

**SUPPLEMENTAL AGREEMENT NO. 3  
TO  
AGREEMENT OF JULY 16, 2014  
FOR TOLL SYSTEMS IMPLEMENTATION AGREEMENT**

THIS SUPPLEMENTAL AGREEMENT is made and entered into this 19th day of April, 2017, and modifies the TOLL SYSTEM IMPLEMENTATION AGREEMENT effective July 16, 2014 (the “Agreement”), by and between the Fort Bend County 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:

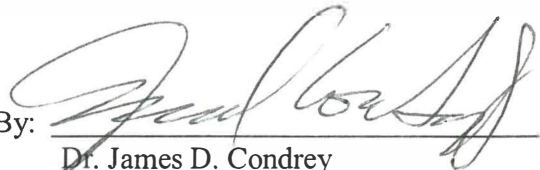
1. In accordance with Section 4.02 of the Agreement, the Authority and Contractor approve the addition of services and compensation evidenced by the proposal attached as **Attachment A** to this Supplemental Agreement.
2. The terms of the Agreement apply to the performance of the additional services described in Attachment A

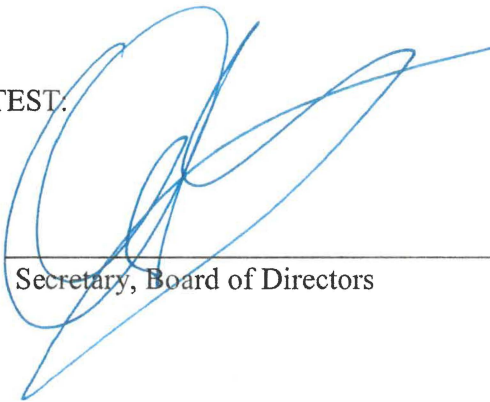
This Supplemental Agreement does not alter, modify, or otherwise change any part of the Agreement, except as specifically stated in this Supplemental Agreement.

**[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 COUNTY TOLL ROAD  
AUTHORITY, a Texas local government  
corporation

By:   
Dr. James D. Condrey  
Chairman, Board of Directors

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

TRANSCORE, LP

By:  on behalf of  
Tracy Mates, President  
Name: 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.: \_\_\_\_\_

Supplemental Agreement No. 3  
To Agreement of July 16, 2014

**ATTACHMENT A**  
**SCOPE OF WORK & COMPENSATION FOR**  
**DESIGN, PROCURE, INSTALL, SYSTEM TEST, OPERATE AND MAINTAIN NEW**  
**WESTPARK TOLLWAY SITE**



## Installation Scope of Work

### General Description

Fort Bend County Toll Road Authority (FBCTRA) is installing and operating a new all electronic toll collection site on the Westpark Tollway located in Fort Bend County, Texas. The work to be performed by TransCore under this scope of services includes the provision of toll system installation, operation and maintenance services for Fort Bend County Toll Road Authority. The toll system will be installed on Westpark Tollway Extension main lane gantry, location to be determined. Toll system operation and maintenance services are independent of the roadway toll installation itself.

### Project Description

The Project shall include the design, procurement, implementation, system testing and one year warranty of a toll collection system. The installation shall consist a single site with two directions similar in nature to the other sites installed as part of the master project.

Each direction will have two travel lanes and one large outside shoulder that will have instrumentation. The inside shoulder will be less than four feet and will not have instrumentation. The system installation process is independent of the roadway construction itself. It is assumed that the duration from Notice-to-Proceed (NTP) till completion of the Site Installation Test (SIT) will last 167 days from May 1<sup>st</sup>, 2017 to October 15<sup>th</sup>, 2017.

