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# **Economic Implications Related to Completion of the Coalfields Expressway**

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## **Final Report**

**Prepared by:**

**Dr. Calvin A. Kent  
Kent N. Sowards**

**Center for Business and  
Economic Research  
Marshall University  
One John Marshall Drive  
Huntington, WV 25755**



**Prepared for:**  
**Coalfields Expressway Authority**

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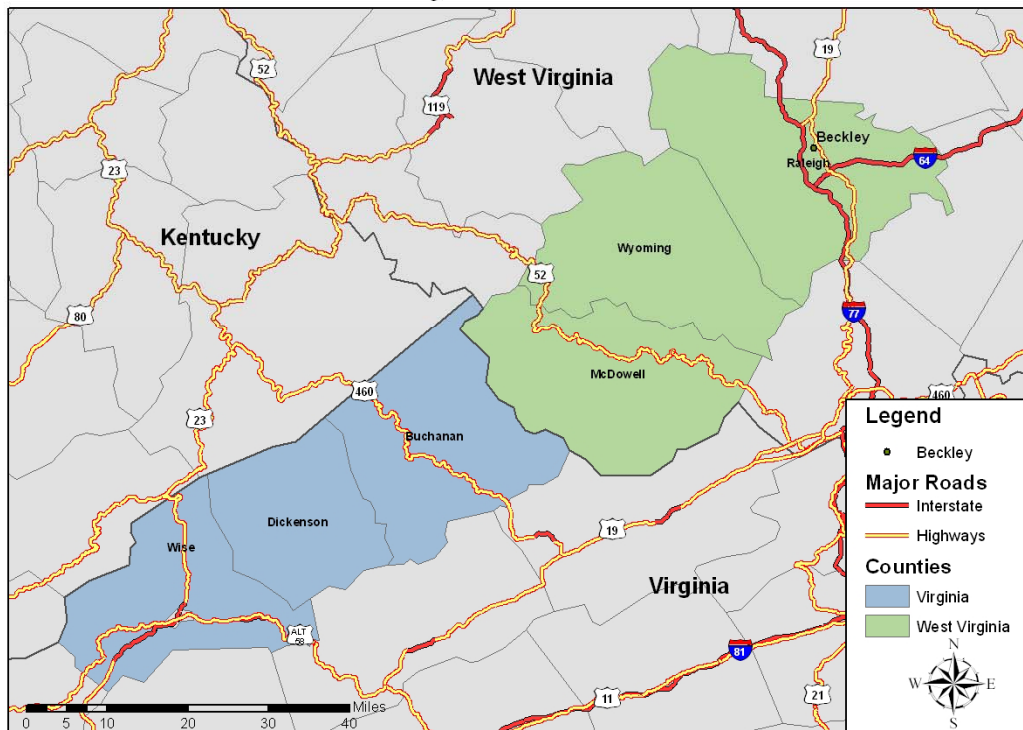
# Economic Implications Related to Completion of the Coalfields Expressway

## Background

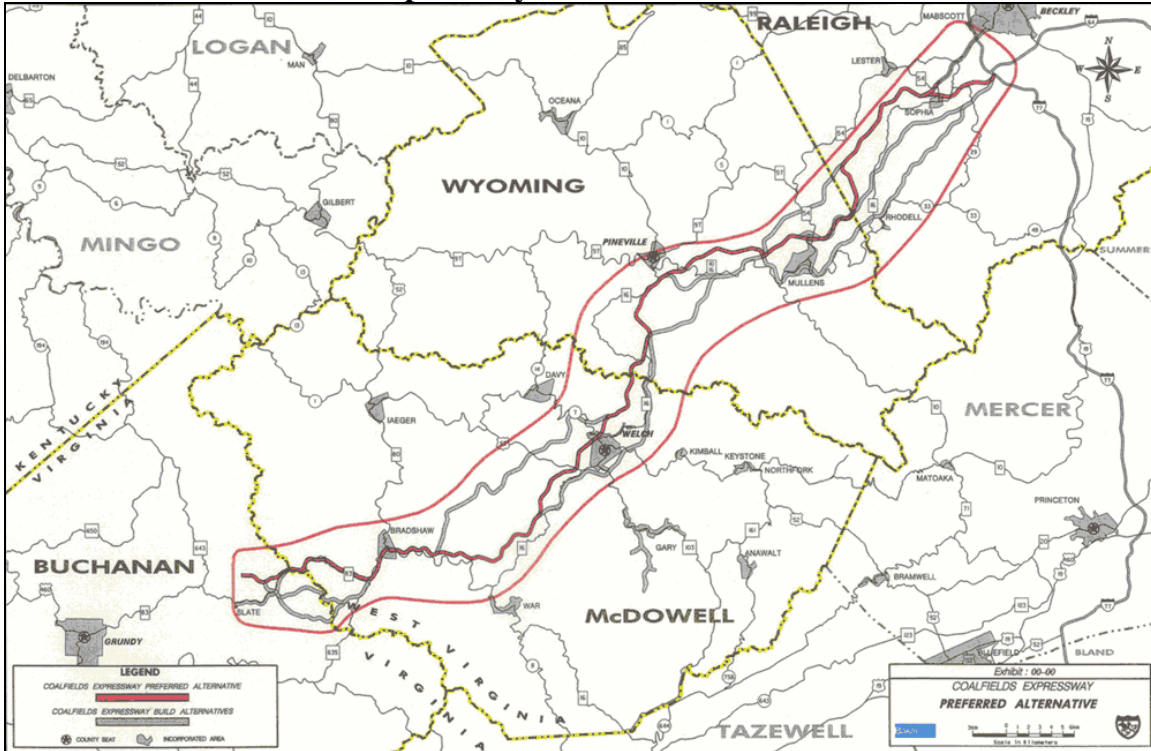
Since 1989 there has been significant activity to develop the “Coalfields Expressway” designated as U.S. 121. The Expressway is to be a four-lane, restricted-access controlled, divided lane highway running 60 miles from Beckley, West Virginia in Raleigh County through Wyoming and McDowell Counties to Pound in Wise County, Virginia for a another 52 miles for a total length of 112 miles. A map of the Coalfields Expressway Counties is provided in Figure I-A. Proposed Routes for the Expressway are provided in Figure I-B. This study covers all portions of the proposed U.S. 121 in West Virginia and Virginia. This includes Raleigh, McDowell and Wyoming counties in West Virginia and Wise, Buchanan and Dickenson Counties in Virginia.

Figure I-A

Coalfields Expressway  
Study Area Counties



**Figure I-B  
Coalfields Expressway Preferred Route Alternatives**



Source: Coalfields Expressway  
<http://www.coalfieldsexpressway.com/>

The Coalfields Expressway would pass through some of the most rugged terrain in the nation. It is designed to follow the ridge lines of the mountains. Basically, it follows the paths of WV routes 16 and 83 which consist of hazardous curves and steep grades. On routes 16 and 83 there is a high incidence of coal truck travel with significant portions restricted as “No Passing” zones. In addition, the highways pass through several small towns. These conditions increase travel time and restrict access both for those living in the region served by existing highways and for those who wish to travel through the area or locate there. These conditions create significant safety problems.

The Coalfields Expressway provides access at Beckley to I-64 going from East to West across West Virginia and to I-77 going from North to South across the State. These Interstate highways provide access to almost the entire Mid-western, Mid-Atlantic and Southern States of the U.S. At Beckley, the Coalfields Expressway connects to I-64 and I-77. The highway also provides a link to a few miles north of the I-64 / I-77 connection to Corridor L/U.S. 19 which is a four-lane, controlled limited access highway leading to the central tourist areas of the State. As the highway traverses into Virginia, it intersects Corridor Q/U.S. 460 near Grundy, VA, which in turn connects to I-77 at Bluefield, WV. At its southern terminus, it connects to Corridor B/U.S. Route 23, providing linkage to the tri-cities area of Virginia and Tennessee.

It will be several years before the TOLSIA/King Coal Highway from Huntington, WV (where it intersects I-64) to northeast of Bluefield, WV (where it intersects with I-77) is complete. The TOLSIA/King Coal Highway will connect Williamson, Gilbert and Welch in West Virginia with the Interstate network. When complete, it will intersect the Coalfields Expressway near Welch, WV. Highway planners feel that will substantially reduce the North-South travel time from Columbus OH to cities in Virginia. The Coalfields Expressway will be an important part of this transportation network.

