



## Board Report

File #: 2022-0472, File Type: Contract

Agenda Number: 1.

---

### OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE NOVEMBER 17, 2022

**SUBJECT: NEXTGEN CAPITAL IMPROVEMENT - NEXTGEN WIRELESS CLOUD-BASED  
TRANSIT SIGNAL PRIORITY SYSTEM (TSP)**

**ACTION: APPROVE RECOMMENDATION**

#### **RECOMMENDATION**

AUTHORIZE the Chief Executive Officer to award a firm fixed price Contract No.PS87006000 to Kimley-Horn for the design, development, and implementation of a wireless cloud-based transit signal priority (TSP) system on NextGen Tier One network in the City of Los Angeles for a total contract amount of \$5,668,680, subject to resolution of properly submitted protest(s), if any.

#### **ISSUE**

In October 2020, the Metro Board approved the NextGen Transit First Service Plan (the Plan), which includes phasing out the existing Metro Rapid system in favor of a new high-frequency Tier One network that is more extensive than the existing Rapid system and will use different series of Metro buses.

A loop-based transit signal priority system was installed by Los Angeles Department of Transportation on selected transit corridors within the City of Los Angeles as part of the initial Metro Rapid system. The NextGen Wireless Cloud Based TSP project is one of the key components in the Plan to improve bus speed, reliability, and will replace the loop-based technology with GPS-Wireless technology using an Internet Cloud Service TSP system.

#### **BACKGROUND**

In 2018, Metro began the process of redesigning the bus system to improve the service for current and future riders. The Plan was approved by the Metro Board in October 2020 after extensive public outreach and review. The public communicated to Metro that improving bus speed and reliability is the single most important step Metro can take to retain and grow ridership by increasing the people throughput capacity of local roadways and shifting regional travel patterns toward more sustainable modes.

The Plan proposed improvements that would speed up buses, double the number of frequent Metro bus lines and provide over 80 percent of current bus riders with frequent service throughout the day.

Implementation of the Plan includes capital investment in transportation infrastructure utilized in high-frequency bus corridors on the Tier One network. The Tier One network is made up of transportation spines where 53 percent of today's bus riders use one of the top 25 corridors that make up this core network. These NextGen capital improvements include the upgrade and expansion of wireless cloud-based TSP, purchase, and installation of bus mobile validators to enable All-Door-Boarding, design and construction of bus priority lanes, bus bulbs and layover areas.

The NextGen Wireless Cloud Based TSP project will replace the loop-based technology with GPS-Wireless technology using Internet Cloud Service TSP system to improve bus speed and reliability on the NextGen Tier One network. It will develop and implement new cloud-based TSP software to enable TSP capability for all 33 corridors in NextGen Tier 1 network plus two future Bus Rapid Transit (BRT) corridors with approximately 1,638 signalized intersections. Furthermore, this project will design, procure, and install Ethernet communication equipment at 280 traffic signals and communications hubs to provide a more resilient traffic control communications system.

The NextGen capital program aims to improve TSP on numerous Tier 1 and 2 lines throughout the County of LA. This contract will modernize the existing TSP system in the City of LA while other efforts are underway to improve TSP throughout the rest of the County.

In August 2021, Metro applied and was successfully awarded \$25 million from the State funded Local Partnership Program (LPP) to support the implementation of Metro's NextGen Speed and Reliability Improvements Program. The LPP grant plus the local match of \$25 million (the combined \$50 million) will fund four improvement projects: 1) development and implementation of an upgraded wireless cloud-based TSP in the City of Los Angeles to cover all Tier One network; 2) upgrade and expand the Countywide wireless TSP to cover all Tier One network serving Los Angeles County communities outside of the City of Los Angeles; 3) design and construction of new bus-only lanes and other transit priority improvements on up to 80 lane miles on the highest frequency corridors in the City of Los Angeles and neighboring cities; and 4) purchase, design and installation of new Bus Mobile Validators for fare payment to enable all-door-boarding on the Tier One and Two networks.

