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# SYSTEM SAFETY AND OPERATIONS COMMITTEE MAY16, 2013

SUBJECT: UNIVERSAL FARE SYSTEM ("UFS") MAINTENANCE

ACTION: APPROVE CONTRACT MODIFICATION

#### RECOMMENDATION

Authorize the Chief Executive Officer to negotiate and execute a Contract Modification to Contract OP-02-4610-10 with Cubic Transportation Systems, Inc. ("CTS") for the base contract period July 1, 2013 to June 30, 2019, in an amount not-to-exceed \$55,000,000, increasing the total contract value from \$169,669,048 to \$224,669,048.

#### **ISSUE**

The current UFS System Support Services Extended Warranty ("SSSEW") contract with CTS approved in 2012 for a period of one year expires on June 30, 2013. To ensure uninterrupted sales, access, and system management of fare media products, we require the continuation of support services to operate and maintain the integrated UFS fare collection system.

#### **DISCUSSION**

The current services agreement covers the repair and maintenance that ensures the continuous performance of all automated fare collection ("AFC") devices, patron and business support services, the central computers system, operational support services, asset management services, and the back office systems that process UFS data.

The UFS represents the implementing environment for the Transit Access Pass ("TAP") network. In February 2013, nearly 21 million TAP boardings were recorded on the agency's network including 15.9 million on buses and 5.0 million on the rail system. Also in February, the agency's ticket vending machine ("TVM") network processed over 1.4 million transactions providing \$6.0 million in revenue, including \$3.4 million in cash collections.

In June 2012, staff reported to the Board our efforts to align the UFS maintenance agreement with the existing gate maintenance contract through June 30, 2019, an additional six years.

Over the past several months, staff has met with the vendor to discuss our intent to address and strengthen measures of contractual performance requirements. Issues included maintenance response times, financial penalties for software bugs, improved system monitoring, and redefining locations and priorities within stations with multiple equipment arrays.

As a result, the contractor was requested to provide three separate cost proposals to both align the period of performance and address these issues. Each proposal was further required to include a separately priced option to extend the hours of performance from 11PM to 1AM, to accommodate current late-night services. The proposals requested were:

- 1) A one-year base period with five one-year options
- 2) A three-year base period with a three-year option
- 3) A six-year base period

Staff evaluated the proposed options and determined that a single six-year base term offers the best value. The six-year base is the lowest cost alternative and provides more flexibility because it includes a specific transition clause, "Disentanglement", which allows MTA maximum advantage in directing the transition to an alternative service provider, insourced or other third-party vendor. This is not available under a shorter term agreement.

Included in the recommended base proposal was Cubic's agreement to incorporate our desire for increased performance accountability at no additional cost, and an overall cost savings to the agency of approximately \$6.4 million versus the option of a single year base with 5 renewable options, and \$3.7 million compared to the three-year base plus three-year option. The average annual cost to MTA represents 1.2% increase over our current authorized level.

Please see Attachment B for a summary and discussion of the CTS proposal.

#### **DETERMINATION OF SAFETY IMPACT**

Malfunctioning or unreliable equipment, particularly in a latched environment, can cause staff and customer accidents. It is strongly advised to not reduce or eliminate necessary structural on-going maintenance and availability of the equipment for a fare system that interfaces with each and every patron that uses MTA service.

The funding for this service is included in the proposed FY14 budget in cost center 5440, Revenue Collections, under expense type 50308, Contracted Services.

As this is a multi-year contract, the cost center manager and the Chief Financial Services Officer will be accountable for budgeting the cost in future years, including any option(s) exercised.

These expenses are funded with bus and rail operating revenues.

#### **ALTERNATIVES CONSIDERED**

- A. The Board could choose the alternative of a single year base with a series of five MTA controlled options for years two through six. The Board may also choose the alternative of a three-year base with a MTA controlled three-year option. Neither of these options is recommended due the higher cost over the six year period.
- B. The Board could direct staff to in-source the duties of the contractor using Metro staff and other resources. Based on our internal analysis of the staffing and necessary support infrastructure, we estimate that total costs over the six year period would be approximately 8% to 20% higher, \$5.0 million to \$11.2 million than the current proposal. The higher cost estimates are due primarily to increased staffing requirements resulting from the conversion of Contractor labor hours to Metro full time equivalents. Additional expense increases include centralized costs the Contractor currently partially allocates to other projects. We estimate a minimum of 18 months would be necessary to allow for the recruitment and training of technically qualified staff in order to complete the transition and would require us to choose a one-year agreement with options to maintain the UFS equipment during the transition. This alternative is not recommended.
- C. The Board could direct staff to issue a Request for Proposals to seek an alternative vendor. Due to the proprietary nature of the software that supports the UFS/TAP system, significant new programming and development costs would be incurred to replace it. The time necessary to prepare and execute such a solicitation that includes a transition period would require us to choose a one-year agreement with options to maintain the UFS/TAP system during the procurement and transition. This option is not recommended.

