



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

May 27, 2020
AGENDA ITEM #5

Approve Work Authorization No. 19 with
Kapsch TrafficCom USA Inc. for intelligent
transportation system technology
enhancements on 45SW and the Mopac Express
Lanes

Strategic Plan Relevance: Regional Mobility
Department: Operations
Contact: Tracie Brown, Director of Operations
Associated Costs: not to exceed \$100,000
Funding Source: General Fund
Action Requested: Consider and act on draft resolution

Summary:

Background – Kapsch TrafficCom USA serves as the Mobility Authority’s toll system integrator. In this role, Kapsch is tasked with installing and maintaining the Authority’s toll system equipment hardware, software and intelligent transportation systems (ITS).

Current Action - The Roadway Technology Plan, as previously presented to the Board in February of this year, identified emerging technologies planned for deployment on the Mopac Express Lane, 290 Toll, and 45SW Toll corridors. This action represents the first phase of the Roadway Technology Plan to install two emerging ITS technologies, Automated Incident Detection (AID) and Connected Vehicle Roadside Units (RSU) on the Mopac Express Lanes and 45SW. AID software processes fixed-view camera feeds to detect traffic incidents and promises to reduce response times and extend the ability of the Traffic Management Center (TMC) to continuously monitor roadways, without live operators present. Connected Vehicle RSU communicate with the latest model vehicles, allowing for directed safety messaging to individual drivers, collection of unique usage data, and adoption of other developing applications. Installation of a limited number of fixed-view CCTV cameras and RSU on the 45SW and Mopac Express Lanes will allow the Authority to evaluate these technologies for benefit and possible wider deployments.

- ❖ *Fixed CCTV and RSU Installations:* Kapsch will install a limited number of RSU (4) and fixed CCTV cameras (7) on 45SW and Mopac Express Lanes on existing ITS infrastructure.
 - Estimated pricing: \$80,500
 - CTRMA Contingency Budget: \$19,500
 - Total Price (not to exceed): \$100,000

Previous Actions - The Central Texas Regional Mobility Authority entered into a contract with Caseta Technologies, Inc. April 27, 2005, for the design, procurement, and installation of a toll collection system on the Authority's turnpike system. Kapsch TrafficCom USA, Inc.) is the successor in interest to the contract with Caseta Technologies, Inc.

Action Requested/Staff Recommendation - Under this proposed change order, Kapsch TrafficCom USA will install a number of fixed CCTV cameras and Connected Vehicle RSU to the 45SW and Mopac Express Lanes. Staff recommends board approval of Work Authorization No. 19 with Kapsch TrafficCom USA, and board approval of a staff directed contingency budget for Intelligent Transportation System technology enhancements to 45SW and Mopac Express Lanes.

Financing – These enhancements were included in the in the FY 2021 budget.

Backup Provided - Draft Resolution
Proposed Work Authorization No. 19

**GENERAL MEETING OF THE BOARD OF DIRECTORS
OF THE
CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY**

RESOLUTION NO. 20-0XX

**APPROVING WORK AUTHORIZATION NO. 19 WITH KAPSCH TRAFFICCOM USA,
INC. FOR INTELLIGENT TRANSPORTATION SYSTEM TECHNOLOGY
ENHANCEMENTS ON THE MOPAC EXPRESS LANES AND 45SW**

WHEREAS, the Central Texas Regional Mobility Authority (Mobility Authority) entered into a contract with Caseta Technologies, Inc. dated April 27, 2005, for the design, procurement, and installation of a toll collection system on the Authority's turnpike system; and

WHEREAS, Kapsch TrafficCom USA, Inc. (formerly Schneider Electric Mobility NA) is the successor in interest to the Contract with Caseta Technologies, Inc., and all rights and obligations of Caseta Technologies, Inc. under the Contract are now the rights and obligations of Kapsch TrafficCom USA, Inc. (Kapsch); and

