

01771

REPORT TO THE CONGRESS



BY THE COMPTROLLER GENERAL
OF THE UNITED STATES



LM101771

The Appalachian Development Highway System In West Virginia: Too Little Funding Too Late?

Appalachian Regional Commission

The Appalachian Development Highway System was created to provide access to the underdeveloped Appalachian region through a network of high-quality roads. Although West Virginia has made much progress relative to other States in constructing its portion of the system it has experienced significant delays and cost increases.

Contributing factors to these problems include funding limitations, added design requirements, and inflation. The Appalachian Regional Commission should submit to the Congress proposals for accelerating completion of the highway system to achieve the overall objective of improving the economic status of Appalachia.



COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-154503

To the President of the Senate and the
Speaker of the House of Representatives

This report describes the status of the Appalachian Development Highway System in West Virginia and identifies factors which have prevented its timely completion.

While reviewing major Government civil and military acquisitions, we noticed that the marked delays in completing the system were accompanied by significant cost increases.

We made our review pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Accounting and Auditing Act of 1950 (31 U.S.C. 67).

Copies of this report are being sent to the Federal Co-chairman, Appalachian Regional Commission; the Secretary of Transportation; and the Commissioner, West Virginia Department of Highways.

A handwritten signature in black ink, appearing to read "Thomas B. Stead".

Comptroller General
of the United States

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ABBREVIATIONS

APD	Appalachian Development
ARC	Appalachian Regional Commission
EIS	environmental impact statement
FHWA	Federal Highway Administration
GAO	General Accounting Office
WVDOH	West Virginia Department of Highways

COMPTROLLER GENERAL'S
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HIGHWAY SYSTEM IN WEST VIRGINIA:
TOO LITTLE FUNDING TOO LATE?
Appalachian Regional Commission

D I G E S T

The plan for the Appalachian Development Highway System consists of 24 corridors or routes the highways will follow for 3,280 miles through 13 States. In conjunction with interstate and other existing highways, the system is to support Appalachia's economic development by providing access between isolated areas and key markets.

As of January 1976, the Appalachian Regional Commission estimated the total cost of the Appalachian Development Highway System to be \$7.9 billion, the Federal share of which would be \$5.2 billion. The Congress authorized funds through fiscal year 1981 totaling \$2.9 billion, of which \$1.9 billion has been appropriated through September 30, 1976. The Commission estimates an additional Federal authorization of about \$2.3 billion will be required to complete the system.

GAO reviewed West Virginia's portion of the system, which has experienced significant cost increases and schedule delays. Estimated costs rose from \$618 million in 1966 to \$1,573 million by January 1976. All West Virginia highway corridors were to be completed or under construction by June 30, 1971. However, as of June 30, 1976, only 57 percent of the State's participating miles were completed or under construction.

Although West Virginia has made much progress relative to other States in constructing its portion of the system, regional accessibility is apparently still limited by the lack of similar progress in adjoining States. Regional access to markets is viewed as the key to Appalachia's development.

More than 140 new plants were located in West Virginia between 1969 and 1975 while 83 plants in the State were expanded from 1973 to 1975. Although numerous factors influence plant locations, more plants were established or expanded in counties with Appalachian Development system or interstate highways. A commission consultant concluded from an analysis conducted on a regionwide basis that a direct relationship appears to exist between plant and corridor locations.

Federal and West Virginia officials attribute cost increases and delays to

- highway construction cost inflation,
- changed highway design and safety standards,
- revised relocation assistance requirements,
- delays associated with environmental protection,
- lack of matching funds in other States, and
- Federal funding limitations.

Continued funding limitations appear inconsistent with the purpose of the Appalachian Regional Development Act: "to * * * open up * * * areas with a developmental potential where commerce and communication have been inhibited by lack of adequate access." 40 U.S.C. app. sec. 201(a). GAO is recommending that the Appalachian Regional Commission submit to the Congress proposals for accelerating completion of the highway system to achieve the overall objective of improving the economic status of Appalachia.

Officials of the Appalachian Regional Commission, the West Virginia Department of Highways, and the Federal Highway Administration agreed with the facts stated in

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this report. The Commission noted that West Virginia has made outstanding efforts to provide State matching funds to complete its portion of the system but all the Appalachian States might find it more difficult to provide such matching funds in the future.

CHAPTER 1

INTRODUCTION

In the early 1960s, the Congress recognized that several geographical regions had been bypassed by the general prosperity and growth of the Nation. This occurred in some regions because of depleted natural resources. Other regions suffered because they depended on a single industry adversely affected by technological change, competition, or obsolescence. A special effort was believed necessary to halt the decline and lift the economies of these regions to a level close to that of the rest of the Nation.

Earlier programs to help people in these regions were usually fragmented and uncoordinated. Consequently, the Congress believed there was a need for implementing programs based on regional strategies and priorities. This approach was to better apply scant resources to solve problems causing a region's economic decline or lack of economic growth.