MTA may revisit strategies B and C above at any time during the recommended sixyear term for any reason due to the Termination for Convenience and Disentanglement features.

A discussion of the proposed options and their features are included in Attachment B – Proposal Summary.

#### **NEXT STEPS**

- Negotiate and execute the contract action.
- Implement increased performance standards as agreed.

### **ATTACHMENTS**

- **A.** Procurement Summary
- B. Summary highlights of CTS proposal
- C. Listing of UFS assets maintained under the System Support Services agreement

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#### PROCUREMENT SUMMARY

UNIVERSAL FARE SYSTEM ("UFS") MAINTENANCE

1.	Contract Number: OP-02-4610-10		
2.	Recommended Vendor: Cubic Transportation Systems, Inc.		
3.	Type of Procurement (check one): IFB RFP RFP-A&E		
	☐ Non-Competitive ☐ Modification ☐ Task Order		
4.	Procurement Dates: N/A		
	A. Issued: N/A		
	B. Advertised/Publicized: N/A		
	C. Pre-proposal/Pre-Bid Conference: N/A		
	D. Proposals/Bids Due: N/A		
	E. Pre-Qualification Completed: N/A		
	F. Conflict of Interest Form Submitted to Ethics: N/A		
	G. Protest Period End Date: N/A		
5.	Solicitations Picked	Bids/Proposals Received:	
	up/Downloaded:		
		N/A	
	N/A		
6.	Contract Administrator:	Telephone Number:	
	Donald C. Dwyer	922-6387	
7.	Project Manager:	Telephone Number:	
	Dave Sutton	922-5633	

#### A. Procurement Background

The solicitation for Contract OP-02-4610-10, was a competitively negotiated procurement, awarded on the basis of price and non-price factors.

Contract OP02461010 was awarded on March 7, 2002 to Cubic Transportation Systems, Inc. in the amount of \$84,003,444. The Contract has been modified 97 times for a total of \$76,665,605. This amount does not include Modification No. 92. One-Year Extension of System Support Services, which was approved by the Board in June 2012 for \$9M. The final amount of this modification is subject to final negotiation.

Change Type	Number of Changes	Dollars
Administrative Changes	19	\$0.00
Deductive Changes	12	\$2,239,413
System Expansion	11	\$37,365,873
System Maintenance	1	\$33,988,558
System/Equipment	57	6,285,003
Changes/Enhancements		

#### B. Evaluation of Proposals/Bids

The consultant's cost proposal will be evaluated in compliance with Metro Procurement policies and procedures. The final negotiated value will be based on the scope of work, Metro's technical analysis, the applicable labor positions and rates, and fee.

#### C. Cost/Price Analysis

The final negotiated amount will comply with all requirements of Metro Procurement policies and procedures, including fact-finding, clarifications and cost analysis to determine a fair and reasonable price before the contract modification is executed. An Independent Cost Estimate (ICE) will be obtained as part of the cost analysis before negotiating the final value and execution of the contract modification.

#### D. Background on Recommended Contractor

Cubic Transportation Systems, Inc., a wholly owned subsidiary of Cubic Corporation, is located in San Diego, California. Cubic Transportation Systems, Inc. (Cubic) has been in business since 1949. Cubic specializes in two areas of business: Defense and Transportation. Cubic is currently under contract with Metro to perform maintenance on bus fare boxes. All the fare boxes currently under use by Metro were by provided by Cubic in the early 1990's. Cubic's performance under these contracts has been satisfactory. Cubic has provided fare collection equipment to transit agencies throughout the United States and the World, including New York City Transit, Chicago Transit Authority, Washington Metropolitan Area and London Underground Limited.

#### E. Small Business Participation

Cubic Transportation Systems, Inc. has a Disadvantaged Business Enterprise participation commitment of 5.65%. Cubic Transportation's current DBE participation is 8.21%, which exceeds their DBE commitment.

