



Metropolitan  
Transportation  
Authority

One Gateway Plaza  
Los Angeles, CA  
90012-2952

**SUBJECT: UNIVERSAL FARE SYSTEM (UFS) REGIONAL  
PROGRAM DEVELOPMENT - PHASE I**

**ACTION: AMEND CONTRACT TO BOOZ-ALLEN & HAMILTON  
(BAH) FOR CONSULTING SERVICES**

**RECOMMENDATION**

Authorize the Chief Executive Officer to execute Amendment No. 2 to contract PS-4610-1026 with Booz-Allen & Hamilton (BAH) to provide Phase I Preliminary Cost-Benefits of various options to implement the UFS Regional Service Center and Clearinghouse in an amount not to exceed \$128,842, increasing the total contract value not to exceed \$4,705,185.

**RATIONALE**

In 2004, MTA will begin installation of UFS equipment on its bus and rail service. Immediately following the MTA implementation, work will begin at eight participating Municipal Operators. In order to provide a fully integrated, electronic fare collection system that allows seamless multi-modal travel throughout the region using smart card technology, a Regional Service Center and Clearinghouse (RSCC) must be designed, built and installed between MTA and its regional participants.

The first phase of this process requires research of potential options that explore “in-house” versus out-sourced alternatives related to current and new revenue functions:

Example - Current MTA Operations	Example - New Regional Operations
<ul style="list-style-type: none"> <li>• Cash, token collection from fareboxes, TVMs</li> <li>• Fare media printing and distribution</li> <li>• Auditing and Financial Reporting</li> <li>• Fraud assessment and management</li> <li>• Infrastructure systems and operations management</li> <li>• Data transport and network management, Disaster Recovery</li> <li>• Fare table management</li> <li>• Brand management</li> </ul>	<ul style="list-style-type: none"> <li>• Smart Card Call Center – Patron, Operator, and Retailer Support</li> <li>• Security &amp; Card Key management</li> <li>• Hot-List management</li> <li>• Card base management – initialization, card real estate management</li> <li>• Regional funds pool management &amp; accounting</li> <li>• Regional funds clearing and settlement</li> <li>• Service management (autoload, balance protection, registration)</li> </ul>

Such an analysis will provide the framework and basis on which cost estimates for the new smart card – enabled regional system can be developed, using a “cost-benefit” methodology. Various alternatives will be explored in an effort to take full benefit of the UFS system on a regional basis. Workshops, which will include MTA Executive Management and Municipal Operator participants, are being organized to ensure that all stakeholders have an opportunity to participate in the various analyses and outcomes.

Once this preliminary Phase I analysis has been completed, staff will return to the Board in 60 – 90 days with the results of this first scope of work from the consultant and offer recommended approaches for full regional implementation.

A regional UFS program requires solid integration between multiple operating entities such as the Munis, their systems and infrastructures. Given that Booz-Allen is the technical expert on MTA’s UFS system, they are the logical consultant to provide the technical expertise in the “implementation planning” of the regional program.

Thereafter, staff will also recommend the final UFS Program Development work to be completed, and the consultant’s level of effort required to deliver the Regional Service Center and Clearinghouse. This scope of work will be driven by the outcomes of the Phase I analysis, and may include tasks such as:

<b>Potential Regional Oversight Tasks</b>	
<ul style="list-style-type: none"> <li>• Technical Specification preparation for the Regional Service Center/Clearinghouse &amp; Central Data Collection Systems (CDCS)</li> <li>• Regional Configuration &amp; CDCS Design Oversight</li> <li>• Regional CDCS Installation, Testing &amp; Acceptance Oversight</li> <li>• Regional Service Center Design Oversight</li> </ul>	<ul style="list-style-type: none"> <li>• Systems Integration Testing &amp; Oversight</li> <li>• Regional Equipment Installation Oversight</li> <li>• Regional Service Center &amp; Clearinghouse Testing Oversight</li> <li>• Quality Assurance Oversight</li> <li>• Full Deployment and Systems Acceptance Oversight</li> </ul>

Board approval and authorization for the recommended approach to fully implement the UFS Regional Program will serve as the basis for the next series of consultant tasks, including the creation of the technical specifications. Such specifications will be based on the outcomes of this Phase I cost-benefit analysis.

**BACKGROUND**

Booz-Allen & Hamilton has been the fare collection technical and oversight consultant at the MTA since the inception of its automated, electronic fare collection project.

Over the last decade, Los Angeles County MTA has been involved in the development and implementation of a countywide “universal” fare system. Beginning in 1990, the MTA/LACTC first issued an RFP for a consultant to develop a single-ride ticket useable on rail and bus systems throughout Los Angeles County. This initial stored value debit card demonstration project

assisted by MTA with J.W. Leas & Associates and implemented by several municipal operators has since emerged with MTA, the region's transportation planning entity, funding and leading the regional expansion of this project.