Selected portions of the Coalfields Expressway have already been completed, but most have not. The Virginia Department of Transportation has plans to complete its portion of the Expressway ending at the West Virginia State line.

### **Purpose of this Study**

This study provides insights as to the potential economic impact of completion of the Coalfields Expressway. The study consists of the following investigations.

- Description of the baseline economic conditions and trends of the region to the served by the Coalfields Expressway.
- Highlights of the factors which relate to economic development of a region as they pertain to the Coalfields Expressway counties.
- Discussion of the economic impacts associated with completion of the Coalfields Expressway including a quasi-experimental shift-share analysis of the benefits of the project.
- Outline considerations for public policies to maximize the benefits of the Coalfields expressway

### **Baseline Economic Data**

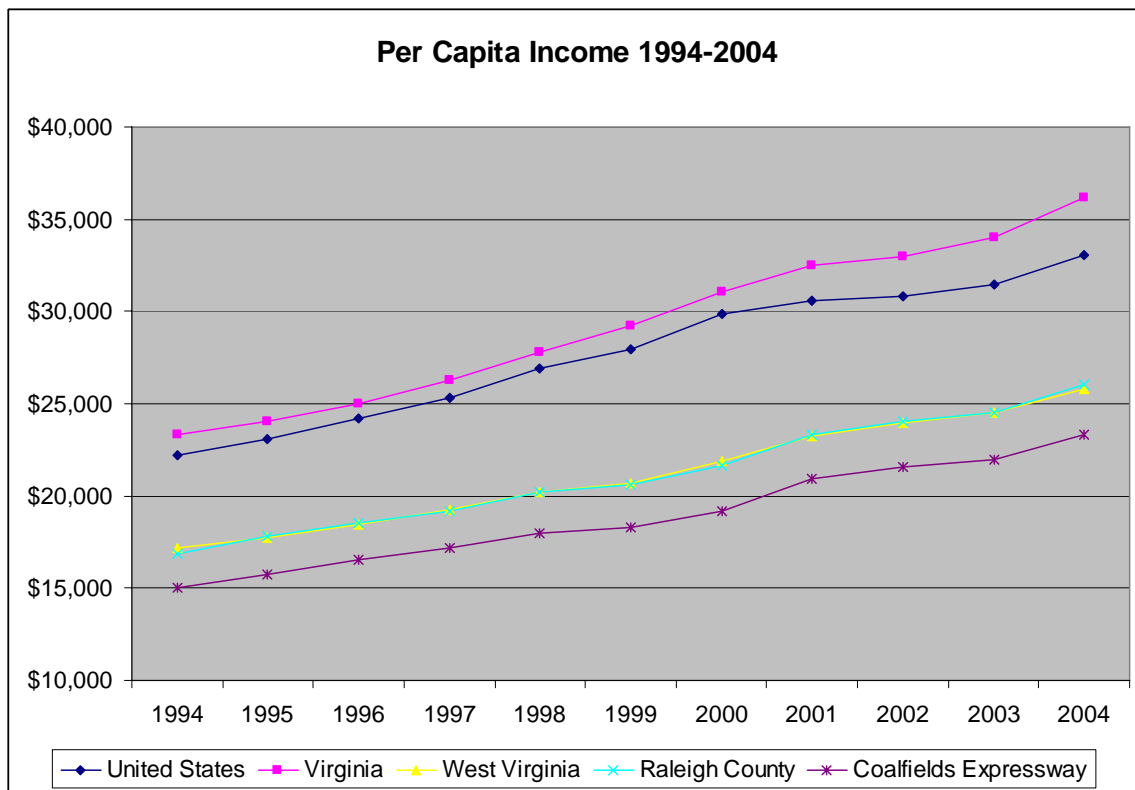
The counties affected by development of the Coalfields Expressway can be characterized as mountainous, isolated and poor. While the topography of the area must be considered a given, the isolation and poverty of the region is not. For comparison purposes in this study, the economic indicators for selected states and regions are presented and discussed in the paragraphs that follow.

For comparison, CBER has selected data for Virginia, West Virginia, the United States and the Coalfields Expressway counties in Virginia and West Virginia. Data on Raleigh County, West Virginia is also included. Raleigh County and its county seat, Beckley, is the Northern terminus of the Coalfields Expressway. What makes Raleigh County unique among the other Coalfields Expressway counties is that it is well served by four lane, controlled limited access highways. This includes I-79 and I-64 which form the West Virginia Turnpike between Charleston and Beckley WV as well as US 19 which passes through a major tourist center and reconnects with I-79 to the north near Sutton, WV. Raleigh County has become a transportation hub and has experienced above average economic growth. For that reason, it is used as the control county in the analysis which follows.

Per Capita Income. The most frequently used measure of economic well-being is per capita income. As Figure II and Table I show, Virginia's per capita income has consistently exceeded the U.S. average over the last decade (due primarily to Northern Virginia and the Richmond/Norfolk corridor) while WV and Raleigh County have been below but almost identical to each other. For the Coalfields Expressway counties, per capita income has been significantly lower than the corresponding incomes in the other study areas.

When compared to the national average the Coalfields Expressway counties' (without Raleigh) per capita income measures only 71 percent of the national average. It is only 65 percent of per capita income in Virginia and around 90 percent of per capita income in West Virginia and Raleigh County. Per capita income in the Coalfields Expressway counties has been highly variable depending upon the level of coal mining which in turn is determined by coal prices. Tables II and III show this.

**Figure II**  
**Trends in Per Capita Income for Study Area**



Source: Bureau of Economic Analysis, Regional Economic Information System  
<http://www.bea.gov/bea/regional/reis>

**Table I**  
**Per Capita Income, 1994-2004**

Year	United States	Virginia	West Virginia	Raleigh County, WV	Coalfields Expressway
1994	\$22,172	\$23,305	\$17,194	\$16,889	\$15,019
1995	\$23,076	\$24,056	\$17,727	\$17,818	\$15,725
1996	\$24,175	\$25,034	\$18,445	\$18,520	\$16,536
1997	\$25,334	\$26,307	\$19,243	\$19,180	\$17,147
1998	\$26,883	\$27,780	\$20,226	\$20,189	\$17,955
1999	\$27,939	\$29,226	\$20,729	\$20,651	\$18,283
2000	\$29,845	\$31,087	\$21,899	\$21,672	\$19,201
2001	\$30,574	\$32,505	\$23,261	\$23,337	\$20,896
2002	\$30,810	\$33,013	\$24,002	\$24,077	\$21,606
2003	\$31,484	\$34,014	\$24,515	\$24,523	\$21,930
2004	\$33,050	\$36,160	\$25,792	\$26,069	\$23,343

Source: Bureau of Economic Analysis, Regional Economic Information System  
<http://www.bea.gov/bea/regional/reis>

**Table II**  
**Actual Change in Per Capita Income, 1994-2004**

Year	United States	Virginia	West Virginia	Raleigh County, WV	Coalfields Expressway
1994-95	\$904	\$751	\$533	\$929	\$706
1995-96	\$1,099	\$978	\$718	\$702	\$811
1996-97	\$1,159	\$1,273	\$798	\$660	\$611
1997-98	\$1,549	\$1,473	\$983	\$1,009	\$808
1998-99	\$1,056	\$1,446	\$503	\$462	\$328
1999-00	\$1,906	\$1,861	\$1,170	\$1,021	\$918
2000-01	\$729	\$1,418	\$1,362	\$1,665	\$1,696
2001-02	\$236	\$508	\$741	\$740	\$710
2002-03	\$674	\$1,001	\$513	\$446	\$324
2003-04	\$1,566	\$2,146	\$1,277	\$1,546	\$1,413

Source: Bureau of Economic Analysis, Regional Economic Information System  
<http://www.bea.gov/bea/regional/reis>

