CHMURA

The Economic Impact of Coalfields Expressway in the CFX Corridor in Virginia and West Virginia

December 7, 2021

© 2021 Chmura Economics & Analytics

Outline

- Background of the project
- Economic impact of Coalfield Expressway (CFX)
  - One-time construction
  - User benefits
  - Roadside services
- Fiscal impact and payback analysis
- Other benefits
- Case study findings

© 2021 Chmura Economics & Analytics

BACKGROUND

© 2021 Chmura Economics & Analytics

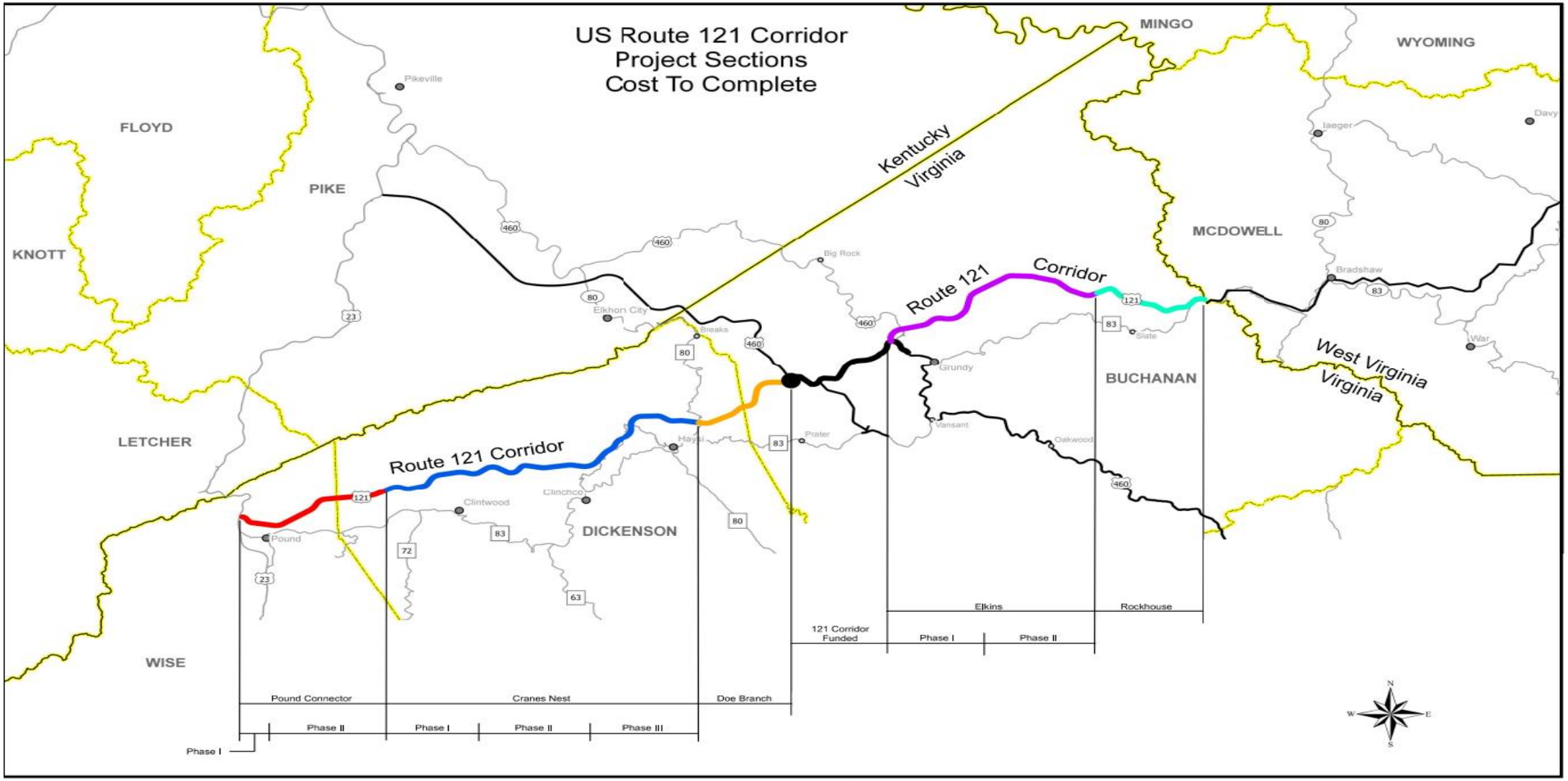
Background

- History
  - Congress defined West Virginia CFX in 1991 and Virginia portion in 1995
  - Final Environmental Impact Assessment (FEIS) completed in 1999 for West Virginia and 2001 for Virginia
  - Funding issues delayed Virginia CFX development, but West Virginia CFX made progress
  - In 2013, Chmura prepared an economic impact of CFX