Payments for the development of the toll system will be made to the integrator at the following milestones:

### Compensation

Mobilization	\$60,000.00
Project Management (\$14,188.00 per month for 4 months)	\$56,752.00
System Design (Plans & Drawings)	\$45,450.00
Project Documentation - Invoice upon delivery of:	\$24,456.00
a. Test Plans (SIT & Operational)	
b. Delivery/review completion of typical drawings	
c. Project Management Plan (PMP)	

Westpark Tollway - Extension	\$534,523.00
a. Invoice 55% upon receipt of tolling equipment	
b. Invoice 40% upon Site Installation Test completion	
c. Invoice 5% upon completion of Corridor Operations Test	
System Acceptance	\$108,800.00
<b>Total Compensation</b>	<b>\$829,981.00</b>

The Responsibility Matrix is described in Attachment A

The following documents/requirements shall be submitted within thirty (30) days following the issuance of the notice to proceed. Each shall be reviewed and updated by the Integrator every thirty (30) days following the issuance of the notice to proceed.

- a. Prepare and deliver the draft Project Management Plan (PMP). Integrator's management approach shall be described within the Project Management Plan and provide all components of an effective and efficient management system.
- b. Develop a detailed Critical Path Method (CPM) schedule for the development and testing of the System that compliments the Authority's construction schedule for each Segment. Upon issuance of any Project Segments the Integrator shall revise and update the schedule to include the entire scope of Work.
- c. Prepare and deliver the Test Plan. Integrators plan shall at a minimum include the testing all components of the Project and the fully functional system. This document shall include plans for functional testing and performance testing, as applicable, during the Site Installation Test (SIT) and Operational Test. The Test Plan shall outline the particulars, such as the conditions of the test and the number of test runs planned in addition to the method of verification. Tentative dates for conducting the various tests shall be included in the Test Plan, as submitted by the Integrator.
- d. Participate in meeting and presentation with FBCTRA, consultants, and others as requested. The Integrator's attendance at such meetings and presentations may require travel at the Integrator's expense.
- e. Integrator shall also be responsible for coordinating its activities with FBCTRA,

the Design Engineer, and other entities that are directly or indirectly impacted by the Work. Integrator shall be responsible for documenting and reporting all Work in accordance with the requirements of the contract.

Within ten (10) days of receipt of the Project Management Plan, the Integrator will conduct a Project Initiation Conference. The purpose of the conference shall include, but not be limited to:

- a. Introduce key personnel of the Integrator.
- b. Review the overall design of the Project as based on the Integrator's proposal and project requirements, including traffic control and lane closures.
- c. Review key aspects of the Project Management Plan and the initial program schedule.
- d. Review the preliminary requirements trace matrix and discuss any exceptions.
- e. Discuss early project coordination.

The Integrator shall cooperatively develop an agenda for the Project Initiation Conference. The Integrator shall develop and deliver a presentation and any documentation to support the review of the proposal and aspects of the work to be performed by the Integrator.

## **Hardware Requirements**

Integrator shall provide all Hardware, Equipment and Software required for the Toll Collection System. The System design shall ensure a ten (10) year minimum service life. Equipment shall be designed, fabricated, and tested to ensure that it operates satisfactorily without material degradation for a minimum of ten years. Expendable and consumable materials and supplies will not be included in this requirement. All equipment, supplies, and materials for this system shall be new and unused, when installed.

All Tolling Segments shall be designed, installed, connected, and documented in a uniform manner. Uniform components shall be designed and configured for all Tolling Segments. Each Tolling Zone Controller and other system components shall be configured identically, with the same boards in the same slots, the same hardware and software, the same data storage, and the same connectivity.

## **Housings and Cabinets**

The material and finish for new housings and cabinets shall be environmentally resistant to outdoor highway environments with wide temperature fluctuations. A minimum of ten years of service without additional painting or repairs is required. All cabinets and housings shall be fitted with required gaskets, grommets, and filters to prevent dust, dirt, smoke, moisture, or other contaminants from entering the enclosures in accordance with the application in which the equipment is employed. Cabinet foundations, conduits to electrical/communications/gantries to be provided by others. Electrical disconnect tie point will be located within 50 feet of cabinet pad location.

## **Wires and Cables**

All electrical wires and cables shall be installed point to point with no interruptions. All cables shall be labeled on each end. There shall be no exposed wires or cables. All electrical wires shall be properly insulated and protected to prevent wear and abrasion.

