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OPERATIONS COMMITTEE

RECOMMENDATION

The Committee concurred with the staff recommendation to approve an amendment for a 60-day extension to the Northrop Grumman contract for the Advanced Technology Transit Bus. at a cost of up to \$1.6 million.

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OPS 2



August 4, 1995

Los Angeles County
Metropolitan
Transportation
Authority

TO: OPERATIONS COMMITTEE

THROUGH: FRANKLIN E. WHITE

FROM: ARTHUR T. LEAHY *ATLeahy*

**SUBJECT: ADVANCED TECHNOLOGY TRANSIT BUS FY95
CONTRACT AMENDMENT**

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RECOMMENDATION

Consider the Chief Executive Officer's report containing a recommendation to approve an amendment to the Northrop Grumman (NG) contract for a 60 day extension at a cost of up to \$1.6 million. The extension will allow staff an opportunity to review Federal budget allocations to the ATTB project for FY96 and time to complete analysis of options to the ATTB program.

ALTERNATIVES CONSIDERED

Contract termination was considered due to recent TDA funds uncertainties and is not recommended until all impacts are fully analyzed.

BACKGROUND

In February, 1995, the Board of Directors approved an amendment to the NG contract for \$6.4 million. Staff entered into negotiations with NG to reduce the cost of the program and to identify other funding sources.

While the ATTB project has made substantial technical progress towards its goals, continuing to generate significant industry interest, there are remaining serious problems with the current insufficiency of project funding.

Negotiations with NG for 5 months have failed to result in meaningful cost reduction proposals for the present program, and at the same time funding from other sources has not materialized. Therefore, staff explored other options to reduce the cost of the project. Through this effort, staff has developed two lower cost alternatives to the \$54.5 million ATTB program (Tables C and D).

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BACKGROUND (Cont'd.)

Staff has identified reductions in the project scope that will reduce the cost of the program by \$13.3 million to \$41.2 million. This cost savings is achieved by reducing the number of prototypes from six to two and by eliminating national field testing, while maintaining the goals and objectives established for the program. With this alternative, the first prototype would be completed by October, 1996 and completion of the entire program would occur in March, 1998. It should be noted that even with this lower cost approach, this project is still unfunded by approximately \$17.6 million.

Staff is also evaluating refinement of the current Mobile Test Bed (MTB) into a fully functioning demonstrator vehicle as an interim step toward development of a production vehicle. During the past few months, the New York State Consortium Hybrid Bus Program became successful and we believe it can be integrated into the MTB at less cost than the development of prototype vehicles. With the successful test of New York's GE hybrid-electric propulsion system, it is no longer reasonable to develop the hybrid-electric propulsion element of the ATTB. Development of the demonstrator vehicle would be completed with the installation of components and subsystems, and testing would occur to evaluate the performance and reliability of this ATTB concept. If this alternative is deemed feasible, the demonstrator vehicle could be completed and the program terminated by Summer, 1996.

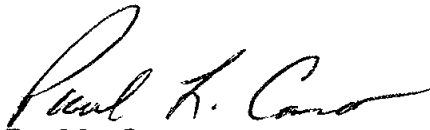
Staff requested proposals from NG on these two alternative approaches. NG submitted a proposal for the \$41.2 million program, and staff is evaluating the technological benefit and cost of this approach. NG indicated that a technical proposal from GE to develop the MTB into a demonstrator vehicle was being evaluated by their engineering staff. NG will respond to the MTA request for a proposal to develop the MTB into a demonstrator vehicle after analysis of technical and cost data.

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IMPACT ON BUDGET AND OBJECTIVES

There will be no impact on the MTA budget. The MTA is obligated to provide \$1.6 million in funding for the ATTB program to match the \$6.4 million grant provided by the Federal Transit Administration in February, 1995. In fact, \$4.7 million was allocated in the MTA FY96 budget to assure funding to support this FTA obligation.

Development of a demonstrator vehicle will most likely not compromise any of the original ATTB objectives. Staff shall evaluate these and report back to the Board. Development of the demonstrator vehicle could expedite commercialization of the bus, since GE and General Motors are nearing commercialization of their hybrid electric propulsion systems. This concept does not affect the objective of the ATTB eventually accommodating a fuel cell. In fact, it is a step forward as hybrid electric drive is required for a fuel cell.



