



Maryland Department of Transportation
The Secretary's Office

Martin O'Malley
Governor

Anthony G. Brown
Lt. Governor

Beverley K. Swaim-Staley
Secretary

Harold M. Bartlett
Deputy Secretary

November 17, 2009

The Honorable Ulysses Currie
Chairman, Senate Budget and Taxation Committee
3W Miller Senate Building
Annapolis MD 21401-1991

The Honorable Norman Conway
Chairman, House Appropriations Committee
131 Lowe House Office Building
Annapolis MD 21401-1991

Dear Chairmen:

Please see the attached report concerning *I-95 Cost Increases*. This report was prepared in response to budget language set forth in the 2009 Joint Chairmen's Report, pages 69 and 70. The language directs:

"The fiscal 2009-2014 Consolidated Transportation Program (CTP) includes a deferred completion of the I-95 Express Toll Lanes by up to four years and a cost increase of \$312.9 million over the fiscal 2008-2013 CTP. This project has witnessed significant cost increases over the past three years, increasing from \$810.9 million in the fiscal 2006-2011 CTP to \$1.49 billion in the fiscal 2009-2014 CTP. The committees are concerned about this increase in cost and request that the Maryland Transportation Authority (MDTA) provide a report to the committees by November 1, 2009 explaining:

- *why such large cost increases have taken place;*
- *what actions it is taking to mitigate these increases; and*
- *whether future increases are expected.*

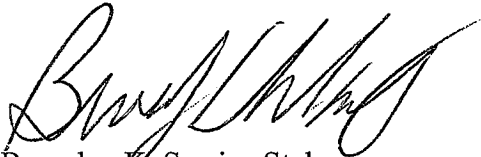
The report should also provide information about improvements along the entire portion of I-95 from north of Baltimore to the Delaware line. This information should include a range of cost estimates for this entire portion of I-95 as well as a timeline for completion.

It is the intent of the committees that MDTA continue to consult with the State Highway Administration regarding the best practices in estimating costs and constructing large highway projects.

The Honorable Ulysses Currie
The Honorable Norman Conway
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Please feel free to contact Mr. Ron Freeland, Executive Secretary, Maryland Transportation Authority at 410-537-1001 if you have questions or need more information about this project. Of course, please feel free to contact me directly.

Sincerely,

A handwritten signature in black ink, appearing to read "Beverley K. Swaim-Staley". The signature is fluid and cursive, with the first name being the most prominent.

Beverley K. Swaim-Staley
Secretary, Maryland Department of Transportation
and Chairman, Maryland Transportation Authority

Attachment

cc: Members of the Budget Committees
Mr. Ronald Freeland, Executive Secretary, Maryland Transportation Authority

A Report to the Maryland General Assembly

Senate Budget and Taxation Committee

&

House Appropriations Committee

Regarding

I-95 Cost Increases

(2009 Joint Chairmen's Report, pp. 69 & 70)

November 2009

The Maryland Transportation Authority
The Maryland Department of Transportation

I-95 Cost Increases (2009 Joint Chairmen's Report, pages 69 & 70)

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Historical Review of Cost Increases

Between the fiscal 2006-2011 and the fiscal 2009-2014 CTP budgets, the following cost drivers were associated with the increases that have resulted in the current cost estimate of \$1.49 billion.

- ◇ **Fiscal 2006-2011 budget = \$0.811 billion**
- ◇ **Fiscal 2007-2012 budget = \$1.165 billion (increase of \$354 million versus fiscal 2006)**
 - Unit prices increased 15% to 50% relative to 2006 unit prices for core construction materials such as stone, reinforcing steel and concrete.
 - Cost increase to account for inflation.
 - Design refinements including adjustments to the project limits, pavement thickness, shoulder widths, utility relocations, and environmental mitigation.
 - Additional project administration and management costs were added to support updated implementation schedule.
 - Right-of-way increased due to increased project limits and requirements for temporary project staging/offices.

I-95 Cost Increases (2009 Joint Chairmen's Report, pages 69 & 70)

- ◇ **Fiscal 2008-2013 budget = \$1.231 billion (increase of \$66 million versus fiscal 2007)**
 - MdTA established an additional \$49 million reserve within the project.
 - The balance of the cost increase was attributable to an increase in right-of-way costs to support wetland mitigation as well as an increase in management budget.

