

**SUPPLEMENTAL AGREEMENT NO. 5  
TO  
AGREEMENT OF NOVEMBER 15, 2017  
FOR TOLL SYSTEMS OPERATION AND MAINTENANCE  
MASTER SERVICES AGREEMENT**

THIS SUPPLEMENTAL AGREEMENT is made and entered into this 17 day of April, 2019, and modifies the MASTER SERVICES AGREEMENT effective November 15, 2017 (the "Agreement"), by and between the Fort Bend Grand Parkway Toll Road Authority (the "Authority"), a Texas Local Government Corporation, and TransCore, LP (the "Contractor"), a limited partnership organized under the laws of the State of Delaware.

The Agreement is hereby modified as follows:

1. In accordance with Section 1.01 of the Agreement, the Authority and Contractor approve the addition of services evidenced by the proposal attached as an addition to **Exhibit A**.

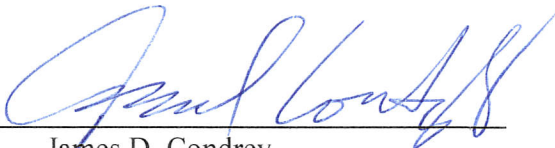
This Supplemental Agreement does not alter, modify, or otherwise change any part of the Agreement, except as specifically stated in this Supplemental Agreement.

**[Remainder of page intentionally left blank.]**

IN WITNESS WHEREOF, this Supplemental Agreement is hereby executed as of the date first set forth above.




FORT BEND GRAND PARKWAY TOLL ROAD  
AUTHORITY, a local government Texas  
corporation

By:   
James D. Condrey  
Chairman, Board of Directors

ATTEST:   
By \_\_\_\_\_  
Secretary, Board of Directors

TRANSCORE, LP

By:   
Name: R Clint Holley  
Title: Vice President

**EFFECTIVE DATE**

THIS AGREEMENT IS EFFECTIVE ON THE DATE IT IS APPROVED BY THE FORT BEND COUNTY COMMISSIONERS COURT, AND IF NOT SO APPROVED SHALL BE NULL AND VOID.

DATE OF COMMISSIONERS COURT APPROVAL: \_\_\_\_\_

AGENDA ITEM NO.: \_\_\_\_\_

**EXHIBIT A – ADDITIONAL SERVICES  
SCOPE OF WORK & COMPENSATION**

**ITS Vehicle Volume and Speed Detection System  
Installation and Design Scope of Work**

**General Description**

Fort Bend County Toll Road Authority (FBCTRA) is planning to install and operate a new Intelligent Transportation System (ITS) “Project” which includes a combination of solar / commercial powered speed and volume detection system and additional CCTV coverage. This ITS system is intended to provide valuable engineering data to FBCTRA on the movement of traffic along the FBCTRA toll facilities.

**Project Description**

As part of the initial stage of the Project, TransCore will conduct field investigations along the Fort Bend Parkway, Fort Bend Grand Parkway and Westpark Tollway to provide optimal locations for the speed and volume detection sites. TransCore will provide, install and configure Bluetooth, Radar speed and volume detection, and CCTV into FBCTRA’s existing TranSuite system. The solution will integrate layers of data into the roadway map within TranSuite allowing FBCTRA to view both speed and volume along in near real-time. This solution will allow Bluetooth data transfer with other agencies at FBCTRA’s discretion. The proposed devices will operate under a combination of solar / commercial power while communicating over a cellular modem or existing fiber optic network back to FBCTRA ITS servers located in TransCore’s Houston data center. Communications to the proposed ITS sites that are subject third-party cellular network and will operate at a lower bandwidth than those operating on a physical fiber network. This can limit camera PTZ response and video quality during high volume periods.

**Installation Sites**

Site locations were selected using 2-mile max distance for Bluetooth map data. A hybrid solution will be used on all roadways utilizing a combination of standalone Bluetooth / CCTV sites on existing poles or structures or full Bluetooth / Radar / CCTV / Solar /sites. Many locations along Fort Bend and Westpark Tollway will utilize existing fiber and electrical infrastructure as well as existing poles. Radar technology for engineering data will only be deployed on Fort Bend Grand Parkway.

A detailed list of site-specific equipment can be found below in the table below.

**Bill of Materials**

Below is an estimated bill of materials for a proposed speed and volume detection sites specific to the three Fort Bend managed roadways.

7' Helix Foundation	EA	15.00
24' Pole and TB-17 base	EA	15.00
270W Solar panel with bracket (SPM1X270-BK, and harness (OP-100FT-T4)	EA	15.00
8 Battery Cabinet with power panel (BP2-6+E and ASSEM-PS-MPPT-25)	EA	15.00
8 Batteries AGM-31 (MK8A31 AGM)	EA	15.00
Iteris Bluetooth Processor with Antenna and Cable	EA	24.00
Sierra Wireless GX450 with Antenna and Cable	EA	19.00
Sidewinder 1.5 PTZ Camera, H.264, KD30, POE, Bottom Egress, RJ-45 Coupler, POE Injector	EA	17.00
Wavetronix HD126 with Bracket, Harness, and Click 200	EA	9.00

**Schedule**

The project schedule will be dependent on equipment lead times. There will be approximately 6 weeks of design and software development required prior to integration which will run concurrent with the equipment procurement phase. Based on the preliminary device locations an estimated 8-10 weeks of installation / integration will be required for project completion.

**Exclusions**

Third party wireless service will be required for all device locations. This setup and monthly fees are not included in this quote. This portion of the scope is to be handled directly by the agency.

**Price**

Payments for the development of the ITS system will be made to TransCore at the following milestones:

Mobilization (at NTP)	\$40,184.51
Design and Documentation	\$41,557.81
Software License and Interface (TranSuite Bluetooth module)	\$107,684.38
Speed and Volume Detection Sites (\$26,483.50 per site)	\$662,087.58
<b>Total Price</b>	<b>\$851,514.28</b>

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Table 1: Site Specific Equipment Chart

RDWY	SITE NAME	Bluetooth	Radar	CCTV	Solar	Modem	New Pole	Existing CCTV Pole	Existing Toll Zone
FBCTR	SIENNA PKWY	X		X		X		X	
FBCTR	TRAMMEL FRESNO	X						X	
FBCTR	MUSTANG BAYOU	X		X	X	X	X		
FBCTR	FONDREN	X						X	
FBCTR	CAREY CHASE	X						X	
FBWP	COUNTY LINE	X		X	X	X	X		
FBWP	GRAND MISSION BLVD	X		X	X	X	X		
FBWP	FIRESTATION II			X		X		X	
FBWP	PEEK	X							
FBWP	EAST OF 99	X		X		X		X	
FBWP	WEST OF 99			X				X	
FBWP	CINCO TERRACE DR	X		X	X	X	X		
FBWP	WESTHEIMER LAKES DR	X		X	X	X	X		
FBWP	FM-1463	X		X	X	X	X		
FBGP	WESTPARK TOLL	X							X
FBGP	SKINNER LN I	X	X	X	X	X	X		
FBGP	SKINNER LN II	X	X		X	X	X		
FBGP	WEST BELFORT	X							X
FBGP	WATERVIEW MEADOW	X	X	X	X	X	X		
FBGP	RED GULLY	X	X	X	X	X	X		
FBGP	WINDSOR ESTATES	X	X	X	X	X	X		
FBGP	NEW TERRITORY	X							X
FBGP	LEVY AT RIVER PARK	X	X	X	X	X	X		
FBGP	RIVER PARK DR I	X	X	X	X	X	X		
FBGP	RIVER PARK DR II	X	X		X	X	X		