The framework for developing and implementing regional programs was established by the Congress in 1965 with passage of the Appalachian Regional Development Act (40 U.S.C. app. #201(a)) and the Public Works and Economic Development Act (42 U.S.C. 3121-3226). These acts authorized the creation of multi-State regional commissions to act as partners with the Federal Government to bring cohesion and direction to regional assistance programs.

THE APPALACHIAN REGION

The Appalachian region stretches diagonally across the Eastern United States between the heavily populated eastern seaboard and the highly industrialized Midwest. It includes all of West Virginia and parts of Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia.

The Appalachian region was recognized as an area which, although rich in natural resources and development potential, was behind the rest of the Nation in economic growth and average standard of living. The Appalachian Regional Development Act established the Appalachian Regional Commission (ARC) to work with the Federal, State, and local governments to improve the region's employment opportunities, average income, and economic and social development.

Although the act provided Federal funds for a variety of programs, studies and congressional hearings stressed an adequate transportation system as the first requisite for successful economic development of Appalachia. Consequently, of the

\$1.1 billion of Federal funds initially authorized to carry out the act, about \$840 million was earmarked for the Appalachian Development (APD) Highway System. The remaining \$260 million was to be used primarily for area development programs, such as:

- Demonstration health facilities.
- Supplements to Federal grant-in-aid programs.
- Mining area restoration.
- Land stabilization, conservation, and erosion control.
- Vocational education facilities.

THE APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM

Congress authorized the APD Highway System to overcome the region's isolation, which was considered a primary factor in its economic stagnation. The system was to include a network of highways which would link with other Federal highways, particularly interstate highways.

In keeping with the philosophy behind the creation of multi-State regional commissions, ARC was responsible for selecting and approving a network of highways that would benefit overall regional development and enable Appalachia to attract employers who were reluctant to locate in the region because of poor access to national markets. Further, the system was to expand available labor pools, which had been severely limited by the transportation system.

The traditional partnership arrangement between the Federal Highway Administration (FHWA) and State highway departments, under which all Federal aid highway programs are conducted, also applies to the APD Highway System.

THE APD SYSTEM WILL CONNECT WITH INTERSTATE AND OTHER FEDERAL HIGHWAYS TO IMPROVE ACCESSIBILITY THROUGHOUT THE APPALACHIAN REGION, HERE, CORRIDOR D AND I-79 INTERSECT NEAR CLARKSBURG, WEST VIRGINIA.



THE APPALACHIAN REGION. APD HIGHWAYS ARE EXPECTED TO PLAY A MAJOR ROLE IN OVERCOMING APPALACHIA'S ISOLATION BY PROVIDING ACCESS TO NATIONAL MARKETS. CORRIDOR G (LEFT) SERVES DANVILLE, WEST VIRGINIA.

Under this arrangement each State, through its highway department, is responsible for executing the program. The highways are to be designed in accordance with standards developed by the American Association of State Highway and Transportation Officials and approved by FHWA. With respect to a State's Federal aid highway program, FHWA is responsible for providing guidance, for reviewing and approving key stages of a project's development, and for monitoring projects under construction.

The APD Highway System plan consists of 24 individual corridors, totaling 3,280 miles. Of this total, ARC rated 435 existing miles adequate for inclusion into the APD system, leaving 2,845 miles to be constructed. The congressional limitation is 2,900 miles.

