



APPALACHIAN REGIONAL COMMISSION

**Status of the Appalachian
Development Highway System**
as of September 30, 2011



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GENERAL REPORT

Appalachian Development Highway System (ADHS)

Purpose of the ADHS

In 1964, the President's Appalachian Regional Commission (PARC) reported to Congress that economic growth in Appalachia would not be possible until the Region's isolation had been overcome. The nation's Interstate Highway System had largely bypassed the Appalachian Region, going through or around the Region's rugged terrain as cost-effectively as possible.

The PARC report recommended, and Congress authorized, construction of the Appalachian Development Highway System (ADHS) in the Appalachian Development Act of 1965. The ADHS was 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.

Cost to Complete the ADHS

According to the most recent ADHS Cost-to-Complete Study of 2007, the total estimated cost to complete the ADHS is \$11.8 billion in 2005 dollars as of September 30, 2006. The federal share, at 80 percent participation, would be \$9.4 billion, however due to limitations imposed on the states of Mississippi, New York, Pennsylvania and Virginia by ARC for specific ADHS corridors or corridor segments, the federal share is \$8.8 billion. After deducting available federal funds, including the FY 2008 and FY 2009 apportionments, the federal funds needed from Congress to complete the ADHS is estimated to be \$6.5 billion in 2005 dollars.

Funding for the ADHS

Prior to 1999, funding for the ADHS was provided through annual appropriations in the Energy and Water Development Appropriations Acts. In FY 1999, for the first time, annual funding for the completion of the ADHS was provided from the Federal Highway Trust Fund, in the Transportation Equity Act for the 21st Century (TEA-21). The act provides a steady and substantial source of funding for the Appalachian highway program through FY 2003.

TEA-21 provides annual authorizations of \$450 million for the ADHS for FY 1999 through FY 2003, for a total of \$2.25 billion over the five-year period from the Highway Trust Fund. This funding level was also continued in a series of surface transportation extension acts following the expiration of TEA-21. Although the funds are authorized from the Highway Trust Fund, ARC continues to exercise programmatic and administrative control over the funds. This ensures that the governors of the 13 Appalachian states continue to determine where and how the money is used on ARC highways in their states. The \$450 million authorized in TEA-21 is apportioned to 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.

Section 1101 of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) provides annual authorizations of \$470 million for the ADHS for FY 2005 through FY 2009, for a total of \$2.35 billion over the five-year period from the Highway Trust Fund. The \$470 million authorized in SAFETEA-LU is again apportioned to states annually based on each state's proportional share of the cost to complete the ADHS as specified in the latest available ADHS Cost to Complete Estimate.

In FY 2010, \$470 million for the ADHS was authorized through the Surface Transportation Extension Act of 2010 and apportioned in the same manner as defined in SAFETEA-LU.

In FY 2011, \$517,796,946 for the ADHS was authorized through the Surface Transportation Extension Act of 2010 as amended by the Surface Transportation Extension Act of 2010 Part II and the Surface Transportation Extension Act of 2011.

Periodically, Congress also appropriate additional funds to ADHS through annual DOT or related appropriation bills. The Appalachian Development Highway System Section of the Transportation, Treasury, Housing and Urban Development, The Judiciary, the District of Columbia, and Independent Agencies Appropriations Act for FY 2006 appropriated an additional \$20 million for ADHS. This fund is to be allocated for Corridor H in West Virginia.

Section 101(a) of the Revised Continuing Appropriations Resolution for FY 2007 (PL 110-5) maintains the funding appropriated for the ADHS in FY 2007 at the FY 2006 level. As a result, under the provisions of Title I of Division A of the Transportation, Treasury, Housing, and Urban Development, the Judiciary, the District of Columbia, and Independent Agencies Appropriations Act FY 2006 (PL 109-115), \$19.8 million was appropriated for the ADHS after a government-wide rescission under the provisions of Section 101(c)(2) of Public Law 110-5. These funds were distributed by the formula to all 13 Appalachian States set forth in Section 1116(a) of SAFETEA-LU (PL 109-59).