## **DISCUSSION**

Approval of this contract award will ensure that the NextGen Bus Speed and Reliability Improvements Project remains a priority for the agency and Metro's commitment on the total project budget, match commitment and schedule as requirements of the Road Repair and Accountability Act of 2017 approved projects for the 2020 Local Partnership Program.

With the new cloud-based TSP system, the entire Metro bus fleet of more than 2,000 vehicles will have the capability of requesting and receiving signal priority at all the NextGen Tier One network. The wireless cloud-based TSP will eliminate the dilapidated maintenance needs for pavement loops, sensor cards and undercarriage transponders. As such, this project will deliver greater overall efficiency and future proofing than the existing loop-based TSP technology.

## **Findings**

Metro staff worked closely with representatives from LADOT throughout the contract solicitation and

---

proposal evaluation processes. Kimley-Horn has demonstrated the technical, engineering experience, and capacity to support Metro to design, develop and implement a wireless cloud-based TSP in the City of Los Angeles.

Staff advertised and reached out to various consulting firms to provide them with information on this procurement to encourage more competition. Proposers were evaluated based upon Project Management Capacity, Technical Capacity of Proposer's Team, Technical Strength of Development and Operations of Cloud-Based TSP, Quality Control Management, and Cost. Four proposals were received in response to this solicitation and Kimley-Horn was ranked number one (1) in score based upon the evaluation criteria; further details can be found on Attachment A: Procurement Summary.

### **DETERMINATION OF SAFETY IMPACT**

Board approval of this recommendation will improve the speed and reliability of Metro bus service on high-frequency corridors, which would potentially improve the safety of overall bus operations in the Los Angeles basin.

### **FINANCIAL IMPACT**

The life of project budget is \$15 million for the NextGen wireless cloud-based TSP (project 203046) which was included in the Capital Improvement Plan and approved by the Board as part of the FY2023 budget adoption. Because this is a multi-year project, the Cost Center Manager within Service Planning and Scheduling will be responsible for ensuring that the future year balance of capital funding is programmed and the cashflow is included in the annual budget adoption process. The estimated operating cost for this NextGen TSP project is \$0.8 million per year to keep the TSP systems operating in an optimal manner with the TSP equipment well maintained and the cloud system updated at all times.

#### **Impact to Budget**

The funding source for this contract is Transportation Development Act (TDA) Article 4 Sales Tax Revenues, of which \$1.6 million is included in the FY2023 budget in the Service Planning and Scheduling cost center. Use of these funding sources currently maximizes funding allocations given approved funding provisions and guidelines.

### **EQUITY PLATFORM**

The speed and reliability improvements with the upgraded TSP systems are part of the NextGen Transit First Service Plan, which directly address the critical needs for low-income residents, and others who rely on public transit by serving the community-identified destinations with reliable and fast service, in particular to riders in the Tier One network that is primarily operated in the Equity Focus Communities. Wireless cloud-based TSP improves bus speed and reliability by reducing travel time which translates into more time available for work, leisure, or other activities. According to the Benefit Cost Analysis of the NextGen Project with three capital improvements (i.e., bus priority lanes, transit signal priorities, and all door boarding), the Project can achieve 8.76 M person hours traveled savings that can be accomplished in the period of 20 years.

The Diversity and Economic Opportunity Department (DEOD) established a 14% Small Business Enterprise (SBE) and 3% Disabled Veteran Business Enterprise (DVBE) goal for this solicitation. Kimley Horn exceeded the goal by making a 14.28% SBE and 3.11% DVBE commitment.

### **IMPLEMENTATION OF STRATEGIC PLAN GOALS**

The recommendation supports strategic plan Goal 1: Provide high quality mobility options that enable people to spend less time traveling and Goal 2: Deliver outstanding trip experience for all users of the transportation system. This project will improve the speed and reliability of Metro Tier One bus service that runs through the heart of some of the most congested areas in the Los Angeles County with some of the most equity focused communities. This project will enhance transit customer experience in those areas by reducing travel times and improving schedule adherence.