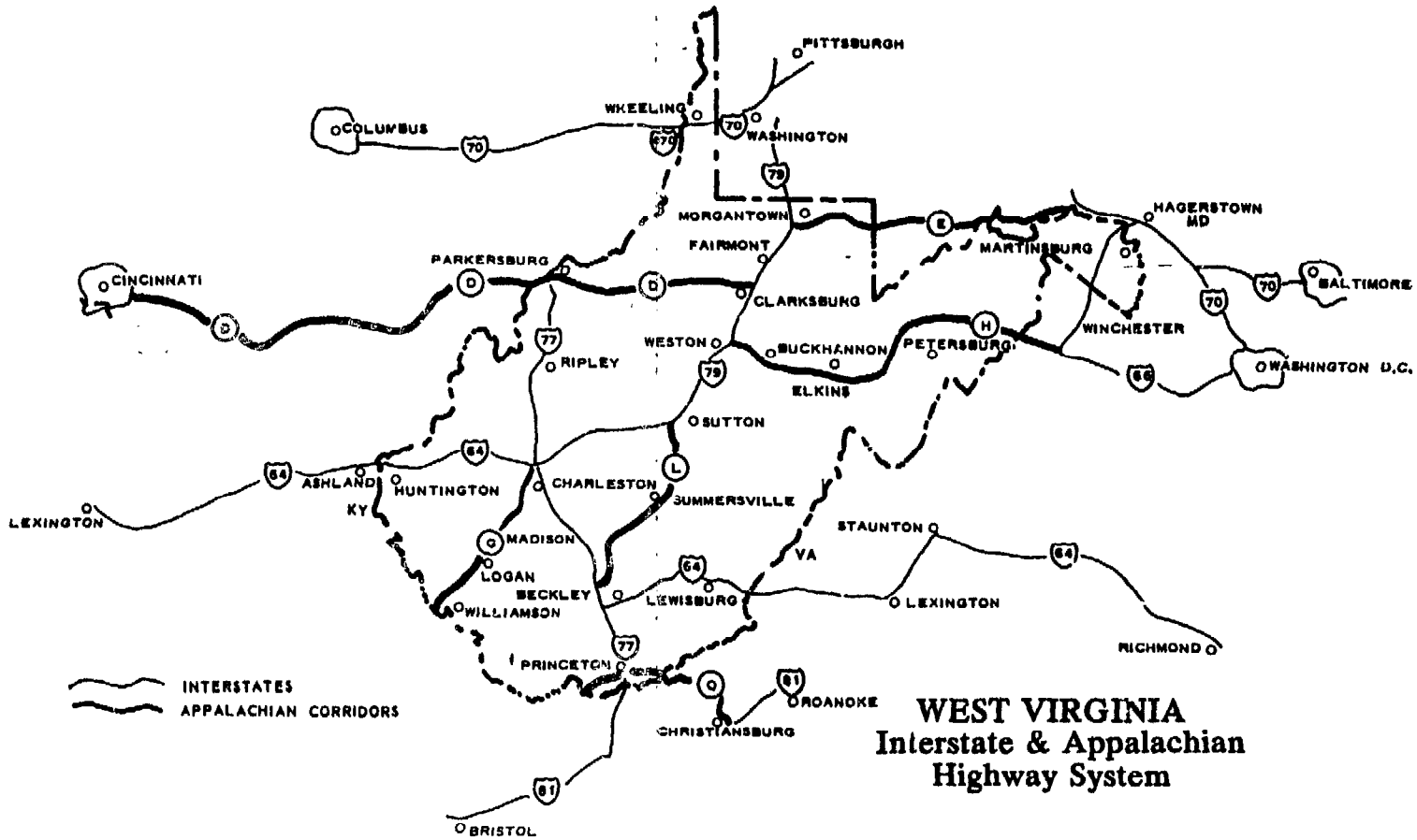
In addition to the corridors, ARC has approved for construction assistance 729 miles of local access roads to industrial parks, schools, housing developments, and other public facilities.

As of January 1976, the Commission estimated the cost of the Appalachian Development Highway System to be \$7.9 billion, the Federal share of which would be \$5.2 billion. The Congress authorized funds through fiscal year 1981 totaling \$2.9 billion, of which \$1.9 billion has been authorized through September 30, 1976. The Commission estimates an additional Federal authorization of about \$2.3 billion will be required to complete the system.

As of June 30, 1976, construction of 1,251 miles--about 44 percent of the length to be constructed--had been completed, of which 1,237 miles were open to traffic. An additional 207 miles, about 7 percent, were under construction. A total of 497 miles (about 71 percent) of the approved access roads mileage was completed or under construction as of March 31, 1976.

THE APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM IN WEST VIRGINIA

West Virginia's portion of the APD Highway System includes 426 miles and 6 of the 24 corridors making up the 3,280-mile system. The map on page 5 shows the letter designations for six corridors and the table which follows describes the corridors.



WEST VIRGINIA
Interstate & Appalachian
Highway System

<u>Corridor</u>	<u>Total corridor miles</u>	<u>Corridor miles in West Virginia</u>	<u>Corridor termini (city and connecting highway)</u>
D	251	77	Cincinnati, Ohio (I-275)-- Clarksburg, W. Va. (I-79)
E	110	32	Morgantown, W. Va. (I-79)-- Hancock, Maryland (I-70)
G	112	83	Charleston, W. Va. (I-64)-- Pikeville, Ky. (corr. B).
H	152	138	Weston, W. Va. (I-79)--near Strasburg, Va. (I-66, I-81)
L	70	70	Sutton, W. Va. (I-79)-- Beckley, W. Va. (I-77)
Q	<u>171</u>	<u>26</u>	Shelbiana, Ky. (corr. B)-- Christianburg, Va. (I-81)
Total <u>a/866</u>		<u>b/426</u>	

a/Includes 61 nonparticipating miles.

b/Includes 12 nonparticipating miles.

West Virginia's access road program was relatively small, including only about 20 of the 730 miles approved by ARC for construction assistance throughout the 13-State region. The 20 miles are in addition to the corridor miles and represent 17 access roads, of which 16 are open to traffic.

SCOPE

We made this review to determine the status of the APD Highway System in West Virginia. We reviewed pertinent records, documents, and reports and held discussions with responsible officials.