All Work performed under this contract shall be in conformity with the current requirements of the following:

- a. National Electrical Contractors Association (NECA)
- b. Occupational Safety and Health Act (OSHA)
- c. National Fire Protection Association (NFPA)
- d. National Electric Code (NEC)
- e. National Electrical Manufacturers Association (NEMA)
- f. Institute of Electrical and Electronic Engineers (IEEE)
- g. Applicable Electronic Industries Association (EIA)
- h. Standards for Interface and Intercommunication Underwriters Laboratories (UL)

## **Tolling Segment Installation**

The system installation process is dependent of the roadway construction itself. All work for this contract will need to be performed in accordance with the attached project schedule Attachment B. During installation and field-testing, the Integrator will have a full-time installation manager on site to coordinate with the Authority and Integrator

personnel.

The Integrator will be responsible for the following items:

- Integrator will provide cabinets, pull wire, and any other equipment required for the system (include power, cables, wiring, heating/HVAC (in cabinet), ventilation (in cabinet)). Subject to site investigation, boring work for either fiber optic cabling or power service connections or relocations is outside the scope of this contract but may be negotiated under time and material. Integrator shall be responsible for cabling and conduit from the cabinets and onto the gantries using existing wire ways.
- Integrator will provide as-built drawings, in an electronic format, within thirty (30) days of each segment acceptance by the Authority. As-built drawings will illustrate any changes to the original plans.
- Integrator will work with FBCTRA and IOP HUB team members to rename the existing plaza locations for each toll plaza.
- Integrator will obtain all required FCC licenses in the name of FBCTRA.
- All tolling segment components are required to run independently of each other recording toll transactions as required under the functional requirements of this RFQ.

## **Traffic Control and Lane Closures**

Lane closures are not anticipated for this installation and not included in the price proposal.

## **Utilities**

Integrator shall be responsible for the supply and installation of all cabling, and equipment, as necessary, to take power and communications from the utility access point(s) to the individual equipment items installed at the Tolling Segment. FBCTRA shall maintain responsibility for the billing and payment of all utilities on a Project Segment basis.

## **Communications**

Integrator shall be responsible for connecting to new fiber on the Westpark corridor.

The new fiber will be installed into the tolling cabinets via a separate contract. Once in place the Integrator will coordinate with the public communication provider to insure the optimal data throughput is achieved along the Westpark Tollway for all tolling sites. The aforementioned Communications scope of services shall be investigated, implemented, and maintained via the existing time and materials fiber support contract already established with the Integrator. FBCTRA shall maintain responsibility for the billing and payment of all recurring communications costs to the Tolling Segments and Host location during the course of the Agreement.

### **Gantries**

The toll system integrator will install tolling equipment on gantries to be provided by Fort Bend County Toll Road Authority. Upon completion of gantry construction toll system integrator will receive a notice to proceed with system installation.

### **Existing Segment Functionality**

The integrator shall install a toll system that is fully integrated into the existing tolling systems with all the functionality currently operating on the Westpark Tollway toll segment.

### **Site Installation Test (SIT)**

The Integrator shall perform a SIT that includes a series of baseline test procedures to demonstrate functionality of the roadside System, in an unambiguous fashion. The intention of SIT is to validate functionality of each installed Toll Segment once it is installed. SIT validation will be performed on a segment-by-segment basis. All roadside functional requirements of the System, including external interfaces, are to be validated during the SIT. Conditions of the test shall include items, such as lighting, type of vehicle, and the speed and movement of the vehicles through the Toll Segment (left to right, straddling lanes, vehicle speed, and mix of vehicles with and without tags).

During the SIT, the processing of transactions shall verify that no information is missing and validate related business rules for the data (i.e., automatic operations in the application to check for duplicates). Exceptions shall be flagged and provisions to modify transactions as data errors are detected shall be provided.

The SIT shall include correlation testing of platoons of closely spaced vehicles, classification of various vehicle sizes, vehicles changing lanes, straddling, vehicles driving in the shoulder, and some vehicles with and some without tags to verify that

the System correctly identifies and captures images of the vehicles without transponders. This identification shall be accomplished without recourse to the use of license plate numbers of the test vehicles.

