



**Metro**

Los Angeles County  
Metropolitan Transportation Authority

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**36**

**REVISED  
OPERATIONS COMMITTEE  
MARCH 20, 2008**

**SUBJECT: ESTABLISHMENT OF RAIL VEHICLE AND SYSTEMS ENGINEERING  
CONSULTANT SERVICES BENCH, OP39602112**

**ACTION: APPROVE RAIL OPERATIONS BENCH AWARDS FOR CONSULTANT  
SERVICES**

**RECOMMENDATION**

- A. Authorize the Chief Executive Officer to award five year Bench Contracts, Contract No. OP39602112-01-1 to Booz Allen Hamilton, Inc, OP39602112-01-2 to PB Americas, Inc., and OP39602112-01-3 to LTK Engineering Services ~~and PB Americas, Inc.~~, for non-architectural and engineering services in an amount not-to-exceed a cumulative value of \$10,000,000 inclusive of two one-year options, effective April 1, 2008; and
- B. Authorize the Chief Executive Officer to award five year Bench Contracts, Contract No. OP39602112-02-1 to ~~DMJM Harris, Inc.~~, PB Americas, Inc., and OP39602112-02-2 to SYSTRA Consulting Inc., and OP39602112-02-3 to DMJM Harris, Inc. for architectural and engineering services in an amount not to exceed a cumulative value of \$10,000,000 inclusive of two one year options, effective April 1, 2008; and
- C. Authorize the Chief Executive Officer to execute Task Work Orders under the individual Bench Contracts for up to \$1,000,000 per Task Order.

**RATIONALE**

The Rail Vehicle and Rail Systems Engineering Consultant Services Bench Contracts are necessary to assist us in addressing the need to Upgrade and Rebuild much of our existing rail network. The contracts will provide us with the professional engineering and project management support to develop specifications, cost estimates and to oversee the procurement and installation of our rail fleet and system components.

The need for such services is essential in light of the fact that Metro's Rail Lines are entering 15 year life period, a time when most of the system equipment including rail vehicles, the signaling system, traction power, overhead catenary lines, and communications equipment are normally replaced or rebuilt per the manufacturers' recommendations.

As of 2008, the current age of each rail system and the ridership growth for each Line is summarized below.

Line	Age	Year Opened	Initial Rideship	Current Ridership
Blue	18	1990	22,000	75,000
Red	15	1993	30,000	125,000
Green	13	1995	12,000	40,000
Gold	5	2003	14,000	20,000

In 2007, the Board recognized a need to address the aging fleet of both the Red and the Blue lines and authorized funds to rebuild the 104 Red Line Cars and to replace 50 of the 69 Blue Line Light Rail cars. Subsequently, we have found through a recent peer review that our power substations and overhead catenary system is in need of substantial replacement and the signaling and communication equipment cannot be repaired/restored due to obsolescence of old technology, which the original manufacturers are no longer willing to support.

We have now matured from a new rail system to one that requires significant restoration and upgrades in order to meet its increasing demands for increased service. Without the engineering support, we will be unable to maintain its existing service and will likely experience major breakdowns resulting in serious impacts upon service delivery.

With the award of these contracts, specific task orders will initially be issued to solicit the best proposal for an array of services including: writing specifications, resolving numerous ongoing vehicle propulsion failures and EMI concerns, designing upgrades for numerous components for the signaling, traction power systems and the Rail Operations Control Center. The duration for these services is envisioned over the next five years.

### **FINANCIAL IMPACT**

The funds for these expenses are included in the FY08 Budget and Life-of-Project Budget for each individual project and will be budgeted in future fiscal years in a variety of projects. As specific Rail Vehicle and Rail Systems Engineering services needs arise, Task Orders will be issued and funded from their associated project budgets, upon approval by the responsible Project Manager. The funds will be budgeted in Cost Center 3960, in the Professional Services Account No. 50316, under various project numbers. Since this is a multi-year contract, the Cost Center Manager and the Rail General Manager will be accountable for budgeting the cost in future years, including any option exercised.

### **ALTERNATIVES CONSIDERED**

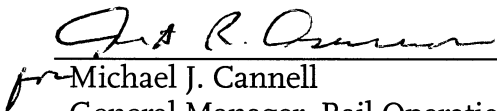
The alternative of not awarding these contracts would require additional engineering support internally or to pull resources from another existing contract such as the PMA. Internally, the existing engineering team is taxed to maintaining the current system. Furthermore, the engineering team was never staffed to address the mid-life upgrades of the


rail system. Attempting to utilize the existing PMA contract was evaluated and found to be insufficient for several reasons including the fact that it has a very limited number of specialized consultant teams for system and rail vehicle needs that we must address.