The work was performed primarily at the West Virginia Department of Highways (WVDOT) in Charleston, West Virginia, and at the ARC consultants, E. S. Preston Associates, Inc., in Columbus, Ohio. We interviewed FHWA Headquarters and ARC officials. Limited work was done at FHWA offices in West Virginia and Ohio and at the State highway departments in Ohio and Maryland.

In West Virginia we contacted the Departments of Commerce and Natural Resources and interviewed officials at selected plants along corridor D. In Maryland we interviewed Department of Economic and Community Development officials.

CHAPTER 2

STATUS OF APD HIGHWAY SYSTEM IN WEST VIRGINIA

The West Virginia Appalachian Development Highway System has experienced major cost increases and schedule delays. The 1966 cost estimate for West Virginia's program was \$618 million. As of January 1976, The Appalachian Regional Commission estimated that the total cost was \$1,573 million, an increase of \$955 million. The initial schedule, which was consistent with the authorized program, provided for all the corridors to be completed or under construction by June 30, 1971. As of June 30, 1976, 234 miles (57 percent) of the State's participating miles were completed or under construction. Of the remaining 179 miles to be built, 136 miles were not scheduled for construction until after 1980.

State and Federal Highway Administration officials in West Virginia cited limited Federal funding in conjunction with inflation/construction price increases, changes in highway design and safety standards, revised relocation assistance requirements, and environmental protection legislation as causes of cost increases and schedule delays.

COST

Estimates

Since passage of the Appalachian Regional Development Act of 1965 (40 U.S.C. app. #201), three detailed official cost estimates have been made. The first was the 1966 Estimate of Cost of Improving Inadequate Segments of the APD Highway System. It was prepared in accordance with the Bureau of Public Roads, U.S. Department of Commerce, 1/ instructional manual. The estimate was also prepared pursuant to ARC Resolution No. 30, which included a recommendation that firm cost estimates be prepared for segments of the highway requiring construction. The 1966 cost estimate for West Virginia's APD Highway System, based on 1964 average construction costs, was \$618 million, of which the Federal share was \$337 million.

The second estimate was the 1972 Estimate of the Cost of Completing the APD Highway System. It was prepared in accordance with 1970 and 1972 instructions for estimating interstate highway costs and modified to fit the APD Highway System. The 1972 cost estimate, based on 1971 average construction costs, was \$991 million, of which the Federal share was \$533 million.

1/Now FHWA, U.S. Department of Transportation.

The Appalachian Regional Commission released its most recent APD highway system cost estimate as of January 1976. The Commission estimates that the total cost of West Virginia's portion of the system will be \$1.573 billion, of which the Federal share will be \$1.019 billion.

The Federal share for the 1966 and 1972 estimates was 50 percent of estimated construction costs on most four-lane highways and 70 percent on two-lane highways. For projects authorized after February 28, 1974, ARC increased the Federal share to 70 percent for all construction. This increase is included in the 1976 cost estimate.

Allocations and obligations

West Virginia's plan to have its portion of the system completed or under construction by June 30, 1971, was predicated on the receipt of \$337 million in Federal funds by that date. However, actual Federal fund allocations to West Virginia totaled only \$199 million through fiscal year 1971.

Federal funds allocated to West Virginia through fiscal year 1981 are expected to total \$597 million. It is estimated that an additional Federal allocation of \$422 million will be needed to complete the system in West Virginia.

SCHEDULE

In 1966 the West Virginia Department of Highways planned to award all contracts for corridor construction by the end of fiscal year 1971. Actually only 137 miles, or 33 percent, were awarded for construction during that period.

During the 4-year period, July 1, 1971, through June 30, 1975, WVDOH awarded construction contracts for an additional 91 miles, bringing the cumulative total to 228 miles. The majority of the 186 participating miles not under construction at July 1, 1975, were on corridors G and H.

Based on the assumption that Federal funding allocations will continue at the existing levels, the State's current 5-year operations program shows that construction is to start on an additional 50 miles by the end of fiscal year 1980. The remaining 136 miles are not planned for construction until after 1980.

PERFORMANCE

Design criteria

The instructions for preparing the 1966 cost estimate state that:

- The system shall be designed in accordance with prevailing Federal aid highway standards, specifications, policies, and guides applicable to the projected type and volume of traffic.
- The design and construction shall provide for an average travel speed of approximately 50 miles per hour between major termini of the system, commensurate with terrain.
- The system shall be designed to accommodate anticipated traffic volumes for the 20-year period after construction is approved. FHWA officials told us the APD highway system in West Virginia is being designed in accordance with Federal aid highway requirements.