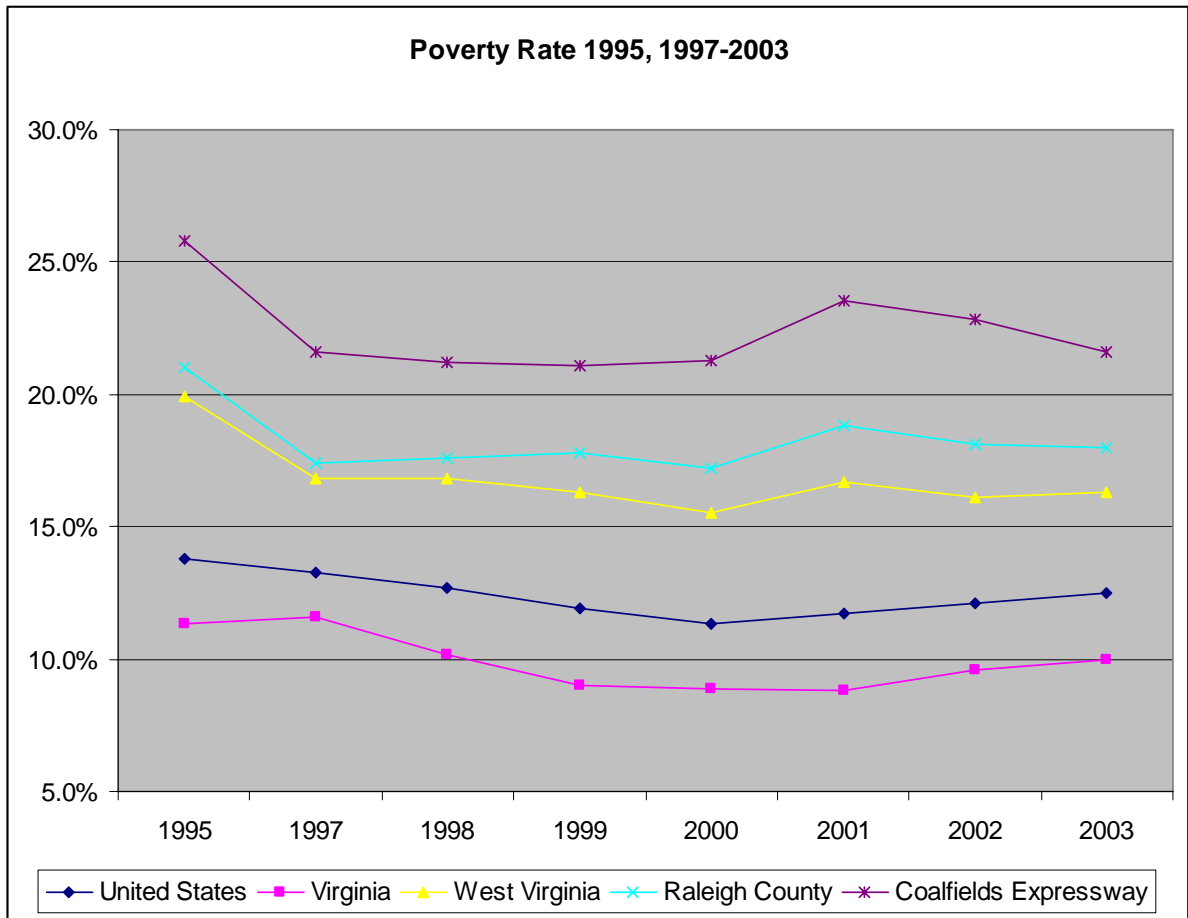
**Table III**  
**Percentage Change in Per Capita Income, 1994-2004**

Year	United States	Virginia	West Virginia	Raleigh County, WV	Coalfields Expressway
1994-95	4.1%	3.2%	3.1%	5.5%	4.7%
1995-96	4.8%	4.1%	4.1%	3.9%	5.2%
1996-97	4.8%	5.1%	4.3%	3.6%	3.7%
1997-98	6.1%	5.6%	5.1%	5.3%	4.7%
1998-99	3.9%	5.2%	2.5%	2.3%	1.8%
1999-00	6.8%	6.4%	5.6%	4.9%	5.0%
2000-01	2.4%	4.6%	6.2%	7.7%	8.8%
2001-02	0.8%	1.6%	3.2%	3.2%	3.4%
2002-03	2.2%	3.0%	2.1%	1.9%	1.5%
2003-04	5.0%	6.3%	5.2%	6.3%	6.4%

Source: Bureau of Economic Analysis, Regional Economic Information System  
<http://www.bea.gov/bea/regional/reis>

**Poverty Rate.** It is not surprising to find that poverty is a serious problem in the Coalfields Expressway counties. In fact, these counties rank among the poorest in the United States. Figure III and Table IV reveal the comparative poverty rates. Virginia at 10 percent is below the national average of 12.5 percent. West Virginia's rate of 16.5 percent is well above the national average. In this respect West Virginia and Raleigh County diverge from the national average with the latter having a poverty rate of 18 percent. Over 1 out of every 5 families in the Coalfields Expressway counties (21.6 percent) are living at or below the poverty line.

**Figure III  
Trends in Poverty Rates for Study Area**



Source: United States Bureau of the Census, Small Area Income and Poverty Estimates  
<http://www.census.gov/hhes/www/saipe/>

1995 was a recession year, which explains the up-tick in poverty for all of the comparatives as shown in Figure III and Table IV. By the end of 2003, the increase in energy prices was beginning to manifest itself. What is most disturbing is the chronic nature of the poverty problems in Raleigh County and the Coalfields Expressway counties. While the national trend has been for poverty rates to decline slowly, since 1997 they have remained constantly high in the Coalfields Expressway counties. The data reflects the serious lack of employment opportunities. This means that poverty is a chronic condition, which is unlikely to change without a significant catalyst becoming available.



**Table IV**  
**Poverty Rates 1995, 1997-2003**

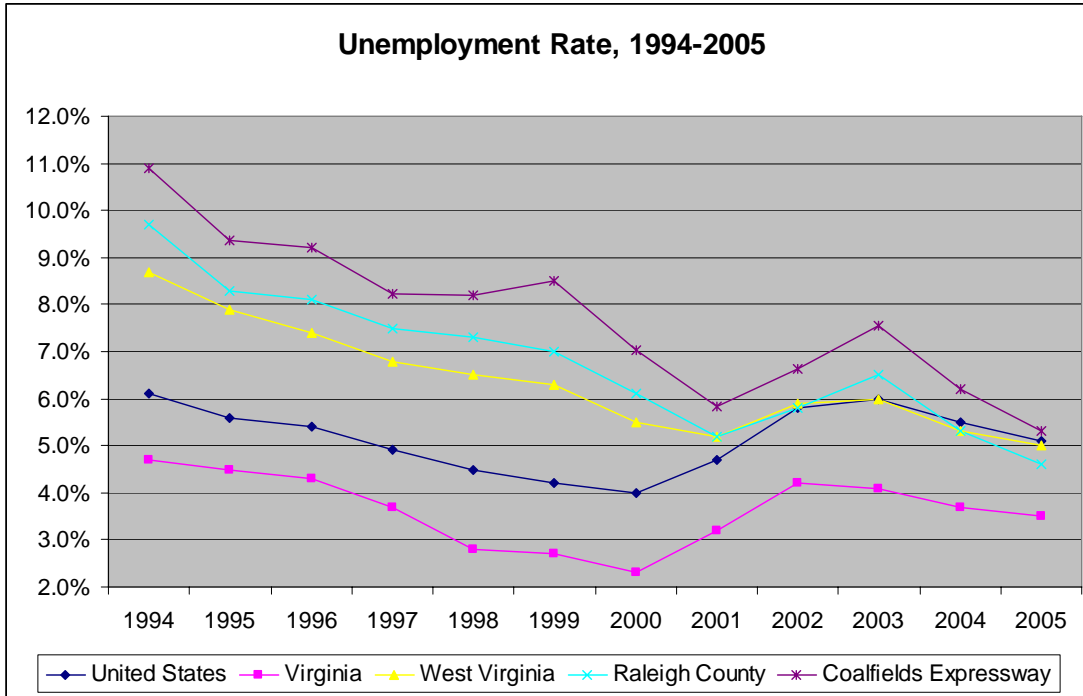
Year	United States	Virginia	West Virginia	Raleigh County, WV	Coalfields Expressway
1995	13.8%	11.3%	19.9%	21.0%	25.8%
1997	13.3%	11.6%	16.8%	17.4%	21.6%
1998	12.7%	10.2%	16.8%	17.6%	21.2%
1999	11.9%	9.0%	16.3%	17.8%	21.1%
2000	11.3%	8.9%	15.5%	17.2%	21.3%
2001	11.7%	8.8%	16.7%	18.8%	23.6%
2002	12.1%	9.6%	16.1%	18.1%	22.8%
2003	12.5%	10.0%	16.3%	18.0%	21.6%

Source: United States Bureau of the Census, Small Area Income and Poverty Estimates  
<http://www.census.gov/hhes/www/saipe/>

Unemployment Rate. One additional indicator of economic conditions in the study area is the unemployment rate in the various counties. Figure IV and Table V show a pattern of convergence for all the areas under discussion with the national average. While Virginia remains well below the national average, the other areas are remarkably similar with West Virginia at 5.0 percent, Raleigh County at 4.6 percent and the Coalfields Expressway counties at 5.3. The decline in the unemployment rate for the West Virginia, Raleigh County and the Coalfields Expressway Counties is due to two factors.

