

Coalfields Expressway: The Big Picture

The purpose of this report is to provide a framework for understanding the importance of the Coalfields Expressway (CFX), designated U.S. Route 121 as part of the National Highway System, and approved as a Congressional High Priority Corridor. CFX not only is intended to improve living standards in a long-neglected part of Virginia, the highway also will provide vital links to other regional transportation arteries and thus generate economic benefits within and beyond the Appalachian region.

With rotating membership of the Commonwealth Transportation Board, this document was created to provide background information, historical context and projections about the expressway's impact locally, and in a larger geographic area.

The need for improved and safer transportation in the region has been well-documented for many years. According to a 1964 report by the President's Appalachian Regional Commission (PARC), overcoming isolation in this area of the country has been identified as essential for economic growth.¹

But lack of funds has been a major stumbling block. Building highways through mountainous terrain is difficult and expensive. The region has been largely bypassed by interstate highways, and motorists traveling in and through the region have been forced to depend on two-lane roads that snake through narrow valleys. The current network of roads have higher than average accident rates, are slow to drive and, in many places, worn out.

Congress authorized the construction of the Appalachian Development Highway System (ADHS) in 1965. According to a 2011 report by the Appalachian Regional Commission (ARC), the system is "designed to generate economic development in previously isolated areas, supplement the interstate system, connect Appalachia to the interstate system, and provide access to areas within the region as well as to markets in the rest of the nation."² The Coalfields Expressway not only intersects the ADHS, part of its path actually overlays a portion of ADHS Corridor Q near the Buchanan County town of Grundy. Coalfields Expressway and Corridor Q should be regarded as separate but related transportation initiatives.

¹ Appalachian Regional Commission (30 Sept 2011). *Status of the Appalachian Development Highway System*. Retrieved from <http://www.arc.gov/adhs>

² *ibid.*

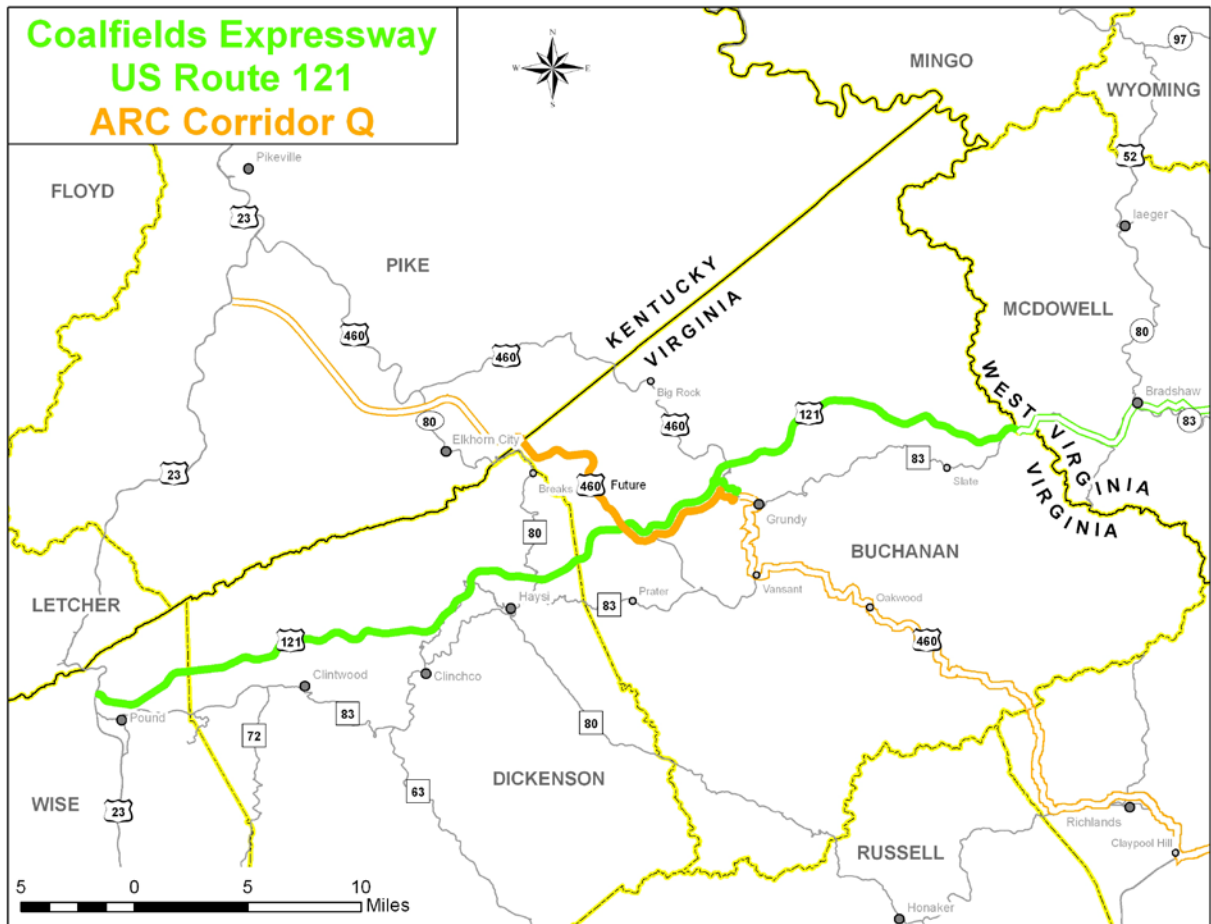


Figure 1: Coalfields Expressway Map

Independent economics firm Chmura Economics & Analytics completed a study in December 2012 showing that construction of the Coalfields Expressway would generate significant and long-term positive economic benefits to citizens and businesses, both in the immediate region and well beyond.³ Chmura projected the following economic benefits in Virginia:

- 29,359 construction jobs over 17 years in Wise, Dickenson and Buchanan Counties, with \$4.1 billion impact from wages, direct spending and ripple effects. (Annual local impact during construction: 1,727 jobs with economic impact of \$241.4 million.)

³ Chmura Economics & Analytics (Jan 2013). *The Economic Impact of Coalfields Expressway in the CFX Corridor in Virginia and West Virginia*. Retrieved from <http://www.virginiadot.org/coalfieldsexpressway>

- After construction is finished, CFX is projected to support 372 permanent roadside service jobs in the three-county area directly related to the highway, with an annual economic impact of \$41.4 million. Note this projection does not include new jobs elsewhere in the immediate region generated by economic development spurred by the new highway.
- Individuals and companies using the Virginia portion of CFX would realize \$28.3 million in annual savings, based on travel efficiencies, reduction in vehicle maintenance and replacement costs, and safety benefits.

