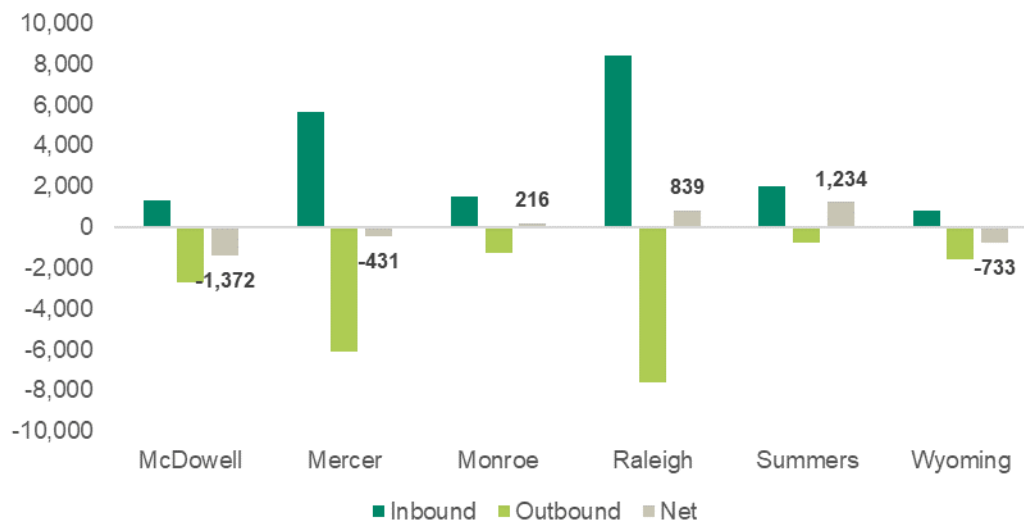
Table 7 - Migration Patterns by County, 2010 to 2019

County	Inbound	Outbound	Net
McDowell	1,330	-2,702	-1,372
Mercer	5,659	-6,090	-431
Monroe	1,498	-1,282	216
Raleigh	8,448	-7,609	839
Summers	2,012	-778	1,234
Wyoming	833	-1,566	-733

Source: Census Flows Mapper, 2010-2019; AECOM, 2021

It is important to note that inbound and outbound migrations for two different counties may overlap. For example, if a particular resident moved from Mercer County to Monroe County, that movement is counted as both an inbound migrant to Monroe County as well as an outbound migrant from Mercer County. Figure 5 presents a visual representation of the migration patterns, making it easier to compare the changes between counties.

Figure 5 - Migration Patterns for Region 1 Counties, 2010-2019



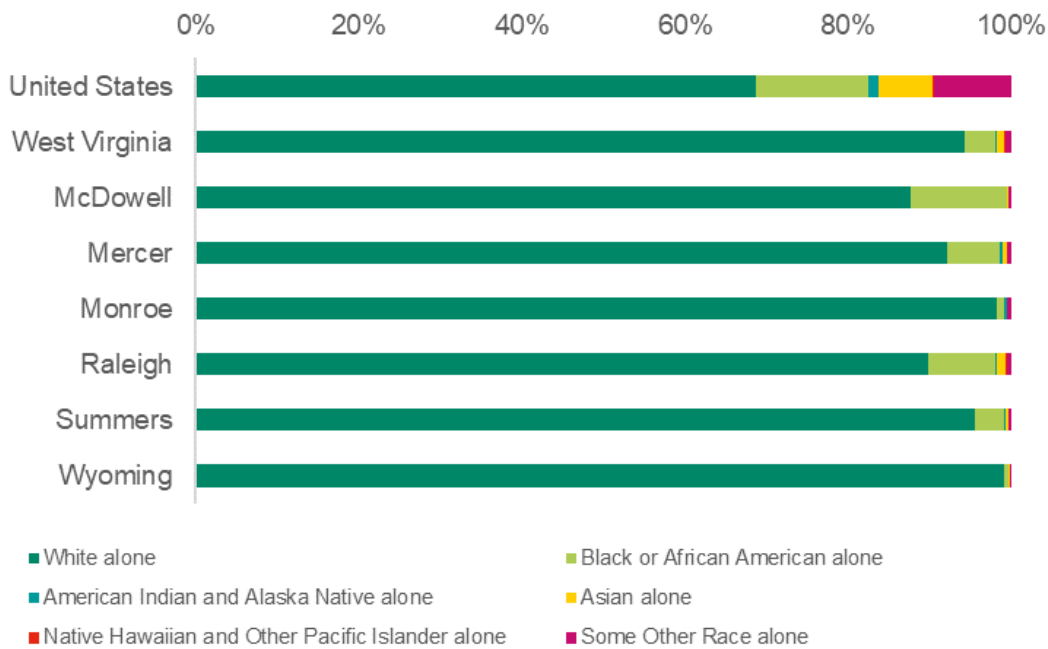
Source: Census Flows Mapper, 2010-2019; AECOM, 2021

Demographic Overview

Racial/Ethnic Composition

Figure 6 shows the racial/ethnic composition of the counties in Region 1, compared with the State of West Virginia and the nation. Region 1 counties seem to follow roughly the same trend as that of West Virginia – less diversity than the national average. Monroe and Wyoming Counties are less diverse; nearly 98% of the population identifies with a single racial group. McDowell and Raleigh Counties, on the other hand, are slightly more diverse than the state average.

Figure 6 - Racial Composition by Geography, 2019

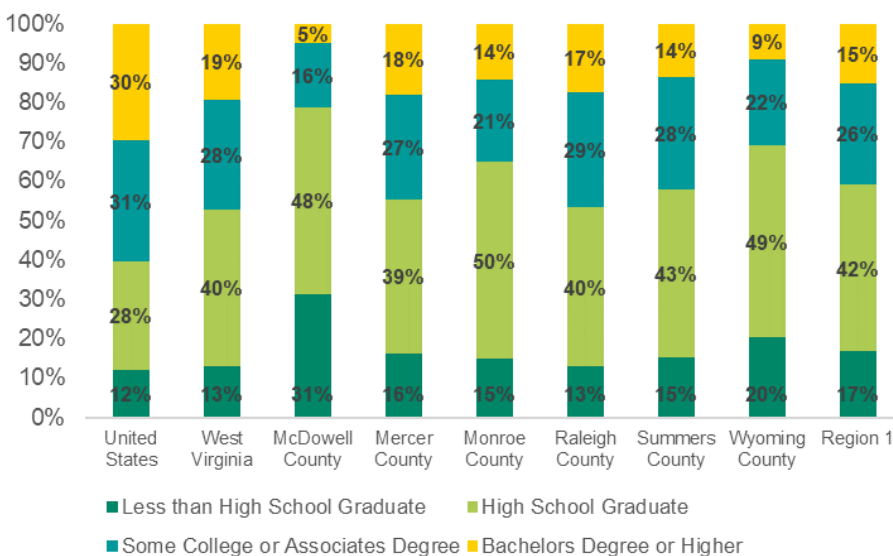


Source: American Community Survey 5-Year Estimates, 2019; AECOM2021

Educational Attainment

Figure 7 shows educational attainment levels for each Region 1 county, Region 1, the state of West Virginia, and the nation. Every Region 1 county has a lower proportion of its population with educational attainment beyond high school when compared with the national and state average. Inversely, every Region 1 county has a higher proportion of population that are less than high school graduates or just high school graduates when compared with the national and state average. The county with the lowest levels of educational attainment is McDowell County, where 31% of the population does not have a high school degree. This number is almost three times as big as the national average - only 12% of Americans do not have a high school degree. Raleigh County has the highest educational attainment in the region, with 46% of its population having some college or an associate degree, bachelor's degree, or higher, nearly equivalent to the statewide average (47% of West Virginians have the same level of educational attainment).

Figure 7 - Educational Attainment by Geography, 2019

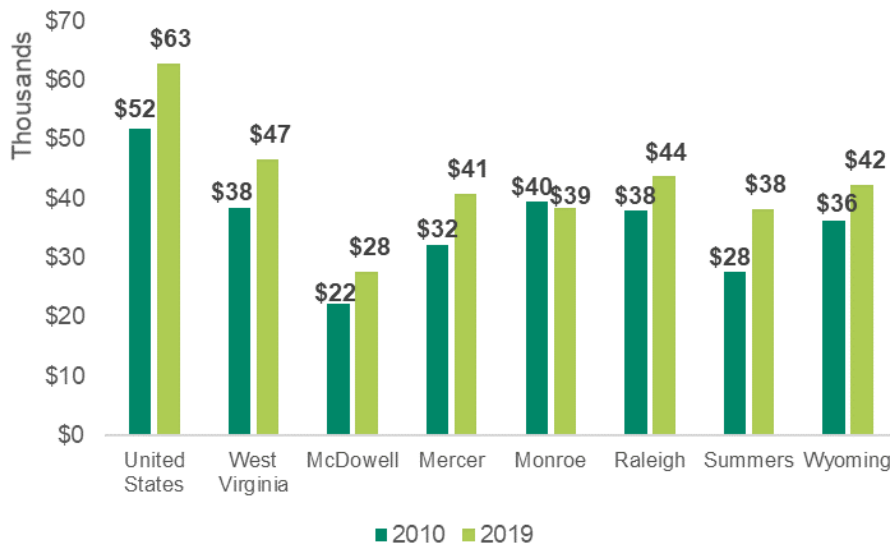


Source: American Community Survey 5-Year Estimates, 2019; AECOM2021

Median Household Income

Figure 8 shows median household incomes for each of the Region 1 counties, compared to the state of West Virginia and the nation. McDowell County has lagged behind the state since 2010, and by 2019, the gap between the median income in McDowell County and the state was nearly \$20,000. In Mercer County, median household incomes have historically lagged the state average and have maintained that gap through 2019. Monroe County’s median earnings were higher than the state average in 2010, but while every other geography saw growth in income between 2010 and 2019, Monroe County saw a small decrease, which means that by 2019, Monroe County’s median income lagged the state average. Though Raleigh County did not see the biggest growth rate in household income between 2010 and 2019, it does still have the highest income in the region in 2019, at \$44,000. Summers County as median incomes that lag behind the state averages by \$10,000, in both, 2010 and 2019. Despite this, if analyzed in terms of percent changes, Summers County saw the largest increase in income out of all the geographies shown in the chart. Lastly, Wyoming County has maintained a stable growth in household income, just a bit lower than the state averages.

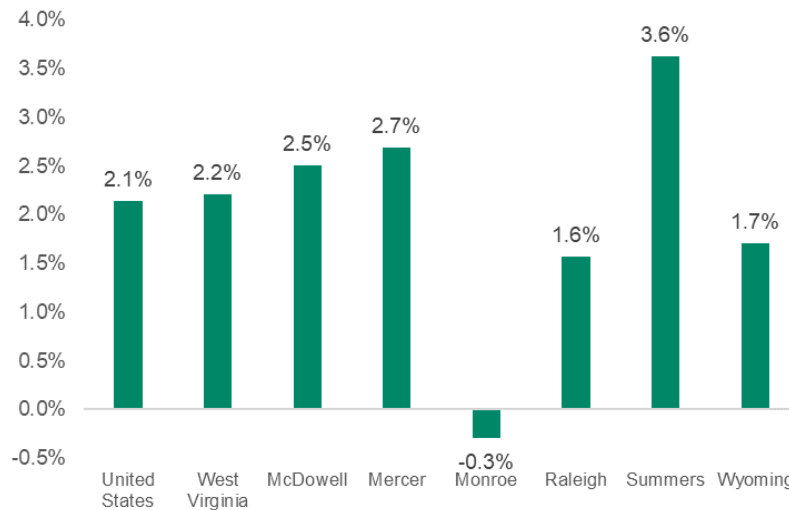
Figure 8 - Median Household Income, Region 1, 2010-2019



Source: American Community Survey 5-Year Estimates, 2010 and 2019; AECOM 2021

Figure 9 shows annualized percentage changes in median household income by geography. Across the nation, median household income grew at a rate of 2.1% each year for the last decade. In West Virginia, that growth occurred at 2.2% each year. In Region 1, Summers (3.6%), Mercer (2.7%), and McDowell (2.5%) Counties saw growth rates higher than the national and state averages. Raleigh (1.6%) and Wyoming (1.7%) Counties saw moderate growth, but not as high as the national or state averages. In Monroe County, median household income fell at a rate of 0.3% each year for the last decade.

Figure 9 - Annualized Percent Change in Median HH Income by Geography, 2010-2019

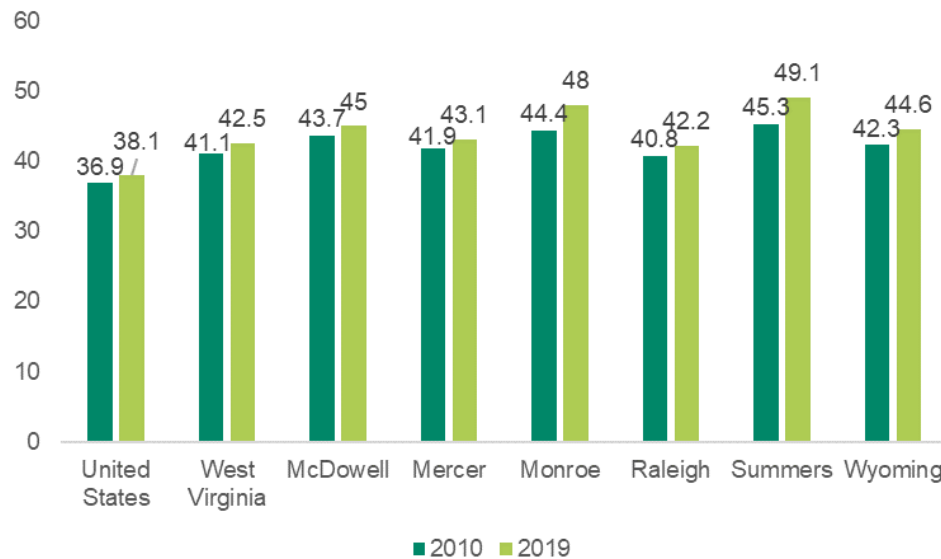


Source: American Community Survey 5-Year Estimates, 2010 and 2019; AECOM 2021

Median Age

Median age (Figure 10) is an indicator that can help quickly determine if a population is younger (and most likely positioned for growth, particularly in family size), or aging, and potentially declining and/or seeing a decrease in workforce participation. Every Region 1 county sees a median age (as of 2019) higher than the national average, by approximately 4 years. Raleigh is the only county with a median age lower than the state. Monroe (48) and Summers (49.1) Counties stand out – their median ages in 2019 were around 10 years larger than the median age of the nation. High median ages often translate into reduced labor force participation (due to a higher proportion of retirees) and may indicate the need for additional services needed to serve an aging population.

Figure 10 - Median Age by Geography, 2010 and 2019



Source: American Community Survey 5-Year Estimates, 2010 and 2019; AECOM, 2021

Poverty

Five of Region 1's six counties see a poverty rate above state average (Table 8). McDowell County sees the highest poverty rate as of 2019, at 33.2% - along with nearly 45% of children below the poverty level. Summers County sees the highest senior (65+) poverty rate, at 13.8%.

Table 8 - Region 1 Poverty Rate, 2019

County	% Below Poverty Level, Total	% Below Poverty Level, Under 18	% Below Poverty Level, 65 and Older
McDowell	33.2%	44.9%	13.1%
Mercer	19.8%	27.6%	8.7%
Monroe	15.3%	21.4%	8.0%
Raleigh	18.6%	27.5%	10.0%
Summers	21.7%	33.6%	13.8%
Wyoming	22.4%	29.4%	7.7%
West Virginia	17.6%	23.8%	9.5%

Source: US Census, American Community Survey Five-Year, 2019, AECOM2021

Housing Overview

There are 103,644 housing units across Region 1. Of occupied housing units, 74% are owner-occupied and 26% are renter-occupied. 73% of all housing is single-family, while 8% is multi-family housing. Mercer County has the highest percent of multi-family housing at 11%. Additionally, 20% of homes in Region 1 are mobile homes. Mobile housing exceeds 20% in McDowell, Mercer, and Wyoming Counties. Housing vacancy averages 19% across Region 1, consistent with the 19% West Virginia average. McDowell County has the highest vacancy rate at 32%, followed by Summers County (28%) and Monroe County (25%). Four percent of Region 1 housing units are seasonal or occasional-use homes.

Region 1 is home to 84,115 total households, two-thirds of which are family households. 30% of households have one or more people 17 and younger, and 37% of households include one or more people 65 and older. 29% of households are individuals living alone. According to Table 9, counties in Region 1 also tend to have older housing stock – 35% of the region’s total housing was built before 1960, while only 2% has been constructed since 2010. An aging housing stock can become a significant economic development challenge, as older units are more likely to suffer from deferred maintenance and become more difficult to rehabilitate and/or sell.

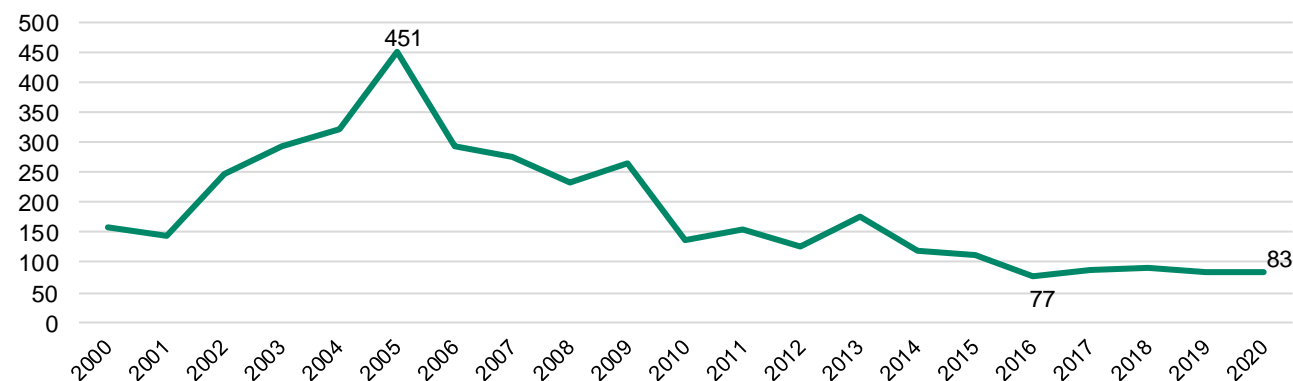
Table 9 - Aging Housing Stock

Geography	2010 or later	2000 to 2009	1990 to 1999	1980 to 1989	1970 to 1979	1960 to 1969	1950 to 1959	1940 to 1949	1939 or earlier	Before 1960
McDowell	1%	6%	7%	11%	16%	9%	14%	13%	22%	50%
Mercer	1%	9%	19%	11%	17%	7%	13%	8%	15%	36%
Monroe	1%	10%	15%	15%	18%	12%	7%	7%	16%	30%
Raleigh	3%	9%	14%	12%	21%	8%	11%	10%	12%	33%
Summers	4%	10%	17%	15%	14%	8%	7%	6%	19%	32%
Wyoming	1%	13%	13%	17%	18%	8%	8%	11%	12%	31%
Region 1	2%	9%	15%	13%	18%	8%	11%	9%	15%	35%

Source: American Community Survey 2019; AECOM, 2021

Changes in home construction permits are a strong indicator of changes in demand for new housing. Since 2000, Region 1 has seen a total of 3,933 new housing permits (Figure 11), the vast majority of which (92%) are for single-family housing. Figure 9 shows that through the recession, the number of new housing permits declined from a 20-year high of 451 in 2005 to 138 in 2010, a decline of nearly 70% during the five-year period – and has seen continued decreases into 2020. Covid-19 impacts on new housing constructed are expected into 2022.

Figure 11 - Region 1 New Housing Permits



Source: HUD SOGDS, 2021; AECOM2021

Median home value varies significantly across Region 1. Table 10 shows that the regional median home value is \$92,700 – but spans from a median of \$35,000 in McDowell County, to \$108,700 in Raleigh County. 55% of homes in the region are valued below \$100,000. Median rent in Region 1 is \$674. While lower than the average state rent of \$727, half of all Region 1 renters are cost-burdened, meaning they pay more than 30% of their income on rent alone.

Table 10 - Region 1 Housing Value

Geography	Median Home Value	Percent of Homes Valued Below \$100,000	Median Rent
McDowell	\$35,000	88%	\$575
Mercer	\$96,700	52%	\$672
Monroe	\$107,900	46%	\$626
Raleigh	\$108,700	46%	\$693
Summers	\$92,200	53%	\$685
Wyoming	\$71,500	73%	\$679
Region 1*	\$92,700	55%	\$674

*Regional medians are weighted averages
 Source: American Community Survey, 2019; AECOM2021

The tables below show that Region 1 includes 3,483 Section 8 subsidized housing units – 2,072 via tenant-based Housing Choice Vouchers (HCV), and 1,411 project-based Section 8 units. These subsidized units house more than 5,500 Region 1 residents, over 90% of whom are considered “very-low income.”

Table 11 - Section 8 Housing Choice Vouchers, 2020

Geography	Subsidized Units	Average Household Income per Year	Average Household Contribution to Rent per	Average HUD Contribution to Rent per	Average Section 8 Rent	Median Area Rent	Diff.
McDowell	135	\$8,530	\$223	\$491	\$714	\$575	\$139
Mercer	411	\$11,122	\$347	\$398	\$745	\$672	\$73
Monroe	40	\$11,027	\$294	\$454	\$748	\$626	\$122
Raleigh	1211	\$9,894	\$263	\$462	\$725	\$693	\$32
Summers	182	\$8,066	\$242	\$454	\$696	\$685	\$11
Wyoming	93	\$9,419	\$256	\$491	\$747	\$679	\$68

Table 12 - Project-Based Section 8, 2020

Geography	Subsidized Units	Average Household Income per Year	Average Household Contribution to Rent per	Average HUD Contribution to Rent per	Average Section 8 Rent	Median Area Rent	Diff.
McDowell	101	\$8,839	\$211	\$423	\$634	\$575	\$59
Mercer	381	\$11,515	\$269	\$504	\$773	\$672	\$101
Monroe	25	\$10,680	\$246	\$501	\$747	\$626	\$121
Raleigh	648	\$10,707	\$248	\$529	\$777	\$693	\$84
Summers	110	\$10,466	\$247	\$583	\$830	\$685	\$145
Wyoming	146	\$6,836	\$158	\$652	\$810	\$679	\$131

Source (both): HUD Subsidized Housing Database, 2020; AECOM2021

Population & Housing Recommendations & Strategies

Strategy	Next Steps	Strategy Lead	Partners	Timeframe	Funding Opportunities	Additional Resources
Conduct a comprehensive regionwide housing study that includes an inventory of existing housing stock, and seeks to understand housing dynamics, market demand, and the need for subsidies/incentives for building affordable, high-quality housing, especially in key growth/high tourism areas.	Evaluate organizational capacity to do an in-house study vs. engaging an outside firm, and identify strategies to demolish uninhabitable units.	Region 1 PDC	Local Governments; West Virginia Housing Development Fund, WVU BAD Buildings	Midterm	HUD Distressed Cities and Persistent Poverty Technical Assistance Notice of Funding Opportunity.	https://www.wvhdf.com/ ; https://www.hud.gov/stat es/west_virginia ; https://badbuildings.wvu.edu/ ; https://www.hud.gov/pro gram_offices/spm/qmom gmt/grantsinfo/fundingop ps/fy20fy21distressedciti es
Apply for funding, incentives, and technical assistance to encourage the private and non-profit development communities to build more affordable/missing middle housing in Region 1.	Identify key stakeholders and local/regional development partners willing to pledge to build more affordable and market-rate missing middle housing, that are also willing to work with HUD, WV Housing Development Fund, and WVU in exchange for development incentives and support. Partner with local higher ed institutions to ensure that adequate training in residential construction practices is provided in the region.	Region 1 PDC	West Virginia Housing Development Fund, WVU BAD Buildings, C of Cs, Private and Non-Profit Developers	Short-term	HUD Distressed Cities and Persistent Poverty Technical Assistance Notice of Funding Opportunity.	https://www.wvhdf.com/ ; https://www.hud.gov/stat es/west_virginia ; https://www.huduser.gov/portal/datasets/lihtc.htm ; https://www.hud.gov/pro gram_offices/spm/qmom gmt/grantsinfo/fundingop ps/fy20fy21distressedciti es
Identify target residential growth areas/population and job centers for improved public transit connections, particularly areas where lower-income households are concentrated.	Convene WV Transit representatives and local transit authorities to ensure alignment of locality goals for growth and development with transit authority long-range development. Identify areas with vulnerable populations and determine how to best provide transit access to those areas.	FRMPO	WV Division of Public Transit, Transit Authorities, Local Governments	Long-term	American Rescue Plan Act (ARPA) Funds, Federal Transit Administration Formula Grants for Rural Areas - 5311	https://wvtransit.com/ ; https://www.mtawv.com/ ; https://newrivertransitauthority.org/ ; http://ridethebatbus.com/ ; https://www.transit.dot.gov/rural-formula-grants-5311
Evaluate local entitlements processes and building/zoning codes to ensure that by-right development is streamlined, and innovation in the provision of affordable and missing-middle housing is encouraged.	Convene counties/municipalities to agree on regionwide updates to development processes and zoning/building codes that incentivize the construction safe, quality housing outside of environmental hazard areas, and streamline the development process for desired types of development; consider establishing "one-stop"	Region 1 PDC	Local Governments	Midterm	N/A	https://localhousingsolutions.org/housing-policy-library/streamlined-permitting-processes/

	development permitting centers in localities with higher population densities.					
Encourage counties/municipalities to put measures in place to protect housing options for workers in the immediate area; investigate tools such as deed restrictions, on-site housing/dormitories, land/housing trusts, and co-op models.	Work with Raleigh and Summers Counties, Winterplace Ski Resort, and the National Park Service to discuss options for programs that create/preserve affordable housing near Winterplace, the New River Gorge National Park, and other areas experiencing development pressure for seasonal and full-time employees	Region 1 PDC	Region 1 PDC; Raleigh County; Summers County; Winterplace; National Park Service	Midterm	HUD Eviction Protection Grant Program	https://inclusionaryhousing.org/designing-a-policy/affordability-preservation/mechanisms-for-preserving-affordability/#:~:text=For%20rental%20units%2C%20affordability%20is,homeownership%20mode%20to%20protect%20affordability; https://www.nps.gov/getinvolved/communities.html ; https://www.hud.gov/program_offices/spm/qmomt/grantsinfo/fundingops/fy21_evictiongrantprogram
Encourage counties to adopt and enforce more flood-resilient building codes and discourage development/redevelopment in high-risk zones. Improve local development and permitting processes to streamline by-right development in line with the county's/locality's goals and vision.	Convene localities to review existing development codes (ideally, this would coincide with discussions on how to streamline development & permitting processes for housing), and discuss planned and proposed updates to building/zoning codes to incentivize building/rebuilding outside of high-risk zones	Region 1 PDC	Local Governments	Short-term	FEMA Flood Mitigation Assistance Program, Building Resilient Infrastructure and Communities	https://www.fema.gov/emergency-managers/risk-management/building-science/building-codes ; https://www.fema.gov/grants/mitigation/floods ; https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities
Establish a clear post-disaster housing strategy to guide rebuilding efforts after a major storm/flooding event. Partner with FEMA and state entities to assess options to reduce the financial impacts on lower-income communities post-disaster.	Using the updated Hazard Mitigation Plan as a baseline, convene counties/municipalities through PDC to establish a cohesive strategy for rebuilding post-disaster in a way that increases resilience to future storm events, and protects/reduces impact to vulnerable populations	Region 1 PDC	Local Governments, FEMA, WV Emergency Management Division	Midterm	FEMA Flood Mitigation Assistance Program, Building Resilient Infrastructure and Communities	https://www.fema.gov/emergency-managers/national-preparedness/frameworks/recovery ; https://emd.wv.gov/Pages/default.aspx ; https://www.fema.gov/grants/mitigation/floods ; https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities

<p>Partner with the State to educate local landlords on benefits of the Housing Choice Voucher program, and provide technical assistance on how to navigate the system and apply for support/emergency relief</p>	<p>Offer webinars/seminars, disseminated through the PDC, locality websites, and social media, that clearly explain requirements and benefits of the HCV program; link attendees with resources for technical support navigating the system's requirements.</p>	<p>Region 1 PDC</p>	<p>Beckley Housing Authority, U.S. HUD</p>	<p>Short-term</p>	<p>HUD Distressed Cities and Persistent Poverty Technical Assistance Notice of Funding Opportunity.</p>	<p>https://www.beckleyha.com/; https://www.hud.gov/; https://www.hud.gov/program_offices/spm/qmomgmt/grantsinfo/fundingops/fy20fy21distressedcities</p>
<p>Address challenges and opportunities related to an aging population, including access to healthcare, public transit, long-term care, and skilled nursing facilities. Ensure that training for healthcare support occupations (i.e., home health aides) is readily available through Region 1 educational institutions, and work with EDAs and Chambers of Commerce on rebranding the Region as a destination for retirees.</p>	<p>Consider establishing a committee/coalition between interested parties to study options to increase age-friendly housing and services in the Region and attract more retirees to the area permanently or for long-term stays. Encourage localities to apply for an Age-Friendly Communities grant from AARP.</p>	<p>Region 1 PDC</p>	<p>Local Governments, EDAs, C of Cs, Higher Ed, Transit Authorities</p>	<p>Short-term</p>	<p>Combination of aforementioned HUD and Federal Transit Authority grants.</p>	<p>https://www.aarp.org/livable-communities/community-challenge/</p>

Industry & Employment

Diversifying industry and employment in Region 1 has been an ongoing challenge that the region's economic development organizations have been working to address. The following sections describe stakeholder feedback on the current state of Region 1's industry and employment, as well as a summary of general economic conditions across the region. Understanding the region's current economic climate, as well as those of the state and broader U.S., provides a baseline for crafting the recommendations and strategies to diversify the region's economy and strengthen its future resilience to shock and stressors like natural disasters and pandemics.