Booz-Allen & Hamilton is recognized throughout the industry as an expert in the field of fare collection. At MTA specifically, Booz-Allen has been the successful proposer in three prior fare collection procurements at MTA. In 1997, Booz-Allen was engaged by competitive procurement to assist MTA in the development of the Standard Regional Revenue Processing System (SRRPS). Booz Allen was then retained by MTA as the single proposer to the 1999 MTA procurement (by RFP) for consultant services to develop technical specifications for replacement of MTA bus fareboxes and rail ticket vending machines.

In 2000, Booz Allen was engaged by sole source to provide the technical oversight of MTA's design review, testing, and installation of the entire UFS system. Booz Allen has been an essential member of the UFS Project Team providing technical consultation to the MTA and its Municipal Operator partners in the development of the regional program through their guidance and support of the UFS Money Committee. Now that eight individual Municipal Operators have officially concluded the signing of their separate contracts with the equipment supplier, there is firm commitment to the UFS regional program, which necessitates the creation of the Regional Customer Service Center and Clearinghouse.

Since the year and one-half that has elapsed since the equipment contract was awarded to Cubic Transportation Systems, Inc., Booz-Allen has been engaged at the MTA to provide technical oversight of all design submittals, and has separately worked with the MTA and the Municipal Operators on various approaches for implementing the UFS system with various approaches. We are now in need of concluding preliminary discussions to complete the basis of such a Regional Customer Service Center and Clearinghouse technical design, and provide options from which the county can operate its electronic fare collection "business".

### **FINANCIAL IMPACT**

Funding of \$128,842. for this amendment is included in the FY04 budget in cost center 3020, New Technology and Systems Implementation, under CIP project 200255, Universal Fare System, Task 3, Project Administration.

### **ALTERNATIVES CONSIDERED**

MTA staff can write the regional 'Implementation Plan' with internal and Municipal Operator staff. However, since no one in the region has implemented a smart-card based fare collection system across nine operating entities including the MTA, this is not advised as the preferred approach to ensure that a technically sound recommendation is developed with accurate cost estimates for running such an operation.

A separate procurement for the engagement of a consultant can be competitively bid for these tasks. This alternative is not recommended by staff and is not consistent with the advice provided by Foley & Lardner to maintain single point of responsibility.

Competitively bidding the implementation work would also cause a delay and would impede and slip the implementation schedule of the regional UFS system. Further, even after such a delay caused by competitively bidding the consultant's scope of work, this effort may still result in the current incumbent, Booz-Allen, being the successful proposer.

Conversely, if Booz-Allen is not the successful proposer, a new consultant would then be faced with a "learning curve", and further, could not assume responsibility for the delivery of the entire system, based on technical specifications which they did not write. This would entail the new consultant to create a new product for which they could take responsibility, all of which would further cause delay of the UFS project schedule.

### **NEXT STEPS**

As the UFS Regional Service Center and Clearinghouse is being developed, staff will concurrently continue with the implementation of the equipment installations, which include the replacement of MTA's obsolete bus fare boxes, rail ticket vending machines, and the installation of sales office terminals at participating retail media sales outlets, and the separate procurement of the Regional Central Data Collection System (CDCS).

In October 2003, staff will be presenting to the Board, several additional technology enhancements that were not originally available when the UFS contract was awarded.

- "Virtual Gates" in lieu of the current Stand-Alone Validators for the rail system
- Limited Use Paper Smart Cards to accommodate new Day Passes and other short term fare media
- MTA Employee (smart card) ID Badge camera, terminal and printer

These three features are being pursued in parallel with the current final design process in an attempt to avoid disruption to the project schedule.

The other features noted below are being investigated and brought forward as potential separate enhancements:


- Bus Validators to enable rear-boardings on BRT and Rapid buses
- Day Pass printing capabilities on-board buses via paper printer-devices
- Limited function vending machines for use at Transit Hubs to support "Hub & Spokes"

Staff is currently analyzing the feasibility and cost of implementing this new complement of automated, smart-card enabled equipment. In light of the recent availability of such products staff recommendations will be forthcoming in October 2003 to the Board.

**ATTACHMENT(S)**


**Procurement Summary – Attachment A**

Prepared by: Alex Clifford, Managing Director, On-Street Performance  
Cynthia Gibson, Director, New Technology Systems Implementation  
Jane Matsumoto, UFS Project Manager  
Don Dwyer, Contracts Administration Manager



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John B. Catoe, Jr.  
Deputy Chief Executive Officer



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Roger Snoble,  
Chief Executive Officer