Two- and four-lane mileage

Of the 418 participating APD miles planned in 1966, 386 miles were four-lane highway and 32 miles were two-lane highway. The WVDOH Status of Development report as of July 1, 1975, shows total APD participating mileage of 414, with 377 miles of four-lane highway and 37 miles of two-lane highway. ARC considers 12 previously constructed miles as adequate and therefore not eligible for Federal funding.

REASONS FOR COST INCREASES AND SCHEDULE SLIPPAGES

Five factors cited as reasons for cost increases and schedule delays in West Virginia's APD Highway System are described below.

Funding limitations

To accomplish the original plan to have the APD Highway System completed or under construction by June 30, 1971, West Virginia estimated a need for at least \$337 million of Federal funds. Federal funds allocated to West Virginia through June 30, 1971, totaled \$199 million. WVDOH and FHWA officials contend that this level of Federal funding precluded accomplishing the initial plan.

Construction price increases

Highway construction price increases from 1966 to 1975 account for most cost increases in West Virginia's APD Highway System. FHWA's composite price index rose from 90 in 1965 to 202 in 1974. The rise has been particularly rapid since 1971, when the price index was 132.

Safety and design improvements

In 1964 the American Association of State Highway Officials ^{1/} created a Special Traffic Safety Committee to study and coordinate the many and varied functions relating to traffic safety. In early 1966 the Committee was authorized to undertake a critical survey of the safety characteristics of the interstate and other highway systems. The Committee's findings were published in February 1967 under the title, "Highway Design and Operational Practices Related to Highway Safety." The new safety criteria were later adopted by the U.S. Department of Transportation and became part of the design criteria used in all Federal aid highways, including the ADP highway program.

One of the new safety criteria dealt with the need for a clear recovery area when vehicles leave the pavement. According to the criterion a clear recovery area, free of physical obstruction, should be provided along the roadway 30 feet or more from the edge of the pavement. Where this is impracticable, adequate guardrails or other protection should be provided.

States reported that these new safety design criteria increased highway costs from 9.7 to 23.8 percent, with the average being 16.7 percent. A 16.7-percent increase in West Virginia's 1966 cost estimate would account for about \$103 million of the increase experienced between the 1966 and 1972 estimates.

Relocation assistance requirements

Two acts passed after the Appalachian Regional Development Act of 1965 increased relocation costs of all federally assisted highway projects. These acts added relocation assistance payments to existing right-of-way acquisition costs.

^{1/}Now American Association of State Highway and Transportation Officials.

The Federal Aid Highway Act of 1968 (23 U.S.C. 501) established a relocation assistance program for persons, businesses, farmers, and nonprofit organizations displaced as a result of construction of Federal aid highways. This act authorized payments for moving expenses and replacement housing for owners and tenants. In 1970 the ARC consultant, E. S. Preston Associates, Inc., reported the additional cost of this act, as the States estimated for approximately 11,510 displacements, to be \$25 million for the entire APD system.

The above section was repealed by the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law No. 91-646), which increased the maximum moving expenses and replacement housing payments. In addition, the 1970 act established the last resort housing program, which authorized using Federal funds to provide replacement housing for owners and tenants displaced when comparable housing is not available. The last resort housing program in effect removed the maximum limit on relocation assistance to owners and tenants.

WVDOH provided the following statistics based on Federal aid highway projects.

<u>Date</u>	<u>West Virginia</u> <u>average replacement housing payments</u>	
	<u>To owners</u>	<u>To tenants</u>
Apr. 1969-Mar. 1971	\$2,937	\$1,112
July 1974-June 1975	7,750	2,849

As of the date of our review, no last resort housing projects had been initiated under West Virginia's APD system. Last resort housing, however, will have to be provided on two stretches of corridor G.

Corridor G

Of 82 miles on corridor G, construction had not begun on 49 as of June 30, 1976. WVDOH officials stated that not enough replacement housing is available for 522 families which will be displaced by two stretches of the corridor

The highway department will have to build last resort housing to provide replacement homes for the displaced families. No highway construction can be initiated until safe, decent, sanitary housing is provided to the displaced.

Environmental protection legislation

A fifth reason cited for program changes is the National Environmental Policy Act of 1969 (Public Law No. 91-190), which required a detailed impact statement for any major Federal actions significantly affecting the quality of the human environment.

The requirement for environmental impact statements (EISs) applies to the APD highway projects for which the State highway agency requests a proposed FHWA authorization on or after January 1, 1974. Environmental problems are delaying APD system construction in some areas, allowing inflation to reduce the number of highway miles that can be constructed with budgeted funds. ARC officials believe that the time involved in resolving environmental problems unduly restricts construction progress. Environmental problems exist on corridors G and H, and delays in completing the EISs on these routes are anticipated.

Corridor H

Of 138 miles on corridor H, construction had not begun on 123 as of June 30, 1976. WVDOH officials stated that environmental protection problems are delaying one segment.

