

**STATUS OF ISSUES RELATED TO  
THE WOODROW WILSON BRIDGE  
CORRIDOR RECONSTRUCTION PROJECT**

*Federal Highway Administration*

*Report Number: IN-2001-058*

*Date Issued: August 10, 2001*



# Memorandum

**U.S. Department of  
Transportation**

Office of the Secretary  
of Transportation

Office of Inspector General

Subject: INFORMATION: Status of Issues  
Related to the Woodrow Wilson Bridge  
Corridor Reconstruction Project  
Report No. IN-2001-058

Date: August 10, 2001

From: Kenneth M. Mead  
Inspector General

Reply to: JA-30  
Attn of:

To: The Secretary  
Deputy Executive Director of the Federal  
Highway Administration

The purpose of this memorandum is to assist the Department in its approval process for the June 14, 2001 Finance Plan for the Woodrow Wilson Bridge Corridor Reconstruction Project (Bridge Project). In recent weeks, the Department and the States (the State of Maryland and the Commonwealth of Virginia) have made progress in resolving outstanding matters related to the Finance Plan. As a result, we are providing information and observations on the current status of the issues identified in our June 8, 2001 draft report on the Bridge Project. Our objectives, scope and methodology are described in Attachment A.

We appreciate the courtesies and cooperation of representatives of the Department, Maryland State Highway Administration, Virginia Department of Transportation, and Potomac Crossing Consultants.

Federal funds cannot be used to construct the Bridge Project (except for planning, right-of-way, dredging and foundation work) until the Department approves a Finance Plan and Ownership Agreement. The Finance Plan, required by the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21), must include a cost estimate and identify funding sources to cover all of the costs.

Our draft report identified significant shortcomings in draft Finance Plans that had to be addressed and corrected before the Department could approve a Finance Plan for the project. Our specific observations involved the adequacy of cost estimates and funding, a proposal to delay critical work, and compliance with congressional direction on the use of Federal funds. Since then, the Federal Highway

Administration (FHWA) and the States have agreed to make revisions in the June 14, 2001 Finance Plan, that address our prior observations.

Once FHWA and the States reach final agreement on the revisions, the States will be required to provide an updated Finance Plan within 21 days. If FHWA and the States revise the Finance Plan, as they have agreed so far, we believe this would provide a reasonable basis for the Department to approve a Finance Plan for this important project.

*The following paragraphs summarize the current status of our prior observations and the issues being addressed by FHWA and the States.*

**Project cost estimate updated.** The June 14, 2001 Finance Plan identified the project's estimated cost as \$2.4 billion. Since 1997, the estimated cost of the project fluctuated between \$1.9 billion and \$2.5 billion. Our review found that the likely cost of the project was \$2.5 billion or more due to inflation, higher right-of-way costs, and additional contingencies. Projects of this size and at this design stage contain many variables that could cause the cost of this project to increase beyond our \$2.5 billion estimate. For example, additional costs for environmental and archaeological protection, fluctuating energy prices, and lawsuits, could further increase the total cost of the project.

FHWA is reviewing the States' latest cost estimate. As a result of this review, the cost estimate may need to be revised and incorporated in the revised Finance Plan. Any subsequent increases in the cost estimate should be identified in the annual updates of the Finance Plan.

**Full funding to be identified.** FHWA and the States have agreed to identify funding sources to pay all project costs including any overruns. The June 14, 2001 Finance Plan and prior drafts identified \$2.0 billion in funding. In the June 14, 2001 Finance Plan, the States reported a shortfall in funding of \$357 million. As a result of the States' commitment, we understand they will revise the June 14, 2001 Finance Plan to identify funding and provide a written commitment to cover the project's full revised cost estimate.

**Phasing eliminated.** FHWA and the States have agreed to eliminate a proposed "phasing" methodology contained in the June 14, 2001 Finance Plan that would have shifted critical interchange work on and off the project. "Phased" work "would not be counted against the current financing plan because [it] would be completed in the future by the individual states with funding that has yet to be identified." For example, phased work noted in the June 14, 2001 Finance Plan was to include at least \$357 million of planned construction work on the Telegraph Road, Interstate 295, and MD 210 interchanges. The phasing was

proposed to meet the funding shortfall and keep the project's cost within the level of available funding.

