Metro

Metro

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

Board Report

File #: 2016-0457, **File Type:** Contract

Agenda Number: 46.

SUBJECT: REGIONAL INTEGRATION OF INTELLIGENT TRANSPORTATION SYSTEMS (RIITS) MODERNIZATION

ACTION: APPROVE RECOMMENDATIONS

RECOMMENDATIONS

AUTHORIZE the Chief Executive Officer to:

A. AWARD a five-year firm fixed price contract, Contract No. PS520450021002, to Parsons Transportation Group, Inc., in the amount of $4,725,226 for the **modernization of the Regional Integration of Intelligent Transportation Systems (RIITS)**; and

B. APPROVE Contract Modification Authority specific to Contract No. PS520450021002 in the amount of $1,000,000.

ISSUE

RIITS was designed, developed, and deployed as a demonstration project and prototype system in 2004 to integrate, store, share, host, operate, maintain and expand on the sharing of transportation related data in the region. Since the initial prototype deployment, there have been a number of individual component improvements; however, there has not been a complete systematic upgrade and modernization. Modernization is required to ensure the ability of RIITS to effectively and efficiently serve the transportation needs of the region, take advantage of new technologies and enable the exchange of new data as they become available.

DISCUSSION

The RIITS program's roots can be traced back to the1984 Olympics when the need to coordinate inter-agency and inter-jurisdictional traffic management operations became essential. From that need and experience, and as a result of the implementation and deployment of intelligent transportation systems (ITS), which created real-time data, the idea of RIITS was conceived. In 2004, the three party Memorandum of Understanding (MOU) between Metro, the City of Los Angeles, Department of Transportation (LADOT) and Caltrans, District 7 was executed to officially designate/adopt RIITS as a program.

RIITS consists of a network, system, and administrative processes to exchange real-time or near real -time transportation data amongst agencies in Southern California. Initially, the data consisted of freeway traffic data from Caltrans District 7, traffic signal data from LADOT and transit data from Metro. RIITS was able to collect, compile and exchange data amongst the agencies and also provide the combined data to the public. Since 2004, RIITS has expanded the network to include Caltrans Districts 8 and 12, California Highway Patrol (CHP), Foothill Transit, Los Angeles County Public Works (IEN), Waze and others. As more data becomes available through each agency, as a result of the deployment of ITS products, that data is made available to program participants through RIITS.

RIITS may exchange data of any type and quantity including census data for planning purposes, transit related data from buses and rail, traffic related data from signal systems as well as the exchange of video. Traffic data exchanged through RIITS is used for travel times and for the development of navigation applications by private companies. As RIITS is a platform for the exchange of information, it also includes a large communications network throughout Southern California that is used to exchange information on police, fire, and nearly any event within the region that may be used for situational awareness.

As a service, RIITS has not only expanded its available data but has also become the primary data source for the Southern California 511 traveler information system. Additionally, RIITS developed and deployed the prototype Archived Data Management System (ADMS) which successfully used real-time data to store and create a data warehouse providing historic data for near real time analysis of transportation based on current data rather than models based on data that may only be collected once per year or more, enabling better management.

As a result of a variety of factors (including technological advances, implementation of ADMS, expanding implementation of ITS), RIITS as currently deployed is not able to efficiently meet increasing demands and opportunities. The modernization of RIITS will better meet today's needs through the implementation of a modern self-service multi-tenant hybrid-cloud architecture that enables the development and implementation of future transportation programs and projects through a collaborative approach supported by data and technology. The modernization of RIITS will provide a more streamlined, efficient, adaptable, user friendly, open and dynamic data environment concentrated on the needs of the user to enable and promote the collection, sharing and storing of transportation and associated data in order to improve existing transportation systems and spur innovation. More specifically, it will improve RIITS' ability to integrate new data sets from agencies as they are developed and share the data with the appropriate partners. The modernized RIITS will also integrate ADMS as a full production system, provide data to Southern California 511, and support planned transportation advancements, such as integrated corridor management programs, connected vehicle opportunities and other related projects.