- The increase in employment for extractive industries, primarily coal
- The outmigration of individuals between the ages of 18 and 45, which has shrunk the available labor pool.

**Figure IV**  
**Unemployment Rates for Study Area**



Source: United States Bureau of Labor Statistics  
<http://www.bls.gov>

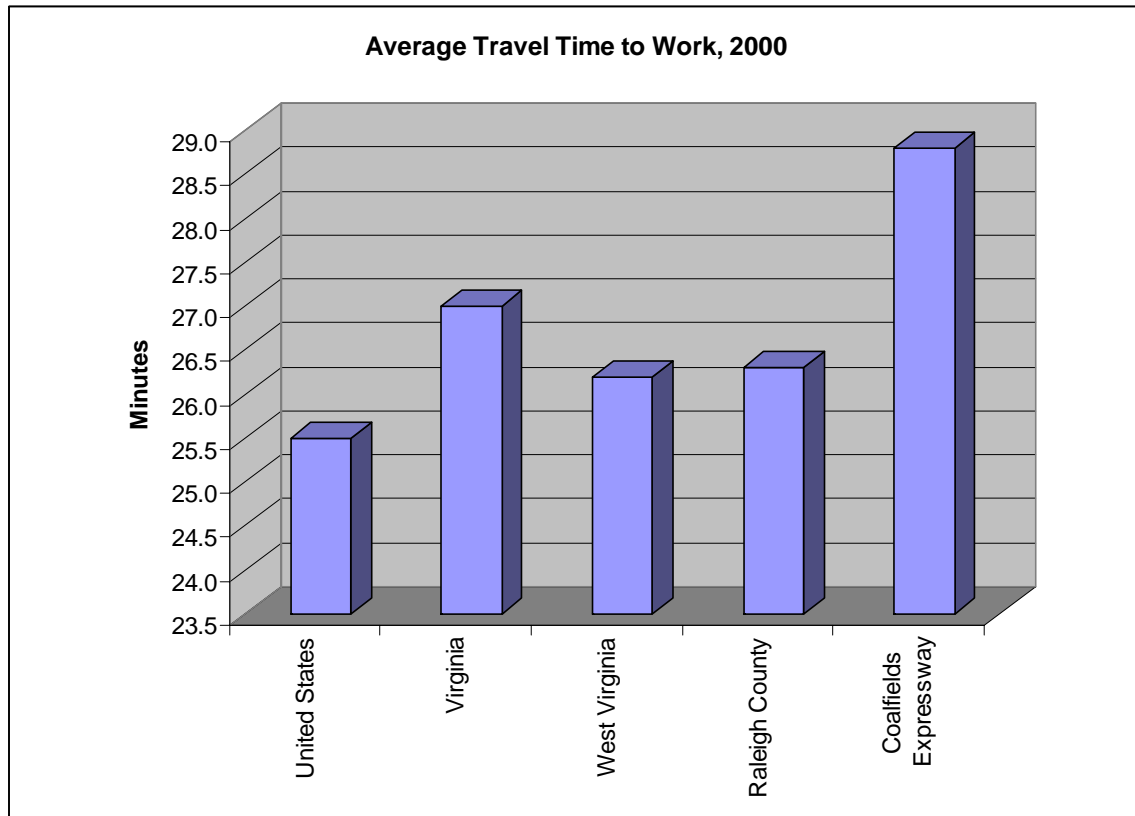
**Table V**  
**Unemployment Rate, 1994-2005**

Year	United States	Virginia	West Virginia	Raleigh County, WV	Coalfields Expressway
1994	6.1%	4.7%	8.7%	9.7%	10.9%
1995	5.6%	4.5%	7.9%	8.3%	9.4%
1996	5.4%	4.3%	7.4%	8.1%	9.2%
1997	4.9%	3.7%	6.8%	7.5%	8.2%
1998	4.5%	2.8%	6.5%	7.3%	8.2%
1999	4.2%	2.7%	6.3%	7.0%	8.5%
2000	4.0%	2.3%	5.5%	6.1%	7.0%
2001	4.7%	3.2%	5.2%	5.2%	5.8%
2002	5.8%	4.2%	5.9%	5.8%	6.6%
2003	6.0%	4.1%	6.0%	6.5%	7.6%
2004	5.5%	3.7%	5.3%	5.3%	6.2%
2005	5.1%	3.5%	5.0%	4.6%	5.3%

Source: United States Bureau of Labor Statistics  
<http://www.bls.gov>

Average Travel Time to Work. Economic development research links a region’s isolation with its level of economic development. The longer it takes to get to work, the less likely individuals will be able to work. In addition, isolation will discourage firms and jobs to locate in an area. As Figure V and Table VI show, the average travel time to work for those in the Coalfields Expressway counties is significantly longer than any of the other area averages. (The time for Virginia is distorted due to the congestion around Washington D.C.) Travel is also expensive. For a region with low incomes and high levels of poverty, such as the Coalfields Expressway counties, these transportation costs present an additional barrier to raising living standards as they limit access.

**Figure V**  
**Average Travel Time to Work**



Travel time to work (in minutes), workers aged 16 years and older who did not work at home.

Source: United States Bureau of the Census, 2000 Census, Summary Tape File 3

<http://www.census.gov>

**Table VI**  
**Average Travel Time to Work in 2000**

Year	United States	Virginia	West Virginia	Raleigh County, WV	Coalfields Expressway
2000	25.5	27.0	26.2	26.3	28.8

Travel time to work (in minutes), workers aged 16 years and older who did not work at home.

Source: United States Bureau of the Census, 2000 Census, Summary Tape File 3

<http://www.census.gov>

## **Factors Leading to Economic Development**

What causes some areas to grow economically while others either do not or do so at a slower rate has been the subject of continuous investigation by economic development experts. There is surprising agreement on the ingredients for economic growth, although different investigators assign different weightings to each. For reference purposes these can be listed as follows:

- A stable, motivated, well trained, adequate workforce
- Infrastructure including roads and utilities
- Location of primary supplies or natural resources
- Location of markets for products produced locally
- Business costs:
  - Wages and salaries
  - Availability of utilities
    - Water
    - Electric
    - Natural gas
    - Sewer
    - Solid waste
    - Broadband
  - Regulations
    - Environmental
    - Land use and zoning
    - Safety
  - Taxes
    - Income
    - Sales
    - Property
  - Workers compensation
  - Land costs and availability
  - Transportation accessibility
  - Quality of life
    - Housing quality and prices
    - Education availability and quality
    - Health care services
    - Government services
    - Entertainment and recreation
    - Cultural options
    - Retail availability
    - Crime
  - Government development incentives
    - Tax credits
    - Direct subsidies
    - Low cost loans
    - Coverage of start up costs

From the above list it can be determined that certain locations will have definite appeal to different firms and employers. Firms and residents will look for the proper mix of determinants according to their individual priorities and for some industries certain factors will dominate. Natural resource industries will locate near their source of supply. But other firms are relatively “footloose” and many sites can be acceptable to them. In the “new economy,” technology industries are less “place bound” than were the extractive and manufacturing industries of the past. These footloose businesses create significant opportunities for regions which have not developed in the past.