We found the phasing methodology unacceptable because it would have meant that all project work was not accounted for in the Finance Plan's cost estimate. Phasing will be unnecessary because the States have agreed to identify funding for all work on the project through 2011.

**100 percent Federal funding limited to bridge work.** FHWA and the State have agreed to limit the amount of work proposed for 100 percent Federal financing to only work directly related to the construction of the bridge (\$900.7 million), consistent with TEA-21. In recognition of the fact that the Federal Government owns the Woodrow Wilson Bridge, Congress agreed in 1995 to pay 100 percent of the cost of the bridge and associated approach work. However, in TEA-21, Congress specifically revised the definition of the bridge to remove "including approaches thereto," leaving the definition as "the Woodrow Wilson Memorial Bridge across the Potomac River." TEA-21 also directed that only the bridge component could be reimbursed at 100 percent. The remainder of the project is to be subject to an 80/20 Federal/State split.

The States' June 14, 2001 Finance Plan and prior drafts had requested 100 percent Federal financing for work that totaled between \$1.2 billion and \$1.4 billion. We concluded that many of these costs were not direct bridge construction costs that Congress authorized for 100 percent Federal funding in TEA-21. The reduced amount of work agreed to by FHWA and the States is consistent with congressional direction.

**Conclusion.** As we noted, FHWA is still reviewing the June 14, 2001 Finance Plan. Once completed, they will ask the States to submit a revised Finance Plan within 21 days. We will review the revised Finance Plan to ensure that it:

- contains a full reasonable cost estimate for the project;
- identifies funding to complete the entire project and a written commitment by the States to cover overruns;
- accounts for all project costs and does not obscure the project cost through "phasing;" and,
- allows only bridge costs to be eligible for 100 percent Federal funding as directed by TEA-21,

If FHWA and the States meet the above commitments, we believe their actions would provide a reasonable basis for the Department to approve a Finance Plan for the project.

## **Background**

The Bridge Project is an extensive upgrade to 7.5 miles of the Interstate 95/Interstate 495 Capital Beltway. The existing bridge is owned by the Federal Government under the auspices of FHWA. The Bridge Project will rebuild and expand a corridor beginning west of the Telegraph Road interchange in Virginia (VA 241), crossing the Potomac River, and ending east of the Indian Head Highway interchange in Maryland (MD 210).

The existing six-lane bridge will be replaced with two side-by-side drawbridge spans that will ultimately provide 12 travel lanes – 6 lanes in each direction. One span will carry eastbound traffic (the outer loop of the Capital Beltway) and the other westbound traffic (the inner loop). Each drawbridge span will include four general-purpose lanes; shoulders; one merging/diverging lane; and one high occupancy vehicle, express bus, or transit lane.

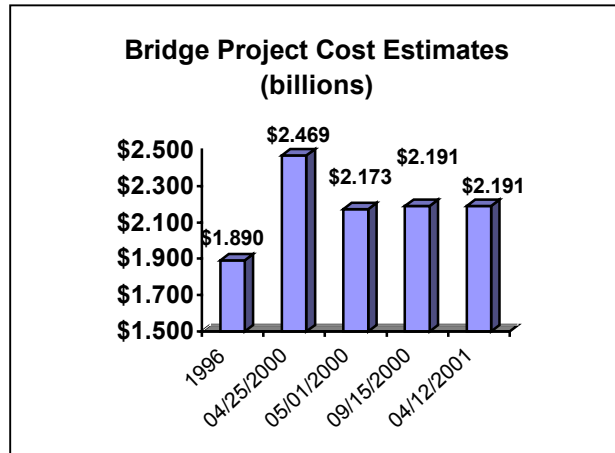
According to the June 14, 2001 Finance Plan, the construction of the two bridge spans will occur between December 2001 and December 2006. Construction of the first eastbound outerloop bridge span is scheduled to begin on December 17, 2001 and to be completed on December 30, 2004. This span will be built about 30 feet south of the existing bridge. Upon completion of this span, the existing bridge will be demolished and Beltway traffic will be rerouted onto the new span. The westbound innerloop bridge span will be built in the space cleared by the demolished bridge. Construction of this span is scheduled for completion on September 29, 2006. Once completed, ownership of the new bridge will be transferred to the States. Construction work on the interchanges is scheduled to begin in late 2001, and will be completed in 2011.