Since the Segment will open upon completion, the Host interface to the Interoperable HUB shall be tested in accordance with the accepted ICD during each SIT.

FBCTRA shall be allowed to witness the testing, and the Integrator shall have the responsibility to perform the testing. The testing shall provide sufficient confidence to FBCTRA, in its sole determination, that the Integrator's installed System meets FBCTRA operational requirements, standards and performance criteria, and is ready for the Commissioning and operational tests.

If there are any failures or anomalies in conducting any test step, the Integrator shall take the necessary corrective action and the test shall be repeated. In the case that corrective action is undertaken by the Integrator, it shall perform any necessary regression testing to ensure that such corrective action has not adversely affected the system's ability to pass previously conducted test steps. If necessary, this process shall continue until success is achieved.

The Integrator shall provide the required support personnel and any necessary test vehicles and test equipment (e.g. test transponders). Testing shall be conducted in accordance with the Project Schedule, the final approved Test Plan, and final approved SIT procedures. SIT procedures shall be submitted to FBCTRA fourteen (14) days prior to the commencement of the test for review and approval.

Within fourteen (14) days of successful completion of the last SIT, the Integrator shall submit a single SIT Report covering each test describing the results of the test including a punch list of any outstanding items or issues. The SIT Report shall document the test activities, including any redlined copy of the test procedures, and test results, including screen-shots and reports, and shall include a narrative explaining the activities and results.

## **Operational Test**

The Operational Test shall define procedures for evaluating the System in a real-world environment over a 60-day period following the acceptance of the last segment Site Installation Test the facility. The Operational Test is to be conducted and evaluated by the Integrator and observed by FBCTRA. The Operational Test procedures shall include, but not be limited to the following:

- Review of recorded transaction data to identify any patterns that suggest erratic or faulty system behavior. Such indications may prompt further analysis or investigation.
- Review of Transaction processing reports, ITOLL processing to the IOP Hub, processing of tag validation lists to the VPC , and other maintenance data to identify reliability problems.
- Controlled testing through the insertion of test vehicles into real traffic.

The Operational Test shall be a 60-day evaluation period after the entire corridor has been installed and tested during which the system will be observed as to its functional and performance characteristics. The Integrator shall operate the System showing the System meets performance requirements without degradation in performance. During the 60-day period, the System and each applicable performance requirement shall be analyzed on a daily basis to determine and quantify the level of performance and to confirm that the performance has not deviated from the minimum system performance requirements. In the event of a failure or major degradation in performance, FBCTRA, at its discretion, may stop the test until a correction or resolution has been achieved. Depending on the severity of the failure or degradation in performance FBCTRA, at its discretion, may elect to restart the test in its entirety beginning at day one of the test or restart from the day it was originally stopped.

The Integrator shall provide the required support personnel and any necessary test vehicles and test equipment (e.g. test transponders). Testing shall be conducted in accordance with the Project Schedule, the final approved Test Plan, and final approved Operational Test procedures. Operational Test procedures shall be submitted to FBCTRA fourteen (14) days prior to the commencement of the test for review and approval.

Within fourteen (14) days after the Operational Test has been successfully completed, the Integrator shall submit a report of the results. The report shall include, but not be limited to the following:

- A summary of the overall test results highlighting the general conclusions of the testing and any problems found and corrected.
- An appendix containing the test results and data used in evaluating the system's operational performance.
- Upon the successful completion of the Operational Test, Fort Bend County Toll

Road Authority shall grant System Acceptance.

## **Warranty**

In addition to other common law and statutory warranties, whether implied or express, Contractor's warranty applies to materials, parts, labor and workmanship for one (1) year from the date of Final Acceptance. Contractor shall transfer all manufacturers' warranties to the Authority.