While there has been widespread and long-standing support for improving highways in the Appalachian region, the cost of building roads has been a major stumbling block, especially as governments struggled with budget constraints. Virginia lawmakers approved legislation in the mid-1990s to allow the Commonwealth to consider creative funding and construction solutions with the private sector.⁴ About a decade later, the emergence of “coal synergy” would finally set the stage to make it feasible to build the Coalfields Expressway and accelerate completion of Corridor Q.

The process of coal synergy reduces road building costs substantially by using larger-scale earth moving equipment from coal companies to prepare the road bed to rough grade, and allowing the companies to recover marketable coal reserves during the road bed preparation.

It is projected that coal synergy would reduce the cost of building CFX by approximately 45% compared to traditional highway construction methods. In 2013, VDOT estimates the cost of CFX construction at \$5.1 billion using traditional construction methods. Using coal synergy, CFX could be built for \$2.8 billion.

⁴ Public Private Transportation Act of 1995. Retrieved from <http://www.vappta.org/>

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I. Introduction: Transportation Initiatives to Transform a Region

Together, two major transportation initiatives (CFX and Corridor Q) will improve travel safety and help to bring an end to the isolation that has stifled economic opportunity for generations of people in the Appalachian region, a part of the nation largely bypassed by interstate highways.

A study prepared for the Appalachian Regional Commission (ARC) in 2008 concluded that by facilitating national freight flows, reducing travel times, improving safety, and enhancing access to markets, completion of the ADHS, of which Corridor Q is a part, would create new jobs and greater value-added activity, returning \$3 in economic benefits to the nation for every \$1 spent to complete the system.⁵

By providing safe, modern and efficient highway access, the Coalfields Expressway and Corridor Q will reduce travel time and facilitate cargo shipping within and through the region, open the area to tourism, and help reverse the region's current population and employment decline. CFX and Corridor Q also will provide important links to a broader network of highways that promotes trade and job growth within the multi-state Appalachian region and the nation as a whole.

A. Overview of the Coalfields Expressway (U.S. Route 121)

The Coalfields Expressway – designated as U.S. Route 121 and a Congressional High Priority Corridor – is a proposed four-lane limited access highway to provide a modern, safe and efficient transportation artery through the coalfields region of far southwestern Virginia and southern West Virginia, a region now served mainly by narrow rural roads.

CFX will provide safe and rapid access to communities along the corridor, with interchanges connecting citizens of Pound, Clintwood, Clinchco, Haysi, Breaks, Grundy and Slate.

The Virginia portion of the CFX stretches eastward approximately 50 miles from U.S. Route 23 near Pound, Virginia through a portion of Wise County and through Dickenson and Buchanan Counties to the West Virginia line near the community of Slate, Virginia. Approximately two miles have been constructed to rough grade in Buchanan County.

⁵ Cambridge Systematics, Economic Development Research Group and HDR Decision Economics for the Appalachian Regional Commission. (2008). *Economic Impact of Completing the Appalachian Development Highway System*. Retrieved from <http://www.edrgrgroup.com/library/highways/adhs-arc.html>

The West Virginia portion of the project – approximately 60 miles in length – would extend eastward from the state line to Interstate 64 and 77 near Beckley, West Virginia. Approximately five miles have been opened to traffic in West Virginia.

B. Overview of Corridor Q

Corridor Q, designated as US Route 460, is part of the National Highway System, and also part of the Appalachian Development Highway System (ADHS). ADHS is the centerpiece of the Appalachian Regional Commission’s effort to foster economic and social development in the multi-state Appalachian region.⁶

The Virginia portion of Corridor Q is located in southwest Virginia and shares a portion of its alignment with the CFX. Corridor Q in Virginia extends 127.5 miles eastward from the Virginia/Kentucky state line near Breaks Interstate Park to Interstate 81 near Christiansburg. Approximately 14 miles of Corridor Q in Virginia remain uncompleted with three miles currently under construction.

The Kentucky portion of Corridor Q, approximately 17 miles in length, would extend westward from the Virginia/Kentucky state line to US Route 23. Kentucky currently has approximately 16 miles under construction.

⁶ Appalachian Regional Commission. Appalachian Development Highway System. Retrieved from <http://www.arc.gov/adhs>

II. Purpose and Need for Coalfields Expressway

A. Legislative Purpose and Need

Congress has on multiple occasions expressed its desire and interest in building the Coalfields Expressway. Congress designated the Coalfields Expressway in Virginia as a Congressional High Priority Corridor in 1995, included it in the National Highway System, identified Virginia Primary Route 83 as running roughly parallel to the location of the corridor, and authorized funding for planning and design of the CFX.⁷

The project also has the support of the Virginia legislature and local governing bodies. During its 1999 session, the Virginia General Assembly passed three resolutions supporting the project. The project is also supported by the boards of supervisors of Wise, Dickenson and Buchanan Counties, elected representatives from the area's towns, planning commissions, chambers of commerce and planning district commissions.⁸

B. Transportation Purpose and Need

a. System Linkage and Intermodal Connection

Current traffic access to and within the Buchanan/Dickenson/Wise County area is difficult because of topography and the quality of existing roads. The roads in this part of Virginia are extremely narrow and wind through the Appalachian Mountains, mainly along narrow valley floors. Dickenson County is the only county in Virginia with no four-lane roads.⁹

The deficient and functionally obsolete highways passing through the area make any trip to and within the region arduous and time consuming. Currently, a trip from the Virginia/West Virginia state line near Slate to Pound, Virginia – a straight line distance of less than 50 miles – takes more than two hours to drive.