The Bridge Project also includes mitigation and community-requested enhancements, such as the creation of a Rosalie Island Deck and Park in Maryland and a Washington Street Urban Deck in Alexandria; improvements to Jones Point Park in Alexandria; and the preservation of Freedmen's Cemetery also in Alexandria.

## **The Cost Of The Bridge Project Will Be \$2.5 Billion Or More**

In the June 14, 2001 Finance Plan, the States estimated the project's cost at \$2.403 billion. This reflected the results of achieving a 60 percent design level and an increase in their estimate for contingencies from 5 percent to 10 percent. FHWA is reviewing the estimate and may require the States to increase their estimate in the final Finance Plan before approval.

Between 1996 and April 2001, there were four cost estimates for the Bridge Project that fluctuated from \$1.890 billion to \$2.191 billion (see chart). In our draft report, we found the States' April 2001 estimate of \$2.191 billion understated the likely cost of the project by at least \$287 million.



We concluded that the cost of the project could be at least \$2.5 billion.

We reached this conclusion because cost assumptions for inflation and right-of-way in the estimate were overly optimistic and reductions made to decrease a previous cost estimate were not justified. Projects of this size contain many variables that could cause the cost to increase beyond our \$2.5 billion estimate. For example, we identified the potential for additional environmental and archaeological protection, fluctuating energy prices, and lawsuits, for which we could not project a precise figure that could increase the total cost of the project (see Table A).

Potential Cost Growth Factors		Virginia Interchanges	Maryland Interchanges	Bridge	Total
<b>Current Project Estimate</b>		<b>\$ 821</b>	<b>\$500</b>	<b>\$777</b>	<b>\$2,191<sup>a</sup></b>
Projectable Factors	Inflation	4	3	5	13 <sup>b</sup>
	Right-of-way	160	.3	-0-	161 <sup>b</sup>
	Unsupported reductions	32	30	51	113
	<b>Subtotal of cost factors</b>	<b>\$ 197<sup>b</sup></b>	<b>\$ 34<sup>b</sup></b>	<b>\$ 56</b>	<b>\$ 287</b>
Unprojectable Factors	Environmental and Archaeological Protection				?
	Fluctuating Energy Prices				?
	The National Wildlife Institute lawsuit and others				?
<b>Total</b>		<b>\$1,018</b>	<b>\$534</b>	<b>\$833</b>	<b>\$2,478</b>

<sup>a</sup>These totals include \$15 million for the District of Columbia's costs and \$78 million of other project costs, which includes a general engineering consultant fee and maintenance for the existing bridge.

<sup>b</sup>Totals do not add due to rounding.

As of the date of this report, FHWA is verifying the accuracy and completeness of the States' updated project cost estimate. We will evaluate the new estimate when the final Finance Plan is submitted to FHWA for approval.

## **The Finance Plan Will Identify Full Funding to Pay All Project Costs**

The June 14, 2001 Finance Plan prepared by the States identified \$2.0 billion in funding for the Bridge Project. This is not sufficient to meet the FHWA requirement that the Finance Plan identify funding for all known project costs. On July 9, 2001, the States agreed to submit language to FHWA that they will commit funding to cover the current \$2.4 billion project cost estimate and any overruns.

The States indicated that funding to cover the \$357 million shortfall contained in the June 14, 2001 Finance Plan will be provided between 2007 and 2011. The States did not identify the specific sources of that funding because it will come in years beyond their current 6-year state transportation improvement plans. The June 14 2001 Finance Plan will have to be revised to identify funding to cover the cost estimate ultimately agreed to by FHWA and the States. FHWA must ensure that future state transportation plans reflect the commitment before they are approved. We will review the plans when they are submitted for approval.