© 2021 Chmura Economics & Analytics

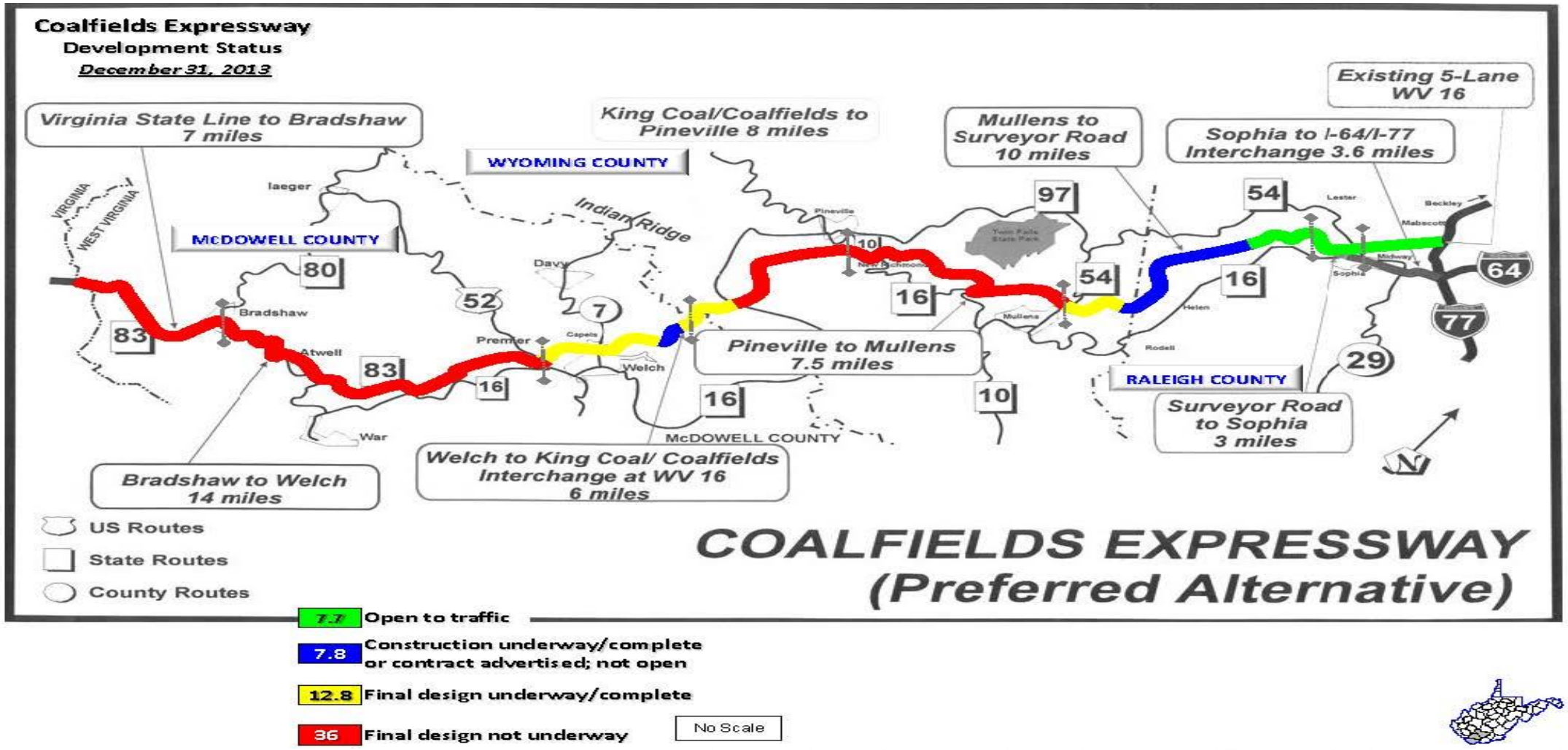
Background-CFX Corridor Location

Background-Virginia CFX Location



© 2021 Chmura Economics & Analytics

Background-West Virginia CFX Location



© 2021 Chmura Economics & Analytics

ECONOMIC IMPACTS OF CFX

© 2021 Chmura Economics & Analytics

Construction Impact

- Cost of Virginia CFX is $3.1 billion in 2021 dollars
  - Including $400 million for US-460 overlap segment
- Cost of West Virginia CFX is estimated to be $1.1 billion in 2021 dollars
- Total cost is $4.2 billion, with a development time frame from 2013 to 2038