Stakeholder Feedback: Industry & Employment

Weaknesses & Challenges

Stakeholders raised many challenges that Region 1 has faced in recent decades regarding industry and employment, many of which are common in areas that are dominated by one industry for many years. Other workforce challenges were mentioned, many of which relate to a lack of resources and opportunities that would allow workers to keep up with a shifting economic and political landscape. Some of the challenges mentioned included the following:

- Unlike many of the states surrounding WV, there is currently no statewide “shovel-ready” sites program and/or coordinated marketing strategy on a state level
- Lack of accessible development-ready sites served by necessary infrastructure make attracting significant new investment difficult, particular from businesses and industries that require a large footprint for new facilities
- Coal industry declines have also impacted other industries associated with coal mining, including manufacturing
- The current national political climate can make it challenging for nonrenewable energy industries (natural gas, coal) to obtain certain types of funding
- Some communities have seen a resistance by members of the workforce to retraining/reskilling, and/or pivoting to other industries
- Workforce training opportunities at educational institutions in the Region do not always align with current “demand occupations”
- Economic development organizations sometimes seem overly focused on seeking new, outside investment, and are not devoting enough resources to investing in helping local businesses develop and grow
- There seems to be a lack of regional coordination on economic development and marketing between EDAs, Chambers of Commerce, and local governments
- There appears to be a significant “mismatch” between the skills held by the current labor force and jobs that are currently available/in demand
- The region has experienced reduced labor force participation, due to some working-age adults living with disabilities and opioid addiction, or unable to access available childcare. “Benefits cliffs” for public benefits such as food stamps also discourage labor force participation, and reduce the incentive to work
- Some local businesses are wary of new technology, and are unwilling to pivot to doing business online; some may lack an understanding of the benefits that new technology can provide
- There is a lack of technical and IT support for local businesses, at least in part due to the mismatch of demand for IT contractors and workers with those skills in the local labor force
- Without enough technical support, many local businesses have had difficulty navigating federal and state aid application processes

Figure 12 - Downtown Welch, WV



Image Source: https://commons.wikimedia.org/wiki/File:Welch,_West_Virginia.jpg

- Declining union memberships, though a boon for some employers, have reduced workers' ability to negotiate better salaries and benefits, especially in the mining & manufacturing sectors
- Land assembly for large-scale development, due to fragmented property ownership, is a challenge, especially in areas closer to downtowns
- The region struggles with ongoing disinvestment and population loss, primarily due to lack of well-paying, high-quality job opportunities – the region is also seeing “brain drain” of younger people seeking denser, urban areas with more amenities
- Downtowns in particular have suffered in recent decades; in many cases, there are not enough residents with enough “disposable income” to keep restaurants and small businesses afloat, especially during off-seasons, when there are fewer tourists (Figure 12)

Strengths & Opportunities

Stakeholders also mentioned multiple strengths and opportunities around the region's workforce, growing industry sectors, and burgeoning local businesses. Some of the strengths and opportunities repeated by multiple stakeholders include the following:

- There are opportunities to leverage both worker skills and industries traditionally focused around coal for other related industries that do not face many of the same threats and challenges as the coal industry (i.e., applying manufacturing technology traditionally used for mining coal to the diamond and gold mining industries overseas, etc.)
- Stakeholders also mentioned opportunities in agriculture, including the rapidly growing hemp/marijuana products industry, as well as opportunities to leverage agricultural land for renewable energy generation
- The region has a strong network of community colleges and institutions of higher learning that offer workforce development programs
- Although some educational institutions have already taken initiative, there are more opportunities for educational institutions to partner with local industries on internships, apprenticeship programs, and accelerated skills training and/or re-skilling that they could take advantage of
- As the natural gas development sector grows, there is increasing potential for gas-related manufacturing opportunities (plastics/chemicals/metal/advanced manufacturing), which could also apply to other, non-energy industries
- The strong higher ed presence in the region, as well as multiple EDAs and Chambers of Commerce, creates opportunities for these organizations to partner on creating more business incubators and support for entrepreneurs both on educational campuses and in under-invested Main Streets and downtowns
- Stakeholders repeatedly mentioned the need for more regional cooperation and collaboration on economic and workforce development; some regions in other states have formed economic development councils of Chambers, EDAs, and higher ed to ensure that development, economic development, and educational programs are better aligned with business & industry
- Region 1's downtowns are well-positioned to apply to participate in West Virginia's Main Street program, which has helped revitalize small communities and downtowns across the state. The Main Street program is an opportunity to address challenges related to both economic development and blight/dilapidated structures
- Other place-based economic development initiatives like the Main Street program have a strong track record of success in other areas; the state of WV has multiple programs in place, and there are opportunities to work with organizations like SCORE to provide no or low-cost business consulting and technical assistance
- Opportunity to work with the state on developing a shovel-ready sites program, similar to Virginia's Business Ready Sites program, or Michigan's Development Ready Communities program
- Leveraging Region 1's strategic location between major coastal ports and America's Heartland to identify strategic “inland port” locations (i.e., Raleigh County Industrial Park) is a key opportunity area to explore

Industry & Employment Overview

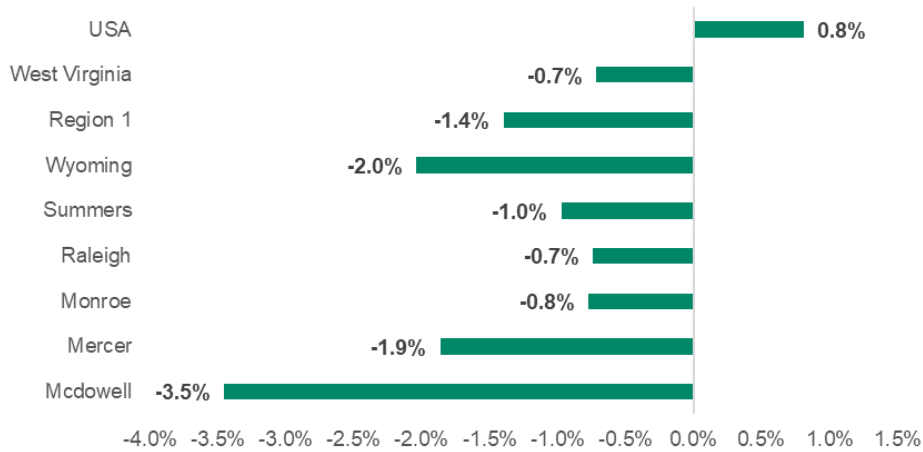
This section analyzes labor force and employment trends for the study area and identifies patterns of employment growth as well as impacts from the Covid-19 pandemic.

Analysis of Labor Force and Employment Characteristics

The labor force is defined as all workers aged 16 and over that are either working or are actively seeking work. This naturally excludes most high school students, stay-at-home parents, retirees, individuals on medical leave, or other people who choose not to work. The metric is important when evaluating what share of the study area's available workforce is actively engaged, or trying to be engaged, in the local employment market. The following data describe the annual labor force, and the employment and unemployment rates in the study area from 2000 through 2021.

As of 2021, the study area included nearly 68,000 employed residents of a 73,500 total labor force – an unemployment rate of around 7.4%, significantly higher than West Virginia’s average unemployment rate of 4.5%. Since 2010, overall study area employment has decreased by nearly 9,500, which is roughly similar to the 9,000 total labor force decrease. Figure 13 compares employment growth rates in each county in the past decade, compared to state and U.S. growth rates. None of the counties in our study area saw an increase in employment in the past decade, and neither did the state of West Virginia. The biggest decrease in employment was in McDowell County, which lost nearly 3.5% of its jobs every year since 2010.

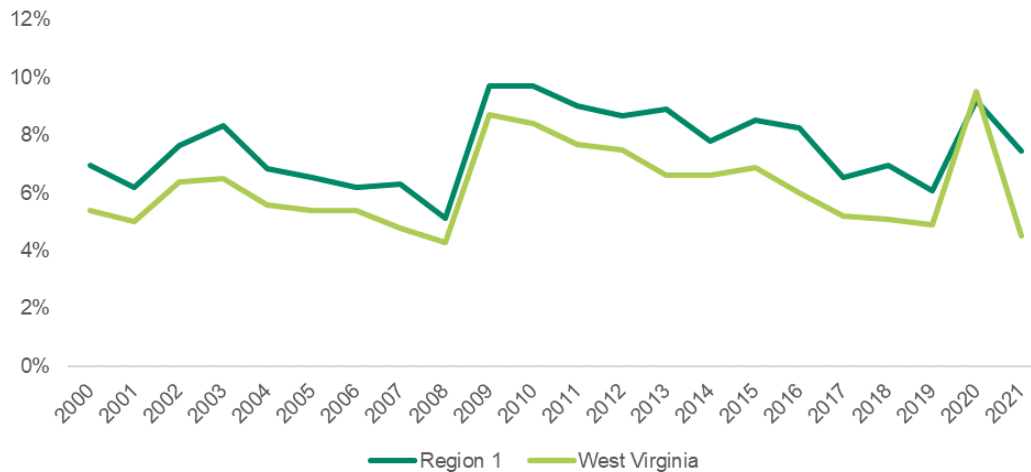
Figure 13 - Employment Growth (CAGR), 2010-2021



Source: Bureau of Labor Statistics: Local Area Unemployment Statistics; AECOM2021

Figure 14 shows the unemployment rate in the study area compared to the state between 2000 and 2021. Unemployment trends in our study area have, in the last two decades, followed the trends of the state’s unemployment, and the all-time highs of the unemployment rates are during the 2008 recession and the Covid-19 pandemic in 2020. As of 2021, unemployment rates have become lower than pre-pandemic levels, at 5.4% for Region 1 and 4.5% for the state of West Virginia.

Figure 14 - Unemployment Rate, 2000-2021



Source: Bureau of Labor Statistics: Local Area Unemployment Statistics; AECOM2021

Table 13 reinforces historic differences in county-by-county unemployment rates, with McDowell County consistently seeing the highest unemployment rates in the region, while Monroe County consistently sees the lowest unemployment rates. Every county saw spikes in unemployment following the 2008 recession (as seen in 2010). Similarly, all counties saw decreases between 2010 and 2015, indicating some recovery of post-recession employment loss. The second, and highest, spike in unemployment was seen in 2020, because of the job loss caused by the Covid-19 pandemic. While the 2021 unemployment rates of most counties reflect recovery from the

2020 pandemic, Wyoming County is the only one whose unemployment rate in 2021 is higher than it was in 2020, indicating lasting effects of the pandemic on the economy of Wyoming County.

Table 13 - Unemployment Rates by Geography, 2000-2021

Geography	2000	2007	2010	2015	2016	2017	2018	2019	2020	2021
McDowell	10.9%	8.6%	14.2%	10.4%	10.6%	5.4%	8.8%	10.1%	13.1%	7.6%
Mercer	4.0%	4.3%	8.0%	6.3%	7.2%	5.5%	5.8%	4.9%	8.1%	5.8%
Monroe	8.0%	4.8%	8.1%	6.6%	3.9%	2.3%	5.9%	3.2%	6.8%	5.0%
Raleigh	7.0%	6.9%	9.8%	9.7%	9.0%	8.1%	6.9%	6.1%	10.1%	8.7%
Summers	11.3%	9.0%	11.2%	8.2%	7.6%	7.4%	8.8%	9.1%	10.5%	7.2%
Wyoming	9.0%	7.4%	11.3%	10.6%	10.7%	6.8%	9.0%	7.9%	7.4%	8.9%
Region 1	7.0%	6.3%	9.7%	8.5%	8.2%	6.6%	6.9%	6.1%	9.2%	7.4%
West Virginia	5.5%	4.8%	8.4%	6.9%	6.0%	5.2%	5.1%	4.9%	9.5%	4.5%

Source: Bureau of Labor Statistics: Local Area Unemployment Statistics, AECOM2021

Per Table 14, labor force size across counties has largely declined 2000. Though employment and labor force participation appear to have been stabilizing, and in some cases see an upturn, the loss in employment caused by the pandemic in 2020 eclipses the small bit of positivity the region was beginning to see in 2019. The State of West Virginia, however, has seen larger fluctuations in labor force numbers, with a steady increase between 2000 and 2010, a downturn between 2010 and 2016, growth between 2017 and 2019, and negative Covid-impacted trends since 2020. Monroe County, Raleigh County, and Wyoming County (as well as the overall region) saw slight increases in labor force from 2020 to 2021, indicating the beginning of recovery.

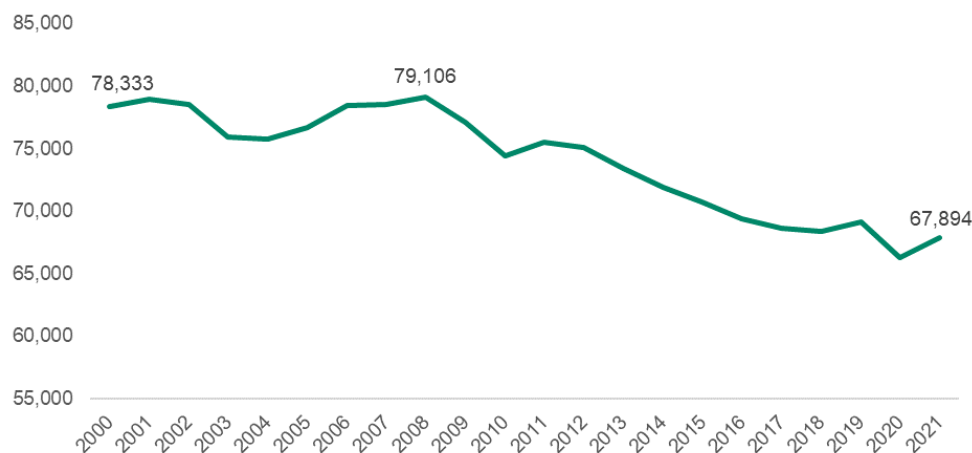
Table 14 - Labor Force by Geography, 2000-2021

Geography	2000	2007	2010	2015	2016	2017	2018	2019	2020	2021
McDowell	7,042	6,960	6,424	5,276	5,010	4,518	4,476	4,517	4,504	4,242
Mercer	25,040	24,574	23,912	22,033	21,870	21,352	21,087	20,842	20,657	20,486
Monroe	5,945	5,898	5,761	5,891	5,960	5,795	5,919	5,939	6,059	6,112
Raleigh	32,573	33,239	33,002	31,527	30,685	30,411	30,561	31,014	30,921	31,642
Summers	4,972	4,855	4,872	4,638	4,655	4,469	4,380	4,528	4,506	4,420
Wyoming	8,621	8,221	8,486	7,933	7,482	6,876	7,024	6,747	6,371	6,454
Region 1	84,193	83,747	82,457	77,298	75,662	73,421	73,447	73,587	73,018	73,356
West Virginia	806K	815K	819K	800K	790K	791K	804K	806K	794K	800K

Source: Bureau of Labor Statistics: Local Area Unemployment Statistics; AECOM2021

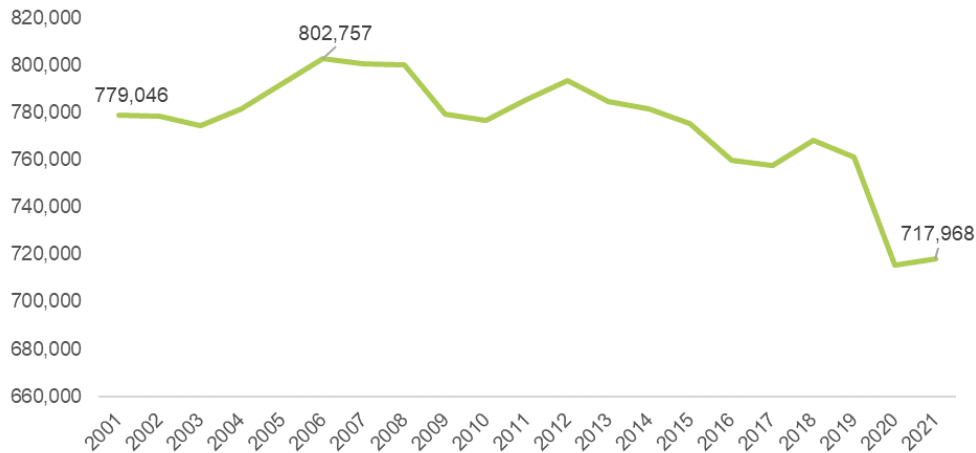
The figures below present a visual representation of study area employment and labor trends over the past two decades, compared to West Virginia state performance.

Figure 15 - Total Employment in Study Area, 2000-2021



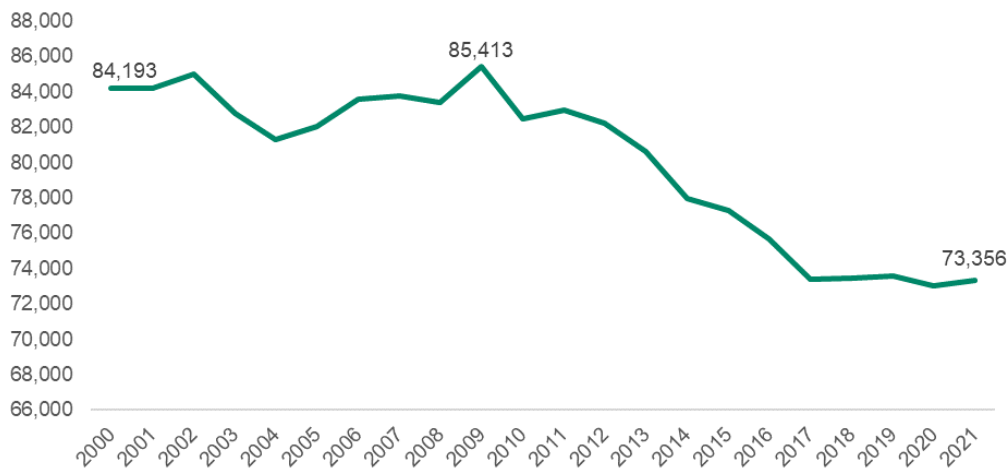
Source: Bureau of Labor Statistics: Local Area Unemployment Statistics; AECOM2021

Figure 16 - Total Employment in West Virginia, 2000-2021



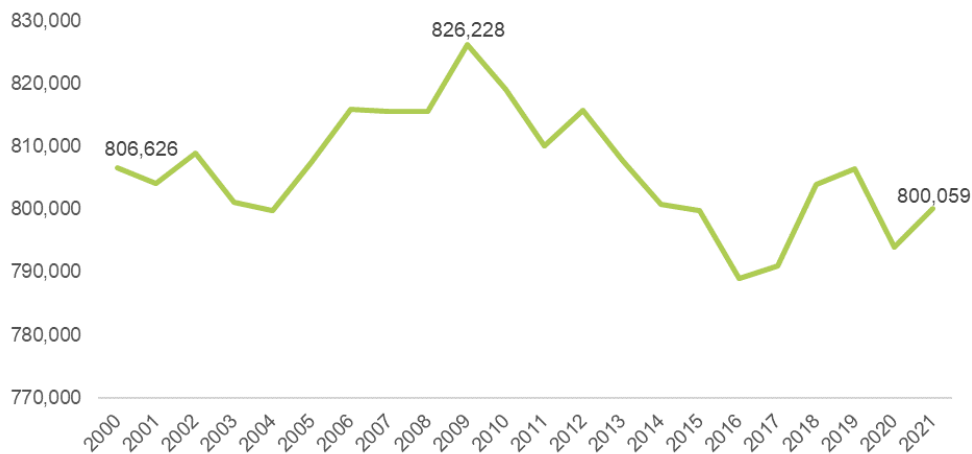
Source: Bureau of Labor Statistics: Local Area Unemployment Statistics; AECOM2021

Figure 17 - Labor Force - Region 1, 2000-2021



Source: Bureau of Labor Statistics: Local Area Unemployment Statistics; AECOM2021

Figure 18 - Labor Force - West Virginia, 2000-2021



Source: Bureau of Labor Statistics: Local Area Unemployment Statistics; AECOM2021

Table 15 compares unemployment rates, employment, and labor force totals before and after the pandemic in the study area. McDowell County is the only county in the region which saw a lower unemployment rate in 2021 than in 2019. For every other county, the unemployment rates reflect ongoing/lingering effects of the job loss caused by the pandemic. This is further reinforced by the fact that every county (and therefore the region as a whole) saw negative job growth between 2019 and 2021. Additionally, every county except Monroe and Raleigh Counties saw a decrease in the available resident labor force.

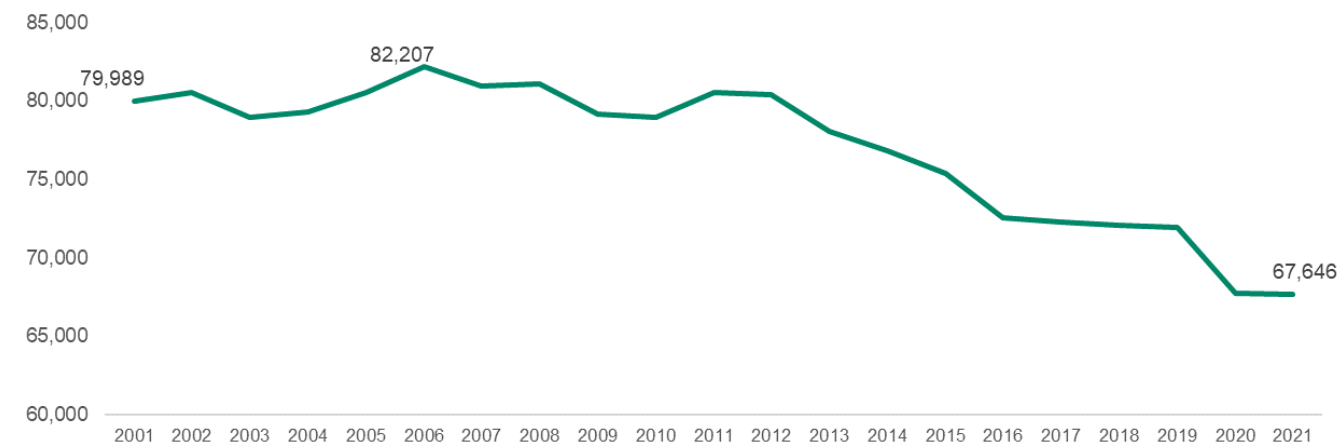
Table 15 - Pre- and Post-Pandemic Statistics, 2019-2021

County	Unemployment (%)			Jobs (#)			Labor Force (#)		
	2019	2021	Change	2019	2021	Change	2019	2021	Change
McDowell	10.10%	7.60%	-2.50%	4,897	4,492	-405	4,517	4,242	-185
Mercer	4.90%	5.80%	0.90%	21,509	20,300	-1,209	20,842	20,486	-356
Monroe	3.20%	5.00%	1.80%	2,854	2,816	-38	5,939	6,112	173
Raleigh	6.10%	8.70%	2.50%	35,108	32,519	-2,589	31,014	31,642	628
Summers	9.10%	7.20%	-1.90%	2,803	2,796	-7	4,528	4,420	-108
Wyoming	7.90%	8.90%	1.00%	4,772	4,723	-49	6,747	6,454	-293
Region 1	6.10%	7.40%	1.30%	71,943	67,646	-4,297	73,587	73,356	-231

Source: Bureau of Labor Statistics: Local Area Unemployment Statistics; AECOM2021

Since 2001, Region 1 has lost just over 12,000 jobs, at a compounded annual growth rate of -0.8%. Figure 19 depicts the trend in total job levels since 2001, while Table 16 shows county-by-county job levels. EMSI, a proprietary source of labor market and demographics data, was used to get a closer look at what jobs exist in the study area. Due to differences in data sources, the data on employment, labor force, and unemployment (sourced from the Bureau of Labor Statistics) will not line up perfectly with job market data (sourced from EMSI) but should still follow similar trends.

Figure 19 - Total Study Area Jobs, 2001-2021



Source: EMSI, AECOM2021

Table 16 - Total Jobs by County by Year, 2001-2021

County	2001	2007	2010	2015	2019	2021	2000 to 2021	CAGR
McDowell	6,196	6,260	6,610	5,487	4,897	4,492	-1,704	-1.6%
Mercer	26,083	25,582	24,962	22,975	21,509	20,300	-5,783	-1.2%
Monroe	2,922	3,188	3,066	2,885	2,854	2,816	-106	-0.2%
Raleigh	34,916	36,368	35,273	35,473	35,108	32,519	-2,397	-0.4%
Summers	3,204	3,302	3,113	3,026	2,803	2,796	-408	-0.7%
Wyoming	6,668	6,263	5,922	5,521	4,772	4,723	-1,945	-1.7%
Region 1	79,989	80,963	78,946	75,367	71,943	67,646	-12,343	-0.8%
West Virginia	779,046	800,766	776,632	775,188	761,321	717,968	-61,078	-0.4%

Source: EMSI, AECOM2021

Workforce Commuting Patterns

U.S. Census data can provide a snapshot of where study area residents live and work. As illustrated in Table 17, on average, more than half of the employed residents of the study area work within the six-county region. For every

single home county in Region 1, the destination county with the highest percentage of workers is the home county itself. That is, the highest percentage of employed residents work within the county they reside in.

- 43% of employed McDowell County residents work within McDowell County, 67% work within Region 1.
- 56% of employed Mercer County residents work in Mercer County, 67% work within Region 1.
- 55% of Monroe County residents work in Monroe County, 66% work within Region 1.
- 42% of Raleigh County residents work in Raleigh County, 54% work within Region 1.
- 43% of Summers County residents work in Summers County, 65% work within Region 1.
- 41% of Wyoming County residents work in Wyoming County, 62% work within Region 1.

Table 17 - Workforce Commuting Patterns by County, 2019

Home County	Destination County										
	McDowell	Mercer	Monroe	Raleigh	Summers	Wyoming	Within Region 1				
							Kanawha	Fayette	Greenbrier	Nicholas	
McDowell	43%	12%	1%	5%	1%	7%	67%	2%	1%	1%	1%
Mercer	2%	56%	1%	5%	2%	1%	67%	3%	2%	2%	1%
Monroe	0%	4%	55%	3%	4%	0%	66%	1%	1%	18%	0%
Raleigh	1%	5%	1%	42%	2%	3%	54%	7%	10%	2%	2%
Summers	1%	6%	4%	9%	43%	1%	65%	4%	5%	7%	1%
Wyoming	6%	6%	1%	7%	1%	41%	62%	5%	0%	0%	2%

Source: Census OnTheMap Service, 2019; AECOM2021

Business Climate and Major Industries

Overview and Methodology

AECOM's industry analysis uses data to conduct an empirical assessment of the current industry and business climate across the study area. Data were aggregated from multiple sources to provide a holistic approach. Industry employment data and value-added/gross regional product (GRP) data were analyzed between 2010 and 2021. Complete six-digit NAICS code industry data were aggregated and/or proportionally allocated into 52 overarching clusters that guide the analysis. The clusters are described in Appendix A.

Location quotients (LQs) were used to assess the concentration of industries relative to the U.S. average. The calculation is useful to assess the relative strength or weakness of a given industry locally in relation to the larger region (in this case, the country). In general:

- LQ > 1.0 means an industry is more concentrated within the study area/county than the U.S. average.
- LQ < 1.0 means an industry is less concentrated within the study area/county than the U.S. average.
- LQ = 1.0 means an industry is equally concentrated within the study area/county as U.S. average.

Location quotients, compared against industry employment growth rates, were used to assess the relative competitive advantage and economic development potential of industries within the study area via six AECOM-defined industry growth segments:

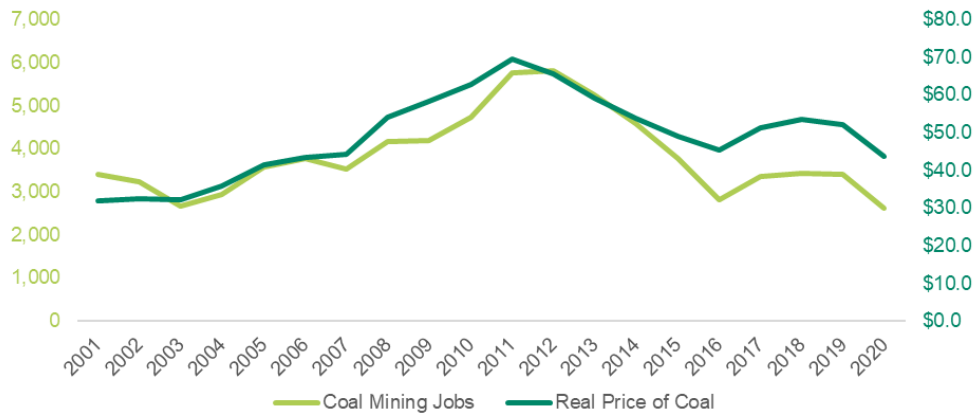
1. Underdeveloped (LQ < 0.4)
2. Long-term Growth (0.4 < LQ < 0.8)
3. Medium-term Growth (0.8 < LQ < 1.2)
4. Short-term Growth (1.2 < LQ < 1.6)
5. Developed (1.6 < LQ < 2.0)
6. Super-sectors (LQ > 2.0)

See **Appendix A** for definitions of each industry cluster. The following section expands on the key findings of the industry concentration analysis.

Coal Mining

Coal Mining is the most concentrated cluster in the region and produces the most value added — gross regional productivity from this cluster in Region 1 in 2020 was measured at approximately \$880 million, more than any other cluster. Region 1 has an LQ of 140 for the coal mining cluster, which means coal mining is nearly 140 times more concentrated in Region 1 when compared to its national concentration. In the decade between 2001 and 2010, coal prices were increasing, and so was employment in the coal mining cluster. In the decade between 2011 and 2021, however, both, coal prices as well as employment in the coal mining cluster have been declining. This information is presented visually in Figure 20. As coal prices have fallen, losses in coal mining jobs have accelerated.

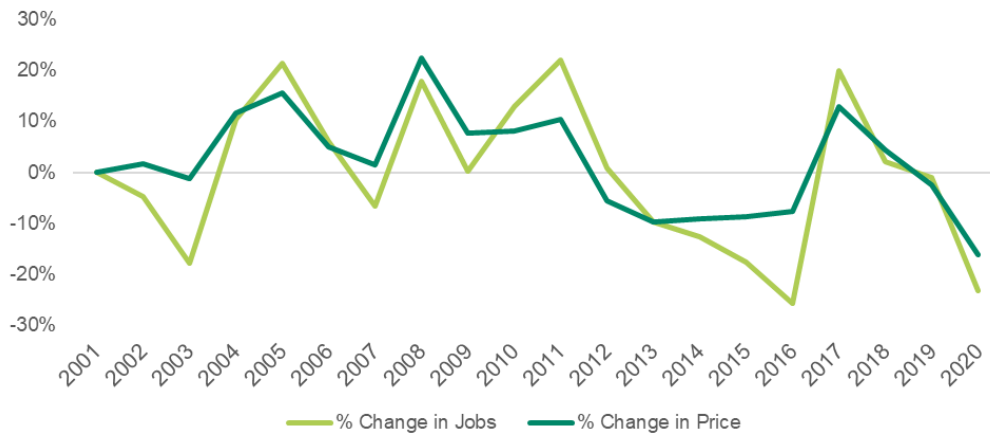
Figure 20 - Total Employment in the Coal Mining Cluster, Region 1



Source: EMSI, U.S. Energy Information Administration, AECOM2021

Though the price of coal and the employment in the coal mining cluster have historically followed similar trends, it appears that the changes in employment are usually more pronounced than the changes in price. This is apparent from Figure 21, which compares year-over-year percent changes for these two metrics. In simple terms, when coal prices change, resulting labor impacts are more pronounced and immediate.

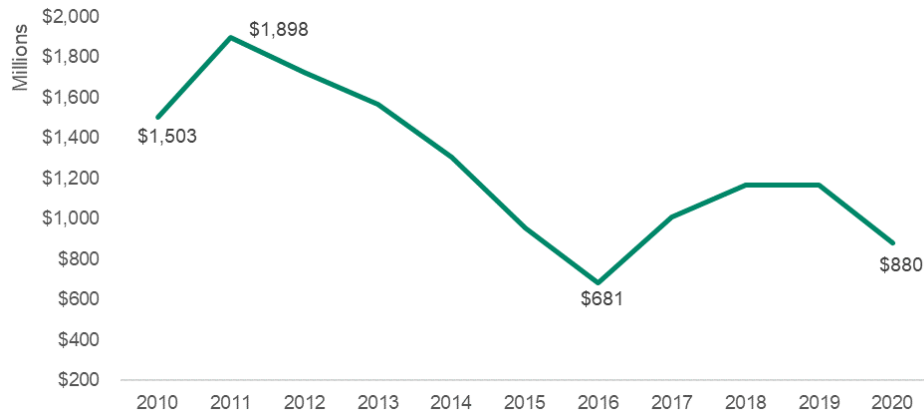
Figure 21 - Year-over-Year Percent Change in Coal Prices and Region 1 Coal Mining Employment



Source: EMSI, U.S. Energy Information Administration, AECOM2021

The average price-elasticity of coal mining employment in Region 1 over the last two decades is **1.45**. This implies that for every 1% change in the price of coal, the quantity of coal mining jobs in Region 1 changes by 1.45%. Over the last decade, the coal mining cluster has been the highest value-adding cluster in Region 1 — its Gross Regional Product was \$880 million in 2020. While this cluster is maintaining its position as the highest producing cluster in the region, the productivity of this cluster has been declining over the last decade, as Figure 22 shows. The GRP of this cluster has been falling at a rate of -5.2% every year for the last decade.

Figure 22 - Gross Regional Product, Coal Mining, Region 1



Source: EMSI, AECOM 2021

Cluster Analysis

The study area contains a unique industry cluster mix, with structural advantages that create significant opportunity for future growth. Its proximity to large coal reserves in the Appalachian Mountains, highly forested area for wood product manufacturing, and natural parks and tourist attractions can provide the region with great flexibility for industry retention, development, and attraction. Since 2010, the study area has lost nearly 12,000 jobs, at an annual compounded rate of -1.4% each year. During this same period, the U.S. had been adding jobs at an annual compounded rate of +0.8% each year. A large portion of this loss in jobs was in the largest clusters in the region. Table 18 depicts the 10 industry clusters that had the highest employment levels as of 2021, as well as historical figures for those clusters.

Table 18 - Top Clusters by Jobs, Region 1

Cluster	Jobs			LQ		
	2010	2021	CAGR	2010	2021	Change (10 to 21)
Human Health	11,614	11,098	-0.4%	1.30	1.38	0.08
Food Services	6,983	5,871	-1.6%	1.04	1.07	0.03
Retail	7,108	5,622	-2.1%	1.23	1.26	0.04
State & Local Govt	5,037	5,614	1.0%	1.17	1.69	0.52
Education	7,970	5,254	-3.7%	1.04	0.86	-0.19
Civic	4,434	4,469	0.1%	1.05	1.16	0.11
Federal Civilian	2,711	2,804	0.3%	1.65	2.18	0.53
Support Services	2,854	2,669	-0.6%	1.04	1.09	0.05
Coal Mining and Support	4,721	2,507	-5.6%	97.23	139.43	42.20
Wholesale & Distribution	2,236	1,884	-1.5%	0.74	0.63	-0.11

Source: EMSI, AECOM 2021

Most of the 10 largest clusters in the region lost jobs between 2010 and 2021, except for the State and Local Government, Civic, Federal Civilian clusters. The 10 most concentrated clusters in the study area are depicted in Table 19 below.