The communities in this area lack sufficient access to the region's highway network. The considerable travel time required to reach the regional highway network hinders local

⁷ Federal Highway Administration. High Priority Corridors: Statutory Listing of Corridor Descriptions. No. 29. Retrieved from http://www.fhwa.dot.gov/planning/national_highway_system/high_priority_corridors/hpcor.cfm

⁸ U.S. Department of Transportation, Federal Highway Administration and Virginia Department of Transportation. (June 2012). *Environmental Assessment: Coalfields Expressway, Section II*. Retrieved from http://www.virginiadot.org/projects/resources/Bristol/CFX_SectionII_Environmental_Assessment_June2012.pdf

⁹ *ibid.*

economic development efforts, adding shipping costs to local industries and travel time to potential tourists. The situation also inconveniences local residents, who experience longer travel times when driving to points outside of the area. Citizens, businesses and emergency service vehicles are all hampered by low speeds and prolonged travel times.

b. Roadway Deficiencies and Corridor Mobility

Route 83, the area's only major east-west roadway, is a predominately two-lane rural facility. The roadway has a wide variation of design speeds, shoulder widths, clear zone widths, and curve warning signage. This variation largely attributed to the severe topography of the area results in frequent changes in driving conditions and impedes corridor mobility. Traffic flow is also inhibited by many "no-passing" zones and slowdowns created by commercial truck traffic.

The Coalfields Expressway would greatly improve traffic flow and improve corridor mobility. CFX would be a four-lane facility with a design speed of 60 miles per hour, a posted speed of 55 miles per hour, and maximum grades of six percent. Driving on the CFX from Slate, near the Virginia-West Virginia border, to Pound would take approximately one hour, about half of the time it currently takes to make the trip along Route 83.

c. Safety

The existing road conditions raise safety concerns. The typically narrow pavement, narrow or nonexistent shoulders, prevalent curvature, steep grades, and limited sight distance leave little tolerance for driver error. The corridor-wide accident rate is approximately 13% higher than the state average. Injury and fatality rates are also above state average.¹⁰

Since the Coalfields Expressway would be a four-lane, divided facility, it would eliminate safety hazards caused by passing vehicles and greatly reduce the risk of head-on collisions. CFX also should reduce accident rates along the corridor by attracting truck and other vehicular traffic from Route 83.

d. Capacity

Traffic studies indicate that several sections of Route 83 and Route 460 were already near capacity in the mid-1990s. Another capacity issue relates to the large amount of truck traffic along Route 83. Since Route 83 is primarily a two-lane facility, this truck traffic when combined with steep grades and geometric constraints hinders traffic flow considerably. Not only would Coalfields Expressway provide an additional highway

¹⁰ U.S. Department of Transportation, Federal Highway Administration and Virginia Department of Transportation. (June 2012). *Environmental Assessment: Coalfields Expressway, Section II*. Retrieved from http://www.virginiadot.org/projects/resources/Bristol/CFX_SectionII_Environmental_Assessment_June2012.pdf

corridor for the area, CFX would attract vehicles, including truck traffic, from Route 83's high-capacity sections, thus improving levels of service on that roadway.

e. Economic Development Need

Without adequate and modern highways, the region remains isolated, stifling growth and progress. Household incomes in Buchanan, Dickenson and Wise Counties are among the lowest in Virginia. In terms of personal economics and demographics, the region compares poorly against state and national levels. Population levels are declining while median ages are increasing. Educational attainment levels are not keeping pace with the rest of the state, and unemployment levels are consistently among the highest in Virginia.

Income growth, already well below the state and national averages, also is not keeping pace. The number of people below the poverty level remains high. Housing values are depressed and inexpensive manufactured homes comprise the primary new type of residential structure.

Locality	Living Below Poverty Rate	Median Household Income
Buchanan County	21.8% (vs. 10.3% VA)	\$23,581 (vs. \$61,406 VA)
Dickenson County	19.1% (vs. 10.3% VA)	\$29,080 (vs. \$61,406 VA)
Wise County	20.3% (vs. 10.3% VA)	\$33,608 (vs. \$61,406 VA)

Source: U.S. Census Bureau, 2010¹¹

f. Replacement of Coal Mining Employment

Coal mining, long the dominant economic engine in the Appalachian region, has been subject to boom-or-bust cycles. Despite a modest upturn in recent years, the coal industry faces an extended period of decline, due in part to world economic conditions,

¹¹ United States Census Bureau. State & County QuickFacts, Virginia. Retrieved from <http://quickfacts.census.gov/qfd/states/51000.html>

the current abundance of lower-cost natural gas, and strict new federal regulations on mining and the use of coal to generate power.¹²

The decline of coal has implications for Virginia's rail industry and ports, but the negative impact is felt most acutely in the Appalachian coal-mining region. State and local leaders know the region must diversify its economic base to become less dependent on any single industry.

While the Coalfields Expressway would enhance long-term economic development efforts for the eventual replacement of lost coal mining employment, the new highway also would serve the short-term needs of the mining industry that remains an important part of the local economy. CFX would improve vehicular access to and from existing mines. Thus the Expressway would serve both short-term and long-term economic goals for the region.

g. Industry Recruitment and Economic Diversification

Traffic and transportation access are fundamental components that support economic development. Wise, Dickenson and Buchanan Counties are located within a day's drive to a number of major cities which offer a ready-made market for outgrowth of industry and tourism. But road conditions in this mountainous region create tremendous barriers to growth in industry and tourism recruitment and in stimulating population growth.¹³

To improve the local economy, Wise, Dickenson, and Buchanan Counties are continually trying to recruit new industries into the area. The Virginia Coalfield Economic Development Authority (VCEDA) and Buchanan County have invested millions of dollars in the Southern Gap Business Park. Formerly known as Lovers Gap/Poplar Gap, Southern Gap includes 1,100 acres of developable land reclaimed from a former surface mine. Economic development officials say access provided by CFX is vital to the project's long-term success.

Development officials also believe tourism has major potential to diversify and improve the local economy. By providing easier regional access to Breaks Interstate Park and the John W. Flannagan Reservoir, the Coalfields Expressway would greatly enhance the area's tourism potential. Buchanan and Dickenson County officials also are looking to the CFX to improve public access to new hiking and biking trails in the Harman area.

¹² Kent, Sarah. (18 Dec 2012). IEA warns of gloomy outlook for US coal industry International Energy Agency. *Hydrocarbon Processing*. Retrieved from <http://www.hydrocarbonprocessing.com/Article/3132935/IEA-warns-of-gloomy-outlook-for-US-coal-industry.html>

¹³ U.S. Department of Transportation, Federal Highway Administration and Virginia Department of Transportation. (June 2012). *Environmental Assessment: Coalfields Expressway, Section II*. Retrieved from http://www.virginiadot.org/projects/resources/Bristol/CFX_SectionII_Environmental_Assessment_June2012.pdf

Buchanan County is working with the Southwest Regional Recreation Authority (SRRRA) to develop an ATV trail that would benefit from improved highway access for tourists. CFX also would increase regional access to The Crooked Road, Virginia’s Heritage Music Trail, a regional initiative designed to promote tourism by focusing on Appalachian heritage, music, outdoor recreational activities, museums, crafts and historic and cultural programs.

