COMPLETION OF THE INTERSTATE HIGHWAY SYSTEM IN VIRGINIA

NOVEMBER, 1974

REPORTED TO THE GOVERNOR AND THE GENERAL ASSEMBLY OF VIRGINIA

HOUSE DOCUMENT NO. 12

COMMONWEALTH OF VIRGINIA
Department of Purchases and Supply
Richmond

1975

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF HIGHWAYS & TRANSPORTATION
1221 EAST BROAD STREET
RICHMOND, 23219

November 15, 1974

TO: Honorable Mills E. Godwin, Jr., Governor of Virginia
and
The General Assembly of Virginia

The attached report on "Completion of the Interstate Highway System in Virginia" has been prepared by the Department of Highways and Transportation in response to House Joint Resolution No. 147 enacted by the 1974 session of the Virginia General Assembly.

The report includes a brief history of the Federal funding provided for the Interstate System, a description of the causes for extending the completion date of the System, and describes several alternative means of financing the System at an earlier date than now anticipated.

In preparing the report, we met and consulted with the special advisory committee consisting of:

Honorable William T. Wilson, Chairman
Honorable John Warren Cooke
Senator Edward E. Willey
Honorable Lewis A. McMurran, Jr.
Senator Leslie D. Campbell, Jr.

The advice and guidance provided by members of this committee was most helpful in directing us towards a conclusion which I believe is the course of action which will best meet the overall transportation needs here in Virginia.

Sincerely,

Douglas B. Fugate

Douglas B. Fugate, Commissioner

Attachment

A REPORT TO THE GOVERNOR AND THE GENERAL ASSEMBLY
REGARDING THE COMPLETION OF THE INTERSTATE SYSTEM IN VIRGINIA

NOVEMBER, 1974

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HOUSE JOINT RESOLUTION NO. 147
Offered February 15, 1974

Directing the Department of Highways to conduct a study regarding the completion of the Interstate Highway System in Virginia; creating a committee to work with the Department in this effort.

Patrons - Messrs. Wilson, Heilig, Pendleton, Leafe, Rhodes, Thomas, Mrs. Jones, J. S., Messrs. Cantrell, Thomson, Emroch, McMurran, Bagley, and Campbell.

Referred to the Committee on Roads and Internal Navigation.

Whereas, the Interstate Highway System in the Commonwealth of Virginia is near completion; and

Whereas, the estimated cost of completing the Interstate System is approximately one billion four hundred forty-one million six hundred forty-one thousand dollars based upon nineteen hundred seventy-four costs; and

Whereas, it is of the utmost importance to the citizens of the Commonwealth of Virginia to have said Interstate System completed as quickly as possible and at the least possible cost; and

Whereas, the present funding system for said Highway System is dependent largely upon federal funds which come to the Commonwealth on an irregular schedule making long-range planning difficult; and

Whereas, the cost of constructing highways is rising at an alarming rate; now, therefore, be it

Resolved by the House of Delegates, the Senate concurring, That the Department of Highways be, and is hereby, instructed to conduct a study of feasible methods of completing the Interstate Highway System in Virginia at an earlier date than scheduled and anticipated, and shall include in its study report a specific reference as to whether or not "bonds," general obligation or otherwise, can and should be used in order that said Interstate Highway System be completed.

While the primary responsibility for conducting said study shall be upon the Highway Department, a committee is hereby formed consisting of the Speaker of the House of Delegates, Chairman of the Senate Finance Committee, Chairman of the House Roads and Internal Navigation Committee, Chairman of the Senate Transportation Committee, and one member appointed by the Governor, with which the Highway Department shall meet and consult in the preparation of said report.

The Highway Department shall complete its work and make its report to the Governor and the General Assembly no later than December one, nineteen hundred seventy-four.

COMPLETING THE NATIONAL SYSTEM OF INTERSTATE AND DEFENSE HIGHWAYS

INTRODUCTION

The Federal-aid Act of 1944 provided for the designation of the National System of Interstate Highways. The System connects, as directly as practical, the Nation's principal metropolitan areas, cities, and industrial centers; serves the national defense, and connects at border points with routes of international importance. The Interstate System was originally limited to a total of not more than 40,000 miles. Later, this was increased to 42,500 miles.

The Federal-aid Act of 1952 authorized the first funds for construction of the System. The 1952 Act provided for a 50-50 matching ratio which was later changed to a 60% Federal - 40% State basis in 1954. Only modest appropriations were provided until 1956, when the Federal-aid Highway Act of 1956 and the Highway Revenue Act of 1956 further defined the purpose and extent of a National System of Interstate and Defense Highways and provided funds for its completion by 1972 on a 90% Federal - 10% State matching basis.