- ◇ **Fiscal 2009-2014 budget = \$1.494 billion (increase of \$263 million versus fiscal 2008)**

The current administration identified the need to develop a comprehensive assessment of the cost estimate for the Express Toll Lanes utilizing State Highway Administration (SHA) experience relative to other mega-projects, such as the Woodrow Wilson Bridge (WWB) Project as well as the Intercounty Connector (ICC), which are both managed by SHA. This comprehensive assessment was supported by consultant staff that was responsible for the financial plans for both the WWB and ICC projects to evaluate the project relative to previous SHA mega-project experience.

With the goal of establishing a budget that will accommodate typical risks encountered by major design-bid-build projects, the current update incorporated the following:

- A full assessment of expenditures to date to understand the distribution and organization of costs between planning, engineering, right-of-way, and construction.
- An increase of the construction contingency budget such that the new budget is now 10 percent of the construction contract value, which is consistent with experience on Maryland's other major design-bid-build project, the Woodrow Wilson Bridge Project.
- An increase in future construction contract estimate unit costs to reflect the significant increase in commodity prices over the past year.
- An increase in design and construction management budget to bring them in line with experience on both the Woodrow Wilson Bridge Project as well as the Intercounty Connector Project.
- An increase in right-of-way budget due to rezoning of parcels to be acquired.
- As a part of this update process, reasonable scope reductions were identified and incorporated to offset some of the increases.
- For the purposes of consolidated budget tracking, the separate capital budget line items established in fiscal 2008-2013 were combined into one project tracking sheet in the fiscal 2009-2014 CTP.

The result of these increases is approximately \$140 million relative to the fiscal 2008 budget. While this increase was significant, the Authority believes that the budget better accommodates the risks inherent with a mega project such as the I-95 ETL project. Given the financial impact of declining revenues, the Authority assessed the reasonableness in maintaining the ETL completion schedule this past summer and fall.

I-95 Cost Increases (2009 Joint Chairmen's Report, pages 69 & 70)

As a result of the revenue downturn, the Authority determined that a delay of up to four years should be incorporated into the final fiscal 2009-2014 CTP. This allows for significant costs to be deferred until the extent of the economic downturn can be fully determined.

With a four-year completion delay, there are additional costs associated with interim traffic and safety management measures, as well as additional management and inflation-related costs associated with delay. In total, these additional costs due to delay are approximately \$123 million.

When combining the update of the base cost estimate for the project as well as the additional cost due to the four year delay, the total cost increase for the ETL project is \$263 million relative to the fiscal 2008-2013 CTP.

The cost estimate contained within the FY2009-2014 CTP for the I-95 Express Toll Lanes project was evaluated by SHA in August 2009. Per a letter from SHA dated September 9, 2009, SHA indicated that the estimate reflects the industry's best practices for risk assessment and cost allocation. In addition, SHA indicated that the FY2009-2014 estimate is consistent with SHA experience on similar mega projects including the Woodrow Wilson Bridge Project and the Intercounty Connector Project. SHA also indicated that they will continue to provide project-level support for detailed estimate preparation associated with the individual construction contracts.

Actions to Mitigate Future Cost Increases

While the Authority adopted this budget with the goal of not exceeding this budget going forward, there are on-going efforts to bring this project under budget. These efforts include:

- Strong and proactive management of active construction contracts to ensure the projects are delivered on schedule and that the need to utilize construction contingency budgets is minimized.
- A thorough evaluation of remaining construction contracts to be advertised with the goal of identifying efficiencies and/or scope reductions wherever possible to reduce future construction costs.
- Regular financial monitoring and reporting of project progress to ensure that budget parameters and targets are maintained and to improve the Authority's ability to identify financial issues early in the process in order to minimize their financial impact.

I-95 Cost Increases (2009 Joint Chairmen's Report, pages 69 & 70)

In addition, the Authority has already established monthly budget and cash flow reporting for Section 100 consistent with the ICC project to improve capital project financial monitoring and management.

Finally, the Authority is undertaking the following corrective actions to improve capital project management.