## **System Acceptance**

The purpose of system acceptance testing is to verify in an operational environment (actual production) that the complete system (i.e., the full complement of application software) running on the toll system hardware and systems software infrastructure satisfies specified requirements (e.g., functional, performance, and security) and is acceptable to end users. Effective system acceptance includes, (1) processing transactions on each toll facility as established in the performance criteria set out in Exhibit A-1 of the Toll System Operations and Maintenance contract, (2) meeting the reporting criteria established in the system requirements in the Implementation Agreement, (3) accurately processing transactions from the Central Processing Center for tag transactions and ITOLL to the Interoperable HUB established by Team Texas, (4) accurately processing and updating tag validation lists from the Central Processing Center to the Violation Processing Center established by FBCTRA.

**ATTACHMENT A  
Responsibility Matrix**

<b>LEGEND</b>	
Primary Responsibility	A
Support Responsibility	B
Coordination Responsibility Only	C
No Responsibility	D

<b>Work Description</b>	<b>1</b>	<b>2</b>
	Design	Procure, Install and/or Construct

**Westpark Tollway**

Element/Task/Component/ Sub-system	Designer / Contractor (for Port/Bent)		System Integrator (SI)	Comments Officer Responsibility/Information
	1	2		
<b>TOLL COLLECTION FACILITIES</b>				
<b>TOLL GANTRIES, RAMPS &amp; Enclosure</b>				
Schedule			A	A
Lane Layouts Roadside Cabinets Foundations			A	SI to provide lane and enclosure layouts.
Gantry & Enclosure Physical Layout			A	A
Utilities			A	SI to provide specific electrical power requirements HVAC & Toll Collection System.
HVAC			A	SI to provide HVAC as part of the Roadside Cabinet Enclosures
Striping	A	A	B	SI to provide requirements for Toll Collection System specific striping. Roadway Contractor to furnish and install
Gantries			B	SI to provide specific equipment mounts, conduits, J boxes, power and data wiring for Toll Collection System
Road Surface	A	A	D	A
Roadside Cabinets Foundations; Electrical Power & Data; Conduits, Primary			A	SI to furnish and install Roadside Cabinet Enclosure with HVAC. Enclosure pad by others.

							SI runs power from pole (by others) to equipment. (Power & network within the lane, Electrical Power Conductors etc.
Fencing/Guardrail/Bollards	A	A	B	D			SI to provide as needed. (paid under T&M)
<ul style="list-style-type: none"> <li> <b>VES Cameras</b> </li> </ul>							
VES Camera, Light Sensor & Strobe Flash Mounting Supports			A	A			SI to provide VES Camera, Light Sensor & Strobe Flash Mounting design requirements at each tolling location for Toll Collection System. SI to furnish and install structural mounting supports, conduit, j-boxes, for power and data. For VES Camera & Strobe Flash Mounting
VES Illumination mounts and enclosures			A	A			SI to provide VES Illumination Mounting design requirements at each tolling location for Toll Collection System. SI to furnish and install structural mounting supports, conduit, j-boxes, for power and data. For VES Illumination Mounting SI to furnish and Install VES Illumination, including equipment mounting brackets, power and data cable & wiring
<ul style="list-style-type: none"> <li> <b>Lanes/Islands</b> </li> </ul>							
Pavement Structure			A	A			SI to provide the sensor design requirements
Vehicle Detection/Classification Sensors Installation of AVDS and AVC	B	B	A	A			SI to provide install, including cutting and saw cutting, winding and sealing loops
<b>PROJECT OPERATING SUB-SYSTEMS</b>							
Ducts & Conduits	A	A	B	D			
Utility Vaults & Junction/Pull Boxes	A	A	B	D			
Communication Conductors & Fiber	B	B	A	A			SI to connect at cabinet to new fiber provided under a separate contract.