WHEREAS, the Executive Director and Kapsch have negotiated proposed Work Authorization No. 19 for the implementation of certain intelligent transportation system technology enhancements on the MoPac Express Lanes and 45SW, including the installation of four (4) Siemens Connected Vehicle Roadside Units and seven (7) closed-circuit television cameras; and

WHEREAS, the Executive Director recommends that the Board approve proposed Work Authorization No. 19 in an amount not to exceed \$80,500.00 and in the form or substantially the same form as is attached hereto as Exhibit A; and

WHEREAS, the Executive Director recommends that the Board also approve a contingency budget in the amount of \$19,500.00 to be used at the discretion of the Assistant Director of IT and Toll Systems as additional contingency for Work Authorization No. 19 with Kapsch.

NOW THEREFORE, BE IT RESOLVED, that the Board authorizes the Executive Director to finalize and execute Work Authorization No. 19 with Kapsch TrafficCom USA, Inc. on behalf of the Mobility Authority in an amount not to exceed \$80,500.00 and in the form or substantially the same form as Exhibit A; and

BE IT FURTHER RESOLVED, that the Board approves a contingency budget in the amount of \$19,500.00 to be used at the discretion of the Assistant Director of IT and Toll Systems as additional contingency for Work Authorization No. 19 with Kapsch TrafficCom USA, Inc.

Adopted by the Board of Directors of the Central Texas Regional Mobility Authority on the 27th day of May 2020.

Submitted and reviewed by:

Approved:

Geoffrey Petrov, General Counsel

Robert W. Jenkins, Jr.
Chairman, Board of Directors

Exhibit A

CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY

WORK AUTHORIZATION WORK AUTHORIZATION NO. 19 ITS ENHANCEMENTS

THIS WORK AUTHORIZATION (“WA No. 19”) is made pursuant to the terms and conditions of Article 1 of the GENERAL PROVISIONS, Attachment A, to the original Contract for Toll System Implementation, dated April 27, 2005 (the Contract) entered into by and between the Central Texas Regional Mobility Authority (the “Authority” or “CTRMA”), and Kapsch TrafficCom USA, Inc. (the “Contractor,” also referred to in attachments to this WA No. 19 as the “System Integrator” or “SI”).

PART I. The Contractor will perform ITS enhancement services generally described in the Kapsch Statement of Work attached hereto as **Attachment A**.

PART II. The maximum amount payable under this WA No. 19 is \$80,500. This amount is based upon the pricing obtained, and is documented by the fee schedule set forth in **Attachment A**.

PART III. Payment to the Contractor for the services established under this WA No. 19 shall be made in accordance with the Contract.

PART IV. This WA No. 19 shall become effective on the date both parties have signed this WA No. 19. This WA No. 19 will terminate on the ITS enhancements final acceptance date or upon payment of the maximum amount payable in **Part II**, whichever date is first, unless extended as provided by the Contract.

PART V. This WA No. 19 does not waive any of the parties’ responsibilities and obligations provided under the Contract, and except as specifically modified by this WA No. 19, as such responsibilities and obligations under the Contract remain in full force and effect.

KAPSCH TRAFFICCOM, USA:

Signature _____ Date _____

Typed/Printed Name and Title _____

CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY

Executed for and approved by the Central Texas Regional Mobility Authority for the purpose and effect of activating and/or carrying out the orders, established policies or work programs heretofore approved and authorized by the Texas Transportation Commission.

