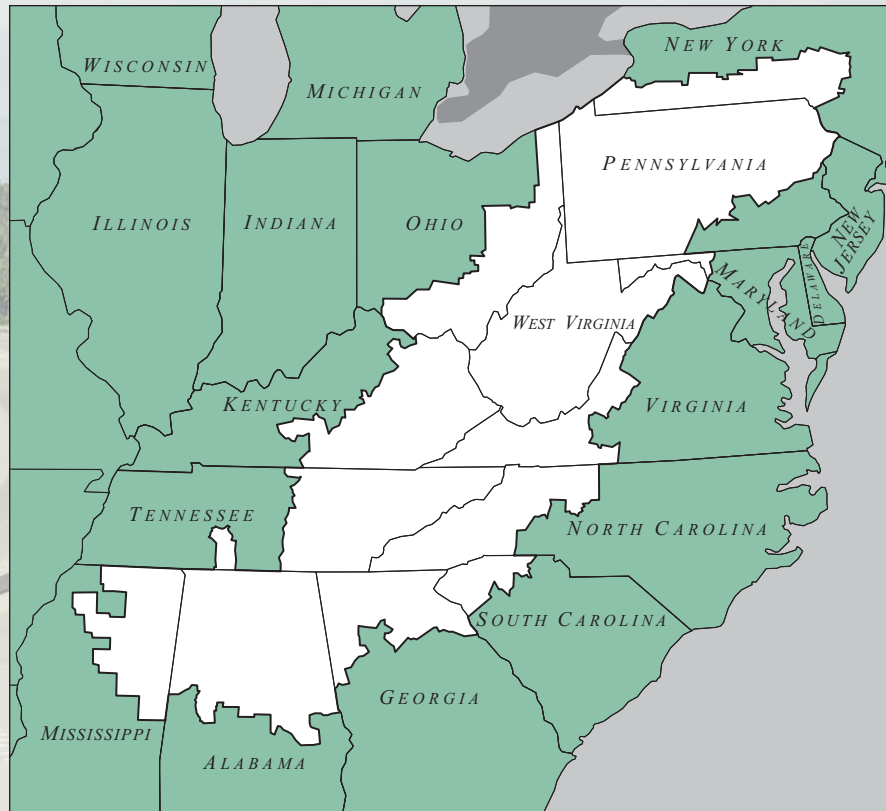




**EXECUTIVE SUMMARY**  
Appalachian Development Highway System  
Cost-to-Complete Report  
October 2012



## Appalachian Region



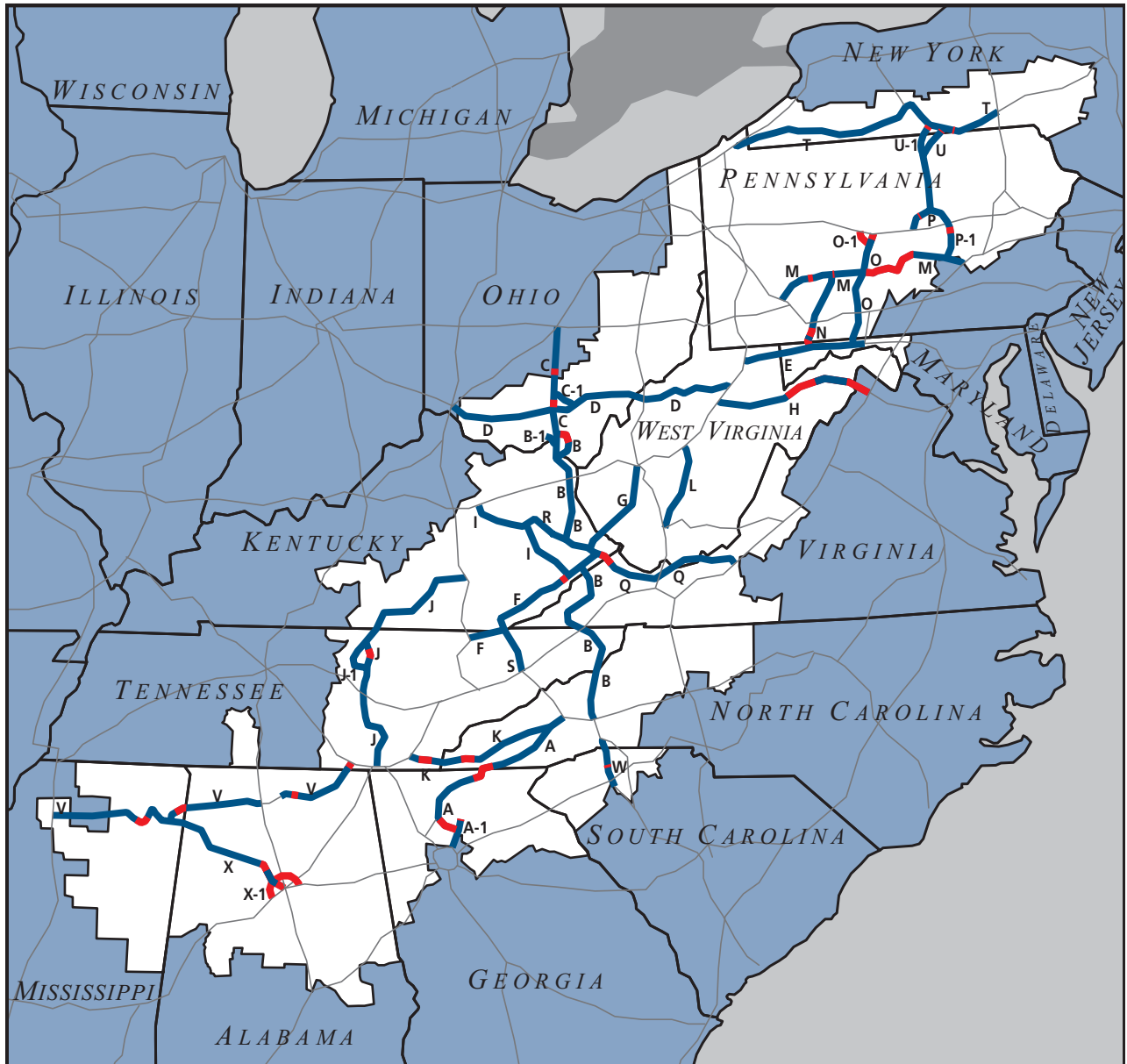
Congress created the Appalachian Regional Commission (ARC) in 1965 to facilitate economic and social development in the Appalachian Region. The Appalachian Region is a 205,000-square-mile region that follows the spine of the Appalachian Mountains from southern New York to northern Mississippi. It includes all of West Virginia and parts of 12 other states: Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia. The Region covers 420 counties and is home to 25 million people.

## EXECUTIVE SUMMARY

Congress created the Appalachian Development Highway System (ADHS) expressly to provide economic-growth opportunities for the Appalachian Region—the same benefits afforded the rest of the nation through the construction of the Interstate Highway System. Because of the high cost of building roads in Appalachia’s mountainous terrain, the Region had been largely bypassed by the Interstate Highway System, compounding the