The apportionments, or the annual distributions, to the states of Federal-aid Interstate Funds appropriated by Congress is based upon the ratio of the estimated cost of constructing the System in each state to the estimated cost of completing the System in all the states. This method of apportioning funds was adopted so that, hopefully, the system could be completed simultaneously in all the states and the full potential of a completed national system could be achieved at an early date.

It was anticipated in the 1956 Act that funding could be provided to permit complete financing of the entire system by 1972. This did not occur, and now the Federal-aid Act of 1973 has extended the proposed financing through the fiscal year 1979. An additional two years (to June 1981) beyond that date is made available for authorizing expenditure of funds. Under these provisions, and assuming an adequate level of funding, the construction of the final sections of the Interstate System could easily extend into 1984 and possibly into 1985. However, it is obvious that current Federal funding levels will not provide for completion of financing by June 1979. The Federal Highway Administration has estimated that, at current funding levels and with continuing inflation, the Interstate System will not be completed until 2007.

CAUSES FOR EXTENDED COMPLETION DATE

Many factors have contributed to increasing the cost of constructing the Interstate System which, in turn, has prevented the Interstate System from being completed in 1972 as was envisioned in the 1956 Federal-aid Highway Act. The estimated cost of constructing the Interstate System in Virginia has increased from the original estimate of $1,562,000,000 to a current estimate of $3,082,000,000. The estimated cost to complete the System is now $1,365,000,000 nearly as much as the original estimate, even though 908 miles are open or under construction. The prime factors which have caused the cost to increase are additional mileage and an expanded scope of work above that originally anticipated and, of course, inflation.

TABLE I
COST TO COMPLETE INTERSTATE SYSTEM
(AS OF 7-1-74)

($1,000's)

Route	Total
64	$111,500
66	231,600
77	51,100
81	54,900
85	50,000
95	370,100
264	6,700
266	26,800
295	52,400
381	500
385	200
395	500
464	44,600
495	26,800
564	300
581	2,300
595	12,600
664	322,100
TOTAL	$1,365,000

Additional Mileage - In Virginia, the approved Interstate mileage has been increased from the original 995.5 miles to 1079 miles. The increased mileage includes Route 77 (58 miles - $219 million), Route 664 (9 miles - $332 million), and Routes 195, 266, and 595 (5 miles - $87 million). These additional miles have added approximately $638 million to the estimated cost of constructing the System.

Expanded Scope of Construction - The scope of work also has been expanded far beyond that which was originally planned; e.g., eight lanes instead of four and six lanes for the Capital Beltway ($65 million), six lanes instead of four lanes for Route 95 from Ashland to Triangle ($40 million), constructing Route 95 on a new location from Richmond to south of Petersburg ($160 million), and on Route 64, constructing a second tube under Hampton Roads ($125 million). This expanded scope of work has added approximately $390 million to the estimated cost of constructing the System.

Inflation of Construction and Right-of-Way Costs - Inflation has been t e major contributor to increasing the cost and extending the time required to complete the System.

Highway construction costs are about twice as high as they were in 1967. In the seven-vear period, the average annual rate of increase has been about 12%; and recent bids indicate the rate of increase is now at about 16% annually.