Signature _____ Date _____

Mike Heiligenstein, Executive Director

Typed/Printed Name and Title

LIST OF ATTACHMENTS

Attachment A Kapsch Statement of Work

ATTACHMENT A
KAPSCH STATEMENT OF WORK FOR
ITS ENHANCEMENTS



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

System Integration Agreement

CTRMA Toll Systems Integration



CTRMA CO#159 – RSU CCTV install IBTTA

May 7, 2020

Change Request Description

Request ID	CTRMA CO#159		
Request Date	05/07/2020		
System Module	RSU CCTV install IBTTA		
Change Type	Hardware/equipment		
Description			
Install 7 CCTV cameras and 3 RSUs on 45SW & MoPac in advance of the IBTTA conference.			
Affected Project			
<input type="checkbox"/> 183 <input type="checkbox"/> 290 <input checked="" type="checkbox"/> Mopac <input type="checkbox"/> SH71 <input checked="" type="checkbox"/> 45SW <input type="checkbox"/> 183S			
Affected Requirements			
N/A			
Affected System Processes:			
The RSUs will be integrated into the CTRMA ITS network.			
Description of the Solution			
<p>45SW:</p> <ul style="list-style-type: none"> - Kapsch will install 3 CCTV cameras on a pole-mount assembly using CAT-6 cable. 8x each - Kapsch will install 3 Siemens RSUs on a pole-mount assembly using CAT-6 cable. 8x each <p>MoPac:</p> <ul style="list-style-type: none"> - Kapsch will install 4 CCTV cameras on a pole-mount assembly using CAT-6 cable. 24 hrs tech - Kapsch will install 1 Siemens RSU on a pole-mount assembly using CAT-6 cable. 8 hours tech <p>Procurement: Kapsch will procure the items from the Atkins BOM, and also a tool for the 1/2" Stainless Steel Banding.</p> <p>Traffic control: CTRMA will pay for any MOT needed for install. We are estimating the traffic control to not exceed \$20,000. After the install is completed, Kapsch will detail the MOT/traffic control as a pass-through line item with the standard 10% markup.</p> <p>Network: The RSUs will be integrated into the CTRMA ITS network, which will require Kapsch to create a separate v-lan for the RSU ITS Network integration.</p> <p>Pricing valid for 30 days from Initial Submission.</p>			
Impact	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low
Total	\$80,478.57 (not to exceed)		
Quantity	Outlined below.		



System Integration

**CTRMA CO#159 – RSU CCTV install
IBTTA**



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

	Materials / Equipment	Quantity	Price	10% Markup	Extended Price
1	See the attached "CTRMA (45SW-MOPAC) CO BoM (Updated	1	\$30,508.66	\$3,050.87	\$33,559.53
2	0	0	\$0.00	\$0.00	\$0.00
3	0	0	\$0.00	\$0.00	\$0.00
4	0	0	\$0.00	\$0.00	\$0.00
5	0	0	\$0.00	\$0.00	\$0.00
6	0	0	\$0.00	\$0.00	\$0.00
7	0	0	\$0.00	\$0.00	\$0.00

Total Hardware \$33,559.53

	Labor	No. of Hours	Hr. Contract Rate	Total
1	Software Engineer	0.00	\$157.59	\$0.00
2	System/Hardware Engineer	48.00	\$172.52	\$8,280.96
3	Technician	64.00	\$120.90	\$7,737.60
4	Business Analyst	0.00	\$157.59	\$0.00
5	Database Administrator	0.00	\$224.14	\$0.00
6	Documentation Clerk	8.00	\$161.66	\$1,293.28
7	Testing Engineer	0.00	\$171.17	\$0.00
8	Network Engineer/Administrator	20.00	\$156.22	\$3,124.40
9	Project Manager	20.00	\$224.14	\$4,482.80

Total Hours: 160.00 Total Labor: \$24,919.04

	Subcontractor	Quantity	Cost	10% Markup	Extended Price
	MOT/Traffic Control (not to exceed)	1	\$20,000.00	\$2,000.00	\$22,000.00
0		0	\$0.00	\$0.00	\$0.00
0		0	\$0.00	\$0.00	\$0.00
0		0	\$0.00	\$0.00	\$0.00
0		0	\$0.00	\$0.00	\$0.00
0		0	\$0.00	\$0.00	\$0.00
0		0	\$0.00	\$0.00	\$0.00
0		0	\$0.00	\$0.00	\$0.00