Having an easily accessible transportation system is a necessary but not a sufficient condition in and of itself to bring about economic development. Other factors must also be addressed, but if the transportation system is inadequate, whatever else is done to improve the economic climate of a region is unlikely to be successful. Many of the other factors which influence location decisions tie directly into adequate transportation.

### **Economic Benefits from Improved Transportation**

The economic effects of building a modern highway can be classified in two stages: the benefits and costs during construction and the benefits and costs of operation after construction is completed. There are also long term considerations necessary to expand the benefits and minimize the costs after the highway is opened to maximize the future development potential of the region.

Benefits During Construction. Significant economic activity from engineering, to surveying, to the actual building of the highway takes place during the construction period. Individuals are employed and supplies are purchased. The magnitude of the economic impact during the construction phase depends on how many of the workers come from the region and how much of the supplies are purchased from area dealers.

Short-term economic improvements in the area will exist to the extent that the Coalfields Expressway counties can supply the workers and materials. As is the case with all major construction projects the impact quickly diminishes as the project is completed. Construction is not likely to be a source of long-term economic expansion for the Coalfields Expressway counties.

Benefits after Construction. Several potential positive long-term impacts can occur during the post construction phase.

- Increased employment
- Changes in economic structure as new industries are attracted to the area
- Increased traffic volumes
- Greater tourist attendance at recreation, cultural and scenic sites after construction leading to expansion, upgrading and provision of new facilities
- Increased personal income particularly wages and salaries
- Rising property values and local taxes
- Growth in retail sales
- Expanded number of business establishments

- Increased population and school enrollments
- Greater residential and non-residential building activity
- Improved utility services (phone, electricity, gas, water, sewer)
- Upgraded access to health care and education
- Reduced costs to business due to lower transportation costs

It is worth noting that these benefits occur over time and many do not even start to become evident until at least three to five years after highway completion. Economic development is a cumulative process where growth usually begins small and generates additional growth. As studies of other areas where improved transportation has taken place indicate, it may take a full decade or more before the total benefits are recognized.

Potential negative impacts from improved transportation exist which must be realized and planned for during the two phases of the development of the new highway. These include:

- Loss or disruption of habitat (wetlands, wooded buffers, forests, mountain cuts) which may contain endangered species.
- Increased sound levels near the new structure
- Decrease in air quality due to increased traffic and development
- Potential relocation of homes and business to obtain right-of-way (ROW)
- Adverse impacts on water supply
- Changes in community cohesion as economic and social patterns are altered
- Loss of “viewshed” as the new road may become more visible if it follows ridgelines.
- Loss of business in towns by passed by the highway or those with difficult access.

While real, most of these problems defy quantification and therefore are not included in this or most other economic studies. Suffice it to say that the formation of the Coalfields Expressway Authority indicated strong support for moving forward with the development of US 121 by residents in the region. Steps should be, and in some instances will be, required by federal or state regulation to mitigate these negative impacts. In some cases, this will result in higher costs and delays in the project. In others, there may a small positive impact due to construction and maintenance of corrective facilities. The necessary environmental work needed has already been completed.

### **Economic Impacts of Highway Operation**

When completed, the Coalfields Expressway will generate direct benefits of increased economic activity. These benefits will result in improved transportation efficiency. The efficiencies stem from decreased average transportation times, reduced fuel consumption and other operating costs as well as improved safety. These will include the following:

- Increased In-Bound Accessibility. Reduced driving times and lower costs to non-local users such as truckers, tourists, and workers living outside of the area will be a significant economic benefit. The mountainous terrain with its sharp curves, steep grades and narrow lanes creates not only slow travel times but safety issues

as well. Accessibility is further increased if smaller communities are bypassed with short connector routes being used to afford easy access to them.

The potential for significantly increased tourism exists in the region due to its natural beauty. Tourists from out of state will be able to traverse the area with greater speed and more comfort. This will lead to an increased demand for facilities to service and “trap” tourists. Roadside services will include gas/convenience stores, motels and eating establishments. Tourist “traps” include development of sites and trails which will make tourists seek and stay in the study area. Studies show the impact of tourism is greatly increased when enough attractions such as museums, exhibitions, events, campgrounds, hiking trails, and amusement parks to cause travelers to spend the night or stay even longer are available.

The success of the Hatfield-McCoy Regional Recreational Authority in Southern West Virginia is an example. As this trail continues its extent into the study region, the economic benefits from the users of the trail can be captured. Roadside services are most likely to be developed at intersections, so planning to accommodate those facilities must be included in an engineering plan.

New opportunities for the location of distribution facilities will become available upon completion of the Coalfields Expressway. Currently, this activity has shunned the area despite West Virginia being ideally located for such development. Approximately two thirds of the nation’s population lies within 500 miles of the study region. Currently space for development along existing interstate highways has become increasingly expensive as demand for sites with easier highway access has accelerated. Congestion on these routes reduces their desirability. The development of the Coalfields Expressway, along with the TOLSIA/ King Coal Highway, will create highly attractive location alternatives. Existing firms will also benefit as the costs of the goods they sell should be reduced as in-bound transportation costs decrease.

- Increased Out-Bound Accessibility. Accessibility also includes the region’s ability to reach new markets for existing and potential business. As competition from Western coal increases, it is important that Southern West Virginia coal is transported at the lowest possible cost. The health of the recently revived coal industry in the study region will be continued if the ease and cost of transport is addressed.

For residents living in the area there will also be benefits including access to specialized real and service business located in Charleston or Bluefield. There will be expanded opportunities as workers can more easily commute to jobs located elsewhere while still maintaining residence in the area served by the highway. While this does not have as strong an economic impact as bringing in new industry, it does reduce unemployment and poverty while expanding the retail base for local purveyors.

Higher usage by residents of specialized health and governmental services which are present in the larger communities will transpire. This improved access will in time raise the health standards for those in the region. Government benefits which are now passed over may also see usage. It is probable that reduced travel time would bring increased provision of health and governmental services to the more remote areas of the study region.

- Improved Safety. While only indirectly related to economic development, a highway with better grades, wider lanes and improved contours will reduce the accident rates from the current roads. The terrain, coupled with the traffic of coal trucks, creates a particularly hazardous situation for drivers. Significant reductions in accidents and fatalities have resulted from improvements like the Coalfields Expressway along other interstate and corridor roadways.
- Non-User Impacts. Even those who do not use the highway will benefit from its completion. The highway will have to be maintained which will create demand for local laborers and service firms. To the extent that available local materials and workers are used, an overall improvement to the region's employment and income will result.

Not to be discounted are the "multiplier effects," which refer to the respending of the original income directly related to the completed projects. Economists see multipliers resulting in increased spending by those who first receive the income which creates demand for additional goods and services to be produced in the region. This increased demand is then translated into increased business activity and jobs. Very early in the development process the multiplier effect will be low as there will not be the availability of goods and services to meet the increase in demand so spending will gravitate to other regions where supplies are available. However, as the region continues to expand so will the multipliers as more products become available locally. This study has not attempted to calculate multipliers for the completed project, but they will exist and grow over time.

### **Long Term Issues for Maximizing Growth Potential**

The impact that a new highway system has on a region can be expanded if certain actions not directly related to the building of the highway are undertaken prior to the construction phase and continued after completion. Most of these actions require planning and cooperation among communities, regional development groups, schools and government agencies to be successful. These include but are not necessarily limited to the following.

- Creation of flat, developable industrial sites. The severe shortage of flat, developable industrial sites is a major impediment to economic growth in all of West Virginia, not just in the area to be impacted by the Coalfields Expressway. Maximizing the economic potential of the Coalfields Expressway depends on this happening.



Positive steps have been taken in Southern West Virginia to use reclaimed surface mine sites for this purpose. It is important that the infrastructure (water, sewer, electric, access roads) associated with these sites be preserved, so it will not have to be reproduced when the site is developed for industrial purposes. West Virginia has adopted permissive legislation (WV Code 8A, 1999), which allows counties to adopt land use plans to facilitate economic development. Close cooperation and planning with coal companies and regulatory agencies will be required if this potential is to be realized.