Under the provisions of Division K of the Consolidated Appropriations Act for FY 2008 (PL 110-161), \$15,680,000 was appropriated for the ADHS. This fund is to be allocated for Corridor H in West Virginia.

Benefits of the ADHS

Studies of the ADHS were undertaken to evaluate the impact of corridors on economic development and on highway safety.

A recent economic impact study on ADHS conducted by Cambridge Systematics, Inc with Economic Development Research Group, Inc, is published in June 2008. The objective of this study is to assess the travel performance, trade, and economic development impacts directly related to completing the ADHS. In addition, the study also assessed connectivity, accessibility and network effects – in order words, how do the ADHS corridor improvements connect Appalachian people and businesses to other highway facilities, multimodal transportation, and economic markets. The study produced estimates of near-term and long-term travel and economic benefits, including benefit/cost analysis to demonstrate the expected economic return on investment of completing the ADHS to both the ARC region and the nation. The key study findings include:

- Completion of the ADHS will result in a significant reduction in travel time for personal, business, and long-distance freight trips. By 2020, the aggregate savings in travel time is estimated to be over 67 million hours (240,000 hours daily of travel time saved), and grow to almost 180 million hours of reduced travel time by 2035.

- The improvements on the to-be-completed ADHS segments will result in a dramatic increase in traffic using largely rural interstates and expressways. Average daily traffic volumes are expected to increase by approximately 130 percent compared to not completing the corridor segments. Despite the increase in traffic volumes, adding new capacity will result in lower total travel times with average speeds roughly doubling.
- ADHS corridor improvements will produce significant monetized travel benefits to individuals and businesses both within and outside the ARC region. Total user benefits (travel time, fuel and non-fuel operating costs, and safety) are estimated to be \$1.3 billion in 2020, the year of system completion, and grow to \$4.3 billion by 2035. Over half the benefit is expected to accrue to business-related travel – commodity-based truck flows, local non-freight truck trips, and on-the-clock auto trips.
- Over 90 percent of auto and non-freight truck benefits are estimated to accrue to the ARC region based on the origin-destination pattern of trips. However, over 65 percent of benefits to freight flows are external to the ARC region, reflecting the long-distance nature of the shipments impacted and the national importance of completing the ADHS to facilitate goods movement into, out of and through the ARC region.
- Completion of the ADHS will also result in market accessibility improvements for large segments of the ARC region. 235 out of 410 ARC counties are expected to see reductions in travel time to the nearest commercial airport, with 26 counties experiencing an 8 percent or greater reduction in travel time. 325 out of 410 counties are estimated to increase their accessibility to buyer and supplier markets within a 3 hour drive, with 59 counties experiencing an improvement greater than 10 percent.
- Improvements in market accessibility for the ARC region will directly lead to increased economic development opportunities for the region. Accessibility gains were measured in for labor, customer, tourist, buyer, and supplier markets as well as reduced travel times to seaports, border crossings, airports, and intermodal rail facilities. The ARC region is estimated to gain upwards of \$2.1 billion in value added due to market accessibility gains by 2035, with a gradual phase-in of impacts based on historic time-series analysis.

- The industries projected to benefit most directly from ADHS completion in terms of business retention, expansion and relocation include: warehousing and distribution, manufacturing, mining and utilities, professional services, and other business services.
- Total economic impacts for the ARC region include the direct effects of reduced travel time and costs, along with increased regional competitiveness via market accessibility gains and multiplier effects. These effects gradually increase over time and by 2035 are estimated to total approximately 80,500 jobs, \$5.0 billion in increased value added production, and \$3.2 billion in increased wages for ARC region workers.
- Total capital costs (in 2007 dollars) to complete the remaining segments of the ADHS are estimated to be \$11.2 billion. However, when applying construction inflation factors to the future time series of construction costs, the total cost is \$16.6 billion. In present value terms, applying a 5% real discount rate and incorporating future operations & maintenance costs, total cost is estimated to be \$12.2 billion.
- Economic return on investment in the form of benefit/cost ratios were estimated from two perspectives: (1) ARC region; and (2) entire U.S. While costs are the same from either perspective, benefits vary in two important ways. Market accessibility-based economic development gains primarily accrue to the ARC region as it becomes more competitive and captures a larger share of future economic growth. Meanwhile, travel efficiency benefits are higher for the U.S. since a significant share of impacted trips are long-distance freight shipments with origins and destinations outside the ARC region. Correspondingly, the estimated benefit/cost ratio for the ARC region is 3.5 with a probable range of 1.9 to 6.2. At the U.S. level, the estimated return on investment yields \$3.00 for every dollar invested.