	Economic	Mobility	Safety	Capacity	Time
Without CFX	High unemployment. Poverty rate twice the state average.	Present routes mostly two-lane with severe topography.	Accident rate 13% higher than state average.	Local roads already near capacity in the 1990s.	Currently, over 4 ½ hours to drive Pound to Beckley.
With CFX	29,359 jobs during construction. \$4.1 billion Virginia economic impact.	Improved access to health care, employment and education.	Improves safety and reduces head-on collisions.	Opportunity for all to enjoy region’s recreation and beauty.	With CFX, less than 2 ½ hours to drive Pound to Beckley.

Figure 2: Benefits Summary

III. Economic Impact Study

To gauge the impact of the Coalfields Expressway, VDOT commissioned a study by independent economics analysis firm Chmura Economics & Analytics. In December 2012 Chmura projects that construction of the Coalfields Expressway would generate significant and long-term positive economic benefits to citizens and businesses, both in the immediate region and well beyond. Chmura estimated economic impact of the CFX in Virginia and West Virginia. The following excerpts focus on CFX benefits in Virginia.

A. Immediate Impacts

During the project's 17-year construction phase (2013-2029) Chmura projects that CFX would produce the following annual impacts for Wise, Dickenson and Buchanan Counties:

- 29,359 construction jobs over 17 years in Wise, Dickenson and Buchanan Counties, with \$4.1 billion impact from wages, direct spending and ripple effects.
 - Annual local impact during construction: 1,727 jobs with economic impact of \$241.4 million.
 - Note: the U.S. Bureau of Labor Statistics reported in March 2012 that total employment for the three counties was 26,841.¹⁴
- New state tax revenues of \$3.7 million per year.

B. Long-Term Impacts

After the Coalfields Expressway is built, Chmura projects the highway will create the following ongoing annual impacts:

- 372 permanent roadside service jobs in the three-county area directly related to the expressway, with an annual economic impact of \$41.4 million.
 - Note this projection does not include new jobs elsewhere in the immediate region generated by economic development spurred by the new highway.
- New state tax revenues of \$1.9 million per year, plus \$0.5 million in local tax revenues from sales, meals and lodging taxes.

¹⁴ U.S. Department of Labor, Bureau of Labor Statistics. (26 Oct 2011). County Employment and Wages in Virginia – First Quarter 2012. Retrieved from <http://www.bls.gov/ro3/qcewva.htm>

- Individuals and companies using the Virginia portion of CFX would realize \$28.3 million in annual savings, based on travel efficiencies, reduction in vehicle maintenance and replacement costs, and safety benefits.

Other long-term benefits of the new highway are difficult to quantify, but Chmura predicts the Coalfields Expressway will help local economic development officials attract new business and industry to the region, boost tourism and population growth, and enhance quality of life for area citizens through improved access to jobs, education, health care and entertainment.

C. Impact In and Beyond the Appalachian Region

By providing a high-capacity corridor where none now exists, CFX also will provide better and more efficient transport of commodities, manufactured and agricultural goods through the region, and from the Midwest to the Port of Virginia.

CFX would be a four-lane facility with a design speed of 60 miles per hour, a posted speed of 55 miles per hour, and maximum grades of six percent. Driving on the CFX from Slate, near the Virginia-West Virginia border, to Pound would take approximately one hour, about half of the time it currently takes to make the trip along Route 83.

Note: the Chmura Economics & Analytics report is available at the following url:
<http://www.virginiadot.org/coalfieldsexpressway>

D. Confirming Earlier Economic Studies

Chmura's conclusions are consistent with earlier economic analyses of the impact of transportation improvements in the Appalachian region. A 1987 job survey report for the Appalachian Regional Commission found that 81 percent of the job growth in the region occurred in those counties served by an interstate highway and/or an ADHS Corridor highway.¹⁵ A 1995 West Virginia University study found "that Appalachian counties with ADHS corridors grew 60 percent faster in income, six percent in population and 49 percent in earnings than those equivalent counties without such corridors."¹⁶

¹⁵ Wilbur Smith Associates for the Appalachian Regional Commission. (July 1998). *Appalachian Development Highways Economic Impact Studies*. Retrieved from http://www.arc.gov/assets/research_reports/AppalachianDevelopmentHighwaysEconomicImpactStudies2chap1.pdf

¹⁶ *ibid.*

IV. Existing Regional Support from Agencies and Public

Members of key organizations invested in the prosperity of the region and well-being of its citizens have expressed support for the project. A succession of governors, the Virginia General Assembly and local governing bodies have supported the CFX throughout its development. The boards of supervisors of each county in the region, planning commissions, chambers of commerce, and planning district commissions have all gone on record in support of the CFX.

A. Official Endorsements

Excerpts from documents supporting the Coalfields Expressway:

“The significance of the Expressway cannot be overstated – it is essential to the transportation system necessary to help Buchanan County and all of Southwest Virginia to help itself. Without the Expressway, when the energy resources are depleted, Buchanan County’s future could be very bleak.” – Robert Craig Horn, Buchanan County Administrator – November 6, 2012 letter to Bristol District Administrator of VDOT

“This project represents one of the most important transportation projects in the Commonwealth of Virginia that the entire Southwest region has pursued for well over two decades...This project represents the future of the economic development for Dickenson County. And just as important, to the improvement of the lives of our citizens.” – G. David Moore, Jr., Dickenson County Administrator – November 15, 2012 letter to Bristol District Administrator of VDOT

“...the construction of the Coalfields Expressway would open up new areas for economic development, including potential new business and industrial sites and improved access to existing business and industrial parks and sites.” – Resolution adopted by the Board of the Virginia Coalfield Economic Development Authority (VCEDA) December 6, 2012

“We feel that this project still remains a priority project within the Coalfield region of Southwest Virginia and hope that developing the proposed route will reverse decades of economic decline in this area. LENOWISCO believes this could be the most transforming transportation initiative in the history of the region.” – Glen A. Skinner, Executive Director, LENOWISCO Planning District

Commission – November 27, 2012 letter to Bristol District Administrator of VDOT

B. Public Support

VDOT has actively sought public involvement throughout the development of the Coalfields Expressway project and support has remained strong.