As this is a five-year technology contract to meet the transportation and partner data needs, it is highly improbable that all future advancements or needs can be fully identified at this time. As a result, staff is recommending that the delegated contract modification authority be raised to $1 million to facilitate incorporation of new technologies, partners, services, or data that emerge over the course of the period of performance.

Metro's agreed upon role with the partner agencies through the MOU is to administer, develop, upgrade, operate and maintain RIITS. Modernization of RIITS will allow Metro to continue to meet its commitment to the region to develop, upgrade, operate, and maintain RIITS while continuing to promote collaboration and coordination through the use of technology, partnerships and user agreements.

DETERMINATION OF SAFETY IMPACT

Approval of the recommended actions will not have any direct impact on the safety of the public and our employees. There is an indirect improvement in safety to the public as coordinated efforts to distribute data/information through RIITS will provide better, actionable, and more accurate transportation data and information.

FINANCIAL IMPACT

Funding in the amount of $4,618,000 in cost center 3351, project 405526 is included in the FY17 budget. This funding includes the cost of the modernization of RIITS. As this is a multi-year contract, the cost center manager and the Executive Officer of the Congestion Reduction department will be responsible for budgeting for RIITS in future years.

Impact to Budget

RIITS is funded with Proposition C 25% Streets and Highways funds. These funds are not eligible for and have no direct impact on transit operations. The initial development and deployment costs have been included in the FY17 budget request. The operation of the modernized RIITS will be more efficient than the current system and is not anticipated to have a negative impact on future budgets.

ALTERNATIVES CONSIDERED

The Board may choose not to approve this contract to modernize RIITS. This is not recommended as Metro would not be able to meet current demands and will be unable to take advantage of the opportunities provided in today's rapidly emerging field of big data analytics, to compile data, and collaborate with partners to improve transportation and mobility within the region.

NEXT STEPS

Upon approval by the Board, staff will execute Contract No. PS520450021002 with Parsons Transportation Group, Inc. to modernize RIITS.

ATTACHMENTS

Attachment A - Procurement Summary
Attachment B - DEOD Summary

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PROCUREMENT SUMMARY

REGIONAL INTEGRATION OF INTELLIGENT TRANSPORTATION SYSTEMS (RIITS) MODERNIZATION/PS520450021002

1.	**Contract Number**: PS520450021002	
2.	**Recommended Vendor**: Parsons Transportation Group, Inc.	
3.	**Type of Procurement (check one):** ☐ **IFB** ☒ **RFP** ☐ **RFP–A&E** ☐ **Non-Competitive** ☐ **Modification** ☐ **Task Order**	
4.	**Procurement Dates**:	
	A. Issued: October 21, 2015	
	B. Advertised/Publicized: October 21, 2015	
	C. Pre-Proposal/Pre-Bid Conference: November 3, 2015	
	D. Proposals/Bids Due: January 25, 2016	
	E. Pre-Qualification Completed: March 24, 2016	
	F. Conflict of Interest Form Submitted to Ethics: May 12, 2016	
	G. Protest Period End Date: August 24, 2016	
5.	**Solicitations Picked up/Downloaded**: 124	**Bids/Proposals Received**: 6
6.	**Contract Administrator**: David Chia	**Telephone Number**: (213) 922-1064
7.	**Project Manager**: Kali Fogel	**Telephone Number**: (213) 922-2665

A. Procurement Background

The Board Action is to approve Contract No. PS520450021002 issued in support of the procurement of hardware, software and related services for the modernization of the Regional Integration of Intelligent Transportation Systems (RIITS). The procurement seeks a technology-based solution that upgrades the data processing system's collection, management, and exchange of transportation data obtained from different public agencies.

The Request for Proposal (RFP) was issued in accordance with Metro's Acquisition Policy and the contract type is firm fixed price. The RFP was issued with a Small Business Enterprise (SBE) goal of 20% (SBE 17% and DVBE 3%).

Six amendments were issued during the solicitation phase of this RFP:

- Amendment No. 1, issued on November 6, 2015, removed Good Faith Effort (GFE) requirements, revised SBE/DVBE instructions, updated the list of SBE-certified firms, and provided the pre-proposal conference agenda, PowerPoint presentation slides, sign-in sheets, and the planholders' list.
- Amendment No. 2, issued on November 10, 2015, extended the proposal due date and date for submitting questions.