SMALL BUSINESS	DBE	SMALL	DBE
COMMITMENT	5.65%	BUSINESS	8.21%
		PARTICIPATION	

	DBE Subcontractors	Status	% Committed	Current Participation <sup>1</sup>
1.	American Alloy Fabrication, Inc.	Performing	0.25%	0.57%
2.	Lows Enterprises	Performing	0.13%	0.06%

3.	TechProse	Performing	0.41%	0.11%
4.	Robnett Electrical	Performing	2.53%	6.46%
5.	Priority Manufacturing, Inc.	Performing	0.93%	0.34%
6.	J-Tec Metal Products	Performing	0.13%	0.06%
7.	KLI, Inc.	Performing	0.25%	0.16%
8.	Kormex Metal Craft	Performing	1.02%	0.45%
	Total Commitment	Exceeding	5.65%	8.21%

<sup>&</sup>lt;sup>1</sup>Current Participation = Total Actual amount Paid-to-Date to Subs ÷Total Actual Amount Paid-to-date to Prime.

### F. All Subcontractors Included with Recommended Contractor's Proposal

	Subcontractor	Services Provided
1.	GFI Genfare	Fareboxes and associated equipment.
2.	American Alloy Fabrication	Sheet metal parts
3.	Lows Enterprise, Inc.	Cable and harness assemblies
4.	Excelsior Manufacturing, Inc.	Printed circuit boards
5.	Caribe Electronics	Electrical components
6.	Priority Manufactuing, Inc.	Sheet metal parts
7.	Robnett Electrical	Installation services
8.	TechProse	Training and Documentation
9.	Securelectronic Company, Inc.	Maintenance Labor
10.	J-Tec Metal Products	Sheet metal fabrication and assembly
11.	KLI, Inc.	Electronic fabrication and assembly
12.	Kormex Metal Craft	Sheet metal fabrication and assembly

### **Proposal Summary**

	Terms of Contract Extension		
	Base Year + Five 1- year options	Three year base term with a 3-year option	Six Year base term
Current Authority*	\$9,000,000		
Revised Contract Features:			
Response by Location/Priority	To be negotiated; \$50,000 to \$100,000 per year	To be negotiated; \$50,000 to \$100,000 per year	Included in Base at no additional cost
Additional Software KPIs	To be negotiated; \$75,000 to \$150,000 per year	To be negotiated; \$75,000 to \$150,000 per year	Included in Base at no additional cost
Mobile Validator Services	Subject to separate agreement under a single year option	Included with restrictions	Included in Base at no additional cost
Contract Exit Mechanism	Term for Convenience; End of Term	Term for Convenience; End of Term	Term for Convenience; End of Term; Disentanglement**
Pricing:			
Six-year Extended Price***	\$61,029,255	\$58,402,343	\$54,671,046
Total Cost Difference	\$0	\$(2,626,912)	\$(6,358,209)
		(4.4)%	(10.4)%
Avg Cost per Yr	\$10,171,543	\$9,733,724	\$9,111,841
Avg Annual Cost Difference	\$0	\$(437,819)	\$(1,059,702)
Additional Option:			
Extended Service Hours****	\$3,904,491	\$3,786,612	\$3,700,648
System Expansion (Expo II, Gold Line Extension, etc)	Fixed Fee Per Piece of Equipment	Fixed Fee Per Piece of Equipment	Fixed Fee Per Piece of Equipment

<sup>\*</sup> Current Authority as approved by the Board in June 2012. There are no exercisable options available.

#### **Proposed Revised Contract Features**

#### Response by Location/Priority

Many of Metro's stations have multiple arrays of equipment with significant distances between them, for example 7<sup>th</sup>/Metro and Los Angeles Union Station

<sup>\*\*</sup> Disentanglement represents a timely transition from the Contractor to Metro to guarantee no impact to current services. Pricing is on a Time and Materials (T&M) basis.

<sup>\*\*\*</sup> For comparison purposes Extended Price includes Mid-point estimates for Response by Location/Priority and Additional Software KPIs

<sup>\*\*\*\*</sup> Cost value not included in the base proposal. Based on the recent history of service calls requested during the extended service hours, we do not recommend extending the current service hours. We will continue to monitor the performance of the system subsequent to the latching of the station turnstiles and return to the Board in the future if appropriate.