© 2021 Chmura Economics & Analytics

One-Time Economic Impact of CFX Construction

Economic Impact of CFX Construction in CFX Corridor (Cumulative, 2013-2038, Current Dollars)

		Direct	Indirect	Induced	Total
Virginia	**Spending ($Million)**	$3,238.4	$682.2	$700.7	$4,621.2
	Employment	19,511	4,880	5,423	29,813
West Virginia	**Spending ($Million)**	$867.7	$182.8	$187.8	$1,238.3
	Employment	6,735	1,685	1,872	10,292
Total	**Spending ($Million)**	**$4,106.1**	**$865.0**	**$888.5**	**$5,859.5**
	Employment	**26,246**	**6,565**	**7,294**	**40,105**

Note: Numbers may not sum due to rounding

Source: JobsEQ by Chmura

© 2021 Chmura Economics & Analytics

One-Time Economic Impact of CFX Construction, Annual Average

Economic Impact of CFX Construction in CFX Corridor (Annual Average 2013-2038, Current Dollars)

		Direct	Indirect	Induced	Total
Virginia*	**Spending ($Million)**	$124.6	$26.2	$26.9	$177.7
	Employment	750	188	209	1,147
West Virginia	**Spending ($Million)**	$33.4	$7.0	$7.2	$47.6
	Employment	259	65	72	396
Total	**Spending ($Million)**	**$157.9**	**$33.3**	**$34.2**	**$225.4**
	Employment	**1,009**	**252**	**281**	**1,543**

Note: Numbers may not sum due to rounding

Source: JobsEQ by Chmura

* Shows only the one-time economic impact of VDOT spending on the Virginia portion.

© 2021 Chmura Economics & Analytics

One-Time Economic Impact of Construction

- The cumulative direct impact of capital investment is $4.1 billion in spending that can support 26,246 cumulative jobs in the Corridor from 2013 to 2038.
- The cumulative ripple effect (indirect plus induced) of capital investment can generate $1.8 billion in spending and 13,859 cumulative jobs in the Corridor.
- **Annual average impacts are $225.4 million and 1,543 jobs in the Corridor from 2013 to 2038.**

© 2021 Chmura Economics & Analytics

Annual User Benefit

Travel Time Savings (Minutes)

	No Build	Proposed CFX	Time Saving
CFX Virginia	124	63	49%
CFX West Virginia	155	77	50%
Total CFX	279	140	50%

Source: VDOT and WVDOT

Annual Travel Efficiency and Cost Saving ($Million, 2039)

	Virginia	West Virginia	Total
Efficiency Improvement	$14.5	$30.5	$45.0
Vehicle Maintenance Cost Saving	$12.6	$26.4	$39.0
Safety	$1.2	$4.0	$5.2
Total Benefits	**$28.3**	**$61.0**	**$89.2**

Source: Chmura Economics & Analytics

© 2021 Chmura Economics & Analytics

Annual User Benefit

- CFX can reduce the travel time of the whole length from 279 minutes to 140 minutes, a reduction in time of 50%.
- Total user benefits are estimated to be $89.2 million per year in 2039.
  - Value of time saving is estimated to be $45.0 million per year
  - Faster travel/less distance saves fuel and vehicle operation costs, which are estimated to be $39.0 million per year
  - Divided lanes and limited access can reduce accidents, with a cost savings of $5.2 million per year

© 2021 Chmura Economics & Analytics

Roadside Businesses

CFX Corridor Average Daily Traffic (ADT) Volumes

Location	2039 Traffic Projection
Wise, VA	4,753
Dickenson, VA	7,646
Buchanan, VA	6,978
McDowell, WV	8,863
Wyoming, WV	15,108
Raleigh, WV	15,713
Average	**8,910**

Source: VDOT, WVDOT, and Chmura

Number of CFX Preliminary Access Points in Corridor Counties

Location	
Wise, VA	3
Dickenson, VA	13
Buchanan, VA	8
McDowell, WV	9
Wyoming, WV	4
Raleigh, WV	3
Total	**40**

Source: VDOT and WVDOT

© 2021 Chmura Economics & Analytics

Projected Roadside Businesses

Projected Businesses Establishments in Road-side Services

	Wise	Dickenson	Buchanan	McDowell	Wyoming	Raleigh	CFX Corridor
Number of Interchanges	3	13	8	9	4	3	40
Motels	3	1	4	4	3	8	23
Gas Stations	4	1	7	7	3	7	29
Fast-food Restaurants	2	0	5	5	0	6	18
Sit-down Restaurants	0	0	2	2	0	5	9
Total	**9**	**2**	**18**	**18**	**6**	**26**	**79**