Table 19 - Top Clusters by Location Quotient, Region 1

Cluster	Jobs			LQ		
	2010	2021	CAGR	2010	2021	Change (10 to 21)
Coal Mining and Support	4,721	2,507	-5.6%	97.23	139.43	42.20
Oil & Gas Upstream	203	436	7.2%	1.25	4.92	3.68
Tobacco	21	47	7.6%	0.94	3.14	2.20
Federal Civilian	2,711	2,804	0.3%	1.65	2.18	0.53
Automotive	1,673	1,542	-0.7%	1.62	1.73	0.11
State & Local Govt	5,037	5,614	1.0%	1.17	1.69	0.52
Utilities	308	349	1.1%	1.18	1.67	0.49
Oil & Gas Downstream	64	182	10.0%	0.46	1.60	1.14
Human Health	11,614	11,098	-0.4%	1.30	1.38	0.08
Mining	62	82	2.6%	0.88	1.29	0.41

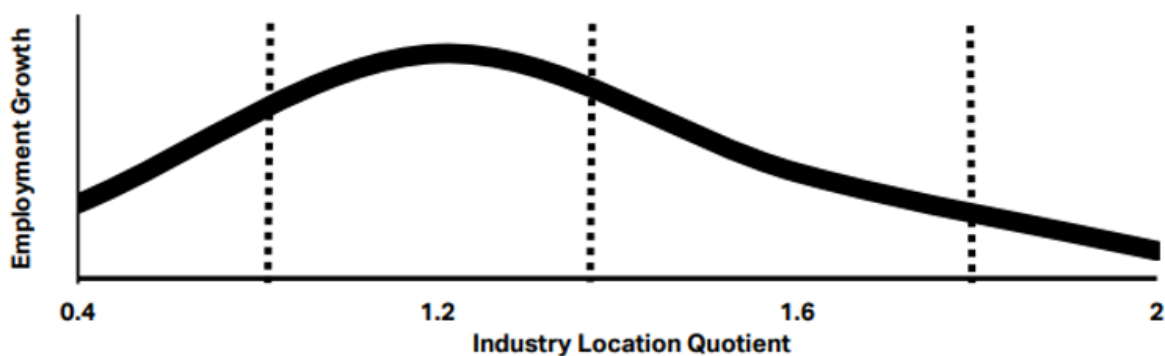
Source: EMSI, AECOM 2021

While there is some overlap in the clusters that employ the most people and the clusters that are the most concentrated in the region, there are notable exceptions. For example, the Oil & Gas Upstream cluster, which is not amongst the clusters that employ the most people but is the second-most concentrated industry in the region – employing a proportion of people in the region that is 4.92 times greater than the national average (based on location quotient).

Economic Development Potential

To analyze the economic development potential for the study area, a national review of industry growth by concentration was conducted, using the 30 largest MSAs in the nation to gauge how LQs relate to job growth. For each MSA in the sample, employment totals by industry and year were collected from 2009 to 2018. Job changes between 2009 and 2018 were plotted on the x-axis of the graph and job LQs were plotted on the y-axis. Inflection points on the plot were identified to determine what LQ ranges are most conducive to job growth. Figure 23 shows industry job creation rates by industry LQ across the 30 sample MSAs:

Figure 23 - Employment Growth by Industry Location Quotient: Top 30 MSAs



Source: EMSI, AECOM 2021

The analysis found that industries in the LQ range of 0.4 to 1.6 created 85% of all jobs in the top 30 MSAs. Job growth is very low in industries with an LQ less than 0.4—only 1% of all jobs were added in these industries. Beyond a location quotient of 1.6, job growth rates tend to be more volatile. Large job gains are still possible, but in times of economic distress large contractions can occur (e.g., auto manufacturing in Detroit).

For the study area, this analysis was used to frame industry economic development. Study area analysis finds that job growth tends to be most consistent for location quotients between 0.8 and 1.2, which are considered intermediate-term growth (“medium-term”) clusters, or clusters that have healthy growth potentials over a medium-term time period. Clusters that have LQs between 0.4 and 0.8 are considered long-term growth clusters, meaning that the clusters have growth potential, but because they are less developed in the region it can take significant time for large job increases to occur organically. LQs between 1.2 and 1.6 are considered short-term growth clusters. These clusters are already more concentrated in the study area than the U.S. average, and therefore can experience high rates of development or attraction quickly since a well-developed employment base already exists in the area.

Clusters with job LQs above 1.6 are considered mature/highly specialized (“developed”) in a given area. These clusters can continue to develop, however, statistically, job growth volatility is more common, since price movements in the industry have little slack to accommodate them. If a cluster’s job LQ is below 0.4, the cluster is considered undeveloped due to their low probability of large job increases. Statistically, it is not common for clusters with job LQs below 0.4 to experience meaningful job growth and this could be considered an exception to the rule unless direct intervention occurs.

Unique to the study area are industries that measure well beyond the standard for high specialization. In this case, coal mining and its support activities represent a location quotient close to 140, indicating that the area is 140 times more concentrated in this industry grouping than the U.S. average. Challenges can emerge when regions overspecialize in one or two specific industries. However, coal mining and its support activities represent a unique share of regional growth, relative to other U.S. regional economies. Given this case, clusters with LQs above 2 represent “supersector” clusters.

To understand the economic development potential of each industry cluster analyzed, job totals were aggregated based on the phase of the economic development continuum each cluster was in. National analysis found that industries located in the “medium-term” and “short-term” range of the spectrum are responsible for over half of total job growth. This relationship is due to the relative concentration of the industry in each area. Industries that are highly concentrated in an area can continue to add jobs but when job losses occur, they are often more extreme than in lower-concentration industries.

Alternatively, industries that are significantly less concentrated in an area can have difficulty attracting new firms to open, which makes job growth slower and more difficult. In the study area, Monroe County had a lower-than-average share of employment in the high-growth range of the continuum. Meanwhile, Mercer and Raleigh Counties (which are the counties that contain the largest cities in Region 1) have the highest share of employment in the high-growth sectors.

Clusters in the “developed” or “supersector” segments of the continuum typically experience volatile job changes year-over-year, due to their concentration job losses or increases are larger than average in these clusters. Job growth in the “undeveloped” range of the continuum is lower than average unless industry development is incentivized in the area or structural economic changes occur. Table 20 shows the share of jobs by County that work in each range of the economic development continuum.

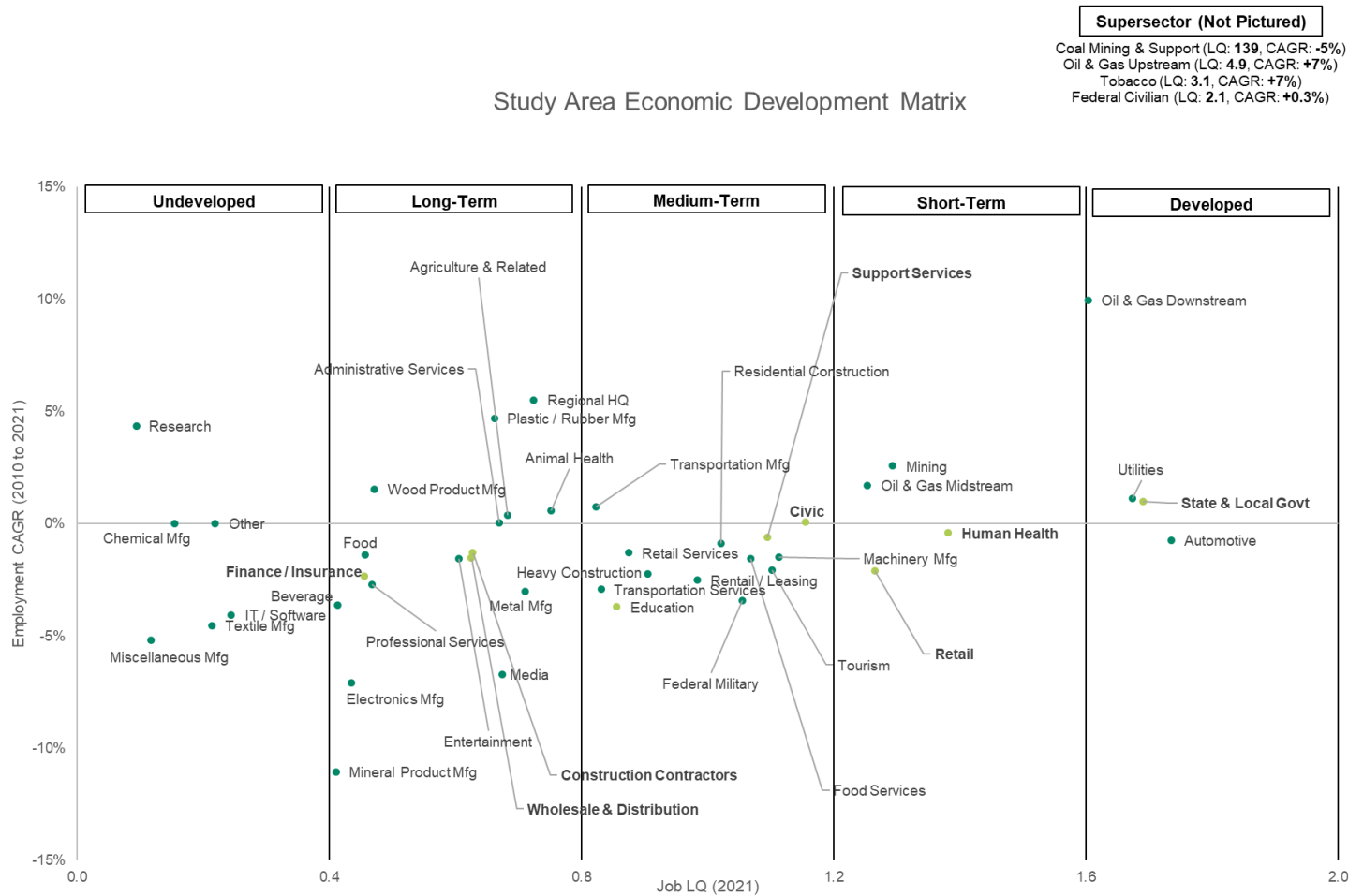
Table 20 - Share of Total Jobs by Development Sector, 2021

County	Undeveloped / Long Term	Medium/ Short-Term	Developed	Supersector
McDowell	19%	32%	5%	45%
Mercer	18%	70%	9%	3%
Monroe	23%	29%	14%	34%
Raleigh	25%	62%	2%	11%
Summers	26%	40%	9%	25%
Wyoming	20%	38%	21%	21%

Source: EMSI, AECOM 2021

While counties like McDowell see significant employment in supersector industries such as coal mining, Mercer County sees a significantly lower percentage of supersector jobs, with less coal specialization, and a more diverse mix of “short-term” growth industries. Each county’s industry concentration is explored in detail below. The X/Y plot on Figure 24 depicts all clusters in the study area plotted based on their job growth between 2010 and 2021 and job LQ in 2021. The economic development phase that the cluster falls in is marked by the label at the top of the graph. Dots on the map with labels include the 10 largest clusters by 2021 employment. Note that for the sake of visualization, supersector clusters, including coal mining and oil & gas upstream, are omitted from the graph’s plot area:

Figure 24 - Economic Development Matrix, Region 1, 2021



Source: EMSI, AECOM Analysis

Of the 10 largest clusters in the study area, four are in the medium-sector development range of the continuum, while two are in the short-term development range. The analysis also finds six additional clusters that added positive job growth but are in the long-term development range of the continuum.

To help diversify the study area’s base, the six clusters that meet experienced job growth and are in the long-term development range could be targeted for attraction and development. For supersector clusters like coal mining and oil & gas upstream, job retention strategies should be prioritized, complimented by development and attraction strategies.

Although employment is critical to the well-being of a community, output, or the production of a community, is also an important factor to consider. Table 21 depicts the 10 largest clusters by cluster gross regional product (GRP), or value added. The analysis finds that coal mining and its support services are the largest source of production in the study area.

Table 21 - Top Clusters by Gross Regional Product, Region 1

Cluster	GRP			GRP LQ		
	2010	2020	CAGR	2010	2020	Change (10 to 20)
Coal Mining and Support	\$1,502,845,213	\$879,741,821	-5.20%	106.83	165.82	58.99
Human Health	\$651,986,638	\$786,588,699	1.90%	1.21	1.42	0.21
Retail	\$328,017,261	\$374,345,684	1.30%	1.21	1.34	0.13
Federal Civilian	\$274,424,595	\$372,641,517	3.10%	1.69	2.66	0.97
State & Local Govt	\$215,829,106	\$321,867,900	4.10%	0.79	1.28	0.49
Education	\$373,994,239	\$318,961,420	-1.60%	1.08	0.99	-0.09
Finance / Insurance	\$229,973,378	\$273,241,162	1.70%	0.35	0.38	0.04
Wholesale & Distribution	\$211,687,781	\$213,064,489	0.10%	0.7	0.65	-0.05
Food Services	\$194,189,390	\$201,570,895	0.40%	1.11	1.19	0.07
Oil & Gas Downstream	\$57,587,110	\$175,606,971	11.80%	0.45	1.42	0.97

Source: EMSI, AECOM 2021

Table 22 depicts the top 10 clusters by GRP concentration in the study area. Again, coal mining is highly concentrated in the study area. Federal civilian (federal government non-military employment), oil & gas upstream operations, and the automotive cluster also contribute to Region 1's production more than the U.S. average.

Table 22 - Top Clusters by Gross Regional Product Location Quotient, Region 1

Cluster	GRP			GRP LQ		
	2010	2020	CAGR	2010	2020	Change (10 to 20)
Coal Mining and Support	\$1,502,845,213	\$879,741,821	-5.20%	106.83	165.82	58.99
Federal Civilian	\$274,424,595	\$372,641,517	3.10%	1.69	2.66	0.97
Oil & Gas Upstream	\$90,615,891	\$136,018,794	4.10%	0.98	2.28	1.3
Automotive	\$62,124,336	\$90,496,120	3.80%	1.51	1.94	0.44
Oil & Gas Midstream	\$34,920,496	\$46,294,121	2.90%	1.41	1.63	0.22
Agriculture & Related	\$77,040,109	\$88,101,366	1.40%	0.73	1.58	0.85
Utilities	\$88,259,379	\$144,851,928	5.10%	0.86	1.57	0.71
Human Health	\$651,986,638	\$786,588,699	1.90%	1.21	1.42	0.21
Oil & Gas Downstream	\$57,587,110	\$175,606,971	11.80%	0.45	1.42	0.97
Support Services	\$148,236,272	\$160,361,700	0.80%	1.25	1.37	0.12

Source: EMSI, AECOM 2021

Supersector Highlights

Coal Mining and Support Activities

The coal mining and support activities cluster includes activities related to the extraction of coal and related services. This cluster is highly concentrated in Region 1, with an overall LQ of nearly 140 in 2021. Table 23 depicts coal mining and support activities employment in each Region 1 county, as well as in West Virginia and the United States.

Table 23 - Coal Mining Cluster Jobs and Location Quotients, by Geography

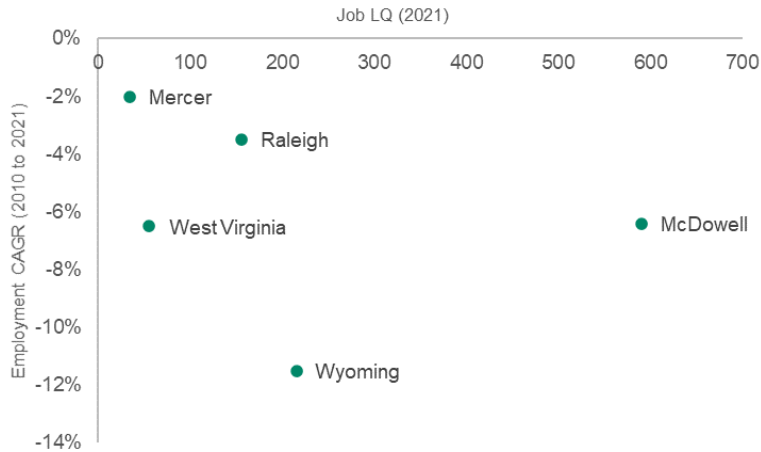
Geography	Jobs			LQ		
	2010	2021	CAGR	2010	2021	Change
McDowell	1,458	705	-6.40%	358.64	590.45	231.81
Mercer	234	187	-2.00%	15.24	34.66	19.41
Monroe	0	0	0.00%	0	0	0
Raleigh	1,995	1,344	-3.50%	91.96	155.49	63.53
Summers	0	0	0.00%	0	0	0
Wyoming	1,034	271	-11.50%	283.89	215.87	-68.03
West Virginia	22,159	10,557	-6.50%	46.39	55.32	8.93
United States	89,828	42,447	-6.60%	1	1	0

Source: EMSI, AECOM 2021

In Region 1, most coal mining jobs are concentrated in Raleigh, McDowell, and Wyoming Counties. McDowell County was the most concentrated county in the region for coal mining activities, with an LQ of 590 in 2021. Every geography mentioned in Table 23, including the State of West Virginia and the United States, has seen negative job growth in the past decade in the coal mining cluster. Only Wyoming County has experienced a decline in coal jobs at a higher rate (-11.5% per year) than the national average (-6.6%).

The X/Y plot in Figure 25 depicts employment growth against job LQ for the coal mining cluster for each county and West Virginia.

Figure 25 - Coal Mining Cluster Matrix



Source: EMSI, AECOM 2021

Oil & Gas Upstream

The oil & gas upstream cluster is highly concentrated in Region 1, with an overall LQ of 4.92 in 2021. This cluster includes activities that relate to the extraction and harvesting of natural gas and oil resources. Table 24 depicts oil & gas upstream employment in each Region 1 county, as well as in West Virginia and the United States.

In Region 1, most oil & gas upstream jobs are in Wyoming County, with a very small percentage of total jobs in Raleigh County. Mercer and Raleigh County had jobs in this cluster in 2010 but have since seen a drastic reduction in employment in this cluster over the past decade. Meanwhile, Wyoming County has seen a 13.0% increase in employment in this cluster every year and is the only geography to see positive job growth. Region 1’s high location quotient for oil & gas upstream activities is driven almost completely by Wyoming County.

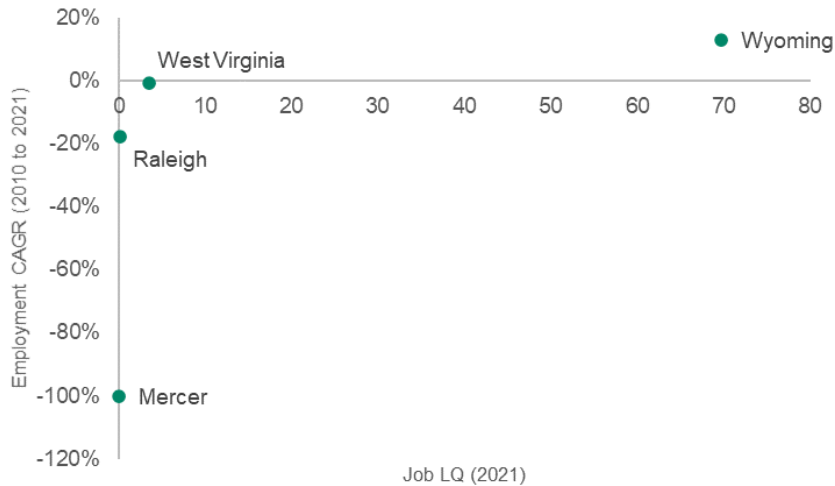
Table 24 - Oil & Gas Upstream Cluster Jobs and Location Quotient, by Geography

Geography	Jobs			LQ		
	2010	2021	CAGR	2010	2021	Change
McDowell	0	0	0.00%	0	0	0
Mercer	48	0	-100%	0.93	0	-0.93
Monroe	0	0	0.00%	0	0	0
Raleigh	43	5	-17.80%	0.59	0.12	-0.47
Summers	0	0	0.00%	0	0	0
Wyoming	112	431	13.00%	9.17	69.7	60.53
West Virginia	3,582	3,257	-0.90%	2.24	3.47	1.23
United States	301,240	209,083	-3.30%	1	1	0

Source: EMSI, AECOM Analysis

The X/Y plot below on Figure 26 depicts employment growth against job LQ for the oil & gas upstream cluster for each county and West Virginia.

Figure 26 - Oil & Gas Upstream Cluster Matrix



Source: EMSI, AECOM 2021

County-Level Summaries

McDowell County

In McDowell County, the coal mining and state & local government provide the highest number of jobs and are also highly concentrated. The coal mining cluster creates by far the most production, with \$231 million value added in 2020, whereas the next-biggest cluster by value added was Federal Civilian, at \$43 million.

Mercer County

In Mercer County, the highest employment clusters were human health, retail, and food services, and all three of these fall within the high-growth continuum of economic development. Coal mining, tobacco production, and machinery manufacturing are some of the clusters in Mercer County that are highly concentrated. The clusters that had the highest value added in 2020 were human health (\$280 million), retail (\$140 million), and state & local government (\$112 million).

Monroe County

The largest clusters by employment in Monroe County are transportation manufacturing, education, and state & local government. Transportation manufacturing is also the most concentrated cluster in the County, followed by the agriculture and federal civilian clusters. As expected, the highest value added (2020) in Monroe County comes from the transportation manufacturing cluster (\$48 million), followed by the agriculture (\$36.5 million) and federal civilian (\$27 million) clusters.

Raleigh County

Raleigh County's largest clusters by employment are the human health, food services, and retail clusters, while the most concentrated clusters are the coal mining, tobacco production, and federal civilian clusters. The highest value added was by the coal mining cluster (\$472 million), followed by the human health (\$411 million), federal civilian (\$274 million), and retail (\$201 million) clusters.

Summers County

The largest clusters by employment in Summers County are the state & local government, human health, and education clusters. The most concentrated clusters are the oil & gas downstream, state & local government, and utilities clusters. In terms of value added, the top clusters in 2020 were the oil & gas downstream (\$126 million), human health (\$24 million), and state & local government (\$21 million) clusters. Another notable cluster is the transportation services cluster, which created production worth \$13 million in 2020.

Wyoming County

In Wyoming County, the highest employment clusters are the human health, education, and civic clusters. The most concentrated clusters are the coal mining, oil & gas upstream, and automotive clusters. The top clusters by value added in 2020 were the oil & gas upstream (\$131 million), coal mining (\$119 million), and education (\$31 million) clusters.

Detailed Analysis

McDowell County

McDowell County was the 4th largest county in the region by total employment and had 4,492 jobs in 2021. Table 25 shows the largest clusters in McDowell County by total employment, while Table 26 shows the most concentrated clusters.

Table 25 - Top Clusters by Jobs, McDowell County

Cluster	Jobs			LQ		
	2010	2021	CAGR	2010	2021	Change (10 to 21)
Coal Mining and Support	1,458	705	-6.4%	358.64	590.45	231.81
State & Local Govt	690	699	0.1%	1.91	3.17	1.26
Human Health	657	513	-2.2%	0.88	0.96	0.08
Education	855	366	-7.4%	1.33	0.90	-0.44
Federal Civilian	205	366	5.4%	1.49	4.28	2.80
Civic	320	250	-2.2%	0.90	0.97	0.07
Food Services	315	246	-2.2%	0.56	0.67	0.11
Transportation Services	361	219	-4.4%	2.41	2.00	-0.41
Support Services	139	190	2.9%	0.61	1.17	0.57
Retail	365	175	-6.5%	0.75	0.59	-0.16

Source: EMSI, AECOM 2021

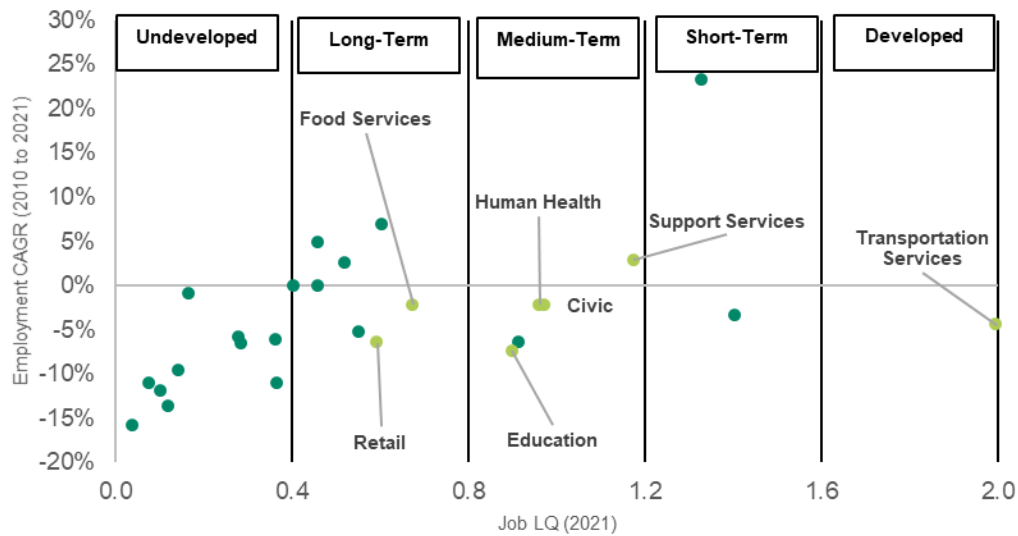
Table 26 - Top Clusters by Location Quotient, McDowell County

Cluster	Jobs			LQ		
	2010	2021	CAGR	2010	2021	Change (10 to 21)
Coal Mining and Support	1,458	705	-6%	358.64	590.45	231.81
Federal Civilian	205	366	5%	1.49	4.28	2.80
State & Local Govt	690	699	0%	1.91	3.17	1.26
Mining	20	10	-6%	3.39	2.37	-1.02
Rentail / Leasing	15	28	6%	0.75	2.32	1.57
Automotive	196	122	-4%	2.27	2.07	-0.21
Heavy Construction	80	78	0%	1.54	2.01	0.47
Transportation Services	361	219	-4%	2.41	2.00	-0.41
Federal Military	112	77	-3%	1.18	1.40	0.23
Oil & Gas Downstream	1	10	23%	0.00	1.33	1.33

Source: EMSI, AECOM 2021

The X/Y plot in Figure 27 depicts job growth along the y-axis and job LQ on the x-axis. The economic development continuum is labeled at the top of the figure. Note that clusters with a job LQ above 2.0 are not visible on the graph and are highly developed or specialized clusters within the county.

Figure 27 - Economic Development Matrix, McDowell County, 2021



Source: EMSI, AECOM 2021

Mercer County

Mercer County was the 2nd largest county in the region by total employment and had 20,300 jobs as of 2021. Table 27 shows the largest clusters in Mercer County by total employment, while Table 28 shows the most concentrated clusters.

Table 27 - Top Clusters by Jobs, Mercer County

Cluster	Jobs			LQ		
	2010	2021	CAGR	2010	2021	Change (10 to 21)
Human Health	4,586	3,707	-1.9%	1.63	1.54	-0.09
Retail	2,402	1,995	-1.7%	1.31	1.50	0.18
Food Services	2,412	1,900	-2.1%	1.13	1.15	0.02
State & Local Govt	1,497	1,835	1.9%	1.10	1.84	0.74
Education	2,435	1,731	-3.1%	1.01	0.94	-0.07
Civic	1,309	1,290	-0.1%	0.98	1.11	0.13
Support Services	1,141	835	-2.8%	1.32	1.14	-0.17
Wholesale & Distribution	565	561	-0.1%	0.59	0.62	0.03
Construction Contractors	572	494	-1.3%	0.69	0.65	-0.04
Finance / Insurance	867	494	-5.0%	0.63	0.42	-0.20

Source: EMSI, AECOM 2021

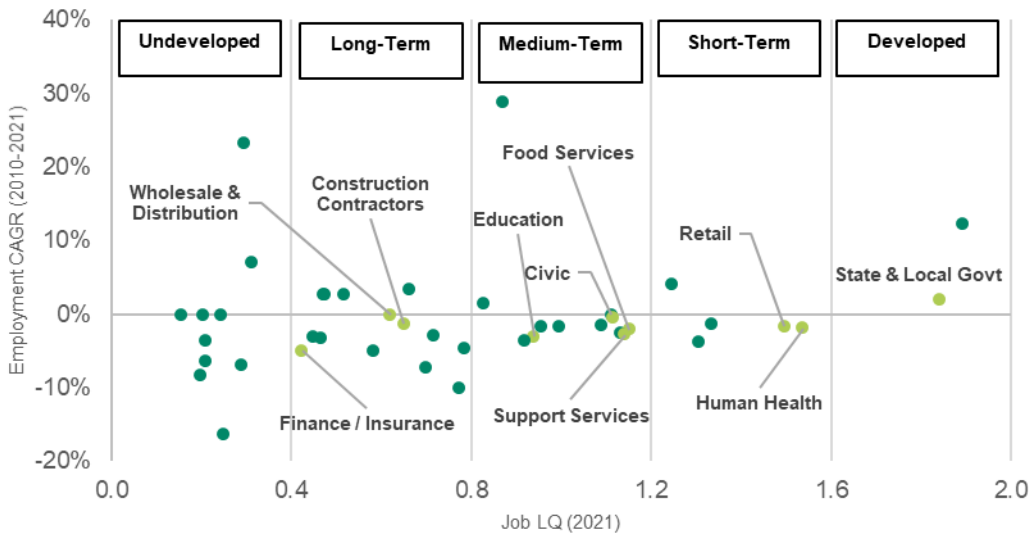
Table 28 - Top Clusters by Location Quotient, Mercer County

Cluster	Jobs			LQ		
	2010	2021	CAGR	2010	2021	Change (10 to 21)
Coal Mining and Support	234	187	-2.0%	15.24	34.66	19.41
Tobacco	21	21	0.0%	2.96	4.67	1.70
Machinery Mfg	321	290	-0.9%	2.25	2.66	0.41
Utilities	109	131	1.7%	1.32	2.09	0.77
Mining	10	36	12.3%	0.45	1.89	1.44
State & Local Govt	1,497	1,835	1.9%	1.10	1.84	0.74
Human Health	4,586	3,707	-1.9%	1.63	1.54	-0.09
Retail	2,402	1,995	-1.7%	1.31	1.50	0.18
Automotive	409	356	-1.3%	1.26	1.33	0.08
Tourism	672	439	-3.8%	1.25	1.30	0.05

Source: EMSI, AECOM 2021

The X/Y plot on Figure 28 depicts job growth along the y-axis and job LQ on the x-axis. The economic development continuum is labeled at the top of the figure. Note that clusters with a job LQ above 2.0 are not visible on the graph and are highly developed or specialized clusters within the county. Health Care and Machinery Manufacturing are highly concentrated clusters.

Figure 28 - Economic Development Matrix, Mercer County, 2021



Source: EMSI, AECOM 2021

Monroe County

Monroe County was the 5th largest county in the region in terms of total employment, ahead of Summers County. In 2021, Monroe County had 2,816 jobs. Table 29 shows the largest clusters in Monroe County by total employment, while Table 30 shows the most concentrated clusters.