### **ALTERNATIVES CONSIDERED**

The Metro Board may elect not to award the contract as recommended by staff. However, this is not recommended since the California Transportation Commission has already approved funding Metro's Speed and Reliability Improvements Program with \$25 million including \$15 million for NextGen Wireless Cloud Based Transit Signal Priority Project. Delay to develop and implement the NextGen wireless cloud-based TSP may jeopardize the awarded LLP grant in its entirety. Furthermore, the existing loop-based TSP on selected Metro Rapid lines is obsolete. Without the implementation of a wireless cloud-based TSP in the City of Los Angeles, Metro will not be able to achieve the speed and reliability improvements outlined on the NextGen Transit First Service Plan, and Metro will not be able to attain improved on-time performance as quickly, without additional resources.

### **NEXT STEPS**

Upon Board approval, staff will execute Contract No.PS87006000 with Kimley-Horn and issue a Notice-To-Proceed (NTP), and begin the design, development, and implementation of the NextGen wireless cloud-based TSP on Tier One network.

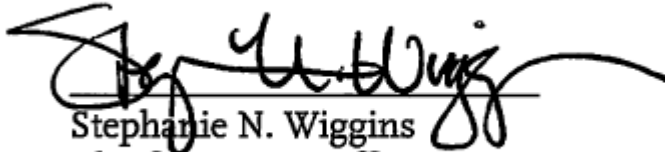
### **ATTACHMENTS**

Attachment A - Procurement Summary

Attachment B - DEOD Summary

Prepared by: Joe Forgiarini, Sr. Executive Officer, Service Planning, (213) 418-3400  
Stephen Tu, Director, Service Planning, (213) 418-3005  
James Shahamiri, Sr. Manager, Engineering, (213) 922-4823  
Regina Li-Armijo, Chief Administrative Analyst, (213) 922-7214  
Debra Avila, Deputy Chief Vendor/Contract Management Officer,  
(213) 418 3051  
Lilia Montoya, Deputy Chief Operations Officer, Admin &  
Development, (213) 922-4061

Reviewed by: Conan Cheung, Chief Operations Officer, (213) 418-3034



Stephanie N. Wiggins  
Chief Executive Officer

## PROCUREMENT SUMMARY

## TRANSIT SIGNAL PRIORITY SYSTEM/PS87006000

1.	Contract Number: PS87006000	
2.	Recommended Vendor: Kimley-Horn and Associates, Inc.	
3.	Type of Procurement (check one): <input type="checkbox"/> IFB <input checked="" type="checkbox"/> RFP <input type="checkbox"/> RFP-A&E <input type="checkbox"/> Non-Competitive <input type="checkbox"/> Modification <input type="checkbox"/> Task Order	
4.	Procurement Dates:	
	A. Issued : 3/22/2022	
	B. Advertised/Publicized: 3/22/2022	
	C. Pre-Proposal Conference: 4/7/2022	
	D. Proposals Due: 6/3/2022	
	E. Pre-Qualification Completed: 4/23/2022	
	F. Conflict of Interest Form Submitted to Ethics: 10/6/2022	
	G. Protest Period End Date: 11/21/2022	
5.	Solicitations Picked-up/ Downloaded: 96	Proposals Received: 4
6.	Contract Administrator: Andrew Conriquez	Telephone Number: 213-922-3528
7.	Project Manager: James Shahamiri	Telephone Number: 213-922-4823

**A. Procurement Background**

This Board Action is to approve the award of Contract No. PS87006000 to modify an existing Transit Signal Priority (TSP) System to a cloud-based TSP system. Board approval of contract award is subject to the resolution of any properly submitted protest(s).

On March 22, 2022, staff released Request for Proposals (RFP) No. PS87006 in accordance with Metro's Acquisition Policy and the contract type is a firm fixed price.