**ATTACHMENT(S)**

- A. Procurement Summary
- A-1. Procurement History
- A-2. List of Subcontractors

Prepared by: Victor Ramirez, Contract Administration Manager  
Michael J. Cannell, General Manager, Rail Operations

  
for Michael J. Cannell  
General Manager, Rail Operations

  
Roger Snoble  
Chief Executive Officer

**BOARD REPORT ATTACHMENT A  
PROCUREMENT SUMMARY**

**RAIL VEHICLE AND RAIL SYSTEMS ENGINEERING  
CONSULTANT SERVICES BENCH**

1.	Contract Number: OP39602112-xx (Contracts and Task Orders will be identified by sequential numbers)		
2.	Recommended Vendor: See Attachment A-1		
3.	Cost/Price Analysis Information: N/A (Bench Contract)		
	A. Bid/Proposed Price: N/A	Recommended Price: -Not to Exceed \$10 million for all Rail Vehicle Consultant contracts awarded. -Not to Exceed \$10 million for all Rail Facilities and Systems Engineering Consultant contracts awarded.	
	B. Details of Significant Variances are in Attachment A-1.D		
4.	Contract Type: Firm Fixed Price Bench		
5.	Procurement Dates:		
	A. Issued: November 27, 2007		
	B. Advertised: November 27 and December 3, 4, and 6, 2007		
	C. Pre-Proposal Conference: December 11, 2007		
	D. Proposals Due: December 21, 2007		
	E. Pre-Qualification Completed: January 22, 2008		
	F. Conflict of Interest Form Submitted to Ethics: February 11, 2008		
6.	Small Business Participation:		
	A. Bid/Proposal SBE Goal: 1) Rail Vehicle Consultant - 5% 2) Rail Facilities/Systems Engineering Consultant 20%	Date Small Business Evaluation Completed: January 22, 2008	
	B. Small Business Commitment: Details are in Attachment A-2		
7.	Invitation for Bid/Request for Proposal Data:		
	Notifications Sent: 16	Bids/Proposals Picked up: 38	Bids/Proposals Received: 7
8.	Evaluation Information:		
	A. Bidders Names: 1) Booz Allen Hamilton, Inc. 2) PB Americas, Inc. 3) LTK Engineering Services 4) SYSTRA Consulting Inc. 5) DMJM Harris, Inc. 6) Bentley Systems, Inc. 7) Isis Consultants, LLC	<u>Bid Amount:</u>  N/A For RFIQ	<u>Best and Final Offer Amount:</u>  N/A For RFIQ
	B. Evaluation Methodology: Sealed Bid Details are in Attachment A-1.C		
9.	Protest Information:		
	A. Protest Period End Date: March 25, 2008		
	B. Protest Receipt Date: TBD		
	C. Disposition of Protest Date: TBD		
10.	Contract Administrator: Samira Baghdikian	Telephone Number: (213) 922-1033	
11.	Project Manager: Michael J. Cannell General Manager, Rail Operations	Telephone Number: (213) 922-2006	

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

**RAIL VEHICLE AND RAIL SYSTEMS ENGINEERING  
CONSULTANT SERVICES BENCH**

**Award Recommendations based on Discipline and Technical Evaluations**

Discipline	Consultants
1. Rail Vehicle	Booz Allen Hamilton, Inc. PB Americas, Inc. LTK Engineering Services
2. Rail Facilities and Systems Engineering	PB Americas, Inc SYSTRA Consulting Inc. DMJM Harris, Inc.

A. Background on Contractor

**BOOZ-ALLEN & HAMILTON, INC.**  
444 South Flower Street  
Los Angeles, California 90071

Booz Allen Hamilton Inc., founded in 1914, is a privately held corporation headquartered in McLean, Virginia. Booz Allen is a leader in strategy and technology consulting, providing services to government clients around the world with over 100 offices on six continents. Booz Allen has over 300 staff located in the continental United States, with engineering specialists in the areas of braking, heating ventilation air conditioning (HVAC), trucks, carbody, couplers, doors, welding, materials, propulsion, auxiliary electric, lighting, electromagnetic interference, microprocessors, high and low voltage wiring, communications, traction power, right of way track, signaling, operations, quality assurance, systems assurance, standards, codes, regulations, safety, systems integration, project management, project controls and others. Booz Allen has broad experience with the overhaul/rehabilitation, acquisition, and procurement of thousands of heavy, light, commuter and diesel multiple unit vehicles. Booz Allen has supported Metro in many projects including vehicle assignments involving light and heavy rail vehicles.