(LAUS). The current performance standard allows these stations to be reported in operating condition even if one entire array has gone out of service effectively shutting down half of a station. Metro is pursuing the categorization of these particular stations into multiple locations for performance reporting and payment calculation to the Contractor.

Metro is also proposing an alternative prioritization ranking that takes into effect location, time period, and device type. These actions are designed to address those critical locations and components of the UFS with the highest levels of customer or system utilization.

The Contractor has proposed that under a six-year extension of the current agreement, while the specific details would be negotiated, items of concern to Metro will be incorporated into the base contract at no additional fee. In the options reflecting shorter base terms, we will negotiate the details and specific price for this line item.

#### Additional Software KPIs

To date, the performance metrics within the current agreement primarily measure hardware capabilities and do not adequately capture or categorize the impact of underlying software bugs to Metro or its customers.

Metro has proposed additional measures to provide financial penalties to the Contractor in the event a software bug is found to be impacting our customers or service provision. The proposal is to introduce a performance measure that takes into consideration both the severity of the underlying software bug as well as the number of customers impacted.

The Contractor has proposed that under a six-year extension of the current agreement, while the specific details would be negotiated to mutual satisfaction, items of concern to Metro will be incorporated into the base contract at no additional fee. In the options reflecting shorter base terms, we will negotiate the details and specific price for this line item.

#### Mobile Validator Services

TAP has proposed the addition of 1,000 Mobile Validator ("MV") devices to complete the vision of the Universal Fare System. These devices will allow operators the ability to read EZ Pass validity, introduce agency-specific passes, and use regional stored value to pay fares using TAP.

As with all hardware in the system, services are required to install, maintain, and repair the devices. In addition, to assist smaller agencies, we have requested Cubic to: troubleshoot issues, answer agency questions, provide installation

evaluations, install the hardware per agency-specific requirements, train operators, provide reports, and evaluate software table changes. Under the six-year contracting term, Cubic has agreed to provide these services within the proposed pricing. In the options reflecting shorter base terms, we will negotiate the details and specific price for this line item.

#### Contract Exit Mechanism

Under the current contract, Metro has a Termination for Convenience clause under which the Authority may cancel the contract with a specified notification period. However, the vendor is allowed to recover reasonable demobilization costs. Under a Termination for Convenience, the Contractor has no responsibilities or obligations to Metro relative to a transition to an alternative contractor unless separately negotiated.

The Contractor has proposed to effectively waive these costs under a six-year extension of the current agreement and offers a guaranteed "Disentanglement" period to provide smooth transition to next service provider with no impact to then current services.

Should Metro choose to exercise this provision, these services would be provided separately on a Time and Materials ("T&M") basis.

#### Other Considerations

Within the asset management component on the current services agreement, the contractor is required to provide for an annual "Asset Refresh" work plan. Asset Refresh is the replacement or overhaul of UFS modules that will be carried out in advance of the module displaying an increased failure rate or expected to reach the end of its useful life during the term of the agreement. The benefit to Metro of this arrangement is to maintain as close as possible to a "state-of-the-art" condition of the system.

However, under a shorter term agreement, both Metro and the Contractor have a more limited capacity to actively address unforeseen equipment issues given the performance requirements applicable in any given period. Under a longer term agreement, Metro and the Contractor have a much greater degree of flexibility to shift equipment priorities across periods in order to ensure both current operational capacity is maintained as well as addressing the longer term capital maintenance requirements of a system that contains over 2,000 active and integrated components.

## UFS Assets Maintained System Support Services – Contract OP-02-4610-10

	No. of Assets
Equipment	Maintained
Regional Central Data Collection System *	1
Metro Central Data Collection System **	1
Faregate Gating Equipment	305
Swing Gate Equipment	130
Automated Fare Collection Communication Network	1
Stand Alone Validators ("SAV")	220
Ticket Vending Machines ("TVM")	404
Full Functional Sales Office Terminal ("SOT")	50
Limited Functional Sales Office Terminal	855
Garage Computer	16
Mobile Phone Validator	65

<sup>\*</sup> Regional CDCS – The RCDCS is the final repository for all Tap transactions across the region. Tap is a store-and-forward system in which each subsystem, garage computer and sales device, sends its full set of transactions to the RCDCS. All Tap data is derived from the information stored and managed on the RCDCS.

<sup>\*\*</sup> Metro CDCS – The Metro CDCS handles all of the data created on Metro devices including TVMs, SAVs, SOTs, Mobile Phone Validators, as well as Metro's garage computers and Faregates.