problems of the Region’s already troubled economy. The ADHS is a system of modern highway corridors designed to supplement the Interstate Highway System and other federal-aid highway programs. A total of 3,090 miles of ADHS corridors are authorized to be constructed by the Appalachian Regional Development Act of 1965, as amended.



## Appalachian Development Highway System as of September 30, 2011



- ADHS Miles Open to Traffic
- ADHS Miles Not Open to Traffic
- Interstate Highway System

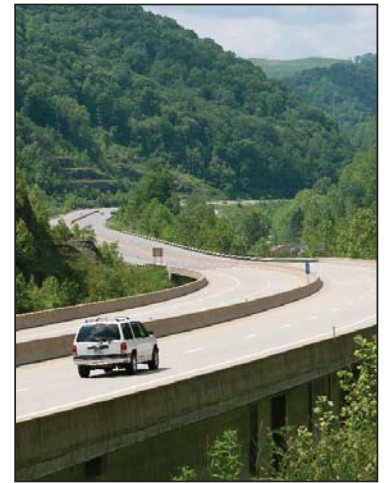
## Background

Every five years, ARC, in cooperation with the Federal Highway Administration (FHWA) and the state departments of transportation (DOTs), develops an estimate of the cost to complete the ADHS corridors. The last cost-to-complete estimate, completed in 2007, found that as of September 30, 2006, a total of 2,362.3 miles, or more than 76 percent of the 3,090 ADHS miles authorized by Congress, were complete; 144.3 miles were open to traffic with stage construction remaining; 128.9 miles were in the construction stage; and 454.6 miles were in either the location stage or the design stage.