**BOARD REPORT ATTACHMENT A  
PROCUREMENT SUMMARY**

**AMEND CONTRACT TO BOOZ-ALLEN & HAMILTON  
FOR CONSULTING SERVICES**

1.	Contract Number: PS-4610-1026		
2.	Recommended Vendor: Booz-Allen & Hamilton		
3.	Cost/Price Analysis Information:		
	A. Bid/Proposed Price: \$128,842	Recommended Price: \$128,842	
	B. Details of Significant Variances are in Attachment A-1.D		
4.	Contract Type: Cost Plus Fixed Fee		
5.	Procurement Dates:		
	A. Issued: N/A		
	B. Advertised: N/A		
	C. Pre-proposal Conference: N/A		
	D. Proposals Due: 9-2-03		
	E. Pre-Qualification Completed: Yes		
	F. Conflict of Interest Form Submitted to Ethics:		
6.	Small Business Participation:		
	A. Bid/Proposal Goal: 13.8 DBE Goal, Base Contract	Date Small Business Evaluation Completed: March 17, 2003	
	B. Small Business Commitment: % for Amendment 2. Details are in Attachment A-2		
7.	Invitation for Bid/Request for Proposal Data:		
	Notifications Sent: N/A	Bids/Proposals Picked up: N/A	Bids/Proposals Received: N/A
8.	Evaluation Information:		
	A. Bidders/Proposers Names: (Amendment No. 2)	<u>Bid/Proposal Amount:</u>	<u>Best and Final Offer Amount:</u>
	Booz-Allen & Hamilton	\$128,842	\$128,842
	B. Evaluation Methodology: Details are in Attachment A-1.C		
9.	Protest Information:		
	A. Protest Period End Date: N/A		
	B. Protest Receipt Date:		
	C. Disposition of Protest Date:		
10.	Contract Administrator: Donald C. Dwyer	Telephone Number: 922-6387	
11.	Project Manager: Jane Matsumoto	Telephone Number: 922-3405	

**BOARD REPORT ATTACHMENT A-1  
PROCUREMENT HISTORY**

**AMEND CONTRACT TO BOOZ-ALLEN & HAMILTON  
FOR CONSULTING SERVICES**

**A. Background on Contractor**

Booz-Allen & Hamilton (BAH) has provided technical consultation to the MTA on fare collection since the inception of the MTA's automated fare collection systems. BAH's involvement includes the drafting of the UFS technical specification, UFS implementation management services and various studies related to fare collection. BAH is a recognized leader in the design and management of fare collection systems throughout world

**B. Procurement Background**

In February, 2001, the MTA Board approved a non-competitive contract with BAH for UFS Implementation Management services.

**Amendment No. 2:**

At the request of the MTA, BAH submitted a proposal to provide additional technical support related to the expansion of the MTA's Universal Fare System into a Regional Fare Collection System. Under this amendment, BAH will develop a regional UFS implementation plan to assist the MTA and the Region in determining how best to proceed with the development of a regional system.

**C. Evaluation of Proposals**

A technical analysis was performed on the proposal received. The hours proposed and distribution of labor are technically acceptable.

**D. Cost/Price Analysis Explanation of Variances**

The recommended price has been determined to be fair and reasonable based upon cost analysis. Booz-Allen & Hamilton proposed the same breakdown of costs as is included in the base contract. The elements of cost are consistent with the base contract.

<b>Bid/Proposal Amount</b>	<b>MTA Estimate</b>	<b>Recommended/Negotiated Amount</b>
\$128,842	\$1,969,770	\$128,842

The estimate is based on an initial, larger scope of work. Work contemplated under Amendment 2 has been reduced from 23,840 hours to 758 hours. This accounts for the large difference between the estimate and the cost proposal.

**BOARD REPORT ATTACHMENT A-2  
LIST OF SUBCONTRACTORS**

**AMEND CONTRACT TO BOOZ-ALLEN & HAMILTON  
FOR CONSULTING SERVICES**

**PRIME CONTRACTOR – Booz Allen Hamilton, Inc.**

**SMALL BUSINESS PARTICIPATION (Contract PS-4610-1026 )**

The Contractor committed to 13.8% DBE participation for this contract. The contract is 36.9% complete. Current DBE attainment<sup>1</sup> based on the relevant contract amount<sup>2</sup> is 2.8%. Current DBE participation<sup>3</sup> based on the total actual amount paid-to-date to prime and total actual amount paid-to-date to DBEs is 7.3 %. The three listed DBE subcontractors are anticipated to perform as listed.

<b>Original Award Amount</b>	<b>\$ 4,499,557</b>
<b>Relevant Contract Value<sup>2</sup></b>	<b>\$ 4,517,355</b>
<b>Total Actual Amount Paid to Date to Prime</b>	<b>\$1,647,498</b>

<b>Subcontractor</b>	<b>Commitment</b>	<b>Current Attainment<sup>1</sup></b>	<b>Current Participation<sup>3</sup></b>	<b>Current Status</b>
	4.7 %	0.0 %	0.0%	To Perform
<i>Eiger TechSystems</i>	3.5 %	0.1 %	.004 %	Performing
<i>Lkg-CMC, Inc</i>	5.6 %	2.7 %	7.3 %	Performing
<b>TOTAL</b>	<b>13.8 %</b>	<b>2.8 %</b>	<b>7.3 %</b>	<b>Expected to Meet</b>

<sup>1</sup>Current Attainment = Total Actual Amount Paid-to-Date to Subs ÷ Total Relevant Contract Amount

<sup>2</sup>Relevant Contract Amount = Original Contract Value + Contract Cost Modifications affecting DBE or SBE Scope of Work

<sup>3</sup>Current Participation = Total Actual Amount Paid-to-Date to Subs ÷ Total Actual Amount Paid-to-Date to Prime