Source: JobsEQ by Chmura

© 2021 Chmura Economics & Analytics

Economic Impact of Projected Roadside Businesses

Economic Impact of Service Businesses in CFX Corridor (Annual 2039 Onward)

		Direct	Indirect	Induced	Total
Virginia	**Spending ($Million)**	$41.8	$6.2	$7.3	$55.3
	Employment	350	36	56	441
West Virginia	**Spending ($Million)**	$72.6	$11.0	$13.0	$96.6
	Employment	632	65	99	795
Total	**Spending ($Million)**	**$114.4**	**$17.2**	**$20.3**	**$151.9**
	Employment	**981**	**100**	**154**	**1,236**

Note: Numbers may not sum due to rounding

Source: JobsEQ by Chmura

© 2021 Chmura Economics & Analytics

Ongoing Economic Impact of Service Businesses

- The CFX can directly support
  - $114.4 million annual sales
  - 981 jobs in the Corridor in 2039
- The ripple effect (indirect plus induced) can support
  - $37.5 million economic output
  - 254 additional jobs in the Corridor in 2039
- **The total economic impact can support**
  - **$151.9 million economic output**
  - **1,236 jobs in the Corridor in 2039**

© 2021 Chmura Economics & Analytics

STATE AND LOCAL FISCAL IMPACTS

© 2021 Chmura Economics & Analytics

Sources of State Impact

- Construction period
  - State income tax from construction jobs and profits
- Service Businesses
  - Individual income tax from salaries
  - Corporate income tax from profits
  - Sales tax from retail sales

© 2021 Chmura Economics & Analytics

State Fiscal Impact

State Tax Estimate-Virginia ($Million)

	Corporate Income Tax	Personal Income Tax	State Sales Tax	Total
Construction (Total 2013-2038)	$3.1	$67.5		$70.6
Roadside Services (Annual 2039)	$0.1	$0.6	$1.8	**$2.5**

Source: Chmura Economics & Analytics

State Tax Estimate-West Virginia ($Million)

	Corporate Income Tax	Personal Income Tax	State Sales Tax	Total
Construction (Total 2013-2038)	$0.9	$12.0		$12.9
Roadside Services (Annual 2039)	$0.1	$0.9	$4.4	**$5.3**

Source: Chmura Economics & Analytics

- $2.5 million annual taxes for Virginia from 2039 onward
- $5.3 million annual taxes for West Virginia from 2039 onward
- Tax revenues from construction activities

© 2021 Chmura Economics & Analytics

Local Fiscal Impact (From Only Direct Impact)

Local Tax Estimate-Virginia Localities ($Million)

	Sales	Meal	Lodging Tax	Total
Construction (Total 2013-2038)*				$0.0
Roadside Services (Annual 2039)	$0.4	$0.02	$0.3	**$0.7**

Source: Chmura Economics & Analytics

Local Tax Estimate-West Virginia ($Million)

	B&O Tax	Lodging Tax	Total
Construction (Total 2013-2038)	$11.9		$11.9
Roadside Services (Annual 2039)	$0.4	$0.7	$1.1