## **The States Agreed to Eliminate “Phasing” on the Project**

In the June 14, 2001 Finance Plan, the States proposed to delay or “phase” portions of interchange work due to the funding shortfall. The proposed “phasing” involved moving work on and off the books of the project so the reported cost of the Bridge Project would not exceed available funding. “Phased” work “would not be counted against the current financing plan because [it] would be completed in the future by the individual states with funding that has yet to be identified.”

The phased work noted in the June 14, 2001 Finance Plan was to include at least \$357 million of planned construction work on the Telegraph Road, Interstate 295, and MD 210 interchanges. Additional work would be “phased” in the event of overruns.

We found the proposed “phasing” unacceptable because all critical interchange work was not being accounted for in the Finance Plan. The interchanges were included in the project because FHWA and State officials said they were critical to the efficient and safe functioning of the Bridge and Capital Beltway. FHWA guidance on Finance Plans requires that all planned work must be accounted for in the project’s cost estimate, and the plan must identify the specific funding sources that will be used to pay for the work.

Because the States have now agreed to provide full funding for the project, the “phasing” methodology is no longer necessary. The States now plan to build the Bridge project in its entirety and identify all potential funding sources for all work in the Finance Plan that will be revised for FHWA approval.

## **100 Percent Federal Financing Will be Limited To Only Direct Bridge Costs.**

In recognition of the fact that the Federal Government owns the Woodrow Wilson Bridge, Congress agreed in 1995 to pay 100 percent of the cost of the bridge and associated approach work. Congress has provided \$1.6 billion in direct Federal funding to the Bridge Project. In addition, there is no limit placed on the States' use of their Federal-aid apportionments on the project.

However, in TEA-21, Congress specifically revised the definition of the bridge to remove "including approaches thereto," leaving the definition as "the Woodrow Wilson Memorial Bridge across the Potomac River." TEA-21 also directed that only the bridge component could be reimbursed at 100 percent. The remainder of the project is to be subject to an 80/20 Federal/State split.

Between September 2000 and June 2001, the amount of work that the States proposed for 100 percent Federal financing ranged from \$1.4 billion to \$1.2 billion. Our analysis of the States' proposed costs found that they included non-bridge elements of the project, such as urban decks, ramps, and "cultural/reforestation" mitigation related to the Route 1, Interstate 295, and MD 210 interchanges.

We recommended that 100 percent financing be limited to work directly connected with construction of the Bridge, consistent with TEA-21. We concluded that a total of \$802 million of work was eligible for 100 percent Federal financing - \$777 million to construct the bridge and \$25 million in other costs that we identified as directly related to the construction of the bridge.

In discussions with the Office of the Secretary, FHWA, and the States since the June 14, 2001 Finance Plan was submitted, additional information was provided on the specific areas under the bridge touchdown points. As a result, a limited amount of additional work directly related to the bridge was identified, consisting of the eastern portion of the Hunting Tower parking garage and a small area of Rosalie Island. Those areas are encroached upon where the ends of the bridge actually touch down.

We believe the proposed costs (\$15 million) are consistent with the statutory direction to allow only costs directly associated with the bridge to be reimbursed at 100 percent. In addition, the updated cost estimate provided by the States on June 14, 2001, increased the cost of the other elements we had already agreed to by \$83.6 million. We concluded that work on the project eligible for 100 percent Federal financing totaled \$900.7 million (see Attachment B for a detailed listing of work eligible for 100 percent Federal financing). This will provide for a total



Federal contribution of \$2.103 billion based on the cost estimate contained in the June 14, 2001 Finance plan (see Table B).