An EIS for the 99 miles from Elkins to Interstate 81 in Virginia, was delayed because of an unresolved environmental protection problem at a Federal fish hatchery in Bowden, West Virginia. Construction of 13 miles between Elkins and Wymer by way of Bowden has caused environmental damage at the hatchery, and the hazards of continuing construction from Bowden are being studied.

In August 1975 FHWA requested an EIS for alternative alignments between Elkins and Interstate 81 (ostensibly to avoid Bowden). Having obligated \$25 million for construction near Bowden, the State proposed limiting environmental studies to the present alignment. FHWA approved the proposal in March 1976. Consequently, the State will prepare a corridor EIS, limited to the current alignment between Elkins and Wymer. Alternative alignments between Wymer and Interstate 81 will be presented in the EIS.

CHAPTER 3

PROGRAM OBJECTIVES NOT FULLY ACHIEVED

An Appalachian Development Highway System objective is to help develop isolated areas of Appalachia having growth potential by providing access between these areas and national markets surrounding the region. The increased access is to contribute to the generation of diversified industry and employment opportunities deemed necessary to make Appalachia self-supporting.

Our 1971 report ^{1/} on the APD Highway System concluded that regional accessibility had been limited by a construction priority system which did not adequately consider the goal of providing regional accessibility at the earliest time. We recommended that the Appalachian Regional Commission establish priorities for further construction based on the potential for improving the overall accessibility of the region. We also noted that regional authorities needed to exercise strong and effective leadership in considering and approving individual State actions, to insure the greatest benefit to the entire region.

In line with our recommendations, revised principles for establishing construction priorities were adopted by ARC in October 1973 and revised priorities for the remaining APD system, including higher priorities for State line crossings, were adopted in February 1974.

NEED FOR FURTHER PROGRESS IN ADJOINING STATES

Although West Virginia has made much progress in constructing its portion of the system and the completed segments undoubtedly benefit local and intrastate traffic, regional accessibility is apparently still limited by the lack of similar progress in adjoining States. The following table demonstrates the limited progress of West Virginia's neighboring States on certain connecting corridors.

^{1/}"Highway Program Shows Limited Progress Toward Increasing Accessibility To and Through Appalachia" B-164497(3), May 12, 1971.

Status in Miles at June 30, 1976

<u>Corridor</u>	<u>States</u>	<u>Requiring construction</u>		<u>Construction completed</u>		<u>Construction underway</u>	
		<u>Miles</u>	<u>Per-cent</u>	<u>Miles</u>	<u>Per-cent</u>	<u>Miles</u>	<u>Per-cent</u>
D	Ohio	151.9	67.2	83.7	55.1	0	0
	West Virginia	74.0	32.8	65.2	88.1	0	0
E	Maryland	75.4	70.9	35.0	46.4	15.0	19.9
	West Virginia	30.9	29.1	27.8	90.0	3.1	10.0
G	Kentucky	26.8	24.7	0	0	1.8	6.7
	West Virginia	81.7	75.3	27.5	33.7	5.3	6.5
H	Virginia	0	0	0	0	0	0
	West Virginia	138.3	100.0	5.4	4.0	9.4	6.8
L	West Virginia	61.0	100.0	51.0	83.6	7.5	12.3
Q	Kentucky	19.1	11.7	0.8	4.2	0	0
	Virginia	118.2	72.2	87.3	73.9	2.1	1.8
	West Virginia	26.5	16.2	12.8	48.3	13.7	51.7

As shown above, West Virginia had completed or initiated construction on about 88 percent of its portion of corridor D as of June 30, 1976. In Ohio, however, only 55 percent of the western portion of corridor D was complete or under construction at that time. The eastern connection, corridor E, was 100 percent complete or under construction in West Virginia but only 66.3 percent was complete or under construction in Maryland.

Ohio officials told us that the State lacked both Federal and matching funds to complete corridor D. The State's tentative plan called for starting construction on a 7.9-mile segment in the spring of 1976 and on a 37.7-mile segment a year later. The plan did not contain any firm dates for initiating construction on the remaining 22.4 miles of corridor D in Ohio. Completing corridor D in Ohio will apparently be delayed since a proposed bond issue which was to fund portions of the corridor was rejected by the Ohio voters in November 1975.

In Maryland a 13.6-mile segment of corridor E from the West Virginia line to Keyzers Ridge was opened to traffic in

November 1975. Maryland officials said that construction of a 15-mile segment from Keyzers Ridge to Frostburg was scheduled for completion in late 1976. They said that environmental impact statements were being processed for two remaining segments totaling 27 miles. The Maryland officials said that if no problems are encountered, corridor E could be completed by 1983.

West Virginia officials believe the lack of construction progress by adjoining States precludes the full use of completed corridors. State traffic analysis officials said that the overall average daily traffic on corridor D has not kept pace with the 4- or 5-percent annual statewide increase in highway traffic. Furthermore, as shown below, the 1975 traffic on certain segments of corridor D, opened in 1972, decreased from the 1971 levels handled by predecessor U.S. 50.