The 2007 total estimated cost to complete the ADHS (combined federal and state costs in 2005 dollars) was \$11.8 billion, including \$309 million in pre-financed projects under construction with state funds. At an 80 percent participation rate, the federal share of the cost to complete the ADHS was estimated at \$9.4 billion. However, due to limitations on federal funds placed on several states by ARC, the actual federal share of the cost to complete the ADHS was \$8.8 billion. With \$2.3 billion in available federal funding, the remaining federal funding needed to complete the ADHS was \$6.5 billion.

## 2012 Cost-to-Complete Estimate

ARC, FHWA, and the state DOTs began work on the 2012 cost-to-complete estimate in 2011. In preparing their estimates, the state DOTs used estimating processes consistent with those used for other projects in a similar state of development. In addition, estimates were prepared in accordance with prevailing federal-aid highway policies, highway stan-



## Cost to Complete the ADHS, by State as of September 30, 2011

State	Cost to Complete ADHS Corridors	Available Funds	Remaining Funds Needed	Percentage of Total Remaining Funds Needed
Alabama	\$3,254,690,000	\$204,550,007	\$3,050,139,993	35.66%
Georgia	408,029,000	239,214,917	168,814,083	1.97%
Kentucky	812,416,000	137,929,479	674,486,521	7.89%
Maryland	289,647,000	101,578,621	188,068,379	2.20%
Mississippi	30,978,000	7,285,146	23,692,854	0.28%
New York	38,366,000	47,738,522	0	0.00%
North Carolina	823,195,000	284,412,016	538,782,984	6.30%
Ohio	459,655,000	130,430,317	329,224,683	3.85%
Pennsylvania	3,160,092,000	571,721,016	2,047,713,984*	23.94%
South Carolina	0	26,329,919	0	0.00%
Tennessee	701,207,000	308,849,967	392,357,033	4.59%
Virginia	582,706,213	172,657,727	410,048,486	4.79%
West Virginia	830,215,974	100,679,866	729,536,108	8.53%
<b>Total</b>	<b>\$11,391,197,187</b>	<b>\$2,333,377,520</b>	<b>\$8,552,865,108*</b>	<b>100%</b>

\* Remaining funds needed reflects federal funding limitations on Corridors O-1 and P-1 in Pennsylvania.

dards and specifications, and guides used for typical federal-aid highways. FHWA, through its state division offices, reviewed the state cost estimates to validate procedures and results. State DOT chief executives and FHWA state division administrators were asked to certify that their ADHS 2012 cost-to-complete estimates had been developed according to prescribed guidelines.

The 2012 cost-to-complete estimate found that as of September 30, 2011, a total of 2,488.6 miles, or more than 80 percent of the total 3,090 ADHS miles authorized by Congress, were complete; 154.3 miles were open to traffic with stage construction remaining; 73.5 miles were in the construction stage; and 373.7 miles were in either the location stage or the design stage.

The 2012 total estimated cost to complete the ADHS (in 2010 dollars) is \$11.4 billion, including \$32 million in projects pre-financed with state funds. As of September 30, 2011, there was \$2.3 billion in federal funding available for the ADHS.

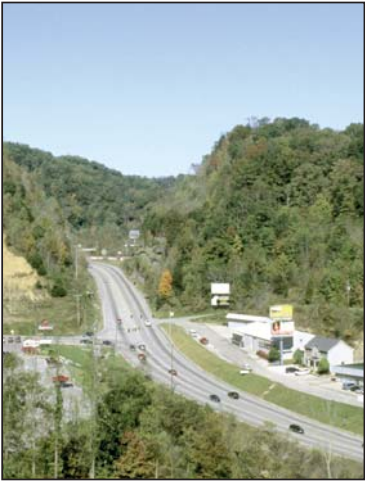
Between the 2007 and the 2012 cost estimates, the total estimated cost to complete the ADHS decreased from \$11.8 billion to \$11.4 billion. During this time 162.8 miles of ADHS corridors were opened to traffic. The estimated cost for the remaining miles of ADHS corridors increased due to a number of factors, including inflation related to rising prices for oil. Other factors included refinement of cost estimates for environmental mitigation measures and design changes.

## Funding for the ADHS

Since fiscal year (FY) 1999, annual funding for the completion of the ADHS has been provided from the federal Highway Trust Fund. From FY 1999 through FY 2012, funds authorized for the ADHS were apportioned to the Appalachian states annually based on each state's proportional share of the cost to complete the ADHS, as specified in the latest cost-to-complete estimate.