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

- Amendment No. 1, issued on April 1, 2022, provided the pre-proposal virtual meeting link;
- Amendment No. 2, issued on May 6, 2022, provided changes to the RFP and request for clarification due dates;
- Amendment No. 3, issued on May 12, 2022, provided changes to the Scope of Services and associated attachments.

A virtual pre-proposal conference was held on April 7, 2022. There were 37 attendees from numerous firms. There were 67 questions asked and responses were released prior to the proposal due date.

A total of 96 firms downloaded the RFP and were included in the plan holders list. A total of four proposals were received on June 3, 2022.

## **B. Evaluation of Proposals**

A Proposal Evaluation Team (PET) consisting of staff from Metro Service Planning and Scheduling, Highways Programs, and one external member from Los Angeles Department of Transportation was convened and conducted a comprehensive technical evaluation of the proposals received.

The proposals were evaluated based on the following evaluation criteria and weights:

- Project Management Capability 20 percent
- Technical Capability of Proposer's Team 20 percent
- Technical Strength of Development and Operations of Cloud-Based Transit Signal Priority Systems 30 percent
- Quality Control Management and Project Execution Plans 10 percent
- Cost/Price 20 percent

Several factors were considered when developing these weights, giving the greatest importance to the Technical Strength of Development and Operations of Cloud-Based Transit Signal Priority Systems.

Of the four proposals received, two were determined to be within the competitive range and are listed below in alphabetical order:

1. Iteris, Inc.
2. Kimley-Horn and Associates, Inc.

Two firms were determined to be outside the competitive range and were not included for further consideration.

During the week of July 11, 2022, the evaluation committee met and interviewed the two firms. Each firm's presentation addressed the requirements of the RFP, their experience with all aspects of the required tasks, coordination between different stakeholders, and stressed each firm's commitment to the success of the project. Also highlighted were staffing plans, work plans, and perceived project issues. Each team was asked questions relative to each firm's proposed alternatives, prior projects, risk factors, project schedule, and system integrations.

### **Qualifications Summary of Recommended Firm:**

#### **Kimley-Horn and Associates, Inc.**

Kimley-Horn and Associates, Inc., has been involved with Intelligent Transportation Systems, Systems Engineering, Transit Signal Priority, Emergency Vehicle Priority (EVP), and transportation management software applications including other cloud-based traffic management solutions. Kimley-Horn and Associates, Inc. has numerous staff who are primarily located in Los Angeles and can provide ITS

solutions support quickly. Kimley-Horn has over 30 years of experience in the industry.

In their oral presentation, Kimley-Horn and Associates, Inc. described their experience with developing Intelligent Transportation Systems (ITS) Software and Systems Engineering for more than 100 public agencies who use their Traction, KITS and software for their traffic management. Kimley-Horn has experience in software and traffic management services projects throughout the country, such as the Miami-Dade County, City of Austin, City of San Antonio, and Maricopa Association of Governments (MAG).

Final scoring determined that Kimley-Horn is the highest qualified proposer. Below is a summary of the scores in order of rank:

	Firm	Weighted Average Score	Factor Weight	Average Score	Rank
<b>1</b>	<b>Kimley-Horn and Associates, Inc.</b>				
<b>2</b>	Project Management Capability	87.50	20.00%	17.50	
<b>3</b>	Technical Capability of Proposer's Team	83.00	20.00%	16.60	
<b>4</b>	Technical Strength of Dev. and Ops. of Cloud-Based Transit Signal Priority Systems	83.93	30.00%	25.18	
<b>5</b>	Quality Control Management and Project Execution Plans	80.80	10.00%	8.08	
<b>6</b>	Cost/Price	87.15	20.00%	17.43	
<b>7</b>	<b>Total</b>		<b>100.00%</b>	<b>84.79</b>	<b>1</b>
<b>8</b>	<b>Iteris, Inc.</b>				
<b>9</b>	Project Management Capability	84.00	20.00%	16.80	
<b>10</b>	Technical Capability of Proposer's Team	84.00	20.00%	16.80	
<b>11</b>	Technical Strength of Dev. and Ops. of Cloud-Based Transit Signal Priority Systems	89.60	30.00%	26.88	
<b>12</b>	Quality Control Management and Project Execution Plans	83.60	10.00%	8.36	
<b>13</b>	Cost/Price	59.15	20.00%	11.83	
<b>14</b>	<b>Total</b>		<b>100.00%</b>	<b>80.67</b>	<b>2</b>