Table 29 - Top Clusters by Jobs, Monroe County

Cluster	Jobs			LQ		
	2010	2021	CAGR	2010	2021	Change (10 to 21)
Transportation Mfg	422	376	-1.0%	15.01	13.15	-1.85
Education	326	267	-1.8%	1.10	1.05	-0.05
State & Local Govt	231	260	1.1%	1.38	1.88	0.50
Agriculture & Related	200	238	1.6%	3.50	4.79	1.29
Human Health	184	202	0.9%	0.53	0.60	0.07
Federal Civilian	222	198	-1.0%	3.47	3.70	0.22
Construction Contractors	161	157	-0.2%	1.59	1.49	-0.09
Civic	206	152	-2.7%	1.26	0.94	-0.31
Retail	168	102	-4.4%	0.75	0.55	-0.20
Support Services	105	91	-1.3%	0.99	0.90	-0.09

Source: EMSI, AECOM 2021

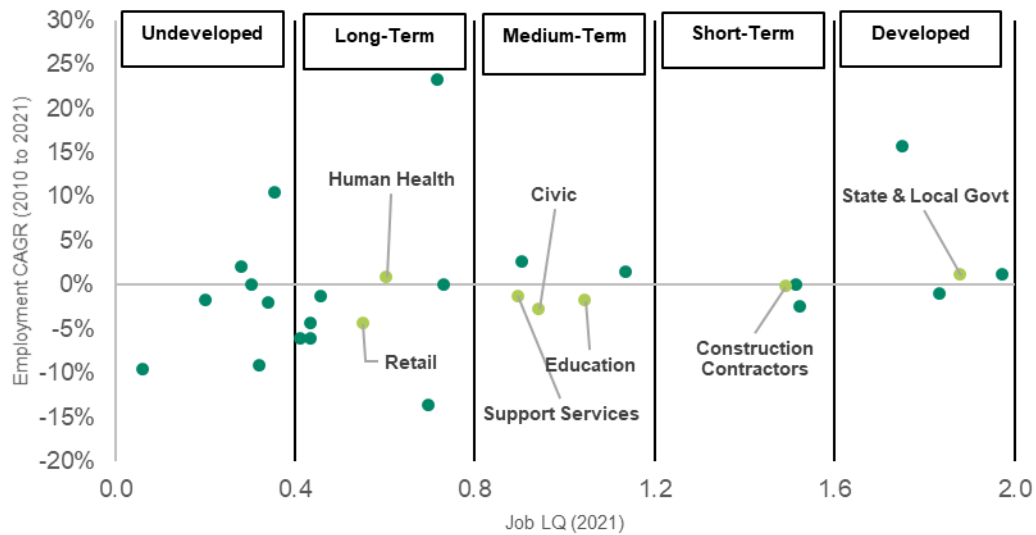
Table 30 - Top Clusters by Location Quotient, Monroe County

Cluster	Jobs			LQ		
	2010	2021	CAGR	2010	2021	Change (10 to 21)
Transportation Mfg	422	376	-1.0%	15.01	13.15	-1.85
Agriculture & Related	200	238	1.6%	3.50	4.79	1.29
Federal Civilian	222	198	-1.0%	3.47	3.70	0.22
Wood Product Mfg	10	70	19.4%	0.36	3.21	2.85
Residential Construction	71	73	0.3%	3.32	3.13	-0.19
Oil & Gas Downstream	1	10	23.3%	0.00	2.12	2.12
Automotive	64	73	1.2%	1.60	1.97	0.37
State & Local Govt	231	260	1.1%	1.38	1.88	0.50
Federal Military	70	63	-1.0%	1.59	1.83	0.24
Other	1	5	15.8%	0.00	1.75	1.75

Source: EMSI, AECOM 2021

The X/Y plot in Figure 29 depicts job growth along the y-axis and job LQ on the x-axis. The economic development continuum is labeled at the top of the figure. Note that clusters with a job LQ above 2.0 are not visible on the graph and are highly developed or specialized clusters within the county.

Figure 29 - Economic Development Matrix, Monroe County, 2021



Source: EMSI, AECOM 2021

Raleigh County

Raleigh County was the largest county in the region in terms of employment, with 32,519 jobs in the County in 2021. Table 31 shows the largest clusters in Raleigh County by total employment, while Table 32 shows the most concentrated clusters.

Table 31 - Top Clusters by Jobs, Raleigh County

Cluster	Jobs			LQ		
	2010	2021	CAGR	2010	2021	Change (10 to 21)
Human Health	5,326	5,630	0.5%	1.34	1.46	0.12
Food Services	3,378	3,099	-0.8%	1.12	1.17	0.05
Retail	3,760	3,069	-1.8%	1.46	1.44	-0.02
Civic	1,984	2,191	0.9%	1.05	1.18	0.13
Education	3,210	2,171	-3.5%	0.94	0.74	-0.20
Federal Civilian	1,884	1,906	0.1%	2.56	3.08	0.52
State & Local Govt	1,846	1,862	0.1%	0.96	1.17	0.21
Coal Mining and Support	1,995	1,344	-3.5%	91.96	155.49	63.53
Support Services	1,246	1,339	0.7%	1.02	1.14	0.13
Wholesale & Distribution	1,429	1,125	-2.2%	1.05	0.78	-0.27

Source: EMSI, AECOM 2021

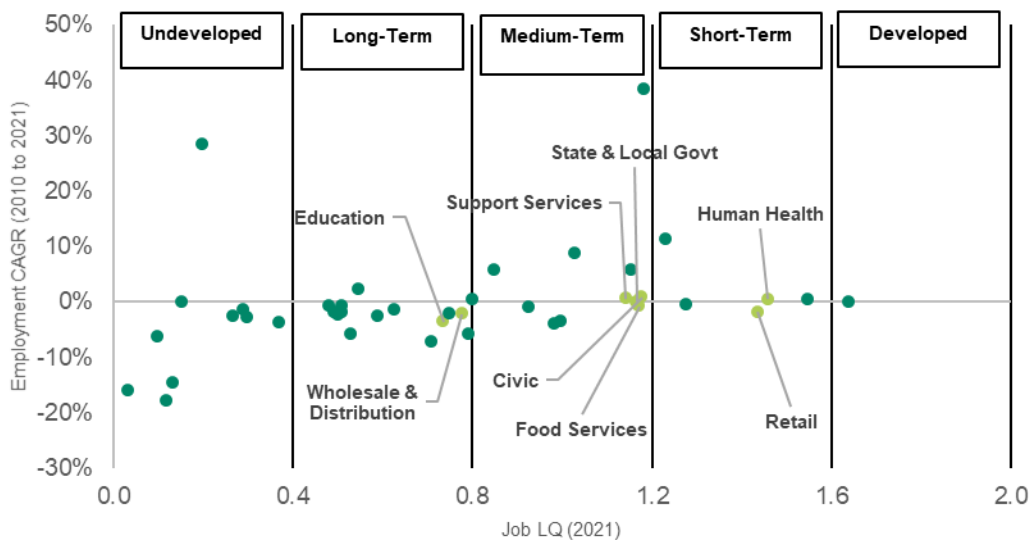
Table 32 - Top Clusters by Location Quotient, Raleigh County

Cluster	Jobs			LQ		
	2010	2021	CAGR	2010	2021	Change (10 to 21)
Coal Mining and Support	1,995	1,344	-3.5%	91.96	155.49	63.53
Tobacco	0	26	34.5%	0.00	3.61	3.61
Federal Civilian	1,884	1,906	0.1%	2.56	3.08	0.52
Oil & Gas Midstream	37	159	14.2%	0.45	2.01	1.57
Automotive	701	700	0.0%	1.52	1.64	0.11
Utilities	144	155	0.7%	1.23	1.55	0.31
Human Health	5,326	5,630	0.5%	1.34	1.46	0.12
Retail	3,760	3,069	-1.8%	1.46	1.44	-0.02
Tourism	723	688	-0.5%	0.95	1.28	0.32
Regional HQ	179	590	11.5%	0.40	1.23	0.83

Source: EMSI, AECOM 2021

The X/Y plot in Figure 30 depicts job growth along the y-axis and job LQ on the x-axis. The economic development continuum is labeled at the top of the figure. Note that clusters with a job LQ above 2.0 are not visible on the graph and are highly developed or specialized clusters within the county.

Figure 30 - Economic Development Matrix, Raleigh County, 2021



Source: EMSI, AECOM 2021

Summers County

Summers County had the fewest jobs of the Region 1 counties, with 2,796 jobs in 2021. Table 33 shows the largest clusters in Summers County by total employment, while Table 34 shows the most concentrated clusters.

Table 33 - Top Clusters by Jobs, Summers County

Cluster	Jobs			LQ		
	2010	2021	CAGR	2010	2021	Change (10 to 21)
State & Local Govt	430	510	1.6%	2.53	3.72	1.18
Human Health	350	429	1.9%	0.99	1.29	0.30
Education	310	251	-1.9%	1.03	0.99	-0.04
Food Services	330	179	-5.4%	1.25	0.79	-0.46
Finance / Insurance	92	138	3.8%	0.53	0.86	0.33
Transportation Services	175	131	-2.6%	2.48	1.92	-0.56
Civic	145	120	-1.7%	0.87	0.75	-0.12
Retail	136	105	-2.3%	0.60	0.57	-0.02
Construction Contractors	102	100	-0.2%	0.99	0.96	-0.03
Agriculture & Related	82	98	1.6%	1.41	1.99	0.57

Source: EMSI, AECOM 2021

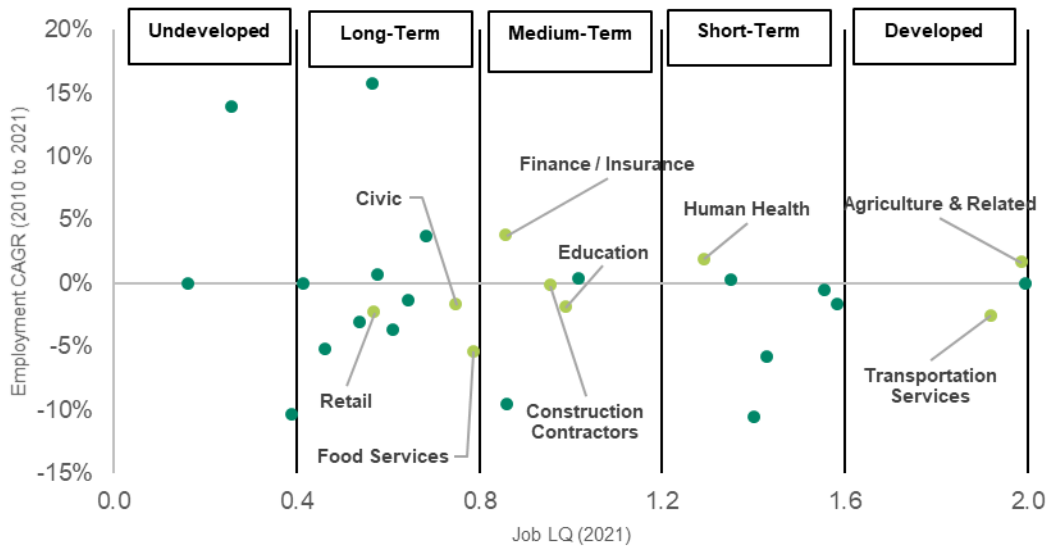
Table 34 - Top Clusters by Location Quotient, Summers County

Cluster	Jobs			LQ		
	2010	2021	CAGR	2010	2021	Change (10 to 21)
Oil & Gas Downstream	42	96	7.8%	7.74	20.46	12.72
State & Local Govt	430	510	1.6%	2.53	3.72	1.18
Utilities	10	23	7.9%	0.97	2.67	1.70
Automotive	123	80	-3.8%	3.03	2.18	-0.85
Rentail / Leasing	15	15	0.0%	1.58	1.99	0.41
Agriculture & Related	82	98	1.6%	1.41	1.99	0.57
Transportation Services	175	131	-2.6%	2.48	1.92	-0.56
Federal Military	65	54	-1.7%	1.45	1.58	0.13
Residential Construction	38	36	-0.5%	1.75	1.55	-0.19
Animal Health	29	15	-5.8%	3.54	1.43	-2.12

Source: EMSI, AECOM 2021

The X/Y plot in Figure 31 depicts job growth along the y-axis and job LQ on the x-axis. The economic development continuum is labeled at the top of the figure. Note that clusters with a job LQ above 2.0 are not visible on the graph and are highly developed or specialized clusters within the county.

Figure 31 - Economic Development Matrix, Summers County, 2021



Source: EMSI, AECOM 2021

Wyoming County

Wyoming County was the 3rd largest county in the region in terms of total employment, with 4,723 jobs as of 2021. Table 35 shows the largest clusters in Wyoming County by total employment, while Table 36 shows the most concentrated clusters.

Table 35 - Top Clusters by Jobs, Wyoming County

Cluster	Jobs			LQ		
	2010	2021	CAGR	2010	2021	Change (10 to 21)
Human Health	511	617	1.7%	0.76	1.10	0.34
Education	834	468	-5.1%	1.45	1.09	-0.36
Civic	470	466	-0.1%	1.48	1.73	0.24
State & Local Govt	343	448	2.5%	1.06	1.93	0.87
Oil & Gas Upstream	112	431	13.0%	9.17	69.70	60.53
Food Services	450	369	-1.8%	0.89	0.96	0.07
Coal Mining and Support	1,034	271	-11.5%	283.89	215.87	-68.03
Automotive	180	211	1.5%	2.33	3.40	1.07
Retail	277	176	-4.0%	0.64	0.57	-0.07
Support Services	148	149	0.1%	0.72	0.88	0.16

Source: EMSI, AECOM 2021

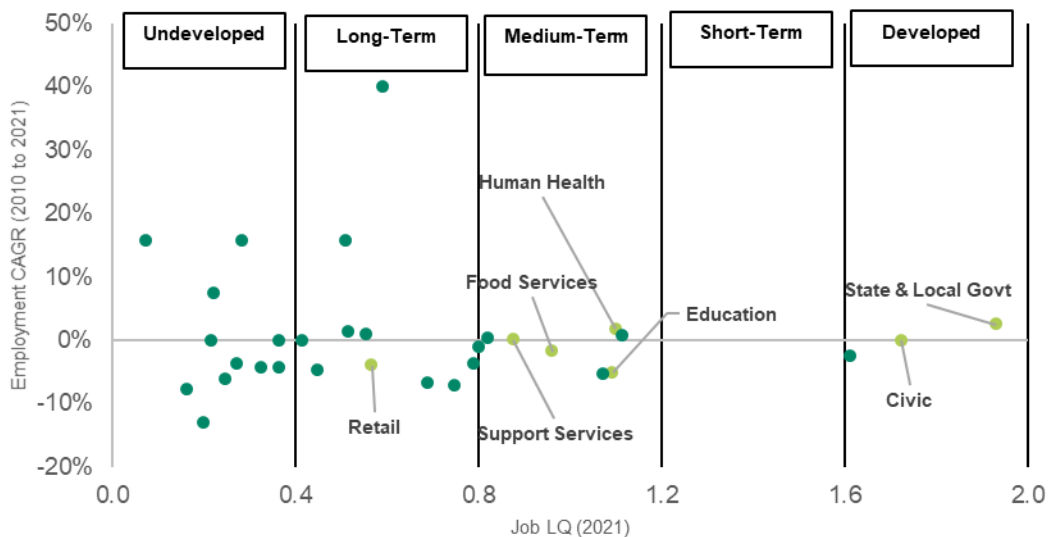
Table 36 - Top Clusters by Location Quotient, Wyoming County

Cluster	Jobs			LQ		
	2010	2021	CAGR	2010	2021	Change (10 to 21)
Coal Mining and Support	1,034	271	-11.5%	283.89	215.87	-68.03
Oil & Gas Upstream	112	431	13.0%	9.17	69.70	60.53
Automotive	180	211	1.5%	2.33	3.40	1.07
Utilities	35	35	0.0%	1.78	2.40	0.62
Oil & Gas Midstream	114	27	-12.3%	8.19	2.35	-5.84
State & Local Govt	343	448	2.5%	1.06	1.93	0.87
Civic	470	466	-0.1%	1.48	1.73	0.24
Federal Military	123	93	-2.5%	1.44	1.61	0.17
Federal Civilian	91	100	0.9%	0.74	1.11	0.38
Human Health	511	617	1.7%	0.76	1.10	0.34

Source: EMSI, AECOM 2021

The X/Y plot in Figure 32 depicts job growth along the y-axis and job LQ on the x-axis. The economic development continuum is labeled at the top of the figure. Note that clusters with a job LQ above 2.0 are not visible on the graph and are highly developed or specialized clusters within the county.

Figure 32 - Economic Development Matrix, Wyoming County, 2021



Source: EMSI, AECOM 2021

Industry & Employment Recommendations & Strategies

Strategy	Next Steps	Strategy Lead	Partners	Timeframe	Funding Opportunities	Additional Resources
Establish a coalition of Region 1 EDAs, Chambers of Commerce (C of Cs), and local economic development authorities to coordinate efforts and pool resources to pursue regional economic diversification and development initiatives, and to support local and regional business incubation, retention, and expansion.	Convene key stakeholders to establish a more formalized mechanism for communication/collaboration, to discuss mutually beneficial goals, and how best to pool resources/share staff to meet goals and partner on funding opportunities.	Region 1 PDC	EDAs, C of Cs, Local Governments, WV Dept. of Economic Development	Short-term	U.S. EDA Coal Communities Commitment, Build Back Better Regional Challenge	https://westvirginia.gov/ ; https://ctb.ku.edu/en/table-of-contents/assessment/promotion-strategies/start-a-coalition/main ; https://www.daytonregion.com/ddc ; https://research.upjohn.org/cgi/viewcontent.cgi?article=1309&context=up_workingpapers ; https://eda.gov/funding-opportunities/
Develop a collaborative of workforce centers, workforce training programs, and high schools to identify "in demand" occupations that cut across multiple industry clusters, aligned with transferable skills, abilities, and certifications.	Work with local businesses/industries, EDAs, C of Cs, and educational institutions to form a committee/working group to determine how best to involve other partners and stakeholders and start reaching out to the business community to get buy-in/private sector support and partnerships, and determine most in-demand skills and occupations by local employers.	Region 1 PDC	EDAs, C of Cs, Higher Ed	Midterm	U.S. Department of Labor (DoL) Workforce Opportunity for Rural Communities (WORC) Initiative	https://evollution.com/revue-streams/workforce-development/holistic-workforce-development-a-collaborative-approach/ ; https://www.dol.gov/agencies/eta/dislocated-workers/grants/workforce-opportunity
Enhance collaboration across research entities, universities, municipalities, and workforce training programs to grow an "innovation ecosystem." Start a business incubation program to entrepreneurship and development of local businesses in high-demand industries (i.e., food & beverage, forestry/wood product manufacturing/advanced manufacturing, tourism, retail, and software/technology).	EDA/C of C/higher ed working group to determine organizational capacity of partners to spearhead this effort, and determine how best to leverage existing programs and resources, available space, etc. Work with key industries willing to collaborate on/help fund this effort.	Region 1 PDC	EDAs, C of Cs, Higher Ed	Midterm	N/A	https://hbr.org/2012/12/how-to-create-an-innovation-ec

<p>Promote strategic investments in the healthcare industry that will improve economic opportunity and provide greater access to quality urgent and continuing care throughout the region.</p>	<p>EDA/C of C/higher ed working group should partner with the West Virginia Department of Health & Human Resources to identify resources and opportunities available to the region to attract more 24-hour and specialty care facilities, and help existing facilities expand, offer more services, and hire locally trained workers</p>	<p>Region 1 PDC</p>	<p>EDAs, C of Cs, Higher Ed, WV Dept. of Health & Human Resources</p>	<p>Midterm</p>	<p>Health Resources and Services Administration Grants for Development of Healthcare Workforce</p>	<p>https://dhhr.wv.gov/Page/default.aspx; https://bhw.hrsa.gov/funding/apply-grant</p>
<p>Encourage the development of a state-wide "shovel ready sites program," similar to what is offered in other states (like Virginia). Leverage GIS assets to understand infrastructure capacity and identify "shovel-ready" sites in support of industry attraction, retention, and expansion efforts.</p>	<p>Lobby the WV Dept. of Economic Development/state representatives to establish a statewide shovel-ready sites program with a user-friendly online database; investigate feasibility of a regional program as an alternative</p>	<p>Region 1 PDC/EDAs</p>	<p>Local Governments, WV Dept. of Economic Development</p>	<p>Midterm</p>	<p>U.S. EDA Grants</p>	<p>https://westvirginia.gov/; https://www.vedp.org/vbrsp; https://eda.gov/programs/eda-programs/</p>
<p>Coordinate with local schools and higher ed on workforce retention efforts to reduce "brain drain" and provide more opportunities in the region for local graduates as well as for educators. Assist students with transition from school to the workforce by providing assistance with searches for homes and jobs</p>	<p>Encourage higher ed institutions to create a "one stop" center on campus that provides information about local jobs, job training, housing, and quality of life/recreational opportunities, if something like this does not already exist on campus.</p>	<p>Region 1 PDC/EDAs</p>	<p>Local Governments, C of Cs, Higher Ed</p>	<p>Midterm</p>	<p>Combination of EDA and DoL grants to catalyze job creation in the region.</p>	<p>https://aese.psu.edu/nercd/community/rural-brain-drain; https://eda.gov/funding-opportunities/; https://www.dol.gov/agencies/eta/dislocated-workers/grants/workforce-opportunity</p>
<p>Encourage coal-supportive industries to diversify products/services, to support oil & gas, renewable energy industries, and other types of mining (i.e. precious metals/rare earths) for which demand is steady or projected to grow.</p>	<p>Identify key stakeholders in each industry to partner with coalition of EDAs/Chambers and the West Virginia Economic Development Authority to identify key opportunities to diversify and align industry products with current and projected future market demand.</p>	<p>Region 1 PDC/C of Cs</p>	<p>EDAs, Local Governments, WV Dept. of Economic Development</p>	<p>Ongoing</p>	<p>U.S. EDA Coal Communities Commitment, Build Back Better Regional Challenge</p>	<p>https://westvirginia.gov/; https://eda.gov/funding-opportunities/</p>
<p>Support the development of growing industry clusters (transportation manufacturing, logistics, hemp/marijuana product development, human health, animal health, plastic/rubber manufacturing, wood product manufacturing, oil & gas, food & beverage manufacturing, renewable</p>	<p>EDA & C of C coalition should create a plan to target these industries for recruitment and business development, and connect with industries already located in the region, to understand how they can improve retention/expansion/attraction efforts.</p>	<p>Region 1 PDC</p>	<p>EDAs, C of Cs, Local Governments, WV Dept. of Economic Development</p>	<p>Ongoing</p>	<p>Combination of EDA and DoL grants to catalyze job creation in the region.</p>	<p>https://westvirginia.gov/; https://eda.gov/funding-opportunities/; https://www.dol.gov/agencies/eta/dislocated-workers/grants/workforce-opportunity</p>

<p>energy), and connect them with trained workers and state incentive programs.</p>						
<p>Coordinate with EDAs, Chambers of Commerce, industry, and large landholders (like Norfolk Southern/CSX) to identify strategic locations for industrial development, distribution, and inland port development; ensure sites have multiple modes of access and are well-publicized and marketed to support success.</p>	<p>EDA & C of C coalition should arrange a meeting with Port of Virginia, Norfolk Southern, and other key stakeholders to discuss how their priorities align, what the Port's needs will be going forward, and what organizational capacity is available to study these opportunities in more detail.</p>	<p>Region 1 PDC</p>	<p>EDAs, C of Cs, Local Governments, WV Dept. of Economic Development, Port of Virginia, Norfolk Southern, CSX</p>	<p>Long-term</p>	<p>N/A</p>	<p>https://www.portofvirginia.com/; http://www.nscorp.com/content/nscorp/en.html; https://www.csx.com/index.cfm/community-investment/</p>
<p>Work with EDAs and Chambers of Commerce to facilitate direct partnerships between institutions of higher education and regional businesses/industries to provide occupation-specific training, apprenticeships/internships, onsite training, and guaranteed job placement programs.</p>	<p>EDA & C of C coalition should leverage existing relationships with regional businesses and industries to ensure that they are connected with high schools and higher educational institutions across the region, and that schools are aligning for-credit and non-credit offerings with in-demand jobs in the region.</p>	<p>Region 1 PDC</p>	<p>EDAs, C of Cs, Local Governments, Higher Ed, K-12 Schools</p>	<p>Ongoing</p>	<p>U.S. Department of Labor (DoL) Workforce Opportunity for Rural Communities (WORC) Initiative and YouthBuild Program</p>	<p>https://www.researchgate.net/publication/305778156_Industry-School_Partnerships_A_strategy_to_enhance_education_and_training_opportunities; https://www.dol.gov/agencies/eta/dislocated-workers/grants/workforce-opportunity; https://www.dol.gov/sites/dolgov/files/ETA/grants/FOA-ETA-22-01.pdf</p>
<p>Lobby the state of WV to substantially reform or completely repeal the tangible personal property tax on machinery and equipment, which is a disincentive for economic growth.</p>	<p>Region 1 and EDA/C of C coalition should partner with state representatives, local industries, and WVU/West Virginia Forward to educate local and state representatives on the potentially harmful impacts of the state's tangible personal property tax</p>	<p>Region 1 PDC</p>	<p>EDAs, C of Cs, Local Governments, WV Dept. of Economic Development, WVU/West Virginia Forward</p>	<p>Short-term</p>	<p>N/A</p>	<p>https://wvforward.wvu.edu/wv-forward-work/resolving-tangible-personal-property-tax/report</p>

Infrastructure

Although the state of West Virginia has made significant investments in infrastructure in recent years, spotty broadband and cellular service coverage still create major impediments to economic development and resilience. The following sections describe stakeholder feedback on the state of Region 1's infrastructure and assesses existing infrastructure conditions across the region and the state, to inform the development of strategies to address gaps in coverage that can negatively impact economic development and resilience.

Stakeholder Feedback: Infrastructure Weaknesses & Challenges

Stakeholders repeatedly mentioned lack of comprehensive broadband and cellular coverage as a top concern in terms of regional infrastructure. The key concerns heard from multiple stakeholders regarding infrastructure include the following:

- Lack of comprehensive broadband coverage/high-speed internet access, particularly “last mile” connections
- Public water & sewer coverage is uneven, and does not serve key areas, including the New River Gorge National Park visitor's center; many homes in the area are still served by well and septic, which can increase residential construction costs and create environmental hazards
- Some communities that do have public water & sewer struggle with aging infrastructure
- Lack of comprehensive stormwater management systems in many localities, even in more urbanized areas
- Cellular service coverage is uneven, and completely lacking in some areas – not only is this a challenge for businesses, residents, and tourists, but it also creates a safety/operations challenge for transit and emergency services
- The ability to move freight (by rail and water especially) is limited for sites that would otherwise be ideal for development, and that it is not always financially or physically possible to build rail spurs or other connections to development sites (Figure 33)
- Class 1 Railroads (primarily Norfolk Southern and CSX) own a significant amount of underutilized land in the region that may have development potential
- In addition to struggling to attract & retain personnel, transit authorities have had to contend with federal regulations and reporting standards that can be burdensome for smaller, more rural operations; requirements for matching funds for transit grants can also be onerous for smaller transit authorities
- One- and two-lane roads have discouraged development in rural areas, because they make navigating roadways difficult for larger trucks
- Increasing climate volatility will impact already vulnerable aging infrastructure, if it is not reinforced/upgraded, and built with climate resilience in mind, in the coming years

Figure 33 - Truss Bridge in Bluefield, WV



Image Source : <https://www.flickr.com/photos/cmhpictures/4529557023>

Strengths & Opportunities

Stakeholders also discussed multiple infrastructure-related strengths and opportunities for Region 1, including recent investments by WV DOT in roadways repaving and resurfacing; other strengths/opportunities stakeholders mentioned for the region's infrastructure include the following:

- Region 1 and Region 4 PDCs have been working diligently to help communities plan and obtain funding for expanding broadband coverage and capacity
- There are opportunities for localities to partner with one another and the business community to assess public water/sewer/stormwater needs and capacity and “right-size” infrastructure, depending on community needs and population trends
- The recent infrastructure bill passed by Congress includes billions of dollars earmarked for WV infrastructure; there are opportunities to engage the regional business community on ways to leverage this funding to support economic growth and development

- The region has access to a comprehensive freight rail network rail access; this should be leveraged where feasible, but there are opportunities to explore other alternatives to move freight, including trucks, planes, drones, etc., along with intermodal connectors/hubs
- The vacant land owned by Norfolk Southern in the region presents significant opportunities for development close to rail, if the railway is open to disposing of/leasing the property for development
- Public transit services in the counties are working to expand service to underserved areas, and connect with highway buses that can take residents to Charlestown, Morgantown, D.C., Pittsburgh, etc.
- Local transit authorities have reported increased transit ridership since the pandemic in some areas; there is an opportunity to provide better public information about public transit and its many benefits to Region 1 communities
- The WV Department of Commerce, through the West Virginia Community Advancement and Development (WVCAD) office, administers multiple programs designed to improve infrastructure throughout the state – there are many opportunities for regional entities to partner and apply for funding to improve infrastructure connectivity throughout the region

Transportation Overview

To analyze transportation connectivity, railroads, airways, and roads (highways as well as interstates) were analyzed. GIS data was obtained from the West Virginia University’s GIS Data Clearing House. Table 37 summarizes some important metrics for analyzing the connectivity of each of these modes of transportation.

Table 37 - Transportation Infrastructure Summary

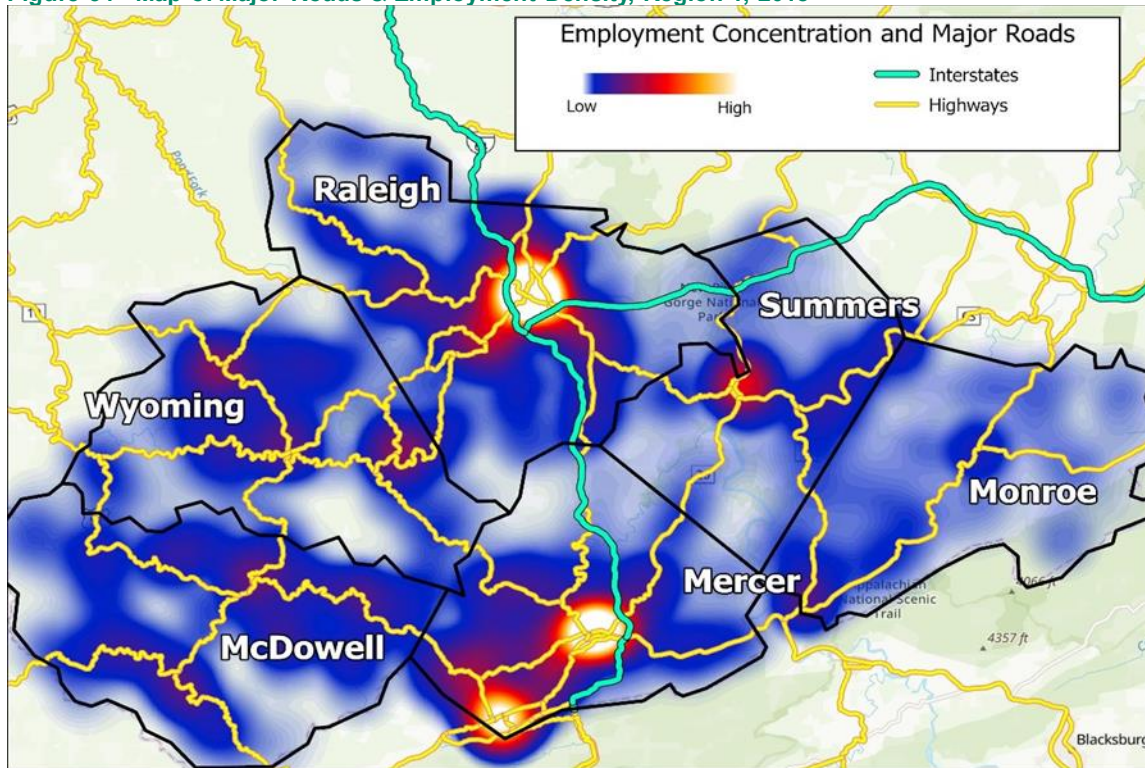
County	Number of Airports	Length of U.S. Highways (Miles)	Length of Interstate (Miles)	Length of Railroads (Miles)
McDowell	1	141	0	171
Mercer	1	292	40	111
Monroe	0	133	0	7
Raleigh	1	514	129	170
Summers	1	192	60	53
Wyoming	2	419	0	148
Maximum	Wyoming	Raleigh	Raleigh	McDowell
Minimum	Monroe	Monroe	McDowell, Wyoming, Monroe	Monroe

Source: West Virginia University GIS Data Clearing House, AECOM 2021

Raleigh County is the most well-connected county in the region – it leads the region in length of highways and interstates, has an airport, and is just second in the region when it comes to length of railroads. Monroe County, conversely, has the fewest miles of highway and railroads, no interstates, and no airports.

For most, if not all, people who commute daily for employment, the primary method of transportation is via private vehicle (POV) on roadways. Figure 34 contrasts the major roads in the region (interstates and highways) with areas of high employment density. Employment density data was gathered from the U.S. Census OnTheMap service. The map indicates that nearly all areas of high employment density in the region have at least one major road connecting them to the rest of the region. Furthermore, this map does not include local roads, which increase last-mile connectivity as well.