In July 2012, Congress changed the way the ADHS is funded. The transportation law Moving Ahead for Progress in the 21st Century (MAP-21) includes ADHS funding as part of the larger Surface Transportation Program (STP). Under MAP-21, STP funds are apportioned to the Appalachian states, with each state using the funding at its own direction. The law also increases the federal share of funding for ADHS corridors and access roads from 80 percent to 100 percent. The 100 percent federal share applies to funds apportioned to the ADHS in prior years and new funds apportioned to the states and used for





ADHS construction. The authority for 100 percent federal funding extends from FY 2012 through FY 2021.

A "Sense of the Senate" provision in MAP-21 states that "the timely completion of the Appalachian Development Highway System is a transportation priority in the national interest." Underscoring Congress's interest in prioritizing the completion of the ADHS is another provision in the law that requires each of the 13 Appalachian states to establish, within one year, a plan to finish the construction of its designated corridors.

### **Economic Impact of Completing the ADHS**

In 2007, ARC commissioned a study to assess the economic impact of completing the ADHS. The study determined that a significant portion of user benefits would accrue to the nation as a whole, due to reductions in travel time, while the majority of economic benefits would accrue to the Appalachian Region. Therefore, economic benefit-cost ratios were developed from two perspectives—that of the Appalachian Region and that of the nation as a whole. While costs are the same from each perspective, benefits vary in important ways. Completing the ADHS would benefit the Region by increasing access to markets, resulting in increased competitiveness and economic growth for Appalachia. The nation as a whole would benefit because a significant share of traffic on the ADHS would consist of long-distance freight shipments with origins and destinations outside the Region.