- Amendment No. 3, issued on December 10, 2015, updated the submittal requirements to clarify what is included in the proposal page limit, updated the evaluation criteria to notify proposers that scores may be adjusted based on their oral presentations, revised the statement of work to increase the time for setting up the Solution and initial data, provided responses to the first set of proposer questions, provided a list of estimated data sources, and extended the proposal due date.
- Amendment No. 4, issued on December 30, 2015, updated the statement of work to include liquidated damages, increase the time for populating the Solution and apply industry terms to describe scope requirements, updated responses to the first set of proposer questions, and provided responses to the second set of proposer questions.
- Amendment No. 5, issued on January 6, 2016, extended the proposal due date.
- Amendment No. 6, issued on January 11, 2016, provided responses to the third set of proposer questions and updated the evaluation criteria to notify proposers that scores may be adjusted based on their product demonstrations at oral presentation.

A pre-proposal conference was held on November 3, 2015, and attended by 58 participants representing 45 companies. There were 338 questions asked and responses were released prior to the proposal due date. A total of 124 firms downloaded the RFP and were included in the planholders' list. A total of six proposals were received on January 25, 2016.

B. <u>Evaluation of Proposals</u>

The Proposal Evaluation Team (PET), consisting of staff from Congestion Reduction, Metro Highway Programs, Information Technology Services, City of Montebello Information Technology Division, and Caltrans Intelligent Transportation Systems Operations Division, was convened and conducted a comprehensive evaluation of the proposals received.

The proposals were evaluated by the PET in accordance with the following evaluation criteria and associated weights:

- Understanding of the Work and Approach 70%
- Degree of Team Skills, Experience & Past Performance 5%
- Price Proposal 25%

The evaluation criteria are appropriate and consistent with criteria developed for similar procurements for professional services. Several factors were considered when developing these weights, giving the greatest importance to understanding of the work and approach.

Of the six proposals received, one proposal, Compuline International, Inc., was deemed non-responsive to the RFP submittal requirements and eliminated from evaluation.

On January 27, 2016, the remaining five proposals were distributed to the PET. During January 27, 2016, through April 1, 2016, the PET completed its independent evaluation of the proposals. Two firms, Applications Software Technology Corporation (AST) and Axiom xCell, Inc. (Axiom), were determined to be outside the competitive range. These firms were not included for further consideration.

AST's proposal did not demonstrate an adequate understanding of the work, and the proposal presented a cloud-based solution, which did not meet the RFP's hybrid-cloud requirement. Additionally, AST's proposal did not meet the SBE requirement.

Axiom's proposal recommended a cloud-based solution, which did not meet the RFP's hybrid-cloud requirement. The proposal did not explain how massive complex data sets from varied sources (i.e., "Big Data") would be processed or how analytics would be incorporated. The proposal did not provide a plan for modernizing the communications network.

The three firms determined to be within the competitive range are listed below in alphabetical order:

1. International Business Machines Corporation (IBM)
2. Kimley-Horn and Associates, Inc. (Kimley-Horn)
3. Parsons Transportation Group, Inc. (Parsons)

On April 1, 2016, the PET interviewed the three firms within the competitive range. The project manager and key team members from each firm were invited to present their firm's understanding and approach to the contract, their respective qualifications, and respond to the PET's questions. Generally, all three firms elaborated on their vision for the modernized RIITS system and described each team member's role in performing the work. In addition, the firms conducted a demonstration of their proposed systems, tools and products.

The project manager and key personnel from each firm responded to the PET's inquiries regarding how public agency participation can be increased, how many data integrations can be completed annually, and how the communications architecture can be modernized using the existing communications network.

Qualifications Summary of Firms Within the Competitive Range

IBM is a multinational technology and consulting company that specializes in analytics, cloud computing, IT infrastructure, mobile applications, IT security, and

other related industries. With a spectrum of technology solutions, IBM's proposal presented a large catalog of products and tools.