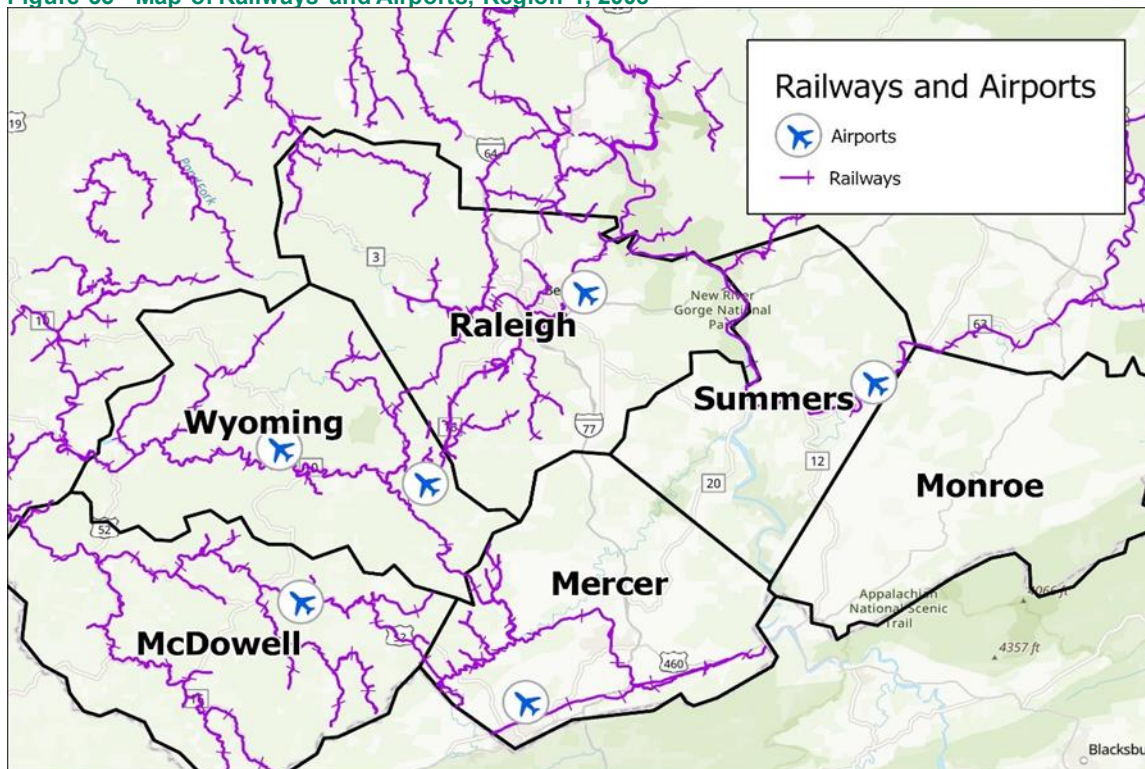
Figure 34 - Map of Major Roads & Employment Density, Region 1, 2018



Source: West Virginia University GIS Data Clearing House, Census OnTheMap Service, AECOM 2021

Figure 35 shows where railways and airports are located in the region. While the western part of the region has good rail and air connectivity, the eastern side (Mercer, Monroe, and Summers Counties) are not as well-connected.

Figure 35 - Map of Railways and Airports, Region 1, 2008



Source: West Virginia University GIS Data Clearing House, AECOM 2021

Utilities Overview

Water and Sewer (Public)

Water and sewer connectivity GIS data was obtained from the West Virginia University's GIS Data Clearing House and was last updated in 2021. For both these services, connectivity was analyzed as a function of roughly how many people these services are able to reach. Through the data source, public water and sewer lines were mapped, and using a 1-mile buffer zone, the number of people being served was calculated (the number of people living within 1 mile of a public water or sewer line). The classification buckets are as follows:

- Below 40% of population served: Low connectivity,
- 40% to 60% of population served: Medium connectivity,
- Over 60% of population served: High connectivity.

Table 38 presents county-by-county as well as regionwide statistics on public water service connectivity.

Table 38 - Public Water Infrastructure Summary

County	Land Area (sq. mi)	Water Service Area (sq.mi)	Population Served	% Population Served	Classification
McDowell	535	301	14,939	65%	High
Mercer	421	280	56,568	95%	High
Monroe	474	137	6,404	45%	Medium
Raleigh	609	456	74,732	95%	High
Summers	368	133	7,195	52%	Medium
Wyoming	502	240	13,179	51%	Medium
Region 1	2908	1547	173,017	82%	High

Source: West Virginia University GIS Data Clearing House, AECOM 2021

Table 39 presents county-by-county as well as regionwide statistics on public sewer service connectivity.

Table 39 - Public Sewer Infrastructure Summary

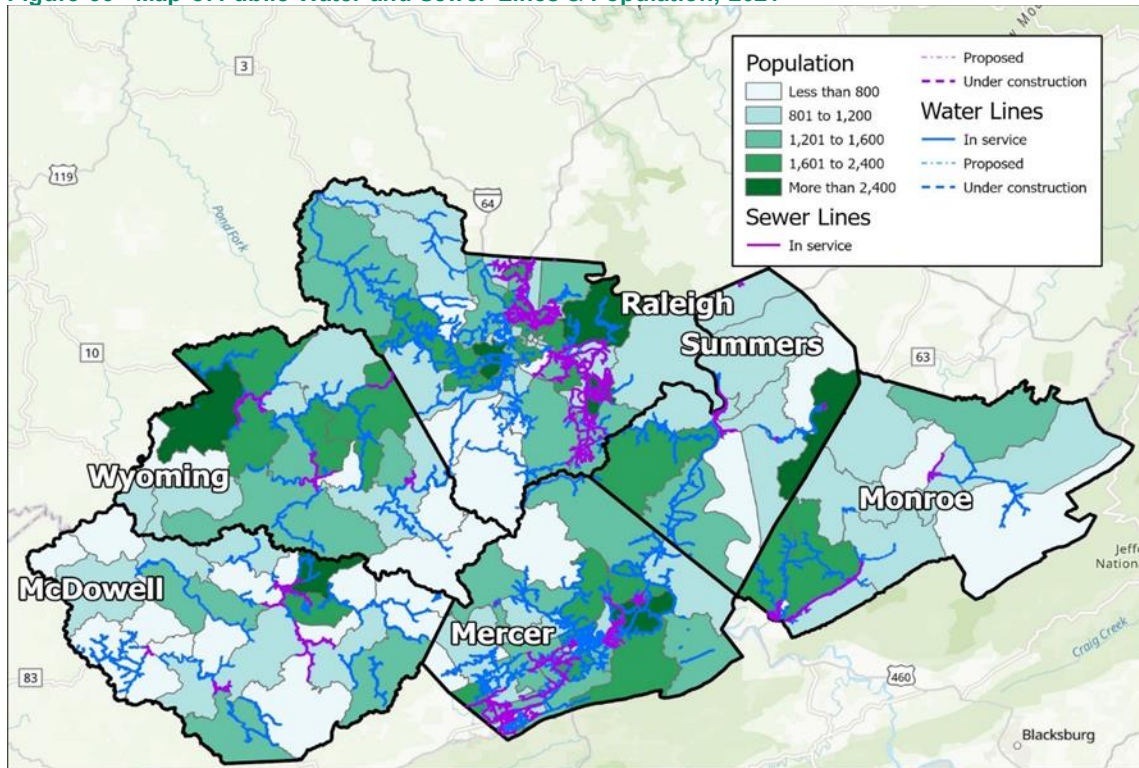
County	Land Area (sq. mi)	Sewer Service Area (sq. mi)	Population Served	% Population Served	Classification
McDowell	535	63	3,894	17%	Low
Mercer	421	96	37,134	62%	High
Monroe	474	41	2,589	18%	Low
Raleigh	609	130	43,482	55%	Medium
Summers	368	31	3,408	25%	Low
Wyoming	502	56	4,392	19%	Low
Region 1	2908	417	94,899	45%	Medium

Source: West Virginia University GIS Data Clearing House, AECOM 2021

Figure 36 shows public water and sewer service lines in the region. Mercer County leads the region in both, water, and sewer service connectivity, serving nearly 95% of its population with public water lines, and nearly 63% of its population with public sewer lines. On the other hand, Wyoming County is the least-well connected county for both, water, and sewer service. Only 51.2% of Wyoming County's residents can access public water lines, while only 19.1% of the population can access public sewer lines.

Overall, 81.6% of Region 1's population can access public water service, and 44.7% can access public sewer service. This data does not include those residents that access water and sewer services through private well and septic facilities.

Figure 36 - Map of Public Water and Sewer Lines & Population, 2021



Source: West Virginia University GIS Data Clearing House, AECOM 2021

Broadband

Broadband access remains a primary concern for Region 1 stakeholders. Nearly 28% of Region 1 households are without a broadband internet subscription, while 19.1% of households do not have a computer. Approximately one-third of households in McDowell, Monroe, and Summers Counties do not have broadband internet. Table 40 shows household internet and computer accessibility statistics for Region 1 counties.

Table 40 - Household Internet Access, 2019

County	No Broadband Internet	No Computer
McDowell	34.4%	24.5%
Mercer	28.7%	18.5%
Monroe	31.5%	23.2%
Raleigh	23.8%	16.8%
Summers	36.3%	24.2%
Wyoming	25.1%	18.3%
Region 1	27.7%	19.1%
West Virginia	24.0%	15.8%

Source: US Census, American Community Survey Five-Year, 2019, AECOM 2021

Broadband deployment data was obtained from the Federal Communications Commission (FCC) and was mapped to census blocks in Region 1. This data was last updated in December 2020. Classification of average download speeds is based on FCC guidelines. According to the FCC, broadband speeds below 25 MBPS are often too slow to even be considered broadband. Speeds below 100 MBPS, though sufficient for limited web surfing and low-quality video streaming, are not ideal for multiple device connections, and cannot reliably support remote working and learning. Speeds above 100 MBPS are ideal for almost any situation the average consumer may encounter and can also handle multiple device connections simultaneously.

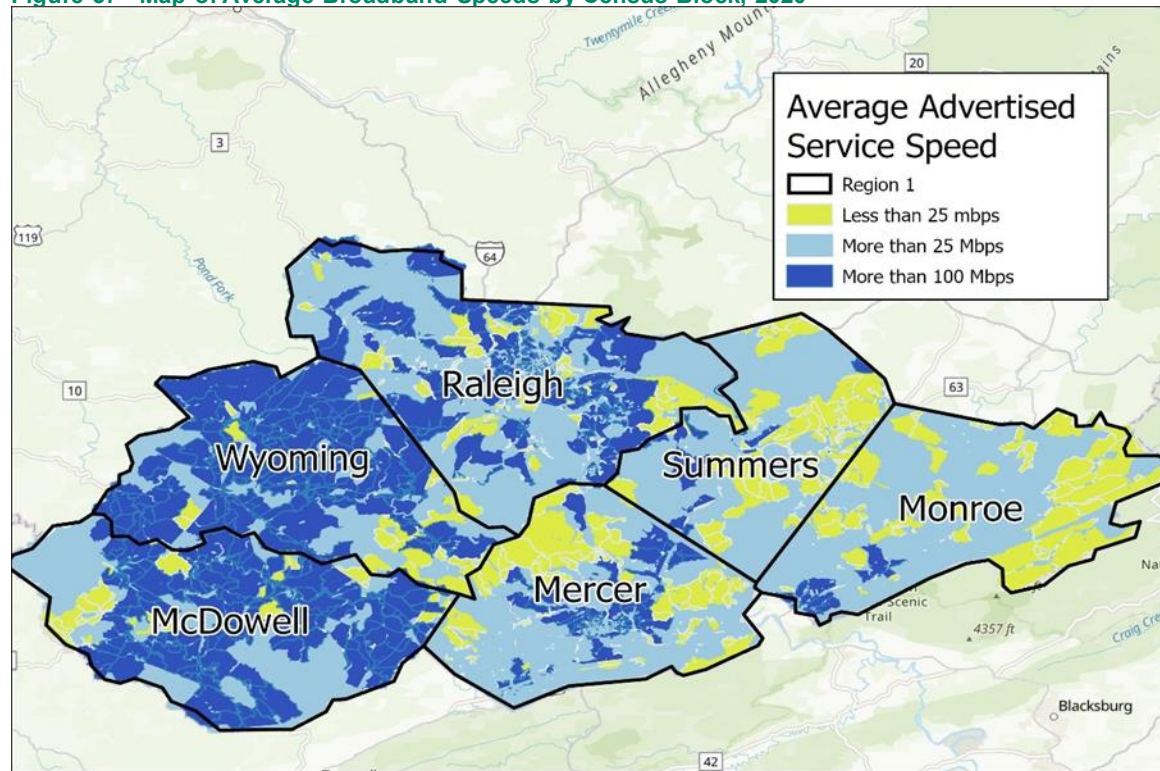
Table 41 shows average download speeds in every county as well as across the entire region and classifies them into buckets based on the FCC guidelines. Figure 37 shows average advertised service speeds on a census block level across Region 1.

Table 41 - Average Broadband Speeds by County, 2021

County	Average Download Speed (Mbps)	Classification
McDowell	130	High
Mercer	63	Medium
Monroe	37	Medium
Raleigh	81	Medium
Summers	45	Medium
Wyoming	134	High
Region 1	82	Medium

Source: Federal Communications Commission, AECOM 2021

Figure 37 - Map of Average Broadband Speeds by Census Block, 2020

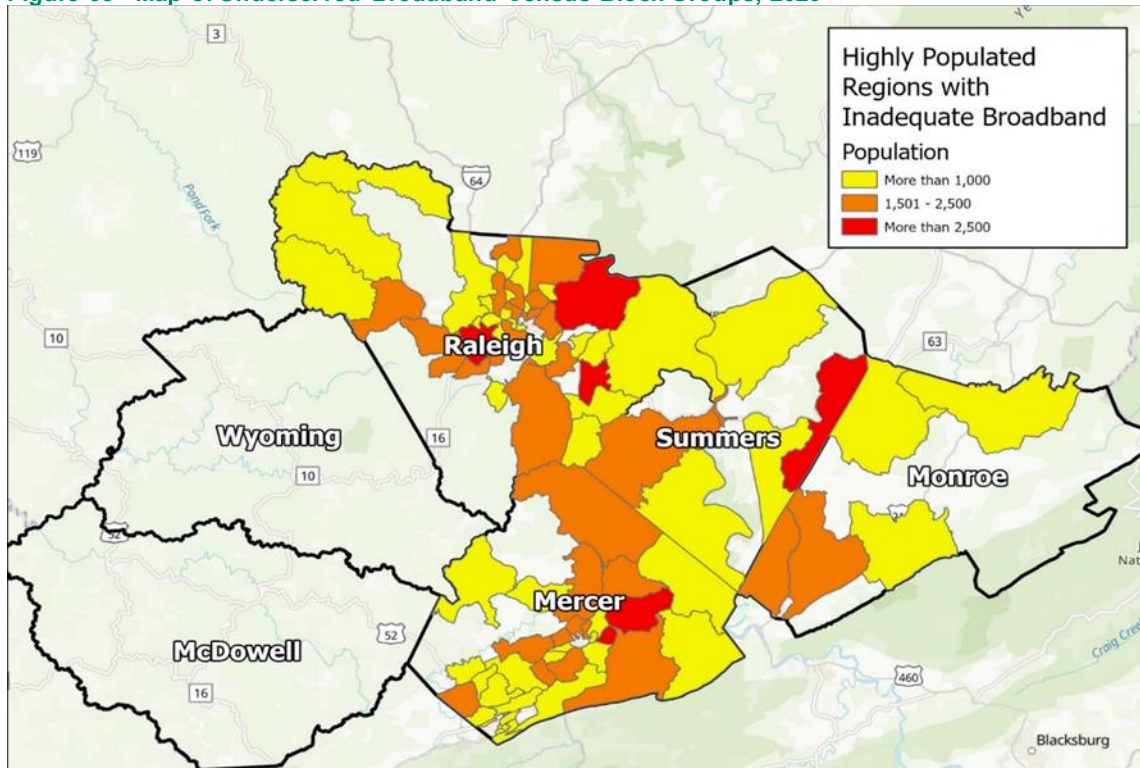


Source: Federal Communications Commission, AECOM 2021

McDowell and Wyoming Counties are the only counties in the region where the average download speed for the entire county is above the FCC recommended 100 MBPS. The lowest average download speeds are in Monroe and Summers Counties, at 37 and 44.8 MBPS, respectively.

Population can play into whether a particular region has high-speed broadband availability. Service providers might prioritize more populated regions over less populated regions. To account for this in the analysis, Figure 38 shows census block groups where the population exceeds 1,000 people, but the broadband speeds fall below the FCC guidelines of 100 MBPS. There are large areas in Mercer, Monroe, Raleigh, and Summers Counties where a lot of residents live but broadband access is insufficient. Especially concerning are the block groups shaded in red, where the population exceeds 2,500, but average broadband speeds remain below 100 MBPS.

Figure 38 - Map of Underserved Broadband Census Block Groups, 2020



Source: Federal Communications Commission, AECOM 2021

Organizational Capacity

Property Tax Revenue Trends

Property tax and assessed value data was pulled from the West Virginia State Auditor Office. 2012 and 2021 data were pulled on one to two municipalities per County, and CAGRs were calculated to identify the growth in class 2 and class 4 assessed values, average tax rate, and total assessed value. This information is displayed in Table 42. The State constitution divides property into four classes:

1. Class 1: Intangible personal property, employed solely in agriculture. No property is currently taxed in this classification.
2. Class 2: Owner-occupied residential property used exclusively for residential purposes and all farmland used for agricultural purposes by its owner or bona fide tenant.
3. All real and personal property situated outside a municipality that is not taxed in Class 1 or Class 2.
4. Class 4: All property situated inside a municipality that is not taxed in Class 1 or Class 2.

Table 42 - Assessed Values and Property Tax Collections by Municipality, Region 1, West Virginia, 2012-2021

County	Municipality	CAGRs				
		Total AV	Class 2 AV	Class 4 AV	Total Tax Collected	Average Rate
McDowell	laeger	7.43%	-0.71%	8.25%	8.93%	1.40%
	Welch	-0.04%	-0.64%	0.08%	0.01%	0.06%
Mercer	Princeton	2.26%	2.81%	2.04%	2.17%	-0.09%
	Bluefield	1.47%	1.46%	1.48%	1.57%	0.10%
Monroe	Peterstown	10.06%	43.71%	3.78%	7.35%	-2.47%
	Alderson	2.54%	1.18%	3.30%	2.84%	0.29%
Raleigh	Beckley	1.14%	1.21%	1.10%	1.13%	-0.02%
	Sophia	2.97%	2.50%	3.19%	3.06%	0.09%
Summers	Hinton	2.73%	2.39%	2.87%	2.79%	0.06%
Wyoming	Mullens	2.07%	2.59%	1.84%	1.97%	-0.09%
	Pineville	0.71%	3.53%	0.16%	0.46%	-0.25%

Source: West Virginia State Auditor's Office, AECOM 2021

Total assessed values in Region 1 grew in every selected municipality other than in Welch (McDowell County). Class 2 assessed values (owner-occupied residential, and agricultural) are up in every municipality except in laeger and Welch (both in McDowell County). Class 4 assessed values are up in every municipality, and so was the total property tax collected. The average rate was varied – centered around a net 0% change, and up in some counties

and down in others. The average rate is usually not of much significance because it is modified based on how assessed values are changing, in order to maintain a constant stream of revenue for governments.

Notable growths occurred in Peterstown (Monroe County), where total assessed value grew at a rate of 10.06% each year, driven mostly by the 43.71% growth per year in the Class 2 assessed values in this municipality. laeger, in McDowell County, saw the largest percent increase in the total tax collected (8.93% each year). Despite falling Class 2 assessed values, the 8.25% per year growth in Class 4 assessed values caused total assessed values in laeger to have a growth rate of 7.43% each year.

Welch was the only municipality to see a net decrease in total assessed value – driven by the loss of Class 2 assessed value. In most cases, when Class 2 or Class 4 assessed values fall, they see some sort of balancing as the assessed value of other class increases (like in laeger; class 2 values fell while class 4 values increased). It is concerning that this did not take place in Welch. Welch is also the municipality to see the smallest increase in the total tax being collected (0.01% per year growth).

Infrastructure Recommendations & Strategies

Strategy	Next Steps	Strategy Lead	Partners	Timeframe	Funding Opportunities	Additional Resources
Build on and expand current efforts to deliver high-speed broadband service throughout the region, focusing on existing population, job, and tourism centers/clusters of density. Ensure that the benefits of expanded broadband and cellular coverage are well-advertised to the business community.	Work with localities, State Broadband Enhancement Council, and West Virginia CAD to prioritize federal funding to areas where broadband is most needed, especially with regard to costly "last-mile" connections.	Region 1 PDC	Local Governments, WV CAD, WV Broadband Enhancement Council, Private Providers	Midterm	ARPA Funds. Appalachian Regional Commission ARC POWER Program	https://broadband.wv.gov ; https://www.arc.gov/arcs-power-initiative/
Work with EDAs, counties/municipalities, and WVU BAD Buildings on identifying opportunities to assemble land for economic development and address blighted structures; offer incentives to leverage private-sector reinvestment (i.e., auctioning structures at a low cost in exchange for pledges to invest funds to improve the property), and technical assistance for making improvements and identifying economically viable uses.	EDAs should work directly with counties/municipalities and WVU to identify existing underutilized publicly owned structures/land for assembly and/or auction, focusing on areas with strong transit access and public water/sewer. Coalition should work with the State on establishing a regionwide program/single platform for engaging the private business and development communities on reinvesting in these properties, and facilitate development of these sites in alignment community goals and priorities.	Region 1 PDC/EDAs	WVU BAD Buildings, C of Cs, Local Governments, WV Dept. of Economic Development	Midterm	HUD Distressed Cities and Persistent Poverty Technical Assistance Notice of Funding Opportunity.	https://badbuildings.wvu.edu/ ; https://westvirginia.gov/ ; https://www.hud.gov/program_offices/spm/gmomg/mt/grantsinfo/fundingopp/s/fy20fy21distressedcities
Work with localities on "right-sizing" water and sewer infrastructure, which may necessitate abandoning unused/outdated infrastructure in some areas, and/or extending infrastructure to growth areas and existing population/employment centers.	Form an infrastructure committee/working group to lead decisions on how best to "right-size" infrastructure to meet the needs of each community, and investigate options for sharing services/collaborating to form cross-county partnerships for provision of necessary water/sewer infrastructure. Identify priority areas for service, including growth areas and employment nodes (i.e., New River Gorge National Park visitor's center and surrounding areas).	Region 1 PDC	Local Governments/Local Utilities	Long-term	ARPA Funds. West Virginia Clean Water State Revolving Fund	https://www.wateronline.com/doc/lessons-on-right-sizing-water-and-sewer-infrastructure-projects-0001 ; https://dep.wv.gov/WWE/Programs/SRF/Pages/default.aspx

<p>Identify specific gaps/challenges to wider cellular service coverage, and identify state and local funding sources to address those challenges.</p>	<p>Region 1 PDC should work with localities to identify target areas for expanded coverage, and engage FirstNet/private providers on discussions of how best to deliver necessary cellular infrastructure, leverage state funding, and priority areas for extended coverage.</p>	<p>Region 1 PDC</p>	<p>Local Governments, Private Providers, FirstNet</p>	<p>Midterm</p>	<p>ARPA Funds. Appalachian Regional Commission ARC POWER Program</p>	<p>https://www.firstnet.gov/; https://www.arc.gov/arcs-power-initiative/</p>
<p>Assess the vulnerability of utility systems, roads, and railway infrastructure to flooding and natural disasters worsened by future climate volatility; establish plans for building new/upgrading existing infrastructure to be more resilient, and ensure that evacuation route information is up-to-date and disseminated to municipalities.</p>	<p>Leverage ongoing Hazard Mitigation planning process to coordinate with the WV DOT, Dept. of Emergency Management, and other agencies to leverage available funding sources, and identify priority infrastructure projects to reduce vulnerability to natural hazards and increase future resilience to shocks & stressors.</p>	<p>FRMPO</p>	<p>Local Governments, FEMA, WV Transit, WV DOT, WV Emergency Management Division</p>	<p>Ongoing</p>	<p>FEMA Flood Mitigation Assistance Program, Building Resilient Infrastructure and Communities U.S. Department of Transportation Grants: RAISE, ROUTES, Railroad Administration, Pipeline Safety and Damage Prevention Grants.</p>	<p>https://www.fema.gov/emergency-managers/national-preparedness/frameworks/recovery; https://emd.wv.gov/Pages/default.aspx; https://wvtransit.com/; https://transportation.wv.gov/Pages/default.aspx; https://www.fema.gov/grants/mitigation/floods; https://www.transportation.gov/grants</p>
<p>Explore alternative forms of transportation for moving freight/product, including trucks, planes, drones, etc., and opportunities for intermodal connectors/hubs</p>	<p>EDA & C of C coalition and FRMPO should work with WV Economic Development Authority and WV DOT to determine what resources are available for encouraging intermodal movement of freight across the state/region, and work with local industries to identify challenges and opportunities for better movement of products across the state</p>	<p>FRMPO</p>	<p>EDAs, C of Cs, WV Dept. of Economic Development, WV DOT</p>	<p>Ongoing</p>	<p>DoT Airport Improvement Program Grant.</p>	<p>https://transportation.wv.gov/Pages/default.aspx; https://westvirginia.gov/; https://www.faa.gov/airports/aip/2020_aip_grants/</p>
<p>Work with the WV Transit Authority and local transit authorities to find creative solutions for generating local matching dollars for transit initiatives, and/or ways to lessen local match requirements for smaller authorities.</p>	<p>Through FRMPO, ensure these discussions are initiated between State and local authorities and counties/municipalities about the best way to provide continuing support for transit in the region/ensure that costs to counties/municipalities to provide transit are fair and transparent.</p>	<p>FRMPO</p>	<p>Local Governments, Transit Authorities, WV Transit</p>	<p>Ongoing</p>	<p>N/A</p>	<p>https://wvtransit.com/</p>



Quality of Life

Quality schools, public services, retail options, and healthcare facilities are critical for attracting and retaining residents and businesses to Region 1. The following sections outline key input from Region 1 stakeholders on quality of life in the region, and discusses the current education, services, and community support systems in the Region, to establish a baseline for making recommendations to improve quality of life for all residents. The recommendations to improve quality of life for existing residents, and well as for attracting new ones, are included at the end of the section.

Stakeholder Feedback: Quality of Life

Weaknesses & Challenges

Quality of life in the region was a key concern for many stakeholders; many felt that declines in quality of life in Region 1 had contributed to population loss and general disinvestment. The key topics mentioned by stakeholders around quality of life included the following:

- Lack of affordable, readily available childcare in the region is a challenge for workforce readiness
- The lack of 24-hour emergency medical care (outside of Beckley), as well as specialized medical care for specific conditions, is a major concern for all residents
- Drug addiction is a challenge in many communities; “deaths of despair” are alarmingly common
- Some communities in Region 1 suffer from a dearth of grocery stores and basic retail options; the closures of stores like Magic Mart and Walmart have left many residents without access to basic goods
- Limited dining, entertainment, and recreational options are driving away residents and tourists, particularly younger ones (Figure 39)
- Small municipalities with declining populations are suffering from a lack of traditional community support structures that might be present in a growing community; as residents leave, tax bases shrink and there is less funding for public services
- The fragmented local government structure in the region (counties plus many small municipalities) creates redundancy in some cases, and can cause confusion among residents – this redundancy can also impact level of service, and increase costs to provide services
- Lack of coordination/cooperation among regional entities is not only a challenge to economic development, but also to quality of life, particularly when it comes to presenting a cohesive message for attracting people and businesses to the region
- The region also suffers from “brain drain” – despite expressed desire by some students educated in the region to stay, the lack of jobs, quality housing, and services can force them to seek work elsewhere
- In general, a lack of basic community services and amenities for communities outside of urbanized areas like Beckley, including urgent care, grocery stores, and restaurant and retail options, is keeping people from settling in those communities, even if they have found a job in the region
- The lack of comprehensive broadband access was the primary challenge highlighted by educational stakeholders, impacting children and adult learners alike
- Some stakeholders noted that the impacts of the 2016 floods can still be seen in some communities; like the pandemic, flooding has exacerbated pre-existing challenges and inequities
- Stakeholders also mentioned a lack of coordinated intercounty disaster response/preparedness strategies for disasters like floods, pandemics, and other hazards that ignore political boundaries

Figure 39 - Downtown Princeton, WV



Image Source: https://commons.wikimedia.org/wiki/File:Princeton_West_Virginia.jpg

Strengths & Opportunities

Some stakeholders were optimistic about the region’s strengths and opportunities surrounding quality of life. Stakeholders noted the successes of both K-12 schools and institutions of higher learning in attracting students and accolades. The strengths and opportunities stakeholders mentioned repeatedly include the following:

- Colleges like Bluefield State and Concord University are attracting students from well outside the region; programs like AmeriCorps Vista also help bring new residents attracted to a more rural lifestyle

- Stakeholders pointed to opportunities for more regional cooperation and collaboration on provision of community and social services; potential for town/city-county partnerships
- Among the higher ed community, there is increasing interest in institutions serving as gathering places/community centers for the broader surrounding community, and not just for enrolled students and faculty
- The strong regional demand for more healthcare and service workers presents a significant opportunity for higher ed to partner with communities to offer students volunteer/internship opportunities and job training related to community health and service provision
- In the same vein, the need for more grocery/retail options presents opportunities for collaboration with local agriculture on creating community co-ops, and other types of basic retail not dependent on “big box” companies
- Community organizations, including transit authorities, are leveraging limited resources to provide wraparound services for residents with drug addictions
- More community support is necessary for vulnerable populations, including people with addictions, disabilities, and those struggling with poverty and unemployment. This creates opportunities for cross-sector partnerships to provide these services, in connection with workforce development, housing, and other support services
- Region 1 and Region 4 PDCs are updating their Hazard Mitigation plans to help communities prepare for future shocks and stresses; through the Hazard Mitigation planning process, there are opportunities for communities to come together to explore mutual aid agreements and plan coordinated preparedness and recovery efforts for future disasters, including pandemics
- Congress is considering legislation to significantly expand services for families in WV and across the U.S., including access to affordable childcare

Education

Data from the West Virginia Department of Education identifies 85 public and 16 private schools spanning pre-K through 12 education in Region 1, as well as 5 career and technical centers offering programming for high school students. Region 1 high schools have a 91% 4-year graduation rate, on average, on par with the West Virginia average of 92%, compared with 88% for the U.S. This information is summarized in Table 43.

Table 43 - Region 1 Public Schools, 2019-2020 School Year

County	Schools	School-Year Enrollment	Attendance	Attendance Scorecard Indicator	4-Year Graduation	Elem.	Middle	High
McDowell	9	2,542	89.4%	Partially Meets Standards	86.9%	5	2	2
Mercer	25	7,725	93.0%	Meets Standards	89.5%	13	4	4
Monroe	4	1,548	92.6%	Meets Standards	96.8%	1	2	1
Raleigh	26	10,223	93.2%	Meets Standards	87.1%	17	5	4
Summers	5	1,298	91.5%	Meets Standards	90.6%	3	1	1
Wyoming	13	3,411	90.6%	Meets Standards	92.7%	3	8	2

Source: West Virginia Department of Education, 2021, AECOM2021

On average, 57% of public-school students in Region 1 qualify for free or reduced-price lunch, compared with 50% for the state as a whole. In 2018-2019 school year, all Region 1 counties had an equal or larger percentage of public-school students eligible for free or reduced-price lunch through the National School Lunch Program as the state. Students from households with incomes at or below 130 percent of the federal poverty line are eligible for a free lunch, while students from households with incomes between 130 and 185 percent the of the federal poverty line can receive a reduced-price lunch. This information is summarized in Table 44.

Table 44 - Students Eligible for Free and Reduced-Price Lunch, 2018-2019 School Year

County	% of Eligible Students
McDowell	69%
Mercer	57%
Monroe	50%
Raleigh	57%
Summers	58%
Wyoming	50%
West Virginia	50%

Source: County Health Rankings, National Center for Education Statistics, 2021, AECOM2021

Additionally, Table 45 shows there are 13 higher education institutions in the area, including five colleges, universities, and professional schools, six junior/community colleges, and two technical/trade schools. Higher education is primarily concentrated in Mercer and Raleigh Counties. In Table X below, junior or community colleges are those

institutions that grant up to (and at least) an associate degree; universities and colleges are 4-year institutions that grant a bachelor's degree or higher. The Erma Byrd Higher Education Center is a higher education collaborative between Bluefield State College, Concord University, Marshall University, New River Community and Technical College, and the West Virginia School of Osteopathic Medicine.