a. Original Coalfields Expressway (2001 location)

- March 1998 - Citizen information meetings in Grundy and Clintwood attracted 635 attendees. Of 305 comment sheets received, 96% supported construction of CFX.
- September 1998 – Citizen information meetings in Vansant and Clintwood attracted 646 attendees. Of 247 comment sheets received, 95% supported construction of CFX.
- April 2000 – Public hearings in Clintwood, Haysi, and Grundy on Draft Environmental Statement attracted 1,139 attendees, with 94% of respondents supporting construction of CFX.
- January 2004 – Location and Design Public Hearing in Grundy attracted 437 attendees, with 44 comments received. Of those expressing a preference, 91% supported construction.

b. Revised Route (more details below)

- May 2008 – Public hearing in Vansant on Location and Design of Hawk’s Nest Section (IIIA) of CFX attracted 102 attendees. All 27 comment sheets submitted supported moving forward with the project.
- November 2008 – Public hearing in Grundy on Location and Design of Rockhouse Section (IIIC) of CFX attracted 204 attendees. Of 44 comment sheets, all but one favored the project.
- August 2012 – Public hearings in the town of Wise and in Vansant on location of CFX Section I and Section II attracted 258 attendees. 105 written comment sheets were received. In addition, one oral comment and 12 narrative comments in the form of letters and emails also were received. Of those comments expressing a preference, 75% supported the project.
- In conjunction with the August 2012 public hearings, the Sierra Club submitted a 37-page letter of comments on behalf of itself, Southern Appalachian Mountain Stewards, and Appalachian Voices, arguing for a full Supplemental Environmental Impact Statement for CFX.

Via its website, the Sierra Club created an online “action” that allowed citizens across the country to submit pre-written form comments expressing concern

about the Coalfields Expressway and requesting VDOT and FHWA to conduct a Supplemental Environmental Impact Statement. As a result, VDOT received approximately 48,000 emails during the comment period (approximately 5% personalized their responses). Approximately 3,300 (7%) of the respondents identified themselves as Virginians. Forty-two responses (0.09%) came from ZIP Codes in Wise, Dickenson and Buchanan Counties.

V. Daunting Construction Costs and Solution

Despite widespread support for the Coalfields Expressway and congressional designation of the CFX as a “High Priority Corridor,” the enormous cost of highway construction in mountainous terrain has been a persistent and daunting problem. In addition, Virginia’s highway construction program in recent years has suffered major reductions because of declining revenues, rising costs and increased maintenance needs. For citizens of southwestern Virginia, CFX remained an unfulfilled promise.

A. Public-Private Partnership

In 1995, Virginia adopted its Public Private Transportation Act (PPTA). The intent of the PPTA is to encourage public/private ventures to design and build transportation projects in a more timely and/or less costly fashion than traditional construction methods. Under the PPTA, VDOT can receive unsolicited transportation proposals from private entities and solicit proposals from the private sector. The PPTA process also allows for greater flexibility in contracting between public and private entities.

The Commonwealth Transportation Board (CTB) approved the Coalfields Expressway as a PPTA project in April 2000 and in August of that year CTB approved the location for CFX. In November 2001, FHWA issued a Record of Decision for the expressway.¹⁷

Under provisions of Virginia’s PPTA, VDOT entered into a Comprehensive Agreement in January 2002 with Kellogg Brown & Root Services (KBR) to design, build and finance the CFX as a public-private partnership. The Federal Highway Administration (FHWA) had accorded Special Experimental Project (SEP-14) status to CFX in 2001. SEP-14 is an initiative to encourage the exploration of innovative ways to make highway construction more efficient and effective.

But by 2005, at a time when VDOT was struggling with declining revenues and budget cuts, cost estimates for an initial section of the highway had escalated far beyond potential funding sources. Seeking a route that avoided coal deposits, designers faced construction obstacles posed by abandoned underground mines. VDOT could no longer meet construction goals,

¹⁷ Federal Highway Administration. (Nov 2001). *Record of Decision: Coalfields Expressway location study*. Retrieved from http://www.virginiadot.org/projects/resources/Bristol/CFX_ROD.pdf

leading FHWA to rescind its support of SEP-14 status for the project.¹⁸ Loss of SEP-14 status represented a roadblock for the Coalfields Expressway.

B. Coal Synergy

In 2006, VDOT, KBR and Virginia coal mining companies Pioneer Group (later Rapoca Energy) and Alpha Natural Resources negotiated an agreement for Pioneer and Alpha to assume KBR's role in the CFX project. After careful review, VDOT and FHWA approved the assignment of the contract.¹⁹

Together, Alpha, Pioneer and VDOT began to explore an innovative process that FHWA had approved to build a highway project in neighboring West Virginia: coal synergy.²⁰

The process of coal synergy reduces road-building costs substantially by using the coal companies' larger-scale earth moving equipment to prepare the road bed to rough grade, and allowing the companies to recover marketable coal reserves during the road bed preparation.

Coal synergy has allowed VDOT to align the proposed roadway with our PPTA partners' coal reserves, making it possible for them to incorporate the rough grade roadbed into their post mining land use for permitted mining operations. The coal companies' planned mining operations will take place with or without the construction of the roadway as is evidenced by their mining permit applications. VDOT working in conjunction with our partners will save taxpayers an estimated 45% in constructions costs by synergizing the two operations. For those portions of the alignment that do not coincide with planned mining operations, the coal companies' larger scale earthmoving equipment and techniques also convert to savings for the public.

In 2013, VDOT estimates the cost of CFX construction at \$5.1 billion using traditional construction methods. Using coal synergy, CFX could be built for \$2.8 billion.

In the road bed preparation process, excess earth not needed for highway construction also could be used to provide large tracts of land adjacent to the CFX, providing opportunities for area economic development officials to consider creating additional industrial and/or mixed-use sites in a region of Virginia where flat, developable land is scarce.