PB AMERICAS, INC.  
444 South Flower Street, Suite 3700  
Los Angeles, CA 90071

Founded in 1885 and headquartered in New York City, PB provides strategic consulting, planning, engineering, and program and construction management services to both public and private sector clients. PB, with a local office in Los Angeles, has 150 offices with regional expertise on six continents. PB's transit and rail systems technical resource center comprises the heart of its capabilities, providing specialized services for virtually every component of rail and transit systems, including track work, traction power supply, overhead contact system, vehicles, fare collection, communications, train control/signaling, corrosion and system integration from feasibility study through revenue operation. PB has previously been involved with design, construction, and commissioning of systems required for the Long Beach Blue Line, the Metro Red Line, the Norwalk-El Segundo Green Line and most recently, engineering for the Eastside Light Rail Transit system.

LTK ENGINEERING SERVICES  
Fine Arts Building  
811 West 7<sup>th</sup> Street, Suite 1200  
Los Angeles, CA 90017

LTK is an employee owned company providing engineering and management services to the transportation industry. LTK is based in Ambler, Pennsylvania, with a major Los Angeles office and regional offices in Atlanta, Boston, Chicago, Dallas, Denver, Houston, Minneapolis, New York, Portland, Sacramento and Seattle. LTK's staff includes engineers with expertise in all areas of rail systems planning, engineering and economic analysis. LTK's clients include local, regional, state and federal public agencies, domestic and foreign operating commuter rail, rapid transit, light rail, railroad, People Mover and bus systems. LTK has served as Metro's vehicle engineer for the procurement of the Red Line Option cars as well as each of Metro's light rail vehicle.

SYSTRA CONSULTING, INC.  
707 Wilshire Blvd., Suite 4336  
Los Angeles, CA 90017

SYSTRA, a planning, engineering design and construction management firm, has a major Los Angeles office which has been providing systems expertise for over 20 years. SYSTRA specializes in transportation systems and facilities. Its capabilities include preliminary engineering, final design, cost estimates, industrial design, equipment selection, specifications writing, project scheduling, value engineering, constructability review, and shop drawings. SYSTRA has participated in many Metro projects such as the Blue Line LRT Train Control System Design and Construction Management, the Green Line Automated LRT Line Train Control System and Construction Management, and the P2550 Vehicle Procurement project.

DMJM HARRIS, INC.  
515 South Flower St., 9<sup>th</sup> Floor  
Los Angeles, CA 90071

DMJM Harris was founded in 1927 and is the transportation infrastructure firm of AECOM Technology Corporation. DMJM is based in Los Angeles and has experience in project management, quality control, safety and security, facilities, systems, track work, construction management, project administration and control. DMJM has managed multibillion dollar programs to deliver transit solutions involving light rail, heavy rail, and bus rapid transit for metropolitan areas throughout the country, including Los Angeles, New York, San Francisco, San Jose, San Diego, Houston, Dallas, Chicago, Baltimore, Washington D.C. and Miami. DMJM has supported Metro rail projects by providing planning, design and design-related services during construction and is currently working on Exposition Corridor Phases 1 and 2 and Gold Line Eastside Extension.

B. Procurement Background

- All firms listed have previously conducted work for Metro and have performed satisfactorily.
- These Rail Vehicle and Rail Systems Engineering Consultant Services Bench contracts are anticipated to total \$10,000,000 for the rail vehicle and \$10,000,000 for the Rail Facilities and Systems Engineering in task orders over the life of the bench, which is five years inclusive of two one-year options. Task Orders will be issued for each Statement of Work and will be competed only among those bench contractors qualified for that discipline area.
- All Architect and Engineering (A&E) Task Order requirement will be competed among bench firms qualified for that skill set, and each of the qualified firms will be sent an RFP for that specific Task Order requirement. Technical proposals and separately sealed cost proposals will be requested from qualified firms on the bench. Technical proposals will be evaluated and the most qualified competitor will be selected. Negotiations will be conducted with the most qualified competitor. All proposals must be compliant with the SBE goals set forth in the RFP.
- For Non-Architect and Engineering Task Order proposals, the solicitation procedure will be the same as the preceding paragraph. The difference is that the Task Order award will be made competitively, to the highest evaluated Proposer, with price being a consideration for award.
- Each bench contractor has expertise in a minimum of one of the following disciplines:
  1. Rail Vehicle Consulting
  2. Rail Facilities and Systems Engineering Consulting



Based upon the proposed dollar value of the task order, MASD audits may be necessary. Price fair and reasonableness determination will be made for each Task Order prior to award.