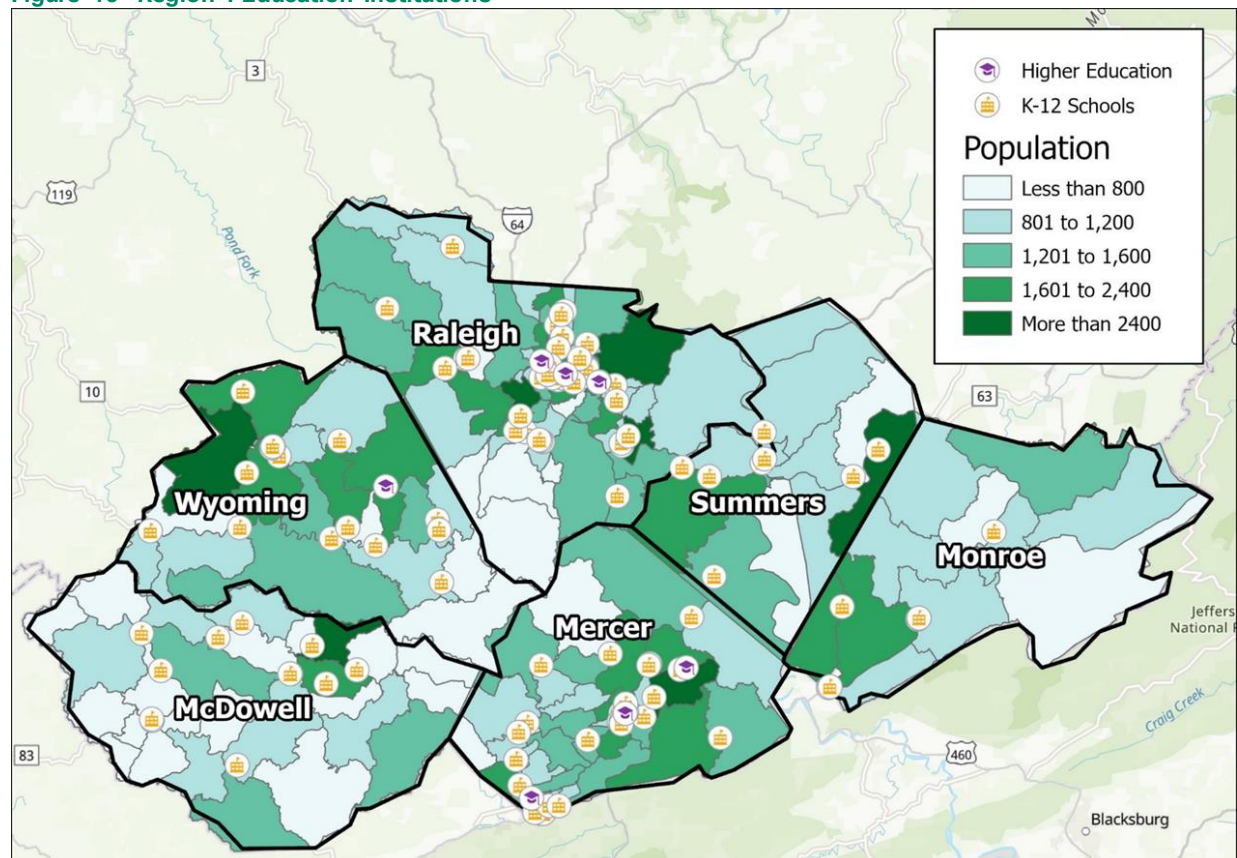
Table 45 - Region 1 Higher Education Institutions

County	Name	City	Category
Mercer	Mercer County Technical Education Center	Princeton	Other Technical and Trade Schools
Mercer	Concord University	Athens	Colleges, Universities, and Professional Schools
Mercer	Bluefield State College	Bluefield	Colleges, Universities, and Professional Schools
Mercer	American National University – Princeton Campus	Princeton	Junior/Community Colleges
Raleigh	West Virginia University Institute of Technology	Beckley	Colleges, Universities, and Professional Schools
Raleigh	New River Community and Technical College – Raleigh Campus	Beaver	Junior/Community Colleges
Raleigh	Valley College – Beckley Campus	Beckley	Junior/Community Colleges
Raleigh	Appalachian Bible College	Mount Hope	Colleges, Universities, and Professional Schools
Raleigh	Academy of Careers and Technology	Beckley	Other Technical and Trade Schools
Raleigh	Erma Byrd Higher Education Center	Beaver	Colleges, Universities, and Professional Schools (Educational Collaborative)
Raleigh	New River Community and Technical College – Mercer Campus	Beckley	Junior/Community Colleges
Raleigh	University of Charleston-Beckley	Beckley	Junior/Community Colleges
Wyoming	Southern West Virginia Community & Technical College - Wyoming/McDowell Campus	Mullens	Junior/Community Colleges

Source: West Virginia Department of Education, Homeland Infrastructure Foundation-Level Dataset (HIFLD), 2021, AECOM 2021

Area colleges and high schools offer multiple industry-specific workforce development programs; however, there are still gaps in what is offered, and the patchwork of programs are unable to keep up with fluctuating post-pandemic workforce training demand. Current educational offerings match with large and key emerging industries (specifically health care and professional services), but certain programs may need to be expanded to accommodate new demand. Figure 40 shows the locations of Region 1's educational institutions.

Figure 40 - Region 1 Education Institutions



Source: West Virginia University Data Clearing House, AECOM Analysis

Health Care & Childcare

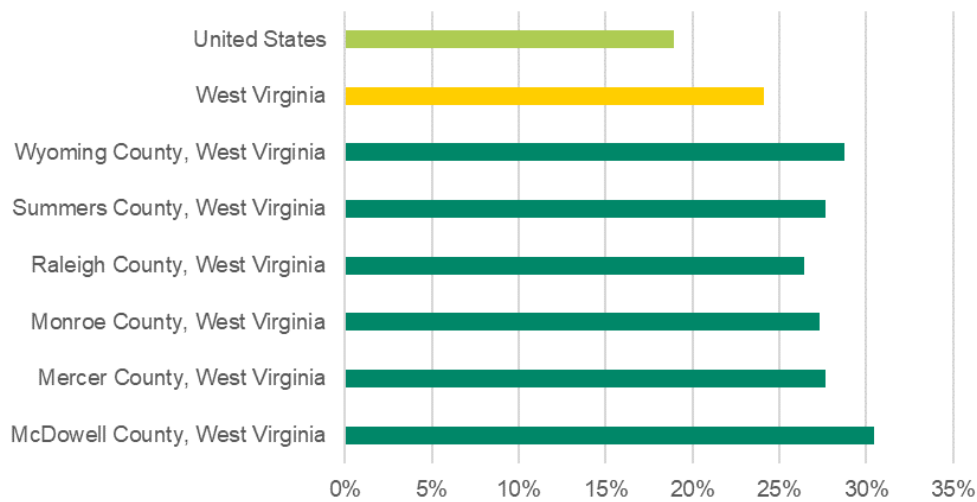
Overall, 6.4% or 12,549, of Region 1 residents are uninsured. 27% of residents are Medicare beneficiaries – compared to 24% of West Virginia residents and 19% of the U.S. population – while 34% are Medicaid beneficiaries, and 46.7% have employer-based health insurance coverage. Table 46 and Figure 41 summarize this information.

Table 46 - Region 1 Health Insurance Coverage, 2019

County	% Insured	% Uninsured	% Medicare	% Medicaid	% Employer-Based
McDowell	94.0%	6.0%	30.5%	45.4%	34.7%
Mercer	93.7%	6.3%	26.8%	33.6%	45.7%
Monroe	91.0%	9.0%	29.7%	29.5%	44.9%
Raleigh	93.2%	6.8%	24.8%	31.7%	50.0%
Summers	96.7%	3.3%	31.1%	33.8%	45.6%
Wyoming	94.4%	5.6%	28.7%	36.5%	49.4%
Region 1	93.6%	6.4%	27.0%	34.0%	46.7%

Source: US Census, American Community Survey Five-Year, 2019, AECOM2021

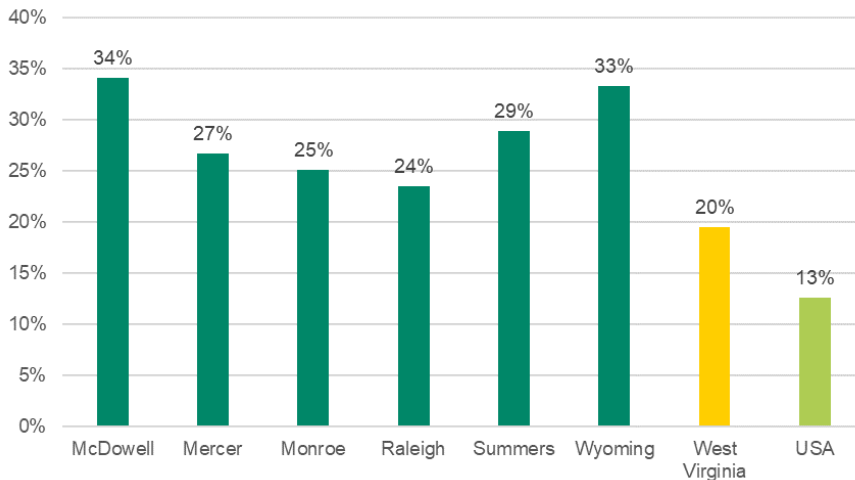
Figure 41 - Medicare Beneficiaries, Percent of Total Population, 2019



Source: Centers for Medicare and Medicaid Services, 2019, AECOM2021

Additionally, 27% of Region 1 residents are living with a disability, compared to 20% of West Virginians and 13% of the U.S. population, as shown by Figure 42.

Figure 42 - Percent of Population Living with a Disability, 2019



Source: American Community Survey 5-Year Estimates, 2019, AECOM2021

According to data from the Homeland Infrastructure Foundation-Level Dataset, as of 2020, there were 48 childcare/daycare facilities in Region 1 – including 24 daycare/center-based facilities, 15 independent head start facilities, six school-based programs, and 3 religious-based programs. A county-level breakdown is provided in Table 47.

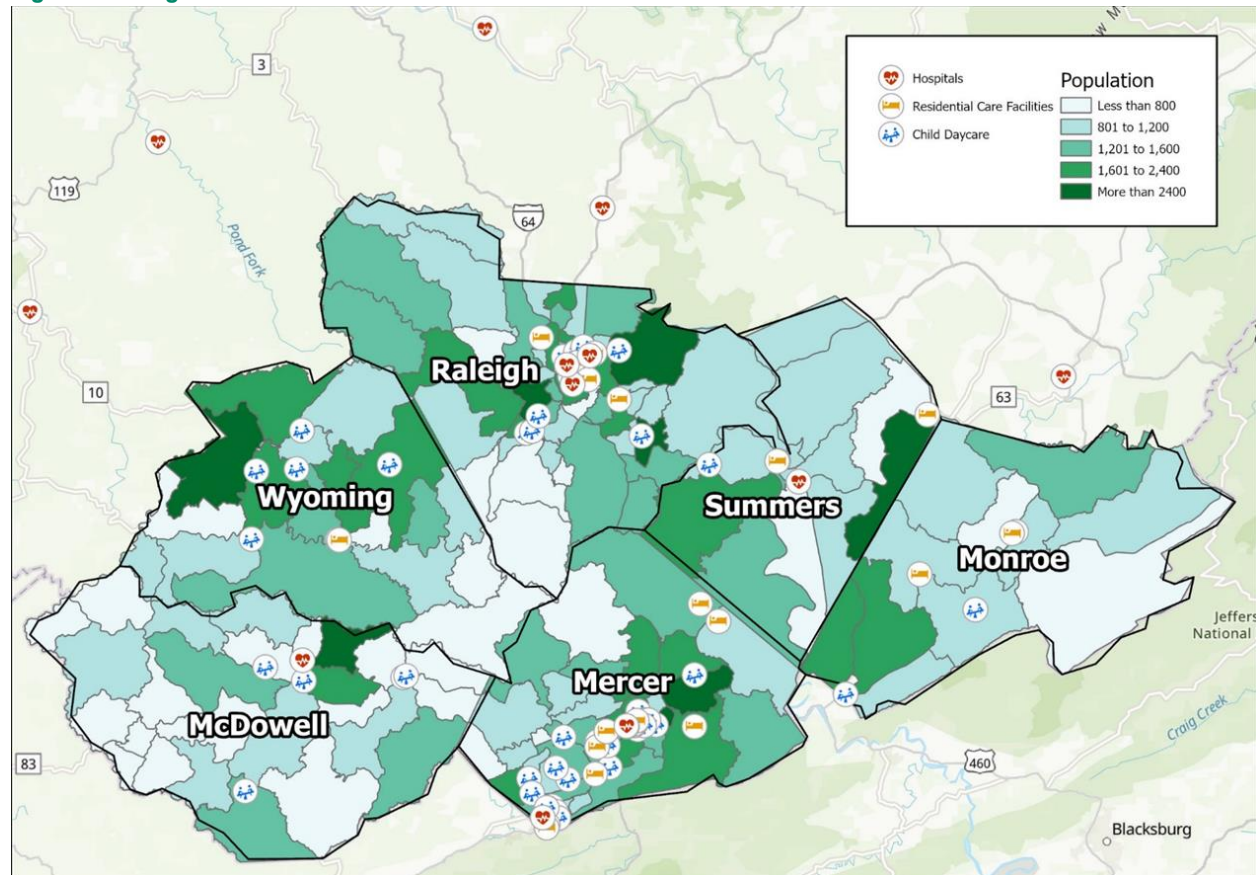
Table 47 - Region 1 Childcare/Daycare Facilities, 2020

County	Total
McDowell	1
Mercer	16
Monroe	2
Raleigh	21
Summers	1
Wyoming	7
Region 1	48

Source: Homeland Infrastructure Foundation-Level Dataset, 2020, AECOM2021

Overall, health care and childcare services employ approximately 11,000 people in Region 1, and there are nearly 700 hospitals, doctor's offices, residential care facilities, and daycares in the region – however, as Figure 43 shows, coverage is not evenly distributed, and many places only offer limited services. Many also do not offer round-the-clock care, and affordability is also a key issue

Figure 43 - Region 1 Health Care and Child Care Facilities



Source: ESRI Business Listings, 2020, AECOM2021

Retail and Services

Real Estate Summary

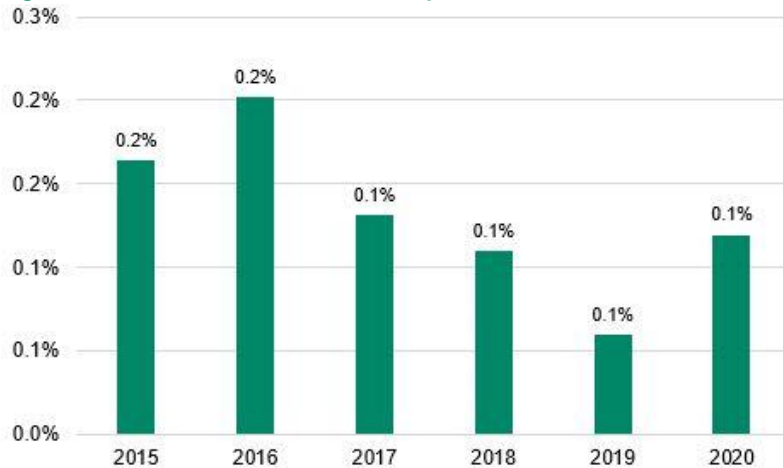
In the past decade, Region 1 has seen limited growth in new office, retail, and industrial square footage. Since 2010, the region has gained 187,882 square feet of retail space (0.1% growth rate) and 46,854 square feet of office space (0.1%) and has lost 43,449 industrial square feet (-0.1%). Table 48 and Figure 44 summarize this information.

Table 48 - Real Estate Summary, 2021

	Retail	Office	Industrial
Square Feet	15,249,833	5,173,723	5,183,956
Buildings	1,595	703	232
Vacancy	2.8%	1.6%	0%
Direct Rent / SF	\$11.04	\$11.82	\$7.06
2010-2021 Growth Rate	0.1%	0.1%	-0.1%

Source: CoStar, 2021, AECOM2021

Figure 44 - Year-Over-Year Retail Footprint Growth Rate, 2015-2020



Source: CoStar, 2021, AECOM2021

Retail Leakage Analysis

Retail leakage occurs when residents of a region spend a larger amount of money on goods and services than local businesses report in sales. Retail surplus is the opposite – when local businesses report higher sales than residents’ reported spending.

Retail leakages imply that there is unmet demand in the trade area and that the community can support additional store space for that industry. Retail leakage, however, does not always translate into opportunity. For example, there could be strong competitors in neighboring communities that dominate the market for a particular industry. Retail surplus, on the other hand, implies that the region’s trade area is capturing not just local demand but is also attracting non-local shoppers. This does not mean that the region cannot accommodate additional businesses. Many regions have developed strong clusters of industries that have broad geographic appeal.

Table 49 shows demand and supply statistics for West Virginia’s Region 1. The data was obtained from ESRI Business Analyst, a proprietary source of demographic and labor market data, and was last collected in 2017. As the table shows, Region 1 had a surplus of retail trade as well as of food and drink. A closer look at the numbers shows that nearly 19% of total retail supply was being captured by non-local markets (visitors). The table further breaks this down into the trade and food and drink categories; nearly 18% of retail trade supply was being captured by non-local markets, while about 20% of retail food and drink supply was being captured by non-local markets.

Table 49 - Retail Leakage / Surplus Analysis, 2017

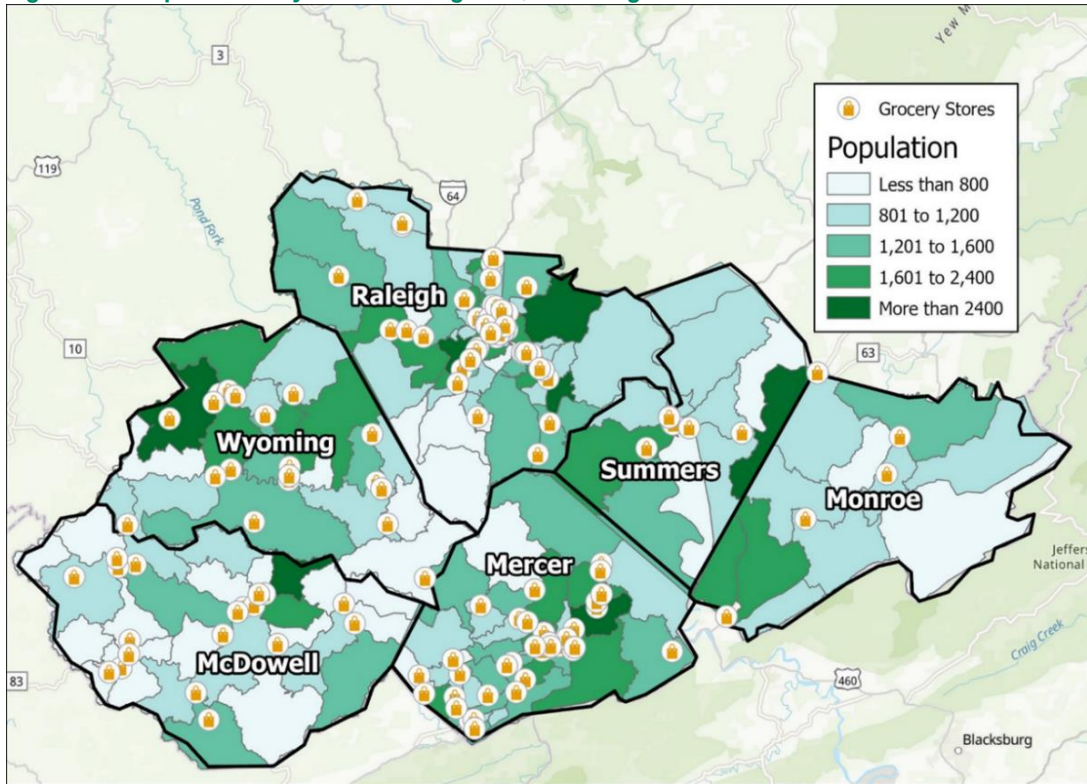
Industry	Retail Demand	Retail Supply	Retail Gap	Gap Factor	Number of Businesses
Total Retail Trade + Food and Drink	\$2,474,192,676	\$3,034,927,590	(\$560,734,914)	-10.2	1,529
Total Trade	\$2,271,551,798	\$2,780,823,813	(\$509,272,015)	-10.1	1,151
Total Food and Drink	\$202,640,878	\$254,103,777	(\$51,462,899)	-11.3	378

Source: ESRI Business Analyst: Marketplace Profile, 2017, AECOM2021

Grocery and General Merchandise Stores

Many stakeholders were concerned that a lack of basic retail options is negatively impacting residents’ quality of life and deterring tourists from visiting. Figure 45 shows the location of grocery stores (as identified by ESRI, a proprietary source of industry-level and cartographic data) in the region. It’s clear that there are areas that appear to be largely unserved – much of Summers and Monroe Counties, northern parts of Mercer County and southern parts of Raleigh County.

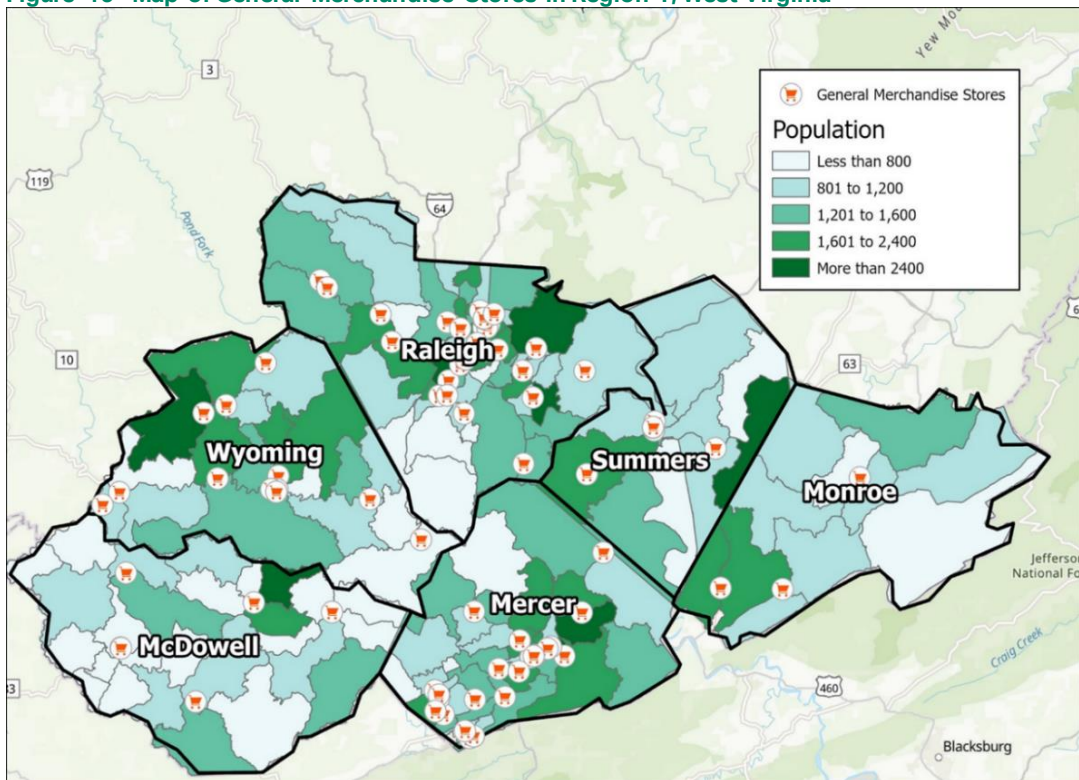
Figure 45 - Map of Grocery Stores in Region 1, West Virginia



Source: ESRI Business Listings, 2020, AECOM2021

Figure 46 shows general merchandise stores. Stores like Walmart, Target, Kmart, as well as local general stores fall under this category. Like the grocery stores, there are large areas that are relatively unserved.

Figure 46 - Map of General Merchandise Stores in Region 1, West Virginia



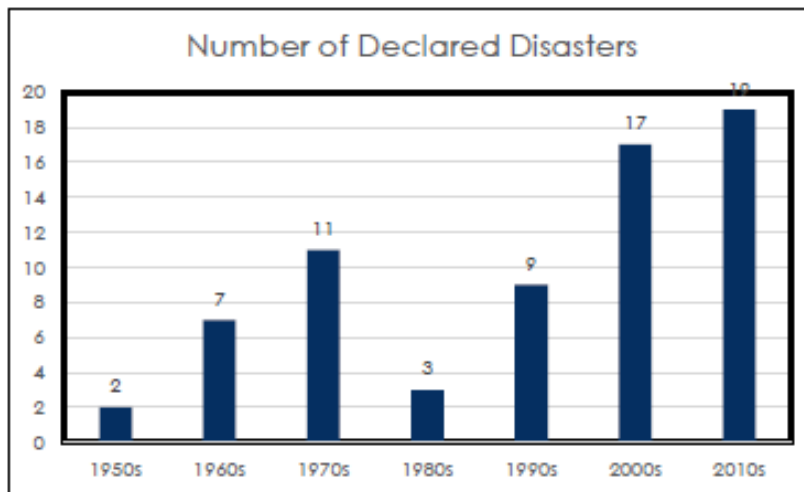
Source: ESRI Business Listings, 2020, AECOM2021

Climate Resilience

Flooding and Climate Risks

On June 23, 2016, West Virginia received record-breaking rainfalls, resulting in widespread flash flooding and State of Emergency declarations for 44 of 55 counties. The State’s unique topography has contributed to its flood risk – the National Centers for Environmental Information reported 2,302 flood events in the state between January 1992 and July 2017 (Figure 47). In 2018, the state released the *West Virginia Statewide Standard Hazard Mitigation Plan Update*, which provides statewide guidance to reduce loss and prevent injury from natural hazards, as required for submittal to FEMA through the Disaster Mitigation Act of 2000. In 2020, in partnership with the West Virginia Division of Emergency Management, regional planning commissions, private sector stakeholders, and government agencies, the State developed a multi-hazard risk-based mitigation needs assessment for the “Most Impacted and Distressed” (MID) counties, after receiving HUD’s Community Development Block Grant – Mitigation (CDBG-MIT) funding from the US Department of Housing and Urban Development (HUD) following the 2016 flooding. In Region 1, counties deemed most impacted include Monroe and Summers.

Figure 47 - Number of Declared Disasters by Decade



Source: *West Virginia Statewide Standard Hazard Mitigation Plan, 2018*

The State of West Virginia’s CDBG-MIT Action Plan states that, based on the total number of high-ranking hazards (Figure 48) in each of West Virginia’s County local hazard mitigation plans, the top risks impacting the state, in order, are: 1. Flooding; 2. Winter Weather; and 3. Severe Storms – emphasizing widespread impacts of continued climate disasters, and their disproportionate impacts on vulnerable communities: “These increasing temperatures will contribute to increasing rates of soil moisture loss, resulting in more intense drought during dry spells and contributing to higher risks of wildfires. Higher temperatures can also have serious implications on public health, particularly among vulnerable populations. Precipitation patterns are also projected to change...with annual precipitation projected to increase over the century in West Virginia and across the northeast United States. This increased rainfall is expected to be concentrated in the winter and spring, with an increase in the number and intensity of extreme events. The projected increased severity of rainfall events heightens the risk of flooding” (State of West Virginia, 2020, p.15).

Figure 48 - State of West Virginia Hazard Risk Levels, MID Counties

County	Flood	Landslide	Severe Storms	Winter Weather	Wildfire	Dam Failure	Drought	Earthquake	
Clay	H	H	H	H	L	L	M	L	
Fayette	H	L	H	H	N/A	L	L	L	
Greenbrier	H	L	H	H	N/A	L	L	L	
Jackson	H	L	H	H	L	L	L	L	
Kanawha	H	H	H	H	L	L	M	L	
Lincoln	H	M	M	M	H	L	M	N/A	Key
Monroe	H	M	L	H	H	M	N/A	M	HUD MID
Nicholas	H	L	H	H	N/A	L	L	L	State MID
Pocahontas	H	L	H	H	N/A	L	L	L	High Risk
Roane	H	L	H	H	M	L	L	L	Med Risk
Summers	H	L	L	H	M	L	N/A	L	Low Risk
Webster	H	L	H	H	N/A	L	L	L	Data N/A

Source: State of West Virginia CDBG-MIT Action Plan, 2020

Impact on Vulnerable Communities

Social vulnerability describes how resilient a community is to external stressors, ranging from natural or human-caused disasters to disease outbreaks. Two indexes commonly used to measure social vulnerability include the Centers for Disease Control's (CDC) Social Vulnerability Index (SVI) (Figure 49) and Hazard and Vulnerability Research Institute's Social Vulnerability Index (SoVI). Each measure relies on an analysis and synthesis of various socioeconomic variables that impact a community's ability to prepare for, and respond to, disasters.

Compared to the nation (Figure 50), three Region 1 counties – McDowell, Mercer, and Summers – are considered Medium-High risk on measures of Social Vulnerability. At the state-level (Figure 51), McDowell is considered to be at the highest-risk, while Mercer, Summers, and Monroe are considered Medium-High Risk.

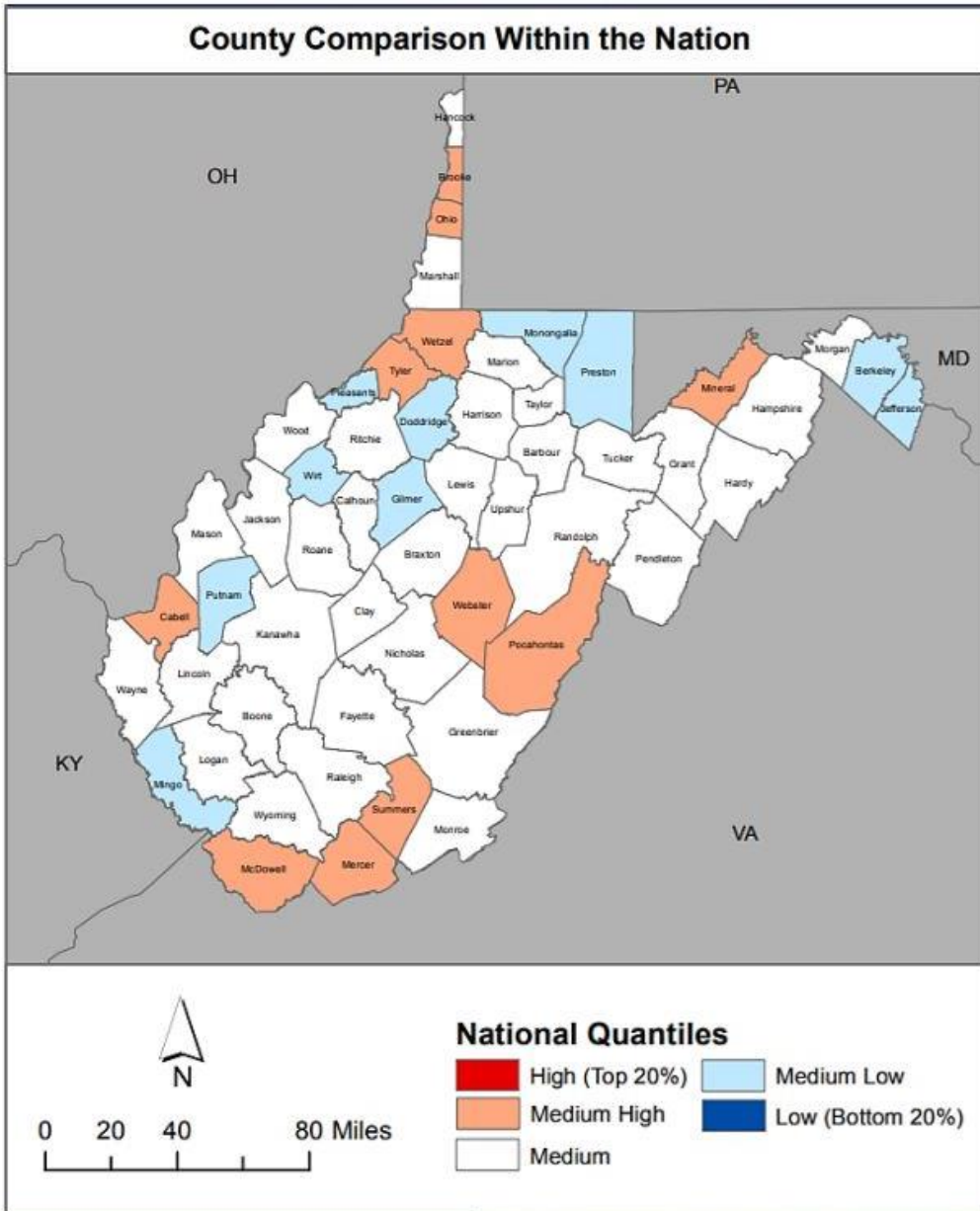
Figure 49 - CDC Social Vulnerability Index Themes

County	Overall Social Vulnerability	Themes			
		Socioeconomic Status	Household Composition and Disability	Race, Ethnicity, and Language	Housing and Transportation
Clay	H	H	MH	L	MH
Kanawha	MH	L	MH	H	MH
Greenbrier	MH	ML	MH	MH	ML
Nicholas	MH	MH	MH	L	MH
Fayette	H	MH	H	MH	MH
Jackson	L	L	L	L	L
Lincoln	MH	H	ML	ML	MH
Monroe	MH	MH	MH	MH	L
Pocahontas	L	ML	ML	L	ML
Roane	H	H	H	ML	ML
Summers	H	H	H	MH	H
Webster	H	H	H	L	MH
Key	HUD MID	Highest Risk	Med-Low Risk		
	State MID	Med-High Risk	Lowest Risk		

Source: CDC Social Vulnerability Index.