¹⁸ Virginia Department of Transportation. (Nov 2006). *Status of the Coalfields Expressway and the Coalfields Connector*. Report to the General Assembly. Retrieved from [http://leg2.state.va.us/dls/h&sdocs.nsf/fc86c2b17a1cf388852570f9006f1299/487f0880034191198525718f0060494d/\\$FILE/HD75.pdf](http://leg2.state.va.us/dls/h&sdocs.nsf/fc86c2b17a1cf388852570f9006f1299/487f0880034191198525718f0060494d/$FILE/HD75.pdf)

¹⁹ *ibid.*

²⁰ Federal Highway Administration, Office of Innovative Program Delivery. Project Profiles: King Coal Highway. Retrieved from http://www.fhwa.dot.gov/ipd/project_profiles/wv_kingcoal.htm

The Virginia Coalfield Economic Development Authority (VCEDA) recognized coal synergy as “a once-in-a-lifetime opportunity for the Coalfields Expressway to be constructed in a more timely and cost-efficient manner in association with coal companies that have entered into agreements to help construct the road.”

During 2007, Alpha and Pioneer suggested changes to the previously selected corridor for CFX. Compared to the previous route, the new location would maximize coal recovery, seek to avoid abandoned underground mine areas, and provide a somewhat straighter alignment for the highway.

The proposed new route shifted portions of the alignment of CFX as much as two to three miles in some locations. However, the new route was still within the study area of the 2001 Final Environmental Impact Statement, and crossed similar terrain and involved substantially similar environmental and social conditions as the previous route.²¹

In March 2008, the Federal Highway Administration reinstated SEP-14 status, giving approval of a non-traditional contracting method with the coal companies using the coal synergy concept and the existing PPTA assumption agreement.²² The reinstatement of SEP-14 was based on the potential for schedule and cost savings for construction of CFX outlined in VDOT’s February 2008 CFX Decision Document.

²¹ U.S. Department of Transportation, Federal Highway Administration and Virginia Department of Transportation. (June 2012). *Environmental Assessment: Coalfields Expressway, Section II*. Retrieved from http://www.virginiadot.org/projects/resources/Bristol/CFX_SectionII_Environmental_Assessment_June2012.pdf

²² Virginia Department of Transportation and Alpha Natural Resources. (Dec 2011). *Coalfields Expressway, a Coal Synergy PPTA Project*. Retrieved from <http://s351015200.onlinehome.us/VTC/2011-VTC-presentations/GROVES%20-%20CFX.pdf>

VI. Latest Cost Estimates and Funding Sources

A. The Coalfields Expressway

In 2013 dollars, VDOT estimates that building the Coalfields Expressway with traditional construction methods would cost taxpayers \$5.1 billion. By partnering with private partners (coal companies) and allowing them to use their expertise in larger scale earth-moving techniques and recovery of marketable coal reserves, the projected cost for Coalfields Expressway is estimated at \$2.8 billion for a savings of \$2.3 billion.

Note: The estimated cost for the Coalfields Expressway includes A) the cost for building the four-lane, divided roadway with the benefits from coal synergy, estimated at \$2.3 billion, plus B) the additional cost of interchanges and connector roadways to serve local communities, bringing the total estimated cost to \$2.8 billion in 2013 dollars.

Two construction segments totaling approximately 12 miles were funded as part of Governor McDonnell's 2010 transportation funding initiative.

- Pound Connector in Wise and Dickenson Counties – approximately 7 miles
- Doe Branch in Buchanan County – approximately 5 miles

In addition, Hawks Nest segment in Buchanan County (dually designated as Corridor Q) – two miles – was partially funded in 2008 with a grant from Virginia's Transportation Partnership Opportunity Fund.

B. Corridor Q

There are approximately 14 miles of Corridor Q to complete in Virginia. VDOT, in coordination with ARC, has broken the remaining mileage into six construction segments:

- Route 460 Connector Phase I (under construction) – 1 mile
- Route 460 Connector Phase II – 6.2 miles
- CFX/Route 460 Interchange – 0.3 mile
- Hawks Nest in Buchanan County (dually designated as CFX) – 2 miles
- Poplar Creek in Buchanan County – (dually designated as CFX) – 2.5 miles
- Poplar Creek Connection at Grundy – approximately 2 miles

All segments of Corridor Q are eligible for federal funding through ARC's Appalachian Development Highway System. In 2012, Congress approved The Moving Ahead for

Progress in the 21st Century Act (MAP21) allowing for 100% federal funding for ADHS highways, including Corridor Q.²³

²³ Federal Highway Administration. MAP21: Appalachian Development Highway System (ADHS). Retrieved from <http://www.fhwa.dot.gov/map21/adhs.cfm>

VII. Environmental Protection

Strict environmental oversight measures will be enforced during construction of CFX and Corridor Q. VDOT in conjunction with FHWA will ensure compliance with the following legislative and regulatory requirements, including, but not limited to:

- Clean Air Act, as amended, 42 U.S.C. 1857 PL 95-95
- Virginia Air Pollution Control Law
- Federal Highway Administration's Noise Regulations, 23 CFR Part 772
- State Noise Abatement Policy
- National Historic Preservation Act, 16 U.S.C. 470f
- Section 106 of the National Historic Preservation Act, 16 U.S.C. 470f; 36 CFR Part 800; 36 CFR Part 60; 36 CFR Part 63
- Section 4(f), 23 CFR Part 774
- Endangered Species Act, 1973, as amended, 16 U.S.C. 1531-1544
- Virginia Department of Game and Inland Fisheries, State Endangered and Threatened Fish and Wildlife, Code of Virginia, 29.1-564
- Resource Conservation and Recovery Act of 1976 (RCRA), 40 CFR Part 260 et seq.
- Hazardous and Solid Waste Amendments (HSWA) of 1984
- Toxic Substance Control Act (TSCA) 40 CFR Part 761
- Virginia Solid Waste Management Regulations, 9 VAC 20-80 et seq.
- Virginia Hazardous Waste Management Regulations, 9 VAC 25-31-10 et seq. and 9 VAC 25-260 et seq.
- Clean Water Act, 33 U.S.C. 1251-1376
- Virginia Water Control Board Regulations, 9 VAC 25-91-10 et seq. and 25-280-10 et seq.
- Virginia General Permit, Code of Virginia, 28.2-103 and 28.2-1203
- Virginia Water Protection Permit Regulations, Title 62.1-44.15.5
- Virginia Stormwater Management Program
- Virginia Erosion and Sediment Control Law and Regulations, Code of Virginia, 10.1-561 et seq.

Coal extraction associated with the CFX project will be inspected regularly by the state's Department of Mines, Minerals and Energy, Division of Mined Land Reclamation.