### **C. Cost Analysis**

The recommended price has been determined to be fair and reasonable based upon an independent cost estimate (ICE), cost analysis, technical analysis, fact finding and negotiation. Staff successfully negotiated a cost savings of \$50,128 for the agency.

<b>Proposer Name</b>	<b>Proposal Amount</b>	<b>Metro ICE</b>	<b>Negotiated Amount</b>
Kimley-Horn and Associates, Inc.	\$5,718,808	\$11,307,174	\$5,668,680
Iteris, Inc.	\$8,428,269		

The variance between the ICE and the final negotiated amount is due to staff's inclusion of the purchase and development of an entirely new software for the project. During clarifications, it was determined that the proposed contractor already has an existing software, and no new software is needed to be purchased and developed for the purpose of this project. Since a software system is already developed, the work and cost to develop and implement is not required.

### **D. Background on Recommended Contractor**

The recommended firm, Kimley-Horn and Associates, Inc., headquartered in Raleigh, North Carolina, is a professional engineering, planning and environmental consulting firm providing comprehensive range of services with more than 5,600 employees and 11 offices located in California, including one in Los Angeles. They have demonstrated experience with deployment of software solutions for traffic management with more than 100 public agencies in North America.

The proposed project manager has over 26 years of experience in large-scale multimodal transportation projects, and advanced technology systems such as TSP, Integrated Corridor Management (ICM), traffic control, communications, and 511 systems. With the project manager's experience across the country and California, the project manager demonstrated an understanding of transportation projects, and development of statewide, regional and local strategic transportation initiatives.

Key personnel average over 24 years of experience. Project experience include TSP and EVP systems for the City of Austin, TX, County of Miami-Dade, and City of San Antonio, TX, and Maricopa Association of Governments.

## DEOD SUMMARY

## TRANSIT SIGNAL PRIORITY SYSTEM/PS87006000

**A. Small Business Participation**

The Diversity and Economic Opportunity Department (DEOD) established a 14% Small Business Enterprise (SBE) and 3% Disabled Veteran Business Enterprise (DVBE) goal for this solicitation. Kimley Horn exceeded the goal by making a 14.28% SBE and 3.11% DVBE commitment.

<b>Small Business Goal</b>	<b>14% SBE 3% DVBE</b>	<b>Small Business Commitment</b>	<b>14.28% SBE 3.11% DVBE</b>
----------------------------	----------------------------	----------------------------------	----------------------------------

	<b>SBE Subcontractors</b>	<b>% Committed</b>
1.	Mindhop, Inc.	8.88%
2.	AET & Associates	5.40%
<b>Total SBE Commitment</b>		<b>14.28%</b>

	<b>DVBE Subcontractors</b>	<b>% Committed</b>
1.	Servitek Electric, Inc.	3.11%
<b>Total DVBE Commitment</b>		<b>3.11%</b>

**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 requirements are applicable to this project. DEOD will monitor contractors' compliance with the State of California Department of Industrial Relations (DIR), California Labor Code, and, if federally funded, the U S Department of Labor (DOL) Davis Bacon and Related Acts (DBRA).

**D. Project Labor Agreement/Construction Careers Policy**

Project Labor Agreement/Construction Careers Policy is not applicable to this Contract. PLA/CCP is applicable only to construction contracts that have a construction related value in excess of \$2.5 million.