Source: State of West Virginia CDBG-MIT Action Plan, 2020

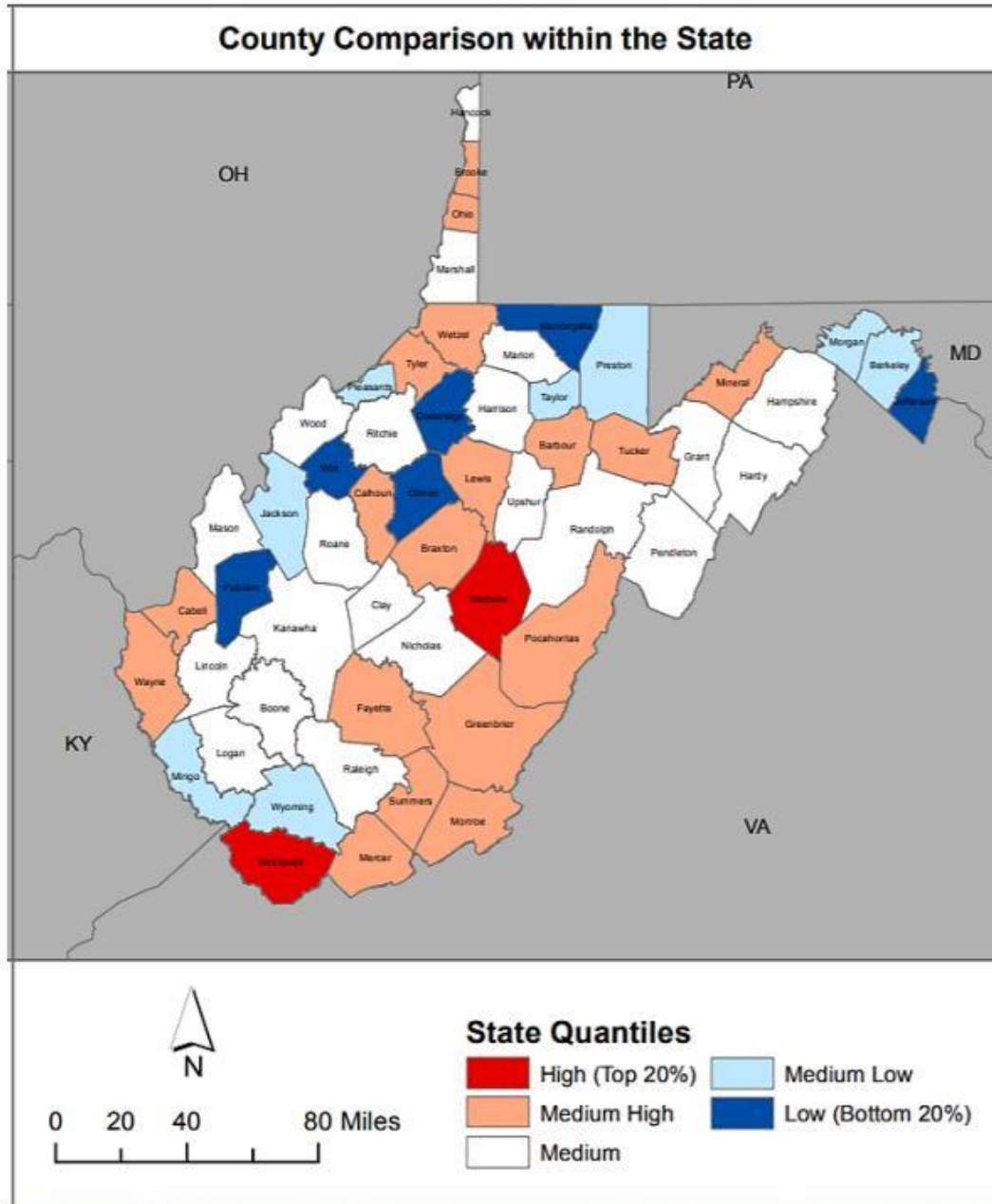
Figure 50 - Hazard and Vulnerability Research Institute Social Vulnerability US County Comparison



Source: Hazards Vulnerability Research Institute, Retrieved from: <http://artsandsciences.sc.edu/geog/hvri/sovi%20AE-2010-2014-state-maps>.

Source: State of West Virginia CDBG-MIT Action Plan, 2020

Figure 51 - Hazard and Vulnerability Research Institute Social Vulnerability State County Comparison



Source: Hazards Vulnerability Research Institute, Retrieved from:
<http://artsandsciences.sc.edu/geog/hvri/sovi%20AE-2010-2014-state-maps>.

Source: State of West Virginia CDBG-MIT Action Plan, 2020

Quality of Life Recommendations & Strategies

Strategy	Next Steps	Strategy Lead	Partners	Timeframe	Funding Opportunities	Additional Resources
Identify opportunities for shared community resources and services across counties and municipalities, including staff-sharing partnerships and contracted services (i.e., IT). Ensure that county and locality staff are trained in applying for state and federal grants and funding and provide technical support and guidance whenever feasible. Offer technical support and assistance to municipalities to ensure that they are leveraging available sources of revenue, effectively collecting taxes, conducting regular assessments, and evaluating/updating tax structure as necessary.	Convene counties/municipalities to form a shared services working group (could be the same working group focusing on cross-regional infrastructure needs) to discuss options for reducing redundancy/duplication and sharing services, staff, facilities, and other resources to reduce burden on individual counties/municipalities and encourage creative, collaborative solutions to regional challenges.	Region 1 PDC	Local Governments	Ongoing	N/A	https://phsharing.org/resources/issues/rural-small-jurisdictions/page/3/
Coordinate disaster response across political boundaries, through the establishment of memorandums of understanding, mutual aid agreements, shared services agreements, etc. Consider establishing a regional Disaster Response & Recovery coalition that coordinates disaster preparedness, response, and rebuilding efforts, including providing technical support to municipalities and businesses to help them apply for federal and state aid.	Leverage ongoing Hazard Mitigation planning process to create a working group with representatives from localities, FEMA, and WV Emergency Management to establish regional priorities for disaster response and recovery efforts. Identify community leaders/key stakeholders to spearhead ongoing efforts.	Region 1 PDC	Local Governments, FEMA, WV Dept. of Emergency Management	Ongoing	FEMA Hazard Mitigation Assistance Grants	https://www.ojp.gov/pdffiles1/bja/210679.pdf ; https://www.fema.gov/grants/mitigation

<p>Develop a GIS inventory of regional data to support public and private decision making. Launch educational campaigns to train residents, government officials, and civic institutions on how to use applications. Identify resources and mechanisms to build, maintain, and update the database on a regular basis.</p>	<p>Offer workshops, training, and technical support to localities; work with WVU to leverage their GIS resources and expertise. Encourage EDAs and C of Cs to involve local businesses and industries interested in leveraging GIS to improve business decision-making.</p>	<p>Region 1 PDC</p>	<p>Local Governments, WVU, EDAs, C of Cs</p>	<p>Short-term</p>	<p>N/A</p>	<p>https://wvqgis.wvu.edu/</p>
<p>Work to foster a welcoming, inclusive atmosphere in Region 1 communities; encourage event programming, park and recreational development, and community-focused activities to bring residents together and discover common community goals and aspirations.</p>	<p>Convene localities and community leaders (including faith organizations) to initiate discussions on fostering a more welcoming and inclusive atmosphere for newcomers to the area. Work with EDA & C of C coalition and CVBs to leverage social media/identify appropriate websites for advertising community events and amenities and connect with major regional employers to facilitate the sharing of community information and resources with new hires.</p>	<p>Region 1 PDC</p>	<p>Local Governments, Community Leaders, EDAs, C of Cs, CVBs</p>	<p>Ongoing</p>	<p>National Recreational and Park Association Funding Programs ()</p>	<p>https://icma.org/topics/equity-inclusion; https://www.nrpa.org/our-work/Grant-Fundraising-Resources/</p>
<p>Encourage counties/municipalities to partner with K-12 schools and institutions of higher education to explore opportunities to share space in underutilized school facilities and other civic buildings for broader community uses, such as providing workforce/skills training opportunities for local residents.</p>	<p>Convene localities, K-12 schools, and higher ed to discuss space needs for community events, training, and other programs; identify underutilized public and educational buildings and appoint a leadership committee to oversee coordinating programming with available space.</p>	<p>Region 1 PDC</p>	<p>Local Governments, K-12 Schools, Higher Ed</p>	<p>Midterm</p>	<p>Combination of EDA and DOL grants to catalyze job creation in the region.</p>	<p>https://www.edweek.org/policy-politics/opinion-sharing-facilities-can-help-students-and-schools/2015/02</p>

<p>Explore creative solutions to address retail gaps (i.e. community co-ops, encouraging residents to start retail businesses), and investigate availability of state incentives to attract desired retail and service options to underserved locations in the region.</p>	<p>EDAs should work with the WV Dept. of Economic Development and localities to initiate a regional retail gap analysis; determine available resources for addressing underserved communities/food deserts; and identify willing partners to lead community involvement in finding creative solutions.</p>	<p>Region 1 PDC/EDAs</p>	<p>Local Governments, WV Dept. of Economic Development</p>	<p>Midterm</p>	<p>N/A</p>	<p>http://uli.org/wp-content/uploads/ULI-Documents/Retail-in-Underserved-Communities.pdf; https://www.ruralhealthinfo.org/topics/food-and-hunger#strategies</p>
<p>Involve major employers/industries in Region 1 in addressing challenges to labor force growth and development such as addiction, lack of access to support services, and barriers to skills development and training. Educate local businesses on how these issues impact workforce and economic development and encourage more private-sector involvement.</p>	<p>EDA & C of C coalition should meet with major employers and other business and industry leaders to discuss ways that the private sector could become more involved in investing in community services, focusing on areas of mutual benefit (reduced crime, more engaged labor force, better quality of life, improved economic conditions, etc.) that come from improving services for vulnerable populations.</p>	<p>Region 1 PDC/EDAs</p>	<p>EDAs, C of Cs, Local Governments, WV Dept. of Health & Human Resources</p>	<p>Midterm</p>	<p>N/A</p>	<p>https://thirdhorizonstrategies.com/promising-solutions-to-address-behavioral-health-workforce-shortages/; https://www.welcoa.org/</p>



Tourism

Tourism is one of the region's major strengths and areas of opportunity. The following sections describe stakeholder feedback around challenges and opportunities surrounding tourism in Region 1, provides a high-level overview of the current hotel and tourist markets, and describes strategies and recommendations for leveraging/maximizing opportunities to increase tourism visitation and spending capture moving forward.

Stakeholder Feedback: Tourism

Weaknesses & Challenges

Stakeholders were generally very positive about tourism opportunities in Region 1; however, some expressed concerns about organizational capacity to adequately leverage the opportunities available in the Region, among other challenges. The major concerns around tourism that were mentioned by multiple stakeholders include the following:

- Region 1's tourism destinations have not historically drawn visitors from farther away; many destinations are mainly attracting residents who live in the region, thus limiting tourism spending and overnight visits in Region 1
- Stakeholders noted a general lack of indoor activities, evening activities, and poor weather activities that might encourage visitors to stay longer
- One key concern for stakeholders was the lack of tourism-supportive businesses, including branded hotels, dining, and retail options
- Broadband and cell network coverage is also a critical issue for attracting tourists/repeat visitors, and can be a significant deterrent for tourists who want to stay longer/work remotely
- Marketing of tourism destinations needs improvement; not enough destinations are "packaged"; people from outside the area aren't aware of all the destinations that are near one another
- Stakeholders felt there was a lack of consistent messaging around tourism in the region, and not enough marketing of tourism destinations in key markets/population centers within a day's drive
- Several stakeholders noted the lack of basic wayfinding signage; connections to/awareness of public transit opportunities may also deter some tourists
- Some stakeholders felt that the opportunities surrounding the New River Gorge becoming a National Park were not being fully leveraged, and could translate into a missed opportunity for tourism/economic development in the region

Strengths & Opportunities

Most of the stakeholders interviewed felt that tourism and outdoor recreation were major opportunity areas for Region 1. Some of the key strengths and opportunities for tourism in Region 1 repeatedly raised by stakeholders included the following:

- The pandemic appears to have increased demand (which shows no signs of abating, even as the pandemic wears on) for outdoor tourism and recreational opportunities in Region 1
- Stakeholders noted a significant increase in trail riders on the Hatfield-McCoy trails since the advent of the pandemic in 2020
- Counties can now levy a 6% tax on vacation rentals (3% to locality, 3% to county CVB) as of January 2021, which provides a much-needed source of revenue for CVBs and local governments
- Again, stakeholders pointed to opportunities for regional cooperation and collaboration among economic development organizations, Chambers of Commerce, public transit authorities, and CVBs to present a more cohesive marketing message to population centers within a day's drive of the region
- Stakeholders were also enthusiastic about the prospect of packaging and marketing multiple tourist destinations together, thus encouraging visitors to stay longer and visit more places
- The National Park designation makes region a national destination, which creates multiple opportunities to encourage visitors who come to visit the Park to stay longer and visit other Region 1 attractions, and therefore spend more money in the community, and perhaps become repeat visitors
- Stakeholders pointed to opportunities for local agricultural operations to capitalize on growing interest in agritourism and the "farm to table" movement
- The increased flexibility of the labor force to "work from anywhere," accelerated by the pandemic, presents major opportunities for Region 1 to attract new full-time or seasonal residents. Especially as broadband & cellular coverage improves in the region, CVBs can market "workcations" and long-term stays for workers who are flexible in where they work
- The growth in tourism in the region presents significant opportunities to re-train/re-skill unemployed and underemployed members of the labor force for tourism-oriented jobs, and/or encourage residents to start new tourism-supportive businesses

Tourism Overview

Located within a day's drive of nearly 100 million people, West Virginia's Region 1 has unique and significantly underleveraged tourism market. Though the tourism industry in West Virginia has been developing over the past decade, there exist opportunities that the region could capitalize on.

EMSI, a proprietary source of economic and labor market data, provides regional productivity for industries at a county level. GRP refers to the total value of goods and services produced in a particular region in a particular year. Using this data, comparisons can be made between West Virginia's tourism productivity and the productivity of nearby areas. To analyze the tourism industry cluster, AECOM combined the statistics for the following industries:

- Sightseeing (Water, Land, and Other)
- Passenger Car Rentals
- Travel Agencies and Tour Operators
- Convention and Visitors Bureaus
- All Other Travel Arrangement and Reservation Services
- Museums and Historical Sites
- Zoos and Botanical Gardens
- Nature Parks and Other Similar Institutions
- Amusement and Theme Parks and Arcades
- Casinos, Casino Hotels, and Other Gambling Industries
- Golf Courses, Country Clubs, and Skiing Facilities
- Hotels, Motels, Bed-and-Breakfast Inns, and All Other Traveler Accommodation
- RV Parks and Campgrounds
- Recreational and Vacation Camps
- Rooming and Boarding Houses, Dormitories

This analysis compares West Virginia's tourism industry to that of neighboring states that are within a one-day drive – Kentucky, Ohio, North Carolina, Pennsylvania, Tennessee, Virginia, Washington DC. Table 50 shows tourism GRPs for these states as well as a total tourism GRP for the combined region. Table 51 shows the contribution of each state as a percent of the combined regional tourism GRP.

Table 50 - Tourism GRP by State, 2010-2020 (\$ Billions)

State	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Kentucky	\$1.00	\$1.03	\$1.11	\$1.18	\$1.28	\$1.33	\$1.44	\$1.47	\$1.53	\$1.66	\$1.38
Ohio	\$3.25	\$3.32	\$3.82	\$4.46	\$4.86	\$5.25	\$5.47	\$5.70	\$5.95	\$6.16	\$5.12
North Carolina	\$3.33	\$3.40	\$3.52	\$3.67	\$4.00	\$4.23	\$4.52	\$4.84	\$5.15	\$5.41	\$4.60
Pennsylvania	\$6.31	\$6.85	\$7.64	\$7.91	\$8.10	\$8.39	\$8.64	\$8.98	\$9.12	\$9.60	\$7.39
Tennessee	\$2.71	\$2.99	\$3.06	\$3.07	\$3.41	\$3.74	\$3.98	\$4.31	\$4.77	\$5.12	\$4.25
Virginia	\$3.96	\$4.03	\$4.14	\$4.32	\$4.54	\$4.90	\$5.14	\$5.25	\$5.34	\$5.59	\$4.37
Washington DC	\$4.44	\$4.60	\$4.78	\$5.00	\$5.29	\$5.72	\$5.96	\$6.60	\$6.84	\$6.98	\$4.82
West Virginia	\$0.99	\$0.97	\$1.04	\$1.08	\$1.05	\$1.12	\$1.09	\$1.10	\$1.10	\$1.14	\$0.94
Total	\$25.99	\$27.19	\$29.11	\$30.69	\$32.54	\$34.68	\$36.24	\$38.25	\$39.80	\$41.67	\$32.87

Source: EMSI, AECOM 2021

Table 51 - Share of Total Regional Tourism GRP by State, 2010-2020

State	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Kentucky	3.8%	3.8%	3.8%	3.9%	3.9%	3.8%	4.0%	3.8%	3.8%	4.0%	4.2%
Ohio	12.5%	12.2%	13.1%	14.5%	14.9%	15.1%	15.1%	14.9%	15.0%	14.8%	15.6%
North Carolina	12.8%	12.5%	12.1%	11.9%	12.3%	12.2%	12.5%	12.6%	12.9%	13.0%	14.0%
Pennsylvania	24.3%	25.2%	26.2%	25.8%	24.9%	24.2%	23.8%	23.5%	22.9%	23.0%	22.5%
Tennessee	10.4%	11.0%	10.5%	10.0%	10.5%	10.8%	11.0%	11.3%	12.0%	12.3%	12.9%
Virginia	15.2%	14.8%	14.2%	14.1%	14.0%	14.1%	14.2%	13.7%	13.4%	13.4%	13.3%
Washington DC	17.1%	16.9%	16.4%	16.3%	16.3%	16.5%	16.4%	17.3%	17.2%	16.8%	14.7%
West Virginia	3.8%	3.6%	3.6%	3.5%	3.2%	3.2%	3.0%	2.9%	2.8%	2.7%	2.8%

Source: EMSI, AECOM 2021

In 2010, the region saw a combined tourism GRP of \$25.99 billion, of which West Virginia accounted for \$990.7 million, or 3.8%. By 2020, the tourism GRP of the region had grown to \$32.87 billion, of which West Virginia accounted for \$936.32 million, or 2.8%. Historically, West Virginia has been capturing the smallest share of the total traveler spending taking place in the region, and this share has gotten smaller over the last decade. 2019 was West Virginia's best year in terms of traveler spending, when its tourism GRP was \$1.14 billion, the highest it has been in the last decade. During this year, however, the combined tourism GRP of the region was also the highest it had ever been — at \$41.6 billion. West Virginia's share of this was just 2.7%, which is the lowest share of the total tourism

GRP of the region the state has had in the last decade. Even though total traveler spending in the region is increasing, West Virginia's share of this tourism has been declining.

West Virginia Tourism Trends

Generally, West Virginia has had lower visitation than competitive states, and tourism was mainly supported by in state and repeat visitors. However, the pandemic put West Virginia on the map as a tourist destination – according to one professional in the industry, “Covid did in one year what 40 years of marketing was unable to”. Region 1's popularity shot up thanks to its small towns, outdoor recreation (Figure 52), road-trip friendliness, lack of crowded spaces, and affordability.

Data provided by Longwoods International, a proprietary source of visitation data, was analyzed to gain a better understanding of visitation to West Virginia. Overnight trips to West Virginia increased from approximately 14.8 million in 2011 to 16.6 million in 2019, equal to a compound annual growth rate (CAGR) of 1.4%. More recently, from 2017 to 2019, overnight visitation increased from 15.7 to 16.6 million visitors, with a CAGR of 2.8%. In 2019, West Virginia had approximately 66.4 million total visitors (day and overnight). Day trips represent about 75% of total trips. Key characteristics for West Virginia overnight person-trips in 2019 included:

- Approximately 90% leisure travelers, with 45% visiting friends and relatives
- Large proportion of visitors with main purpose of leisure trip being touring (10%) and outdoors (9%), both higher than the U.S. average
- Most visitors are from West Virginia (20%), Virginia (13%), Ohio (13%), Pennsylvania (9%), Maryland (6%), and North Carolina (5%)
- Top Designated Market Area (DMA) origins include Washington, DC (11%), Charleston-Huntington, KY/OH/WV (9%), Pittsburg, PA (5%), Beckley-Bluefield-Oak Hill, WV (5%), and Cleveland, OH (5%)
- 20% visitation from January through March, 26% from April to June, 30% July through September, 25% October through December
- 4.0 average nights away on trip, versus 3.8 national average, with 2.5 average nights spent specifically in West Virginia
- 2.8 average travel party size, versus 2.7 national average
- Larger percentage of children in immediate travel party than national average (37% versus 34%)
- Primary method of transportation was overwhelmingly own car/truck (78%), followed by rental car (7%)
- Larger proportion of visitors staying at a home of friends or relatives, in a motel, at a campground / trailer park / RV park, or at a country inn / lodge than national average levels
- Very large amount of repeat visitation; 90% in 2019
- Low level of satisfaction associated with music / nightlife / entertainment options (39%)
- Largest proportion of visitors with household income below \$50k, at 47%

Figure 52 - New River Gorge Bridge



Image Source: https://commons.wikimedia.org/wiki/File:New_River_Gorge_Bridge_West_Virginia_244750516.jpg

Air Passenger Arrivals

Air passenger arrivals across West Virginia generally increased from 2015 to 2019, with a total CAGR of 2.3%. This was mainly supported by a 19.8% CAGR of air passenger arrivals during this timeframe at Greenbrier Valley Airport and 14.8% CAGR at the North Central West Virginia Airport. The State of West Virginia Department of Transportation reported that the coronavirus outbreak continues to have near-term impacts to the aviation industry's passenger volumes. It is estimated that 2019 passenger levels of demand will likely be reached again in 2023 or 2024. Long-term growth in West Virginia remains positive, with an average 2.0% increase in domestic passenger growth from 2020 to 2040. Table 52 summarizes this information.

Table 52 - Passenger Enplanements by Airport, 2015-2020, Region 1, West Virginia

Airport	2015	2016	2017	2018	2019	CAGR	
						(2015 - 2019)	2020
Yeager	225,170	213,412	202,778	216,873	226,834	0.2%	89,512
Tri-State/Milton J Ferguson Field	101,741	98,489	103,724	101,701	108,515	1.6%	58,582
North Central West Virginia	24,087	26,025	25,105	36,917	41,802	14.8%	18,468
Raleigh County Memorial	-	-	-	-	1,769	-	5,002
Greenbrier Valley	6,233	4,965	5,495	10,359	12,858	19.8%	3,995
Morgantown Municipal-Walter L Bill Hart Field	7,163	7,851	5,698	5,890	7,304	0.5%	3,369
Mid-Ohio Valley Regional	4,409	4,170	4,155	3,182	5,247	4.4%	2,944
Total	368,803	354,912	346,955	374,922	404,329	2.3%	181,872

Source: Federal Aviation Administration, AECOM 2021

In stakeholder discussions for Region 1, it was repeatedly mentioned that efficient transportation for visitors from surrounding airports to the region is difficult – both prior to and during the Covid-19 pandemic. There are few public transit options, rental car offerings, and rideshare opportunities.

Lodging Market

Key hotel performance metrics for Region 1 were obtained and reviewed from CoStar (a provider of information, analytics, and marketing services to the commercial property industry) between October 2011 and October 2021. The statistics are summarized in Table 53. Overall, hotel room inventory in Region 1 remained fairly unchanged during recent years before the pandemic (October 2011 through February 2020), with approximately 3,300 total rooms – the largest proportion of rooms were in Raleigh County (61%) and Mercer County (28%). A total of 82 rooms were added in Mercer County and 66 rooms were removed from inventory in Raleigh County over this timeframe – all other counties had no change in room supply. It is important to note that, according to CoStar, there were no hotel properties existing in Monroe County during the timeline reviewed.

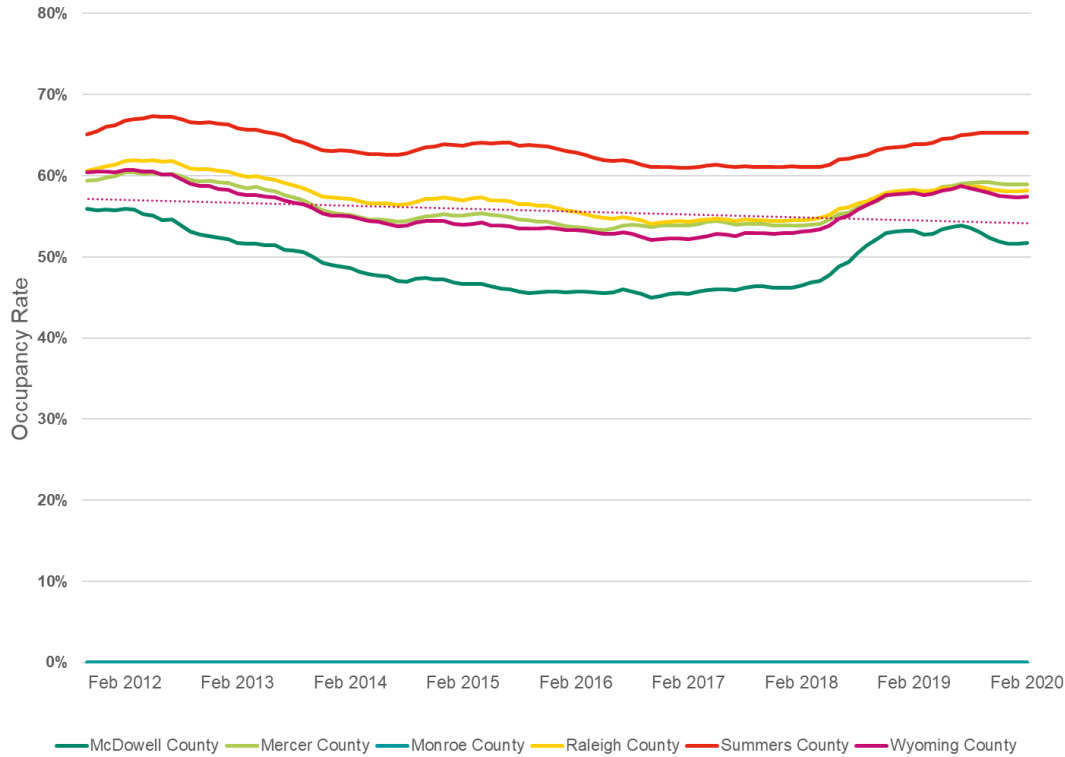
Table 53 - Hotel Room Inventory by County, 2011 October to 2021 October, Region 1, West Virginia

	Inventory (rooms)											% of Total		Change (2011 - 2020)		Change (2020 - 2021)	
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2011	2021	#	%	#	%
	McDowell County	25	25	25	25	25	25	25	25	25	25	25	0.8%	0.8%	0	0.0%	0
Mercer County	905	904	904	904	904	988	988	988	987	987	932	27.7%	28.0%	82	9.1%	-55	-5.6%
Monroe County	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Raleigh County	1,999	1,977	1,976	1,973	1,978	1,978	1,975	1,975	1,973	1,933	2,039	61.2%	61.2%	-66	-3.3%	106	5.5%
Summers County	169	169	169	169	169	169	169	169	169	169	169	5.2%	5.1%	0	0.0%	0	0.0%
Wyoming County	167	167	167	167	167	167	167	167	167	167	167	5.1%	5.0%	0	0.0%	0	0.0%
Total Region 1	3,265	3,242	3,241	3,238	3,243	3,327	3,324	3,324	3,321	3,281	3,332	100.0%	100.0%	16	0.5%	51	1.6%

Source: CoStar, AECOM 2021

As seen in Figure 53, pre-pandemic occupancy rates generally varied by county. McDowell historically had the lowest 12-month average occupancy rates (ranging between about 45% and 56% occupancy) and Summers County had the highest (ranging between 61% and 67% occupancy), with Mercer, Raleigh, and Wyoming counties between. In comparison, West Virginia's 12-month average occupancy rates ranged between 54% and 67% occupancy during this timeframe.

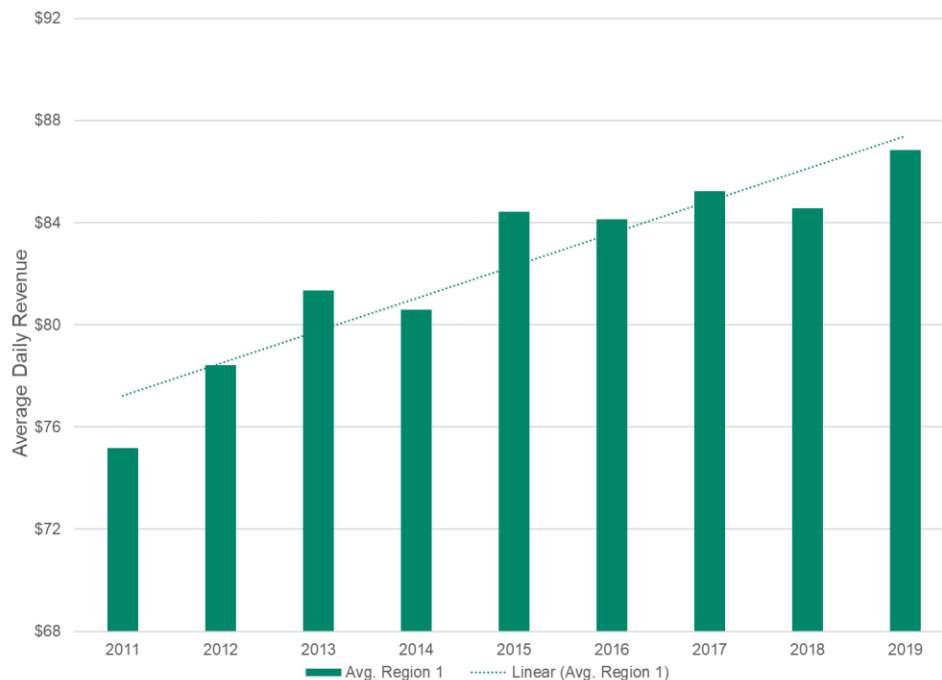
Figure 53 - Occupancy Rates by County, 2011 to 2021, Region 1, West Virginia



Source: CoStar, AECOM 2021

On average across Region 1, pre-pandemic average daily rates (ADRs) generally increased from a low of \$75 in 2011 to a peak of \$87 in 2019. Lower ADRs were typically experienced in McDowell County, with 12-month average ADRs from 2011 to 2019 between \$64 and \$69. Raleigh and Summers counties had much higher ADRs – Raleigh County had 12-month average ADRs from 2011 to 2019 growing from \$80 to \$93, while Summers County had ADRs growing from \$84 to \$100. In comparison, as Figure 54 shows, West Virginia’s 12-month average ADR ranged between \$81 and \$97 during this timeframe.