As part of the preparation of the CFX National Environmental Policy Act (NEPA) re-evaluations, VDOT in cooperation with FHWA conducted additional coordination with the following federal, state, and local agencies.²⁴

- U.S. Department of Agriculture
- U.S. Army Corps of Engineers
- U.S. Department of Interior, Fish and Wildlife Service
- U.S. Department of Interior, Office of Surface Mining
- U.S. Forest Service, Clinch Ranger District
- Tennessee Valley Authority
- Virginia Department of Agriculture and Consumer Services
- Virginia Department of Conservation and Recreation
- Virginia Department of Environmental Quality, Air Division
- Virginia Department of Environmental Quality, Water Division
- Virginia Department of Forestry
- Virginia Department of Game and Inland Fisheries
- Virginia Department of Health
- Virginia Department of Health, Water Programs
- Virginia Department of Historic Resources
- Virginia Department of Mines, Minerals, and Energy
- Virginia Outdoors Foundation
- Cumberland Plateau Planning District Commission
- Lenowisco Planning District Commission
- Buchanan County Administrator
- Buchanan County Department of Health
- Buchanan County School Board
- Dickenson County Administrator
- Dickenson County Schools
- Wise County Administrator
- Wise County School Board

²⁴ U.S. Department of Transportation, Federal Highway Administration and Virginia Department of Transportation. (June 2012). *Environmental Assessment: Coalfields Expressway, Section II*. Retrieved from http://www.virginiadot.org/projects/resources/Bristol/CFX_SectionII_Environmental_Assessment_June2012.pdf

VIII. Description of CFX National Environmental Protection Act (NEPA) Sections

In coordination with the Federal Highway Administration, the CFX was divided into five sections for the NEPA re-evaluations, designated from west to east.

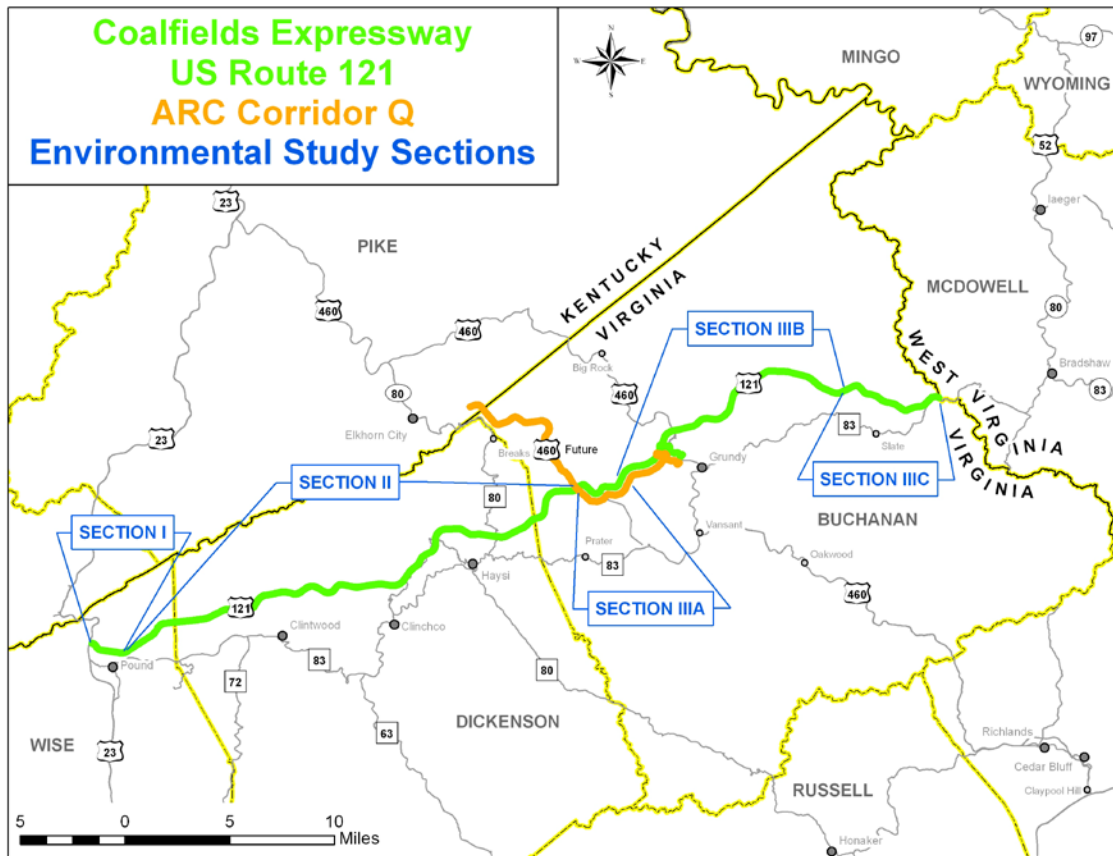


Figure 3: Environmental Study Sections

Section I: Between Route 23 near Pound in Wise County and extending approximately two miles eastward to Route 83. Section I location to be presented to the Commonwealth Transportation Board in January 2013.

Section II: From Route 83, extending eastward approximately 25 miles through Dickenson County and into Buchanan County, to a planned interchange that will link CFX with the Route

460 Connector. Section II location to be presented to the Commonwealth Transportation Board in January 2013.

Section III(A): Dubbed the Hawks Next Section, it extends from the CFX/Route 460 Connector interchange approximately two miles eastward to State Route 614. This section of highway is also a portion of Corridor Q of the Appalachian Development Highway System and is dually designated with CFX. This section of the project has already been rough graded by Alpha.

Section III(B): Includes the Poplar Creek Section, extends from State Route 614 to State Route 643, between Hawks Nest and Rock House Sections in Buchanan County, approximately 13.5 miles long.

Section III(C): Dubbed the Rock House Section, this section, in Buchanan County, is approximately five miles long, stretching from State Route 643 to the West Virginia State line.

IX. Important Transportation Milestones for CFX and the Appalachian Region

1964 - President's Appalachian Regional Commission (PARC) reported to Congress that overcoming isolation was necessary to improving the area's economy.

1965 - Congress authorized the construction of the Appalachian Development Highway System (ADHS).

1991 - Congress enacted the Intermodal Surface Transportation Efficiency Act (ISTEA), one purpose of which was to establish a "National Highway System which consists of the National System of Interstate and Defense Highways and those principal arterial roads which are essential for interstate and regional commerce and travel, national defense, intermodal transfer facilities, and international commerce and border crossings."²⁵ Congress also designates CFX in West Virginia as a Congressional High Priority Corridor.²⁶

1995 - Congress designated the Coalfields Expressway in Virginia as a Congressional High Priority Corridor, included it in the National Highway System, identified the general location of the corridor as running roughly parallel to Route 83, and authorized funding for planning and design of the CFX.