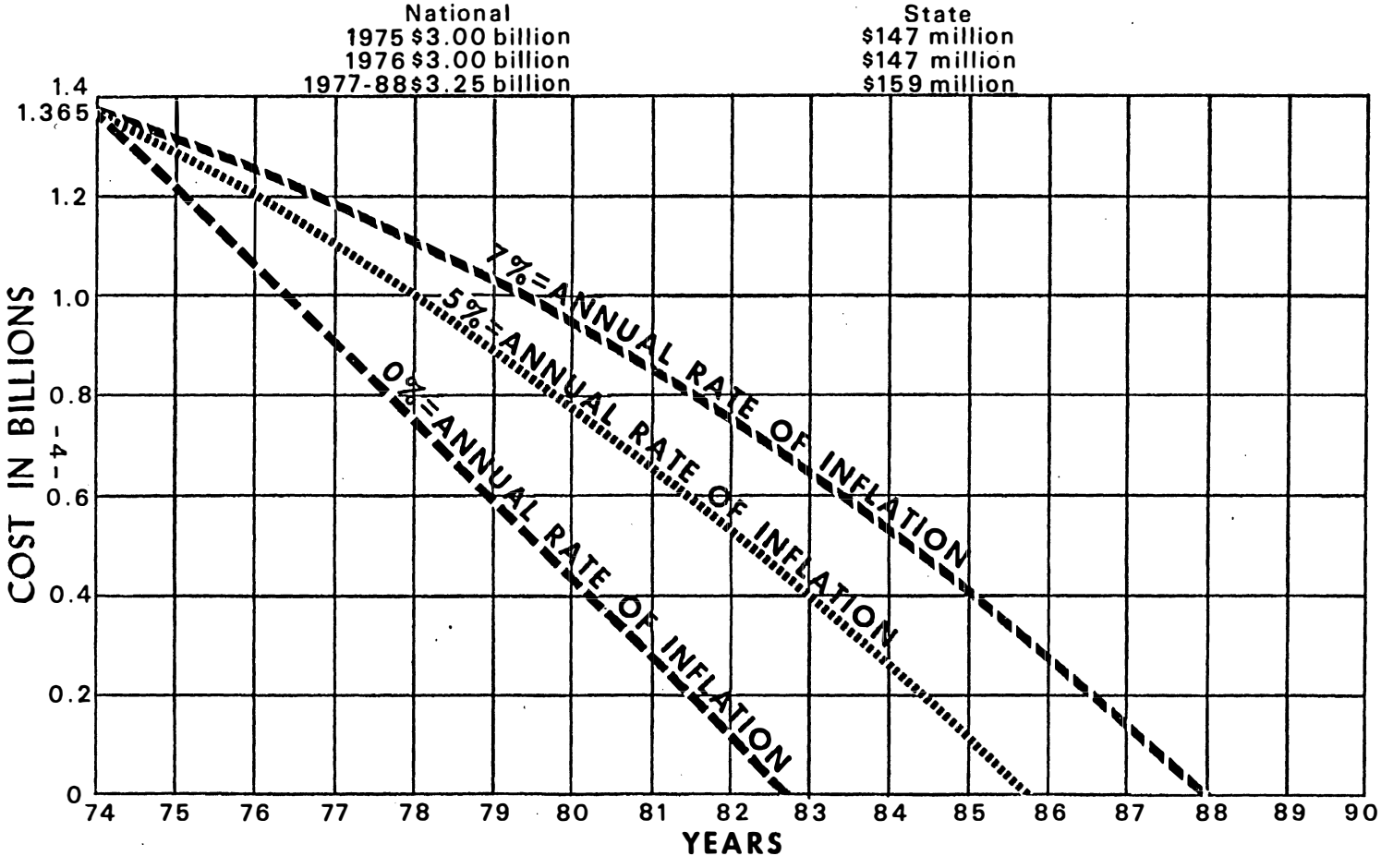
Restrictive Federal Policies - Despite inflation and the other factors which have contributed to an increase in cost of the System, construction of the System could have been advanced more rapidly and, ultimately, the System completed at a much earlier date than now anticipated if it was not for restrictive Federal policies.

Administration Restrictions on Funding - Federal Trust Fund receipts were up $240 million above original estimates for the first eight months of 1973-74; and the Trust Fund balance exceeded $7,000,000,000 for the first time. The accumulation of the Federal Trust Fund balance is due, in part, to the "impoundment" of funds by the administration, unrealistic estimates of Trust Funds revenues, and other fiscal policies which restrict expenditure of funds to levels far below the amounts actually available. These policies have resulted in a "pay before you go" situation where current cash on hand in the Trust Fund is sufficient to cover obligations which will become due over a period of three or four years.

Restrictive Project Development Procedures - In addition to expansion of the Interstate Program, inflation, and restrictive Federal fiscal policies, there have been numerous other developments which have caused completion of the Interstate to be delayed. Additional costs are being incurred, and award and completion of construction contracts are being delayed by a variety of requirements which were not in effect in the early years of the program. Design standards for the system have been revised to provide greater safety (more guardrail, wider medians, breakaway signs, greater lateral clearance from obstructions, etc.). More stringent requirements, such as environmental impact statements and public hearing processes, have been adopted to assure the proper consideration is being given to the protection and preservation of the natural and human environment. More liberal right-of-way relocation and replacement housing policies, fair employment and training programs, and more restrictive construction employee safety requirements, all have contributed to increasing the costs and/or time required to complete an Interstate construction project.