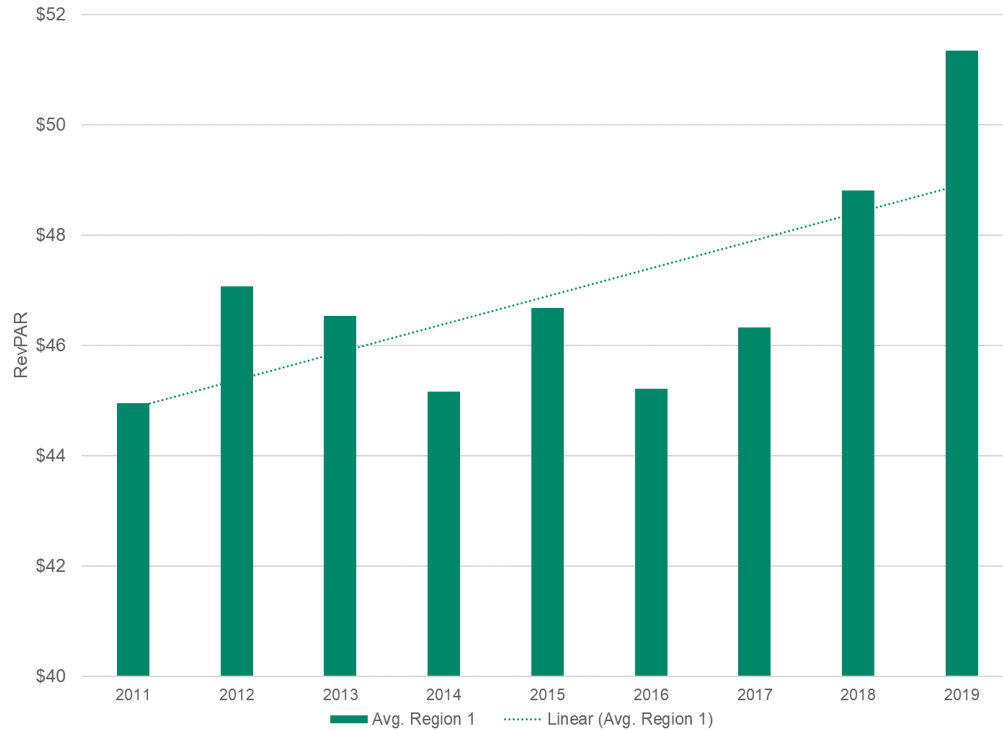
Figure 54 - 12-Month Average Daily Revenue, 2011 to 2021, Region 1, West Virginia



Source: CoStar, AECOM 2021

Figure 55 shows that average revenue per available room (RevPAR) generally fluctuated across Region 1 between 2011 and 2019, from lows of \$45 in 2011, 2014, and 2016, to a high of \$51 in 2019. Lower RevPAR was typically experienced in McDowell County, with 12-month average RevPAR from 2011 to 2019 between \$31 and \$36. Summers County had significantly higher 12-month average RevPAR, growing from \$55 in 2011 to \$66 in 2019. In comparison, West Virginia's 12-month average RevPAR ranged between \$50 and \$60.

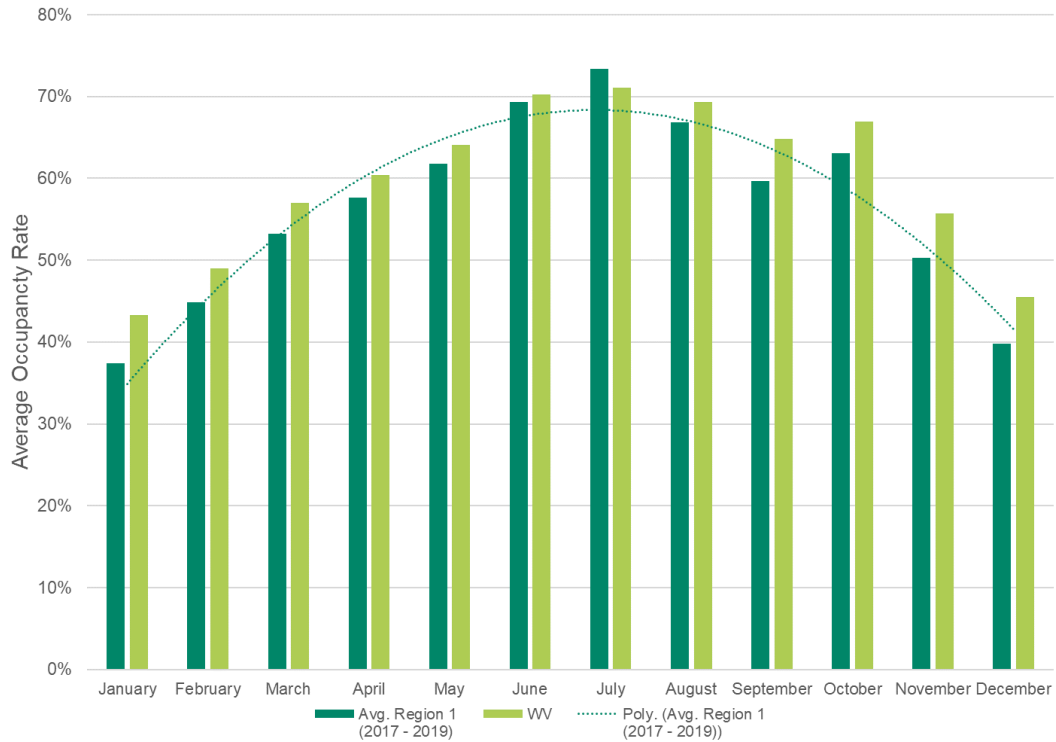
Figure 55 - 12-Month Revenue Per Available Room, 2011 to 2021, Region 1, West Virginia



Source: CoStar, AECOM 2021

Using hotel occupancy data from 2017 to 2019 as a proxy for seasonality, Region 1 typically experiences peaks in the summer months of June, July, and August, with lower levels of occupancy in the winter months of December, January, and February. This generally mimics seasonality for all of West Virginia, as seen in Figure 56.

Figure 56 - Average Occupancy Rate by Month, 2017 to 2019, Region 1, West Virginia

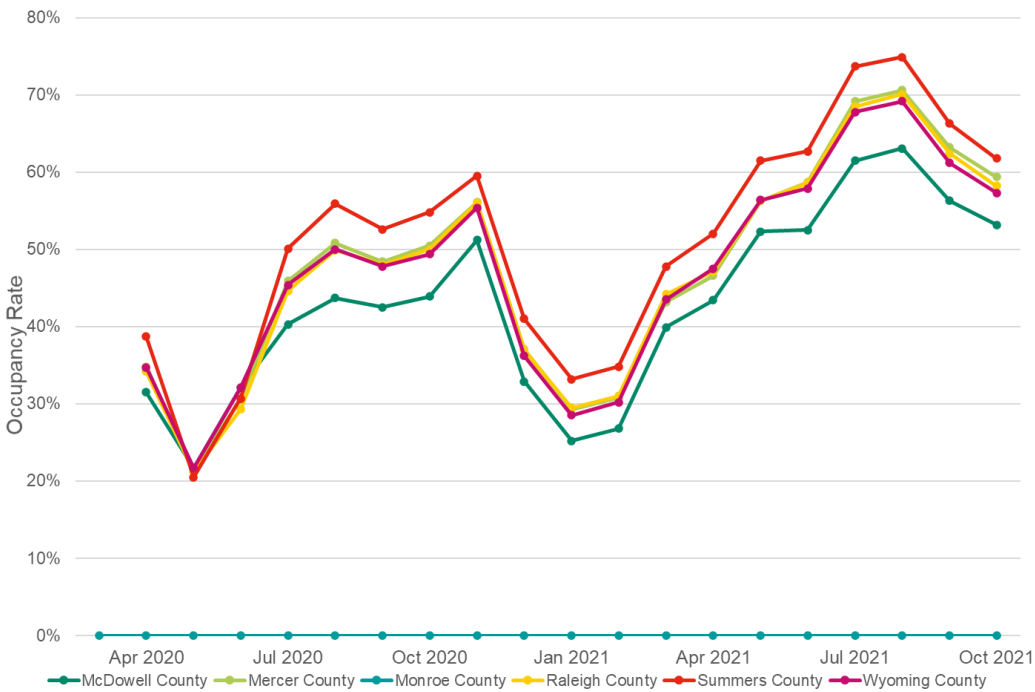


Source: CoStar, AECOM 2021

Hotel Market: Covid-19 Impact

When the Covid-19 pandemic hit in March 2020, all Region 1 counties began to experience great fluctuation in key hotel metrics. Between March 2020 and October 2021, 55 rooms were removed from inventory in Mercer County, while 68 rooms were added in Raleigh County. Total hotel room count in Region 1 increased slightly from 3,319 in March 2020 to 3,332 in October 2021. In May 2020, occupancy rates plummeted to lows near 20% across Region 1 (Figure 57). Then, come late spring 2021, when government mandates and restrictions were more lifted, occupancy drastically increased, reaching peak performance in August 2021, with rates between 63% and 75% seen across the counties – record highs for these areas.

Figure 57 - Occupancy Rate Since March 2020, Region 1, West Virginia



Source: CoStar, AECOM 2021

Average daily rates fell in 2020 across Region 1. During the early months of Covid-19, March through June 2020 primarily, rates plummeted relative to recent levels. In summer of 2020, rates increased a bit as restrictions started to be lifted and more people began traveling. In the early months of 2021, ADRs saw another downturn, possibly due to general seasonality and increased caution of Covid post-holiday season. A rebound started in 2021, when restrictions became much looser – ADRs were back up closer to 2017 and 2018 levels, yet still beneath peak 2019 rates.

RevPAR decreased drastically across Region 1 in 2020, reaching recent historic lows. The average 12-month RevPAR for the Region went from a high of \$51 in 2019 to \$35 in 2020. There has been little recovery back to historic levels since – in 2021, the 12-month average RevPAR for Region 1 was \$44, versus the pre-pandemic low of \$45 experienced in 2011, 2014, and 2016.

Vacation Rentals and Other Lodging Markets

The vacation rental market in Region 1 is well-established and continues to grow. Airbnb, Vrbo, and other rental companies (both large and small) have had a noticeable presence in the area over recent years. Cabin rentals, campsites, and RV properties are also abundant. Due to the somewhat off-grid nature of the tourist destinations and popular activities in Region 1, these less traditional types of accommodations have proven to work well, allowing visitors easy access to outdoor living and experiences.

According to AirDNA, a short-term rental analytics firm, there are approximately 2,800 active short-term rentals in West Virginia. Region 1 represents about 3% of the stock, with almost 100 properties. The average short-term rental property in Region 1 has 2.5 bedrooms and can accommodate 7.3 guests. The average ADR is \$161, with average occupancy of 60%, and median monthly revenue of \$2,375. By comparison, Region 1 offers slightly larger accommodations versus the general average for all properties in West Virginia – average rental size of 2.3 bedrooms, with 6.1 average guests. On the whole, the average short-term rental in West Virginia achieves higher ADR (\$179), higher occupancy (66%), and higher median monthly revenue (\$2,867) than Region 1 specifically.

According to industry stakeholders, performance at vacation rental and other non-traditional-hotel accommodations was generally stagnant over recent years, pre-pandemic. The market typically saw many repeat visitors, but no substantial increases in visitation year-over-year. Performance indicators bettered during the warmer months, in line with increased outdoor activity participation. With the onset of the Covid-19 global pandemic, the demand and preference for more space, outdoor recreation, and less-crowded towns dramatically increased. Region 1's more quaint and remote accommodation offerings became progressively more valuable. According to travel professionals in the market, vacation rental options saw an extreme uptick in demand, considerably above historic peak levels. Occupancy and pricing went up significantly across the region.

Attractions and Experiences

Region 1 has historically been known for its outdoor activities and connection with its mining past. Possibly the most recognized in Region 1 are the Hatfield-McCoy trail system, which reaches into Wyoming, McDowell, and Mercer counties and the New River Gorge National Park and Preserve, in Raleigh and Summers counties. Agritourism is also a focus in the region. There are generally few commercial attractions in comparison to more developed tourist destinations. The region also lacks a variety of indoor, poor-weather, and evening attractions or experiences.

McDowell County

McDowell County was historically the largest coal producing county in the world and is recognized as a historic district diverse in architecture and cultural styles. There are two main off-road systems (Indian Ridge Trail System and the Warrior Trail System). Bow hunting is also popular.

Mercer County

Mercer County was once the financial hub and rail depot for the coalfields. The area is now known for its hunting, fishing, mountain biking, hiking, skiing, ATV riding, and state parks (Camp Creek and Pinnacle Rock). To highlight its regional history, there are the Princeton Railroad Museum, the Vietnam Memorial, and the Mercer County War Museum.

Monroe County

Monroe County is known for its rural farm country and access to the Appalachian Trail. It also has the Allegheny Trails, George Washington and Jefferson National Forests, Moncove Lake State Park, and the Hanging Rock Observatory.

Raleigh County

Raleigh County is home to Beckley, “The City with a Mine of Its Own”, with the Beckley Exhibition Coal Mine tour and experience, that was newly expanded. Raleigh also offers several parks and lakes, including Little Beaver State Park where there is fishing, camping, paddle boating, Lake Stephens, and access to the New River Gorge National River and Grandview Park. Winterplace Ski Resort is located in Raleigh County.

Summers County

Summers County has three rivers – the New, Bluestone, and Greenbrier. The area is known of its fishing, hiking, horseback riding, and other outdoor activities. There is also Pipestem Resort State Park and Bluestone State Park. Summers County has several museums, including Graham House, the Veteran’s Museum, Bluestone Museum, Railroad Museum, and the Flannigan Murrell House.

Wyoming County

Wyoming County is known for its coal mining heritage. It offers a variety of outdoor activities such as fishing, hunting, hiking, biking, and trails for off-road vehicles. There is also Twin Falls Resort State Park, R.D. Bailey Lake, and the Hatfield McCoy Trails.

Year-Round Tourist Destination Examples

Region 1 operates as a year-round tourist destination given its wide range of outdoor activities perfect for warmer weather – hiking, rafting, ATV riding, etc. – then also its ski mountain experiences for colder months. However, in comparison to tourist destinations even more geared towards year-round visitation, there are opportunities for growth for Region 1.

Wisconsin Dells, in southern Wisconsin, is a great example of a year-round tourist destination that experiences all four seasons. The region was once known for lumbering, was quite rural, and the Wisconsin River flows through. Due to the scenery provided by the dells of the Wisconsin River, the area became a popular travel destination in the Midwest. Beyond the popular boating, hiking, winery tastings, amusement parks, and outdoor water parks in warmer months, the region is home to a number of indoor gaming attractions, theaters, museums, and indoor water park resorts. Today, Wisconsin Dells is widely recognized as “The Waterpark Capital of the World”. The area hosts more than four million visitors annually, with an estimated visitor spending direct impact of \$1.21 billion in 2019, and total state government generated revenues of \$46.4 million, with local government revenues of \$53.5 million.

Colorado Springs, Colorado, is another example of a year-round tourist destination. It offers a range of indoor and outdoor, family-friendly, and cultural activities. There is the Garden of the Gods, Cheyenne Mountain Zoo, Broadmoor Destination Resort, Cave of the Winds Mountain Park, Pikes Peak, and many more attractions. Another advantage of this area is its proximity to the Rocky Mountains, for colder-weather activities such as skiing, snowshoeing, snowmobiling, etc. The Pikes Peak region welcomes approximately 23 million visitors annually, with about \$2.4 billion in visitor spending, and over \$100 million in local tax receipts. Visit Colorado Springs estimates direct economic impact of approximately \$200 million per year from tourism.

Tourism Recommendations & Strategies

Strategy	Next Steps	Strategy Lead	Partners	Timeframe	Funding Opportunities	Additional Resources
Work with municipalities and the State to encourage the adoption of Main Street Programs in appropriate locations that foster downtown revitalization, attract tourism spending, incubate local businesses, and provide more diverse retail, dining, and service options for residents, as well as more diverse housing options. Opportunities should be given to educational institutions to open downtown satellite campuses and business incubator/workforce development centers.	Work with localities to identify priority candidates for Main Street programs; work with WV Dept. of Economic Development to connect interested communities with technical support and available resources. Involve CVBs where feasible, to ensure that Main Street efforts are adequately publicized and promoted to tourists.	Region 1 PDC/EDAs	Local Governments, CVBs, WV Dept. of Economic Development, National Trust Main Street Program	Midterm	Multitude of small-business support programs are available that can incentivize local businesses to diversify and expand.	https://www.mainstreet.org/home ; https://westvirginia.gov/ ; https://www.mainstreet.org/howwecanhelp/resourcecenter/mainstreetforward/fundingopportunities
Encourage CVBs to partner with local transit authorities to ensure that public transit routes are serving major tourist destinations in the region, and that transit services are well-advertised to tourists & included as part of regional tourism packages.	Convene working group of representatives from CVBs, local transit authorities, and WV Transit to discuss how to better align transit offerings with tourist demand, and how CVBs can more heavily advertise/promote available transit routes. Explore feasibility of establishing new routes/circuits that incorporate major tourism destinations, either seasonally or year-round, depending on what is feasible.	FRMPO	CVBs, Local Transit Authorities, WV Transit	Ongoing	EDA Travel, Tourism & Outdoor Recreation Program Grant (non-competitive and competitive)	https://wvtransit.com/ ; https://www.oecd.org/industry/tourism/2016%20-%20Policy%20paper%20on%20Intermodal%20Connectivity%20for%20Destinations.pdf ; https://eda.gov/arpa/travel-tourism/
Work with local businesses to "package" tourism destinations together, offer discounts at hotels and restaurants, and incentivize tourists to visit multiple destinations in the region and extend their length of stay	Convene Region 1 CVBs to coordinate outreach to local tourist destinations; educate local businesses on the advantages of packaging/discounts, and identify organizations/websites responsible for coordinating, selling, and promoting tourism packages.	Region 1 PDC	CVBs, C of Cs, WV Division of Tourism	Short-term	EDA Travel, Tourism & Outdoor Recreation Program Grant (non-competitive and competitive) (https://eda.gov/arpa/travel-tourism/)	https://wvtourism.com/ ; https://www.tourismtribe.com/6-steps-to-creating-great-travel-packages/ ; https://scholarworks.umas.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1507&context=tra ; https://eda.gov/arpa/travel-tourism/

<p>Offer technical support and assistance to localities to ensure they are collecting 6% vacation rental tax and other applicable taxes to support CVBs and broader tourism initiatives</p>	<p>Connect localities with WV State Tax Dept. to ensure compliance and assistance with managing local taxation and budgetary processes</p>	<p>Region 1 PDC</p>	<p>Local Governments, WV State Tax Dept.</p>	<p>Ongoing</p>	<p>EDA Travel, Tourism & Outdoor Recreation Program Grant (non-competitive and competitive) (https://eda.gov/arpa/travel-tourism/)</p>	<p>https://tax.wv.gov/Pages/default.aspx; https://eda.gov/arpa/travel-tourism/</p>
<p>Foster cooperation and collaboration among CVBs on regional branding and marketing initiatives. Work to ensure that advertising campaigns are reaching major population centers within a day's drive/short flight of West Virginia. Leverage state research on tourism and visitor profiles to ensure that advertising is reaching key demographics (i.e., markets that spend more heavily on outdoor recreation/rural destinations)</p>	<p>Convene Region 1 CVBs to agree on a cohesive marketing strategy; appoint leaders from each CVB to take responsibility for/ownership of broadcasting strategy in key target markets within a day's drive; seek technical and marketing assistance from WV Tourism.</p>	<p>Region 1 PDC</p>	<p>CVBs, WV Division of Tourism</p>	<p>Ongoing</p>	<p>EDA Travel, Tourism & Outdoor Recreation Program Grant (non-competitive and competitive) (https://eda.gov/arpa/travel-tourism/)</p>	<p>https://wvtourism.com/; https://www.mpi.org/blog/article/successful-cvb-marketing-involves-experiential-offerings; https://eda.gov/arpa/travel-tourism/</p>
<p>Leverage new National Park designation to tap into additional sources of funding and incentives and take advantage of statewide marketing campaigns; leverage publicity surrounding New River Gorge National Park to promote lesser-known attractions in the Region - again, consider "packages" that include National Park as well as smaller local destinations.</p>	<p>Connect New River Gorge CVB, Raleigh County, and Summers County with representatives from WV Tourism and National Park service to ensure no funds are "left on the table."</p>	<p>Region 1 PDC/New River Gorge CVB</p>	<p>Other CVBs, WV Division of Tourism</p>	<p>Short-term</p>	<p>EDA Travel, Tourism & Outdoor Recreation Program Grant (non-competitive and competitive) (https://eda.gov/arpa/travel-tourism/)</p>	<p>https://wvtourism.com/; https://www.nps.gov/articles/community-assistance-national-regional-programs.htm; https://eda.gov/arpa/travel-tourism/</p>

<p>Incentivize the development of more tourism-supportive infrastructure (hotels, restaurants, resorts, indoor/outdoor destinations with longer operating seasons) in proximity to major tourist destinations throughout the region that cater to key visitor demographics. Leverage State research to understand spending patterns and preferences of tourists most likely to be drawn to outdoor recreational destinations. Support programs that offer workforce training for unemployed and underemployed residents for tourism-oriented industries, such as Food & Beverage, Hospitality, and Retail/Services.</p>	<p>Work with EDAs and localities to connect local residents interested in establishing restaurants, specialty stores, hotels/bed and breakfasts, etc. with funding and technical resources. Work with the WV Department of Economic Development and WV Division of Tourism to attract resort and specialty attraction owners/operators to the region by advertising ready workforce, affordable land prices, state incentive packages, etc.</p>	<p>Region 1/EDAs</p>	<p>Local Governments, CVBs, WV Dept. of Economic Development, WV Division of Tourism</p>	<p>Midterm</p>	<p>EDA Travel, Tourism & Outdoor Recreation Program Grant (non-competitive and competitive) (https://eda.gov/arpa/travel-tourism/)</p>	<p>https://wvtourism.com/; https://westvirginia.gov/; https://eda.gov/arpa/travel-tourism/</p>
<p>Leverage outdoor recreational opportunities to attract remote workers (either permanently or on a long-term basis/for "workations"), and major employers looking for headquarters locations with a strong outdoor recreation/quality of life component.</p>	<p>Work with EDAs, CVBs, the WV Division of Tourism, and the WV Department of Economic Development to aggressively promote and market Region 1 as a destination for remote workers, either for "workations" or year-round living.</p>	<p>Region 1/EDAs</p>	<p>Local Governments, CVBs, WV Dept. of Economic Development, WV Division of Tourism</p>	<p>Short-term</p>	<p>EDA Travel, Tourism & Outdoor Recreation Program Grant (non-competitive and competitive) (https://eda.gov/arpa/travel-tourism/)</p>	<p>https://ascendwv.com/; https://www.economicmodeling.com/attract-and-retain-remote-workers/; https://eda.gov/arpa/travel-tourism/</p>
<p>Work to encourage agricultural operations in the Region (especially smaller and mid-size operations) to consider offering agrotourism packages that include hosting overnight guests, farming "experiences," and on-site dining/markets. Strengthen and support "farm to table" pipeline for Region 1 farms and the surrounding areas, especially major tourism destinations and resorts, and assist with advertising/marketing to better publicize unique agricultural products.</p>	<p>Work with local EDAs, the WV Dept. of Agriculture, WVU Ag. Extensions, and the WV Dept. of Economic Development to offer workshops, technical assistance, and funding for agricultural operations in the Region on retrofitting working farms to support agrotourism.</p>	<p>Region 1/EDAs</p>	<p>WV Dept. of Agriculture, WVU, WV Dept. of Economic Development</p>	<p>Midterm</p>	<p>EDA Travel, Tourism & Outdoor Recreation Program Grant (non-competitive and competitive) (https://eda.gov/arpa/travel-tourism/)</p>	<p>https://agriculture.wv.gov/; ; https://extension.wvu.edu/; ; https://eda.gov/arpa/travel-tourism/</p>

Conclusion

The planning process for Region 1's Roadmap for Economic Recovery relied on extensive stakeholder engagement and detailed analysis of industry trends, demographic metrics, and broader equity measures. The analysis of existing conditions and future trends reinforced local consequences of structural shifts across retail and e-commerce, broader energy transitions and efforts to de-carbonize, growth in advanced manufacturing, capacity of innovation ecosystems to support job growth, and emerging connections between economic development and housing. The analysis also speaks to emerging industry and supply chain diversification opportunities, and opportunities to attract remote workers in context with broader tourism opportunities, which surround West Virginia across the Piedmont, Northeast Corridor, and Midwest.

As an impetus for recession, Covid-19 has been unique, with initial ripple effects which brought the entirety of the world economy to an effective standstill by April of 2020. For West Virginia and Region 1, while the initial impacts were less severe compared to national averages, our experience reinforces the need to balance the extent to which pre-existing structural trends re-emerge and accelerate post-Covid, or whether short-term trends due to Covid strengthen and dictate different future trajectories.

This effort is unfolding at a unique moment in time for the six counties which make up the Region 1 PDC, with principal challenges being linked to pre-existing structural trends:

- Need for industry diversification beyond coal, leveraging opportunities connected to shale gas and other advanced manufacturing sectors.
- Need for deliberate tourism strategies to better-penetrate a regional market of more than 100 million residents
- Resiliency challenges created by major flooding events (2016)
- Persistent challenges across housing availability and affordability.
- Limited resources across rural areas to invest in transformative infrastructure, considering “ready-to-go” sites, broadband and cell service, and road & rail infrastructure
- A broader trajectory of population decline connected to workforce constraints, perhaps connected to housing reinvestment challenges.

The analysis has also reinforced opportunities and strengths linked to emerging industry sectors, a supportive 2/4-year college environment, and expanded tourism linked in part to the New River Gorge National Park designation. Project outcomes point to actionable strategies and next steps to support both short-term recovery and mid-term diversification, factoring in opportunities to develop more resilient infrastructure, a more diverse economic base (which increasingly includes tourism and its supporting industries, as well as oil & natural gas development, manufacturing, forestry, and other developing industries), more plentiful, higher quality workforce housing, and essential services and amenities supporting a high quality of life for all residents.

Appendix A – Industry Cluster Definitions

Administrative Services	Office management and corporate headquarter services
Agriculture & Related	Animal or crop farming, logging, nurseries, fishing, and hunting
Alternative Energy	Non-petroleum/coal/gas sources of energy
Animal Health	Veterinarians and animal drug companies
Automotive	Processes between design and sale of motor vehicles.
Beverage	Beverage manufacturing
Coal Mining and Support Services	Coal mining and extraction processes, and supporting services
Chemical Manufacturing	Manufacturing of industrial chemicals.
Civic	Non-profits and other civic groups (public spaces, faith spaces, etc.).
Construction Contractors	Specialty construction workers, for example flooring contractors
Education	Schools and universities, public and private
Electronics Manufacturing	Electronics manufacturing.
Entertainment	Arts, Theater, Music, Fitness
Federal Civilian	Federal employment, non-military
Federal Military	Federal employment, military
Finance / Insurance	Finance and insurance services
Food	Food manufacturing and related activities, food wholesale and food retail
Food Services	Restaurants and other food services
Heavy Construction	Non-residential construction
Human Health	Hospitals and pharmaceuticals
IT / Software	IT, computer support, telecommunications
Machinery Manufacturing	Manufacturing of machinery.
Media	Newspapers, radio, other media
Medical Manufacturing	Manufacturing of equipment for therapeutics, monitoring, diagnosis.
Metal Manufacturing	Metal and metal product manufacturing
Mineral Product Manufacturing	Manufacturing from mineral based products (e.g., zinc, clay)
Mining	Extraction of coal/other minerals from mines.
Miscellaneous Manufacturing	Other manufacturing not included in list.
Oil & Gas Downstream	Manufacturing from processed petroleum or support services for oil and gas.
Oil and Gas Midstream	Process related to transportation and storage of oil and gas.
Oil & Gas Upstream	Oil and gas extraction and related activities
Other	Other industries not included elsewhere
Plastic / Rubber Manufacturing	Plastic and rubber product manufacturing
Professional Services	Professional services not included in other clusters (e.g., pure engineering)
Regional HQ	Offices of bank-holding and other holding companies, as well as corporate, subsidiary, and regional managing offices.
Rental/Leasing	Rental and leasing services
Research	Research and development (R&D) services
Residential Construction	Home construction
Retail	Other retail, outside of food cluster
Retail Services	Other services involved in the retail process.
Sensors & Instruments	Sensor and precision instrument manufacturing
State & Local Govt	State & local government employment
Support Services	Other support services (e.g., hair stylists)
Textile Manufacturing	Textile manufacturing
Tobacco	Tobacco manufacturing
Tourism	Tourism and hospitality industries (e.g., hotels, travel agents)
Transportation Manufacturing	Transportation equipment manufacturing (e.g., car manufacturing)
Transportation Services	Transportation services (e.g., air transportation)

Utilities	Utilities - water, gas, electric
Wholesale & Distribution	Other wholesale and logistics
Wood Product Manufacturing	Wood product manufacturing

Source: AECOM2021

Appendix B – WVCAD-Managed Programs

Program	Description	Average Annual Funding
Appalachian Regional Commission Federal Grant Programs (ARC)	ARC is a federal economic development agency that provides funding to West Virginia and 12 other states. The goal of ARC is to create opportunities for self-sustaining economic development and improved quality of life by providing grants for economic and community development projects. The majority of ARC funding in West Virginia is used for infrastructure projects (water, sewer, storm water, and broadband). Projects benefiting ARC-designated distressed counties in the state receive highest priority.	\$ 8,000,000
Community Development Block Grant (CDBG)	Administered by the U.S. Department of Housing and Urban Development, CDBG has the objective to develop sustainable satisfactory communities by providing decent housing, a suitable living environment and expanded economic opportunity (principally for persons of low to moderate income). CDBG- funding is used for infrastructure development, public facilities, demolition, and planning. Currently there are 47 infrastructure projects throughout the state which represents an investment of approximately \$50 million worth investment in infrastructure improvements.	\$14,258,806
Land and Water Conservation Fund (LWCF)	The Land and Water Conservation Fund (LWCF) is a state and federal partnership program for the state. It is a community outdoor recreation development and open space preservation. LWCF grants are available on a competitive application to state agencies, political subdivisions of the state, and independent park boards.	\$520,000
Weatherization Assistance Program (WAP)	The United States Department of Energy's (DOE) Weatherization Assistance Program (WAP) was created in 1976 to assist low-income families who lacked resources to invest in energy efficiency. The WAP mission is to reduce energy costs for low-income families, particularly for the elderly, people with disabilities, and children, by improving the energy efficiency of their homes while ensuring their health and safety.	\$3,158,033 (Program Year 2016-2017)
Community Development Block Grant – Disaster	The programs funded through the CDBG-DR award will address the State's unmet housing, infrastructure, planning, and economic development needs as allowable under the program requirements. West Virginia's CDBG-	\$149,875,000 (one-time allocation)
Recovery (CDBG-DR)	DR program primarily funds housing recovery, however approximately \$12 million has been allocated as a local match for FEMA's Hazard Mitigation Grant Program (HMGP).	

Source: State of West Virginia CDBG-MIT Action Plan, 2020

Appendix C – General Limiting Conditions

Deliverables and portions thereof shall be subject to the following General Limiting Conditions:

AECOM devoted the level of effort consistent with (i) the level of diligence ordinarily exercised by competent professionals practicing in the area under the same or similar circumstances, and (ii) consistent with the time and budget available for the Services to develop the Deliverables. The Deliverables are based on estimates, assumptions, information developed by AECOM from its independent research effort, general knowledge of the industry, and information provided by and consultations with Client and Client's representatives. No responsibility is assumed for inaccuracies in data provided by the Client, the Client's representatives, or any third-party data source used in preparing or presenting the Deliverables. AECOM assumes no duty to update the information contained in the Deliverables unless such additional services are separately retained pursuant to a written agreement signed by AECOM and Client.

AECOM's findings represent its professional judgment. Neither AECOM nor its parent corporations, nor their respective affiliates or subsidiaries ("AECOM Entities") make any warranty or guarantee, expressed or implied, with respect to any information or methods contained in or used to produce the Deliverables.

The Deliverables shall not be used in conjunction with any public or private offering of securities, debt, equity, or other similar purpose where it may be relied upon to any degree by any person other than the Client. The Deliverables shall not be used for purposes other than those for which they were prepared or for which prior written consent has been obtained from AECOM.

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