Power Conductors & Wiring Primary Electrical power, including electrical service, feeder conductors, conductors, and connections to Automatic Transfer Switch.					B	A	SI to connect to existing power connection with in 50' of cabinet pad location.
All conduit, wire ways, J-boxes, bushings and pull strings on gantries					A	A	SI shall provide and install all conduits, wire ways, J-boxes, bushings and pull strings on gantries
<b>PROJECT POWER DISTRIBUTION SUB-SYSTEM</b>							
Uninterruptible Power Supplies					A	A	SI to provide Toll Collection System UPS power as part of the Roadside Cabinet Enclosure
Lightning Protection & Grounding	A			A	B	D	
<b>COMMUNICATIONS SUB-SYSTEMS</b>							
Fibers (including future)					A	A	SI to terminate and connect network equipment.
Computer Rack System					A	A	
Routers					A	A	
Hubs					A	A	
Switches					A	A	
Firewalls					A	A	
Virtual Private Network (VPN)					A	A	
Modems					A	A	
Patch/Distribution Panels					A	A	
Tolling Location Network Service					A	A	SI to provide network provide service point requirements and Fort Bend to obtain network provider service (monthly service paid by Fort Bend)

TOLL COLLECTION SYSTEMS						
Toll Plaza Host Computer				A	A	SI to provide the required network connectivity to host system (monthly service paid by Fort Bend)
Back-up Host Computer				A	A	SI to provide the required network connectivity to host system (monthly service paid by Fort Bend)
Toll Lane In-Lane Processors				A	A	SI to provide Designer with requirements. Designer to incorporate into design.
MOMS (Maintenance Online Management System)				A	A	SI to provide connection/interface with MOMS server.
VES Computer				A	A	SI to provide Designer with requirements. Designer to incorporate into design.
FCC Licenses/Regulations as applies to ORT				A	A	SI to provide required documentation to permit the Authority to obtain the required licenses to use and or operate ORT equipment and components.
ORT lanes ORT Antenna Mounting, Conduits and J-Boxes				A	A	SI to provide ORT requirements. SI to provide structure, mounting support, and conduit to install ORT Antenna and cable SI to furnish and install ORT System
ORT lanes ORT System				A	A	SI to furnish and install ORT System

**ATTACHMENT B  
Project Schedule**

Conversion Project Schedules	Start/Finish	Begin	Complete
Notice to Proceed	May 1, 2017		
Documentation Due			
Test Plan		May 1, 2017	May 31, 2017
Project Management Plan		May 1, 2017	May 31, 2017
Typical Design Drawings		May 1, 2017	May 31, 2017
Order Toll System Equipment		May 15, 2017	August 13, 2017
Configure System (Westpark)		August 13, 2017	September 12, 2017
FCC Licenses (Westpark)		July 15, 2017	August 14, 2017
System Installation (Westpark)		September 12, 2017	October 10, 2017
IOP Hub New Plaza Testing (Westpark)		October 10, 2017	October 13, 2017
System Installation Test (Westpark)		October 10, 2017	October 15, 2017
Installation Complete	October 15, 2017		
Operations Test		October 29, 2017	December 28, 2017
System Acceptance	December 31, 2017		

# CERTIFICATE OF INTERESTED PARTIES

FORM 1295

1 of 1

Complete Nos. 1 - 4 and 6 if there are interested parties.  
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

## OFFICE USE ONLY CERTIFICATION OF FILING

Certificate Number:  
2017-190470

Date Filed:  
04/11/2017

Date Acknowledged:  
4/13/17

**1 Name of business entity filing form, and the city, state and country of the business entity's place of business.**

TransCore, LP  
Houston, TX United States

**2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.**

Fort Bend Toll Road Authority

**3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.**

FM1093  
Design, procure, install, system test, operate and maintain and one year warranty for a new site along the Westpark Tollway Extension

4	Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
			Controlling	Intermediary
	Roper Technologies, Inc.	Sarasota, FL United States	X	

5 Check only if there is NO Interested Party.

**6 AFFIDAVIT**

I swear, or affirm, under penalty of perjury, that the above disclosure is true and correct.



*[Handwritten Signature]*

Signature of authorized agent of contracting business entity

AFFIX NOTARY STAMP / SEAL ABOVE

Sworn to and subscribed before me, by the said R Clint Holley, this the 11th day of April, 2017, to certify which, witness my hand and seal of office.

*[Handwritten Signature]*  
Signature of officer administering oath

Kirsi Thomas  
Printed name of officer administering oath

Admin Assistant  
Title of officer administering oath