Average Daily Traffic on U.S. 50/Corridor D

<u>County</u>	<u>1971</u>	<u>1975</u>	<u>Difference</u> (Percent)
Wood	5,460	5,122	-6.1
Ritchie	5,396	4,132	-23.4
Doddridge	3,701	3,827	3.4
Harrison	<u>8,764</u>	<u>10,934</u>	24.7
Corridor average	<u>6,127</u>	<u>6,714</u>	<u>9.5</u>

State officials attributed the decreases in part to the diversion of long distance traffic to a newly opened interstate route.

The highway officials said traffic on corridor D will probably not increase appreciably until Ohio completes its construction of the route to Cincinnati. Similarly, corridor D traffic is expected to increase when Maryland completes corridor E.

ECONOMIC DEVELOPMENT

Although no studies of economic impact of the APD Highway System in West Virginia were available at the time of our review, West Virginia Department of Commerce records show that 144 new plants located in the State from 1969 to 1975. From 1973 to 1975, 83 plants in the State were expanded. Recognizing that numerous factors influence plant locations, we found that, on the average, more plants were established or expanded in counties with APD or interstate highways.

On a regionwide basis, the ARC consultant, E. S. Preston Associates, Inc., analyzed the relationship between new plant locations and interstate and APD highways and concluded a direct relationship appears to exist between plant and corridor locations.

CHAPTER 4

CONCLUSIONS, AGENCY COMMENTS, AND RECOMMENDATIONS

CONCLUSIONS

When the Congress passed the Appalachian Regional Development Act, 40 U.S.C. app. sec. 201, it recognized that an adequate regional transportation system would be a key to Appalachia's economic growth. Accordingly, \$840 million of the initial \$1.1 billion authorization was earmarked toward Appalachian Development Highway System design and construction.

System construction has lagged behind the original goals. Five years after all corridor construction contracts were to have been awarded, such contracts covered only 57 percent of West Virginia's APD participating mileage. Costs, too, have exceeded earlier projections. The estimated Federal cost of the APD system in West Virginia has risen from \$337 million in 1966 to \$1,019 million in 1976. By the Commission's latest estimate, an additional Federal allocation of \$422 million will be needed to complete the West Virginia portion of the system.

Federal and West Virginia officials attribute cost increases and delays to

- highway construction cost inflation,
- changed highway construction,
- revised relocation assistance requirements,
- delays associated with environmental protection, and
- Federal funding limitations.

While West Virginia has made progress in completing its portion of the system, lack of progress in adjoining States has limited regional accessibility and, consequently, Appalachian economic development. We did not review projects outside the State of West Virginia, nor assess the effects of the delayed construction on the Appalachian region. Nevertheless continued funding limitations which delay highway program implementation appear inconsistent with the purpose of the Appalachian Regional Development Act to "provide a highway system which will open up an area or areas with a developmental potential where commerce and communication have been inhibited by lack of adequate access." 40 U.S.C. app. sec. 201(a).

One way to lessen the effects of inflation is to accelerate completion of the highway system by means of accelerated funding. This may not be effective, of course, unless participating States can make matching funds available. West Virginia, however, has consistently provided matching funds to make full use of available Federal funds.

AGENCY COMMENTS

Officials of the Appalachian Regional Commission, the West Virginia Department of Highways, and the Federal Highway Administration agreed with the facts stated in the report. The Commission noted that although West Virginia has made outstanding efforts to complete its portion of the system, other States might find it more difficult to provide such matching funds.

RECOMMENDATION

We are recommending that the Appalachian Regional Commission submit to the Congress proposals for accelerating completion of the highway system to achieve the overall objective of improving the economic status of Appalachia.

APPENDIX I

APPENDIX I

THE APPALACHIAN REGIONAL COMMISSION
1668 CONNECTICUT AVENUE
WASHINGTON, D.C. 20235

OFFICE OF
FEDERAL COCHAIRMAN

5 MAY 1976

Mr. Victor L. Lowe, Director
General Government Division
General Accounting Office
Washington, D. C. 20548

Dear Mr. Lowe:

Thank you for sending me the draft of a proposed staff report to the Congress on the Appalachian Development Highway Program in the State of West Virginia and the opportunity to review and comment on the report prior to a final revision. While we have no difference of opinion with respect to the facts stated in the report, there are a number of additional points which should be brought out.

There are several factors which have been present throughout the highway program which have operated to make progress on the development highway system less than hoped for. These are:

- (1) The difficulty encountered by the States to obtain approved locations and designs, consistent with FHWA procedures, that are not unduly delayed by environmental considerations.
- (2) While West Virginia has made outstanding efforts in providing State matching funds for the Appalachian Highway Program, including bond issues, it may be a difficult task for all the Appalachian States to provide these necessary matching funds in the future.
- (3) The extent to which inflationary cost increases continue to expand program costs beyond the amounts currently authorized.
- (4) The willingness of the Administration and the Congress to provide authorizations sufficient to complete the system.
- (5) The rate at which the Administration and the Congress provide appropriations for the system.