- Improved Education and Labor Force Availability. The lack of a young well-trained labor force and an educational system which prepares youth and workers for 21<sup>st</sup> century jobs is vital for the full success of the Coalfields Expressway. Studies have clearly demonstrated that the most essential factor in economic development of any area is the presence of a skilled workforce willing to work at competitive wages.

The education attainment of the existing labor force in the study region is below that of the United States and most of the rest of West Virginia. While steps have been and are now being taken to improve the educational offerings in the area, these must be accelerated and even expanded. This is true particularly if the region is to become attractive to high tech industry with the higher paying jobs. These industries are less tied to either supplies of raw materials or urban markets and respond favorably to an environment which offers the environmental amenities that exist in the study region.

This presents a “chicken or the egg” dilemma. Which comes first, the jobs that will attract and maintain a qualified labor force or the existence of the labor force to attract the jobs? Because there are few high paying jobs in the study region, the better trained workforce leaves for better opportunities elsewhere. Ample evidence exists that these individuals would return to their home territory if attractive job opportunities were available.

Development of Infrastructure. While the development of Corridor G/ U.S. 119 from Williamson to Charleston has been a success, one problem was not adequately anticipated. That problem was not simultaneously installing the infrastructure needed for development including utilities such as water, sewer, cable, electricity and natural gas. As a result, the reclaimed areas which are available as development sites along Corridor G must have these supplied to them at considerable expense. If the governments or local development agencies are not willing or capable of covering the cost of these, they will be considerably less attractive to commercial enterprises as development sites. Without these amenities being present, it is unlikely that whatever development might otherwise be present will not happen.

As the highway is planned, engineered and constructed, it is important that the amenities needed for industrial development be included. It is best if these are installed at the same time the highway is being constructed. If that is not possible at least the right of way should be engineered and prepared to accommodate them at a later date.

It is significantly less costly to install these utilities during construction than afterwards. Care must also be taken to insure that at-grade access is available for service roads and connectors to smaller towns and development sites. This will require significant coordination with transportation official and utility providers. It is also likely to increase the cost of initial construction. The argument is always raised that money is wasted in the provision of these until there is an actual demand for them. The simple fact is demand is unlikely to exist for these sites unless these amenities are already there.

- Improved Tax Structure. The current West Virginia state and local tax structure is cited as a major deterrent to economic growth. Many studies have found West Virginia's tax structure to be "anti-business". West Virginia's corporate profits tax is the highest in the region and among the nation's highest. West Virginia is one of only a very few states which imposes a franchise tax on the net asset value of a business. This is a direct impediment to investment statewide. Further, the local property tax, while the lowest in the nation on homeowners, is among the highest on commercial and industrial property. West Virginia property taxes, unlike those in most states, are levied on business inventories.

Governor Manchin's Tax Modernization Project has made recommendations regarding the State's taxes. Many of the recommendations involve reduction of business taxes. Considering the demand on the State for services and its limited financial capacity, it will be necessary to replace any taxes repealed with other sources of revenue. Working with the Legislature to insure a more favorable tax climate will be necessary for the Coalfields Expressway to be attractive to new or expanding business.

- Regulatory Environment. There is concern that state and federal regulations may delay inception or completion of the project. Many of these regulations concern environmental issues. All environmental impact statements for the expressway have been completed. Of particular concern is reclamation of surface mine sites, endangered species, historical sites, environmentally sensitive areas and aesthetic considerations. Actions by environmental groups have seriously delayed the completion of Corridor H/ U.S. 33 from I-79 to the Virginia border.

It is imperative that these issues be addressed fully before start of the project to eliminate or at least reduce opposition. Early identification is imperative. The process of development has been hastened by full involvement of the community in the planning stages of the highway project. This has already been accomplished for the expressway. A constant flow of public information also is

effective in reducing opposition. Developers must also be prepared to withstand court challenges. Involvement of all interest federal and state agencies and achieving early sign off on the project reduces friction and expense.

**Quasi-Experimental Analysis**

Quasi-experimental analysis is a methodology used to illustrate the differences between areas in indicators of economic development. While explanatory, it does not isolate the individual factors which cause the differences. Saying that so much of the differences are due to the presence or absence of any one or more factors will not produce definitive results.

For this analysis six regions are compared. Those are the United States, Virginia, West Virginia, counties in West Virginia with four-lane, controlled access highways, Raleigh County and the Coalfields Expressway counties without including Raleigh. The U.S. Virginia and West Virginia are control variables providing bases for comparison.

West Virginia Counties with four-lane controlled access highways are included because these counties are the beneficiaries of significant surface transportation access. Raleigh County is separated because it is a county with exceptional surface transportation availability as noted above. The Coalfields Expressway counties (without Raleigh) are used to isolate the impact that insufficient transportation access has on economic development.

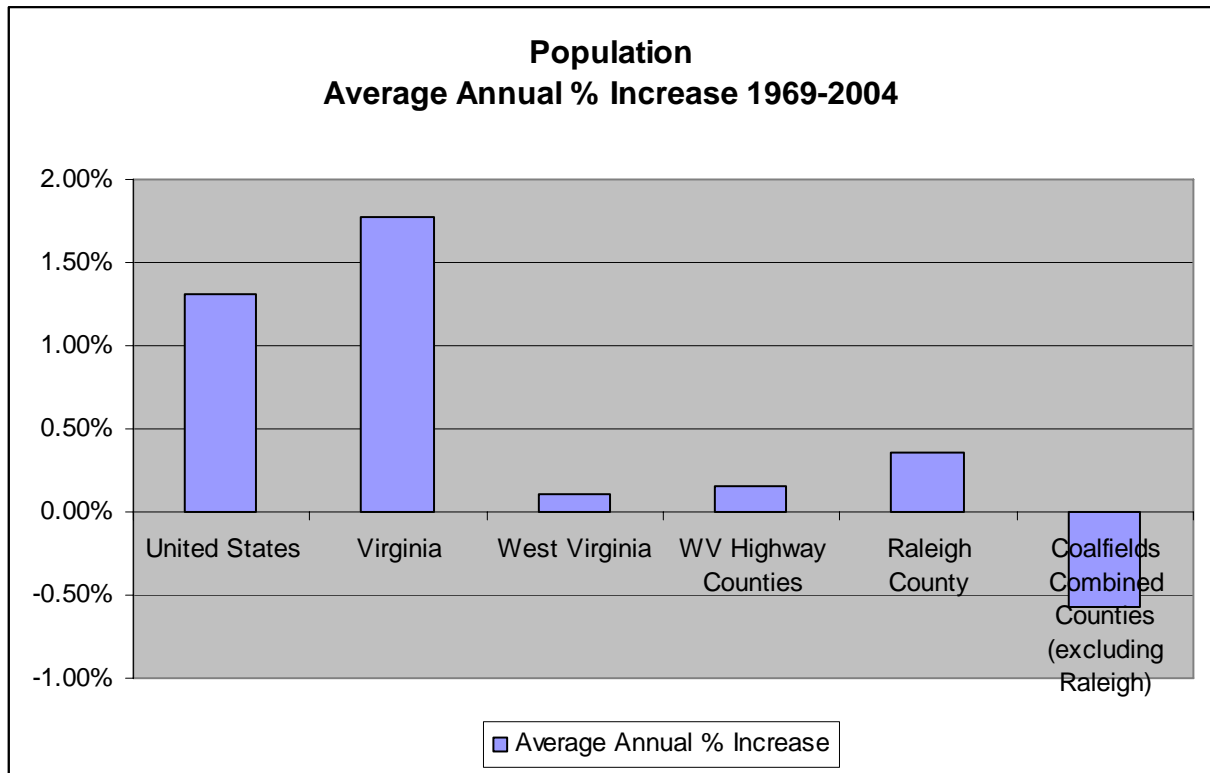
Population. As Table VII and Figure VI indicate, while population in the US has grown at an annual rate of 1.31 percent rate Virginia’s population has grown faster (1.78 percent) and West Virginia’s has been virtually stable (0.11 percent). The WV Highway Counties have exceeded the State’s growth rate (0.15 percent) but Raleigh County has expanded over three times the State average (0.36 percent). At the same time the Coalfields Expressway Counties have seen an average annual **loss** of 0.57 percent or 34,000 residents.