IBM's proposal did not provide a transportation architecture. Although the proposal presented an impressive catalog of products and tools, it did not specify which and how those products and tools would be used. The oral presentation did not detail how different products and tools would be integrated. In addition, the products and tools require expert knowledge to implement and use. Users who do not have a computer programming background would find the products and tools difficult to use.

The proposal also did not present an institutional architecture. The proposal and the oral presentation did not present a plan for obtaining new data from current data sources and acquiring new data sources. No discussion was made as to the acquisition of new data from current sources or the acquisition of new data sources. Significantly, the proposal and oral presentation did not explain how training programs would be implemented to teach users how to operate the proposed products and tools.

Kimley-Horn is an engineering, planning, and environmental consulting firm that possess significant experience in the transportation industry. Kimley-Horn's proposal identified several products and tools that are intuitive, user-friendly, and effective.

Kimley-Horn's proposal did not present a communications architecture. The proposal did not describe how the communications network would operate, explain how products and tools would be integrated, and provide detailed illustrations of different components of the communications network. In addition, Kimley-Horn's oral presentation did not explain how Big Data would be processed and how data would be integrated from proprietary applications.

Kimley-Horn's proposal and oral presentation did not provide details as to how it intended to proactively obtain new data. Though the proposal suggested networking activities and presentations, it did not set forth a plan for active outreach. The proposal did not detail how the firm would extract new data from current users or target new data sources.

Parsons is an engineering and consulting firm that specializes in engineering design, public transportation, and intelligent transportation systems (ITS). Parsons' proposal demonstrated a comprehensive understanding of the work and presented a detailed approach to providing a technology-based solution for modernizing the RIITS system.

The proposal provided a communications and transportation architecture that identified products, explained their importance, described the technical approach, and provided illustrations of different components of the communications network. The oral presentation addressed alternative connections that may be utilized to reduce equipment failures, system interruptions, and network downtime.

In addition, the oral presentation addressed the number and the type of data integrations the firm could complete annually. The oral presentation also explained how data could be integrated from proprietary applications.

The proposal provided an institutional architecture that targets business users, not computer programmers. No coding or programming is required by the end user. The proposal set forth a plan to transition current users and acquire new data sources and identified different stages of outreach. The oral presentation explained how workshops, forums, and training programs would be utilized.

Moreover, the proposal provided the required hybrid-cloud solution. The proposal provided Big Data analytics tools that can be used by a non-technical end user and provided performance monitoring and measurement tools that provide data visualizations and reporting. The proposal provided social media connections to receive tweets and notifications, which the PET found useful for RIITS users, data source providers, and other stakeholders. The proposal provided an open solution that allows new or different tools to be introduced at any time. The proposal eliminated the dependence on a systems integrator, which is used by RIITS currently.

The final scoring determined that Parsons is the top ranked firm. A summary of the PET's scores is provided as follows:

	FIRM	Average Score	Factor Weight	Weighted Average Score	Rank
1	**Parsons Transportation Group, Inc.**				
2	Understanding of the Work & Approach	88.00	70.00%	61.60	
3	Degree of Team Skills, Experience & Past Performance	82.00	5.00%	4.10	
4	Price Proposal	100.00	25.00%	25.00	
5	**Total**		**100.00%**	**90.70**	**1**
6	**Kimley-Horn and Associates, Inc.**				
7	Understanding of the Work & Approach	74.00	70.00%	51.80	
8	Degree of Team Skills, Experience & Past Performance	76.00	5.00%	3.80	
9	Price Proposal	74.00	25.00%	18.50	
10	**Total**		**100.00%**	**74.10**	**2**
11	**International Business Machines Corporation**				
12	Understanding of the Work & Approach	68.00	70.00%	47.60	
13	Degree of Team Skills, Experience & Past Performance	62.00	5.00%	3.10	
14	Price Proposal	28.40	25.00%	7.10	
15	**Total**		**100.00%**	**57.80**	**3**

C. <u>Cost Analysis</u>

The recommended price has been determined to be fair and reasonable based upon Metro's Management and Audit Services Department (MASD) audit findings, an independent cost estimate (ICE), cost analysis, technical evaluation, fact finding, and negotiations.