Reduction of Interstate Appropriations by Congress - The latest development, and probably the most serious, which will cause the greatest delay in the completion of the Interstate System is the reduction of the Federal Interstate appropriations by Congress. In recent years, Congress has appropriated funds for the Interstate System at the level of about $4 billion per year; the remaining highway programs were appropriated funds at about the $1 billion level. In the Federal-aid Act of 1973, the Interstate appropriation for fiscal 1974 was reduced by more than one-third to about $2.6 billion; and highway fund appropriations for other highway systems and transportation programs were more than doubled to $2.2 billion. For fiscal 1975, the appropriations are Interstate $3.0 billion and other programs $2.4 billion. The Interstate

REMAINING COSTS TO COMPLETE THE INTERSTATE SYSTEM AT FUNDING LEVELS OF



COMPLETION APPROXIMATELY THREE YEARS AFTER END OF FINANCING.

appropriation for 1976 is $3.0 billion and for the fiscal years '77, '78, and '79 $3.52 billion per year.

The intent of the 1973 Act to deemphasize the Interstate Program is expressed in the Act - "It is further declared that since the Interstate System is now in the final phase of completion, it shall be the national policy that increased emphasis be placed on construction and reconstruction of other Federal-aid Systems. . . "

The deemphasis of the Interstate Program through reduction of Federal appropriations will extend the completion date for financing the System into the late 1980's. At funding levels prescribed in the 1973 Act, financing will not be completed until 1986 with a 5% annual rate of inflation; not until 1988 with a 7% annual rate of inflation (Figure I). Under these conditions, construction would probably not be completed until 1989 or 1991, respectively. If the favorable downturn in the inflation rate does not occur, completion could not be accomplished until well after the year 2000.

WHAT CAN BE DONE TO SPEED COMPLETION OF THE INTERSTATE SYSTEM?

There are two alternatives which will permit an earlier completion of the Interstate System - (a) reduce costs or (b) provide more funds at an earlier date.

To appreciably reduce the cost of constructing the Interstate, it would be necessary to either reduce the level of design required by Federal standards and/or delete mileage. Neither of these are practical solutions because the resulting system, if it could then be called a system, would fall far short of meeting the need which can only be met from an integrated high-design level expressway. Efforts have been made, and are continuing to be made, to provide the most economical design and construction within criteria which will result in an adequate system of highways to meet the objectives of the Interstate Program. Reduction of costs and a corresponding reduction in time required to complete the Interstate System could be achieved by eliminating or drastically curtailing such program requirements as environmental impact statements, public hearing processes, etc. Although elimination of these requirements may help speed completion of the System, such changes are not feasible and probably would not be in the best overall interest of the public or the Interstate Program.

The other alternative, which would permit an earlier completion of the Interstate System, is to provide more funds at an earlier date. The increase in funds could be provided by:

Deferring Other State Highway Programs - The level of funding currently being provided from existing state resources (revenues) for the Primary, Secondary, and Urban Systems could be reduced and State funding for Interstate increased. Diverting substantial amounts of State funds from these other systems to the Interstate would have a disasterous effect on these other Systems. Anything less than substantial amounts would do little to speed up completion of the Interstate unless additional Federal-aid Interstate funds are made available.

Additional State Taxes - An increased level of funding for the Interstate System could be achieved by the imposition of additional State road user or other taxes. Here again, because of the high Federal rate of reimbursement (90%), the amounts provided from additional State taxes would have to be substantial to have an appreciable effect unless additional Federal-aid Interstate funds are made available.

State Bond Funds - The Federal Law (United States Code, Title 23: Highways, Section 122 - Payment to states for bond retirement) specifically permits payment of the sums of Federal-aid apportioned to the States for expenditure to retire the principal of bonds issued by the State if the proceeds of the bonds have been actually expended in the construction of a Federal-aid Primary or Interstate project. Federal-aid reimbursement for bond retirement expenditures would be made at the applicable pro rata and as apportionments become available. The law also states that this provision shall not be construed as a commitment to provide Federal funds for the payment of the principal of any such bonds. Therefore, under the provisions of both State and Federal law, proceeds from a State bond issue could be used to expedite construction of the Interstate System and Interstate Federal-aid funds, if and when they become available, could be used to retire the principal amount of the bonds.

Funds for the early completion of the Interstate System could be borrowed by the State as permitted in the Constitution of Virginia, Article X, Section 9 (b) or 9 (c) or as a State Toll Revenue Bond Project.

Toll Revenue Bonds - Although the intent of the Federal-aid Highway Act is that all Federal-aid projects be constructed as toll free facilities, Title 23, Section 129 provides that a toll facility may be constructed if the Federal Secretary of Transportation makes an affirmative finding that such construction is in the public interest. The uncertainty of obtaining federal approval and the undersirableness of having to charge tolls on all or some of the remaining sections of the Interstate System makes this method of financing an infeasible alternative.