**Table VII  
Comparative Change in Population**

Population	1969	2004	% Increase	Average Annual % Increase
United States	201,298,000	293,656,842	46%	1.31%
Virginia	4,614,000	7,481,332	62%	1.78%
West Virginia	1,746,000	1,812,548	4%	0.11%
WV Highway Counties	1,215,019	1,279,529	5%	0.15%
Raleigh County	70,283	79,195	13%	0.36%
Coalfields Combined Counties (excluding Raleigh)	170,234	136,231	-20%	-0.57%

Source: Bureau of Economic Analysis, Regional Economic Information System  
<http://www.bea.gov/bea/regional/reis>

**Figure VI**  
**Average Annual Change in Population**



Source: Bureau of Economic Analysis, Regional Economic Information System  
<http://www.bea.gov/bea/regional/reis>

Personal Income. An additional indicator of the differences in economic growth is to use personal income. This is a measure of the income received by households in a particular area and is widely accepted as an indicator of economic well-being. Since 1969 the US has experienced an average annual increase of over 33 percent while Virginia has grown even faster at over 44 percent as presented in Table VIII.

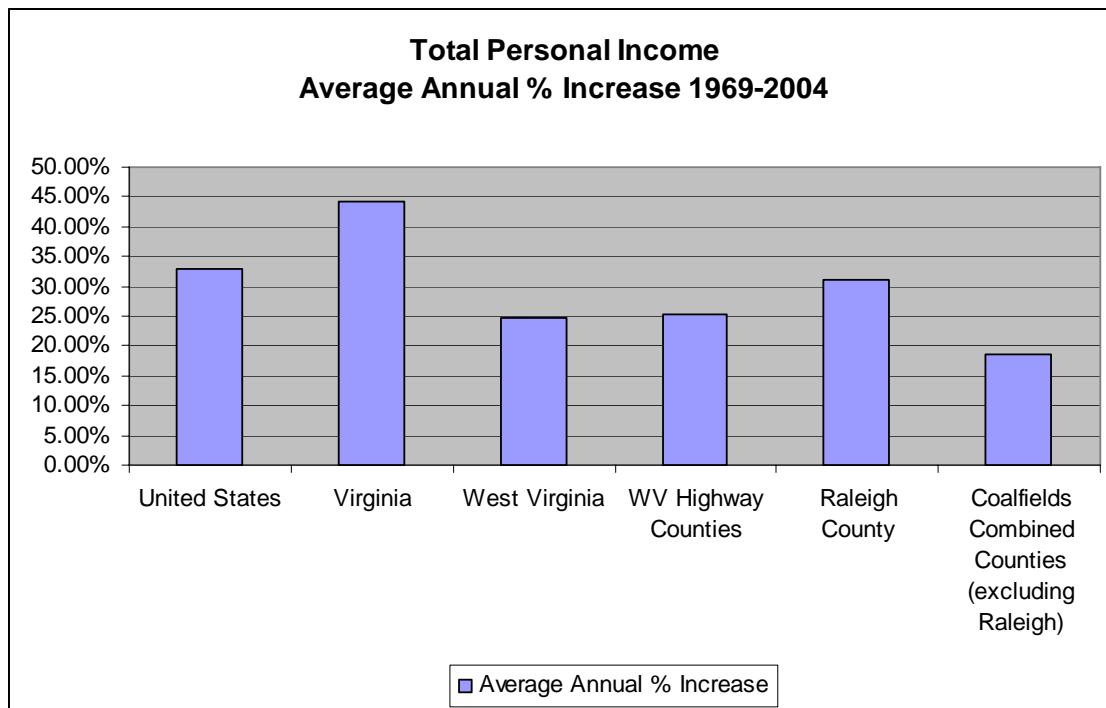
West Virginia has lagged behind at nearly 25 percent average annual growth with the WV Highway counties exceeding that growth by a small amount. However, Raleigh County has almost matched the national growth rate at 31 percent. The Coalfields Expressway counties have lagged significantly behind at 18.5 percent gain.

**Table VIII  
Total Personal Income (\$000s)**

Population	1969	2004	% Increase	Average Annual % Increase
United States	772,235,000	9,705,504,000	1157%	33.05%
Virginia	16,396,117	270,521,697	1550%	44.28%
West Virginia	4,867,791	46,749,648	860%	24.58%
WV Highway Counties	3,442,386	33,970,399	887%	25.34%
Raleigh County	174,146	2,064,533	1086%	31.01%
Coalfields Combined Counties (excluding Raleigh)	380,406	2,840,130	647%	18.47%

Source: Bureau of Economic Analysis, Regional Economic Information System  
<http://www.bea.gov/bea/regional/reis>

**Figure VI  
Average Annual Increase in Personal Income (\$000s)**



Source: Bureau of Economic Analysis, Regional Economic Information System  
<http://www.bea.gov/bea/regional/reis>

Net Earnings. Another indicator of relative prosperity is net earnings. Net earnings measure the income that is earned in an area as opposed to the income which is received. The difference is usually transfer payments such as social security, worker's compensation, disability, welfare and pensions as well as dividends, interest and rent. As such it is a better measure of economic health than is income.

As Figure VII reveals, the average annual growth rate for the US was 29 percent with Virginia exceeding that rate at almost 39 percent. West Virginia lagged behind with around 19 percent. The WV Highway counties were above the state average at 19 percent while Raleigh County almost achieved a 24 percent annual growth rate. For the Coalfield Expressway counties the growth was slightly above half of the WV Highways Counties. This low ranking reflects both the age of the population in the Coalfields Expressway counties who are on social security plus those receiving welfare and disability. For the Coalfields Expressway counties one third of the income received is transfer payments.

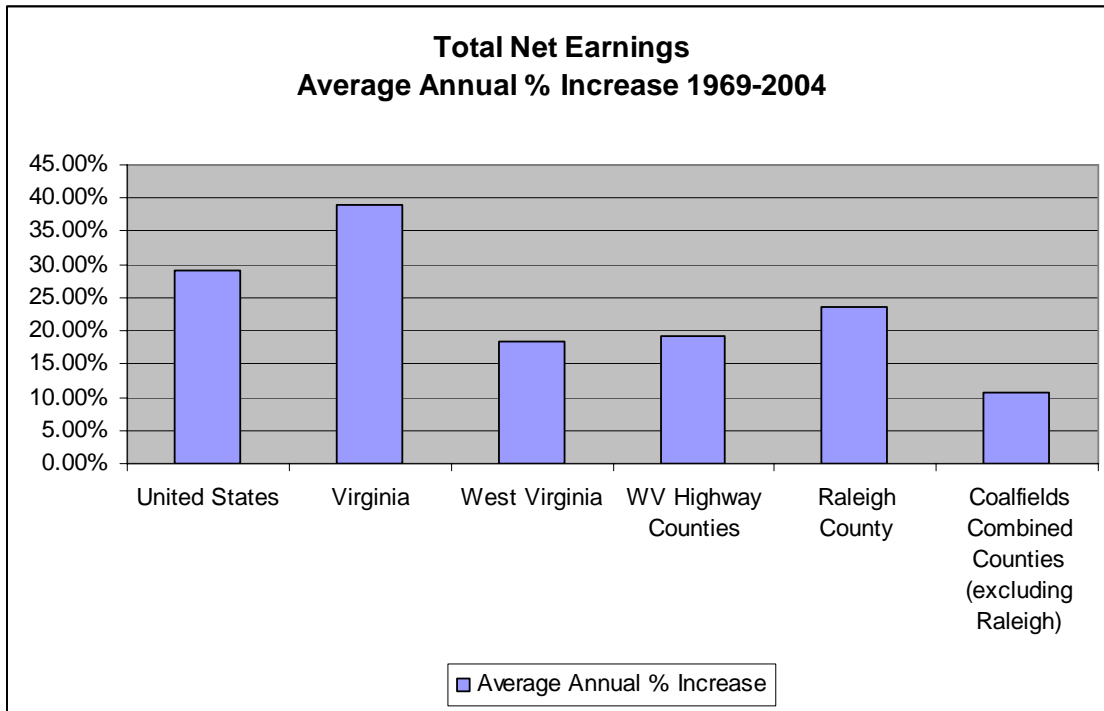
**Table IX**  
**Comparative Total Net Earnings (\$000s)**