Total Subcontractor \$22,000.00

	ODCs / Travel	Quantity	Cost	10% Markup	Extended Price
1	Air Fare	0	\$0.00	\$0.00	\$0.00
2	Mileage	0	\$0.00	\$0.00	\$0.00
3	Lodging	0	\$0.00	\$0.00	\$0.00
4	Per Diem	0	\$0.00	\$0.00	\$0.00
5	Car Rental	0	\$0.00	\$0.00	\$0.00
6	PM - Other/Misc.	0	\$0.00	\$0.00	\$0.00
7	Warr/Maint - Other/Misc.	0	\$0.00	\$0.00	\$0.00

Total ODCs / Travel \$0.00

TOTAL PRICE \$80,478.57

Client Acceptance:	
Client name	
Date	
Signature	
Kapsch Acceptance	
Kapsch Name	
Date	
Signature	

1 Reference Documents:

- CTRMA_RSU_Purchase_2020-05-04.pdf
- CTRMA (45SW-MOPAC) CO BoM (Updated 5.7.20).xlsx
-

2 Document Version History

Version	Created	Created by	Comments
1.0	05/07/2020	Lisa Gauger	Initial Submission
1.1	05/14/2020	Lisa Gauger	Revised to include not-to-exceed estimate for Traffic Control.

DESCRIPTION	MFR	MFR P/N	UOM	QTY	Unit Price	Extended Price	Quoted Vendor
COHU Octima 3430HD Series Fixed Barrel Camera, H.264.1080p	COHU	3432-3000	EA	7	\$1,250.00	\$8,750.00	COHU
3' MS connector to RJ-45 pigtail for camera	COHU	8196402-001	EA	7	\$84.00	\$588.00	COHU
RJ-45 IP67 Coupler	COHU	7610203-002	EA	7	\$30.00	\$210.00	COHU
PoE+ Injector w/ 24-48 VDC Power Supply	COHU	7412007-003	EA	7	\$105.00	\$735.00	COHU
Pole-Mount Assembly w/ Bracket Arm	COHU	8189-0	EA	7	\$54.00	\$378.00	COHU
SIEMENS C-V2X Dual Mode Roadside Units	SIEMENS	AAD17149-001	EA	4	\$4,000.00	\$16,000.00	Siemens
PoE+ Injector w/ battery backup	SIEMENS	PXX08958-001	EA	4	\$429.00	\$1,716.00	Siemens
Surge Protection Device for RSU cable	SIEMENS	PXX08942-001	EA	4	\$43.00	\$172.00	Siemens
MVD Pole Mount Bracket	Wavetronix	WX-SS-611	EA	4	\$190.00	\$760.00	Twincrest Tech
Pole-Mount Assembly w/ Bracket Arm	COHU	8189-0	EA	4	\$54.00	\$216.00	COHU
Weather-Resistant Lightning Surge Protector for RS-485	LCOM	AL-D15P24DW	EA	7	\$68.92	\$482.44	Allied
DIN Rail Mount Adapter	NTRON/Red Lion	NPM0DRM0	EA	7	\$13.00	\$91.00	BG Tech
Standard Banding Tool	BAND-IT	COO169	EA	1	\$148.88	\$148.88	Graybar
201 Stainless Steel Band. 1/2" x .030 x 100' - 100ft. Per Box	BAND-IT	C20499	box	1	\$110.54	\$110.54	Graybar
CAT-6 Cable, 4-Pair 23 Shielded, Outdoor, Black, 500ft roll	OMNI Cable	J662304-DB	roll	1	\$150.80	\$150.80	Graybar
						\$30,508.66	



Central Texas Regional Mobility Authority Roadside Unit Quote #20-0504-KLG-01

To:

**Sean Staehli
Kapsch**

Proposed by:

**Intelligent Traffic Systems
Siemens Mobility, Inc.**

Date:

May 04, 2020

Contact Person :
Karen Giese
karen.giese@siemens.com

+1 503 960 4857

Siemens Mobility Intelligent Traffic Systems USA

Founded over 170 years ago, Siemens is a multi-national company with worldwide revenues in excess of \$85 billion dollars annually and employs over 380,000 people globally. Siemens Intelligent Traffic Systems (ITS) provides traffic management solutions with 90 employees located in its Austin, Texas headquarters, 200 employees in field offices around the country, and a manufacturing facility in Marion, Kentucky where traffic controllers and parts are made. With over 90 years of experience in traffic management since the installation of the first traffic signal in Berlin, Germany, in 1924, Siemens has a long history of providing ITS design and integration services to government agencies throughout the U.S. and worldwide. Over the past 40 years, Siemens has delivered more than 300 fully operational traffic signal control systems in the U.S and over 150 adaptive traffic control systems worldwide. Our focus has always been to deliver a solution that is right for the customer - a solution that is reliable, full-featured, and delivers performance along with safety.