The negotiated amount includes the integration of current data sources and a select range of new data sources to be added progressively at intervals. In contrast, the ICE, which takes a broad and inclusive approach that includes nonessential the full suite of potential upgrades and partners, accounts for as well as the immediate integration of all potential and possible data sources.

Moreover, the ICE includes the deployment of advanced video systems, modernization of the entire communications network, and extensive outreach and training support services (including outreach and training support services relating to the integration of all potential and possible data sources and the deployment of advanced video systems).

	Proposer Name	Proposal Amount	Metro ICE	Negotiated Amount
1.	Parsons Transportation Group	$4,725,228	$7,174,749	$4,725,226
2.	Kimley-Horn and Associates, Inc.	$6,395,995	$7,174,749	N/A
3.	International Business Machines Corporation	$16,640,586	$7,174,749	N/A

D. <u>Background on Recommended Contractor</u>

The recommended firm, Parsons, headquartered in Pasadena, California, has been in business for over 70 years in engineering design, public transportation, and intelligent transportation systems (ITS). The firm has completed over 30 ITS systems integration projects, which have involved data integration, software development, agency interface development, cloud computing, data analytics, multimodal transportation operations, and TMS operations. Parsons was responsible for the design of the San Diego Integrated Corridor Management (ICM) System, Gateway TIS (GTIS) for the Gary-Chicago-Milwaukee (GM) Corridor, and the Caltrans District 7 Advanced Transportation Management System (ATMS).

The proposed team is composed of Parsons and four subcontractors (two SBE firms, one DVBE firm, and one non-SBE/DVBE subcontractor). The proposed project manager has 26 years of experience in the ITS industry, the majority of which has been focused on the design, development and deployment of ITS software and technology systems. The proposed project manager led the development of the San Diego I-15 Integrated Corridor Management and Caltrans District 7 South Bay Dynamic Corridor Congestion Management (DCCM) Project.

In addition, key staff have more than 40 years of experience in software development, cloud computing, data analytics, database design, systems engineering, project management , IT security, communications design, data integration, LAN/WAN design and troubleshooting, server/desktop configuration, installation and repair, switch, router, and firewall configuration, backup/disaster recovery, and infrastructure cabling. Overall, staff have well over 100 combined years of experience in multimodal information systems, technology systems, and systems engineering in the ITS industry.

The proposed project team has worked with a diverse range of public agencies across the nation in developing, operating, or integrating RIITS-like systems. Local agencies include Metro, Caltrans, Los Angeles County Department of Public Works, and cities across the County of Los Angeles.

With its extensive knowledge in ITS solutions and experience with stakeholders, Parsons demonstrates a thorough understanding of the requirements necessary for modernizing the RIITS system.

DEOD SUMMARY

REGIONAL INTEGRATION OF INTELLIGENT TRANSPORTATION SYSTEMS (RIITS) MODERNIZATION / PS520450021002

A. Small Business Participation

The Diversity and Economic Opportunity Department (DEOD) established a 20% small business participation goal for this solicitation, inclusive of a 17% Small Business Enterprise (SBE) and 3% Disabled Veteran Business Enterprise (DVBE). Parsons Transportation Group, Inc. exceeded the goal by making a 23.13% commitment, inclusive of 17.96% SBE and 5.17% DVBE.

Small Business Goal	17% SBE 3% DVBE	Small Business Commitment	17.96% SBE 5.17% DVBE

SBE Subcontractors	% Commitment
Sarakki Associates	16.38%
System Metrics Group (SMG)	1.58%
Total SBE	**17.96%**

DVBE Subcontractors	% Commitment
Virtek Company	5.17%
Total DVBE	**5.17%**

B. Living Wage and Service Contract Worker Retention Policy Applicability

The Living Wage and Service Contract Worker Retention Policy is not applicable to this contract.

C. Prevailing Wage Applicability

Prevailing wage is not applicable to this contract.

D. Project Labor Agreement/Construction Careers Policy

Project Labor Agreement/Construction Careers Policy is not applicable to this contract.