Table B – Woodrow Wilson Bridge Corridor Reconstruction Project Expected Federal and State Funding (\$ in millions)						
	100 Percent Federal Financing	Federal/State Split		Total	Net Contribution	
		Federal (80 Percent)	State (20 Percent)		Federal	State
<b>Funding:</b>	\$901	\$1,202	\$300	\$2,403	\$2,103 (88%)	\$300 (12%)

## Conclusion

As of the date of this memorandum, FHWA was still verifying the latest cost estimate contained in the June 14, 2001 Finance Plan. Once FHWA and the States reach final agreement on the revisions, the States will be required to provide an updated Finance Plan within 21 days.

If FHWA and the States meet the above commitments to provide an updated Finance Plan that:

- contains a full reasonable cost estimate for the project;
- identifies funding to complete the entire project and a written commitment by the States to cover overruns;
- accounts for all project costs and does not obscure the project cost through “phasing;” and,
- allows only bridge costs to be eligible for 100 percent Federal funding as directed by TEA-21,

we believe their actions would provide a reasonable basis for the Department to approve a Finance Plan for the project. We plan to review the final Finance Plan when it is submitted.

In accordance with Department of Transportation Order 8000.1C, since we are not making any recommendations, no response or follow-up action is required. If I can answer any questions or be of further assistance, please feel free to contact me at (202) 366-1959, or Todd J. Zinser, Acting Deputy Inspector General, at (202) 366-6767.

#

Attachments (3)

**OBJECTIVE, SCOPE, METHODOLOGY  
AND PRIOR AUDIT COVERAGE**

The objectives of this review were to assess whether the estimated cost, funding and schedule of the Woodrow Wilson Bridge Corridor Reconstruction Project (Bridge Project) were reasonable. We evaluated the assumptions used in developing cost estimates, and identified factors and prevailing trends experienced on other transportation construction projects to evaluate the potential impact on the cost of the Bridge Project, if it were to experience these same trends. In addition, we examined the funding for the project, and identified issues that could put the project at risk of not meeting its scheduled completion date.

Our assessment of FHWA's cost estimate examined the sources and amounts of changes from earlier estimates, the project scope included in the September 2000 and April 2001 cost estimates, and the assumptions used in developing the estimates. We analyzed each of the Bridge Project cost estimates to determine which project components were included and how these components changed from estimate to estimate, and to determine whether the methodology employed for each estimate was reasonable. In addition, we reviewed how costs were allocated among the project segments (the bridge and four interchanges) and the methodology used for allocating those costs. We also reviewed the Finance Plan dated June 14, 2001 that the States submitted for the Department's approval to identify any changes from the prior draft plans.

We developed a cost estimate for the project by identifying factors and prevailing trends experienced on other transportation construction projects and evaluating several of these factors, such as inflation and right-of-way acquisition. We identified the reasons for changes to previous estimates to determine whether the changes were documented and were supportable.

We met with officials from FHWA, the Virginia Department of Transportation, and the Maryland State Highway Administration to discuss cost, funding, schedule, and other related issues about the project; and analyzed the September 2000 draft Finance Plan that the States (Maryland and the Commonwealth of Virginia) submitted to FHWA. On May 10, 2001, FHWA provided us with a copy of the States' April 2001 draft Finance Plan. We extended our review to include an evaluation of that plan. In addition, we examined whether the project had adequate Federal and State funding. We also reviewed the construction schedule for the project, and identified issues that could put the project at risk of not meeting its scheduled completion date.

To determine how cost, funding and schedule issues of transportation projects in Virginia may affect the Bridge Project, we reviewed the Virginia Legislature's Joint Legislative Audit and Review Commission's January 9, 2001, report on the Review of Construction Costs and Time Schedules For Virginia Highway Projects.

We issued our draft report to the Department and the States on June 8, 2001. Our draft report identified significant shortcomings in draft Finance Plans that had to be corrected before the Department could approve a Finance Plan for the project. Our specific observations involved the adequacy of cost estimates and funding, a proposal to delay critical work, and compliance with congressional direction on the use of Federal funds. We received written comments on our draft report from FHWA on August 10, 2001 and from the States on July 9, 2001. We considered and incorporated those comments in this memorandum.