C. Evaluation of Bids

Competitive qualification statements were received and reviewed by a Source Selection committee. They were evaluated for minimum qualifications and technical competency to perform the required work in the specific disciplines proposed. Bentley Systems, Inc. and Isis Consultants, LLC did not meet the minimum qualifications requirements listed in the RFIQ for the Rail Facilities and Systems Engineering Consultants. Consequently, both firms are not recommended for award. All other firms were determined to be responsive, responsible and qualified to perform the required services based on the RFIQ's minimum qualifications requirements.

The RFIQ contained neither price nor a specific task order Statement of Work. Each future contract/Task Order will contain a specific Statement of Work, which will be sent to all bench consultants qualified in that specific survey area. The bench consultants will propose according to the requirements of the Task Order RFP.

Placement on the bench will not guarantee an award of any contract/Task Order.

D. Price Analysis and Explanation of Variances

This section is not applicable to the bench contracts. Cost/price analysis and audit will be performed, as appropriate, on resultant Task Order releases.

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

<b>CONTRACT NUMBERS AND CONTRACTORS</b>	
<b>CONTRACT NUMBER</b>	<b>CONTRACTOR NAME</b>
OP-39602112-01-1	BOOZ ALLEN HAMILTON, INC.
OP-39602112-01-2	PB AMERICAS, INC.
OP-39602112-01-3	LTK ENGINEERING SERVICES
OP-39602112-02-1	PB AMERICAS, INC.
OP-39602112-02-2	SYSTRA CONSULTING INC.
OP-39602112-02-3	DMJM HARRIS, INC.

RAIL VEHICLE AND SYSTEMS ENGINEERING CONSULTANT SERVICES BENCH

BOARD REPORT ATTACHMENT A-2  
LIST OF SUBCONTRACTORS

RAIL VEHICLE AND RAIL SYSTEMS ENGINEERING  
CONSULTANT SERVICES BENCH

RAIL VEHICLE CONSULTANTS

PRIME CONTRACTOR – Booz Allen Hamilton, Inc.

Small Business Commitment  
Virginkar & Associates, Inc.

Other Subcontractors  
SYSTRA Consulting, Inc.

Total SBE-Commitment 5%

PRIME CONTRACTOR – PB Americas, Inc.

Small Business Commitment  
Virginkar & Associates, Inc.

Other Subcontractors  
Cordoba Corporation  
Corrpro Companies, Inc.  
Kal Krishnan Consulting Services, Inc.  
LKG-CMC Consultants, Inc.

Total SBE-Commitment 5%

PRIME CONTRACTOR – LTK Engineering Services, Inc.

Small Business Commitment  
Virginkar & Associates, Inc.

Other Subcontractors  
LKG-CMC Consultants, Inc.,  
SYSTRA Consulting, Inc.  
Turner Engineering Corp.  
A Train Enterprises, Inc.

Total SBE-Commitment 5%

RAIL FACILITES AND SYSTEMS ENGINEERING CONSULTANTS

PRIME CONTRACTOR – PB Americas, Inc.

Small Business Commitment  
Virginkar & Associates, Inc.

Other Subcontractors  
Cordoba Corporation,  
Corrpro Companies, Inc.  
Kal Krishnan Consulting Services, Inc.  
LKG-CMC Consultants, Inc.

Total SBE-Commitment 20%

BOARD REPORT ATTACHMENT A-2  
LIST OF SUBCONTRACTORS

RAIL VEHICLE AND RAIL SYSTEMS ENGINEERING  
CONSULTANT SERVICES BENCH

RAIL FACILITIES AND SYSTEMS ENGINEERING CONSULTANTS (Continued)

PRIME CONTRACTOR – SYSTRA Consulting, Inc.

Small Business Commitment

GC Tech, Inc  
JM Diaz, Inc.  
Lenax Construction Services, Inc.  
Virginkar & Associates, Inc.

Other Subcontractors

Anil Verma & Associates  
TEC Construction Management  
Booz Allen Hamilton, Inc.  
Burns Engineering, Inc.  
Okazaki and Associates  
Kal Krishnan Consulting Services, Inc.  
LTK Engineering Services, Inc.  
Turner Engineering Corp.

Total SBE-Commitment 20%

PRIME CONTRACTOR – DMJM Harris, Inc.

Small Business Commitment

Lenax Construction Services, Inc.,  
Transp. Management & Design, Inc.  
Virginkar & Associates, Inc.

Other Subcontractors

Wagner Engineering  
Corpro Companies Inc.

Total SBE-Commitment 20%