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TABLE A - ORIGINAL PROGRAM (Six Prototypes)

ADVANCED TECHNOLOGY TRANSIT BUS - \$54.5 MILLION							
SOURCE OF FUNDS (\$ MILLION)	FY 93 3/93 -2/94	FY 94 3/94 -2/95	FY 95 3/95 -2/96	FY 96 3/96 -2/97	FY 97 3/97 -2/98	FY 98 3/98 -2/99	FY 99 3/99 -2/00
Federal Share	4.0	6.0	6.4	* 6.4	6.4	6.2	3.3
MTA Match	1.0	1.5	4.7				
Shortfall			2.0	4.6	2.0		
TOTAL	5.0	7.5	13.1	11.0	8.4	6.2	3.3
Total Federal Funds Committed to Project						\$16.4 Million	
Total MTA Funds Committed to Project						\$2.5 Million	
Total Funds Committed to Project						\$18.9 Million	
Additional Funds Required						\$35.6 Million	

TABLE B - ORIGINAL PROGRAM WITH COST REDUCTION IN FY95

ADVANCED TECHNOLOGY TRANSIT BUS - \$52.1 MILLION							
SOURCE OF FUNDS (\$ MILLION)	FY 93 3/93 -2/94	FY 94 3/94 -2/95	FY 95 3/95 -2/96	FY 96 3/96 -2/97	FY 97 3/97 -2/98	FY 98 3/98 -2/99	FY 99 3/99 -2/00
Federal Share	4.0	6.0	6.4	* 6.4	6.4	6.2	3.3
MTA Match	1.0	1.5	4.3	0.4			
Shortfall				4.2	2.0		
TOTAL	5.0	7.5	10.7	11.0	8.4	6.2	3.3
Total Federal Funds Committed to Project						\$16.4 Million	
Total MTA Funds Committed to Project						\$2.5 Million	
Total Funds Committed to Project						\$18.9 Million	
Additional Funds Required						\$33.2 Million	

* The \$6.4 million is based upon funding projections from the FTA. Insufficient Federal allocations will result in a recommendation to terminate the program.

**TABLE C - REVISED \$41.2 MILLION PROGRAM (Two Prototypes)
Funding Profile I (\$6.4 M Federal in FY96)**

ADVANCED TECHNOLOGY TRANSIT BUS - \$41.2 MILLION							
SOURCE OF FUNDS (\$ MILLION)	FY 93 3/93 -2/94	FY 94 3/94 -2/95	FY 95 3/95 -2/96	FY 96 3/96 -2/97	FY 97 3/97 -2/98	FY 98 3/98 -2/99	FY 99 3/99 -2/00
Fed. Share	4.0	6.0	6.4	* 6.4	4.9		
MTA Match	1.0	1.5	4.3	0.4			
Shortfall				6.3	0		
TOTAL	5.0	7.5	10.7	13.1	4.9		
Total Federal Funds Committed to Project						\$16.4 Million	
Total MTA Funds Committed to Project						\$2.5 Million	
Total Funds Committed to Project						\$18.9 Million	
Additional Funds Required						\$22.3 Million	

**TABLE D - REVISED \$41.2 MILLION PROGRAM (Two Prototypes)
Funding Profile II (\$8.0 M Federal in FY96)**

ADVANCED TECHNOLOGY TRANSIT BUS - \$41.2 MILLION							
SOURCE OF FUNDS (\$ MILLION)	FY 93 3/93 -2/94	FY 94 3/94 -2/95	FY 95 3/95 -2/96	FY 96 3/96 -2/97	FY 97 3/97 -2/98	FY 98 3/98 -2/99	FY 99 3/99 -2/00
Fed. Share	4.0	6.0	6.4	* 8.0	4.9		
MTA Match	1.0	1.5	4.3	0.4			
Shortfall				4.7	0		
TOTAL	5.0	7.5	10.7	13.1	4.9		
Total Federal Funds Committed to Project						\$16.4 Million	
Total MTA Funds Committed to Project						\$2.5 Million	
Total Funds Committed to Project						\$18.9 Million	
Additional Funds Required						\$22.3 Million	

* The House and Senate committees approved \$2 million and \$8 million respectively for the program in FY96. Insufficient Federal allocations will result in a recommendation to terminate the program.