Population	1969	2004	% Increase	Average Annual % Increase
United States	604,626,000	6,747,565,000	1016%	29.03%
Virginia	13,575,271	198,716,444	1364%	38.97%
West Virginia	3,765,757	28,116,121	647%	18.48%
WV Highway Counties	2,668,182	20,585,063	672%	19.19%
Raleigh County	130,682	1,207,934	824%	23.55%
Coalfields Combined Counties (excluding Raleigh)	300,213	1,418,275	372%	10.64%

Source: Bureau of Economic Analysis, Regional Economic Information System

<http://www.bea.gov/bea/regional/reis>

**Figure VII**  
**Average Annual Change**  
**Total Net Earnings (\$000s)**



Source: Bureau of Economic Analysis, Regional Economic Information System  
<http://www.bea.gov/bea/regional/reis>

Table X and Figure VIII provide the same data broken down on a per capita basis. It shows the annual and average annual increases in per capita net earnings between 1969 and 2004 as well as the average annual increase. By placing net earnings on a per capita basis, the influence of the larger populated areas is eliminated.

But the same story is repeated. Virginia at 23 percent is above the national average of 19 percent, while West Virginia lags behind at almost 18 percent, which is close to the figure for the WV Highway Counties. The Coalfields Expressway counties again had a much lower increase of 14 percent. That figure can be compared to Raleigh County with almost 21 percent, which exceeded the national average as well as the other averages except for Virginia.

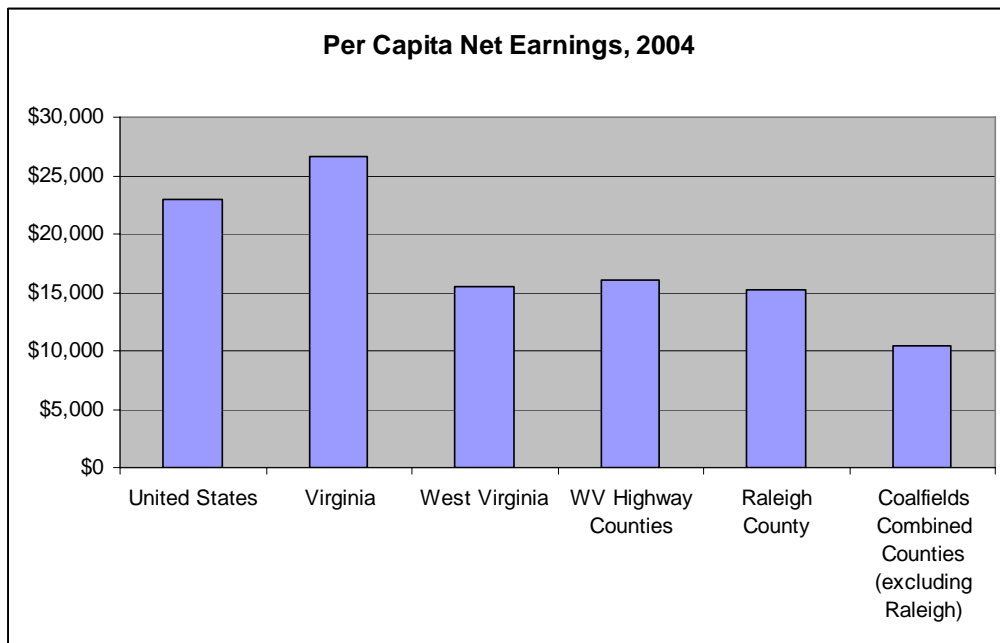
While per capita net earnings rose in all portions of the study area, Raleigh County again exceeded the growth in all but Virginia. It is worth repeating that much of the growth in Virginia has come from Northern Virginia and the Richmond Norfolk corridor.

**Table X**  
**Per Capita Net Earnings**

Population	1969	2004	% Increase	Average Annual % Increase
United States	\$3,004	\$22,978	665%	19.00%
Virginia	\$2,942	\$26,562	803%	22.94%
West Virginia	\$2,157	\$15,512	619%	17.69%
WV Highway Counties	\$2,196	\$16,088	633%	18.07%
Raleigh County	\$1,859	\$15,253	720%	20.59%
Coalfields Combined Counties (excluding Raleigh)	\$1,764	\$10,411	490%	14.01%

Source: Bureau of Economic Analysis, Regional Economic Information System  
<http://www.bea.gov/bea/regional/reis>

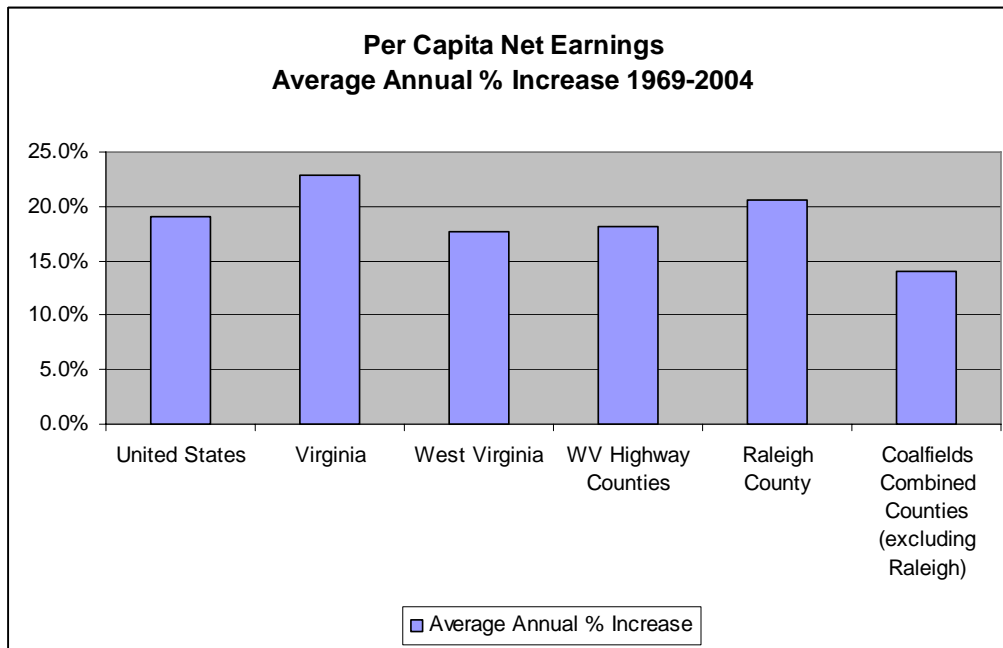
**Figure VIII**  
**Per Capita Net Earnings**



Source: Bureau of Economic Analysis, Regional Economic Information System  
<http://www.bea.gov/bea/regional/reis>



**Figure IX**  
**Average Annual Change,**  
**Per Capita Net Earnings**



Source: Bureau of Economic Analysis, Regional Economic Information System  
<http://www.bea.gov/bea/regional/reis>

Conclusions. As the evidence from this study indicates, areas with the presence of four-lane, divided, limited control access highways achieve higher rates of growth than those obtained in the Coalfields Expressway Counties. While those counties in West Virginia with such access (those on Interstate or Appalachian Corridor Highways) did not achieve the national averages, they on all indicators do better than the Coalfields Expressway counties. By using the WV Highways Counties which are similar in terrain, demographics and rural base, the comparison takes on validity.

The comparison is even more dramatic with Raleigh County. Raleigh County has exceeded, matched or nearly matched the indicators for West Virginia, WV Highway Counties and the Coalfields Expressway counties. Raleigh County will be the northern terminus of the Coalfields Expressway. The Coalfields Expressway will allow for its counties to generate increased economic growth and to be connected to one of the fastest growing areas in the region.

It is impossible to say that the differences are due entirely to better surface transportation access for both the WV Highway Counties and Raleigh County. The figures in this report should not be taken as predictors of what will happen when the Coalfields Expressway is completed. There are many factors which can explain, at least in part, the differences. But the data does confirm that the presence of the Coalfields Expressway would make a significant improvement in the region's economic conditions.