General Obligation Bonds - Such debt, with the pledge of the full faith and credit of the Commonwealth, may be incurred only upon affirmative vote of a majority of the members of each House of the General Assembly for specifically-defined capital projects and after having been submitted to the people at an election with the majority of those voting having approved such debt.

The use of General Obligation Bond funds to advance the construction of the Interstate System could substantially reduce the cost. This would happen providing the annual rate of inflation exceeds the bond interest rate. For example, a project estimated to cost $10.0 million at current prices would cost $14.0 million to construct five years from now if construction costs escalate at the rate of 7% annually.

With borrowed funds, at a 6.25% interest rate, the project would be built five years early at a cost of $11.25 million for a savings of $2.8 million or about 20% less. In addition to a reduced total cost, the numerous economic and social benefits provided by the facility would become available five years early.

However attractive General Obligation Bond financing may appear, it involves certain inherent risks. In normal toll revenue bond financing, the primary risk is that traffic projections may be inaccurate; and traffic will not produce the needed revenue to operate the facility and retire the debt. There is also some risk that the inflationary trend of construction costs will decline, and it would be less expensive to build the project later or costs may suddenly increase and the bond issue be inadequate to finance the project. With toll revenue bond financing, such unfavorable developments can be offset to some extent through the adjustment of toll rates or, in the more critical situations, deferring interest payments. With General Obligation Bond financing, these alternatives are not available. General Obligation Bond financing for the Interstate, in addition to all the risks of normal toll revenue bond financing, would include the risk of predicting the future actions which will be taken by the U. S. Congress and the Federal executive branch of government.

Another factor which should be considered if borrowed funds are used to advance the construction of the Interstate is that the cost to the State will be greater. The increased cost to the State for a $10.0 million Interstate project financed five years before Federal funds become available is shown in Table II.

TABLE II

COST OF FINANCING A $10,000,000 INTERSTATE PROJECT
WITH BORROWED FUNDS FIVE YEARS IN ADVANCE
OF FEDERAL REIMBURSEMENT

	Cost at Current Prices	Cost at Current Prices with Borrowed Funds	Cost in Five Years with 7% Inflation
State Share			
Construction	$ 1,000,000	$ 1,000,000	$ 1,402,500
Interest		1,250,000	
Total State Share	$ 1,000,000	$ 2,250,000	$ 1,402,500
Federal Share			
Construction	$ 9,000,000	$ 9,000,000	$12,622,500
Interest			
Total State Share	$ 9,000,000	$ 9,000,000	$12,622,500
TOTAL COSTS	$10,000,000	$11,250,000	$14,025,000

The figures in Table II illustrate that constructing a $10.0 million project with borrowed funds five years ahead of the date Federal funds become available would reduce the total cost from $14 million to $11.25, or a savings of $2.75 million. However, the State's share of the cost would increase from $1,402,500 to $2,250,000, or an additional cost of $848,000. Bond interest is not eligible for Federal-aid reimbursement; therefore, the State must bear the total interest costs and the saving which may be realized by building the project five years early primarily benefits the Federal funding.

CONCLUSION

In the interest of public safety, convenience, and economic growth of the state, it is essential that the prompt completion of the Interstate System in Virginia be achieved at the earliest practicable date consistent with the state's total transportation needs. Current funding levels, along with a conservative estimate of continuing inflation, indicate that it will take more than a decade to complete the financing of the System.

Increased funding is needed; and because of the nature of the System, its high cost, and its function as a national system of defense highways, it is unrealistic and inequitable to expect the citizens of Virginia to undertake an additional tax burden or to defer other badly needed programs in order to finance the earlier completion of the System. Although a few States have attempted to advance the completion of selected Interstate projects through the issuance of bonds to provide the 90% Federal share of costs, the only equitable solution to providing more funds at an earlier date lies with Congress and the executive branch of the Federal Government.

Increased Federal appropriations could be provided for the Interstate System within the available funds if Congress could be persuaded to return to the previous funding level of $4 billion annually. Furthermore, the release of Federal appropriations could be authorized by the administration at a more rapid pace to expedite the program and yet maintain a far more financially-sound program than most other Federal programs. It has been demonstrated that over its service life the user-benefit ratio for an Interstate Highway is about $2.90 for every dollar invested in the System. This high return of benefits should be made available to every area of the State at the earliest practical date. To accomplish this goal, the Federal Government must change its current priorities and appropriate and authorize more Federal funds for the System.