We conducted this review from June 2000 through July 2001. Our review was conducted at FHWA Headquarters in Washington, D.C., and at the Woodrow Wilson Bridge Project Offices in Alexandria, Virginia, and Oxon Hill, Maryland.

## **PRIOR COVERAGE**

In September 1999 we reported<sup>1</sup> that:

- the total estimated cost of the Woodrow Wilson Bridge Project had not been finalized and sufficient funding had not been committed;
- the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) prohibited the use of any Federal funds for construction on the project until FHWA approves a Finance Plan for the project, and an agreement transferring ownership of the bridge from FHWA to Virginia and/or Maryland is signed; and
- a court decision against FHWA, if not successfully appealed, would delay or change the cost and schedule of the project.

We recommended that FHWA establish timeframes and a resolution process to ensure the following items are completed in a timely fashion to keep the project on schedule:

---

<sup>1</sup> Office of Inspector General Report No. TR-1999-1333, Baseline Review of the Woodrow Wilson Bridge Project, (September 27, 1999).

- Bring the project into compliance with the Clean Air Act.
- Develop an all-inclusive cost estimate for the project.
- Finalize the Finance Plan.
- Determine a new owner for the bridge.
- Complete all necessary environmental reviews.

We further recommended that FHWA request Congress to establish a statutory cap limiting Federal funding for the Woodrow Wilson Bridge Project. FHWA concurred with our recommendations. However, FHWA suggested that we stipulate that the Federal statutory cap should be set at \$1.5 billion. We did not revise our recommendation because we believed Congress should make this decision. The Record of Decision for the project was revised on June 16, 2000, to reflect additional studies and other public involvement. However, as of June 1, 2001, FHWA has not completed action on the recommendations to develop an all-inclusive cost estimate, finalize the Finance Plan, and determine a new owner for the bridge.

**WORK ELIGIBLE FOR 100 PERCENT FEDERAL FUNDING**  
(\$ in millions)

<b>Project Component</b>	<b>Estimated Cost Eligible for 100 Percent Financing</b>
<b>Telegraph Road Interchange</b>	
Mitigation	0
ITS	0
CMS	0
<b>Total</b>	<b>0</b>
<b>U.S. Route 1 Interchange</b>	
ROW	0
Construction	0
Eisenhower Ave Ramps	0
Mitigation	0
ITS	0
CMS	0
Washington Street Deck	0
Jones Point Park	14.6
Hunting Towers	10.0 <sup>1</sup>
<b>Total</b>	<b>24.6</b>
<b>Potomac River Bridge</b>	
Design	28.0
Dredging	19.0
Foundation	154.8
Dredging/Foundation Var.	0
Construction	592.2
Demolition	0
Mitigation	15.3
ITS	2.7
CMS	5.0
<b>Total</b>	<b>817.0</b>
<b>I-295 Interchange</b>	
Construction	0
Rosalie Island Park/Deck and Mitigation	5.0 <sup>1</sup>
ROW	0
Construction	0
ITS	0
CMS	0
<b>Total</b>	<b>5.0</b>
<b>MD 210 Interchange</b>	
Mitigation	0
ROW	0
Construction	0
ITS	0
CMS	0
<b>Total</b>	<b>0</b>
<b>MD Project Wide</b>	
Mitigation	0
CMS	0
<b>Total</b>	<b>0</b>
<b>Miscellaneous</b>	
I-295 DC	0
Other Cost	54.1
<b>Total</b>	<b>54.1</b>
<b>Grand Total</b>	<b>900.7</b>
<sup>1</sup> These amounts will be provided initially with the understanding that an appraisal for the portions encroached upon where the ends of the bridge actually touch down will be performed within a year.	

**MAJOR CONTRIBUTORS TO THIS REPORT**

<b><u>Name</u></b>	<b><u>Title</u></b>
Michael D. Gulledge	Program Director
Kevin B. Perkins	Project Manager
Susan R. Carnohan	Senior Analyst
Kristen Massey	Analyst
Frank Ochs	Senior Auditor
Jennifer M. Supernaw	Analyst
Rodolfo Pérez	Engineer Advisor