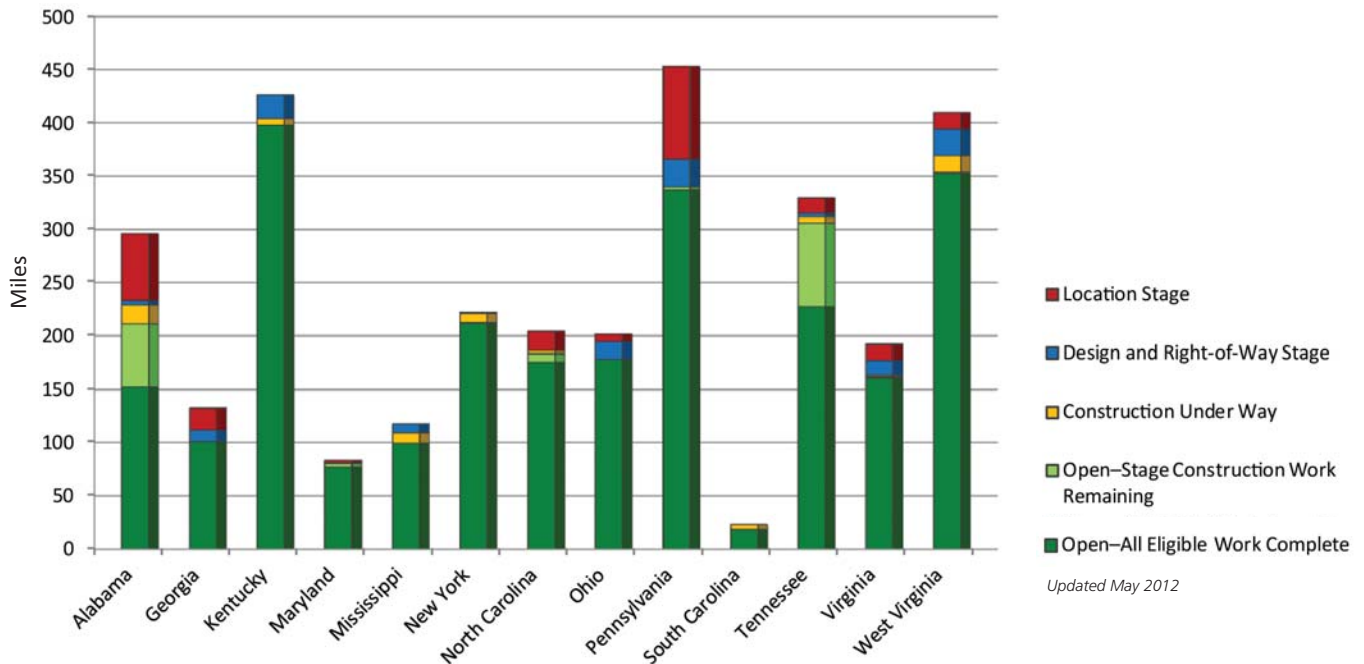


## Status of Completion of the ADHS (Miles) (as of September 30, 2011)

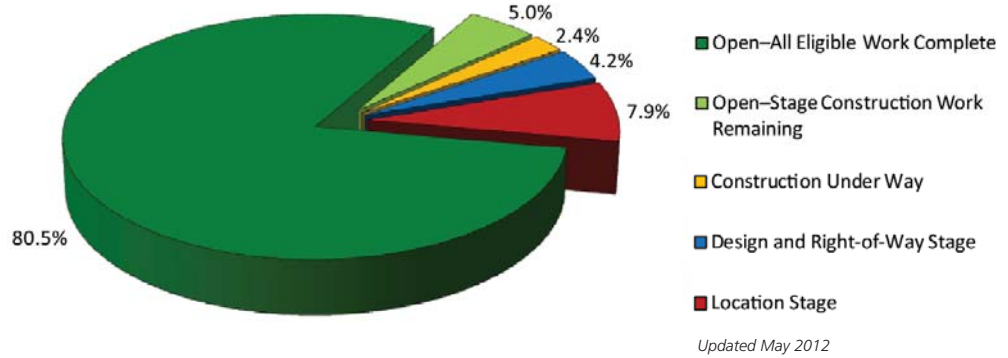
State	Total Miles Eligible for ADHS Funding	MILES NOT OPEN TO TRAFFIC			MILES OPEN TO TRAFFIC	
		Location Study Needed or Under Way	Design and/or Right-of-Way Under Way	Construction Under Way	Remaining Stage Construction	Complete
Alabama	295.7	62.5	4.4	17.8	58.6	152.4
Georgia	132.5	20.5	11.1	0.0	0.0	100.9
Kentucky	426.3	0.0	22.1	6.5	0.0	397.7
Maryland	83.2	2.5	0.0	0.0	3.7	77.0
Mississippi	117.5	0.0	8.3	9.8	0.0	99.4
New York	222.0	0.0	1.1	8.6	0.7	211.6
North Carolina	204.3	18.1	0.0	2.8	8.0	175.4
Ohio	201.5	7.1	16.2	0.0	0.0	178.2
Pennsylvania	453.1	87.4	25.9	0.0	2.9	336.9
South Carolina	22.9	0.0	0.0	4.3	0.0	18.6
Tennessee	329.3	14.1	3.4	6.3	78.3	227.2
Virginia	192.2	15.3	13.4	1.6	1.2	160.7
West Virginia	409.6	15.3	25.0	15.8	0.9	352.6
<b>Total</b>	<b>3,090.0</b>	<b>242.8</b>	<b>130.9</b>	<b>73.5</b>	<b>154.3</b>	<b>2,488.6</b>

Notes: Totals may not add because of rounding. Table updated May 2012.

## Status of Completion of the ADHS: Number of Miles in Each Stage of Development, by State (as of September 30, 2011)



## Status of Completion of the ADHS: Percentage of Miles in Each Stage of Development (as of September 30, 2011)



The study estimated the economic benefit-cost ratio of completing the ADHS at 3.6 to 1 for the Appalachian Region, using a medium-growth scenario based on the most conservative, high-cost projections. The estimated ratio for the nation, using the same scenario, is 3.1 to 1. In addition, the study estimated the travel-efficiency benefit-cost ratio of completing the ADHS, using the medium-growth scenario based on the most conservative, high-cost projections, at 1.9 to 1 for the Appalachian Region and 2.9 to 1 for the nation as a whole.

### Looking Ahead

The provisions of MAP-21 present an important opportunity for the completion of the ADHS. By increasing the federal share of funding on ADHS corridors to 100 percent, the law enables the Appalachian states to plan, design, and construct ADHS corridors without relying on state funds, and will free up state funds for other projects. The law also makes \$2.3 billion in unobligated funds available to the states at 100 percent federal share.

The economic impetus to complete the ADHS has never been more compelling. In today's global marketplace, a modern system of highways is essential for economic growth and for enabling Appalachia to become a net contributor to the national economy.

ARC strongly supports the completion of the ADHS corridors.



Photos by Ken Murray.



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