Source: Chmura Economics & Analytics

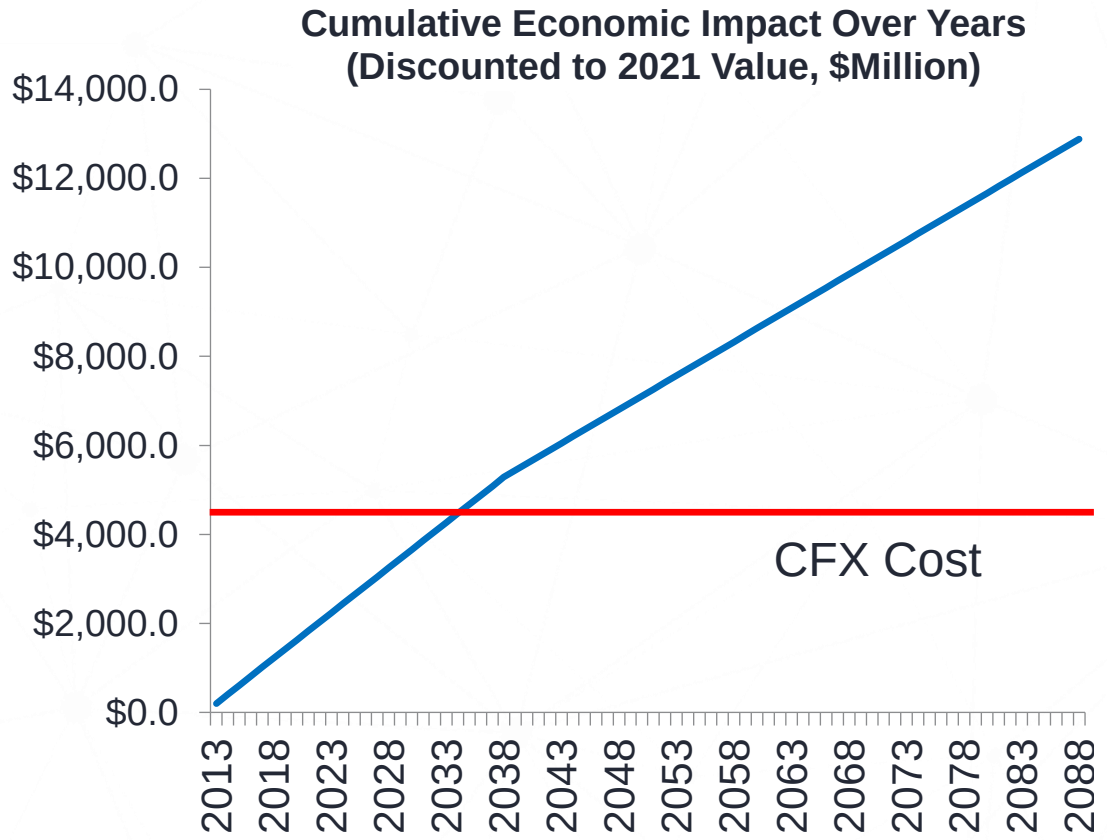
- $0.7 million annual taxes for three localities in Virginia from 2039 onward
- $1.1 million annual taxes for three localities in West Virginia from 2039 onward

* The Virginia counties in the corridor do not have BPOL taxes

© 2021 Chmura Economics & Analytics

Payback Analysis

- 50-years lifespan of the road after competition
- Discounted economic impact is estimated to be $12.8 billion in 2021 dollars from 2013 to 2088
- Compared with cost of $4.1 billion, each dollar of CFX investment can result in $3.1 dollars in economic benefit
- The estimated cumulative economic impact exceeds cost in 2033



© 2021 Chmura Economics & Analytics

Economic and Fiscal Impact Summary

	Total Economic Impact ($Million)	Total Employment	State Tax Revenues ($Million)	Local Tax Revenues ($Million)
Average Annual One-time Construction Impact (2013-2038)				
CFX Virginia	$177.7	1,147	$2.7	$0.0
CFX West Virginia	$47.6	396	$0.5	$0.5
CFX Corridor	**$225.4**	**1,543**	**$3.2**	**$0.5**
On-going Impact (2039)-CFX Virginia				
Total User Benefits	$28.3			
Roadside Services	$55.3	441	$2.5	$0.7
Total CFX Virginia Corridor 2039	**$83.5**	**441**	**$2.5**	**$0.7**
On-going Impact (2039)-CFX West Virginia				
Total User Benefit	$61.0			
Roadside Services	$96.6	795	$5.3	$1.1
Total CFX West Virginia Corridor 2039	**$157.6**	**795**	**$5.3**	**$1.1**
On-going Impact (2039)-CFX Corridor				
Total User Benefits	$89.2			
Roadside Services	$151.9	1,236	$7.8	$1.8
Total CFX Corridor 2039	**$241.1**	**1,236**	**$7.8**	**$1.8**

Source: Chmura Economics & Analytics

© 2021 Chmura Economics & Analytics

OTHER BENEFITS

© 2021 Chmura Economics & Analytics

Other Benefits

- CFX will benefit mining, manufacturing, and agricultural businesses in the Corridor
  - Coal is the top exporting commodity in the Corridor, CFX can reduce cost to ports
  - CFX reduces cost of Corridor manufacturing and agricultural products to population centers in the eastern and mid-west
- Business attraction for expanding or relocating firms
- Improved tourism
- Population growth, especially in the age of COVID and widespread remote-work
- Quality of life – education, healthcare, entertainment opportunities

© 2021 Chmura Economics & Analytics

QUESTIONS AND DISCUSSION

© 2021 Chmura Economics & Analytics

CHMURA