The Siemens ITS U.S. portfolio encompasses a full suite of traffic management solutions: from advanced traffic controllers covering both Caltrans and NEMA standards to state-of-the-art SEPAC controller firmware to advanced traffic management software such as TACTICS and CONCERT, and adaptive traffic control systems such as ACS Lite, SCOOT. Siemens develops software for specific applications such as transit signal priority, bike and pedestrian priority algorithms, Vision Zero enforcement solutions for speed and Don't Block the Box and integrated truck guidance at ports.

Beyond our traditional traffic management portfolio, Siemens is dedicated to providing cutting edge innovations that will not only provide answers to today's traffic situations, but also to developing answers for tomorrow. As a member of the U.S. Department of Transportation Research and Innovative Technology Administration Affiliated Test Beds, Siemens has supplied Connected Vehicle (CV) traffic controllers and software for CV test beds since 2007. Not only is supplying hardware, software and integration services for earliest deployments of Connected Vehicle, but it has partnered with several cities interested in Smart City transportation solutions.

Overview

Siemens is providing a quote for the purchase of four (4) roadside units (RSUs) as part of the connected vehicle and automated tolling demonstration for Central Texas Regional Mobility Authority (CTRMA).

CTRMA is preparing a demonstration of their new toll facilities and intelligent transportation systems during the 88th Annual Meeting and Exhibit of the International Bridge, Tunnel, and Turnpike Association, scheduled for September 13-15, 2020 in Austin, Texas. CTRMA has requested Siemens' connected vehicle technology be incorporated into this demonstration. This will include the installation of four (4) RSUs along the demonstration route and services to integrate the RSUs into the automated tolling system and showcase the management of the RSUs through Siemens' central system, Concert.

1 Scope

This quote includes:

- Roadside units (THEA base applications installed as well as TIM messages to support Wrong Way application)
- Power over ethernet switch
- Surge protection

2 Pricing to Partner

Description	Qty	Unit Price	Extended Value
C-V2X Dual Mode Roadside Units (TYZ:AAD17149-001)	4	\$4,000	\$16,000
Power Over Ethernet Injector with battery backup (TYZ:PXX08958-001)	4	\$429	\$1,716
Surge Protector for RSU cable (TYZ:PXX08942-001)	4	\$43	\$172
Total			\$17,888

3 Optional pricing

Description	Qty	Unit Price	Extended Value
FCC licensing	4	\$25	\$100
Onsite support – Training	Per week	\$10,000	\$10,000
Remote support (minimum 5 hours)	Per hour	\$200	\$1,000

4 Assumptions

The following assumptions hold:

- Servers, detection and any needed hardware will be purchased by others.
- All other installation and implementation work will be performed by others.
- Any work that is not performed adequately and interferes with the operation of the hardware is not the responsibility of Siemens.
- This quote includes only the equipment. Any additional applications, configurations, training, and support will be done under a separate services contract outside of this scope.
- The above pricing terms become effective upon receipt of the signed and written agreement.

5 Delivery

- Onsite training will need to be scheduled three weeks in advance.
- Remote support will need to be scheduled three days in advance.
- Hardware lead time is six weeks from receipt of purchase order.
- Optional Map and SPaT configurations will need to be scheduled four weeks in advance.

6 Validity

- Quote is valid through June 30, 2020.

7 Terms and Conditions

- Siemens Standard Distributor Terms and Conditions apply to this quote.

Please reference quote# 20-0504-KLG-01 on the purchase order.