1. Adoption of routine quarterly project reviews of scope, schedules, progress and budgets
2. Development and implementation of standard estimating policies, procedures, checks and balances
3. Review and adjustment of currently applied design, program management, construction changes and construction management percentage values
4. Greater stakeholder involvement from the beginning of each project
5. Purchase, training and implementation of integrated project and program management software for all projects
6. Implementation of formal staff project accountability measures
7. Development of formal project documentation and reporting policies and procedures
8. Continued review of peer practices including consultation with SHA and formal adoption of "best practices"
9. Continuous review of all results with formal feedback and management practices adjustments

Potential for Future Cost Increases

Based on the current schedule, MdTA believes that the FY2009 budget is reasonable. This most recent update incorporates appropriate contingencies based on previous mega-project experience. Should the project be delayed further or should a macro-economic shock such as an oil price surge return, there could be an impact on the cost to complete the balance of the project.

Balance of I-95 Improvements to the Delaware Border

The I-95 Master Plan identified four independent project planning projects along the John F. Kennedy Memorial Highway (JFK). These projects include Sections 100, 200, 300 and 400. In 2009 dollars, the cost for completion of the I-95 Master Plan Projects north of MD 43 to the Delaware state line ranges from \$3.0B to \$3.5B. This range is based on planning level assumptions and will be refined as the Master Plan Projects are further developed in the planning and design phases of project development. This range is subject to change based on future economic and travel pattern fluctuations.

Section 100, now known as the I-95 Express Toll Lanes Project (ETLs Project), extends 10 miles along I-95 from the Baltimore City/County line to north of MD 43. This project is under construction.

I-95 Cost Increases (2009 Joint Chairmen's Report, pages 69 & 70)

Section 200 extends 16 miles along I-95 from north of MD 43 to north of MD 22. It includes the I-95 interchanges with MD 152, MD 24, MD 543 and MD 22. This project is currently in the project planning phase of project development. The final environmental document, the Finding of No Significant Impact (FONSI), is anticipated to be approved fall 2009. Funds have not been programmed for design or construction for Section 200.

The Section 200 project planning study analyzed three alternates: No-Build, General Purpose Lanes, and Express Toll Lanes. The No-Build Alternate keeps the existing roadway and interchanges as they are and allows for routine maintenance and minor safety upgrades. The General Purpose Lanes Alternate includes six general purpose lanes (GPLs) in each direction between MD 43 and MD 152, five in each direction between MD 152 and MD 543, and four in each direction north of MD 543. All lanes would be designated for general use by all motorists.

The Express Toll Lanes Alternate (ETLs) includes two new tolled lanes in each direction from the southern study limits to MD 543 and one additional GPL in each direction north of MD 24 to the northern study limit. ETLs give drivers the choice of paying a toll to ride in dedicated lanes that would be less congested than the GPLs. The tolls would be collected at normal highway speeds using open-road tolling technology, with the toll rate varying based on demand and congestion levels. The selected alternate will be identified in the FONSI. Cost estimates are based on the most expensive alternate, the ETLs Alternate.

In 2009 dollars, based on a major quantities estimate the Section 200 ETLs Alternate would cost approximately \$1,925,000,000.

Section 300 extends 8 miles along I-95 from north of MD 22 to north of MD 222. It includes the I-95 interchanges with MD 155 and MD 222 as well as the Millard E. Tydings Bridge (Tydings) over the Susquehanna River. The I-95 Master Plan recommended developing a No-Build Alternate as well as a General Purpose Lanes Alternate for Section 300. The General Purpose Lanes Alternate would add one general purpose lane in each direction. The General Purpose Lanes Alternate assumes rehabilitation of the existing Tydings Bridge for one direction of travel and construction of a new parallel crossing for the other direction of travel. Funds have not been programmed for planning, design or construction for Section 300.

In 2009 dollars, based on a major quantities estimate the Section 300 General Purpose Lanes Alternate would cost approximately \$950,000,000.

Section 400 extends 16 miles along I-95 from north of MD 222 to the Delaware State Line. It includes the I-95 interchanges with MD 272 and MD 279. The I-95 Master Plan recommended developing a No-Build Alternate as well as a General Purpose Lanes Alternate for Section 400. The General Purpose Lanes Alternate would add one general purpose lane in each direction. Funds have not been programmed for planning, design or construction for Section 400. In 2009 dollars, based on a major quantities estimate the Section 400 General Purpose Lanes Alternate would cost approximately \$505,000,000.