APPENDIX I

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In addition to the above, it would be appropriate to include reference to a number of historical factors that have impeded the progress of the Appalachian Development Highway System. Principal among these are the following:

(1) Of the \$1,100 million of Federal funds initially authorized to carry out the Appalachian Regional Development Act, \$840 million was provided for the Appalachian Highway Program over a six-year period, while \$260 million was provided for non-highway area development programs over a two-year period.

(2) The initial authorizations through FY 1971 of \$840 million for the Appalachian Highway Program were increased to \$1,015 million in the 1967 Amendments, but those same Amendments also provided for the additional Appalachian Development Highway System mileage in New York State and continued the Appalachian Highway Program two additional years through FY 1973. The actual appropriations through FY 1971 were \$820 million versus the \$840 million authorized.

(3) The Federal Appalachian Highway appropriations for the two-year period 1968 and 1969 combined were \$170 million. It was not until the 1969 Amendments to the Act provided for annual contract authority in a specified amount that appropriation reached an annual level of \$175 million. From that time through FY 1974, the cumulative appropriations were equal to the cumulative authorizations.

(4) The 1971 Amendments to the Act increased the highway program authorizations to \$2,090 million and extended the Appalachian Highway Program through FY 1976. Authorizations of \$180 million were provided for FY 1974 and for FY 1976, with \$185 million authorized in each of the Fiscal Years 1975, 1976, and 1977. The cumulative appropriations through the transition quarter are \$1,714.7 million as opposed to the \$1,725.0 million authorized.

(5) In 1966, the Appalachian Regional Commission adopted a policy of funding the Appalachian Development Highway System at a 70/30 ratio for all except four lane construction (which was the major portion of the program), which would be funded at a 50/50 ratio. The Commission imposed this restriction in an effort to construct the maximum number of miles of the Appalachian Development Highway System with the fewest

possible Federal funds, even though the Appalachian Regional Development Act allowed for funding of the entire Appalachian Highway Program at a 70/30 ratio. However, when the Federal Aid Highway Act of 1973 provided that the funding ratio of Federal funds to State funds of the regular Federal-aid highway program (excluding Interstate) was to be changed from 50/50 to 70/30, effective July 1, 1973, it was necessary for the Commission to reconsider its position, since the 50/50 ratio could seriously affect the construction priority assigned the Appalachian Development Highway System by individual States. The Appalachian Regional Commission provided for 70/30 funding on all portions of its highway program, effective March 1, 1974, and this change in policy did increase the Federal cost to complete the Appalachian Development Highway System.

(6) In the 1975 Amendments to the Act, the authorizations were increased to \$2,930 million, the Appalachian Highway Program was extended through FY 1981 and an additional 200 miles was added to the Appalachian Development Highway System. Congress recognized the effect of inflation since its action in 1971 and in order to provide for a level of construction activity equivalent to that provided for in 1971, it provided for an increase in the annual authorization for FY 1978 from \$180 million to \$250 million and established authorization levels of \$300 million in both FY 1979 and FY 1980.

In the first twenty-seven months of the Appalachian Highway Program, Federal funds were more than adequate. While \$300 million was appropriated, only \$171 million was obligated during that period. This is understandable because the States needed to invest their funds and time in designing the highways and acquiring right-of-way before proceeding to actual construction, which would provide for the greatest expenditure per mile. One-third of the total obligations for engineering design through FY 1975 were incurred by the end of FY 1967, while construction obligations were necessarily limited to projects which were ready to go on segments at the time of their incorporation into the Appalachian Development Highway System. In West Virginia, of the \$16.9 million in Federal funds obligated through FY 1967, one-half was for engineering design and the acquisition of rights-of-way.

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In summary, I believe that the final GAO report can be a useful document dealing with the status and the problems associated with the Appalachian Highway Program. Thank you again for the opportunity to comment on this report.

Sincerely,

Donald W. Whitehead

DONALD W. WHITEHEAD
Federal Cochairman

APPENDIX II

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OFFICIALS RESPONSIBLE FOR ADMINISTERING
ACTIVITIES DISCUSSED IN THIS REPORT

	<u>Tenure of office</u>	
	<u>From</u>	<u>To</u>
FEDERAL COCHAIRMAN, APPALACHIAN		
REGIONAL COMMISSION:		
Donald W. Whitehead	Mar. 1971	Present
John B. Waters, Jr.	Mar. 1969	Mar. 1971
Joseph W. Fleming	Mar. 1967	Feb. 1969
John L. Sweeney	Apr. 1965	Mar. 1967