1995 - Virginia lawmakers set the stage for creative financing of transportation projects by adopting the Public Private Transportation Act (PPTA). PPTA allows private entities and VDOT to consider joint projects that will speed up construction, or make transportation projects more cost effective.

1998 - Congress approved the Transportation Efficiency Act for the Twenty-First Century (TEA 21), which appropriated an additional \$1 million for preliminary engineering for the Coalfields Expressway in Virginia.²⁷

²⁵ Intermodal Surface Transportation Efficiency Act of 1991. Retrieved from <http://ntl.bts.gov/DOCS/ste.html>

²⁶ West Virginia Department of Transportation. The Coalfields Expressway Story. Retrieved from <http://www.coalfieldsexpressway.com/history.html>

²⁷ U.S. Department of Transportation, Federal Highway Administration and Virginia Department of Transportation. (June 2012). *Environmental Assessment: Coalfields Expressway, Section II*. Retrieved from http://www.virginiadot.org/projects/resources/Bristol/CFX_SectionII_Environmental_Assessment_June2012.pdf

April 2000 - The Commonwealth Transportation Board (CTB) approved the PPTA concept for CFX.

May 2000 – Governor Jim Gilmore and the General Assembly designated CFX a high priority in the Virginia Transportation Act of 2000, authorizing \$53 million for the highway.²⁸

August 2000 - Virginia's CTB selected a location for the CFX, running roughly parallel to Virginia Primary Route 83.

Fall 2001 – VDOT, in cooperation with the Federal Highway Administration, completed a final Environmental Impact Statement in September 2001 and FHWA issued a Record of Decision for the CFX in November 2001.

January 2002 - Under provisions of Virginia's PPTA, VDOT entered into a Comprehensive Agreement with Kellogg Brown & Root Services (KBR) to design and build the CFX as a public-private partnership.²⁹

January 2006 - VDOT, KBR and Virginia coal mining companies Pioneer Group (later Rapoca Energy) and Alpha Natural Resources negotiated an agreement for Pioneer and Alpha to assume KBR's role in the CFX project. VDOT, Alpha and Pioneer then explore an innovative FHWA-approved construction process used successfully in West Virginia: coal synergy. The process reduces road-building costs substantially by using large-scale earth moving equipment from coal companies to prepare the road bed to rough grade, and allowing the companies to recover marketable coal unearthed during the road bed preparation.³⁰

September 2007 – After concluding a limited feasibility study, Alpha and Pioneer suggested changes to the previously selected corridor for CFX. Compared to the previous route, the new location would take advantage of coal recovery and provide a somewhat straighter alignment for the highway.³¹

²⁸ Virginia Department of Transportation. (Dec 2000). *Biennial Report: Fiscal 1998-1999 and 1999-2000*. Retrieved from <http://www.virginiadot.org/info/resources/bienreport.pdf>

²⁹ Virginia Department of Transportation. (Nov 2006). *Status of the Coalfields Expressway and the Coalfields Connector*. Report to the General Assembly. Retrieved from [http://leg2.state.va.us/dls/h&sdocs.nsf/fc86c2b17a1cf388852570f9006f1299/487f0880034191198525718f0060494d/\\$FILE/HD75.pdf](http://leg2.state.va.us/dls/h&sdocs.nsf/fc86c2b17a1cf388852570f9006f1299/487f0880034191198525718f0060494d/$FILE/HD75.pdf)

³⁰ *ibid.*

³¹ U.S. Department of Transportation, Federal Highway Administration and Virginia Department of Transportation. (June 2012). *Environmental Assessment: Coalfields Expressway, Section II*. Retrieved from http://www.virginiadot.org/projects/resources/Bristol/CFX_SectionII_Environmental_Assessment_June2012.pdf

March 2008 – Federal Highway Administration reinstated SEP-14, giving approval of a non-traditional contracting method with the coal companies using the coal synergy concept and the existing PPTA assumption agreement. The reinstatement of SEP-14 was based on the potential for schedule and cost savings for construction of CFX outlined in VDOT’s February 2008 CFX Decision Document.

September 2008 - VDOT, Alpha Natural Resources and Pioneer agree to assign Alpha to design and construct the Hawk’s Nest portion of CFX. Rough grade road bed was prepared at taxpayer cost of \$10 million, saving VDOT more than \$90 million by coordinating road preparation with active surface mining operation. This first section of rough grade was completed by June 2011.

March 2008 - VDOT and FHWA completed NEPA Reevaluation of CFX Section IIIA.

October 2008 - VDOT and FHWA completed NEPA Reevaluation of CFX Section IIIC.

December 2008 - VDOT and FHWA completed NEPA Reevaluation of CFX Section I.

December 2011 – VDOT, Alpha and Rapoca Energy (formerly Pioneer Group, Inc.) agreed to assign Alpha to begin preliminary engineering on the Pound Connector and Doe Branch construction segments of CFX.

June 2012 - VDOT and FHWA completed an Environmental Assessment of CFX Section II.

January 2013 - CTB considers location of Sections I and II of the Coalfields Expressway.

X. Abbreviations

ADHS	Appalachian Development Highway System
ARC	Appalachian Regional Commission
CFX	Coalfields Expressway
CTB	Commonwealth Transportation Board (Virginia)
FHWA	Federal Highway Administration
ISTEA	Intermodal Surface Transportation Efficiency Act, enacted in 1991
KBR	Kellogg Brown & Root Services
LENOWISCO	Regional agencies serving the Counties of Lee, Wise and Scott and the City of Norton
MAP21	Moving Ahead for Progress in the 21st Century Act, enacted in 2012
NEPA	National Environmental Policy Act, enacted in 1969
PARC	President's Appalachian Regional Commission
PPTA	Public-Private Transportation Act of 1995 (Virginia)
RCRA	Resource Conservation and Recovery Act of 1976
SEP-14	Special Experimental Projects No. 14 - Alternative Contracting
SRRA	Southwest Regional Recreation Authority
TEA 21	Transportation Equity Act for the Twenty-First Century, enacted in 1998
TSCA	Toxic Substances Control Act, enacted in 1976
VCEDA	Virginia Coalfield Economic Development Authority
VDOT	Virginia Department of Transportation