The study of the impact of improvements on the ADHS on highway safety was completed in 1999. The study compared crash rates on completed portions of the ADHS with crash rates on existing highway to be improved or replaced in the unbuilt portions of the ADHS. Data was collected from highway agencies in all 13 states through FHWA division offices. Average crash rates were developed for the Region for built and unbuilt highways for two- and four-lane highways. Comparison between average crash rates on

built sections of the ADHS and average crash rates on existing highways (in unbuilt ADHS sections) shows a substantial reduction to the crash rates has been obtained and can be expected as the result of improvements in ADHS corridors. As an example, comparison shows replacing an existing two-lane highway with a four-lane divided highway can reduce the crash rate by over 60 percent.

Status of Completion

At the end of FY 2011, a total of 2,720.2 miles, or 88.0 percent of the 3,090 miles authorized for the ADHS, were open to traffic or under construction. Another 118.2 miles were in the final design or right-of-way acquisition phase and 251.7 miles were in the location studies phase.

Summary of the FY 2011 Accomplishments on the ADHS

Obligation of Funds

The States obligated a total of \$366.3 million federal funds on the ADHS in FY 2011. This included \$221.2 million from SAFETEA-LU, \$113.7 million from the Surface Transportation Extension Act of 2010 and 2011, \$2.9 million de-obligated from the Surface Transportation Extension Acts after TEA-21, \$45.9 million from TEA-21 funds, \$14,937 from Energy & Water Appropriations Acts, \$9.6 million de-obligated from FY 1998 DOT Appropriation Act, \$1.6 million de-obligated from FY 2001 DOT Appropriation Act, \$2.1 million de-obligated from FY 2002 DOT Appropriation Act, \$1.7 million from FY 2005 Consolidated Appropriations Act, \$52,400 from FY 2006 Transportation, Treasury, Housing and Urban Development, the Judiciary, the District of Columbia, and Independent Agencies Appropriations Act and \$58,260 from Revised Continuing Appropriations Resolution for FY 2007.

Miles Advanced from Location Study to Design/Right-of-Way Acquisition

The States advanced 19.8 miles from the location study phase to the design and right-of-way acquisition phase in FY 2011 on the following corridors:

- Alabama – 1.2 miles on Corridor V
- Tennessee – 3.4 miles on Corridor J
- Virginia – 0.3 mile on Corridor Q
- West Virginia – 14.9 miles on Corridor H

Miles Advanced from Design / Right-of-Way Acquisition to Construction

The States advanced a total of 5.1 miles from the design/right-of-way acquisition phase to the construction phase in FY 2011 on the following corridors:

- Kentucky – 2.5 miles on Corridor Q
- Tennessee – 2.6 miles on Corridor J

Miles Completed or Opened to Traffic

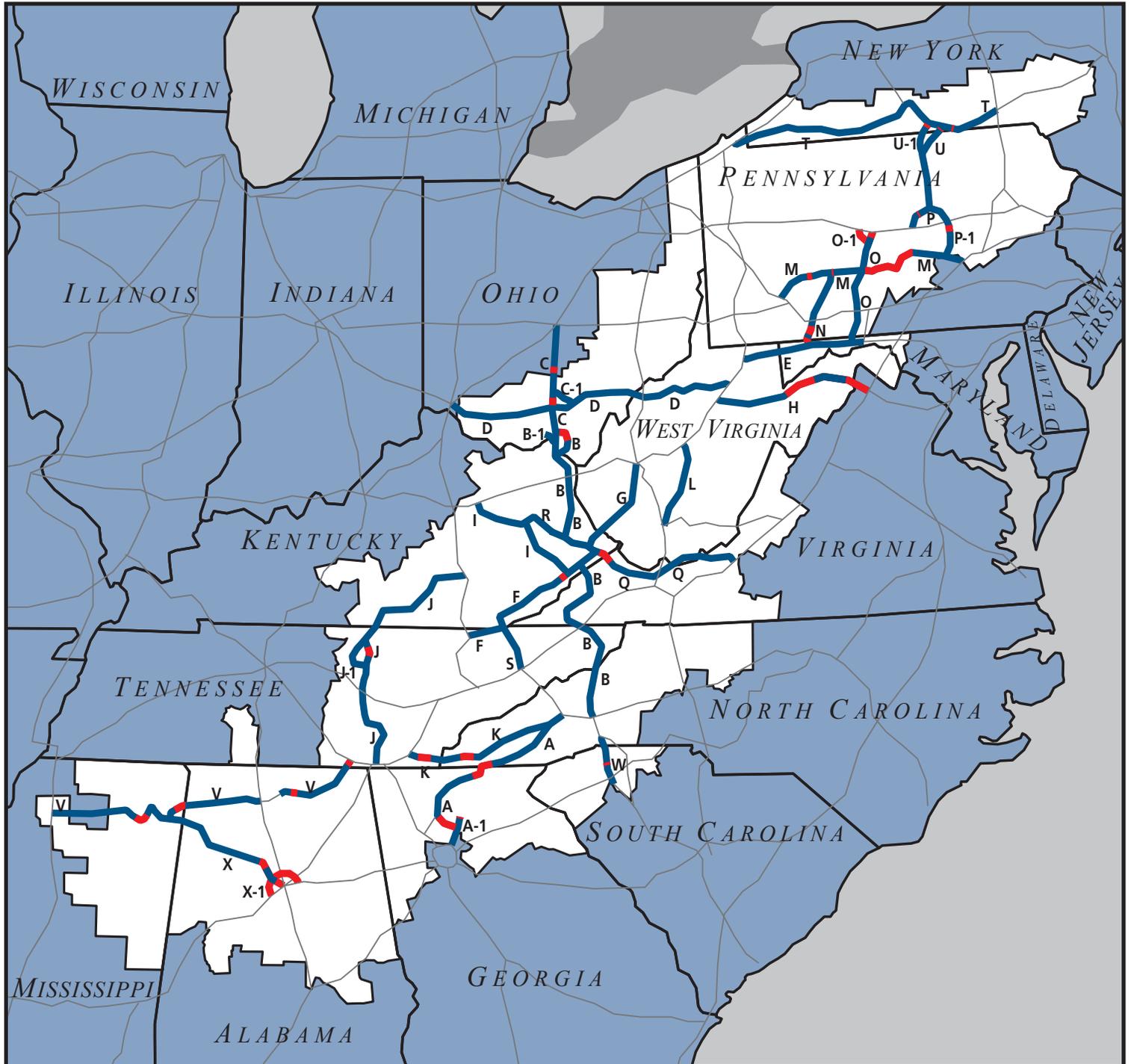
A total of 42.5 miles of the ADHS were complete or advanced to open-to-traffic in FY 2011. These sections included:

- Alabama – a 1.4-mile section of Corridor X north of Forestdale in Jefferson County.
- Mississippi – a 2.4-mile section of Corridor V from State Route 23 to Alabama state line in Itawamba County.
- North Carolina – a 3.8-mile section of Corridor A east of Hayesville in Clay County.
- Pennsylvania – a 4.1-mile section of Corridor M west of Blairsville in Westmoreland County, a 4.2-mile section of Corridor M north east of Blairsville in Indiana County, a 3.3-mile section of Corridor O south of Port Matilda in Centre County, a 4.0-mile section of Corridor O west of State College in Centre County and a 4.7-mile section of Corridor U from Four Mile Road to east of Cogan House Township in Lycoming County.
- West Virginia – a 14.6-mile section of Corridor H in Lahmansville and Old Fields areas cross Grant and Hardy Counties.



APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM

September 30, 2011



- ADHS Miles Open to Traffic—
September 30, 2011
- ADHS Miles Not Open to Traffic
- Interstate Highway System